NetBackup™ Commands Reference Guide

UNIX, Windows, and Linux

Release 10.5

VERITAS™

NetBackup™ Commands Reference Guide

Last updated: 2024-09-27

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Contents

Chapter 1 Introduction 10

About NetBackup commands 10
Navigating multiple menu levels 11
NetBackup command conventions 11
NetBackup Media Manager command notes 12
IPV6 updates 12

Appendix A NetBackup Commands 14

acsd 23
backupdbtrace 25
backuptrace 27
bmrc 29
bmrconfig 32
bmrepadm 38
bmrprep 41
bmrs 45
bmrsrtadm 48
bp 49
bparchive 51
bpbackup 57
bpbackupdb 66
bpcatarc 67
bpcatlist 68
bpcatres 71
bpcatrm 72
bpcd 73
bpchangeprimary 75
bpcleanrestore 79
bpclient 81
bpclimagelist 88
bpclntcmd 92
bpclusterutil 95
bpcompatd 98
bpconfig 100
bpdbjobs 110

bpdbm 117
bpdgclone 120
bpdown 122
bpduplicate 123
bperror 133
bpexpdate 142
bpfis 153
bpflist 155
bpgetconfig 162
bpgetdebuglog 168
bpimage 170
bpimagelist 176
bpimmedia 186
bpimport 197
bpinst 205
bpkeyfile 212
bpkeyutil 214
bplabel 216
bplist 219
bpmedia 227
bpmedialist 231
bpminlicense 243
bpnbat 245
bpnbaz 256
bppficorr 273
bpplcatdrinfo 276
bpplclients 280
bppldelete 291
bpplinclude 293
bpplinfo 301
bppllist 328
bpplsched 336
bpplschedrep 354
bpplschedwin 364
bppolicynew 367
bpps 376
bprd 381
bprecover 383
bprestore 386
bpretlevel 402
bpschedule 405
bpschedulerep 413
bpsetconfig 420

bpstsinfo 423
bpstuadd 429
bpstudel 439
bpstulist 442
bpsturep 450
bptestbpcd 459
bptestnetconn 464
bpup 470
bpverify 471
cat_convert 480
cat_export 486
cat_import 488
configureCerts 490
configureMQ 492
configureWebServerCerts 494
create_nbdb 499
csconfig cldinstance 502
csconfig cldprovider 523
csconfig meter 525
csconfig reinitialize 527
csconfig throttle 528
duplicatetrace 532
importtrace 536
jbpSA 540
jnbSA 542
ltid 544
mklogdir 546
msdpcldutil 548
nbauditreport 556
nbcallhomeproxyconfig 565
nbcatsync 567
NBCC 570
NBCCR 575
nbcertcmd 578
nbcertupdater 595
nbcldutil 599
nbcmdrun 602
nbcomponentupdate 605
nbcplogs 611
nbcredkeyutil 614
nbdb_admin 615
nbdb_backup 619
nbdb_move 621

nbdb_ping 623
nbdb_restore 624
nbdb_unload 626
nbdb2adutl 629
nbdbms_start_server 633
nbdbms_start_stop 634
nbdc 635
nbdecommission 638
nbdelete 642
nbdeployutil 647
nbdevconfig 648
nbdevquery 662
nbdiscover 669
nbdna 673
nbemm 677
nbemmcmd 678
nbepicfile 696
nbfindfile 699
nbfirescan 703
nbfp 705
nbftadm 707
nbftconfig 708
nbgetconfig 718
nbhba 721
nbholdutil 724
nbhostidentity 727
nbhostmgmt 731
nbhypervtool 736
nbidpcmd 738
nbimageshare 742
nbinstallcmd 744
nbjm 753
nbkmiputil 754
nbkmscmd 760
nbkmsutil 767
nblogparser 774
nbmariadb 806
nbmysql 777
nbmlb 808
nboraadm 782
nborair 792
nboracmd 795
nbpem 800

nbpemreq 802
nbmariadb 806
nbmlb 808
nbperfchk 809
nbpgsql 815
nbplupgrade 820
nbrb 823
nbrbutil 824
nbreplicate 830
nbrepo 833
nbrestorevm 835
nbseccmd 856
nbserviceusercmd 869
nbsetconfig 874
nbshvault 876
nbsmartdiag 880
nbsnapimport 890
nbsnapreplicate 892
nbsqladm 894
nbsqlcmd 902
nbsqlite 906
nbstl 908
nbstlutil 917
nbstop 927
nbsu 930
nbsvrgrp 934
netbackup_deployment_insights 937
resilient_clients 946
restoretrace 947
stopltid 949
tldd 950
tldcd 954
tpautoconf 958
tpclean 961
tpconfig 964
tpext 985
tpreq 987
tpunmount 990
verifytrace 992
vltadm 995
vltcontainers 997
vlteject 1002
vltinject 1006

vltoffsitemedia 1008
vltopmenu 1012
vltrun 1014
vmadd 1019
vmchange 1022
vmcheckxxx 1029
vmd 1031
vmdelete 1033
vmoprcmd 1035
vmphyinv 1040
vmpool 1044
vmquery 1047
vmrule 1052
vmupdate 1055
vnetd 1058
vssat 1060
vwcp_manage 1068
vxlogcfg 1071
vxlogmgr 1079
vxlogview 1084
W2KOption 1092

Chapter 1

Introduction

This chapter includes the following topics:

- About NetBackup commands
- Navigating multiple menu levels
- NetBackup command conventions
- NetBackup Media Manager command notes
- IPV6 updates

About NetBackup commands

This document contains all of the NetBackup man page commands. You can find a printable version of the command quickly and easily without searching through multiple books in the NetBackup Library.

This document contains detailed information on commands that run on UNIX systems as well as on Windows systems. Information that is pertinent only for UNIX systems versus Windows systems is noted accordingly.

Each command contains a brief description of the primary function of the command, a synopsis, and descriptions of each of the options listed in the synopsis. Some commands also contain notes, return values, examples, etc.

Included in this document are the NetBackup Server and NetBackup Enterprise Server commands. In most cases, a command pertains to both NetBackup products. However, there are instances where portions or options within a command apply specifically to one product such as NetBackup Enterprise Server. In these situations, a note has been inserted in the text to identify the information as information that only applies to one NetBackup product.

Navigating multiple menu levels

When navigating multiple menu levels, a greater-than sign (>) is used to indicate a continued action. The following example shows how the > is used to condense a series of menu selections into one step:

Start > Programs > Veritas NetBackup > NetBackup Administration Console.

The corresponding actions can be described in more steps as follows:

1. Click **Start** in the task bar.
2. Move your cursor to **Programs**.
3. Move your cursor to the right and highlight **Veritas NetBackup**.
4. Move your cursor to the right. First highlight and then click **NetBackup Administration Console**.

NetBackup command conventions

This document uses the following conventions when describing commands that are specific to NetBackup.

Run the following commands in the "Command Prompt" to see the results.

- The `-help` (`-h`) option prints a command line usage message when it is the only option on the command line. For example:

  ```
  bpclient -help
  ```

- Brackets [ ] indicate that the enclosed component of the command line is optional.
- Curly braces {} indicate an association between the enclosed options. For example, {opt1 [opt2 ... optn]} means that if the command contains opt1, then the command may optionally contain opt2 ... optn.
- A vertical bar (or the pipe symbol) | separates optional arguments from which the user can choose. For example, if a command has the following format, you can choose `arg1` or `arg2` (but not both):

  ```
  command [ arg1 | arg2 ]
  ```

- Italics indicate that the information is user supplied. For example, the user supplies policy, schedule, and filename in the following command:

  ```
  bpbackup -p policy -s schedule filename
  ```

- An ellipsis (...) means that you can repeat the previous parameter. For example, consider the following command:

  ```
  bpbackup [-S master_server [,master_server,...]] filename
  ```

  Here, the `-S` option requires the first master server name. Additional names can be added, separated by commas and followed by a file name as in:

  ```
  bpbackup -S mars,coyote,shark,minnow memofile.doc
  ```

NetBackup Media Manager command notes

In addition, Media Manager supports the following sets of commands that are used for device management; the NetBackup Device Manager service (`ltid`) starts or stops these commands as needed.

- `tpreq` and `tpunmount` are user commands for requesting tape mounts and unmounts for configured drives.
- `tpautoconf`, `tpclean`, `tpconfig`, and `vmoprcmd` are administrative commands for device management.
- `vmadd`, `vmchange`, `vmcheckxxx`, `vmdelete`, `vmpool`, `vmquery`, `vmrule`, and `vmupdate` are administrative commands for media management.

IPV6 updates

NetBackup does not support the use of IPv6 addresses where you can specify a host name (for example: `2001:db8:85a3:8d3:1319:8a2e:370:7348`). If a host name is required, NetBackup does not support the use of an IPv6 address. This rule remains true even though host names can resolve to IPv6 addresses through DNS, local hosts files, or other means.

Only the NetBackup commands and options that are shown let you enter an IPv6 address:

- `bpclntcmd -ip` option.
- `bpcluster VIRTUALADDRESS`
- `csconfig cldinstance` any references to `host name` or `IP address`.
- `nbhostmgmt -host` option.
- `bptestnetconn -H` option.

Only the `bp.conf` parameters that are shown allow IPv6 addresses. All other parameters follow the same rules as command line options:

- `PREFERRED_NETWORK`
- `RESILIENT_NETWORK`
- `VXSS_NETWORK`
- `THROTTLE_BANDWIDTH`

Appendix A

NetBackup Commands

This appendix includes the following topics:

- acsd
- backupdbtrace
- backuptrace
- bmrc
- bmrconfig
- bmrepadm
- bmrprep
- bmrs
- bmrsrtadm
- bp
- bparchive
- bpbackup
- bpbackupdb
- bpcatarc
- bpcatlist
- bpcatres
- bpcatrm
- bpcd

- bpchangeprimary
- bpcleanrestore
- bpclient
- bpclimagelist
- bpclntcmd
- bpclusterutil
- bpcompatd
- bpconfig
- bpdbjobs
- bpdbm
- bpdgclone
- bpdown
- bpduplicate
- bperror
- bpexpdate
- bpfis
- bpflist
- bpgetconfig
- bpgetdebuglog
- bpimage
- bpimagelist
- bpimmedia
- bpimport
- bpinst
- bpkeyfile
- bpkeyutil
- bplabel

- bplist
- bpmedia
- bpmedialist
- bpminlicense
- bpnbat
- bpnbaz
- bppficorr
- bpplcatdrinfo
- bpplclients
- bppldelete
- bpplinclude
- bpplinfo
- bppllist
- bpplsched
- bpplschedrep
- bpplschedwin
- bppolicynew
- bpps
- bprd
- bprecover
- bprestore
- bpretlevel
- bpschedule
- bpschedulerep
- bpsetconfig
- bpstsinfo
- bpstuadd

- bpstudel
- bpstulist
- bpsturep
- bptestbpcd
- bptestnetconn
- bpup
- bpverify
- cat_convert
- cat_export
- cat_import
- configureCerts
- configureMQ
- configureWebServerCerts
- create_nbdb
- csconfig cldinstance
- csconfig cldprovider
- csconfig meter
- csconfig reinitialize
- csconfig throttle
- duplicatetrace
- importtrace
- jbpSA
- jnbSA
- ltid
- mklogdir
- msdpcldutil
- nbauditreport

- nbcallhomeproxyconfig
- nbcatsync
- NBCC
- NBCCR
- nbcertcmd
- nbcertupdater
- nbcldutil
- nbcmdrun
- nbcomponentupdate
- nbcplogs
- nbcredkeyutil
- nbdb_admin
- nbdb_backup
- nbdb_move
- nbdb_ping
- nbdb_restore
- nbdb_unload
- nbdb2adutl
- nbdbms_start_server
- nbdbms_start_stop
- nbdc
- nbdecommission
- nbdelete
- nbdeployutil
- nbdevconfig
- nbdevquery
- nbdiscover

- nbdna
- nbemm
- nbemmcmd
- nbepicfile
- nbfindfile
- nbfirescan
- nbfp
- nbftadm
- nbftconfig
- nbgetconfig
- nbhba
- nbholdutil
- nbhostidentity
- nbhostmgmt
- nbhypervtool
- nbidpcmd
- nbimageshare
- nbinstallcmd
- nbjm
- nbkmiputil
- nbkmscmd
- nbkmsutil
- nblogparser
- nbmariadb
- nbmysql
- nbmlb
- nboraadm

- nborair
- nboracmd
- nbpem
- nbpemreq
- nbmariadb
- nbmlb
- nbperfchk
- nbpgsql
- nbplupgrade
- nbrb
- nbrbutil
- nbreplicate
- nbrepo
- nbrestorevm
- nbseccmd
- nbserviceusercmd
- nbsetconfig
- nbshvault
- nbsmartdiag
- nbsnapimport
- nbsnapreplicate
- nbsqladm
- nbsqlcmd
- nbsqlite
- nbstl
- nbstlutil
- nbstop

- nbsu
- nbsvrgrp
- netbackup_deployment_insights
- resilient_clients
- restoretrace
- stopltid
- tldd
- tldcd
- tpautoconf
- tpclean
- tpconfig
- tpext
- tpreq
- tpunmount
- verifytrace
- vltadm
- vltcontainers
- vlteject
- vltinject
- vltoffsitemedia
- vltopmenu
- vltrun
- vmadd
- vmchange
- vmcheckxxx
- vmd
- vmdelete

- vmoprcmd
- vmphyinv
- vmpool
- vmquery
- vmrule
- vmupdate
- vnetd
- vssat
- vwcp_manage
- vxlogcfg
- vxlogmgr
- vxlogview
- W2KOption

acsd

`acsd` – Automated Cartridge System (ACS) daemon (UNIX) or process (Windows)

SYNOPSIS

acsd [-v]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

`acsd` interfaces with Media Manager to mount and unmount tapes automatically that are under Automated Cartridge System (ACS) control. If the Media and Device Management of the Administration Console shows drives in an ACS robot, the `ltid` NetBackup Device Manager daemon or service (Windows) runs `acsd`. Stopping `ltid` stops `acsd`.

On UNIX systems, start or stop `acsd` independently of `ltid` by using `/usr/openv/volmgr/bin/vmps` or your server's `ps` command to identify the `acsd` process ID. Then enter the following commands:

```
kill acsd_pid
/usr/openv/volmgr/bin/acsd [-v] &
```

`acsd` performs its tasks by sending requests to the ACS storage server Interface process (`acsssi`). It communicates with the server that controls the ACS.

On Windows systems, `acsd` performs its tasks by sending requests to the STK LibAttach service, which communicates with the server that controls the ACS.

When the connection is established, `acsd` puts the ACS robot in the UP state and can mount and unmount tapes. If the connection cannot be established or ACS errors exist, `acsd` changes the robot to the DOWN state. In this state, `acsd` still runs and returns the robot to the UP state when the problem no longer exists.

Use the following to address and define drives in the Media Manager: ACS number, LSM number, Panel number, and Drive number.

Configure drive cleaning for ACS robots by using ACS library software. You cannot define the cleaning volumes by using Media Manager. In addition, you cannot use the `tpclean` command for cleaning operations on drives under ACS robotic control.

On UNIX systems, the Internet service port number for `acsd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services. The default service port number is 13702.

On Windows systems, the Internet service port number for `acsd` must be in `%SystemRoot%\system32\drivers\etc\services`. The default service port number is 13702.

Note: This command applies only to the NetBackup Enterprise Server.

OPTIONS

`-v` This option is used on UNIX systems only. It logs debug information using `syslogd`. If you start `ltid` with `-v`, `acsd` also starts with `-v`.

ERRORS

On UNIX systems, `acsd` returns an error message if a copy of `acsd` is in operation. Media Manager logs ACS and network errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN. `acsssi` logs to a log file in the `/usr/openv/volmgr/debug/acsssi` directory.

On Windows systems, Media Manager logs ACS and network errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

SEE ALSO

See ltid on page 544.

See tpconfig on page 964.

backupdbtrace

`backupdbtrace` – trace debug logs of `backupdb` (image catalog backup) jobs

SYNOPSIS

`backupdbtrace` [`-server` *`name`*] [`-job_id` *`number`*] [`-start_time` *`hh:mm:ss`*] [`-end_time` *`hh:mm:ss`*] *`mmddyy`* [*`mmddyy`* ...]

`On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/`

`On Windows systems, the directory path to this command is` *`install_path`*`\NetBackup\bin\admincmd\`

DESCRIPTION

The `backupdbtrace` utility consolidates the debug log messages for the specified backup database jobs and writes them to standard output. It then sorts them by time. `backupdbtrace` tries to compensate for time zone changes and the clock drift between remote servers and clients.

At a minimum, you must enable debug logging for the administrator on the master server and for `bptm` and `bpbkar` on the media server. For best results, set the verbose logging level to 5. Then enable the debug logging for the following in addition to the processes already identified:

- `bpdbm` on the master server
- `bpcd` on all servers

`backupdbtrace` uses the `-job_id` option as the sole criterion for selecting the `backupdb` job to trace. If `-job_id` is not used, then `backupdbtrace` selects all the `backupdb` jobs that started on the days that the day stamps (*mmddyy*) specified. Use the `-start_time` and `-end_time` options to examine the debug logs on the specified time interval.

The `backupdbtrace` utility writes error messages to standard error.

OPTIONS

`-server`

Name of the media server where the `backupdb` command is initiated. The default is the local host name.

`-job_id`

Job ID number of the `backupdb` job to analyze. Default is any job ID.

`-start_time`

Earliest timestamp to start analyzing the logs. Default is 00:00:00.

`-end_time`

Latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddyy`

One or more day stamps. This option identifies the log file names (log.mmddyy for UNIX, mmddyy.log for Windows) to analyze.

OUTPUT FORMAT

The following is the format of an output line:

daystamp.millisecs.program.sequencecomputerlog_line

`daystamp`

The day that the log is generated in *yyyymmdd* format.

`millisecs`

The number of milliseconds since midnight on the local computer.

`program`

The name of the program (for example, BPBKAR) being logged.

`sequence`

Line number within the debug log file.

`computer`

The name of the NetBackup server or client.

`log_line`

The line that appears in the debug log file.

EXAMPLES

Example 1 - Analyze the log of a `backupdb` job with job ID 5 that is run on May 6, 2013.

```
# backupdbtrace -job_id 5 050613
```

Example 2 - Analyze the log of all the `backupdb` jobs that were run on August 5, 2012 and August 17, 2013.

```
# backupdbtrace 080512 081713
```

backuptrace

`backuptrace` – consolidate the debug logs for a NetBackup job

SYNOPSIS

backuptrace [-master_server *name*] [-job_id *number*] [-birth_time *number*] [-policy_name *name*] [-client_name *name*] [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] mmddyy [*mmddyy*...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `backuptrace` utility consolidates the debug logs for specified NetBackup job or jobs. The debug log messages relevant to the specified backup jobs are written to standard output. Then the messages sort by time. The `backuptrace` utility tries to compensate for time zone changes and the clock drift between remote servers and clients. The output is formatted so that you can more easily sort or group by timestamp, program name, server name, or client name.

At a minimum, you must enable debug logging for the following:

- `nbjm` on the master server
- `bpbrm`, `bptm`, and `bpdm` on the media server
- `bpbkar` on the client

For best results, set the verbose logging level to 5 and enable debug logging for the following in addition to the processes already identified:

- `bpdbm` and `bprd` on the master server
- `bpcd` on all servers and clients

Use the `backuptrace` utility for regular file system, database extension, and alternate backup method backup jobs.

OPTIONS

`-master_server name`
Name of the master server. Default is the local host name.

`-job_id number`
Job ID number of the backup job to analyze.

`-birth_time number`
Birth time (seconds since 1970) of the backup job to analyze.

`-policy_name name`
Policy name of the jobs to analyze.

`-client_name name`
Client name of the jobs to analyze.

`-start_time hh:mm:ss`
Earliest timestamp to start analyzing the logs.

`-end_time hh:mm:ss`
Latest timestamp to finish analyzing the logs.

`mmddyy [mmddyy]`
One or more day stamps. This option identifies the log file names (log.mmddyy for UNIX, mmddyy.log for Windows) to analyze.

NOTES

Media Manager logs are not analyzed.

EXAMPLES

```
backuptrace -job_id 289 041105 > /tmp/job.log.289
```

```
backuptrace -policy_name weekly_bkups 051205 >/tmp/jobs.weekly_bkups
```

Use this utility to consolidate logs for all jobs that are started for the policy *weekly_bkups* on the specified date. Use the `-start_time`/`-end_time` arguments to limit the window for which the jobs are to be evaluated.

bmrc

`bmrc` – submit requests to the Bare Metal Restore server daemon

SYNOPSIS

bmrc -operation change -resource { restoretask | discovertask } [-client *clientName*] -state *numericCode* -progress *numericCode*

bmrc -operation complete -resource { restoretask | discovertask } [-client *clientName*] -state *numericStateCode*

bmrc -operation create -resource log [-client *clientName*]

bmrc -operation create -resource message [-client *clientName*] -msg *messageText*

bmrc -operation pull -resource { info | procedure } [-client *clientName*] -source *sourceFileName* -destination *destinationFileName*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bmrc` client program runs on a Bare Metal Restore (BMR) client and submits requests to the BMR server daemon. The operation and resource are specified as arguments.

When you initiate `bmrc` from an external procedure in the repair environment on a restoring client, specify the path to the `bmrc` command as follows:

On UNIX systems, `/usr/openv/netbackup/bin`

On Windows systems, `%SystemDrive%\BMR\NBU\bin`

On Windows systems, at the first boot external procedure point, `bmrc` is in *install_path*\NetBackup\bin.

OPTIONS

`-client` *clientName*

Name of the Bare Metal Restore client.

On UNIX systems, *-client* is optional if `CLIENT_NAME` is defined in `/usr/openv/netbackup/bp.conf` on the client system.

`-destination` *destinationFileName*

On `pull` operation, the pathname of the file to be created on the local host.

`-msg` *messageText*

Text message to be added to the log on the server.

`-operation` *operationName*

An operation to perform:

```
change
complete
create
pull
```

`-progress` *numericCode*

A numeric progress code that is used internally by Bare Metal Restore.

`-resource` *resourceName*

A resource on which to perform the operation:

```
discovertask
info
log
message
procedure
restoretask
```

`-source` *sourceFileName*

On `pull` operation, name of file to retrieve from database.

`-state` *numericCode*

A numeric state code that is used internally by Bare Metal Restore.

EXAMPLES

Example 1 - Change the status of a discovery task:

```
# bmrc -operation change -resource discovertask -client clientName
-state numericCode -progress numericCode
```

Example 2 - Change the status of a restore task:

```
# bmrc -operation change -resource restoretask -client clientName
-state numericCode -progress numericCode
```

Example 3 - Complete a discovery task and set a final status code:

```
# bmrc -operation complete -resource discovertask -client clientName
-status numericStatus
```

Example 4 - Complete a restore task and set a final status code:

```
# bmrc -operation complete -resource restoretask -client clientName
-status numericStatus
```

Example 5 - Create a log on the server from standard input to this command:

```
# bmrc -operation create -resource log -client clientName
```

Example 6 - Create a message, which is added to a log on the server:

```
# bmrc -operation create -resource message -client clientName -msg
message text
```

Example 7 - Pull a file from the server:

```
# bmrc -operation pull -resource info -client clientName -source
sourceFileName -destination destinationFileName
```

Example 8 - Pull an external procedure from the server:

```
# bmrc -operation pull -resource procedure -client clientName
-source sourceFileName -destination destinationFileName
```

NOTES

If you use NetBackup Access Management, and the user credentials and computer credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat -Login` command to renew your user credentials. Use the `bpnbat -LoginMachine` command to renew the computer credentials.

Specify `-?` to display the command's usage statement when it is the only option on the command line.

bmrconfig

`bmrconfig` – change configuration settings

SYNOPSIS

bmrconfig -help [-resource *resourceType* [-platform win | hp | aix | solaris | linux] [-manager ldm | lvm | native | sfw | svm | vxvm | zfs] [-operation add | change | clearALL | delete | display | list | map]]

bmrconfig -operation verify -client *clientName* -configuration *configName*

bmrconfig -operation initialize -resource disk | network | device | all -client *clientName* -configuration *configName* -sourceconfiguration *discovered_configName*

bmrconfig -operation initialize -resource disk | network | device | all -client *clientName* -configuration *configName* -sourceclient *source_clientName* -sourceconfiguration *source_configName*

bmrconfig -operation initialize -resource driver -client *clientName* -configuration *configName*

bmrconfig -operation add | change | clearALL | delete | display | list | map -resource *resourceType* [-name *resourceName*] [-manager ldm | lvm | native | sfw | svm | vxvm] -client *clientName* -configuration *configName* [-attributes "key=value" ["key=value" ...]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bmrconfig` command changes the configuration of the system, network, volume, driver, and NetBackup settings. The read-only current configuration and discovered configuration cannot be changed. Use the `bmrs` command to create a copy of a configuration that you can change.

OPTIONS

`-attributes`

Attributes of the resource are specified as name-value pairs. The name is always an alphanumeric string. The value is free form but must be double quoted if it contains white space or a shell-interpreted characters. To determine the specific set of attributes that apply to a resource, use `bmrconfig -operation list -resource` *`resourceType`*.

The following are some attributes specific to Solaris ZFS:

`-cache`***device*** - Cache device if used.

`-copies`***number of copies*** - applies only to the mirror layout

`-devtype` - The possible device types are the following:

- `concat` - concatenation layout
- `mirror` - mirror layout
- `raidz1` - raidz1 layout
- `raidz2` - raidz2 layout
- `raidz3` - raidz3 layout

`-disk`***disk name*** - Disk name to be used. Provide a disk name for every disk used.

`-log`***device*** - Log device if used.

`-slice`***slice name*** - Slice name to be used. Provide a slice name for every slice used.

`-spare` - spare device if used.

`-storagepool`***ZFS storage pool name*** - Provides a ZFS storage pool name during ZFS and volume operations.

`-client` *`clientName`*

The NetBackup client name.

`-configuration` *`configName`*

The configuration to operate on.

`-force`

Forces the removal of a resource and all of its dependent resources.

`-initialize`

Initializes BMR configuration on a specified client.

`-manager`

The volume manager that controls the resource. Volume managers are as follows:

`ldm` - Windows Logical Disk Manager

`lvm` - AIX or HP-UX Logical Volume Manager

`native` - the volume manager native to the operating system

`sfw` - Veritas Storage Foundation for Windows

`svm` - Solaris Volume Manager

`vxvm` - Veritas Volume Manager

`zfs` - ZFS Volume Manager

`-name` *resourceName*

The name of the resource to act on. The various volume managers determine the valid characters in a resource name.

`-operation` *operation_name*

The operation to perform. Operations are as follows:

`add` - adds a resource to the configuration

`change` - changes specific attributes of a resource

`clearALL` - removes all resources except disks from a disk group

`delete` - removes a resource from the configuration

`display` - prints high-level information about the resource

`help` - prints the required resources and the optional attributes and values

`initialize` - initializes a configuration's hardware from a discovered configuration

`list` - prints all the instances of the specified resource type

`map` - maps a resource that includes dependent resources, from the original configuration to the working configuration

`verify` - checks that a config has sufficient data for a restore to succeed

`-platform win | hp | aix | solaris | linux`

The platform of the specified resource. Used with `-help` only.

`-resource` *resourceType*

The type of the resource on which the operation is performed. Resource types are as follows:

`all` - all resources

`accesspath` - a Windows access path

`disk` - a physical storage device

`diskgroup` - a logical grouping of disks

`diskset` - a Solaris Volume Manager disk set

`driveletter` - a Windows drive letter

`esm` - backup client identity

`filesystem` - a file system for UNIX and Windows

`gateway` - a network gateway

`host` - a network server

`hotfix` - a Windows hotfix

`hotsparepool` - a set of the slices that are used for SVM failover

`ip` - network identity

`license` - a product license information

`logicaldrive` - a Windows extended partition; first one implicitly adds container

`logicalvolume` - an AIX or HP-UX logical volume

`metadb` - an SVM database replica slice

`mountpoint` - a path that serves as an access point to a volume

`msd` - a mass storage driver

`multidevice` - a Linux multidevice

`nativedisk` - Solaris Native disk resource

`nativepart` - Solaris Native partition resource

`network` - a sub network

`nic` - a network interface card

`nicpkg` - a network interface card driver

`partition` - Windows primary partition

`physical volume` - an AIX or HP-UX physical volume

`slice` - a Solaris slice; equivalent to volume

`softpart` - an SVM soft partition

`volume` - a logical division of a disk or a disk group

`volumegroup` - an AIX or HP-UX volume group

`zfsfilesystem` - ZFS file system

`zfsstoragepool` - ZFS storage pool

`zfsvolume` - ZFS volume

`-sourceconfiguration` *`source_configName`*

The configuration that is the source in an initialized configuration operation.

`-sourceclient` *`source_clientName`*

The client that serves as the source in an initialized configuration operation. If a source client is not specified, the configuration comes from the list of discovered configurations.

EXAMPLES

Example 1 - List the physical volumes in a configuration for client aixp31:

```
# bmrconfig -operation list -resource physical volume -configuration
current -client aixp31
```

Example 2 - Map Native partitions on Solaris:

```
# bmrconfig -op map -re nativepart -name /dev/dsk/c1t0d0p1 -client
client1 -config config1 -attributes disk=/dev/dsk/c1t1d0p0
percent=50 partid=191 active=true
```

Example 3 - List the volume groups in a configuration for client aixp31:

```
# bmrconfig -operation list -resource volume group -configuration
current -client aixp31
```

Example 4 - Display the attributes of a volume group for client aixp31:

```
# bmrconfig -operation display -resource volume group -configuration
current -client aixp31 -name rootvg
```

Example 5 - Initialize the new configuration with the discovered hardware for client aixp31:

```
# bmrconfig -operation initialize -resource config -configuration
mynew -client aixp31 -sourceconfiguration discover
```

Example 6 - Add a volume group to a configuration for client aixp31:

```
# bmrconfig -operation add -configuration mynew -client aixp31
-resource volume group -name rootvg -attributes physical
volume=hdisk1
```

Example 7 - Add a disk to a volume group for client aixp31 (requires a full list of physical volumes to be specified):

```
# bmrconfig -operation modify -configuration my new -client aixp31
-resource volume group -name rootvg -attributes physical
volume=hdisk1 physical volume=hdisk0
```

Example 8 - Remove a physical volume from a volume group for client aixp31:

```
# bmrconfig -operation modify -configuration my new -client aixp31
-resource volume group -name rootvg -attributes physical
volume=hdisk0
```

Example 9 - Map a volume group from the original configuration for client `aixp31`:

```
# bmrconfig -operation map -configuration my new -client aixp31
-resource volume group -name rootvg
```

Example 10 - On UNIX, map a ZFS storage pool set up in a mirrored layout that provides three copies:

```
# bmrconfig -operation map -resource zfsstoragepool -client solbox
-config solconfig -namedatapool -attributes devtype=mirror copies=3
spare=/dev/dsk/c1t1d0 cache=/dev/dsk/c1t1d1 log=/dev/dsk/c1t1d2
disk=/dev/dsk/c1t1d3 disk=/dev/dsk/c1t1d4
```

NOTES

If you use NetBackup Access Management, and the user credentials and computer credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat -Login` command to renew your user credentials. Use the `bpnbat -LoginMachine` command to renew the computer credentials.

SEE ALSO

See bmrs on page 45.

bmrepadm

`bmrepadm` – manage external procedures

SYNOPSIS

bmrepadm [-data] -list [*pattern*]

bmrepadm [-data] -delete *procedureName*

bmrepadm [-data] -extract *procedureName*

bmrepadm [-data] -add *fileName*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bmrepadm` command lists, adds, extracts, or deletes external procedures from the database. The `bmrepadm` command is installed and runs on the NetBackup primary server.

A procedure name (*procedureName*) must be in the form *procedureType.clientOs* or *clientName_procedureType*.

procedureType is one of the following strings:

- prediscover
- preformat
- prerestore
- postrestore
- firstboot

clientOs is one of following strings:

- aix
- hp
- linux
- sol

- win

name is the name of a Bare Metal Restore client.

OPTIONS

`-add` *`pathName`*

Adds the external procedure in *pathName* to the database. The last component of *pathName* must be a valid external *procedure Name*.

`-data`

Manipulates an arbitrary user-supplied data file instead of an external procedure. This option also relaxes all of the naming convention rules for procedure and file name argument values. The names of data files can be anything except a valid external procedure name.

`-delete` *`procedureName`*

Deletes the *procedureName* external procedure from the database. The *procedureName* must be a valid external procedure name.

`-extract` *`procedureName`*

Extracts an external procedure from the database and writes it to the current directory. The procedure name must be a valid external *procedureName*.

`-list [`*`pattern`*`]`

Lists the entries (external procedures or user-supplied data files) in the database. Only the entries that match the *pattern* are listed. If no *pattern* is specified, all entries in the database are listed. The "*" character may be used in the pattern to match a *procedureName*.

NOTES

`bmrepadm` does not validate client names. That is, you can add an external procedure for a nonexistent client.

If you use NetBackup Access Management and your user credentials and the computer credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat -Login` command to renew your user credentials and the `bpnbat -LoginMachine` command to renew the computer credentials.

Specify `-?` to display the command usage statement when it is the only option on the command line.

EXAMPLES

Example 1 - Add a data file:

```
# bmrepadm -data -add nameNotMatchingEPname
```

Example 2 - List the data files:

```
# bmrepadm -data -list
```

Example 3 - Add an external procedure that runs for all Solaris clients after the NetBackup restore phase of restoration:

```
bmrepadm -add pathname/postrestore.sol
```

Example 4 - Add an external procedure that runs before the disks are formatted on a client that is named `zanzibar`:

```
bmrepadm -add pathname/zanzibar_preformat
```

bmrprep

bmrprep – prepare a client for restore or discovery

SYNOPSIS

bmrprep -restore -client *clientName* -config *configurationName* -srt *srtName* [-policy *policyName*] [-logging] [-runep] [-systemonly] [-import] [-enddate *enddate*] [-quickformat] [-cloud -amiid *amiId* -keyname *keyName* -keyfilepath *keyFilePath* [-useorigip]]

bmrprep -discover -newconfig *configurationName* -srt *srtName* [-client *clientName* -config *configurationName*] -address *clientAddress* -default *defaultGateway* -netmask *netmask* -mac *clientMacAddress* -server *nbuServerAddress* -console *consoleDeviceName* -architecture *architectureName* [-gateway *serverGateway*] [-logging] [-runep]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The bmrprep command prepares a Bare Metal Restore client for a restore or for a hardware discovery process. This command only runs on the Bare Metal Restore master server.

OPTIONS

-address *clientAddress*

(UNIX clients only.) IP address of the client, in dotted decimal notation. Required only for a -discover operation; optional if -client and -config options are specified.

-amiid *amiId*

The Amazon Machine Image (AMI) ID. This option is only used with RHEL Linux clients and with the -cloud option. This option is only necessary for the -restore operation.

`-architecture` *`architectureName`*

(UNIX clients only.) Architecture of the client to be discovered. Required only for a `-discover` operation; optional if `-client` and `-config` options are specified.

`-client` *`clientName`*

Name of the client to restore.

`-cloud`

This option is only used to with RHEL Linux clients to restore Amazon Web Services virtual machines. This option is only necessary for the `-restore` operation.

`-config` *`configurationName`*

Name of the configuration to use.

`-console` *`consoleDeviceName`*

(UNIX clients only.) Name of the console device to use during discovery. Required only for a `-discover` operation; optional if you specify the `-client` and `-config` options or use media boot.

`-default` *`defaultGateway`*

(UNIX clients only.) Default gateway address, in dotted decimal notation. Required only for a `-discover` operation; optional if you specify the `-client` and `-config` options or use media boot.

`-discover`

(UNIX clients only.) Perform a hardware discovery. Cannot be used with `-restore`.

`-enddate` *`enddate`*

Date for point-in-time restores.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *`install_path`*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more information about the locale of your system, see the NetBackup Administrator's Guide, Volume II.

`-gateway` *`serverGateway`*

(UNIX clients only.) Gateway to a NetBackup server, in dotted decimal notation. Required only for a `-discover` operation.

`-import`

Import non-system volume groups.

For more information about how to use this flag, see the Bare Metal Restore Administrator's Guide.

`-keyfilepath` *keyFilePath*

The path of the `.pem` file that has the key-pair that is used to create the Amazon Web Services virtual machine. This option is only used with the `-cloud` option. It's for RHEL Linux clients only and is only necessary for a `-restore` operation.

`-keyname` *keyName*

The key name that is used to create the Amazon Web Services virtual machine. This option is only used with the `-cloud` option. It's for RHEL Linux clients only and is only necessary for a `-restore` operation.

`-logging`

Enable logging.

`-mac` *clientMacAddress*

(UNIX clients only.) MAC address of the client. Required only for a `-discover` operation. (Exception: Optional if the IP address is configured during initial program load (IPL)); optional if you specify the `-client` and `-config` options or use media boot.

`-netmask` *netmask*

(UNIX clients only.) Netmask of the client, in dotted decimal notation. Required only for a `-discover` operation; optional if `-client` and `-config` options are specified.

`-newconfig` *configurationName*

(UNIX clients only.) Name to be given to the discovered configuration.

`-policy` *policyName*

Name of the policy to be used.

`-quickformat`

(Windows clients only.) Quickly formats Windows partitions.

`-restore`

Performs a normal restore. Cannot be used with `-discover`.

`-runep`

Runs external procedures.

`-server` *nbuServerAddress*

(UNIX clients only.) A NetBackup server address, in dotted decimal notation. Required only for a `-discover` operation; optional if `-client` and `-config` options are specified.

`-srt` *srtName*

Name of the shared resource tree to use.

`-systemonly`

Restores system volume groups only.

For more information about how to use this option, see "Prepare to Restore Client dialog box" in the Bare Metal Restore Administrator's Guide.

`-useorigip`

Instructs the restore to use the same TCP/IP address from the backup system during the restore. You must make sure that the original instance is terminated and that the original TCP/IP address is available. This option is only used with the `-cloud` option. It's for RHEL Linux clients only and is only necessary for a `-restore` operation.

NOTES

If you use NetBackup Access Management and your user credentials and the computer credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat -Login` command to renew your user credentials and the `bpnbat -LoginMachine` command to renew the computer credentials.

You can specify `-?` to display the command usage statement when it is the only option on the command line.

bmrs

bmrs – manage resources in the Bare Metal Restore database

SYNOPSIS

bmrs -operation delete -resource config -name *configName* -client *clientName* -resource client -name *clientName* -resource package -name *packageName* -resource srt -name *srtName* -resource discovertasklog -id *idvalue* -resource restoretasklog -id *idvalue*

bmrs -operation complete -resource discovertask -client *clientName* -status *numericStatus* -resource restoretask -client *clientName* -status *numericStatus*

bmrs -operation verify -resource srt -name *srtName* [-client *clientName*]

bmrs -operation copy -resource config -name *configName* -client *clientName* -destination *newConfigName*

bmrs -operation retrieve -resource config -client *clientName* -destination *newConfigName* [-enddate *date*] [-epochenddate *eEnddate*] [-policy *policyName*]

bmrs -operation import -resource config -path *bundlePath* [-client *clientName*] [-destination *newConfigName*]

bmrs -operation list -resource *resourceName*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The bmrs command manages resources in the Bare Metal Restore database. The bmrs command runs only on the master server.

OPTIONS

`-client` *clientName*

Name of the Bare Metal Restore client.

`-destination` *newConfigName*

Name of the destination configuration to create.

`-enddate` *date*

The date for point-in-time restore configurations. If both *-enddate* and *-epochenddate* are specified, *-epochenddate* takes precedence.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more information about the locale of your system, see "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

`-epochenddate` *eEnddate*

The date for the point-in-time restore configurations. This date is specified in the number of seconds since January 1, 1970. If both *-enddate* and *-epochenddate* are specified, *-epochenddate* takes precedence.

`-id` *idvalue*

Database record ID of the resource to use for this operation. It is either *discoverTaskLogId* or *restoreTaskLogId*.

`-name` *value*

Name of the resource to use for this operation: *clientName*, *configName*, *packageName*, or *srtName*.

`-operation` *operationName*

Possible operations are complete, copy, delete, import, list, retrieve, and verify.

`-path` *bundlePath*

Pathname to a bundle file that the `bmrsavecfg` command creates.

`-policy` *policyName*

Name of the policy to be used.

`-resource` *resourceName*

A resource on which to perform the operation. The allowed resources vary with operation specified. For *-operation list*, the following resources are supported:

```
bootserver
client
config
discovertask
discovertasklog
package
restoretask
restoretasklog
srt
```

`-status` *numericStatus*

A numeric completion status code, used internally by Bare Metal Restore.

EXAMPLES

Example 1 - List the configurations in the BMR database:

```
bmrs -operation list -resource config
```

Example 2 - Copy the current configuration (read-only) and create a new configuration (`mynew`) that you can edit for client `aixp31`:

```
bmrs -operation copy -resource config -name current -client aixp31
-destination mynew
```

Example 3 - Delete configuration `mynew` for client `aixp31`:

```
bmrs -operation delete -resource config -name mynew -client aixp31
```

Example 4 - Verify the integrity of shared resource tree `aixsrt`:

```
bmrs -operation verify -resource srt -name aixsrt
```

NOTES

If you use NetBackup Access Management and your user credentials and the computer credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat -Login` command to renew your user credentials and the `bpnbat -LoginMachine` command to renew the computer credentials.

You can specify `-?` to display the command usage statement when it is the only option on the command line.

SEE ALSO

See bmrc on page 29.

bmrsrtadm

`bmrsrtadm` – create and manage SRTs and create bootable CD images

SYNOPSIS

bmrsrtadm

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

On UNIX systems, the `bmrsrtadm` command interactively manages shared resource trees.

On Windows systems, the `bmrsrtadm` command launches the Create Shared Resource Tree wizard.

Use `bmrsrtadm` on a BMR boot server (UNIX) or the Create Shared Resource Tree wizard on a BMR boot server (Windows) to do the following:

- Create a new shared resource tree.
- Create a bootable CD image that contains a copy of an existing shared resource tree.
- Install additional software into an existing shared resource tree.
- Copy an existing shared resource tree to a new location.
- Delete an existing shared resource tree.
- List available shared resource trees (UNIX).
- Enable and disable a shared resource tree for exclusive use (UNIX).

NOTES

UNIX: If you use NetBackup Access Management and your user credentials and the machine credentials expire, renew them before you perform prepare-to-restore operations. Use the `bpnbat -Login` command to renew your user credentials. Use the `bpnbat -LoginMachine` command to renew the machine credentials.

bp

bp – start NetBackup menu interface for users

SYNOPSIS

bp [-a | -ra | -b | -r | -rr | -o | -ro | -s | -rs | -i | -ri | -k | -rk | -rti | -p | -rp | -2 | -r2] [-verbose]

bp [-b |-a | -r | -ra] [-verbose]

The directory path to this command is /usr/openv/netbackup/bin/

DESCRIPTION

This command operates only on UNIX systems.

The bp command starts a menu interface that lets users archive, back up, and restore files, directories, or raw partitions from their client workstations. You can run this interface from any character-based terminal (or terminal emulation window) where you have a termcap or a terminfo definition.

The bp online Help provides detailed operating instructions.

OPTIONS

The startup menu depends on the options that are used with the bp command. If you run the bp command without specifying an option, the utility starts at the main menu. To start the utility at a secondary menu, specify one of the following options:

-a Starts bp in the Archive of Files and Directories menu.

-ra
Starts bp in the Restore Archives menu.

-b Starts bp in the Backup of Files and Directories menu.

-r Starts bp in the Restore Backups menu.

-rr
Starts bp in the Restore Raw Partitions Backups menu.

-o Starts bp in the Backup Oracle DB menu.

-ro
Starts bp in the Restore Oracle DB menu.

`-s` Starts `bp` in the Backup Sybase DB menu.

`-rs`
Starts `bp` in the Restore Sybase DB menu.

`-i` Starts `bp` in the Backup Informix DB menu.

`-ri`
Starts `bp` in the Restore Informix DB menu.

`-rti`
Starts bp in the Restore True Image Backups menu.

Note that the following options apply only to the NetBackup Enterprise Server.

`-p` Starts `bp` in the Backup SAP DB menu.

`-rp`
Starts `bp` in the Restore SAP DB menu.

`-2` Starts `bp` in the Backup DB2 DB menu.

`-r2`
Starts `bp` in the Restore DB2 DB menu.

`-k` Starts `bp` in the Backup SQL-BackTrack DB menu.

`-rk`
Starts `bp` in the Restore SQL-BackTrack DB menu.

`-verbose`
Provides a verbose response.

FILES

```
/usr/openv/netbackup/help/bp/*
/usr/openv/netbackup/logs/bp/*
/usr/openv/netbackup/bp.conf
```

SEE ALSO

See bparchive on page 51.

See bpbackup on page 57.

See bprestore on page 386.

bparchive

bparchive – archive files to the NetBackup server

SYNOPSIS

bparchive [-p *policy*] [-s *schedule*][-L *progress_log* [-en]] [-S *master_server* [,*master_server*,...]] [-t *policy_type*] [-w [*hh:mm:ss*]] [-k "*keyword_phrase*"] [-utf8] -f *listfile* | *filenames*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

bparchive processes the files that are listed on the command line or in the specified file, using the -f *listfile* option. Any file path that is entered can be a file name or a directory name. If the list of files includes a directory, it archives all files and subdirectories of that directory and starts at the directory itself.

By default, you return to the system prompt after bparchive is successfully submitted. The command works in the background and does not return completion status directly to you. Use the -w option to change bparchive to work in the foreground and to return completion status after a specified time period.

bparchive writes informative and error messages to a progress-log file if the file is created. Create the file before you run the bparchive command and specify it with the -L *progress_log* option. If bparchive cannot archive any of the requested files or directories, use the progress log to determine the reason for the failure.

If you create a directory with write access, bparchive creates a debug log file in this directory to use for troubleshooting.

On Windows systems, *nbu_dir_path* is *install_path*\NetBackup\logs\bparchive\

On UNIX systems, the directory is /usr/openv/netbackup/logs/bparchive/

NetBackup sends mail on the archive completion status to *mail_address* if USEMAIL = *mail_address*. It is entered as follows: non-administrator users specify it on the $HOME/bp.conf file; administrators specify it in the /usr/openv/netbackup/bp.conf file. This message is sent when the archive process is complete.

The following restrictions apply to this command:

- On UNIX systems: To archive a file with `bparchive`, you must be the root or the owner and a member of the primary group (as owner) to delete. Also, the file must not be read only. Otherwise, NetBackup saves the files but cannot reset their access time (`utime`) and does not delete them from the disk.
- On Windows systems, to archive a file with `bparchive`, you must have permission to delete the file and the file must not be read only. Otherwise, NetBackup saves the files but does not delete them from the disk.
- On UNIX systems: If you specify a UNIX file that is a link, `bparchive` archives only the link itself, not the file to which it links.
- `bparchive` does not archive the "." or ".." directory entries, and does not archive disk-image backups.

OPTIONS

`-f` *`listfile`*

Specifies a file (*listfile*) that contains a list of files to be archived and can be used instead of the `filenames` option. In `listfile`, place each file path on a separate line.

The required file list format depends on whether the files have spaces, newlines, or returns in the names. To archive the files that do not have spaces or newlines or returns in the names, use the following format:

`filepath`

The path to the file you want to archive. Some examples on UNIX systems are:`/home, /etc`, and `/var`. Some examples on Windows systems are: `c:\Programs and c:\documents\old_memos`

To archive the files that have spaces or newlines or returns in the names, use this format:

`filepathlen filepath`

filepath is the path to the file you want to archive and *filepathlen* is the number of characters in the file path.

The path to the file you want to archive. Some examples on UNIX systems are:`/home`, `/etc`, and `/var`. Some examples on Windows systems are: `c:\Programs and c:\documents\old_memos`

Examples on UNIX systems are the following:

```
5 /home
4 /etc
4 /var
19 /home/abc/test file
```

Examples on Windows systems are the following:

```
11 c:\Programs
8 c:\winnt
22 c:\documents\old memos
```

filenames

Names one or more files to be archived and can be used instead of the `-f` option. Any files that you specify must be listed at the end, after all other options.

`-k` *keyword_phrase*

Specifies a keyword phrase that NetBackup associates with the image created by this archive operation. You then can restore the image by specifying the keyword phrase with the `-k` option on the `bprestore` command.

The keyword phrase is a textual description of the archive that is a maximum of 128 characters in length. All printable characters are permitted including space (" ") and period (".").

Enclose the phrase in double quotes ("...") or single quotes (‘...’).

The default keyword phrase is the null (empty) string.

`-L` *progress_log* `[-en]`

Specifies the name of an existing file in which to write progress information.

On UNIX systems, the file name must begin with /.

For example: `netbackup/logs/user_ops/proglog`

On Windows system, an example is `NetBackup\logs\user_ops\proglog`

The default is to not use a progress log.

Include the `-en` option to generate a progress log that is in English. The name of the log contains the string `_en`. This option is useful to support personnel in a distributed environment where different locales may create logs of various languages.

Only default paths are allowed for this option and Veritas recommends using the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-p` *policy*

Names the policy to use for the user archive. If it is not specified, the NetBackup server uses the first policy it finds that includes the client and a user archive schedule.

`-S` *master_server*

On UNIX systems, this option specifies the name of the NetBackup master server. The default is the first `SERVER` entry in the `/usr/openv/netbackup/bp.conf file.`

On Windows systems, this option specifies the name of the NetBackup master server. The default is the server designated as current on the Servers tab of the Specify NetBackup Machines dialog box. To display this dialog box, start the Backup, Archive, and Restore user interface on the client. Then click Specify NetBackup Machines on the File menu.

`-s` *schedule*

Names the schedule to use for the user archive. If it is not specified, the NetBackup server uses the first user archive schedule it finds in the policy it currently uses. (See the `-p` option.)

`-t` *policy_type*

Specifies one of the following numbers that correspond to the policy type. The default for Windows clients is `13`. The default for all others is `0`:

`0` = Standard

`4` = Oracle

`6` = Informix-On-BAR

`7` = Sybase

`13` = MS-Windows

`15` = MS-SQL-Server

`16` = MS-Exchange-Server

`19` = NDMP

The following policy types apply only to NetBackup Enterprise Server:

`11` = DataTools-SQL-BackTrack

`17` = SAP

`18` = DB2

20 = FlashBackup

21 = Split-Mirror

39 = Enterprise-Vault

-utf8

This option tells NetBackup that the file list that is provided is in UTF-8 format. With this option, NetBackup does not try to convert the path names. The option has no effect for non-Windows platforms or for other policy types.

For some policy types, NetBackup on Windows assumes that the input file list is formatted in the active code page (ACP). It converts each path specification from the ACP to UTF-8. The option applies to any backups that are initiated from the command line on Windows, for the following policy types:

DB2
MS-Exchange-Server
Lotus-Notes
Oracle
SAP
MS-SQL-Server
Sybase
MS-Windows

-w *[hh:mm:ss]*

Causes NetBackup to wait for a completion status from the server before it returns you to the system prompt.

The required date and time values format in NetBackup commands varies according to your locale. The /usr/openv/msg/.conf file (UNIX) and the *install_path*\VERITAS\msg\LC.CONF file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

You can optionally specify a wait time in hours, minutes, and seconds. The maximum wait time you can specify is 23:59:59. If the wait time expires before the archive is complete, the command exits with a timeout status. The archive, however, still completes on the server.

If you use -w without specifying the wait time or if you specify a value of 0, NetBackup waits indefinitely for the completion status.

EXAMPLES

Example 1 - Archive a single file:

UNIX systems: `bparchive /usr/user1/file1`

Windows systems: `bparchive c:\usr\user1\file1`

Example 2 - Archive the files that are listed in a file that is named `archive_list`:

```
bparchive -f archive_list
```

Example 3 - Associate keyword phrase "Archive My Home Directory 02/02/10" to the archive of a directory named `kwc` and use a progress log that is named arch.log:

UNIX systems: `bparchive -k "Archive My Home Directory 02/02/10" \-L/usr/openv/netbackup/logs/user_ops/arch.log /home/kwc`

Windows systems: `bparchive -k "Archive My Home Directory 02/02/10" \-L c:\Program Files\Veritas\NetBackup\logs\user_ops\arch.log c:\home\kwc`

bpbackup

bpbackup – back up files to the NetBackup server

SYNOPSIS

bpbackup -f *listfile* | *filenames* [-p *policy*] [-s *schedule*] [-S *master_server...*] [-t *policy_type*] [-L *progress_log* [-en]] [-w [*hh:mm:ss*]] [-k *"keyword_phrase"*] [-utf8]

bpbackup -i [-p *policy*] [-h *hostname* {[-instance *instance_name* [-database *database_name*]]] | [-database_unique_name *name* -database_id *id*]} [-s *schedule*] [-S *master_server...*] [-t *policy_type*] [-L *progress_log* [-en]] [-w [*hh:mm:ss*]] [-k *"keyword_phrase"*] [-utf8]

bpbackup -dssu *DSSUname* [-S *master_server*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The bpbackup command can start a backup process on clients and master servers. When you use an Oracle policy, bpbackup lets you back up an instance or a RAC database. When you use a SQL Server policy, bpbackup lets you back up an instance or a database in an instance.

On clients:

The -f option of bpbackup starts a user backup equivalent to what is performed by using the interface on the client. This type of backup can be started from any NetBackup client to back up files from that client.

bpbackup processes the files that you list on the command line or in the file that you specify with the -f *listfile* option. A file path can be a file name or a directory name. If the named files include a directory, bpbackup backs up all files and subdirectories of that directory; it starts at the directory itself.

Note: In addition to listing individual files or directories, bpbackup can also use directives to indicate the files to be backed up. For example: bpbackup "/Shadow Copy Components/" or bpbackup "/System State/". Clients can enter the directive in the listfile using the bpbackup -f *listfile* option.

On master servers:

The -i option of bpbackup starts an immediate manual backup of a client. The bpbackup option is available only to the administrator on the master server. It is equivalent to when you start a manual backup from the NetBackup Administration Console. Use the -h option to specify the host.

Because progress logs are written only on clients and this form of bpbackup is run from the master server only, the -L option is undefined.

The following restrictions apply to this command:

- You must be the owner of the file or an administrator to back up a file with bpbackup.
- You can back up files and the directories that other users own if you have the necessary permissions.
- On UNIX systems: If you specify a file that is a link, bpbackup backs up only the link itself, not the file to which it links.
- bpbackup does not back up the "." or ".." directory entries.

By default, you return to the system prompt after bpbackup is successfully submitted. The command works in the background and does not return completion status directly to you. The -w option lets you change this behavior so the command works in the foreground. It returns completion status after a specified time period.

If you create the file before you run the bpbackup command and then specify the file with the -L *progress_log* option, the following occurs: bpbackup writes informative and error messages to a progress-log file. If bpbackup cannot back up the requested files or directories, use the progress log to determine the reason for the failure.

Note: The - L option is not supported for NDMP clients.

If you create the following directory with public-write access, bpbackup creates a debug log file in the directory that you can use for troubleshooting:

```
On Windows systems: install_path\NetBackup\logs\bpbackup\

On UNIX systems: usr/openv/netbackup/logs/bpbackup/
```

NetBackup sends mail on the backup completion status when the backup process is complete to *mail_address* when users specify the following:

- A nonroot user specifies `USEMAIL = mail_address` in the `$HOME/bp.conf` file
- A root user specifies `USEMAIL = mail_address` in the `/usr/openv/netbackup/bp.conf` file

OPTIONS

`-database_id`
The database id of the Oracle RAC database specified in the policy.

`-database_unique_name`
The unique name of the Oracle RAC database specified in the policy.

`-dssu DSSUname`
NetBackup immediately runs the schedule that is associated with the disk staging storage unit. The `-i` option is the implied behavior and is not necessary.

`-f listfile`
Specifies a file (*listfile*) that contains a list of files to back up. You can use this option instead of the *filenames* option, but you cannot use it with the `-i` option. List each file on a separate line.

The format that is required for the file list depends on whether the files have spaces, newlines, or returns in the names.

To back up the files that do not have spaces, newlines, or returns in the names, use the following format:

```
filepath
```

Where *filepath* is the path to the file you want to back up.

On UNIX systems, examples are `/home`, `/etc`, and `/var`.

On Windows systems, examples are `c:\Programs`, `c:\winnt`, and `c:\documents\old_memos`

To back up the files that have spaces, newlines, or returns in the names, use the following format:

```
filepathlen filepath
```

Where *filepath* is the path to the file you want to back up and *filepathlen* is the number of characters in the file path.

Examples on UNIX systems are the following:

```
5 /home
4 /etc
4 /var
19 /home/abc/test file
```

Examples on Windows systems are the following:

```
11 c:\Programs
8 c:\winnt
22 c:\documents\old memos
```

filenames

Names one or more files to back up. You can use this option instead of the -f option, but you cannot use it with the -i option. You must list any files that you specify at the end, following all other options.

-h *hostname*

Names the client host on which to run the backup. If it is not specified, NetBackup runs the backup on all clients in the policy.

-i

Starts an immediate manual backup. This operation is equivalent to starting a manual backup from the NetBackup administrator interface. You must be the administrator on the master server to use the -i option.

-instance *instance_name* [-database *database_name*]

Specifies the name of an Oracle or SQL Server instance that you want to back up. The policy type (-t) must be set to 4 (Oracle) or 15 (SQL Server). You must use this option with the -h option, and you must be the administrator on the master server.

[-database *database_name*] specifies the name of a SQL Server database in an instance that you want to back up.

-k *keyword_phrase*

Specifies a keyword phrase that NetBackup associates with the image that this backup operation creates. You then can restore the image by specifying the keyword phrase with the -k option on the bprestore command.

If you use the -i option with -k, NetBackup establishes an association between the keyword phrase and the backup policy and image.

The keyword phrase is a textual description of the backup that is a maximum of 128 characters in length.

On UNIX systems, all printable characters are permitted including space (" ") and period ("."). Enclose the phrase in double quotes ("...") or single quotes ('...') to avoid conflict with the UNIX shell.

On Windows systems, all printable characters are permitted including space (" ") and period (".."). Enclose the phrase in double quotes ("...") or single quotes ('...').

The default keyword phrase is the null (empty) string.

`-L progress_log [-en]`

Specifies the name of a file in which to write progress information. NetBackup creates the file if it does not exist.

On Windows systems, for example: `NetBackup\logs\user_ops\proglog`

On UNIX systems, for example: `netbackup/logs/user_ops/proglog`

The default is not to use a progress log.

The - L option is not supported for NDMP clients.

Include the `-en` option to generate a progress log that is in English. The name of the log contains the string `_en`. This option is useful to support personnel in a distributed environment where different locales may create logs of various languages.

Only default paths are allowed for this option and Veritas recommends to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-p policy`

Names the policy to use for the backup.

If this option is not specified, NetBackup uses the first policy it finds that includes the client and a user backup schedule.

This option is required for an immediate-manual backup (`-i` option).

`-s schedule`

Names the schedule to use for the backup. If it is not specified, the NetBackup server uses the first user backup schedule it finds for the client in the policy currently in use.

See the `-p` option.

`-S master_server [,master_server,...]`

On UNIX systems, `-S` specifies the name(s) of the NetBackup master server(s). The default is the first `SERVER` entry that is found in the `/usr/openv/netbackup/bp.conf file.`

On Windows systems, `-S` specifies the name(s) of the NetBackup master server(s). The default is the server designated as current on the Servers tab of the **Specify NetBackup Machines** dialog box. To display this dialog box, start the Backup, Archive, and Restore user interface on the client. Then click **Specify NetBackup Machines** on the File menu.

`-t` *`policy_type`*

Specifies one of the following numbers that correspond to the policy type. The default for Windows clients is `13`, and the default for all others is `0`:

`0` = Standard

`4` = Oracle

`6` = Informix-On-BAR

`7` = Sybase

`8` = MS-SharePoint

`13` = MS-Windows

`15` = MS-SQL-Server

`16` = MS-Exchange-Server

`19` = NDMP

Note that the following policy types apply only to the NetBackup Enterprise Server.

`11` = DataTools-SQL-BackTrack

`17` = SAP

`18` = DB2

`20` = FlashBackup

`21` = Split-Mirror

`39` = Enterprise-Vault

`44` = BigData

`48` = Universal-share

`-utf8`

This option tells NetBackup that the file list that is provided is in UTF-8 format. With this option, NetBackup does not try to convert the path names. The option has no effect for non-Windows platforms or for other policy types.

For some policy types, NetBackup on Windows assumes that the input file list is formatted in the active code page (ACP). It converts each path specification

from the ACP to UTF-8. The option applies to any backups that are initiated from the command line on Windows, for the following policy types:

```
DB2
MS-Exchange-Server
Lotus-Notes
Oracle
SAP
MS-SQL-Server
Sybase
MS-Windows
```

`-w [hh:mm:ss]`

Causes NetBackup to wait for a completion status from the server before it returns you to the system prompt.

You can optionally specify a wait time in hours, minutes, and seconds. The maximum wait time you can specify is 23:59:59. If the wait time expires before the backup is complete, the command exits with a timeout status. The backup, however, still completes on the server.

The `bpbackup -w` option causes the shell to wait for a return code. The operating system shell can only return one return code. Therefore, if you use `-w` without specifying a wait time or you specify a value of 0, NetBackup waits indefinitely for the completion status.

You can start a manual or an administrative backup using `bpbackup -i` along with the `-w` function. This type of backup has the potential to start multiple jobs because it is based on policy attributes. If the manual backup starts multiple jobs, the `-w` function still only returns one return code to the shell.

If you use `-i` with `-w` and more than one job begins, NetBackup waits until all jobs complete before it returns a completion status. However, because NetBackup only returns one status code to the shell, the job ID that the status code belongs to is unknown.

If multiple jobs are due to multiple clients and **Allow Multiple Data Streams** is not selected, use `-h` to restrict the operation to one client. However, if **Allow Multiple Data Streams** is selected in the policy and the selected client has multiple jobs, the returned status code is again unknown.

EXAMPLES

Example 1 - Perform a user backup of a single file.

On UNIX systems: `# bpbackup /usr/user1/file1`

On Windows systems: `# bpbackup c:\users\user1\file1`

Example 2 - Start a user backup of the files that are listed in a file that is named `backup_list`.

```
# bpbackup -f backup_list
```

Example 3 - Start an immediate-manual backup (all on one line) of the client host named `diablo` in the policy named cis_co. The policy type is Standard policy and is in the configuration on the master server named `hoss`.

UNIX: `# bpbackup -p cis_co -i -h diablo -S hoss -t 0`

Windows: `# bpbackup -p cis_co -i -h diablo -S hoss -t 0`

Example 4 - On Windows systems: Associate the keyword phrase "Backup My Home Directory 01/01/01" to the user backup of the directory `C:\home\kwc`. (Enter the command on one line.)

```
# bpbackup -k "Backup My Home Directory 01/01/01"
-L c:\Program Files\Veritas\NetBackup\logs\user_ops\bkup.log \
C:\home\kwc
```

On UNIX systems: The following command associates the keyword phrase “Backup Home Dir 01/01/01” to the user backup of the directory `/home/kwc`. (Enter the command on one line or use the backslash continuation character.)

```
# bpbackup -k "Backup Home Dir 01/01/01"
-L /usr/openv/netbackup/logs/user_ops/bkup.log \
 /home/kwc
```

Example 5 - Associate the keyword phrase “Policy Win 01/01/01” to the immediate-manual backup of the client host named `slater` in the policy named win_nt_policy. (Enter the command all on one line.)

UNIX:

```
# bpbackup -k "Policy Win 01/01/01" -i -h slater \
-p win_nt_policy -t 13
```

Windows:

```
# bpbackup -k "Policy Win 01/01/01" -i -h slater
-p win_nt_policy -t 13
```

Example 6 - Perform a manual backup of the Oracle instance `orac11g` on client host `hookvm2` by using the `ora` policy.

```
# bpbackup -i -p ora -h hookvm2 -t 4 -instance orac11g
```

Example 7 - Perform a manual backup of the SQL Server database `HRDB1` in instance `HR`on client host `winvm2` by using the `sql` policy.

```
# bpbackup -i -p sql -h winvm2 -t 15 -instance HR -database HRDB1
```

FILES

UNIX systems: `$HOME/bp.conf`

`/usr/openv/netbackup/logs/bpbackup/log.`*`mmddyy`*

Windows systems: *`install_path`*`\NetBackup\logs\bpbackup\*.log`

SEE ALSO

See bp on page 49.

See bparchive on page 51.

See bplist on page 219.

See bprestore on page 386.

bpbackupdb

bpbackupdb – initiate a hot catalog backup

SYNOPSIS

bpbackupdb -p *policy_name* -s *sched_label*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpbackupdb initiates a hot catalog backup using the specified policy and schedule.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II.

See the NetBackup Administrator's Guide, Volume II for more information on how to back up NetBackup catalogs. The NetBackup utility bprecover recovers the catalogs that bpbackupdb has backed up.

See the NetBackup Troubleshooting Guide for more information on how to restore the NetBackup catalogs if a disaster recovery is required.

OPTIONS

-p *policy_name* -s *sched_label*

The -p and -s options launch a policy-based, hot catalog backup.

bpcatarc

`bpcatarc` – back up the NetBackup catalog

SYNOPSIS

bpcatarc [-version] [-remove_dotf]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

`bpcatarc` processes the output of `bpcatlist` to back up the selected catalog image `.f` files and update their image file's `catarc` field with this backup job ID.

OPTIONS

`-version`

Displays the `bpcatarc` version and exit.

`-remove_dotf`

Removes the .f files for an archived image immediately so that you do not need to run `bpcatrm`.

SEE ALSO

See bpcatlist on page 68.

See bpcatres on page 71.

See bpcatrm on page 72.

bpcatlist

`bpcatlist` – list selected parts of NetBackup catalog

SYNOPSIS

bpcatlist [-server *server_name*] [-client *client_name*] [-since [*ctime* | [-since-days *nnn* | -since-weeks *nnn* | -since-months *nnn* | -before-days *nnn* | -before-weeks *nnn* | -before-months *nnn*]] [-before [*ctime* | [-since-days *nnn* | -since-weeks *nnn* | -since-months *nnn* | -before-days *nnn* | -before-weeks *nnn* | -before-months *nnn*]] [-date *ctime*] [-policy *policy_name*] [-sched *sched_name*] [-id *backup_id*] [-catarc *catarc_id*] [-version] [-online | -offline]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

`bpcatlist` is the starting point for all catalog archiving operations. Use `bpcatlist` to select the specific parts of the NetBackup catalog with which you want to work. All files-file (image .f files), the largest files in a NetBackup catalog, that are selected for `bpcatarc`, `bpcatres`, or `bpcatrm`, are first selected with `bpcatlist`. The output of `bpcatlist` is piped to the action you want to perform.

OPTIONS

`-server` *server_name*

Indicates the name of the NetBackup server. Default: *server_name* is the first server name listed in the `bp.conf` file.

`-client` *client_name*

Creates a list of backup images for *client_name*. Default: *client_name* is CLIENT_NAME in `bp.conf` or the current host name.

To select all clients, use `-client all`.

`-since [`*`ctime`* `| [-since-days` *`nnn`* `| -since-weeks` *`nnn`* `| -since-months` *`nnn`* `| -before-days` *`nnn`* `| -before-weeks` *`nnn`* `| -before-months` *`nnn`*`]]`

Lists backup images since the specified time that is expressed in *ctime* (for example, `Fri Oct 12 00:00:00 2012`).

If no year is specified, `bpcatlist` uses the current year by default.

The following command lists all images after December 31, 2012:

```
bpcatlist -since 2012
```

Additional examples are found in the Examples section.

`-before [`*`ctime`* `| [-since-days` *`nnn`* `| -since-weeks` *`nnn`* `| -since-months` *`nnn`* `| -before-days` *`nnn`* `| -before-weeks` *`nnn`* `| -before-months` *`nnn`*`]]`

Lists backup images before the specified time that is expressed in *ctime* (for example, `Fri Oct 12 00:00:00 2012`). If no year is specified, `bpcatlist` uses the current year by default.

`-date` *`ctime`*

Lists of backup images for the specified date that is expressed in *ctime* (for example, `Fri Oct 12 00:00:00 2012`). If no date is specified, `bpcatlist` uses the current date by default.

Additional examples are found in the Examples section.

`-catarc` *`catarc_id`*

Lists the files-file that were archived with the specified *catarc_id*. For example:

```
-catarc 1022754972
```

`-policy` *`policy_name`*

Lists the backups that the indicated *policy_name* for the specified client creates.

`-sched` *`sched_name`*

Lists the backups that are created following *schedule_name* for the specified client.

`-id` *`backup_id`*

Creates a list for the specified *backup_id*.

`-online`

Lists only files-file that are online.

`-offline`

Lists only files-file that are offline.

`-version`

Displays the `bpcatlist` version and exit.

EXAMPLES

Displayed dates must be specified in ctime (for example, `Fri Mar 16 00:00:00 2012`) date format. Displayed dates may be cut and specified without modification.

Example 1 - List a backup for a specific date and time.

```
# bpcatlist -date Mon Aug 19 14:16:28 2013
```

Example 2 - List all backups between the two specified dates of the current year. When no year is specified, the current year is used by default.

```
# bpcatlist -since Fri Jul 5 00:00:00 -before Mon Aug 2 00:00:00
```

Example 3 - List the backups that are two to three months old.

```
# bpcatlist -before-months 2 -since-months 3
```

`-since` and `-before` use the following equivalent values:

```
-since-days nnn
-since-weeks nnn
-since-months nnn
-before-days nnn
-before-weeks nnn
-before-months nnn
```

For example, the setting `-since-days 14` is equivalent to `-since-weeks 2`.

SEE ALSO

See bpcatarc on page 67.

See bpcatres on page 71.

See bpcatrm on page 72.

bpcatres

`bpcatres` – restore NetBackup catalog

SYNOPSIS

bpcatres [-version]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

`bpcatres` processes the output of `bpcatlist` to restore the selected catalog image `.f` files.

OPTIONS

-version
: Displays the `bpcatres` version and exits.

SEE ALSO

See bpcatarc on page 67.

See bpcatlist on page 68.

See bpcatrm on page 72.

bpcatrm

`bpcatrm` – delete NetBackup catalog

SYNOPSIS

bpcatrm [-version]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

`bpcatrm` processes the output of `bpcatlist` or `bpcatarc` to delete the selected catalog image `.f` files that have a valid `catarc` ID in their image file.

OPTIONS

`-version`

Displays the `bpcatrm` version and exits.

SEE ALSO

See bpcatarc on page 67.

See bpcatlist on page 68.

See bpcatres on page 71.

bpcd

bpcd – NetBackup client daemon. Enables the NetBackup clients and servers to accept requests from NetBackup servers.

SYNOPSIS

bpcd [-standalone] [-debug] [-portnum *number*] [-keyfile] [-terminate]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

On Windows systems, bpcd is a communications daemon that the NetBackup Client Service bpinetd activates. Normally, inetd activates bpcd on UNIX systems.

The bpcd daemon accepts requests from NetBackup servers. Requests include the following:

- Initiate backup and restore jobs
- Get NetBackup configuration parameters
- Set NetBackup configuration parameters

When you install NetBackup on a client, the installation process typically adds entries for bpcd to the following:

- UNIX client: /etc/services and /etc/inetd.conf
- Windows client: %SystemRoot%\system32\drivers\etc\services

The services entry looks like the following:

```
bpcd 13782/tcp bpcd
```

The inetd.conf entry on UNIX systems looks like the following:

```
bpcd stream tcp nowait root /usr/openv/netbackup/bin/bpcd bpcd
```

OPTIONS

The following options are available only on UNIX clients and imply that the `-standalone` option is active.

`-debug`

Prevents `bpcd` from forking and does not disconnect it from standard input, output, and error.

`-keyfile`

When `-keyfile` is specified, you are prompted for the NetBackup pass phrase that lets `bpcd` access the NetBackup encryption key file.

For more information, see "Additional key file security" in the NetBackup Security and Encryption Guide.

`-portnum` *number*

Specifies the port number where `bpcd` listens for requests. The default is the `bpcd` entry in: `/etc/services`.

`-standalone`

Instructs `bpcd` to run continuously rather than requiring `inetd` to start NetBackup. `-standalone` is the default condition for NetBackup startup.

`-terminate`

Stop the NetBackup Client Service (`bpcd`).

SEE ALSO

See bpclient on page 81.

See bpkeyfile on page 212.

bpchangeprimary

bpchangeprimary – promote a copy of a backup to be the primary copy

SYNOPSIS

bpchangeprimary -copy *number* | -pool *volume_pool* | -group *volume_group* [-id *backup_id*] [-M *master_server*]

bpchangeprimary -copy *number* | -pool *volume_pool* | -group *volume_group* [-sl *schedule_name*] [-pn *policy_name*] [-st *schedule_type*] [-pt *policy_type*] [-cl *client_name*] [-kw *keyword*] [-sd *date time*] [-ed *date time*] [-M *master_server*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpchangeprimary command lets you change which copy is the primary copy for a set of backup images. You can choose the copy to be promoted to primary by specifying a copy number, volume pool, or volume group. You can apply several optional criteria to identify the backup images to be affected.

The primary copy of a backup is the copy used by a restore process. Ensure that the primary copy is accessible for restore. For instance, if one copy of a backup was sent off site, change the primary copy to be the copy that remains on site.

The bpchangeprimary command finds all backups that match the specified criteria and updates their copy number to primary. If you use the -copy option, the specified copy number becomes the primary copy. If you use the -group or -pool option, the process identifies all media IDs that belong to the specified volume group or volume pool. It then changes all copies that reside on those media to primary.

OPTIONS

One and only one of the following three options is required:

-copy *number*

Specifies the number of the backup copy you want to promote to primary.

`-pool` *volume_pool*

Specifies that the copy on the media that belongs to *volume_pool* is to be promoted to primary.

`-group` *volume_group*

Specifies that the copy on the media that belongs to *volume_group* is to be promoted to primary.

You can apply combinations of one or more of the following optional criteria to specify which copies are made primary.

`-cl` *client_name*

Specifies that backups of *client_name* are affected. This name must be as it appears in the NetBackup catalog. For those backup images, this option promotes the copy that corresponds to the specified `-pool`, `-group`, or `-copy` option to primary. The default is all clients.

`-sd` *date time*, `-ed` *date time*

Specifies the start date (`-sd`) or end date (`-ed`) of the backup images for which the primary copy is changed.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more information about the locale of your system, see "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

The default start date is January 1, 1970, which effectively causes a search for all images. If you run `bpchangeprimary` without using the `-sd` option, you are prompted to confirm that you want to change the primary copy for the backups that were created after January 1, 1970. The default end date is the current date. The valid range of dates is from 01/01/1970 to 01/19/2038.

`-id` *backup_id*

Specifies the backup ID of the backup image for which the primary copy is changed. For that backup image, `-id` *backup_id* changes the copy that corresponds to the specified `-pool`, `-group`, or `-copy` option.

If you specify `-id`, you can use the `-M` option to name an alternate master server. Specify `-pool`, `-group`, or `-copy`.

`-kw` *keyword*

Specifies a keyword phrase for NetBackup to use when you identify backup images for which the primary copy is changed.

-M *master_server*

Specifies that the backups that belong to *master_server* are affected. For those backup images, -M *master_server* promotes the copy that corresponds to the specified -pool, -group, or -copy option to primary.

If you use this option, any other options you specify determine which backup images on the specified master server are affected. The server must allow access by the system that issues the bpchangeprimary command. The default is the master server for the system that runs the bpchangeprimary command.

-pn *policy_name*

Specifies the name of the backup policy of the backups for which the primary copy is changed. The default is all policies.

-pt *policy_type*

Specifies the type of the backup policies of the backups for which the primary copy is changed. The default is all policy types. The *policy_type* is one of the following character strings:

```
Auspex-FastBackup
BigData
DataStore
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
FlashBackup-Windows
Hyper-V
Informix-On-BAR
LotusNotes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
MS-Windows
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Universal-share
Vault
VMware
```

`-sl` *schedule_name*

Specifies the *schedule name* (label) for the selection of the backup images for which the primary copy is changed. By default, the `bpchangeprimary` command uses all schedules.

`-st` *schedule_type*

Specifies the schedule type for the selection of the backup images for which the primary copy is changed. By default, `bpchangeprimary` uses any schedule type. Valid values are as follows:

`FULL` (full backup)

`INCR` (differential-incremental backup)

`CINC` (cumulative-incremental backup)

`UBAK` (user backup)

`UARC` (user archive)

`NOT_ARCHIVE` (all backups except user archive)

EXAMPLES

Example 1 - Promote all copies on the media that belongs to the volume pool `SUN` that are created after 08/01/2012 to be the primary copy.

```
# bpchangeprimary -pool SUN -sd 08/01/2012
```

Example 2 - Promote copy 2 of all backups of client, oak, created after 01/01/2012 to be the primary copy:

```
# bpchangeprimary -copy 2 -cl oak -sd 01/01/2012
```

Example 3 - Promote copy 4 of all backups that the backup policy `Offsite` created after 08/01/2011 to be the primary copy:

```
# bpchangeprimary -copy 4 -pn Offsite -sd 08/01/2011
```

bpcleanrestore

`bpcleanrestore` – restore clean files from NetBackup Server

SYNOPSIS

bpcleanrestore -restorecleandata -C *client* -S *master_server* [-D *destination_client*] -t *policy_type* -p *policy* [-st "*MM/DD/YYYY* [*HH:MM:SS*]"] [-et "*MM/DD/YYYY* [*HH:MM:SS*]"]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/goodies/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\goodies\

DESCRIPTION

NetBackup supports malware scanning for unstructured data with supported malware scanners. If a system or data is destroyed or taken offline, you can restore from a last known good image once you scan the data.

Use the `bpcleanrestore` command to restore clean data from infected backup images. The following operations are performed:

1. Identify the malware-infected backup images in given date range.
2. Skip the infected files and restore clean data.

OPTIONS

`-C` *client*

Specifies a client name to use for finding backups or archives from which to restore files. This name must be as it appears in the NetBackup catalog. The default is the current client name.

`-D` *client*

Specifies a destination client. The default is the current client name, not the source client.

Users with administrative rights on the master server can use this option to direct restored files to a client other than the one specified with the `-C` option.

`-et` *date*

Specifies an end date and time for the restore window. The `bpcleanrestore` command restores only clean files in the backups or the archives that occurred at or before the specified date and time. Format the date and the time as shown: *MM-DD-YYYYHH*:*MM*:*SS*.

If start date and end date are not specified, then last 24 hours backup taken images are considered.

`-p` *policy*

Specifies the policy for which the backups or archives were performed.

`-st` *date*

Specifies the start and the end date range for the listing. The `bpcleanrestore` command restores only the clean files from backups or the archives that occurred within the specified start and end date range. Format the date and the time as shown: *MM-DD-YYYYHH*:*MM*:*SS*.

If start date and end date are not specified, then last 24 hours backup taken images are considered.

`-S` *master_server*

Specifies the name of the NetBackup server.

`-t` *policy_type*

Specifies one of the following numbers that corresponds to the policy type. Following policy types are supported.

- 0 = Standard
- 13 = MS-Windows

bpclient

bpclient – manage client entries on a master server

SYNOPSIS

bpclient -All [-M *master_server*] [-l | -L | -H]

bpclient -client *client_name* [-M *master_server*] [-l | -L | -H]

bpclient -client *client_name* [-M *master_server*] -add | -update [-dynamic_address 0|1] [-free_browse 0|1|2] [-list_restore 0|1|2|3] [-max_jobs [1-99] [-current_host *host_name*] [[-online] | [-offline [[-ut] -onlineat *time*]] | [-online_backup] | [-offline_backup [[-ut] -online_backup_at *time*]] | [-online_restore] | [-offline_restore [[-ut] -online_restore_at *time*]]] [-WOFB_enabled 0|1] [-WOFB_FIM 0|1] [-WOFB_usage 0|1] [-WOFB_error 0|1] [-connect_options 0|1|2 0|1|2 0|1|2|3] [-granular_proxy *granular_proxy_host*] [-client_direct 0|1|2] [-client_direct_restore 0|1|2]

bpclient -client *client_name* [-M *master_server*] -delete

bpclient -client *client_name* -add_alias *alias_name* | -delete_alias *alias_name* [-M *master_server*]

bpclient -client *client_name* -add_all_aliases | -delete_all_aliases | -list_all_aliases [-M *master_server*]

bpclient -policy *policy_name* -validate -fi

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpclient command describes how a NetBackup server connects to NetBackup clients.

OPTIONS

`-add`

Adds a new client entry.

`-add_alias | -delete_alias` *`alias_name`*

Adds a new entry for a client alias or deletes an existing client alias entry.

`-add_all_aliases | -delete_all_aliases | -list_all_aliases`

Does one of the following:

- `-add_all_aliases` adds a new entry for every client alias.
- `-delete_all_aliases` deletes all aliases.
- `-list_all_aliases` outputs a list of all alias entries.

`-All`

Lists all client entries. Only the client entries appear that are added explicitly by using the `bpclient` command.

`-client` *`client_name`*

Specifies the name of the client to list or update.

`-client_direct 0 | 1 | 2`

Client Direct improves backup performance by using the OpenStorage storage server instead of the media server to transfer data to the client. The `-client_direct` option setting determines if and when the client uses this feature. The following settings are possible:

0 = Never use Client Direct as the data transfer method on the specified host. Always use the normal data transfer method. This setting is the default condition.

1 = Prefer to use Client Direct. Probes for the Client Direct capabilities on the storage server that is identified during the backup. If the probe passes, NetBackup uses the Client Direct data transfer method on the specified client. If the probe fails, is uses the normal data transfer method.

2 = Always use Client Direct. Tries to use only the Client Direct method with the specified client. If this method fails for any reason, the job fails. No other transfer method is tried.

`-client_direct_restore 0 | 1 | 2`

Client Direct Restore improves restore performance by using the OpenStorage storage server instead of the media server to restore data to the client. The `-client_direct` option setting determines if and when the client uses this feature. The following settings are possible:

0 = Never use Client Direct Restore as the data transfer method on the specified host. Always use the normal data transfer method. This setting is the default condition.

1 = Prefer to use Client Direct Restore. The command probes for Client Direct Restore capabilities on the storage server that is identified during the restore. If the probe passes, NetBackup uses the Client Direct Restore data transfer method on the specified client. If the probe fails, is uses the normal data transfer method.

2 = Always use Client Direct Restore. Tries to use only the Client Direct Restore method with the specified client. If this method fails for any reason, the job fails. No other transfer method is tried.

`-connect_options 0|1|2 0|1|2 0|1|2|3`

This option applies only to the client names that are local to the NetBackup server that makes the connection.

First set of arguments, Ports, represents the following:

0 = Reserved Port: Use a reserved port number.

1 = Non-reserved Port: Connect to the client's `bpcd` by using a non-reserved port number. If you select this option, enable Allow Nonreserved Ports for the selected client.

2 = Use Default: Use Default is the default. Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

The second set of arguments, BPCD Connect Back, represents the following:

0 = Random Port: NetBackup randomly chooses a free port in the allowed range to perform the traditional connect-back method.

1 = VNETD port: This method does not require a connect-back to a random port. The connect-back is to the Network Daemon (`vnetd`) instead. The Network Daemon was designed to enhance firewall efficiency with NetBackup during server-to-server and server-to-client communications.

2 = Use Default: The default option. Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

The third set of arguments (Daemon Connection Port) represents the following:

0 = Automatic: This option means that VNETD is used if possible; otherwise Legacy is used.

1 = Use the VNETD port.

2 = Use the Legacy port number.

3 = Use Default: The default option. Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

Note: If the `vnetd` Daemon Connection Port is used, the BPCD Connect Back setting is not applicable. If the `vnetd` Daemon Connection Port is used, non-reserved ports are always used regardless of the value of the Ports setting.

`-current_hostname` *`host_name`*

The current host name of the client. This option is meaningful only when the option `-dynamic_address 1` is used. Usually, you do not have to enter a `-current_hostname` value. The client normally contacts the master server to set the host name and the IP address.

`-delete`

Deletes an existing client entry.

`-dynamic_address 0 | 1`

0 = The client name is assumed to be a valid host name for the client (default).

1 = The client is assumed to have a dynamic host name (such as DHCP).

`-fi`

Validates the -snapshot_method_args options on the `bpplinfo` command. See `-validate` option.

`-free_browse 0 | 1 | 2`

A method that allows users to get around the checking that the server does when it browses images (owner or group). By default, normal users are not allowed to browse into scheduled backups on Windows.

0 = Allow

1 = Deny

2 = Use

By default, both the client and the server should be set up to `0` (allow). To browse freely, either the client or the server must be set up to `2` (use). Neither can be set up for `1` (deny).

`-granular_proxy` *`granular_proxy_host`*

Specifies the Windows granular proxy host for a source client. You can use this option when you duplicate backup images that are enabled by the Granular Recovery Technology (GRT).

`-H`

Lists host-specific client information.

`-l`

Lists the limited client information.

`-L`

Lists all client information in a VERBOSE format.

`-list_restore 0 | 1 | 2 | 3`

Sets up on the server to disallow list and restore requests from a particular client. The value in the client database overrides the `bp.conf` file setting.

0 = Not specified (default)

1 = Allow both list and restore requests

2 = Allow list requests only

3 = Deny both list and restore requests

`-M` *`master_server`*

Name of the master server that contains the client entries. The first server name in the local configuration is the default master server.

`-max_jobs [1-99]`

The maximum number of jobs up to 99 that are allowed to run concurrently on this client. You can configure this item in the NetBackup Administration Console. It is labeled "Maximum data streams." To perform this function by using this GUI, select the following: **Host Properties > Master Servers >** (double-click the master server name) **> Client Attributes**.

`-online | -offline`

Sets the client state to online or offline for both backups and restores.

`-onlineat` *`time`*

Sets the client state to online for both backups and restores at the time specified.

`-online_backup | -offline_backup`

Set the client state to online or offline for backup.

`-online_backup_at` *`time`*

Sets the client state to online for backup at the time specified.

`-online_restore | -offline_restore`

Set the client state to online or offline for restore.

`-online_restore_at` *`time`*

Sets the client state to online for restore at the time specified.

`-policy` *`policy_name`*

Specifies the name of the backup policy to validate. This option is used with the `-validate` and `-fi` options.

`-update`

Updates an existing client entry.

`-ut`

Specifies the time in UNIX time.

`-validate`

When using NetBackup commands to create a snapshot-based policy such as VMware or Hyper-V, this option validates the policy. To validate a policy that is created with the `bpplinfo -snapshot_method_args` command, `-validate` must be used with the `-fi` option.

For more information on using NetBackup commands to create a VMware or Hyper-V policy, see the NetBackup for VMware Guide or the NetBackup for Hyper-V Guide.

`-WOFB_enabled 0|1`

0 = disables Windows Open File Backup for the client that is specified in *client_name*.

1 = enables Windows Open File Backup for the client that is specified in *client_name*.

`-WOFB_error 0 | 1`

0 = Abort Backup on Error. Specifies that a backup aborts if it fails for a snapshot-related issue after the snapshot is created and while the backup uses the snapshot to back up open or active files on the file system.

1 = Disable Snapshot and Continue. Specifies that if the snapshot becomes invalid during a backup, the volume snapshots for the backup are destroyed. The backup continues with Windows Open File Backups disabled.

`-WOFB_FIM 0 | 1`

0 = Use Volume Snapshot Provider (VSP) as the snapshot provider for the Windows Open File Backups. VSP is supported only on the clients that use NetBackup Release 6.x. Clients that use NetBackup Release 7.x only use VSS. If you run a Release 7.x client and select VSP with this option, NetBackup automatically runs VSS instead.

1 = Use Microsoft's Volume Shadow Service (VSS) as the snapshot provider for Windows Open File Backups.

`-WOFB_usage 0|1`

0 = Individual Drive Snapshot. Specifies that the snapshot be of an individual drive. When this property is enabled, snapshot creation and file backup are done sequentially on a per volume basis.

1 = Global Drive Snapshot. Specifies that the snapshot is of a global drive. The snapshots are taken at one time for all the volumes that require snapshots for the backup job (or stream group for multistreamed backups).

EXAMPLES

Example 1 - Determine if the client `hagar` is in the client database on the master server:

```
# bpclient -client hagar -L
```

Example 2 - Add `casper` to the client database on the master server. It also allows a maximum of five concurrent jobs to be run on `casper`.

```
# bpclient -client casper -add -max_jobs 5
```

Example 3 - List all client information verbosely for client `ollie`.

```
# bpclient -client ollie -L
Client Name: ollie
 Current Host:
        Hostname: ollie
        IP Address: 0.0.0.0
Dynamic Address:        no
Free Browse:   Allow
List Restore:  Not Specified
Max Jobs This Client:  Not Specified
WOFB Enabled:  yes
WOFB FIM:      VSP
WOFB Usage:    Individual Drive Snapshot
WOFB Error Control:    Abort on Error
Client Direct: Prefer to use client-side deduplication or
               Prefer to move data direct to storage
Client Direct Restore: Move data via media server
OST Proxy:     Off
OST Proxy Server:      Unspecified
Connect options:       2 2 3
```

bpclimagelist

`bpclimagelist` – produce status report on client NetBackup images or removable media

SYNOPSIS

bpclimagelist [-U | -Likelydate] [-Listseconds] [-image_dtemode Off|On] [-client *client_name*] [-server *server_name*] [-t FULL | INCR | CINC | UBAK | UARC | ANY | NOT_ARCHIVE] [-policy *policy_name*] [-keyword *keyword_phrase*] [-ct *client_type*] [-s *mm/dd/yyyy hh:mm:ss*] [-e *mm/dd/yyyy hh:mm:ss*] [-oracle_copilot_ir]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bpclimagelist` command generates status reports on client NetBackup images or removable media.

Note: For the NetBackup Accelerator feature, `bpclimagelist` can report the amount of data that was transferred over the network for each backup. You must configure the command to show the transferred data in the field that normally shows the Accelerator backup image size. For details, see the Accelerator topics in the *NetBackup Administrator's Guide Volume I*, the *NetBackup for VMware Administrator's Guide*, and the *NetBackup NAS Administrator's Guide*.

OPTIONS

`-client` *client_name*

Specifies the client on which a status report is to be generated.

`-ct` *client_type*

Displays only the images that are backed up for a specified client type. The *client_type* is specified as an integer. If `-ct` is not specified, the default value is standard (0). Valid values are as shown:

0 - standard (typical for UNIX file system backups)

4 - Oracle DB

6 - Informix DB

7 - Sybase DB

8 - Sharepoint

13 - Windows (typical for Windows file system backups)

15 - SQL Server

16 - Exchange

17 - SAP

18 - DB2

19 - NDMP

20 - Flash Backup

21 - Split Mirror

29 - FlashBackup-Windows

30 - Vault

34 - Disk Staging

35 - NetBackup Catalog

39 - Enterprise Vault

`-e` *`mm/dd/yyyy hh:mm:ss`*

Specifies an end date and time for the listing. See the description of the `-s` option that follows.

`-image_dtemode Off|On`

Lists the catalog images according to the data-in-transit encryption (DTE) mode that is set: `On` or `Off`.

`-keyword` *`keyword_phrase`*

Specifies a keyword phrase for NetBackup to use when it searches. The phrase must match the phrase that was previously associated with the image.

`-Likelydate`

Searches for a useful timestamp that marks the start of backup images to use for a restore. Usually, this timestamp is the time of the last full backup image. With no other arguments, this option returns the decimal number of seconds since January 1, 1970.

`-Listseconds`

Specifies that the timestamp is shown in seconds granularity.

`-policy` *policy_name*

Reports on the backup images that use the specified policy. The default is any policy.

`-oracle_copilot_ir`

Searches for and displays the images that may be used for Oracle Copilot Instant Recovery.

`-s` *mm/dd/yyyy hh:mm:ss*, `-e` *mm/dd/yyyy hh:mm:ss*

Specifies the start date (`-s`) and end date (`-e`) for the listing.

The `-s` option specifies a start date and time for the listing. The resulting list shows only files in backups or the archives that occurred at or after the specified date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more information about the locale of your system, see "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the current date minus 6 months.

The `-e` option specifies an end date and time for the listing. The resulting list shows only files from the backups or the archives that occurred at or before the specified date and time. Use the same format for start date and time. The default is the current date and time.

`-server` *server_name*

Indicates the name of the NetBackup server. The default value is the first server name listed in the `bp.conf` file.

`-t`

Specifies a schedule type for the image selection. The default is any schedule type. Valid values, in either uppercase or lowercase, are as follows:

- `FULL` (full backup)
- `INCR` (differential-incremental backup)
- `CINC` (cumulative-incremental backup)
- `UBAK` (user backup)
- `UARC` (user archive)

- ANY
- NOT_ARCHIVE (all backups except user archive)

-U

User display format.

bpclntcmd

bpclntcmd – test functionality of a NetBackup system and enable Fibre Transport services on a NetBackup client

SYNOPSIS

bpclntcmd [-sv] [-pn [-verbose]] [-self] [-hn *hostname*] [-server *NBU_master*] [-ip *ip_address*] [-gethostname] [-is_local_host *hostname*] [-is_server *hostname*] [-is_media_server *hostname*] [-is_master_server *hostname*] [-is_emm_server *hostname*] [-get_local_client_patch_version] [-get_local_server_patch_version] [-check_vxss] [-check_vxss_with_host *hostname*] [-get_pbx_port *hostname*] [-get_remote_host_version *hostname*] [-reverse_name_lookup [allowed | restricted | prohibited]] [-sanclient [0 | 1]] [-get_fqdn *hostname*] [-get_local_dn] [-get_local_fqdn] [-get_local_sn] [-is_trusted_master *hostname*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The bpclntcmd command tests the functionality of a NetBackup system and displays information about it. It also enables and disables the Fibre Transport services on a NetBackup client.

OPTIONS

-check_vxss

Checks if NBAC is configured correctly on the local system.

-check_vxss_with_host *hostname*

Checks if NBAC is configured correctly on the local system to connect to the remote host *hostname*.

-clear_host_cache

NetBackup caches host name to IP address mappings to minimize DNS lookups. Each NetBackup process typically has its own in-memory cache and

all the processes also share a cache that is stored on the file system. This option removes all the entries in the shared cache on the file system.

If host names/IP addresses have recently been updated on DNS or other host lookup services, the NetBackup caches may be out of sync for up to an hour. To ensure that NetBackup is in sync with host name changes, you can do the following: Stop NetBackup, run `bpclntcmd -clear_host_cache`, then restart NetBackup.

`-get_fqdn` *`hostname`*

Returns the fully qualified domain name for the specified *hostname*.

`-gethostname`

Returns the host name that NetBackup uses on the local system.

`-get_local_client_patch_version`

Returns the version of the local client patch software.

`-get_local_dn`

Returns the domain name of the local host.

`-get_local_fqdn`

Returns the fully qualified domain name of the local host.

`-get_local_server_patch_version`

Returns the version of the local server patch software.

`-get_local_sn`

Returns the short host name of the local host.

`-get_pbx_port` *`hostname`*

Displays the number that *hostname* considers the PBX port number. If *hostname* is not specified, the option displays the number that the local host considers the PBX port number.

`-get_remote_host_version` *`hostname`*

Returns the version of NetBackup that is running on the system that is identified in the *hostname* variable.

`-hn` *`hostname`*

Returns the host name, alias, and IP address information about the host name that is identified in the *hostname* variable.

`-ip` *`ip_address`*

Returns the host name, alias, and IP address information about IP address, *ip_address*.

`-is_emm_server` *`hostname`*

Checks if *hostname* is operating as the EMM server on the local system.

`-is_local_host` *hostname*
: Checks if *hostname* is a network interface on the local system.

`-is_master_server` *hostname*
: Checks if *hostname* is the master server on the local system.

`-is_media_server` *hostname*
: Checks if *hostname* is a media server on the local system.

`-is_server` *hostname*
: Checks if *hostname* is a master server or a media server on the local system.

`-is_trusted_master` *hostname*
: Checks if *hostname* is a trusted master server on the local system.

`-pn [-verbose]`
: Returns what the master server considers your host name (or peer name) to be.

  Use the `-verbose` option to return how the master server sees the connecting host: Source IP address and port number, host name to which the IP resolves, and policy client for that host name. The `-verbose` option shows additional connection details including the host certificates that NetBackup uses to authenticate the hosts.

`-reverse_name_lookup [allowed | restricted | prohibited]`
: Determines if NetBackup can use the reverse name lookup of the host name-IP. Use of this function can be allowed, prohibited, or restricted.

`-sanclient [ 0 | 1 ]`
: 0 - Disables the client Fibre Transport (FT) service. The command returns a NetBackup SAN client to normal client functionality.

  1 - Enables the client FT service, which effectively turns a regular NetBackup client into a SAN client.

`-self`
: Returns the information about the local system.

`-server` *NBU_master*
: Returns the host name information of the NetBackup master server.

`-sv`
: Returns the NetBackup version of the master server.

SEE ALSO

See bpnbat on page 245.

bpclusterutil

`bpclusterutil` – Modify and configure NetBackup in a cluster.

SYNOPSIS

bpclusterutil [-np] [-s [NBU|OC]] [-online] [-offline] [-freeze] [-unfreeze] [-startagent] [-stopagent] [-addSvc "*ServiceName*"] [-deleteSvc "*ServiceName*"] [-enableSvc "*ServiceName*"] [-disableSvc "*ServiceName*"] [-iscluster] [-isactive] [-vname] [-sharedpath]] [-addIP -virtualIP "*IPString*" {-prefixLength "*PrefixLength*"| -subnet "*SubnetMask*"}]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

This command modifies and configures NetBackup in a cluster. It is available on NetBackup master and media servers.

On Windows, this command sets up the registry entries that are used for cluster configuration and then to configure the cluster. This command only modifies registry entries on the local node.

OPTIONS

`-addIP`

Adds a new virtual IP resource to the existing NetBackup cluster group. The option uses the same network interface card (NIC) that was configured at initial cluster configuration. In the case of WSFC cluster, ensure that the NetBackup group is offline before you use the option. On a UNIX platform, this option is only supported for VCS.

The parameters that are shown are required for the `addIP` option:

- `virtualIP "`*`IPString`*`"` Specifies the virtual IP address you want to add.

- `prefixLength "`*`PrefixLength`*`"` When the `virtualIP` specified is an IPv6 address, you must use `prefixLength` to specify the prefix length. Please note that `prefixLength` and `subnet` are mutually exclusive.
- `subnet "`*`SubnetMask`*`"` When the `virtualIP` specified is an IPv4 address, you must use `subnet` to the subnet mask for the IP address. Please note that `prefixLength` and `subnet` are mutually exclusive.

`-addSvc "`*`Service Name`*`"`

Adds a NetBackup service to the NetBackup cluster group.

`-deleteSvc "`*`ServiceName`*`"`

Deletes an existing NetBackup service from the NetBackup cluster group. Ensure that *ServiceName* is provided within double quotes. For example, "NetBackup Key Management Service" for the key management service.

`-disableSvc "`*`ServiceName`*`"`

Disables monitoring of a NetBackup service by the cluster.

`-enableSvc "`*`ServiceName`*`"`

Enables the cluster to monitor a NetBackup service you added to the NetBackup cluster group.

`-freeze`

Freezes the NetBackup cluster group. This option is available on UNIX systems only.

`-isactive`

Displays the state of the NetBackup cluster group on the node. A return code of 1 indicates that the node is the active node. A return code of 0 indicates that the node is an inactive node.

`-iscluster`

Displays the cluster status of NetBackup.

`-np`

Places the operation in silent mode (no print).

`-offline`

Issues the offline command to the NetBackup group in the cluster.

`-online`

Issues the online command to the NetBackup group in the cluster.

`-s [NBU | OC]`

Selects the clustered server type. The possible values are `NBU` (NetBackup) and `OC` (Add-onProductShortName1;).

`-sharedpath`

Displays the shared path of the clustered server.

`-startagent`

Starts the NetBackup Cluster Server (VCS) agent.

`-stopagent`

Stops the NetBackup VCS agent.

`-unfreeze`

Unfreezes the NetBackup cluster group. This option is available on UNIX systems only.

`-vname`

Displays the virtual name of the NetBackup cluster group. This option is available on UNIX systems only.

EXAMPLES

To add a virtual IPV4 resource to cluster group run the command shown:

```
bpclusterutil -addIP -virtualIP 10.210.91.56 -subnet 255.255.252.0
```

To add a virtual IPV6 resource to cluster group run the command shown:

```
bpclusterutil -addIP -virtualIP 2620:128:f0a1:9003::15d -prefixLength 64
```

bpcompatd

bpcompatd – run NetBackup compatibility service

SYNOPSIS

bpcompatd [-max_time seconds] [-console] [-debug]

bpcompatd -alive [-debug]

bpcompatd -terminate [-debug]

bpcompatd -bpcd_connect *clientname* [-debug]

bpcompatd -bpdbm_connect *hostname* [-debug]

bpcompatd -bpjobd_connect *hostname* [-debug]

bpcompatd -bprd_connect *hostname* [-debug]

bpcompatd -robot_connect *hostname robot_type* [-debug]

bpcompatd -vmd_connect *hostname* [-debug]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

This command is used internally by new NetBackup services to communicate with legacy NetBackup services.

OPTIONS

-alive

Tests the local bpcompatd daemon or service to see if it is running.

-bpcd_connect *clientname*

Tests a bpcd connection to *clientname* by using the bpcompatd command.

-bpdbm_connect *hostname*

Tests a bpdbm connection to *hostname* by using the bpcompatd command.

-bpjobd_connect *hostname*

Tests a bpjobd connection to *hostname* by using the bpcompatd command.

-bprd_connect *hostname*

Tests a bprd connection to *hostname* by using the bpcompatd command.

If you specify -debug, the information that is normally logged in the debug log file of bpcompatd is written to standard error.

If you do not specify one of these options, bpcompatd runs as a daemon (for UNIX) or a service (for Windows). The following options are available when you run bpcompatd as a daemon or service:

-console

This option is applicable to Windows only. Normally, bpcompatd is run through the Service Manager. You can use the -console option to run the bpcompatd service from the command line.

-debug

If you specify -debug, the information that normally is logged on the debug log file of bpcompatd is written to standard error. For Windows, this option implies the -console option. On UNIX systems, this option prevents the bpcompatd service from running in the background.

-max_time seconds

The maximum time bpcompatd waits for a new connection before it performs routine tasks. The default is 60 seconds on UNIX systems. The default is one second on Windows systems.

-robot_connect *hostname robot_type*

Tests a robot daemon connection to *hostname* for *robot_type* by using the bpcompatd command.

Valid robot types include the following:

NONE - Not robotic

ACS - Automated Cartridge System

TLD - Tape Library DLT

-terminate

Terminates the local bpcompatd daemon or service if it is running.

-vmd_connect *hostname*

Tests a vmd connection to *hostname* by using the bpcompatd command.

bpconfig

bpconfig – modify or display global configuration attributes for NetBackup

SYNOPSIS

bpconfig [-cd *seconds*] [-ha *hours*] [-kl *days*] [-kt *days*] [-ma [*address*]] [-sto *seconds*] [-mj *number*] [-period *hours*] [-prep *hours*] [-to *seconds*] [-cleanup_int *hours*] [-cleanup_wait *minutes*] [-tries *times*] [-wi *minutes*] [-pui *minutes*] [-v] [-M *master_server,...*] [-rj 0|1|2] [-ica_min_size *size*] [-ica_retention *seconds*] [-image_expiry_dependency_check 0|1]

bpconfig [-L | -l | -U [-v] [-M *master_server,...*]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpconfig command modifies or displays the NetBackup global configuration attributes. These attributes affect operations for all policies and clients. With the exception of the NetBackup administrator's email address, the default values for these attributes are adequate for most installations.

See "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

For implications of setting the attribute values, see NetBackup Global Attributes in the *NetBackup Administrator's Guide, Volume I*.

The following describes the two forms of bpconfig:

- The first form of bpconfig modifies one or more of the NetBackup global configuration attributes. At least one option that changes a NetBackup global configuration attribute must be on the command line.
- The second form of bpconfig displays the current settings of the NetBackup global configuration attributes. See DISPLAY FORMATS for more detail.

Errors are sent to stderr. A log of the command activity is sent to the NetBackup admin log file for the current day.

OPTIONS

`-cd` *seconds*

Specifies the number of seconds that is the Compress Catalog Interval. When *seconds* is an integer, an image compresses after this number of seconds has elapsed since the creation of the image. The range of values is 86400 to 2147472000. The default is zero (0), which means no compression is done.

Use the `bpimage` command to decompress the images.

`-cleanup_int` *hours*

Specifies the minimum period of time (in hours) that can elapse without a catalog cleanup. The default value is 12 (hours). Since cleanup cannot run during a catalog backup, large 24x7 environments that run long catalog backups may need a shorter cleanup interval (e.g., three hours). Regardless of the value of this option, the image database is automatically cleaned up at the end of a session of scheduled backups.

This option appears in the output display as Image DB Cleanup Interval (see examples).

`-cleanup_wait` *minutes*

Specifies the interval (in minutes) between image database catalog cleanup operations. The default value is 60 (minutes). If multiple backups occur during this cleanup wait interval, NetBackup only initiates one cleanup operation in this time period. The range of values is zero (0) to 720.

`-ha` *hours*

Specifies the number of *hours* ago that is the beginning of the time range for selecting NetBackup report entries. The end of the time range is the current time. For example, if *hours* ago is 24 and if you request a Backup Status report at 10:00 a.m., the report includes the following: All backups that ran from 10:00 a.m. yesterday until 10:00 a.m. today.

This value is used to calculate the time range for general reports and media reports. General reports include Backup Status, Client Backups, Problems, and All Log Entries. Media reports include Media List, Media Summary, Media Contents, Images on Media, and Media Log Entries.

Hours Ago is a positive integer in the range of 1 to 32767. The default value is 24 (hours).

`-ica_min_size` *size*

Specifies the minimum catalog .f file size in kilobytes (KBs) for intelligent catalog archiving (ICA). When the value is between 0 and 2097151, any catalog .f files (or files file) that is larger than or equal to the size value is removed from the catalog disk. The default value is 1024.

Note: This attribute applies only to servers running NetBackup 10.0 and later using MSDP or MSDP Cloud storage.

`-ica_retention` *seconds*

Specifies the intelligent catalog archiving (ICA) retention period in seconds. When the value is between 1 and 2147472000, ICA is enabled and any catalog .f files (or files file) that is older than the value is removed from the catalog disk. Setting this value to zero (0) disables ICA. The default value for NetBackup Flex Scale and CloudScale environments is 2592000 (30 days). The default value for all other NetBackup environments is 0 (disabled).

Note: This attribute applies only to servers running NetBackup 10.0 and later using MSDP or MSDP Cloud storage.

`-image_expiry_dependency_check 0|1`

Disables or enables image expiration dependency checking. This option is enabled by default.

- `0` - Disables the option.
- `1` - Enables the option.

This option is displayed in the output of `bpconfig -U`:

```
Image Expiry Dependency Check:(enabled)
```

`-kl` *days*

The number of days to keep logs. This number determines how long the NetBackup master server keeps its Error database and debug logs.

NetBackup derives its Backup Status, Problems, All Log Entries, and Media Log Entries reports from the Error database.

This value limits the period that these reports can cover. The range of values is 1 to 24855. The default is 28 days. A value of zero (0) turns logs off.

Note: This attribute has no effect on remote media servers or clients (remote media servers apply only to NetBackup Enterprise Server).

`-kt` *days*

The number of days to Keep True-image-recovery (TIR) data. This value determines how long to keep TIR information for those policies that specify the collection of TIR information. The range of values is 1 to 24855. The default is one (1) day. A value of zero (0) turns off the TIR information.

`-L`

The list type is long. See the section DISPLAY FORMATS for more detail.

`-l`

The list type is short. This option is the default if the command line has no list-type option (for instance, if you enter `bpconfig` and a carriage return). See the section DISPLAY FORMATS for more detail.

`-M` *`master_server,...`*

The master server where the global configuration attributes reside.

`-ma [`*`address`*`]`

The mail address for the NetBackup administrator. NetBackup sends notification of failed automatic backups, the manual backup operations that the administrator directs, and automatic database backups to this email address. The default is NULL (no email address).

If no address is provided, the current setting of the Admin Mail Address is cleared. No notification email is sent to the NetBackup administrator.

`-mj` *`number`*

Specifies the maximum jobs per client. This number is the maximum number of jobs that a client can perform concurrently. It must be a positive integer. The range values are 1 to 32767. The default value is 1.

`-period` *`hours`*

The time interval that is associated with the configured number of tries for a backup (see *-tries*). This interval is the period in hours during which NetBackup tries a backup job for a client/policy/schedule combination for as many tries as configured. The hours must be a positive integer. The range values are 1 to 24. The default value is 12 hours.

Note: This attribute does not apply to user-directed backups and archives.

`-prep` *`hours`*

Specifies the preprocessing interval. This interval is the minimum time in hours between client queries to discover new paths when NetBackup uses auto-discover-streaming mode.

The default Preprocess Interval value is four (4) hours. If the preprocessing interval changes, change it back to the default by specifying `-prep -1`. The preprocessing interval can be set to preprocess immediately by specifying `0` as the preprocess interval for autodiscovery on the `bpconfig` command line. The maximum Preprocessing Interval is 48 hours.

For more information, see the NetBackup Administrator's Guide, Volume I.

`-pui` *minutes*

Specifies the policy update interval, which is how often NetBackup policy updates are processed. The default value is 10 minutes. The range of values is 1 to 1440 (minutes).

`-rj 0|1|2`

Used to change the behavior of resilient jobs.

When this setting is enabled, the media server's job processes continue to run during a service disruption with the primary server. The primary server re-establishes connections to the active media server processes during its next service startup. The default value is 2, which means resilient jobs is enabled.

- `0`: Resilient jobs off and terminate.

  This option prevents new jobs from starting as resilient jobs. In addition, if there is a service interruption that would normally result in a resilient job reconnecting to the media server, the job is terminated instead.

- `1`: Resilient jobs off.

  This option prevents new jobs from starting as resilient jobs.

- `2`: Resilient jobs on.

  This option lets new jobs start as a resilient job.

`-sto` *seconds*

The multihosted-media-mount timeout. This timeout is the time in seconds that NetBackup waits for a shared medium to be mounted, positioned, and ready on backups and restores. Use this timeout to eliminate excessive waits if another server uses a shared medium. The default is 0, which means no timeout (unlimited wait time).

For more details about multihosted drives, see the *NetBackup Administrator's Guide, Volume I*.

`-to` *seconds*

Specifies the media-mount timeout. This timeout is the time in seconds that NetBackup waits for the requested media to be mounted, positioned, and ready on backups and restores. Use `-to` to eliminate excessive waits when you need to mount media manually (for example, when robotic media is out of the robot or off site).

The default is 0, which means no timeout (unlimited wait time). If *seconds* is not 0, its value range is 1 to 32,767 seconds.

`-tries` *times*

The number of retries for a backup during the configured time period (see `-period`). For a given combination of client, policy, and schedule, NetBackup

tries to run a backup job the specified number of times. This option limits the number of backup tries if repeated failures occur.

Note: This attribute does not apply to user-directed backups and archives.

Values for `-tries` range from 1 to 32767. The default is two tries. If defaults are used for both `-tries` and `-period`, NetBackup tries the backup two times in 12 hours.

`-U`

The list type is user. See DISPLAY FORMATS for more detail.

`-v`

Selects verbose mode for logging. This option is meaningful only if it runs with the debug log function on. Therefore, the following directory must be defined:

On UNIX systems: `/usr/openv/netbackup/logs/admin`

On Windows systems: *`install_path`*`\NetBackup\logs\admin`

`-wi` *`minutes`*

Job Retry Delay. Specifies how often NetBackup retries a job. The default value is 10 minutes. The range of values is 1 to 1440 (minutes).

DISPLAY FORMATS

`bpconfig` uses the following three different formats to display the current values of the NetBackup global configuration attributes:

- User Display Format (`-U`)
  The NetBackup graphical user interface uses this display format. This option produces a list with one global attribute per line. Each line has the form *global attribute descriptor: value*. This list is similar to the `-L` format, except that the global attribute descriptors are more explicit.
  The following is an example of the user display format:

```
# bpconfig -U
    Admin Mail Address:
    Job Retry Delay:              1 minutes
    Max Simultaneous Jobs/Client: 1
    Backup Tries:                 2 time(s) in 12 hour(s)
    Keep Error/Debug Logs:        28 days
    Max drives this master:       0
    Keep TrueImageRecovery Info:  1 days
    Compress DB Files:            (not enabled)
```

```
    Media Mount Timeout:          0 minutes (unlimited)
    Display Reports:              24 hours ago
    Preprocess Interval:          0 hours
    Image DB Cleanup Interval:    12 hours
    Image DB Cleanup Wait Time:   60 minutes
    Policy Update Interval:       10 minutes
```

- Long Format (`-L`)

  If the command line contains `-L`, the display format is long. This option produces a list with one global attribute per line, in the format *global attribute descriptor: value*. The fields are as follows:

  The following example shows the long format:

```
# bpconfig -L
    Mail Admin:            *NULL*
    Job Retry Delay:       1 minutes
    Max Jobs/Client:       1
    Backup Tries:          2 in 12 hours
    Keep Logs:             28 days
    Max drives/master:     0
    Compress DB Files:     (not enabled)
    Media Mnt Timeout:     0 minutes (unlimited)
    Shared Timeout:        0 minutes(unlimited)
    Media Int Timeout:     0 minutes (unlimited)
    Display Reports:       24 hours ago
    Keep TIR Info:         1 days
    Prep Interval:         0 hours
    DB Clean Interval:     12 hours
    DB Clean Wait Time:    60 minutes
    Policy Update Interval:10 minutes
```

- Short Format (`-l`)

  If the `bpconfig` command line contains `-l` or contains no list-format option, the display format is short, which produces a terse listing. This option is useful for the scripts or the programs that rework the list into a customized report format. The list layout is a single line that contains the values for all global attributes. The time units follow the attributes in parentheses for the attributes that are expressed in units of time. The attributes appear in the following order with blanks between them:

  The following is an example of the short format:

```
# bpconfig -l
    *NULL* 1 12 1 2 28 0 0 0 0 1 24 1 0 2 10 60
```

The display fields for the `-l` display are interpreted as follows:

- NetBackup administrator email address has not been set.
- Job Retry Delay is 1 minute.
- Time period is 12 hours.
- Maximum simultaneous jobs per client is 1.
- Tries per period is 2.
- Keep logs for 28 days.
- Maximum drives this master is 0.
- Compress Catalog Interval is 0 seconds; 0 denotes no compression.
- Media mount timeout is 0 seconds; 0 denotes unlimited.
- Multihosted-media-mount timeout is 0 seconds; 0 denotes unlimited.
- Postprocess images flag is 1 (immediate).
- Display reports from 24 hours ago.
- Keep TIR information for one (1) day.
- Preprocessing interval is zero (0) hours.
- Catalog database cleanup interval is two (2) hours.
- Catalog database cleanup wait time is 10 minutes.
- Policy update interval is 60 minutes.
- Intelligent Catalog Archiving retention is 259200 seconds.
- Intelligent Catalog Archiving minimum file size is 1024 KB.

RETURN VALUES

An exit status of zero (0) means that the command ran successfully. Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, the exit status is logged in the administrative daily log under the log directory:

```
Windows: install_path\NetBackup\logs\admin

UNIX: /usr/openv/netbackup/logs/admin
```

It has the following form:

```
bpconfig: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

EXAMPLES

Example 1 - While the master server `kiwi` runs, display the global attribute settings on the master server `plim`:

```
# bpconfig -U -M plim
Admin Mail Address:           ichabod@null.null.com
Job Retry Delay:              10 minutes
Max Simultaneous Jobs/Client: 1
Backup Tries:                 1 time(s) in 8 hour(s)
Keep Error/Debug Logs:        6 days
Max drives this master:       0
Keep TrueImageRecovery Info:  1 days
Compress DB Files:            (not enabled)
Media Mount Timeout:          30 minutes
Display Reports:              24 hours ago
Preprocess Interval:          0 hours
Image DB Cleanup Interval:    12 hours
Image DB Cleanup Wait Time:   60 minutes
Policy Update Interval:       10 minutes
```

Example 2 - Set the Compress Catalog Interval to 604800 seconds, so that NetBackup compresses images more than seven days old:

```
# bpconfig -cd 604800
#bpconfig -U
Admin Mail Address:           *NULL*
Job Retry Delay:              10 minutes
Max Simultaneous Jobs/Client: 1
Backup Tries:                 2 time(s) in 12 hour(s)
Keep Error/Debug Logs:        28 days
Max drives this master:       0
Keep TrueImageRecovery Info:  2 days
Compress DB Files:            older than 7 day(s)
Media Mount Timeout:          0 minutes (unlimited)
Display Reports:              24 hours ago
Preprocess Interval:          0 hours
Image DB Cleanup Interval:    12 hours
Image DB Cleanup Wait Time:   60 minutes
Policy Update Interval:       10 minutes
```

Example 3 - Set the Media Mount Timeout to 1800 seconds.

```
# bpconfig -to 1800
# bpconfig -U
Admin Mail Address:           sasquatch@wapati.edu
Job Retry Delay:               10 minutes
Max Simultaneous Jobs/Client:   1
Backup Tries:                   1 time(s) in 12 hour(s)
Keep Error/Debug Logs:          3 days
Max drives this master:         0
Keep TrueImageRecovery Info:   24 days
Compress Image DB Files:          (not enabled)
Media Mount Timeout:           30 minutes
Display Reports:               24 hours ago
Preprocess Interval:           0 hours
Image DB Cleanup Interval:    12 hours
Policy Update Interval:       10 minutes
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/config/behavior
```

Windows systems:

```
install_path\NetBackup\db\config\behavior
install_path\NetBackup\logs\admin\*
```

SEE ALSO

See bpimage on page 170.

For more details about multihosted drives, see the *NetBackup Administrator's Guide, Volume I*.

bpdbjobs

bpdbjobs – interact with NetBackup jobs database

SYNOPSIS

bpdbjobs [-report] [-M *master_servers*] [-ignore_parent_jobs] [-vault | -lvault | -all_columns | -most_columns | -gdm] [-file *pathname*] [-append] [-noheader] [-mastertime] [-utc] [-t *timestamp*] [-jobid *job1,job2,...jobn* | -dtemode Off|On] [verbose]

bpdbjobs -summary [-M *master_servers*] [-ignore_parent_jobs] [-U | -L | -all_columns] [-file *pathname*] [-append] [verbose]

bpdbjobs -resume | -suspend | -delete | -cancel | -restart *job1,job2,...jobn* | type=*jobtype* | type=all [-M *master_servers*] [-quiet] [-reason "*string*"]

bpdbjobs -cancel_all [-M *master_servers*] [-reason "*string*"]

bpdbjobs -clean [-M *master_servers*] [-keep_hours *hours* | -keep_days *days*] [-keep_successful_hours *hours* | -keep_successful_days *days*] [verbose]

bpdbjobs -version

bpdbjobs -change_priority_by [-M *master_servers*] -priority *number* -jobid *job1,job2,...jobn*

bpdbjobs -set_priority [-M *master_servers*] -priority *number* -jobid *job1,job2,...jobn*

bpdbjobs -fast

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpdbjobs interacts with the jobs database and is useful in scripts or as a command-line administration tool. It prints the entire jobs database, prints a summary of the database, deletes done jobs, cancels incompleted jobs, and cleans old jobs.

To customize the output of `bpdbjobs`, add column definition entries (`BPDBJOBS_COLDEFS`) in the `bp.conf` file.

See the NetBackup Administrator's Guide, Volume I for more information about the following: the `bp.conf` file, a complete list of the definitions, and the `BPDBJOBS_COLDEFS` entries.

The `-cancel`, `-delete`, `-jobid`, `-resume`, and `-suspend` options all use the *jobtype* as a suboption. Enter one of the following as *jobtype*. (Letters following the capitalized letters are ignored.)

```
ALL | *
 REStore
 BACkup
 ARChive
 VERify
 DUPlicate
 IMPort
 LABel
 ERAse
 VAUlt
 TPReq
 CLEan
 FORmat
 INVentory
 QUAlification
 DBbackup | CATalogbackup
```

Note: For the NetBackup Accelerator feature, `bpdbjobs` reports the amount of data that was transferred over the network for each backup. You can also configure the command to show the transferred data in the field that normally shows the Accelerator backup image size. For details, see the Accelerator topics in the *NetBackup Administrator's Guide Volume I*, the *NetBackup for VMware Administrator's Guide* and the *NetBackup NAS Administrator's Guide*.

OPTIONS

`-all_columns`

Displays all columns of a report or summary. The output of this command consists of a single line per backup job. Each line of the output is a comma-delimited list. Information such as job ID, field 1, and client name, field 7, are included in the output.

Note: The field values in the `-all_columns` options are not stable. They can change from release to release. Any information about the fields is subject to change without notice.

`-append`

Appends the output to the file that the `-file` option specifies. If no `-file` option is provided, the output goes to `stdout`.

`-cancel` *job1,job2,...jobn* `|type=`*jobtype* `| type=all`

Causes `bpdbjobs` to cancel active jobs cleanly that appear with a status code of 150 in the Activity Monitor. For example:

```
bpdbjobs -cancel 11328
bpdbjobs -cancel 11328,11329,11330
```

Possible *jobtype* values are listed in the Description section.

`-cancel_all`

Causes `bpdbjobs` to cleanly cancel all incomplete jobs that appear with a Status 150 in the Activity Monitor. For example:

```
bpdbjobs -cancel_all
```

`-change_priority_by [-M` *master_servers*`] -priority` *number* `-jobid` *job1,job2,...jobn*

Changes the priority of the specified job or jobs.

`-clean`

Causes `bpdbjobs` to delete the completed jobs that are older than a specified time period. Use with the `-keep_hours` or `-keep_days`, or `-keep_successful_hours` or `-keep_successful_days` parameters to specify a retention period. For example:

```
bpdbjobs -clean -keep_hours 30
```

`-delete` *job1,job2,...jobn* `| type=`*jobtype* `| type=all`

Deletes the completed jobs that appear in the Activity Monitor. Multiple job IDs can be deleted in one command. For example:

```
bpdbjobs -delete 11328,11329,11330
```

This option deletes one of the following:

- The jobs that *job1,job2,...jobn* specify
- All the eligible jobs that *jobtype* indicates

- All eligible jobs if `type=all` is specified

Possible *jobtype* values are listed in the Description section.

`-dtemode Off|On`

Lists the jobs according to the data-in-transit encryption (DTE) mode that is set: `On` or `Off`.

`-fast`

Retrieves the job metadata from `bpjobd`, but the `try` file and `files` file is read directly from the file system. This option is ignored if `bpdbjobs` is started from a remote host (a host that is not the master).

`-file` *pathname*

Names a file to which the output of `bpdbjobs` is written. If no `-file` option is provided, the output goes to `stdout`.

`-gdm`

Displays less of the information in a report than `-most_columns`.

`-ignore_parent_jobs`

Ignores the parent jobs for the `-report` and `-summary` options.

`-jobid` *job1,job2,...jobn* | `type=`*jobtype* | `type=all`

Reports on multiple job IDs.

Possible *jobtype* values are listed in the Description section.

`-keep_days` *days*

Used with the `-clean` option to specify how many days `bpdbjobs` keeps completed jobs. Default is three (3) days.

`-keep_hours` *hours*

Used with the `-clean` option to specify how many hours `bpdbjobs` keeps completed jobs. Default is 72 hours.

`-keep_successful_days` *days*

Used with the `-clean` option to specify how many days `bpdbjobs` keeps successful completed jobs. Default is three (3) days.

This value must be less than the `-keep_days` value.

`-keep_successful_hours` *hours*

Used with the `-clean` option to specify how many hours `bpdbjobs` keeps successful completed jobs. Default is 72 hours.

This value must be less than the `-keep_hours` value.

`-L`

Reports in long format.

`-lvault`

Displays the additional columns specific to Vault jobs.

`-M` *`master_servers`*

Applies to an environment with multiple master servers. Use the `-M` option to summarize jobs, delete jobid(s), cancel jobid(s), and cancel all active job IDs for a specific master server:

`-mastertime`

By default, `bpdbjobs` translates the start or the end times to be relative to the local clock. A job that starts 10 minutes ago looks like it starts 10 minutes ago regardless of time zone and clock differences with the master server. This option, however, circumvents that translation so that time values are consistent between admin clients. See the `-utc` option for normalizing to UTC instead of the local clock.

`-most_columns`

Behaves similarly to `-all_columns` but does not include the file list or any information on previous attempts. The `-most_columns` option is significantly faster than `-all_columns`.

Note: The field values in the `-most_columns` options are not stable. They can change from release to release. Any information about the fields is subject to change without notice.

`-noheader`

Prevents the header from being printed in the report.

`-quiet`

Cancels the reporting of the number of jobs resumed, suspended,deleted, and canceled.

`-reason "`*`string`*`"`

Indicates the reason why you are performing this command action. The reason text string that you enter is captured and appears in the audit report. The string must be enclosed by double quotes ("...") and cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-report`

Provides a report of data that is stored in the Activity Monitor. If no option is specified with `bpdbjobs`, `-report` is the default option.

`-restart` *job1,job2,...jobn* | `type=`*jobtype* | `type=all`

Cleanly restarts a job that *jobtype* indicates. This option supports backups and enables you to restart a job by typing the word BACkup in the Activity Monitor.

`-resume` *job1,job2,...jobn* | `type=`*jobtype* | `type=all`

Resumes the jobs that *job1,job2,...jobn* specify, all eligible checkpoint backups or restore the jobs that *jobtype* indicates, or all eligible jobs if `type=all` is specified.

Possible *jobtype* values are listed in the Description section.

`-set_priority [-M` *master_servers*`] -priority` *number* `-jobid` *job1,job2,...jobn*

Sets the priority of the specified job or jobs to the specified priority number.

`-summary [-U | -L | -all_columns]`

Prints a summary line to `stdout` for all the jobs that are stored in `NBU/jobs`. Parameters `-U` and `-L` format the output of the command. Use the `-file` option to write the output to a given directory or file name. For example:

```
bpdbjobs -summary -U -file /tmp/summary.out
```

`-suspend` *job1,job2,...jobn* | `type=`*jobtype* | `type=all`

Suspends the jobs that *job1,job2,...jobn* specifies or all eligible checkpoint backups or restore the jobs that *jobtype* indicates, or all eligible jobs if `type=all` is specified.

Possible *jobtype* values are listed in the Description section.

`-t` *timestamp*

Fetches the job records which have modified after the specified timestamp. The timestamp is specified in the following format:

```
mm/dd/yyyy hh:mm:ss
```

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more information about the locale of your system, see "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

`-U`

Reports in user format. NetBackup report-generating tools such as the NetBackup-Java Reports application uses this report format.

`-utc`

Print start and end times in Coordinated Universal Time (UTC) instead of relative to the local clock. Times that this switch translates have `+0000` in the time signature to represent UTC. A full example is: `01/01/19 12:00:00+0000`. Various reports pass through raw timestamps and they are not subject to translation.

`-vault`

Displays the additional columns specific to Vault jobs.

`-verbose`

Causes `bpdbjobs` to log additional information in the debug log in the following directory, if the directory exists:

On UNIX systems:

```
/usr/openv/netbackup/logs/bpdbjobs/*
```

On Windows systems:

install_path`\NetBackup\logs\bpdbjobs\*`

`-version`

Prints the version string, then halts. Any other switches are ignored.

bpdbm

bpdbm – run NetBackup database manager daemon

SYNOPSIS

bpdbm [-consistency [-move]] [-ctime *timestamp*] [-terminate] [-alive] [-verbose -logqueries -wakeup *minutes*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

bpdbm responds to the queries that are related to the NetBackup internal databases (catalogs). bpdbm must be running for NetBackup commands and utilities to work properly. This daemon runs only on the master server and can be started only by the administrator. The NetBackup request daemon (bprd) or the following script starts bpdbm:

On UNIX: /usr/openv/netbackup/bin/initbpdbm

On Windows: *install_path*\NetBackup\bin\initbpdbm

When bpdbm starts, the following sequence occurs in the order listed:

- It logs a message that indicates that it has started and verifies that no other instances are running. If another process is found, the program terminates.
- bpdbm finds its port number by checking the services file for an entry with a service name of bpdbm and a protocol name of tcp. For example:

  ```
  bpdbm 13721/tcp
  ```

- bpdbm starts to respond to queries from bprd and the NetBackup administrative utilities. A child process is created to respond to each query.

OPTIONS

-alive

Sends a query to bpdbm to determine if the bpdbm service is up.

`-consistency [0-2]`

Runs the consistency checks on the catalog. The following are the three consistency levels:

0 - A quick check of the NetBackup image database (the default).

1 - Performs more checks than the default check.

2 - The most in-depth consistency check. In addition to the level 0 and 1 checks, this level checks that the media that is mentioned in the image exists. (That is, it cross-references the media servers databases.) On a large NetBackup installation, the process takes much longer to complete than the other checks.

`-ctime` *`timestamp`*

Converts a UNIX timestamp to human-readable form.

`-logqueries`

Causes `bpdbm` to log each `bpdbm` query to the file `BPDBMqueries` of the `tmp` directory. Each query has an entry at the start of the log of the form:

`date_stamp process_id` `query` *`type`*

And one at the end of the query of the form:

`date_stamp process_id` `query` *`type`* `status` *`status`*

Where *date_stamp* is a 10-digit integer, *process_id* is the identifier for the process that runs the query, *type* is an integer that identifies the type of query, and *status* is the status returned by the query.

`-terminate`

Terminates `bpdbm`. Any currently running child process continues to run until its task is complete.

`-verbose -logqueries`

Causes `bpdbm` to operate at verbose level 1 if it is configured to run in bp.conf at verbose level 0 and creates the `bpdbm` log directory and file.

`-wakeup` *`minutes`*

Overrides the default timeout interval (in minutes) that `bpdbm` uses when it establishes the initial connection on the port. Used on UNIX systems only.

FILES

On UNIX systems:

```
/usr/openv/netbackup/db/*
/usr/openv/netbackup/bp.conf
```

```
/usr/openv/netbackup/logs/bpdbm/*
/usr/openv/netbackup/bin/initbpdbm
```

On Windows systems:

```
install_path\NetBackup\db\*
install_path\NetBackup\logs\bpdbm\*
```

SEE ALSO

See bprd on page 381.

bpdgclone

bpdgclone – create or remove clones of Volume Manager (VxVM) volumes

SYNOPSIS

bpdgclone [-c] -g *disk_group* -n *volume* [-d *primary_disk*,*secondary_disk*:*primary_disk_2*,*secondary_disk_2*:*primary_disk_n*,*secondary_disk_n*] [-f *output_location*] [-v] [-h]

The directory path to this command is /usr/openv/netbackup/bin/

DESCRIPTION

This command operates only on UNIX systems.

bpdgclone creates temporary disk groups or clones of disks that contain the mirror image of the volume for the backups that use array-specific snapshot methods. In array-specific snapshot methods (EMC TimeFinder, Hitachi ShadowImage, HP BusinessCopy) client data is configured over a Volume Manager volume. To avoid a name conflict in the Volume Manager, bpdgclone names the temporary disk group as client_name_diskgroup_name_clone. When the backup completes, NetBackup removes the disk group clone.

During normal operation, NetBackup calls the bpdgclone command as needed. No administrator use of this command is required. If a system failure prevents NetBackup from removing the clone, use the bpdgclone command with the -c option to remove it. Then synchronize the mirror disk again with the primary disk.

Note: If the backup completes, but the clone is not removed, subsequent backups of the client's data fail. To remove a clone, see Examples.

OPTIONS

-g Specifies the name of the target disk group.

-n Specifies the name of the target volume.

-d Lists the primary disks and the secondary disks. The list consists of disk pairs (primary,secondary), where the primary is separated from the secondary by a comma. If there is more than one primary disk in the target volume, colons (:) separate the additional device pairs.

`-c` Deletes the cloned disk group and volume. Note that the primary disks and the secondary disks must be resynchronized after the clone is deleted.

`-h` Prints the command usage.

`-v` Sets the verbose mode.

`-f` Specifies an output file. This file contains a list of pathnames of the primary disks over which the target volume is configured. Use this option to discover the primary disks that make up the target volume.

NOTES

The following are considerations to note when you use the `bpdgclone` command:

- Do not remove a clone while the snapshot backup that uses that clone is still in progress. With no system failures, NetBackup removes the clone when the backup completes.
- If you use the `bpdgclone` command to remove a left over disk clone, you must synchronize the mirror disk again with the primary disk.
- Before NetBackup executes `bpdgclone` to create the clone, NetBackup splits the secondary disk from the primary disk.

EXAMPLES

The following example removes a clone.

```
/usr/openv/netbackup/bin/bpdgclone -g wil_test -n vol01 -c
```

where `wil_test` is the name of the disk group after which the clone was named. The actual clone is named `clone_wil_test_clone`.

For detailed assistance, see "Troubleshooting" in the NetBackup Snapshot Client Administrator's Guide.

bpdown

`bpdown` – shut down NetBackup services on Windows systems

SYNOPSIS

bpdown [-S|v] [-f] [-c] [-d] [-m] [-n][-s] [-r]

The directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

This command operates only on Windows systems.

`bpdown` shuts down the NetBackup services including many components of the product, such as the NetBackup databases, Media Manager, clients, and some robotic control daemons. This option does not shut down the processes.

The `bpup` command starts the NetBackup services.

OPTIONS

`-S` Silent mode. No listing is generated and no confirmation is requested.

`-v` The selected verbose mode generates a detailed listing.

`-f` Forces a shutdown of the NetBackup services without prompting the user for a confirmation.

`-c` Shuts down the client.

`-d` Shuts down the NetBackup database.

`-m` Shuts down Media Manager.

`-n` Shuts down the NetBackup server and not the client.

`-s` Shuts down the server (NetBackup and Media Manager).

`-r` Shuts down the robotic control daemons.

bpduplicate

bpduplicate – create a copy of backups that NetBackup has created

SYNOPSIS

bpduplicate -npc *new_primary_copy* -backupid *backup_id* [-local] [-client *name*]

bpduplicate [-number_copies *number*] [-dstunit *destination_storage_unit_label*[,*copy2*,...]] [-dp *destination_volume_pool_name*[,*copy2*,...] [-p | -pb | -PD | -PM] [-Bidfile *file_name*] [-v] [-local] [-client *name*] [-st *sched_type*] [-sl *sched_label*] [-L *output_file* [-en]] [-shost *source_host*] [-policy *name*] [-s *date*] [-e *date*] [-pt *policy_type*] [-hoursago *hours*] [[-cn *copy_number*] | [-primary]] [-dcn *copy_number_1*[*copy_number_2*,...,*copy_number_n*]] [-M *master_server*] [-altreadhost *hostname*] [-backupid *backup_id*] [-id *media_id*] [-rl *retention_level*[,*rl-copy2*,...]] [-fail_on_error 0|1[,...,0|1]] [-mpx] [-priority *number*] [-set_primary *copy_index*] [-bc_only] [-granular_proxy *hostname*] [-owner *media_share_group*[,*copy2*,...]][-worm_unlock_match_expiration]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpduplicate command allows a copy of a backup to be created. The bpduplicate command can also change the primary copy to enable restoring from a duplicated backup. The primary copy is used to satisfy restore requests and is initially the original copy.

Multiplexed duplications can be created by using the -mpx option. Refer to the discussion of the -mpx option for more information.

The duplicated backup has a separate expiration date from the original. Initially, the expiration date of the copy is set to the expiration date of the original. You can change the expiration date of the copy or the original by using the bpexpdate command.

Use bpduplicate to create up to 10 copies of unexpired backups.

OPTIONS

`-altreadhost` *`hostname`*

Specify an alternate host from which to read the media. The default condition is that `bpduplicate` reads the source media from the host that performed the backup.

`-backupid` *`backup_id`*

Specifies the backup ID of a single backup to duplicate or for which to change the primary copy.

`-bc_only`

Catalogs the granular information (that is, it builds the catalog only). Running this option precludes the need to make another copy of the image, which can improve performance of future browse or restore operations.

`-Bidfile` *`file_name`*

file_name specifies a file that contains a list of backup IDs to be duplicated. List one backup ID per line in the file. If this parameter is specified, other selection criteria are ignored.

Also, *file_name* is removed during the execution of that command line interface (CLI) because the NetBackup GUIs commonly use this parameter. They expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option; however, it removes the file.

`-client` *`name`*

Specifies the name of the client that produced the originals and is used as search criteria for backups to duplicate. The default is all clients.

When you specify `-client` with the `-npc` option to change the primary copy, NetBackup first searches for the backup ID that belongs to the client. This search is useful if the client name has changed.

`-cn` *`copy_number`* | `-primary`

Determines the copy number to duplicate. Valid values are 1 through 10. The default is 1.

`-primary` means to search or duplicate the primary copy.

`-dcn` *`copy_number_1`*`[`*`copy_number_2`*`,...,`*`copy_number_n`*`]`

The destination copy number option specifies the copy number of the new copy that is made with the `bpduplicate` command. The option accepts multiple numbers that are separated with commas. If multiple copy numbers are specified, you must use `-number_copies`. The `-number_copies` option must match the number of copies specified. For example, if `-dcn 3,4` is specified,

then you must specify `-number_copies 2`. If `-dcn 3` is specified, then you can specify `-number_copipes 1` or you can omit it.

Please be aware if you cannot have multiple copies with the same copy number. If you specify a copy number that already exists, the command fails. If you omit this option, the `bpduplicate` command assigns the next available copy number.

`-dp` *`destination_volume_pool_name`*`[,`*`copy2`*`,...]`

Specifies the volume pool for the duplicates. NetBackup does not verify that the media ID that is selected for the duplicate copy is not the same media ID where the original resides. Therefore, to avoid the possibility of a deadlock, specify a different volume pool than where the original media ID resides. The default pool name is NB_duplicates.

Specify a pool for each copy that you specify.

`-dstunit` *`destination_storage_unit_label`*`[,`*`copy2`*`,...]`

Specifies the destination storage unit. This parameter is required to duplicate backups. Do not specify this option to preview backups to be duplicated (`-p`, `-pb`, `-PM`, or `-PD` options) or to change the primary copy (`-npc` option). This option does not have a default.

Specify a storage unit for each copy that you specify.

`-e` *`date`*`, -s` *`date`*

Specifies the end (`-e`) or start (`-s`) of the range of dates and times that include all backups to duplicate. The default end date is the current date and time. The default start time is 24 hours before the current date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *`install_path`*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more information about the locale of your system, see "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail the other duplications if the copy fails, where:

0 - Do not fail the other copies

1 - Fail the other copies

Specify one for each copy that you specify.

`-granular_proxy`

Overrides the defined Exchange granular restore proxy host for a duplication operation. This host catalogs the granular information if duplicated to tape. By default, the defined Exchange granular restore proxy host is the original Exchange client for the backup. You can configure the proxy host in the client host Exchange properties of the backup client.

`-hoursago` *hours*

Specifies the number of hours before the current time to search for backups. Do not use with the `-s` option. The default is the previous midnight.

`-id` *media_id*

Search the image catalog for backups to duplicate that are on this media ID. If the original is fragmented between different media IDs, NetBackup duplicates only the backups that exist on the specified media ID. Backups that span media are duplicated, but not any other backups on the spanned media ID.

`-L` *output_file* `[-en]`

Specifies the name of a file in which to write progress information. The default is not to use a progress file.

Example for UNIX systems, `/usr/openv/netbackup/logs/user_ops`

Example for Windows systems, `c:\Program Files\Veritas\NetBackup\logs\user_ops`

Include the `-en` option to generate a log in English. The name of the log contains the string `_en`. This option is useful to support the personnel that assist in a distributed environment where different locales may create logs of various languages.

Only default paths are allowed for this option and It is recommended to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-local`

When `bpduplicate` runs from a host other than the master server and `-local` is not used (default), the following occurs: It starts a remote copy of the command on the master server. The remote copy allows the command to be terminated from the Activity Monitor.

Use this option to prevent the creation of a remote copy on the master server. You can also run `bpduplicate` only from the host where it was initiated.

If the `-local` option is used, `bpduplicate` cannot be canceled from the Activity Monitor.

`-M` *`master_server`*

Specifies the master server that manages the media catalog that has the media ID. If this option is not specified, the default is one of the following:

The NetBackup server supports only one server (the master) with no remote media servers. Therefore, the default in this case is always the NetBackup server master where you run the command.

On the NetBackup Enterprise Server, if the command is run on a master server, then that server is the default. If the command is run on a media server that is not the master, then the master for that media server is the default.

`-mpx`

Specifies that when you duplicate multiplexed backups, NetBackup creates multiplexed backups on the destination media, which reduces the time to duplicate multiplexed backups.

Multiplexed duplication is not supported for the following operations:

- Non-multiplexed backups
- Backups from disk type storage units
- Backups to disk type storage units
- FlashBackup or NDMP backups

If backups in the previous categories are encountered during duplication, NetBackup duplicates them first and uses non-multiplexed duplication. It then duplicates the multiplexed backups by using multiplexed duplication.

If all the backups in a multiplexed group are not duplicated, the duplicated multiplexed group has a different fragment layout. (A multiplexed group is a set of backups that are multiplexed together during a single multiplexing session.)

If this option is not specified, all backups are duplicated by using non-multiplexed duplication.

For more information about multiplex operations, see the NetBackup Administrator's Guide, Volume I.

`-npc` *`new_primary_copy`*

Allows the primary copy to be changed. The value can be `1` through `10`. The `-backupid` option must be specified with this option.

-number_copies *number*

Specifies the number of copies to be created. Without the Inline Tape Copy option or NetBackup Vault extension that is installed, the value can be set to 1 only. The default is 1.

Use with -dstunit, -dp, -fail_on_error, and -r1:

-number_copies 2 -dstunit *stunit-copy1*,*stunit-copy2*
-number_copies 2 -dp *pool1*, *pool2*

-owner *media_share_group* [,*share_group_copy2*,...]

Specifies the share group for the duplicate. Specify a share group for each copy that you specify.

-p

Previews backups to be duplicated according the option settings, but does not perform the duplication. Displays the media IDs, server name, backups that are not candidates for duplication (and why), and information about the backups to be duplicated.

-pb

Previews the duplication but does not perform the duplication. Similar to the -p option, but does not display information about the backups.

-PD

Same as the -PM option, except that it sorts and displays the backups by date and time (newest to oldest).

-PM

Displays the information on the backups to be duplicated according to the option settings, but does not perform the duplication. This format first displays the backup IDs that cannot be duplicated and the reason why (for example, the backup already has two copies). It displays the following information about the backup: Date and time of the backup, policy, schedule, backup ID, host, media ID or path, copy number, and whether the copy is the primary copy:

1 = Primary copy

0 = Not primary copy

-policy *name*

Searches for backups to duplicate in the specified policy. The default is all policies.

-priority *number*

Sets a backup policy to run at a lesser or a higher priority than disk staging duplication.

`-pt` *policy_type*

Search for the backups that the specified policy type created. The default is any policy type.

The *policy_type* is one of the following character strings:

```
Auspex-FastBackup
BigData
DataStore
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
FlashBackup-Windows
Hyper-V
Informix-On-BAR
LotusNotes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
MS-Windows
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Universal-share
Vault
VMware
```

`-rl` *retention_level*`[,`*rl-copy2*`,...]`

Provides a retention level for each copy that you specify.

If no retention levels are specified, the expiration date of the original copy is used for each copy. If a retention period is indicated, the expiration date for the copy is the backup date plus the retention period.

For example, if a backup was created on May 14, 2012, and its retention period is one week, the new copy's expiration date is May 21, 2012.

A value of `-1` indicates that the original expiration date is used for the copy.

`-set_primary` *copy_index*

Specify a new copy to become the primary copy.

copy_index is one of the following:

`0` = Do not change the primary copy (default)

`1` = First new copy is the primary copy

`2` = Second new copy is the primary copy

`3` = Third new copy is the primary copy, and so on.

copy_index cannot be greater than the `-number_copies` value.

If the copy specified to be the primary copy fails, but other copies are successful, the primary copy does not change from its current value.

`-shost` *source_host*

Specifies that only the backups that are created on the specified backup server are considered for duplication. The default is to consider all backups regardless of the backup server.

`-sl` *sched_label*

Search for backups to duplicate that the specified schedule created. The default is all schedules.

`-st` *sched_type*

Search for backups to duplicate that the specified schedule type created. The default is any schedule type.

Valid values are:

`FULL` (full backup)

`INCR` (differential-incremental backup)

`CINC` (cumulative-incremental backup)

`UBAK` (user backup)

`UARC` (user archive)

`NOT_ARCHIVE` (all backups except user archive)

`-v`

Selects the verbose mode. When you specify the debug logs or progress logs, it includes more information.

`-worm_unlock_match_expiration`

Sets the WORM Unlock Time equal to the copy Expiration Time. This option only applies to duplications to a destination storage unit which uses WORM.

With the option set, the new copy WORM Unlock Time is set equal to the new copy Expire Time.

Without this option, the WORM Unlock Time is set equal to the retention period that is applied from the end of the duplication.

EXAMPLES

Example 1 - List backups with a copy number of 1. They were backed up by the policy that is named `stdpol`, and created between July 1, 2013, and August 1, 2013.

```
# bpduplicate -PM -cn 1 -policy stdpol -s 07/01/13 -e 08/01/13
```

Example 2 - Duplicate copy 1 of the backups that are listed in file `bidfile` in the `tmp` directory. The destination storage unit is `unit1` and the destination pool is `dup_pool`. Progress information is written to `bpdup.ls`. The command can be all on one line, or you can use a backslash continuation character.

UNIX systems:

```
# bpduplicate -dstunit unit1 -Bidfile
/tmp/bidfile
-L /usr/openv/netbackup/logs/user_ops/bpdup.ls
-dp dup_pool -cn 1
```

Windows systems:

```
# bpduplicate -dstunit unit1 -Bidfile
C:\tmp\bidfile
-L c:\Program Files\Veritas\NetBackup\logs\user_ops\bpdup.ls
-dp dup_pool -cn 1
```

Example 3 - This example is the same as Example 2, except that multiplexed backups are duplicated when you select multiplexed duplication. The command can be all on one line, or you can use a backslash continuation character.

UNIX systems:

```
# bpduplicate -dstunit unit1 -Bidfile
/tmp/bidfile -mpx
-L /usr/openv/netbackup/logs/user_ops/bpdup.ls
 -dp dup_pool -cn 1
```

Windows systems:

```
# bpduplicate -dstunit unit1 -Bidfile
C:\tmp\bidfile -mpx
-L c:\Program Files\Veritas\NetBackup\logs\user_ops\bpdup.ls
-dp dup_pool -cn 1
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\db\images\*
install_path\NetBackup\logs\admin\*
```

SEE ALSO

See nbreplicate on page 830.

bperror

bperror – display NetBackup status and troubleshooting information or entries from NetBackup error catalog

SYNOPSIS

bperror {-S | -statuscode *status_code*} [-r | -recommendation] [[-p Unx | NTx] | [-platform Unx | NTx]] [-v]

bperror [-all | -problems | -media | tape] {-backstat [-by_statcode]} [-L | -l | -U] [-columns *ncols*] [-d *date* | -hoursago *hours*] [-e *date*] [-client *client_name*] [-server *server_name*] [-jobid *job_id*] [-M *master_server*,...] [-v]

bperror [-s {*severity*[+]}|*severity* ...] [-t *type* ...] [-dt *disk_type*] [-L | -l | -U] [-columns *ncols*] [-d *date* | -hoursago *hours*] [-e *date*] [-client *client_name*] [-server *server_name*] [-jobid *job_id*] [-M *master_server*,...] [-v]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bperror displays information from either the same source as the online troubleshooter (in the Activity Monitor or Reports applications) or from the NetBackup error catalog. bperror provides the following types of displays:

- A display of the message that corresponds to a status code and, optionally, a recommendation on how to troubleshoot the problem. In this case, the display results come from the same source as the online troubleshooter for the local system.
- A display of the error catalog entries that satisfy the command-line options. For instance, bperror can display all the problem entries for the previous day.
- A display of the error catalog entries that correspond to a particular message severity and message type.

For information on details of the displays, see DISPLAY FORMATS later in this command description.

bperror writes its debug log information to the following directory:

On Windows systems: *install_path*\NetBackup\logs\admin

On UNIX systems: /usr/openv/netbackup/logs/admin

You can use the information in this directory for troubleshooting.

The output of bperror goes to standard output.

OPTIONS

-all, -backstat [-by_statcode], -media, -problems

These options specify the type and severity of log messages to display. The default type is ALL. The default severity is ALL.

-all: The type is ALL, and severity is ALL. Run bperror with this option and with -U to produce an All Log Entries report.

-backstat: The type is BACKSTAT, and severity is ALL. If -by_statcode is present, the display contains one entry for each unique status code. Line 1 of the entry contains the status code and the corresponding message text. Line 2 of the entry contains the list of clients for which this status code occurred. -by_statcode is only valid when the command line contains both -backstat and -U. Run bperror with this option and with -U to produce a Backup Status report.

-media: The type is MEDIADEV, and severity is ALL. Run bperror with this option and with -U produces a Media Logs report.

-problems: The type is ALL, and severity is the union of WARNING, ERROR, and CRITICAL. Run bperror with this option and with -U to produce a Problems report.

-client *client_name*

Specifies the name of a NetBackup client. This name must be as it appears in the NetBackup catalog. By default, bperror searches for all clients.

-columns *ncols*

For the -L and -U reports, -columns provides an approximate upper bound on the maximum line length. bperror does not try to produce lines exactly *ncols* characters in length.

-columns does not apply to the -l report.

ncols must be at least 40. The default is 80.

-d *date*, -e *date*

Specifies the start date and end date range for the listing.

`-d` specifies a start date and time (optional) for the listing. The resulting list shows only images in the backups or archives that occurred at or after the specified date-time. The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is 24 hours before the current date and time.

`-e` specifies an end date and time (optional) for the listing. The resulting list shows only files from backups or the archives that occurred at or before the specified date and time. Use the same format for the start date. The default is the current date and time. The end date must be greater than or equal to the start date.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more about the locale of your system, see "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

The following is a typical format for the `-d` and `-e` options:

```
[-d mm/dd/yyyy hh:mm:ss | -hoursago hours]
[-e mm/dd/yyyy hh:mm:ss]
```

`-dt` *disk_type*

Enables the user to specify a disk type. The following are the valid values for *disk_type*:

0 - All

1 - BasicDisk

3 - SnapVault

6 - DiskPool

`-hoursago` *hours*

Specifies a start time of many hours ago, which is equivalent to specifying a start time (`-d`) of the current time minus hours. Hours is an integer. The default is 24, which is a start time of 24 hours before the current time.

`-jobid` *job_id*

Specifies a NetBackup job ID. By default, `bperror` searches for all job IDs.

`-L`

Reports in long format.

`-l`

Reports in short format. This report produces a terse listing. This option is useful for scripts or the programs that rework the listing contents into a customized report format. This option is the default list type.

`-M` *`master_server,...`*

Specifies a comma-separated list of one or more hostnames. The command is run on each of the master servers in this list. The master servers must allow access by the system that issues the command. If an error occurs for any master server, the process stops at that point in the list. The default is the master server for the system where the command is entered.

`-p Unx | NTx, -platform Unx | NTx`

Displays the message that applies to the platform (UNIX or Windows) for the specified status code. The default is to display the message for the platform on which `bperror` is running. The `-S` or `-statuscode` option must be specified when you use this option.

`-r | -recommendation`

Displays the recommended action for the specified status code from the *NetBackup Status Codes Reference Guide*. The default is not to display the recommendation. The `-S` or `-statuscode` option must be specified when you use this option.

`-S` *`status_code`*`, -statuscode` *`status_code`*

Displays the message that corresponds to the status code. This option has no default condition.

`-s` *`severity`*`, -s` *`severity`*`+`

Specifies the severity of log messages to display. The defined values are `ALL`, `DEBUG`, `INFO`, `WARNING`, `ERROR`, and `CRITICAL`.

You can specify severity in two ways. The first way is a list of one or more severity values. For instance, `"-s INFO ERROR"` displays the messages with either severity `INFO` or severity `ERROR`. The delimiter must be a blank (" ") between the elements in the list. The second way is a single severity value with "+" appended, which is this severity or greater. For instance `"-s WARNING+"` displays the messages with severity values `WARNING`, `ERROR`, and `CRITICAL`.

The default is `ALL`. The severity value can be in uppercase or lowercase.

`-server` *`server_name`*

Specifies the name of a NetBackup server. This name must be as it appears in the NetBackup catalog. The display is limited to the messages that are logged for this server, which also satisfies the criteria for any other `bperror` options.

For example, if -server plim and -hoursago 2 are bperror options, the display contains the messages that were logged for plim in the past two hours.

The server name must match the server name that was recorded in the log messages. For example, if the logs record the server name as plim.null.com, -server plim does not display the logs, but -server plim.null.com does.

The query goes to the error catalog which resides on either the local master server or the master server that -M specifies. The master server must allow access by the system that runs bperror.

The default is to display log messages for all media servers that are known to the master server(s).

-t *type*

Specifies the type of log messages to display. The defined values are ALL, BACKSTAT, MEDIADEV, GENERAL, BACKUP, ARCHIVE, RETRIEVE, and SECURITY. The default is ALL. The type value can be upper or lower case. It is entered as a list of one or more values. For instance, -t BACKSTAT MEDIADEV displays the messages with either type BACKSTAT or type MEDIADEV. The delimiter between the list elements must be a blank (" ").

-U

Reports in user format. NetBackup report-generating tools such as the NetBackup-Java Reports application uses this report.

-v

Verbose mode. This option causes bperror to log additional information for the debugging purposes that go into the NetBackup administration daily debug log. -v is meaningful only when NetBackup has debug logs enabled. The default is to not be verbose.

DISPLAY FORMATS

The following are display formats of the bperror command:

- Status code display (for example, bperror -S *status_code*):
  bperror queries the NetBackup online troubleshooter on the local system for the message that corresponds to the status code. bperror displays the message text on one line and an explanation on a second line.
  If -r is an option, bperror also queries for the troubleshooting recommendation that corresponds to the status code. bperror displays the recommendation following the status message, on one or more lines.
- Error catalog display (for example, bperror -all; bperror -s *severity*):

`bperror` queries the NetBackup error catalog on either the local master server or the master servers in the `-M` option list. The display consists of the results that are returned from querying the error catalog on the master server(s). The results are limited to catalog the entries that satisfy all the `bperror` options. For example, the `bperror` command line may contain options for client, start time, and end time. If so, then `bperror` reports only the jobs that are run for that client between the start time and end time.

The display variant that shows individual message entries from the error catalog can appear in long (`-L`), user (`-U`), or short (`-l`) format. The display variant that categorizes by status code can appear in user (`-U`) format only. The following is the display content for each of these formats:

- Error catalog display, individual message entries, long format (for example, `bperror -media -L`). This report produces several lines per log entry, with the following contents:
  Field 1: Date and time - Number of seconds since 1/1/1970
  Field 2: NetBackup version - The NetBackup version in use
  Field 3: Error type - Media numeric identifiers of the error
  Field 4: Log entry type - 2=Debug, 4=Info, 8=Warning, 16=Error, 32=Critical
  Field 5: Server - Server name
  Field 6: Job ID
  Field 7: Group job ID
  Field 8: Unused
  Field 9: NetBackup process - Name of the NetBackup process that does the logging
  Field 10: Client name
  Field 11: Policy name
  Field 12: Schedule type - The type of schedule being run for the backup
  0=FULL, 1=INCR, 2=CINC, 3=UBAK, 4=UARC
  Field 13: Exit status - The status when the backup was completed
- Error catalog display, individual message entries, user format (for example, `bperror -media -U`). The user format produces a header line that shows column names, and one or more lines per log entry with these contents:
  Line 1: Date and time
  Server
  Client
  Text (at the start of the log message, continued on subsequent lines if needed)
- Error catalog display, individual message entries, short format (for example, `bperror -media -l`). The short format produces a single line per log entry, with the following contents:
  Line 1: Time (internal system representation)

NetBackup version
Type code (decimal)
Severity code (decimal)
Server
Job ID
Job Group ID
An unused field
Client
Who
Text (the entire log message text, with no truncation of the line length)

- Error catalog display that the status code categorizes. This display reports only each unique status code, instead of listing every log entry for that status code (for example, `bperror -backstat -by_statcode -U`). This option produces two or more lines per status code, with the following contents:
  Line 1: Status code
  Text (the beginning of the log message text, continued on subsequent lines if necessary)
  Line 2: The list of clients for which this status occurred.

EXAMPLES

Example 1 - Display the error for a job that failed because the NetBackup encryption package was not installed. Status code 9 is the NetBackup status code for this failure. The second run of `bperror` displays the action that is recommended for NetBackup status code 9.

```
# bperror -d 12/23/2012 16:00:00 -e 12/23/2012 17:00:00 -t backstat
-U
STATUS CLIENT    POLICY    SCHED    SERVER    TIME COMPLETED
9      plim      dhcrypt   user     plim      12/23/2012 16:38:09
an extension package is needed, but was not installed
# bperror -S 9 -r
an extension package is needed, but was not installed
A NetBackup extension product is required in order to perform the
requested operation.
Install the required extension product.
```

Example 2 - Report the problems in the User format that have occurred in the previous 24 hours.

```
# bperror -U -problems
        TIME            SERVER CLIENT - TEXT
```

```
11/23/2012 16:07:39 raisins - no storage units configured
11/23/2012 16:07:39 raisins - scheduler exiting - failed reading
storage unit database information (217)
11/23/2012 16:17:38 raisins - no storage units configured
11/23/2012 16:17:38 raisins - scheduler exiting - failed reading
storage unit database information (217)
11/23/2012 18:11:03 raisins nut bpcd on nut exited with status 59:
access to the client was not allowed
11/23/2012? 18:11:20 raisins - WARNING: NetBackup database backup is
currently disabled
```

Example 3 - The following example displays status for type `backstat` for the jobs that are run in the previous 24 hours. The option `-by_statcode` produces a display that is organized by status code.

The display shows that one or more jobs for each of the clients `chive`, `gava`, and `raisins` have completed successfully (the status code is 0). In addition, one or more jobs for client nut have failed because nut did not allow access by the master server or media server. (The status code is 59.)

```
# bperror -U -backstat -by_statcode
         0   the requested operation was successfully completed
             chive gava raisins
         59   access to the client was not allowed
               nut
```

Example 4 - Identify and retrieve the results for a particular user job. It first lists the log entries with job IDs other than zero. It then runs a User-format report on the job of interest.

```
# bperror -hoursago 2012 -L | grep 'S:' | egrep 'J\:[1-9]'
12/21/2012 17:24:14 V1 S:plim C:plim J:1 (U:0,0)
12/23/2012 16:31:04 V1 S:plim C:plim J:1 (U:0,0)
12/23/2012 16:38:04 V1 S:plim C:plim J:3 (U:0,0)
# bperror -d 1/7/2007 -jobid 34 -U
     TIME            SERVER CLIENT - TEXT
01/07/2012 13:12:31 plim plim started backup job for client plim,
policy jdhcrypt, schedule user on storage unit jdhcrypt
01/07/2012 13:12:40 plim plim successfully wrote backup id
plim_0947272350,copy 1, fragment 1, 32 Kbytes at 11.057 Kbytes/sec
01/07/2012 13:12:41 plim plim CLIENT plim POLICY jdhcrypt SCHED user
EXIT STATUS 0 (the requested operation was successfully completed)
```

Example 5 - Show media entries in the error catalog for the past 2000 hours.

```
bperror -hoursago 2000 -media -U
        TTIME            SERVER CLIENT - TEXT
12/23/2012 16:31:04 plim plim  Media Manager terminated during mount
of media id A00000, possible media mount timeout
12/24/2012 04:31:20 plim -  media id A00000 removed from Media
Manager database (manual deassign)
```

Example 6 - Report and add up the total number of bytes backed up in the past 24 hours.

```
bperror -all -hoursago 24 | grep "successfully wrote backup id | awk
'{bytes= bytes + $20} END {print "backed up",bytes," Kbytes of
data"}'
backed up 64  Kbytes of data
up",bytes," Kbytes of data"}'
```

bpexpdate

bpexpdate – change expiration date of backups in image catalog and media in media catalog

SYNOPSIS

bpexpdate -m *media_id* -d *date* | 0 | infinity [-host *name*] [-force] [-nodelete] [-notimmediate] [-force_not_complete] [-M *master_server*,...]

bpexpdate -deassignempty [-m *media_id*] [-force] [-M *master_server*,...]

bpexpdate -Bidfile *filename* | -backupid *backup_id* -d *date* | 0 | infinity [-client *name*] [-copy *number*] [-copy *number* -try_expire_worm_copy] [-force] [-nodelete] [-nodelete -try_expire_worm_copy] [-notimmediate] [-force_not_complete] [-do_not_follow_dependee] [-M *master_server*,...] [-extend_worm_locks] [-refresh_worm_locks]

bpexpdate -servername *servername* -d *date* | 0 | infinity [-force] [-nodelete] [-nodelete -try_expire_worm_copy] [-notimmediate] [-force_not_complete] [-M *master_server*,...] [-extend_worm_locks]

bpexpdate -recalculate [-backupid *backupid*] [-copy *number*] [-copy *number* -try_expire_worm_copy] [-d *date* | 0 | infinity] [-client *name*] [-policy *name*] [-ret *retention_level*] [-sched *type*] [-M *master_server*,...] [-extend_worm_locks]

bpexpdate -stype *server_type* [-dp *disk_pool_name* [-dv *disk_volume*]] [-nodelete] [-nodelete -try_expire_worm_copy] [-notimmediate] [-force_not_complete] [-M *master_server*,...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

NetBackup maintains catalogs, which are internal databases with backup image and media information. The image record in the image catalog contains an expiration date. The media ID in the media catalog also contains an expiration date. The

expiration date is the date and time when NetBackup removes the record for a backup or a media ID from the corresponding catalog.

The `bpexpdate` command allows the expiration date and time of backups to be changed in the NetBackup image catalog. The command is also used to change the expiration of removable media in the NetBackup media catalog. If the date is set to zero, `bpexpdate` immediately expires backups from the image catalog or media from the media catalog. When a media ID is removed from the NetBackup media catalog, it is also removed from the Enterprise Media Manager database. It is removed regardless of the media's previous state (FROZEN, SUSPENDED, and so on).

You can change the expiration on a media ID basis or on an individual backup ID basis. When you change the expiration date of a media ID, the expiration date of all backups on the media are also changed. `bpexpdate` also provides the following options:

- Remove media from the media catalog if they no longer contain valid backups.
- Recalculate the expiration date to base it on the configured or a supplied retention level.

Some NetBackup copies may have write-once read-many (WORM) attributes. NetBackup attempts to set a copy's WORM unlock time to match the time of its expiration from the NetBackup catalog. When changing a WORM copy's expiration time to be longer, NetBackup runs storage commands to increase the WORM unlock time. This storage unlock time extension is only allowed if `bpexpdate` is called with the `-extend_worm_locks` option. You cannot change the expiration time for WORM copies to be shorter.

By default, WORM copies cannot be removed from the NetBackup catalog until after their **Expiration Time** and **Copy WORM Unlock Time** have elapsed. See `bpimagelist` output to see the current values for an image copy. The `-try_expire_worm_copy` option can be used to attempt removal of a WORM copy from the NetBackup catalog. Even with the `-try_expire_worm_copy` option, the storage may prevent actual deletion of the copy. The `-try_expire_worm_copy` option should be used with caution, and usually only after a storage administrator has removed the WORM locks from images.

Once made WORM, copies can never become writable again. The copies, however, become deletable after the unlock time has elapsed.

Any authorized user can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPERATIONS

The command operations are as follows:

`-backupid` *backup_id*

Changes the expiration of a single backup. If the date is zero, the backup is removed from the image catalog. If the backup is on removable media and the `-d` expiration is greater than the current media ID expiration, the media catalog expiration also changes. The change affects all copies of a backup, unless the `-copy` option is used. The `-copy` option causes only the specified copy to be affected.

This command requires `bpnbat -login` when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when approved, changes the expiration date of the image. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

`-Bidfile` *filename*

Specifies a file that contains a list of backup IDs whose expiration date you want to change. List one backup ID per line in the file.

This command requires `bpnbat -login` when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when approved, changes the expiration date of the image. You cannot expire more than 100 images at the same time with the `-Bidfile` option if multiperson authorization is enabled for image expiration operation. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

`-deassignempty`

Searches the catalog for the removable media that no longer contain valid backups. It removes the media from the media catalog and removes the media IDs in the Media Manager catalog. The media is then available to use again. You can use the NetBackup Images on Media report to determine if the assigned media no longer contain valid backups.

`-recalculate`

Allows the expiration date of backups to be changed based on a retention level, or a new expiration date. You can change the expiration for a single backup, or for all backups for a particular client, policy, or schedule type. One of the `-bybackuptime`, `-d`, or `-ret` options may be used with this option.

This command requires `bpnbat -login` when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when

approved, changes the expiration date of the image. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

When the `-bybackuptime` option is used, the expiration date of the backup is set to the creation date plus the retention level value that was originally used for the backup. After a backup has been imported, this option can be used to reset its expiration date to the original value.

Note: Retention level 25 has a value of expire immediately. You cannot edit this value. If you set the retention level of a backup image to 25, the backup image expires immediately.

When the `-ret` option is used, the expiration date of the backup is set to the creation date plus the specified retention level value.

If `-bybackuptime`, `-d`, or `-ret` is not used with this option, the expiration date for any non-Storage Lifecycle Policy (SLP) backups are set to the creation date plus the current retention level of the schedule that wrote the backup, if it exists and the schedule's retention level has changed since the backup creation. A backup's expiration date is not recalculated under any of the circumstances shown:

- An SLP created it.
- If the policy and schedule that wrote the backup no longer exist.
- If the retention level of the schedule that wrote the backup has not changed since the backup was created.

If the backup is on removable media, the expiration date of the media is also changed if the new expiration date of the backup is later than the current media expiration date.

`-servername` *server_name*

Specifies the name of a server that the expiration date change affects. The server name refers to a field of the image fragment record where the fragment resides. This server is the media server that performs the data movement. For snapshots, this server is the client where the snapshot resides.

This command requires `bpnbat -login` when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when approved, changes the expiration date of the image. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

`-stype` *server_type*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. The cloud `stype` values reflect the cloud storage provider. Determine the possible values with the `csconfig` command, as shown. The information in bold (bold added for emphasis) is the required information for the `-stype` option. Please note the output of the `csconfig` command can change based on the currently supported providers.

```
root:~# csconfig cldprovider -l

amazon (Amazon - Simple Storage Service)
amazongov (Amazon GovCloud - Simple Storage Service)
azure (Microsoft Azure - Microsoft Azure Storage Service)
cloudian (Cloudian HyperStore - Cloudian HyperStore
Object Storage)
google (Google Nearline - Google Cloud Storage Nearline)
hitachi (Hitachi Cloud Service (HCS) - Hitachi Off Premise
Public Cloud)
hitachicp (Hitachi Content Platform (HCP) - Hitachi On
Premise Private Cloud)
swiftstack (SwiftStack - SwiftStack Object Storage)
verizon (Verizon - Verizon Cloud Storage)
```

  Cloud storage `stype` values must incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:

  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the raw data before it is written to the cloud storage.
  - `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
  - `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case sensitive.

This command requires `bpnbat -login` when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when

approved, changes the expiration date of the image. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

OPTIONS

`-bybackuptime`

Specifies that the expiration date is set to the backup creation date plus the retention level value that was used for the backup.

`-client` *name*

Specifies the client name for the `-backupid` and `-recalculate` operations.

For the `backupid` operation, this option causes NetBackup to first search for the backup ID for the specified client. This option is useful if the client name has changed.

For `recalculate`, this option causes NetBackup to recalculate the expiration date to be based on the retention level for all the specified client backups.

`-copy` *number*

Expires or changes the expiration date of the specified copy number and is valid only with the `-backupid` and `-recalculate` options. Valid values are `1` through 10.

If the primary copy is expired, the other copy becomes the primary copy. If this option is not specified, the expiration affects both copies of the backup.

`-d` *date*

Specifies the expiration date and time. *date* can be any one of the following:

- *mm/dd/yy hh:mm:ss*
- `0` - the backup or media expires immediately
- `infinity` - the backup never expires

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more about the locale of your system, see "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

-deassignempty

Searches the catalog for the removable media that no longer contain valid backups. It removes the media from the media catalog. The media is then available to use again. You can use the NetBackup Images on Media report to determine if the assigned media no longer contain valid backups.

-do_not_follow_dependee

By default, when a dependent image is expired, an eligible dependee image is also expired. The -do_not_follow_dependee option overwrites this behavior, so that the image expiration does not affect the dependee image.

-dp *disk_pool_name -dv disk_volume*

Specifies the disk pool and, optionally, the disk volume for the expiration date operation to be performed.

-extend_worm_locks

Use the -extend_worm_locks option to extend the expiration date of a WORM copy. WORM copy expiration time can never be shortened. By default, expiration for WORM copies cannot be extended. This option must be provided to allow the extension of expiration time for WORM copies. If you use the -extend_worm_locks option without the -copy option, the -extend_worm_locks option has no effect on non-WORM copies. If you use both the -extend_worm_locks and the -copy options and that copy you specify is non-WORM, the command fails.

If no WORM copies are specified, this option has no effect unless -copy option is also specified.

-force

Before you run the specified operation, bpexpdate queries before it starts the operation. This option forces the bpexpdate command to carry out the operation without querying the user.

-force_not_complete

By default, an SLP-managed image or its copies cannot be expired if SLP processing is still in progress. The -force_not_complete option overrides this restriction and expires the image even if it is not SLP complete. Note that when you terminate further SLP processing of an image, other image copies may expire as well.

-host *name*

Note: For the NetBackup server, this option is not required because only one server (the master) exists. If you do use the option, specify the host name of that server.

Specifies the host name of the server to which the media is assigned. This option should be used only with the `-m media_id` option, and then only if the following is true: The master has remote media servers and the volume was not written on the server where you run `bpexpdate`.

For example, assume that you have a master server named whale and a media server named eel. You run the following command on whale to remove media ID BU0001 manually from the media catalog and all corresponding backups from the image catalog:

```
bpexpdate -m BU0001 -d 0 -host eel
```

You can use the NetBackup Media List report to determine which server's media catalog has the volume.

`-m media_id`

Checks if valid backups exist on this particular media ID. This option is used only with the `-deassignempty` option. The media ID must be six or fewer characters and must be in the NetBackup media catalog. This option specifies removable media only, and not images on disk.

This command requires `bpnbat -login` when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when approved, changes the expiration date of the image. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

`-M master_server [,...]`

Specifies the master server that manages the media catalog that has the media ID. If this option is not specified, the default is one of the following:

For NetBackup Server:

NetBackup Server supports only one server (the master) with no remote media servers. Therefore, the default in this case is always the master server where you run the command.

For NetBackup Enterprise Server:

If the command is run on a master server, then that server is the default. If the command is run on a media server that is not the master, then the master for that media server is the default.

`-nodelete`

Deletes the backup from the image catalog but does not delete it from the disk storage. Use this option when you unimport a disk group from one master server and import the disk group to a different master server.

When used with the -try_expire_worm_copy option, WORM copies are removed from the NetBackup catalog, but deletion from storage is not attempted. Without the -try_expire_worm_copy option, -nodelete does not remove WORM copies from the NetBackup catalog if their ExpireTime and WormUnlockTime are not elapsed.

-notimmediate

Inhibits the call that bpexpdate makes to the nbdelete command after it expires an image on disk. If you intend to delete many images at the same time, use -notimmediate to avoid the overhead of multiple job creation for nbdelete to process. You can then run the nbdelete command later.

-policy *name*

Specifies the policy name and is valid with the -recalculate option. When the policy name is specified, the expiration is recalculated based on the retention level for all backups that are created in this policy.

-recalculate

Allows the expiration date of backups to be changed based on the specified retention level, or you can specify a new expiration date. You must specify either the -d or -ret option with this option. When the expiration changes according to retention level, the new date is based on the creation date of the backup plus the retention level value. You can change the expiration for a single backup, or for all backups for a particular client, policy, or schedule type.

If the backup is on removable media, the expiration in the media catalog changes if the command expiration is greater than the current expiration.

This command requires bpnbat -login when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when approved, changes the expiration date of the image. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

-refresh_worm_locks

Reads the WORM unlock time for an image or an image copy from storage and updates it in the catalog. This option can be used only with -backupid, -copy, and -Bidfile options. If no copies are specified, this option refreshes all WORM-locked copies of the image. This option only refreshes WORM unlock time and does not update the WORM flags.

-ret *retention_level*

Specifies the retention level to use when you recalculate expiration dates and is valid with the -recalculate option. Levels range from 0 to 100. The new

expiration date is the backup's creation date plus this retention level. You must specify either `-backupid` or `-policy` with this option.

Note: If you run this command on a pre-NetBackup 8.0 media server, you can only specify a retention level between 0 and 24.

`-sched` *type*

Specifies the schedule type and is valid with the `-recalculate` option. When the type is specified, the expiration is recalculated based on the retention level for all backups that are created with this schedule type. Enter a numeric value for type as follows:

`0` = Full

`1` = Differential Incremental

`2` = User Backup

`3` = User Archive

`4` = Cumulative Incremental

The `-policy` option must be specified with `-sched`.

`-try_expire_worm_copy`

Attempts to expire the WORM copies even if their `ExpireTime` and `WormUnlockTime` are not yet elapsed. If the storage device continues to enforce the copy's indelible time, the copy is retained in the NetBackup catalog. The `WORM Unlock Time` is updated if necessary. See `nbdelete -list` to manage NetBackup's deletion worklist. This option requires that the `-copy` or the `-nodelete` parameter are also specified.

NOTES

Some options in large environments can take a significant amount of time to complete. Changes that cause backups or media to expire are irrevocable. You may be required to import backups or recover previous versions of the catalogs if you make mistakes by using this command.

EXAMPLES

Example 1 - The following command runs on the master server and removes media ID BU0002 from the media catalog. It deassigns the media ID in the media manager catalog. It also expires associated image records in the image catalog.

```
# bpexpdate -m BU0002 -d 0
```

Example 2 - Change the expiration of copy 2 of `backupid` eel_0904219764. It does not affect the expiration of copy 1 of the backup.

```
# bpexpdate -backupid eel_0904219764 -d 12/20/2012 08:00:00 -copy 2
```

Example 3 - Remove the backup from the image catalog. Since the `-copy` option is not specified, all copies are removed.

```
# bpexpdate -backupid eel_0904219764 -d 0
```

Example 4 - Check for media in the media catalog of host `cat` that is still assigned, but no longer contain valid backups. The command removes any such media from the catalog and deassigns them in the media manager catalog.

```
# bpexpdate -deassignempty -host cat
```

Example 5 - Recalculate the expiration date of backup ID 1234 to the date 10/31/2012.

```
# bpexpdate -recalculate -backupid 1234 -d 10/31/12
```

Example 6 - Recalculate the expiration date of backup ID 1234 based on a retention level. The new retention level is 4 which is two months (default value). Backup ID 1234 is now scheduled to expire in 2 months.

```
# bpexpdate -recalculate -backupid 1234 -ret 4
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/media/*
/usr/openv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\media\*
nstall_path\NetBackup\db\images\*
```

bpfis

`bpfis` – create or delete a snapshot, or return information about existing snapshots

SYNOPSIS

bpfis delete [-force] -id *id* -copy *copynum*

bpfis query [-fq] [-id *id* -copy *copynum*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bpfis` command can delete or query (discover) snapshots of a client system (file system or volume).

Note: To store the image on tape or other media requires that you run a separate backup job.

For more information about the locale of your system, see "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

For detailed examples and procedures about using `bpfis`, see the *NetBackup Snapshot Client Administrator's Guide*.

You must have administrator privileges to run this command.

OPTIONS

`-copy` *copynum*

Identifies the copy number. When used with the query function, `-copy` lists detailed information for the specified copy number of the snapshot. With the delete function, `-copy` specifies the copy number of the snapshot to be deleted.

`delete`

Deletes the snapshot that `-id` identifies.

`-force`

Forces the delete operation.

`-fq`

Generates a full query which includes a detailed description and information about a given snapshot.

`-id`

Returns the path of the original file system (snapshot source) and the path of the snapshot file system. The default ID is a timestamp that shows when the image was created.

For `bpfis delete`, this option designates the ID of the snapshot to be deleted.

For `bpfis query`, this option designates the ID of the snapshot for which to return information.

`query`

Retrieves detailed information on the specified snapshot of a client system.

EXAMPLES

Example 1 - Obtain information about a particular snapshot on the local host. The output shows the path of the snapshot source (UNIX: `/mnt/ufscon`) and the path of the snapshot file system (UNIX: `/tmp/_vrts_frzn_img_26808/mnt/ufscon`).

```
# bpfis query -id 1034037338
INF - BACKUP START 26838
INF - Frozen image host : ricochet
INF - Frozen image owner: GENERIC
INF - Time created      : Mon Oct  7 19:35:38 2011
INF - REMAP FILE BACKUP /mnt/ufscon USING (UNIX systems)
INF - REMAP FILE BACKUP E: USING GUID (Windows systems)
/tmp/_vrts_frzn_img_26808/mnt/ufscon (UNIX systems)
OPTIONS:ALT_PATH_PREFIX=/tmp/_vrts_frzn_img_26808,FITYPE=MIRROR,
MNTPOINT=/mnt/ufscon,FSTYPE=ufs (UNIX systems)
MNTPOINT=E:\,FSTYPE=NTFS (Windows systems)
INF - EXIT STATUS 0: the requested operation was successfully completed
```

Example 2 - Delete a snapshot on the local host:

```
# bpfis delete -id 1034037338
INF - BACKUP START 26839
INF - EXIT STATUS 0: the requested operation was successfully
completed
```

bpflist

`bpflist` – list the backed up and archived files on the NetBackup server

SYNOPSIS

bpflist [-l | -L | -U] [-v] [-M *master_server*,...] [-d *mm/dd/yyyy hh:mm:ss*] [-e *mm/dd/yyyy hh:mm:ss*] [-ut *unixtime*] [-bt *unixtime*] [-st *sched_type*] [-policy *policy_name*] [-client *client_name*] [-keyword *keyword_phrase*] [-pattern *fullpath*] [-pt *policy_type*] [-user *name*] [-group *name*] [-raw *mode*] [-backupid *name*] [-psep *path_separator_character*] [-malgo *match_algorithm*] [-rl *recursion_level*] [-option *option* ...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `bpflist` command shows a list of previously archived or backed up files according to the options that you specify. This command is available only on NetBackup servers and can be run only by authorized users. This command is similar to the `bplist` command that is available on all NetBackup hosts including clients.

The list can be reported in the following ways:

`-l` Generates the report in short mode and is the default condition. This terse listing is useful for the scripts or programs that rework the listing contents into a customized report format. See Example 1.

`-L` Generates the report in long mode.

`-U` Generates the report in user mode with a text header for each result. The values are comma-separated. See Example 2.

OPTIONS

`-backupid` *name*

Specifies a backup ID to use for finding images to list.

-bt *unixtime*

Sets the start date to the specified UNIX time. the -bt option is an alternative to the -d option.

-client *client_name*

Specifies a client name to use for finding backups or archives to list. By default, bpflist uses the name of the host that runs the command.

-d *mm/dd/yyyy hh:mm:ss* -e *mm/dd/yyyy hh:mm:ss*

Specifies the start date and end date range for the listing as follows:

- -d specifies a start date and time for the listing. The output list shows only files from backups or the archives that occurred at or after the specified date and time. The -d default is the previous midnight.
- -e specifies an end date and time for the listing. The output list shows only files from backups or the archives that occurred at or before the specified date and time. The -e default is the current date and time.

The start date and end date have the same format. The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07.

The required date and time values format in NetBackup commands varies according to your locale. The /usr/openv/msg/.conf file (UNIX) and the *install_path*\VERITAS\msg\LC.CONF file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more information about the locale of your system, see "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

-group *name*

Specifies the group that can access and list the files. Only the files accessible by the group can be listed. This option takes effect only if the -malgo option is set to 3.

-keyword "*keyword_phrase*"

Specifies a keyword phrase for NetBackup to use when it searches for backups or archives from which to list files. The phrase must match the one that was previously associated with the backup or archive by the bpbackup -k command or the bparchive -k command. You can use this option in place of or in combination with the other options to make it easier to select backups and archives.

Use the following meta-characters to help match keywords or parts of keywords in the phrase:

- * matches any string of characters.
- ? matches any single character.
- [ ] matches the sequence of characters that is specified within the brackets.
- [-] matches the range of characters that is separated by the hyphen ("-").

The keyword phrase can be up to 128 characters in length. All printable characters are permitted including a space and a period (".") . The phrase must be enclosed in double quotes ("...") or single quotes (‘...’). The default keyword phrase is the null (empty) string.

`-M` *master_server,...*

Specifies a comma-delimited list of host names that represent one or more alternative master servers. Each master server in the list runs the `bpflist` command. If an error occurs on any master server, the process stops at that point. The report is the composite of the information that all the master servers in this list return. The `bpflist` command queries each of these master servers. The master server returns image or media information from the image catalogs. Each master server must allow access by the system that issues the `bpflist` command. The default is the master server for the system running `bpflist`.

`-malgo` *match_algorithm*

Names the file or directory to list. Any files or directories that you specify must be listed at the end, following all other options. If you do not specify a path, the default is the current working directory. The valid values are as follows:

- `0` (MA_DEFAULT)
- `1` (MA_AWBUS)
- `2` (MA_USE_GMATCH)
- `3` (MA_WITH_SECURITY)

`-option` *option ...*

Specifies a list of space-separated options that affect the operation of the command. Possible values of *option* are the following:

```
NONE
FILESYSTEM_ONLY
GET_ALL_FILES
GET_PRIMARY_COPY_NUM_BLOCKS (Return the number of blocks in the
     primary copy)
IGNORE_CASE
INCLUDE_BITMAP
INCLUDE_EDI (Include EDI images)
INCLUDE_EFI (Include EFI system partition images)
```

```
INCLUDE_FSMAP
INCLUDE_HIDDEN_IMAGES (Include hidden images)
INCLUDE_RAW_INCR (Include raw incremental images)
INCLUDE_TIR (Include True Image Restore images)
NO_HSHAKE (Continue sending data even if the socket is not ready)
ONE_CONNECT (Run multiple queries on a single connection)
ONE_PASS (Return all files at once)
ONLY_DIRS(Return only directories)
ONLY_ENV_VARS (Return only NDMP environment variables)
ONLY_FIRST_FRAGMENT
ONLY_INPROGRESS_IMAGES (Return only in progress or unvalidated
     images)
ONLY_SC_CLIENT_TYPES
ONLY_TIR (Return only TIR images)
ONLY_VM_FILES (Return only virtual machine images)
STR2FILE_ENTRY_FORMAT
```

`-pattern` *fullpath*

Only files matching the specified pattern are listed.

`-policy` *policy_name*

Names the policy to search to produce the list. If not specified, all policies are searched.

`-psep` *path_separator_character*

Specifies the path separator character.

`-pt` *policy_type*

Specifies a policy type. By default, `bpflist` searches for all policy types. The *policy_type* is one of the following character strings:

```
Auspex-FastBackup
BigData
DataStore
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
FlashBackup-Windows
Hyper-V
Informix-On-BAR
LotusNotes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
```

MS-Windows
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Vault
VMware

-raw *mode*

Specifies the raw partition mode.

-rl *recursion_level*

Recursively lists the subdirectories that are encountered to the specified depth.

-st *schedule_type*

Specifies the schedule type for the selection of the backup images for which the primary copy is changed. By default, bpchangeprimary uses any schedule type. Valid values are as follows:

FULL (full backup)

INCR (differential-incremental backup)

CINC (cumulative-incremental backup)

UBAK (user backup)

UARC (user archive)

NOT_ARCHIVE (all backups except user archive)

SCHED (FULL, INCR, CINC, TLOG)

USER (UBAK and UARC)

TLOG (transaction logs)

ANY (any of the previous types)

-user *name*

Specifies the user that can access and list the files. Only the files accessible by the user can be listed. This option takes effect only if the -malgo option is set to 3.

-ut *unixtime*

Specifies an alternative to the -d and -e options and sets the start date and end date to the specified UNIX time. Use this option to specify a single backup or archive to list.

-v

Generates the report in verbose mode and displays log messages on the console.

EXAMPLES

Example 1 - On a UNIX system, search for the path `/images` in backups since unix time 1380000000. The list is in short mode (default condition).

```
# bpflist -client cl2 -bt 1380000000 -rl 0 -pt Standard -pattern /images

FILES 10 0  0 1383577314 0 cl2 test cl2_1383577314 - *NULL* 1 0 unknown
   unknown 0 0 *NULL* 1 0 19 50 8 1 0 0 2051 /images/ 16877 root root 0
   1383334897 1382366087 1383559354
FILES 10 0  0 1383334895 0 cl2 test cl2_1383334895 - *NULL* 1 0 unknown
   unknown 0 0 *NULL* 1 0 19 50 8 1 0 0 2051 /images/ 16877 root root 0
   1383331790 1382366087 1383296672
FILES 10 0  0 1383331752 0 cl2 test cl2_1383331752 - *NULL* 1 0 unknown
   unknown 0 0 *NULL* 355 0 19 50 1708556 1 0 0 2051 /images/ 16877 root
   root 0 1382647177 1382366087 1383296672
```

Example 2 - Display the listing in user (-U) mode.

```
# bpflist -client cl2 -bt 1380000000  -rl 0 -pt Standard -pattern /images -U

Client:            cl2
Policy:            test
Backup ID:         cl2_1383577314
Backed up:         Mon 04 Nov 2013 09:01:54 AM CS (1383577314)
Software Version:  ?
Policy Type:       Standard
Schedule Type:     FULL
Version:           10
Keyword:           ?
Num Files:         1
Files:
FN=1 L=0 PL=19 DL=50 BK=8 II=1 RS=0 GB=0 DN=2051 P=/images/ D=16877 root
root 0 1383334897 1382366087 1383559354

Client:            cl2
Policy:            test
Backup ID:         cl2_1383334895
Backed up:         Fri 01 Nov 2013 02:41:35 PM CD (1383334895)
Software Version:  ?
```

```
Policy Type:        Standard
Schedule Type:      FULL
Version:            10
Keyword:            ?
Num Files:          1
Files:
FN=1 L=0 PL=19 DL=50 BK=8 II=1 RS=0 GB=0 DN=2051 P=/images/ D=16877 root
root 0 1383331790 1382366087 1383296672
```

SEE ALSO

See bparchive on page 51.

bpgetconfig

bpgetconfig – get configuration information

SYNOPSIS

bpgetconfig -M [-x | -X | -d | -D] [*config_item* ...]

bpgetconfig [-u | -h] [-x | -X | -d | -D] [*config_item* ...]

bpgetconfig -g *server* [-L | -U | -l] [-c] [-A]

bpgetconfig -s *server* [-L | -U | -l] [-c] [-A]

bpgetconfig -i | -e *filenameclient* [*policy* [*schedule*]]

bpgetconfig -private_exld_list

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpgetconfig can be used as a stand-alone program or as a helper program for the backuptrace and the restoretrace commands to obtain configuration information. This command is available for all NetBackup server platforms. It displays the configuration information of a specified server in various formats.

bpgetconfig also retrieves general host information from a specified host server by using the -g or -s option.

You must have administrator privileges to run this command.

OPTIONS

-A

Displays all available system information. The -A option can be used only with the -g or -s option.

`-c`

Displays the ciphers, one per line, that are appended to the `-g` or `-s` option output. The `-c` option can be used only with the `-g` or `-s` option.

`-D | -d`

The `-D` option returns a listing of configuration entry names, the existing configuration values in brackets, and the default configuration values in parentheses. This operation can be performed locally or remotely. The remote machine with an identical version of NetBackup is installed. The `-D` and `-d` options may be combined with the `-M`, `-h`, and `-u` options.

The following is a portion of a full display of all configuration items:

```
...
REQUEST_DELIVERY_TIMEOUT          [300]              (300)
DISABLE_SCSI_RESERVE              [NO]               (NO)
Time_Overlap                      [60]               (60)
Buffer_Size                       [16]               (16)
Use_Archive_Bit                   [YES]              (YES)
Perform_Default_Search            [YES]              (YES)
Accumulate_Files                  [NO]               (NO)
...
```

The `-d` option functions like the `-D` option, except `-d` displays only the entries that are changed from the configuration defaults. The following is an example display:

```
...
PEM_VERBOSE                       [-1]                    (0)
JM_VERBOSE                        [-1]                    (0)
RB_VERBOSE                        [-1]                    (0)
CONNECT_OPTIONS                   [**configured**]        ()
Exclude                           [**configured**]        ()
Browser                           [host1.min.vrts.com]    ()
AUTHENTICATION_DOMAIN             [**not configured**]    ()
VXSS_NETWORK                      [**not configured**]    ()
PREFERRED_NETWORK                 [**not configured**]    ()
...
```

`-e` *`filenameserver`* [*`class`* [*`schedule`*]]

Retrieves the `exclude_list` file from *server* and writes it to the location specified by *filename*. The *policy* and *schedule* qualifiers allow the `exclude_list.`*`policy`* file and the `exclude_list.`*`policy`*.*schedule* to be retrieved. The files in the exclude list are excluded from being backed up.

This option applies only to UNIX.

`-g server`

Selects the host server (*server*) for which the following general NetBackup information appears:

- Master or Client
- NetBackup Client Platform
- NetBackup Client Protocol Level
- Product Type
- Version Name
- Version number
- Installed Path for NetBackup Bin
- Installed OS for host server

The `-g` option is not supported for the MSDP server.

`-h`

Displays the default local host configuration.

`-i filenameserver [class [schedule]]`

Retrieves the `include_list` file from *server* and writes it to the location specified by *filename*. The *class* (policy) and *schedule* qualifiers allow the `include_list.class` file and the `include_list.class.schedule` to be retrieved. The files in the include list are the exceptions to the exclude list. They are therefore included in a backup operation.

This option applies only to UNIX.

`-L`

Displays a long, user-readable list. The `-L` option can be used only with the `-g` or `-s` option.

`-l`

Displays a compact, machine-readable list. The `-l` option can be used only with the `-g` or `-s` option.

`-M host`

Specifies the host whose configuration appears.

`-private_exld_list`

Lists all the directories and files that are excluded by default from a backup.

`-s` *server*

Selects the host server (*server*) for which `bpgetconfig` outputs the following field information:

- Field 1 = Server type (master, media, or client)
- Field 2 = OS type of the specified server
- Field 3 = NetBackup client protocol level
- Field 4 = NetBackup product type (e.g., NetBackup)
- Field 5 = NetBackup version name (e.g., 8.0)
- Field 6 = NetBackup version number (e.g., 800000)
- Field 7 = Installation path to the NetBackup bin on the server
- Field 8 = Installed OS for host server

The `-s` option is not supported for the MSDP server.

`-t`

Displays the tier information, one item per line, that is appended to the -s option output. The `-t` option can be used only with the `-g` or `-s` option.

`-U`

Displays a brief, user-readable list (default). The `-U` option can be used only with the `-g` or `-s` option.

`-u`

Displays the current user configuration.

`-X`

Lists all configuration items by default. The `-x` and `-X` options may be combined with the `-M`, `-h`, and `-u` options. The `-x` and `-X` options have no effect if one or more configuration items are specified on the command line.

If *config_item* is specified, it appears on the specified configuration items.

`-x`

Excludes the items not explicitly listed in the configuration.

EXAMPLES

Example 1 - Retrieve the VERSIONINFO option setting from the bp.conf file.

```
# bpgetconfig VERSIONINFO
VERSIONINFO = "SunOS" "5.9" "Unknown" "NetBackup" "8.0" 800000
```

Example 2 - Retrieve all available system information and display a long, user-readable list.

```
# bpgetconfig -s hagar -A -L
Client/Master = Master
NetBackup Client Platform = Solaris9
NetBackup Client Protocol Level = 8.0
Product = NetBackup
Version Name = 8.0
Version Number = 800000
NetBackup Installation Path = /usr/openv/netbackup/bin
Client OS/Release = SunOS 5.9
Cipher =
Patch Level = 8.0
```

Example 3 - On a UNIX system, retrieve the file `exclude_list` from client `sun01` and write it to `sun01_exclude_list` in directory `/usr/openv/netbackup/lists`.

```
# bpgetconfig -e /usr/openv/netbackup/lists/sun01_exclude_list sun01
```

Example 4 - Retrieve the list of directories and files that are by default excluded from a backup.

```
#bpgetconfig -private_exld_list

Total Number of Entries in Exclude List : 23
/usr/openv/var/global/vxss/
/usr/openv/var/global/wsl/credentials/
/usr/openv/var/session/
/usr/openv/var/vxss/at/
/usr/openv/var/vxss/credentials/
/usr/openv/var/vxss/crl/
/usr/openv/var/websvccreds/
/usr/openv/var/global/wmc/cloud/*.pem
/usr/openv/var/global/webrootcert.pem
/usr/openv/var/global/.yekcnedwssap
/usr/openv/var/global/jkskey
/usr/openv/var/keyfile.dat
/opt/VRTSnbu/var/global/vxss/
/opt/VRTSnbu/var/global/wsl/credentials/
/opt/VRTSnbu/var/session/
/opt/VRTSnbu/var/vxss/at/
/opt/VRTSnbu/var/vxss/credentials/
/opt/VRTSnbu/var/vxss/crl/
/opt/VRTSnbu/var/websvccreds/
```

```
/opt/VRTSnbu/var/global/webrootcert.pem
/opt/VRTSnbu/var/global/.yekcnedwssap
/opt/VRTSnbu/var/global/jkskey
/opt/VRTSnbu/var/keyfile.dat
```

SEE ALSO

See bpsetconfig on page 420.

See nbgetconfig on page 718.

See nbsetconfig on page 874.

bpgetdebuglog

`bpgetdebuglog` – Run helper program for `backuptrace` and `restoretrace`. Prints out debug log file. Useful as a stand-alone program.

SYNOPSIS

bpgetdebuglog*remote_machine* [*remote_program mmddyy* [user_name|user_name@domain_name]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

If all arguments are specified, `bpgetdebuglog` prints the contents of the specified debug log file to standard output. If only *remote_machine* is specified, `bpgetdebuglog` prints to standard output the number of seconds of clock drift between the local computer and the remote machine. A positive number means that the local computer is ahead of the remote machine. A negative number means that the remote machine is ahead of the local computer.

If the *user_name* option is specified, the command fetches only those log files which are appended with the specified user name. On Windows platforms, the command input format requires username along with the machine or domain name (*user_name*@*domain_name*). For the log folders that do not have read-access granted, the command returns a **Permission Denied** error.

The `bpgetdebuglog` command must be in the specified directory (see SYNOPSIS) for `backuptrace` and `restoretrace` to use it.

You must have administrator privileges to run this command.

OPTIONS

remote_machine

Name of the remote server.

remote_program

Name of the debug log directory on the remote server.

mmddyy

The day stamp that is used to identify the log file (log.mmddyy for UNIX, mmddyy.log for Windows) to be read.

user_name

The name of the user for whom the debug log files are fetched.

user_name@domain_name

The name of a non-administrator user along with the domain name or machine name from where the debug log files are fetched.

EXAMPLES

```
# bpgetdebuglog peony bpcd 071214
# bpgetdebuglog peony
# bpgetdebuglog peony bpcd 071214 Bob@example
```

bpimage

`bpimage` – perform functions on stored images in a database

SYNOPSIS

bpimage -[de]compress [-allclients | -client *name*] [-M *master_server*,...][-update_compression]

bpimage -npc *copy_number* -backupid *backupid* [-client *name*] [-M *master_server*,...]

bpimage -newserver *newserver_name* [-oldserver *oldserver_name*] [-id *id* | -newdiskpool *new_diskpool* -olddiskpool *old_diskpool*] [-M *master_server*,...]

bpimage -deletecopy *copy_number* -backupid *backupid* [-M *master_server*,...]

bpimage -testlock *copy_number* -backupid *backupid* [-M *master_server*,...]

bpimage -prunetir [-allclients | -client *name*] -cleanup [-notimmediate] [-M *master_server*,...]

bpimage -cleanup_image_change_log [-M *master_server*,...]

bpimage -gendrreport -backupid *backupid* [-M *master_server*,...]

bpimage -wff *pathbytes* -backupid *backupid* [-client *name*] [-M *master_server*,...]

bpimage -update [-rfile 0|1 | -filesysonly 0|1 | -numfiles *number* | [-image_dtemode Off|On] | -keyword *keyword_phrase* | -objdesc *string*] [-client *name* -policy *name* -t *type* -d *mm/dd/yyyy hh:mm:ss*] [-id *id*] [-M *master_server*,...]

bpimage -ica_restore [-d *mm/dd/yyyy HH:MM:SS*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

This command can be used to perform many different functions to images that are stored in a database. Some of the functions are as follows:

- Compress and decompress the stored images.
- Remove existing images from the database.
- Test the locking capability on an image.
- Update existing images in the catalog.

OPTIONS

The following options represent the criteria that determine which images or media are selected for the report. Where images are discussed in these options, media can be substituted if the context refers to a media report.

`-allclients`

Selects all NetBackup clients that are already backed up on the system.

`-backupid` *`backup_id`*

Specifies a backup ID to use for finding applicable images.

`-cleanup`

Deletes expired images, compresses the images that are scheduled to be compressed, and prunes the TIR information from the specified images.

When multi-person authorization is enabled, you cannot perform this operation using the command-line interface. Refer to the documentation for NetBackup status code 9382.

Note: This option enables a user to accomplish the same tasks manually that the scheduler performs on a regular basis. It can be used when the user does not have enough time to wait for the scheduler to perform these tasks.

`-cleanup_image_change_log`

Cleans up the image change on the current master server and optionally, on other master servers that are specified by the `-M` option.

When multi-person authorization is enabled, you cannot perform this operation using the command-line interface. Refer to the documentation for NetBackup status code 9382.

`-client` *`name`*

Specifies a client name to use for finding backups or archives on which to perform the specified function. The client name that `bpimage` searches for is

case insensitive. For example, `bpimage` displays images from `client`, `cLiEnT`, and `CLIENT`. By default, `bpimage` searches for images on all clients.

`-d` *`date`*

Specifies the start date and end date range for the listing.

`-d` specifies a start date and time for the listing. The list shows only images in backups or the archives that occurred at or after the specified date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *`install_path`*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more about the locale of your system, see "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the previous midnight.

`-[de]compress`

Initiates compression or decompression of a specified client or all clients.

`-deletecopy` *`copy_number`*

Removes the images that the copy number and the *backup_id* specify.

This command requires `bpnbat -login` when multiperson authorization is enabled for the image expiration operation. A ticket is generated which, when approved, changes the expiration date of the image. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

`-filesysonly 0|1`

Limits `bpimage` to query only the local file system if set to 1.

`-gendrreport`

Generate a disaster recovery report for the specified *backup_id*.

`-ica_restore`

Restores the catalog `.f` files for the images that are Intelligent Catalog Archived. Accepts the `-d` option for a date range.

`-id` *`id`*

Specifies the media ID when used with the -newserver command or specifies the backup ID when used with the `-update` command.

`-image_dtemode Off|On`

If DTE was enabled for a backup job, the DTE image mode is set to `On`. If DTE image mode is `On`, DTE is enabled for all secondary operations on the image. You can change the DTE image mode with the `bpimage -update -image_dtemode Off|On` command.

`-keyword "`*`keyword_phrase`*`"`

Specifies a keyword phrase for NetBackup to use when it searches. The phrase must match the phrase that was previously associated with the image.

`-M` *`master_server,...`*

Specifies a list of alternative master servers. This list is a comma-delimited list of hostnames. Each master server in the list runs the `bpimage` command. If an error occurs for any master server, the process stops at that point.

The report is the composite of the information that all the master servers in this list returns. `bpimage` queries each of these master servers. The master server returns image or media information from the image catalogs. Each master server must allow access by the system that issues the `bpimage` command.

The default is the master server for the system running `bpimage`.

`-newdiskpool` *`diskpoolname`* `|` `-olddiskpool` *`diskpoolname`*

Specifies the new or the old disk pool on the media server. These options are used with the `newserver` and `oldserver` flags to update existing NetBackup images in the NetBackup catalog.

`-newserver` *`name`* `|` `-oldserver` *`name`*

Specifies the new name or the old name of a NetBackup server.

`-notimmediate`

Inhibits the call that `bpexpdate` makes to the `nbdelete` command after it expires an image on disk. If you intend to delete many images at the same time, use `-notimmediate` to avoid the overhead of multiple job creation for`nbdelete` to process. You can run the `nbdelete` command later.

`-npc` *`copy_number`*

Sets the specified image as the primary image, which is based on the copy number of the image.

`-numfiles` *`number`*

Specifies the number of files when used with the `-update` command.

`-objdesc` *`string`*

Specifies the object description string of the Informix client type when used with the `-update` command.

-policy *name*

Searches for backups to import in the specified policy. The default is all policies.

-prunetir

Prunes the true image restore (TIR) information from the specified clients. The default is all clients.

-rfile 0|1

Use the Restore file when used with the -update command.

-t *type*

Specifies a policy type. By default, bpimage searches for all policy types. *type* is one of the following character strings:

```
Informix-On-BAR
MS-Exchange-Server
MS-SQL-Server
MS-Windows
Oracle
Standard
Sybase
Universal-share
NDMP
```

The following policy types apply only to NetBackup Enterprise Server:

```
BigData
DataTools-SQL-BackTrack
DB2
FlashBackup
SAP
Split-Mirror
```

-testlock

Determines if the copy for the specified backup ID is locked.

-update

Updates an image that is based on the chosen parameter.

-update_compression

Tells NetBackup to uncompress the images that were compressed with the old compression algorithm and recompress them with the new algorithm. The -update_compression flag only applies used with the -compress option.

A new compression algorithm was deployed with NetBackup 7.6. With the old algorithm, the NetBackup .f files have a file name extension of .Z on Linux or UNIX. With the new algorithm, they have either a .Zs or .Zl extension. The

`.Zs` extension designates the files that are compressed with user-specified scripts and is only used on Linux and UNIX. The `.Zl` extension is for the files that are compressed internally by NetBackup and is used on Windows, Linux, and UNIX platforms.

`-wff` *`path bytes`*

Writes the files file (image `.f` file) for the backup that is specified with `-backupID`.

EXAMPLES

Example: This example determines if the specified copy for the backup ID is locked.

```
# bpimage -testlock 1 -backupid abc123.server.domain.com_1416316372
Backupid abc123.server.domain.com_1416316372 copy 1 is not locked
```

bpimagelist

bpimagelist – produce status report on NetBackup images or removable media

SYNOPSIS

bpimagelist [-media] [-l | -L | -U | -idonly] [-tape] [-d *date*] [-e *date*] [-hoursago *hours*] [-keyword "*keyword phrase*"] [-client *client_name*] [-server *server_name*] [-backupid *backup_id* | -image_dtemode Off|On] [-option INCLUDE_PRE_IMPORT | INCLUDE_TIR | LIST_COMPLETE_COPIES | LIST_OLD_TO_NEW | ONLY_PRE_IMPORT | ONLY_TIR | INCLUDE_DELETE_PENDING] [-policy *policy_name*] [-pt *policy_type*] [-rl *retention_level*] [-sl *sched_label*] [-st *sched_type*] [-class_id *class_guid*] [-stl_complete] [-stl_incomplete] [-stl_name *storage_lifecycle_name*] [-M *master_server*,...] [-inter-domain] [-v] [-oracle_copilot_ir][-copy_dtemode Off|On] [-hierarchical_dtemode Off|On]

bpimagelist -changelog [-L | -json | -json_compact] [-min_changelog_key*key*] [-d *mm/dd/yyyy hh:mm:ss*] [-e *mm/dd/yyyy hh:mm:ss*] [-new_images] [-updated_images] [-deleted_images]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpimagelist uses a specified format to report on catalog images or the removable media that matches the attributes that are sent from the command options. bpimagelist reports on the removable media if the -media option is on the command line. If not, it reports on the catalog images.

The bpimagelist -changelog option reports on records in the image change log. You can filter the report to only new images, updated images, or deleted images.

It writes its debug log information to the following directory:

On UNIX systems: /usr/openv/netbackup/logs/admin

On Windows systems: *install_path*\NetBackup\logs\admin

You can use the information in this directory for troubleshooting.

The output of `bpimagelist` goes to standard output.

Authorized users can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

Note: For the NetBackup Accelerator feature, `bpimagelist` reports the amount of data that was transferred over the network for each backup. You can also configure the command to show the transferred data in the field that normally shows the Accelerator backup image size. For details, see the Accelerator topics in the *NetBackup Administrator's Guide Volume I*, the *NetBackup for VMware Administrator's Guide*, and the *NetBackup NAS Administrator's Guide*.

OPTIONS

The following are the `bpimagelist` options:

`-backupid` *backup_id*
: Specifies a backup ID to use for finding applicable images (applies only to the image list).

`-changelog`
: Reports on the records from the image change log.

`-class_id` *class_guid*
: Specifies a class identifier to use to select images. The identifier represents a GUID (globally unique identifier). The `bpimagelist` command reports only those images with the specified class identifier.

`-client` *client_name*
: Specifies a client name to use for finding backups or archives to list. The client name that `bpimagelist` searches for is case insensitive. For example, `bpimagelist` displays images from `client`, `cLiEnT`, and `CLIENT`. By default, `bpimagelist` searches for all clients.

`-copy_dtemode Off|On`
: The copy DTE mode is `On` if the DTE mode was enabled when this image copy was created. Otherwise the value is `Off`. Use the `bpimagelist -copy_dtemode Off|On` command to view and filter the images based on copy DTE mode.

`-d` *mm/dd/yy hh:mm:ss*, `-e` *mm/dd/yy hh:mm:ss*
: Specifies the start date and end date range for the listing. If these values are not included on the command line, the default values are as follows:

- The -d default is the previous midnight.
- The -e default is the current date and time.

The complete format of the start date and end date is as follows:

-d specifies a start date and time for the listing. The output list shows only images in backups or the archives (or data in the change log for the -changelog option) that occurred at or after the specified date and time.

-e specifies an end date and time for the listing. The output list shows only files from backups or the archives (or data in the change log for the -changelog option) that occurred at or before the specified date and time. Use the same format as for the start date.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07.

The required date and time values format in NetBackup commands varies according to your locale. The /usr/openv/msg/.conf file (UNIX) and the *install_path*\VERITAS\msg\LC.CONF file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more about the locale of your system, see "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

-hierarchical_dtemode ON|OFF

The copy hierarchical mode is ON if the DTE mode was enabled when this image copy and all its parent copies in the hierarchy were created. Otherwise the value is off. Use the bpimagelist -hierarchical_dtemode Off|On command to view and filter the images based on copy hierarchical DTE mode.

-hoursago *hours*

Includes the images that were written up to this many hours ago. This option is equivalent to a specification of a start time (-d) of the current time minus *hours. hours* must be 1 or greater.

-idonly

Produces an abbreviated list. For an image list, the list contains the creation time, backup ID, and schedule type of each image. For instance, if the list criterion is a window of time, the image list contains the following: For each image that is created in this window, only the creation time, backup ID, and schedule type of the image.

For a media list, the list contains only the applicable media IDs. For instance, if the list criterion is a window of time, the list contains only the media IDs that are written in this window.

The following options represent the criteria that determine which images or media are selected for the report. Where images are discussed in these options, media can be substituted if the report is a media report.

`-image_dtemode Off|On`

Specifies the DTE mode of the backup image. Use the `bpimagelist -image_dtemode Off|On` command to view and filter the images based on DTE mode.

`-inter-domain`

Displays placeholder copies of images that have been replicated from the source and replicated images that are pending import on the target.

`-json`

Prints the data in `json` format and spans multiple lines.

`-json_compact`

Prints the data in `json` format on a single line.

`-keyword "`*`keyword_phrase`*`"`

Specifies a keyword phrase for NetBackup to use when it searches. The phrase must match the one that was previously associated with the image. For instance, the `-k` option of the `bpbackup` or the `bparchive` command associates a keyword with the image when the image is created.

`-L`

Generates the report in Long mode. For instance, for the Media List report, the report lists the information for each media ID as a series of *attribute* = *value* pairs. The density value is provided as both a descriptive term and a number. Long mode is the default condition.

`-l`

Reports in Short mode, which produces a terse listing. This option is useful for the scripts or programs that rework the listing contents into a customized report format.

For details of the output from the `bpimagelist -l` command, see the link shown:

https://www.veritas.com/support/en_US/article.100017904

`-M` *`master_server,...`*

Specifies a list of one or more alternative master servers. This list is a comma-delimited list of hostnames. If this option is present, each master server in the list runs the `bpimagelist` command. If an error occurs for any master server, the process stops at that point.

The report is the composite of the information that all the master servers in this list return. `bpimagelist` queries each of these master servers. The master server returns image or media information from the image catalogs. Each master server must allow access by the system that issues the `bpimagelist` command.

The default is the master server for the system running `bpimagelist`.

`-media`

Specifies that the listing reports on the removable media that are based on a set of criteria. If `-media` is not in the command line, the report is on images, not media.

`-min_changelog_key` *key*

Prints records with the specified log key and newer. Newer change log entries have greater change log key values.

`[-new_images] [-updated_images] [-deleted_images]`

Limits the change log report to new, updated, or deleted images. The default condition is to report all change log images.

`-option` *option_name*`,...`

Specifies one or more criteria for finding images to list. *option_name* is one of the following character strings in uppercase or lowercase:

- `INCLUDE_PRE_IMPORT` - Report the images that completed phase 1 of an import.
- `INCLUDE_TIR` - Report the images that true-image-recovery backups created.
- `LIST_COMPLETE_COPIES` - Do not report fragments of a duplicate copy that is still in process.
- `LIST_OLD_TO_NEW` - Report images by oldest to newest date.
- `NO_VALIDATION` - Report images even if they have not been validated, either because they are still in process, or because of a job failure.
- `ONLY_PRE_IMPORT` - Report only the images that completed phase 1 of an import.
- `ONLY_TIR` - Report only the images that true-image-recovery backups created.
- `INCLUDE_DELETE_PENDING` - Report the image copies, including the ones that are set to expire after they are successfully deleted from storage.

The default is no restrictions on the selected images.

`-oracle_copilot_ir`

Searches for and displays the images that may be used for Oracle Copilot Instant Recovery.

`-policy` *name*

Searches for backups to import in the specified policy. The default is all policies.

`-pt` *policy_type*

Specifies a policy type. By default, `bpimagelist` searches for all policy types.

The *policy_type* is one of the following character strings:

```
BigData
DataStore
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
FlashBackup-Windows
Hyper-V
Informix-On-BAR
LotusNotes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
MS-Windows
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Universal-share
Vault
VMware
```

`-rl` *retention_level*

Specifies the *retention_level*. The *retention_level* is an integer between 0 and 100. By default, `bpimagelist` searches for all retention levels.

Note: If you run this command on a pre-NetBackup 8.0 media server, you can only specify a retention level between 0 and 24.

-server *server_name*

Specifies the name of a NetBackup server or ALL. If -server specifies a server name, then the images or media in the report are only those that reside on that server. The images also satisfy the other criteria that bpimagelist specifies. For instance, if -hoursago 2 is specified, the media must contain an image that was created in the past two hours.

The query goes to the image catalog that resides on the local master server. The master server must allow access by the system running bpimagelist.

The default is to report all media in the image catalog on the local master server, which is equivalent to the specification of -server ALL.

-sl *sched_label*

Specifies a schedule label for the image selection. The default is all schedules.

-st *sched_type*

Specifies a schedule type for the image selection. The default is any schedule type. Valid values are as follows:

- FULL (full backup)
- INCR (differential-incremental backup)
- CINC (cumulative-incremental backup)
- UBAK (user backup)
- UARC (user archive)
- NOT_ARCHIVE (all backups except user archive)

-stl_complete

Reports only the images that the storage lifecycle completely processed. This option cannot be used with the stl_incomplete option.

-stl_incomplete

Reports only the images that the storage lifecycle has not completely processed. This option cannot be used with the stl_complete option.

-stl_name *storage_lifecycle_name*

Specifies a storage lifecycle name to be used when you select images. Only images with the specified storage lifecycle name are selected.

-tape

Displays in the list only the images that have at least one fragment that resides on removable or tape-based media. Any disk-based fragments in these images are ignored. If an image has fragments on both tape and disk, this option displays only the tape-based fragments.

`-U`

Generates the report in User mode. The report is formatted. It includes a banner that lists the column titles. The status is a descriptive term instead of a number.

`-v`

Selects the verbose mode. This option causes `bpimagelist` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when the debug log function is enabled; that is, when the following directory is defined:

UNIX systems: /usr/openv/netbackup/logs/admin

Windows systems: *install_path*\NetBackup\logs\admin

EXAMPLES

Example 1 - Show the last time the media IDs available to the server had a backup image that was written during the specified time:

```
# bpimagelist -media -d 01/05/2012 18:00:46 -e 01/06/2012 23:59:59
-U
    Media ID   Last Written       Server
    --------   ----------------   ----------
    IBM000     01/06/2012 01:06   hatt
    AEK800     01/06/2012 03:01   hatt
    C0015      01/06/2012 02:01   hatt
    143191     01/05/2012 23:00   hatt
```

Example 2 - List all images that were written today - additional columns not shown:

```
bpimagelist  -U
Backed Up        Expires    Files  KB C ICA Sched Type  On Hold Policy  Image DTE Mode
---------------- ---------- ----- --- - --- ----------- ------- ------- --------------
01/03/2022 13:14 01/17/2022    3  416 N N   Full Backup  0      test_fs            Off
01/03/2022 13:13 01/17/2022    3  416 N N   Full Backup  0      test_fs             On
```

Example 3 - List all the images that the storage lifecycle has not completely processed that were written today:

```
# bpimagelist -U -stl_incomplete -idonly
Time:     12/6/2011 1:03:46 PM   ID: escape_1323198226         FULL (0)
Time:    12/6/2011 12:48:22 PM   ID: gordito19_1323197302      INCR (1)
Time:     12/6/2011 1:02:42 PM   ID: louisebl8vm1_1323198162   FULL (0)
Time:     12/6/2011 1:03:28 PM   ID: monterrey_1323198208      FULL (0)
Time:     12/6/2011 1:03:10 PM   ID: oprahbl14vm3_1323198190   FULL (0)
Time:     12/6/2011 1:03:11 PM   ID: oprahbl14vm4_1323198191   FULL (0)
```

```
Time:     12/6/2011 1:03:12 PM   ID: oprahbl15vm3_1323198192   FULL (0)
Time:     12/6/2011 1:03:17 PM   ID: oprahbl15vm4_1323198197   FULL (0)
Time:     12/6/2011 1:02:22 PM   ID: oprahbl8vm5_1323198142    FULL (0)
Time:     12/6/2011 1:02:41 PM   ID: thelmabl1vm1_1323198161   FULL (0)
Time:     12/6/2011 1:02:54 PM   ID: thelmabl1vm2_1323198174   FULL (0)
Time:     12/6/2011 1:03:01 PM   ID: thelmabl2vm1_1323198181   FULL (0)
```

Example 4 - List all the incomplete images that were written today for the `pem_tort` policy:

```
# bpimagelist -U -stl_incomplete -policy pem_tort

Backed Up         Expires    Files      KB  C  ICA Sched Type  ... Policy
----------------  ---------- ----- -------  -  --- ------------   ---------
12/06/2011 13:03  12/12/2011    86    1632  N  Y   Full Backup ... pem_tort
12/06/2011 13:02  12/12/2011    12   12512  N  Y   Full Backup ... pem_tort
12/06/2011 13:03  12/12/2011     5      32  N  N   Full Backup ... pem_tort
12/06/2011 13:03  12/12/2011  3742   95936  N  Y   Full Backup ... pem_tort
12/06/2011 13:03  12/12/2011  3762   95936  N  Y   Full Backup ... pem_tort
12/06/2011 13:03  12/12/2011     8      64  N  N   Full Backup ... pem_tort
12/06/2011 13:03  12/12/2011     9      32  N  N   Full Backup ... pem_tort
12/06/2011 13:02  12/12/2011  5041  223104  N  Y   Full Backup ... pem_tort
12/06/2011 13:02  12/12/2011     6      32  N  N   Full Backup ... pem_tort
12/06/2011 13:02  12/12/2011  3559   95808  N  Y   Full Backup ... pem_tort
12/06/2011 13:03  12/12/2011     5      32  N  N   Full Backup ... pem_tort
```

Example 5 - List the new and updated change log entries entered since May 2, 2012:

```
# bpimagelist -changelog -new_images -updated_images -d 05/02/2012 10:18:00
-json
Image Change Log Key:      2
Backup ID:                 jumpmanvm2_1335967123
Client Type:               Standard (0)
Image Change Log Oper. Id: Updated (2)
Image Change Log Time:     Wed 02 May 2012 10:39:09 AM CDT (1335973149)
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/log.mmddyy
/usr/openv/netbackup/db/images
```

Windows systems:

install_path\NetBackup\logs\admin\log.*mmddyy*
install_path\NetBackup\db\images

SEE ALSO

See bp on page 49.

See bparchive on page 51.

See bpbackup on page 57.

See bprestore on page 386.

bpimmedia

bpimmedia – display information about NetBackup images on media

SYNOPSIS

bpimmedia [-disk_stu *storage_unit_label* | [-dt *disk_type* | -stype *server_type* [-dp *disk_pool_name* [-dv *disk_volume*]] [-legacy [-include_worm_details]]]] [-l | -L] [-disk | -tape] [-policy *policy_name*] [-client *client_name*] [-d *date time*] [-e *date time*] [-mediaid *media_id* | *path_name*] [-mtype *image_type*] [-option *option_name*] [-rl *retlevel*] [-sl *sched_label*] [-t *sched_type*] [-M *master_server*...] [-verbose]

bpimmedia -spanpools [-cn *copy_number*] [-mediaid *media_id*] [-U]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpimmedia queries the NetBackup image catalog and produces the following two types of reports on the images:

- An Images-on-Media report
- A Spanpools report

The first form of bpimmedia in the SYNOPSIS displays a set of NetBackup images in the Images-on-Media report. This report lists the contents of media as recorded in the NetBackup image catalog.

You can generate this report for any medium including disk. Filter the report contents according to client, media ID, path, and so on.

for more about the fields in the Images-on-Media report, see NetBackup Reports in the *NetBackup Administrator's Guide, Volume II*.

The report does not show information for the media that is used in backups of the NetBackup catalogs.

Several options (*-dt*, *-dp*, *-dv*, *-stype*) report images present on SAN disk storage only, not on any other disk-resident images. Other options and output format continue to function as before.

The second SYNOPSIS form of `bpimmedia` uses `-spanpools` to list the disk ID pools that are related because images span from one volume to another. The output lists, for each media server in the cluster, the media IDs that have spanned images. The `-spanpools` form of `bpimmedia` must be run on the NetBackup master server that administers the volumes.

For more about spanned images, see "Spanning Media" in the *NetBackup Administrator's Guide, Volume II*.

Only removable media types are processed.

`bpimmedia` sends its error messages to `stderr`. `bpimmedia` sends a log of its activity to the NetBackup admin log file for the current day.

Authorized users can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

`client` *`client_name`*

Client name. This name must be as it appears in the NetBackup catalog. By default, `bpimmedia` searches for all clients.

`-cn` *`copy_number`*

Copy number (1 or 2) of a backup ID. The default is copy 1. This option is used only in combination with `-spanpools`.

`-d` *`date time`*, `-e` *`date time`*

Specifies the start date and end date range for the listing.

`-d` specifies a start date and time for the listing. The output list shows only images in backups or the archives that occurred at or after the specified date and time.

`-e` specifies an end date and time for the listing. The output list shows only files from backups or the archives that occurred at or before the specified date and time. Use the same format as for the start date. The default is the current date and time.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the previous midnight.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more about the locale of your system, see "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

`-dp` *disk_pool_name*

Displays the images on the specified disk pool only.

`-dt` *disk_type*

Specifies the type of disk storage. The following are valid options:

1 - BasicDisk

3 - SnapVault

This option does not apply to the OpenStorage disk type.

`-dv` *disk_volume*

Displays the images that reside on the specified disk volume only. The input value is the path for BasicDisk.

`-include_worm_details`

Displays the WORM attributes of the image copy. The **WORM Unlock Time** is when the copy is no longer indelible on storage. The **WORM Flags** indicates various attributes such as the indelible or the immutable state of the copy.

`-L`

The list type is long.

See the DISPLAY FORMATS section that follows.

`-l`

The list type is short. This setting is the default if the command line has no list-type option (for example, if you enter `bpimmedia` and a carriage return).

See the DISPLAY FORMATS section that follows.

`-legacy`

Formats the new data in legacy format.

`-M` *master_server,...*

A list of alternative master servers. This list is a comma-separated list of hostnames. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issues the command. If an error occurs for any master server, the process

stops at that point in the list. The default is the master server for the system where the command is entered.

`-mediaid` *media_id* | *pathname*

This ID is either a VSN or an absolute pathname. If the media ID is a VSN, it is a one- to six-character string. If the media ID is a pathname, it is the absolute pathname of the file system for a disk storage unit.

When `-mediaid` is specified, the Images-on-Media report displays only the images that are stored on this VSN or pathname. By default, the report displays the images that are stored on all media IDs and pathnames.

For the Spanpools report (`-spanpools`), only a VSN can follow `-mediaid`. If `-mediaid` is omitted when `-spanpools` is present, `bpimmedia` displays all media in all spanning pools.

`-mtype` *image_type*

Image type. The defined values and their interpretations are as follows:

- `0` = Regular backup (scheduled or user-directed backup)
- `1` = Pre-imported backup (phase 1 completed)
- `2` = Imported backup

`-option` *option_name*

Specifies a criterion for finding images to list. `option_name` is one of the following character strings, in either uppercase or lowercase:

- `INCLUDE_PRE_IMPORT` - Include images that completed phase 1 of an import.
- `ONLY_PRE_IMPORT` - Include only the images that completed phase 1 of an import.
- `INCLUDE_DELETE_PENDING` - Include the image copies pending deletion from storage.

The default is `INCLUDE_PRE_IMPORT`.

`-policy` *policy_name*

Searches for images with the specified policy name. By default, `bpimmedia` searches for images for all policies.

`-rl` *retlevel*

Specifies the retention_level. The retention_level is an integer between 0 and 100. By default, `bpimmedia` searches for all retention levels.

Note: If you run this command on a pre-NetBackup 8.0 media server, you can only specify a retention level between 0 and 24.

`-sl` *`sched_label`*

Searches for images with the specified schedule label. By default, `bpimmedia` searches for images for all schedule labels.

`-spanpools`

Specifies that `bpimmedia` should create a Spanpools report. The default (`-spanpools` not present on the command line) is to create an Images-on-Media report.

`-stype` *`server_type`*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.
  - `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
  - `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case sensitive.

`-t` *`sched_type`*

Specifies a schedule type for the image selection. The default is any schedule type. Valid values, in either uppercase or lowercase, are as follows:

- `FULL` (full backup)
- `INCR` (differential-incremental backup)
- `CINC` (cumulative-incremental backup)
- `UBAK` (user backup)
- `UARC` (user archive)

-tape

Displays in the Images-on-Media report only the images that have at least one fragment that resides on removable or tape-based media. Disk-based fragments in these images are ignored. If an image has fragments on both tape and disk, this option displays only the tape-based fragments.

-U

The list type is user. This option is used only in combination with -spanpools.

See the DISPLAY FORMATS section that follows.

-verbose

Select verbose mode for logging. This option is only meaningful when it runs with debug logging on; that is, when the following directory is defined:

UNIX systems: /usr/openv/netbackup/logs/admin

Windows systems: *install_path*\NetBackup\logs\admin

DISPLAY FORMATS

IMAGES-ON-MEDIA REPORT

The Images-on-Media report consists of two formats, short (-l or default) and long (-L).

To process and use the output of bpimmedia, use the -l option. The output of bpimmedia that uses the -L or -U options may be truncated for the Backup-ID, Policy, and Host columns. The -L or -U options are useful when you want to obtain a quick, more readable view of the NetBackup images on media.

The following shows the long display format (-L) and the short display format (-l) of the Images-on-Media report:

- Long Display Format (-L)

  If the command line contains -L, the display format is long. It contains a multi-line entry for each backup image. The number of lines for an entry is n+1, where *n* is the number of fragments for the image. The fields for an entry are listed later. The first line of the entry contains the fields Backup_ID...Expires. Each fragment in the image has a line that contains the fields Copy_Media ID. The report has a two-line header. The first header line lists the field names for line 1 of each entry. The second header line lists the field names for the lines that contain fragment information.

  See the bpduplicate command page for more information on the copy number and primary copy.

  Fields and meanings for the -L format are as follows:

  Line 1

Backup-ID - Unique identifier for the backup that produced this image
Policy - Policy name (may be truncated if long)
Type - Schedule type (FULL, etc.)
RL - Retention level (0.100)

Note: If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

Files - Number of files in the backup
C - Compression (Y or N)
E - Encryption (Y or N)
T - Image type
R - Regular (scheduled or user-directed backup)
P - Pre-imported backup (phase 1 completed)
I - Imported backup
PC - Primary copy, 1 or 2. Designates which copy of the backup NetBackup chooses when it restores.
Image-DTE-Mode - DTE mode of backup image.
Expires - The expiration date of the first copy to expire, which appears in the Expires field of the fragment, which is described later.
Line 2_n+1
Copy - Copy number of this fragment
Frag - Fragment number or IDX for a true-image-restore (TIR) fragment
KB - Size of the fragment, in kilobytes. This value does not include the size of tape headers between backups. A fragment size of 0 is possible for a multiplexed backup.
Type - Media type (`Rmed` - removable media; Disk otherwise)Density - Density of the removable media that produced the `backupFnum` - File number; the n-th backup on this removable media Host - Server whose catalog contains this `imageDWO` - Device Written On; device where the backup was written. The DWO matches the drive index as configured in Media Manager (applies only to removable media).
MPX - Flag that indicates whether this copy is multiplexed: Y or N (applies only when fragment number is 1)
Expires - The expiration date of this copy (applies only when fragment number is 1)
MediaID - Media ID or absolute path where the image is stored
Copy-DTE-Mode - The copy DTE mode is `On` if DTE was enabled for the data transfer job that created this copy.

Hierarchical-DTE-Mode - The copy hierarchical DTE mode is `On` if the copy hierarchical DTE mode of the source image was `On` and DTE was enabled for the data transfer job which created this copy.

- Short Display Format (`-l`)

  If the `bpconfig` command line contains `-l` or contains no list-format option, the display format is short, which produces a terse listing. This option can be useful for scripts or the programs that rework the listing into a customized report format. The `-l` display format contains a multi-line entry for each backup image. The number of lines per entry is n+1, where *n* is the number of fragments for the image. The layout of an entry is a first line that contains information about the image. A second line follows that contains information about each fragment of the image. The attributes appear in the following order (separated by blanks). Fields for the `-l` format are as follows:

  Field 1 = Client. The name of the image's client.

  Field 2 = Version. The NetBackup version of the client.

  Field 3 = Image keyword. The keyword for the backup image.

  Field 4 = Policy name. The name of the policy that created the image.

  Field 5 = Policy type. 0=Standard, 4=Oracle, 8=Sybase, 9=MS-SharePoint

  Field 6 = Schedule - Schedule name that is run to create the backup.

  Field 7 = Schedule type. 0=Full, 1=Differential incremental, 2=User-directed backup, 3=User-directed archive, 4=Cumulative incremental

  Field 8 = Retention level (0-100).

  Note: If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

  ---

  0 = 1 week, 4mm cartridge media

  1 = 2 weeks, 8mm cartridge media

  2 = 3 weeks, 8mm2 cartridge media

  3 = 1 month, 8mm3 cartridge media

  4 = 2 months, dlt cartridge media

  5 = 3 months, dlt2 cartridge media

  6 = 6 months, dlt3 cartridge media

  7 = 9 months, dtf cartridge media

  8 = 1 year, half-inch cartridge media

  9-100 = infinite (except 25 which is expire immediately), half-inch cartridge 2 media

  Field 9 = Number of files in the image.

  Field 10 = Expiration time of the image in seconds since January 1, 1970. A value of zero (0) denotes an image in progress or failed.

Field 11 = Compression. 0=Use compression, 1=Do not use compression
Field 12 = Encryption.
Field 13 = Hold. 0=Image is not on hold, 1=Image is on hold
Field 14 = DTE mode of backup image. 0 is DTE off and 1 is DTE on

Fragments

Field 1 = Copy number
Field 2 = Fragment number
Field 3 = Fragment size in KBytes
Field 7 = File number
Field 8 = Media. The media where the image is stored.
Field 9 = The media server for the image.
Field 10 = Block size in KBytes
Field 11 = Offset
Field 12 = The time (in seconds since January 1, 1970) when the fragment was created
Field 13 = The device number where the image was written
Field 16 = Expiration time of the image in seconds since January 1, 1970. A value of zero (0) denotes an image in progress or failed.
Field 17 = Multiplexing. 0=multiplexing not used, 1=multiplexing used
Field 18 = Retention level.
0 = 1 week, 4mm cartridge media
1 = 2 weeks, 8mm cartridge media
2 = 3 weeks, 8mm2 cartridge media
3 = 1 month, 8mm3 cartridge media
4 = 2 months, dlt cartridge media
5 = 3 months, dlt2 cartridge media
6 = 6 months, dlt3 cartridge media
7 = 9 months, dtf cartridge media
8 = 1 year, half-inch cartridge media
9-100 = infinite (except 25 which is expire immediately), half-inch cartridge 2 media
Field 20 = Hold. 0=Fragment not on hold, 1=Fragment on hold
Field 22 = Copy DTE mode
Field 23 = Copy hierarchical DTE mode

SPANPOOLS REPORT

The Spanpools report has two formats: user (`-U` option) and short (the default). Both formats list the server name and the pool data for each server. It lists the media IDs for each pool of media that share spanned backup images. When `-mediaid` appears on the command line, only the server pool and the disk pool that are related to that media ID appear.

If you want to process and use the output of `bpimmedia`, we recommend that you use the `-l` option. The output of `bpimmedia` that uses the `-U` or `-L` options may be truncated for the Backup-ID, Policy, and Host columns. The `-U` or `-L` options are useful when you want to obtain a quick, more readable view of the NetBackup images on media.
The user (`-U`) display format looks like the following:

```
# bpimmedia -spanpools -U
Related media pools containing spanned backup images, server plim:
Pool:
  A00002  A00003
Pool:
  400032
```

The short display format looks like the following

```
# bpimmedia -spanpools
SERVER plim
POOL A00002 A00003
POOL 400032
```

EXAMPLES

Example 1 - List the images for policy c_NDMP. This request runs on a NetBackup media server. The report is based on the image catalog on the media server's master server, almond.

```
# bpimmedia -L -policy c_NDMP
```

Example 2 - Display the tapes that are required to restore a particular file. If the `bpimmedia` command line provides the criteria to identify an individual backup, the output shows the media that was used for the backup.

In this case, the command line provides the client, the date of the backup and the schedule type. The output shows that tape A00002 on the server `plim` contains the backup.

```
# bpimmedia -L -client gava -d 2/7/2012 -t UBAK
```

Example 3 - List in long format all the backups in the image catalog on master server `gava`.

```
# bpimmedia -L -M gava
```

Example 4 - List in long format the backups on media ID CB7514.

```
# bpimmedia -L -mediaid CB7514
```

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, the exit status is logged in the administrative daily log under the log directory:

```
UNIX systems: /usr/openv/netbackup/logs/admin

Windows systems: install_path\NetBackup\logs\admin
```

It has the following form:

```
bpimmedia: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/images
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\images
```

SEE ALSO

See bpbackupdb on page 66.

See bpduplicate on page 123.

See bpimport on page 197.

bpimport

bpimport – import NetBackup backups that are expired or are from another NetBackup Server

SYNOPSIS

bpimport -create_db_info -id *media_id* or *path* | -stype *server_type* [-dp *disk_pool_name* [-dv *disk_volume*]] [-server *name*] [-L *output_file* [-en]] [-local] [-nh *ndmp_host* [-mst *media_subtype*]]

bpimport -drfile -id *media_id* or *path* | -stype *server_type* [-dp *disk_pool_name* [-dv *disk_volume*]] -drfile_dest *dir_name_on_master* [-client *name*] [-server *name*] [-L *output_file* [-en]] [-priority *number*]

bpimport [-l] [-p] [-pb] [-PD] [-PM] [-v] [-local] [-client *name*] [-M *master_server*] [-Bidfile *file_name*] [-st *sched_type*] [-sl *sched_label*] [-L *output_file* [-en]] [-policy *name*] [-s *startdate*] [-e *enddate*] [-pt *policy_type*] [-hoursago *hours*] [-cn *copy_number*] [-backupid *backup_id*] [[-id *media_id* | *path*] | -stype server_type]] [-dp *disk_pool_name* [-dv *disk_volume*]] [-priority *number*] [-from_replica]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpimport command allows backups to be imported. This command is useful for importing expired backups or the backups from another NetBackup server.

The import operation consists of the following two phases:

- Phase 1 is performed with the first form of the command that appears in the Synopsis (-create_db_info option). This step recreates catalog entries for the backups that are on the specified media.
- Phase 2 is performed with the second form of the command that appears in the Synopsis. This step imports the backups from the media.

The expiration date for imported backups is the current date plus the retention period. For example, if a backup is imported on 14 November 2012 and its retention level is one week, its new expiration date is 21 November 2012.

If imported data is WORM-locked, WORM unlock times are unaffected by the import operation. As a result, the image expiration time after import is later than the WORM unlock time.

You can import a backup only if all copies of it are expired.

For more about how to import backups, see the *NetBackup Administrator's Guide, Volume I*.

OPTIONS

`-backupid` *`backup_id`*

Specifies the backup ID of a single backup to import.

`-Bidfile` *`file_name`*

file_name specifies a file that contains a list of backup IDs to import. List one backup ID per line in the file. If this option is included, other selection criteria are ignored.

In addition, NetBackup removes the file that is specified with the `-Bidfile` parameter during the activation of that command line interface (CLI). It is removed because the NetBackup GUIs commonly use this parameter. The GUIs expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option, however it removes the file.

`-client` *`name`*

The host name of the client for which the backups were performed. The default is all clients.

`-cn` *`copy_number`*

Specifies the source copy number of the backups to import. Valid values are 1 through 10. The default is all copies.

`-create_db_info`

This option recreates catalog entries for the backups that are on the specified media. It skips the backups that are already in the catalog. This option only creates information about the backups that are candidates for import, and does not perform the import operation. The `bpimport` command must be run with this option before you import any backups.

When you use -create_db_info, Veritas recommends that you use -id for images on tape and basic disk. Veritas recommends that you use -stype, -dp, and -dv for images on all other disk types.

-dp *disk_pool_name* [-dv *disk_volume*]

Imports images on the specified disk pool only. Optionally, the import can be restricted to the images that reside on the specified disk volume only. The *disk_volume* argument is the path for BasicDisk.

Option -stype is required with this option.

-e *enddate*, -s *startdate*

Specifies the start date and end date range for all backups to import.

-s specifies a start date and time for the listing. The output list shows only images in backups or the archives that occurred at or after the specified date and time.

-e specifies an end date and time for the listing. The output list shows only files from backups or the archives that occurred at or before the specified date and time. Use the same format as for the start date. The default is the current date and time.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the previous midnight.

The required date and time values format in NetBackup commands varies according to your locale. The /usr/openv/msg/.conf file (UNIX) and the *install_path*\VERITAS\msg\LC.CONF file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more about the locale of your system, see "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

The following is part of the -help USAGE statement for -bpimport that shows the -s and -e options:

-s mm/dd/yy [hh[:mm[:ss]]] -e mm/dd/yy [hh[:mm[:ss]]]

-from_replica

Scans for images only that are capable of automatic import and places them in the Storage Lifecycle Policy automatic import worklist. This option is part of Phase 1 of the import.

-hoursago *hours*

Specifies the number of hours to search before the current time for backups. Do not use with the -s option. The default is the previous midnight.

`-id media_id | path`

Disk media: Specifies the *path* to the storage directory that contains the backup to be imported.

Tape media: For step 1 (`-create_db_info`), this option specifies the media ID that has the backups you plan to import. This option is required with `-create_db_info`.

For step 2, this option designates a specific media ID from which to import backups. The default is all media IDs that were processed in step 1 of the import operation.

A backup ID that begins on a media ID that step 1 does not process, does not import (the backup is incomplete).

Veritas recommends that you use `-id` only on basic disk and tape image fragments. For backup imports from other storage server types, Veritas recommends that you use the `-stype`, `-dp`, and `-dv` options to describe the storage server, disk pool, and disk volume to interrogate.

`-L output_file [-en]`

Specifies the name of a file in which to write progress information. The default is not to use a progress file.

Example for UNIX systems, `/usr/openv/netbackup/logs/user_ops`

Example for Windows systems, `c:\Program Files\Veritas\NetBackup\logs\user_ops`

Include the `-en` option to generate a log that is in English. The name of the log contains the string `_en`. This option is useful to support the personnel that assist in a distributed environment where different locales may create logs of various languages.

Only default paths are allowed for this option and It is recommended to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-l`

Produces the output in the progress log that lists each imported file.

`-local`

When a host other than master server initiates `bpimport` and `-local` is not used (default), the following occurs: `bpimport` starts a remote copy of the

command on the master server. The remote copy allows the command to be terminated from the Activity Monitor.

Use `-local` to prevent the creation of a remote copy on the master server. You also can use it to run the `bpimport` only from the host where it was initiated. If the `-local` option is used, `bpimport` cannot be canceled from the Activity Monitor.

`-M` *master_server*

Note: This option is not required for NetBackup server because it has only one server, the master. If you do use this option in this case, specify the NetBackup master where you run the command.

Specifies the master server that manages the media catalog that has the media ID. If this option is not specified, the default is one of the following:

If the command is run on a master server, then that server is the default.

If the command is run on a media server that is not the master, then the master for that media server is the default.

`-p`

Previews backups to import according to the option settings, but does not perform the import. Displays the media IDs, server name, and information about the backups to import.

`-pb`

Previews the backups to import but does not perform the import. Similar to the `-p` option, but does not display the backups.

`-PD`

Same as the `-PM` option, except the backups sort by date and time (newest to oldest).

`-PM`

Displays the information on the backups to be imported according to the option settings, but does not perform the import. It displays the date and time of the backup, and the policy, schedule, backup ID, host, and media ID.

`-policy` *name*

Searches for backups to import in the specified policy. The default is all policies.

`-priority` *number*

Specifies a new priority for the import job that overrides the default job priority.

-pt *policy_type*

Searches for the backups that the specified policy type created. The default is any policy type.

The *policy_type* is one of the following character strings:

```
Auspex-FastBackup
DataStore
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
FlashBackup-Windows
Informix-On-BAR
LotusNotes
MS-Exchange-Server
MS-Hyper-V
MS-SharePoint
MS-SQL-Server
MS-Windows
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Universal-share
Vault
VMware
```

-server *name*

Specifies the name of the media server. The volume database for this server must have a record of the media ID that contains the backups to import. The default is the media server where the command is run.

Note: The NetBackup server has only one server (the master). When you use NetBackup server, specify the name of that server.

-sl *sched_label*

Search for backups to import that the specified schedule created. The default is all schedules.

`-st` *`sched_type`*

Search for backups to import that the specified schedule type created. The default is any schedule type.

Valid values are as follows:

`FULL` (full backup)

`INCR` (differential-incremental backup)

`CINC` (cumulative-incremental backup)

`UBAK` (user backup)

`UARC` (user archive)

`NOT_ARCHIVE` (all backups except user archive)

`-stype` *`server_type`*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.
  - `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
  - `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case sensitive.

`-v`

Displays more information in the debug logs and progress logs.

EXAMPLES

Example 1 - Create all on one line catalog information for backups on media ID A0000. The media host hostname is `cat`. The progress file is `bpimport.ls`, which is located in the `tmp` directory.

UNIX systems: `# bpimport -create_db_info -id A0000 -server cat -L /usr/openv/netbackup/logs/user_ops/bpimport.ls`

Windows systems: `# bpimport -create_db_info -id A0000 -server cat -L c:\Program Files\Veritas\NetBackup\logs\user_ops\bpimport.ls`

Example 2 - Display all on one line information about the backups that are candidates for import. The backups that appear were created between 11/01/2012 and 11/10/2012. The `bpimport` command with the `-create_db_info` option must be run before this command.

```
# bpimport -PM -s 11/01/2012 -e 11/10/2012
```

Example 3 - Import the backups that were specified in the `images` file. The progress is entered in the `bpimport.ls` file.

UNIX systems: `# bpimport -Bidfile /tmp/import/image -L /usr/openv/netbackup/logs/user_ops/bpimport.ls`

Windows systems: `# bpimport -Bidfile \tmp\import\image -L c:\Program Files\Veritas\NetBackup\logs\user_ops\bpimport.ls`

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/images/*
```

Windows systems:

install_path`\NetBackup\logs\admin\*`
install_path`\NetBackup\db\images\*`

bpinst

bpinst – configure legacy NetBackup Encryption

SYNOPSIS

bpinst -LEGACY_CRYPT [-crypt_option *option*] [-crypt_strength *strength*] [-passphrase_prompt |-passphrase_stdin] [-verbose] [[-policy_encrypt 0 | 1] -policy_names] *name1* [*name2* ... *nameN*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

NetBackup Encryption provides file-level encryption of backups and archives.

-LEGACY_CRYPT is the Legacy Encryption method. It provides the user with the encryption strength choices previously available (40-bit DES and 56-bit DES).

The bpinst command that is used with the -LEGACY_CRYPT option configures the legacy NetBackup Encryption product on the NetBackup clients that can support encryption. You can also configure encryption for a client that is installed on the master server host.

Activate bpinst -LEGACY_CRYPT on the master server to configure NetBackup Encryption on the clients. A single activation makes the necessary configuration changes on both the clients and the master server.

Note: Ensure that the DISALLOW_SERVER_FILE_WRITES NetBackup configuration option is not set on the client. If this option is set, the server cannot configure the software on the client.

OPTIONS

-LEGACY_CRYPT

Required if you use 40-bit DES or 56-bit DES encryption. To configure DES encryption, specify this option first to use the bpinst command. The order is important; do not omit this option.

-crypt_option *option*

Configures the CRYPT_OPTION configuration entry on the NetBackup clients. If you do not specify -crypt_option, the client allows either encrypted or unencrypted backups (see ALLOWED).

The possible values for *option* are:

DENIED | denied | -1

Specifies that the client does not permit encrypted backups. If the server requests an encrypted backup, it is considered an error. This option is the default for a client that has not been configured for encryption.

ALLOWED | allowed | 0

Specifies that the client allows either encrypted or unencrypted backups. ALLOWED is the default condition.

REQUIRED | required | 1

Specifies that the client requires encrypted backups. If the server requests an unencrypted backup, it is considered an error.

-crypt_strength *strength*

Configures the CRYPT_STRENGTH configuration entry on the NetBackup clients. If you do not specify this option, the CRYPT_STRENGTH configuration entries on the clients remain unchanged.

The possible values for *strength* are:

DES_40 | des_40 | 40

Specifies the 40-bit DES encryption. This value is the default value for a client that has not been configured for encryption.

DES_56 | des_56 | 56

Specifies the 56-bit DES encryption.

-passphrase_prompt | -passphrase_stdin

Note: Do not forget the pass phrase. If the key file is damaged or lost, you may need the pass phrase to regenerate the key file. Without the proper key file, you cannot restore encrypted backups.

NetBackup uses a pass phrase to create the data that it places in a key file on each client. NetBackup then uses the data in the key file to create the encryption

keys that are required to encrypt and decrypt the backup data. This option applies to the -LEGACY_CRYPT option only.

The -passphrase_prompt option prompts you to enter a pass phrase. The actual pass phrase is hidden while you type.

The -passphrase_stdin option reads the pass phrase through standard input. You must enter the pass phrase twice. This option is less secure than the -passphrase_prompt option because the pass phrase is not hidden. However, it may be more convenient if you use bpinst -LEGACY_CRYPT in a shell script.

NetBackup uses the pass phrase for all the clients that you specify on the bpinst -LEGACY_CRYPT command. If you want separate pass phrases for each client, enter a separate bpinst -LEGACY_CRYPT command for each client.

When you specify a pass phrase, bpinst -LEGACY_CRYPT creates or updates the key files on the clients. The encryption keys (generated from the pass phrase) are used for subsequent backups. Old encryption keys are retained in the key file to allow restores of previous backups.

If you do not specify either the -passphrase_prompt or -passphrase_stdin option, the key files on the clients remain unchanged.

-verbose

Prints the current encryption configuration of each client and what gets installed and reconfigured on each client.

-policy_encrypt 0 | 1

Sets the Encryption policy attribute for the NetBackup policies. You can include -policy_encrypt only with the -policy_names option. The possible values are:

0 - clears the Encryption attribute (or leaves it clear) so the server does not request encryption for clients in this policy. This setting is the default for the policies that are not configured for encryption.

1 - sets the Encryption attribute so the server requests encryption for clients in this policy.

If you do not specify this option, the Encryption attributes for the policies remain unchanged.

-policy_names

Specifies that the names you specify (with the names option) are NetBackup policy names.

If you include the -policy_names option, bpinst -LEGACY_CRYPT configures all the clients in each specified policy. If you omit the -policy_names option, the names are assumed to be NetBackup client names.

`name1 [name2 ... nameN]`

Specifies one or more NetBackup client or policy names, depending on whether you have included the `-policy_names` option. If you omit the `-policy_names` option, the names are assumed to be NetBackup client names.

NOTES

The following notes apply to the `-LEGACY_CRYPT` option:

- If you are running NetBackup in a clustered environment, you can push configuration data to the client only from the active node.
- If you push the configuration to clients that are located in a cluster, do the following: Specify the hostnames of the individual nodes (not virtual names) in the clients list.
- When you finish the restore of encrypted files from a client, rename or delete the key file created. Move or rename your own key file to its original location or name. If you do not re-establish your key file to its original location or name, you may not be able to restore your own encrypted backups.
- Existing 40-bit encryption keys or 56-bit encryption keys are valid for upgrades.
- A privately defined NetBackup 40-bit DES key encrypts the pass phrase that `bpinst -LEGACY_CRYPT` sends over the network.
- The key file on each NetBackup client is encrypted with a privately defined NetBackup DES key. The key can be 40 bits or 56 bits depending on how the client is configured. Restrict access to the key file to the administrator of the client computer. On a UNIX client, the owner of the key file should be root and the mode bits should be 600. The key file should not be exportable through NFS.
- The key file must be the same on all nodes in a cluster.
- Remember pass phrases. In a disaster recovery situation, you may have to recreate a key file on a client by using `bpinst -LEGACY_CRYPT`. For example, suppose a NetBackup client that is named `orca` performs encrypted backups and an accident occurs that causes `orca` to lose its files. In this case you must reinstall and configure encryption on the client to restore your backups.

For more about how to restore the operating system and NetBackup, see the *NetBackup Troubleshooting Guide*.

To provide disaster recovery when you use encryption (client named orbit)

1. Reinstall the operating system on `orbit`.
2. Reinstall and configure the NetBackup client software on `orbit`.

3 Reinstall and configure encryption on orbit by using the following command:

```
# bpinst -LEGACY_CRYPT -crypt_option allowed
```

4 Activate `bpinst -LEGACY_CRYPT` to create a pass phrase by using the following command:

```
# bpinst -LEGACY_CRYPT -passphrase_prompt orbit
Enter new NetBackup pass phrase: **********
Re-enter new NetBackup pass phrase: **********
```

Enter the pass phrase that is used on `orca`.

5 Activate `bpinst -LEGACY_CRYPT` for each subsequent pass phrase that is used on `orbit` by entering the following:

```
# bpinst -LEGACY_CRYPT -passphrase_prompt orbit
Enter new NetBackup pass phrase: **********
Re-enter new NetBackup pass phrase: **********
```

6 Restore the backed up files to `orbit`.

EXAMPLES

Example 1 - Configure all on one line 40-bit DES encryption on UNIX clients in a policy named `policy40`:

```
# bpinst -LEGACY_CRYPT -crypt_option allowed -crypt_strength des_40
-policy_encrypt 1 -policy_names policy40
```

Use the `-policy_encrypt` option to set the Encryption attribute for the policy. You can also use the NetBackup administrator utility to set the Encryption attribute.

Example 2 - Use the -passphrase_prompt option to create a passphrase on all clients in a policy named `policy40`:

```
# bpinst -LEGACY_CRYPT -passphrase_prompt -policy_names policy40
Enter new NetBackup pass phrase: **********
Re-enter new NetBackup pass phrase: **********
```

Example 3 - Specify all on one line the NetBackup client named strong must use 56-bit DES encryption:

```
# bpinst -LEGACY_CRYPT -crypt_option required -crypt_strength des_56
strong
```

Example 4 - Display a verbose listing of the configuration for the client named strong:

```
# bpinst -LEGACY_CRYPT -verbose strong

BPCD protocol version 8.0.0 on client strong
40-bit library version is 3.1.0.40 on client strong
56-bit library version is 3.1.0.56 on client strong
BPCD platform is redhat for client strong
Current configuration entries are:
CRYPT_KEYFILE = /usr/openv/netbackup/keyfile
CRYPT_LIBPATH = /usr/openv/lib
CRYPT_OPTION = required
CRYPT_STRENGTH = des-56
V_PATH_SHARE = /usr/openv/share
No update of NetBackup configuration required for client strong
No update of NetBackup pass phrase required for client strong
```

FILES

The following are the files that are used on UNIX systems:

- UNIX server command

  ```
  /usr/openv/netbackup/bin/bpinst
  ```

- UNIX client encryption libraries for 40-bit DES and 56-bit DES

  ```
  /usr/openv/lib/libvdes*.*
  ```

- UNIX client encryption key file for 40-bit DES and 56-bit DES

  ```
  /usr/openv/netbackup/keyfile
  ```

- UNIX client encryption key file utility for 40-bit DES and 56-bit DES

  ```
  /usr/openv/netbackup/bin/bpkeyfile
  ```

- UNIX client encryption key file utility for 128-bit OpenSSL cipher and 256-bit OpenSSL cipher

  ```
  /usr/openv/netbackup/bin/bpkeyutil
  /usr/openv/share/ciphers.txt
  ```

The following are the files that are used on Windows systems:

- Windows server command

  install_path\NetBackup\bin\bpinst.exe

- Windows client encryption key file

  install_path\NetBackup\var\keyfile.dat

- Windows client encryption libraries

  install_path\bin\libvdes*.dll

- Windows client encryption key file utility

  install_path\bin\bpkeyfile.exe
  install_path\share\ciphers.txt

bpkeyfile

bpkeyfile – run the legacy key file utility that is used for NetBackup standard encryption

SYNOPSIS

bpkeyfile [-stdin] [-change_key_file_pass_phrase] [-change_netbackup_pass_phrase] [-display] *key_file_path*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

bpkeyfile creates or updates a file that contains the information that is used to generate DES encryption keys. The information is generated based on a NetBackup phrase that you supply. You supply a key-file pass phrase to encrypt the key file.

NetBackup client software uses an encryption key that is calculated from the key file information to encrypt files during backups or decrypt files during restores.

If the file exists, you are prompted to enter the current key-file pass phrase.

If you specify -change_key_file_pass_phrase, you are prompted for a new key-file pass phrase. If you enter an empty pass phrase, a standard key-file pass phrase is used.

If you use the standard key-file pass phrase, bpcd runs automatically. If you use your own key-file pass phrase, start bpcd with the -keyfile argument.

For more about how to start bpcd with the -keyfile argument, see the *NetBackup Security and Encryption Guide*.

OPTIONS

-change_key_file_pass_phrase (or -ckfpp)

Changes the pass phrase that is used to encrypt the key file.

-change_netbackup_pass_phrase (or -cnpp)

Changes the pass phrase that is used to encrypt NetBackup backups and archives on this client.

`-display`

Displays information about the key file.

`key_file_path`

The path of the key file that `bpkeyfile` creates or updates.

`-stdin`

Reads pass phrases from standard input. By default, `bpkeyfile` reads the pass phrases that you are prompted to input from your terminal window.

To provide confirmation, enter the passphrase twice as no prompt is displayed.

NOTES

The pass phrases that NetBackup uses can be from 0 to 63 characters long. To avoid compatibility problems between systems, restrict the characters in a pass phrase to printable ASCII characters: from the Space character (code 32) to the tilde character (code 126).

The `bpkeyfile` command is used for legacy encryption.

FILES

Client encryption key file:

UNIX systems: `/usr/openv/netbackup/keyfile`

Windows systems: *`install_path`*`\NetBackup\bin\keyfile.dat`

bpkeyutil

`bpkeyutil` – run the key file utility that is used for NetBackup standard encryption

SYNOPSIS

bpkeyutil [-stdin | -insert | -delete] [-display] [-clients *client_name1*[,*client_name2*,...]] [-M *server*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bpkeyutil` command updates a key file that contains the keys that are used for encryption and decryption. The keys are generated based on the private NetBackup pass phrases that you supply. The key file is encrypted by using a key. The NetBackup client software uses an encryption key from the key file to encrypt files during a backup or decrypt files during a restore.

OPTIONS

-clients *client_name1*[,*client_name2*,...,*client_namen*]
: Name of the client where the key file resides. The default is the local client. You may specify multiple client names that are separated by commas. You can only use this argument if you are a NetBackup administrator.

-delete
: Deletes an existing pass phrase from the key file.

-display
: Displays information about the key file.

-insert
: Inserts a new NetBackup pass phrase to the key file to encrypt NetBackup backups and archives on this client.

-M *server*
: Name of the master server of the client. The default is the master server defined in the local client's configuration. You can only use this argument if you are a NetBackup administrator on the specified master server.

`-stdin`

Reads pass phrases from standard input. By default, `bpkeyutil` reads the pass phrases that you are prompted to input from your terminal window.

To provide confirmation, enter the passphrase twice as no prompt is displayed.

NOTES

Note the following items when you use the `bpkeyutil` command:

- The `bpkeyutil` command is used for standard encryption.
- The key file must be the same on all nodes in a cluster.

FILES

Client encryption key file:

UNIX systems: `/usr/openv/var/keyfile.dat`

Windows systems: *`install_path`*`\NetBackup\var\keyfile.dat`

bplabel

bplabel – write NetBackup label on tape media

SYNOPSIS

bplabel -m *media_id* -d density [-o] [-p *volume_pool_name*] [-n *drive_name* | -u *device_number*] [-host *media_server*] [-erase [-l]] [-priority *number*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bplabel command writes a NetBackup label on the specified media. Labels are required only for the media that were last used for NetBackup catalog backups or by a non-NetBackup application. You can use this command to erase and label the media that is unassigned in a volume database. In addition, you can use this command to assign specific media IDs. The NetBackup Device Manager daemon or service (ltid) must be active for bplabel to succeed. You also must manually assign the drive by using the NetBackup Device Monitor unless you include the -u option on the bplabel command.

Caution: Ensure that the media does not contain required backups. After the media is relabeled, any backups that were on it cannot be restored.

Any authorized user can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

The following are some items about how to use this command:

- The -m and -d options are required.
- The -p option is required if the media ID is not in the NetBackup volume pool.
- If the data on the media is in a recognized format and the -o option is not specified, bplabel prompts you to confirm the overwrite. Data format recognition

works only if the first block on a variable length media is less than or equal to 32 kilobytes.

- Use the `bplabel` command only for tapes.

You must have administrator privileges to run this command.

OPTIONS

`-d` *density*

A required option that specifies the density of the tape drive on which the media is mounted. The tape mount request must be performed on a drive type that satisfies the `-d` option.

Note: Do not use capital letters when you enter the density. Incorrect density syntax causes the command to fail and an "Invalid Density Drive Type" message to appear.

The valid densities are as follows:

`dlt` (DLT Cartridge)

`hcart` (1/2 Inch Cartridge)

`-erase [-l]`

This option is used to erase the media. Short erase is the default erase. If -l option is specified, the media is long erased. A long erase operation can take a long time depending on the type of drive.

`-host` *media_server*

The *media_server* variable is the host where the drive is attached. This drive is the drive that is used to mount the media. By default, if this option is not used, the command runs on the local system.

`-m` *media_ID*

A required option that specifies the external media ID that is written to the tape label as a media ID. You can enter the media ID in either uppercase or lowercase. Internally, it always converts to uppercase. The media ID must be six or fewer alphanumeric characters.

`-n` *drive_name*

Unconditionally assigns the stand-alone drive that *drive_name* specifies. The drive must contain media and be ready. By using this option, manual operator assignment is not required. The name for the drive can be obtained from the Media Manager configuration.

`-o`

Unconditionally overwrites the selected media ID. If this option is not specified, `bplabel` prompts for permission to overwrite the media that meets any of the following conditions:

Contains a NetBackup media header.

Is a NetBackup catalog backup media.

Is in TAR, CPIO, DBR, AOS/VS, or ANSI format.

`-p` *`volume_pool_name`*

This option is required if the media ID is defined in the Enterprise Media Manager Database but is not in the NetBackup volume pool.

volume_pool_name must specify the correct pool.

`-priority` *`number`*

Specifies a new priority (*number*) for the label job that overrides the default job priority.

`-u` *`device_number`*

Unconditionally assigns the stand-alone drive that *device_number* specifies. The drive must contain media and be ready. By using this option, manual operator assignment is not required. The number for the drive can be obtained from the Media Manager configuration.

NOTES

`tpconfig -d`, `tpconfig -l`, and `vmoprcmd` may truncate long drive names. Use `tpconfig -dl` to obtain the full drive name.

EXAMPLES

Example 1 - Label a DLT cartridge media as `dlt001`

```
bplabel -m dlt001 -d dlt
```

Example 2 - Erase the DLT cartridge media with the label `dlt102`

```
bplabel -m dlt102 -d dlt -erase
```

SEE ALSO

See ltid on page 544.

bplist

`bplist` – list the backed up and archived files on all NetBackup hosts

SYNOPSIS

bplist [-A | -B] [-C *client*] [-S *master_server*] [-k *policy*] [-t *policy_type*] [-F] [-R [*n*]] [-b | -c | -u] [-l] [-r] [-flops *options*] [-Listseconds] [-T] [-Translateownership] [-unix_files] [-nt_files] [-s *date*] [-e *date*] [-I] [-PI] [-keyword *keyword_phrase*] [*filename*] [-Listpolicy] [-nboptimized | -nbnormal]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bplist` command shows a list of previously archived or backed up files according to the options that you specify. You can choose the file or directory and the time period that you want the listing to cover. Directories can be recursively displayed to a specified depth. `bplist` shows only the files that you have read access to. It lists the files only if an administrator account performs the user backup.

You also must own or have read access to all directories in the file paths. You can list the files that were backed up or archived by another client only if the NetBackup administrator has validated you to do so.

If you create the following directory with public-write access, `bplist` creates a debug log file in this directory that you can use for troubleshooting:

UNIX systems: `usr/openv/netbackup/logs/bplist/`

Windows systems: *install_path*\NetBackup\logs\bplist\

OPTIONS

`-A | -B`

Specifies whether to produce the listing from archives (`-A`) or backups (`-B`). The default is `-B`.

`-b | -c | -u`

Specifies an alternate date-time to be used for printing with the `-l` option:

`-b` displays the backup date and time of each file.

`-c` displays the last inode modification date and time (UNIX systems) or creation date and time (Windows systems) for each file.

`-u` displays the last access date and time of each file.

The default is to display the time of the last modification of each file.

`-C` *client*

Specifies a client name to use for finding backups or archives to list. This name must be as it appears in the NetBackup configuration. The default is the current client name.

`-F`

Specifies that in the list output, symbolic links (which apply only to UNIX clients) end with a trailing @ and executable files with a trailing *.

filename

Names the file or directory to list. Any files or directories that you specify must be listed at the end, following all other options. If you do not specify a path, the default is the current working directory.

For Windows systems, use uppercase for the drive letter. For example:

```
C:\NetBackup\log1
```

For directories, if you do not use the `-R` option, include the trailing path separator as in the following:

UNIX systems: `bplist -l "/home/user1/*"`

Windows systems: `bplist -l "D:\WS_FTP.LOG\*"`

If you use the asterisk meta-character (*), use quotation marks around the file name for the command to work properly.

`-flops` *options*

Lists NetBackup files.

`-I`

Specifies a search that is case insensitive. The capitalization is not considered when it compares names (for example, Cat matches cat).

`-k` *policy*

Names the policy to search to produce the list. If not specified, all policies are searched.

-keyword *keyword_phrase*

Specifies a keyword phrase for NetBackup to use when it searches for backups or archives from which to restore files. The phrase must match the one that was previously associated with the backup or archive by the -k option of bpbackup or bparchive.

You can use this option in place of or in combination with the other restore options to make it easier to restore backups and archives. Use the following meta-characters to help match keywords or parts of keywords in the phrase:

* matches any string of characters.

? matches any single character.

[ ] matches one of the sequence of characters that is specified within the brackets.

[-] matches one of the range of characters, that is separated by the "-".

The keyword phrase can be up to 128 characters in length. All printable characters are permitted including space ("") and period (".").

The phrase must be enclosed in double quotes ("...") or single quotes (‘...’).

The default keyword phrase is the null (empty) string.

Note: The keyword phrase is ignored when you use the following policy types: DB2, Informix-On-BAR, Oracle, SAP, MS-SQL-Server, Sybase.

-l

On Windows systems, -l shows the file details.

On UNIX systems, -l lists the following file details in a long format: Mode, owner, group, size in bytes, and time of last modification for each file (see the EXAMPLES section). The list shows the mode of each file as ten characters that represent the standard UNIX file permissions. The first character is one of the following:

d (specifies a directory)

l (specifies a link)

m (specifies a file that migrated by Veritas Storage Migrator for UNIX or Veritas Data Lifecycle Manager)

- (specifies a file)

The next nine characters show the three sets of permissions. The first set shows the owner’s permissions, the next set shows the user-group permissions,

and the last set shows permissions for all other users. Each set of three specifies the read, write, and execute permissions as follows:

`r` = the file is readable

`w` = the file is writable

`x` = the file is executable

`-` = the indicated permission is not granted

`-Listpolicy`

Includes the schedule type and policy name in the command output.

`-Listseconds`

Specifies that seconds granularity be used for the timestamp when the `-l` option is used.

`-nboptimized`

Specifies the command filter the output to show only Windows images that were backed up with the optimized flag for Windows deduplication.

`-nbnormal`

Specifies the command filter the output to show only Windows images that were not backed up with the optimized flag for Windows deduplication.

`-nt_files`

Lists the files and directories in Windows format. This option applies only to Windows. For example: `C:\users\test`

`-PI`

Specifies a path-independent search, which means that NetBackup searches for a specified file or directory without regard to the path. For example, a file with the name `test` exists in the three following directories. A search for `test` finds all three instances of the file:

UNIX systems:

```
/tmp/junk/test
/abc/123/xxx/test
/abc/123/xxx/yyy/zzz/test
```

Windows systems:

```
\tmp\junk\test
\abc\123\xxx\test
\abc\123\xxx\yyy\zzz\test
```

`-r`

On Windows systems, `-r` lists the disk images that were backed up. The default is to list file systems.

On UNIX systems, `-r` lists the raw partitions that were backed up. The default is to list file systems.

`-R [n]`

Recursively lists the subdirectories that are encountered to a depth of *n*. The default for *n* is 999.

`-s date, -e date`

Specifies the start date (`-s`) and end date (`-e`) for the listing.

`-s` specifies a start date and time for the listing. The resulting list shows only files in backups or the archives that occurred at or after the specified date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

For more about the locale of your system, see "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default is the current date minus six months.

`-e` specifies an end date and time for the listing. The resulting list shows only files from the backups or the archives that occurred at or before the specified date and time. Use the same format for start date and time. The default is the current date and time.

`-S master_server`

UNIX systems: `-s` specifies the name of the NetBackup server. The default is the first `SERVER` entry that is found in the `/usr/openv/netbackup/bp.conf` file.

Windows systems: `-s` specifies the name of the NetBackup server. The default is the server designated as current on the Servers tab of the Specify NetBackup Machines dialog box. To display this dialog box, start the Backup, Archive, and Restore user interface on the client. Then click Specify NetBackup Machines on the File menu.

`-t` *policy_type*

Specifies one of the following numbers that correspond to the policy type. The default is 0 for all clients except Windows, where the default is 13.

`0` = Standard

`4` = Oracle

`6` = Informix-On-BAR

`7` = Sybase

`8` = MS-SharePoint

`11` = DataTools-SQL-BackTrack

`13` = MS-Windows

`15` = MS-SQL-Server

`16` = MS-Exchange-Server

`17` = SAP

`18` = DB2

`19` = NDMP

`20` = FlashBackup

`21` = Split-Mirror

`25` = Lotus Notes

`29` = FlashBackup-Windows

`35` = NBU-Catalog

`39` = Enterprise-Vault

`40` = VMware

`41` = Hyper-V

`44`= BigData

`48` = Universal-share

`-T`

Lists the directories in true-image backups. The default is to list non-true-image backups.

Note: TIR information does not appear for synthetic full backups, even though TIR information is used for synthetic full backups.

-Translateownership

On Linux systems for Linux VMware backups only: Translates the user ID (UID) and the group ID (GID) of the individual who owns the files to the user name and group name. By default for Linux VMware backups, bplist shows the UID and the GID.

The client on which you run the bplist command and -Translateownership option must be the same as the client that you specify with the -C option.

On operating systems other than Linux, this option has no effect.

-unix_files

Lists the files and directories in UNIX format. This option applies only to UNIX. For example: /C/users/test

EXAMPLES

Example 1 - List recursively in long format, the files that were backed up in /home/usr1 (UNIX) or D:\WS_RTP.LOG (Windows).

On UNIX systems:

```
# bplist -l -R /home/usr1
 lrwxrwxrwx  usr1;usr@  eng;None  0    Apr 28 12:25 /home/usr1/dirlink
 drwxr-xr-x  usr1;usr@  eng;None  0    Apr 04 07:48 /home/usr1/testdir
 drwxr-x---  usr1;usr@  eng;None  0    Apr 04 07:49 /home/usr1/dir
 -rwxr-----  usr1;usr@  eng;None 1002 Apr 02 09:59 /home/usr1/dir/file
 lrwxrwxrwx  usr1;usr@  eng;None  0    Apr 04 07:49 /home/usr1/dir/link
```

On Windows systems:

```
# bplist -l -R D:\WS_FTP.LOG
    -rwx------  bjm;usr@    bjm;None  64  Oct 10  2012 D:\WS_FTP.LOG
    -rwx------  bjm;usr@    bjm;None  64  Oct 10  2012 D:\WS_FTP.LOG
    -rwx------  bjm;usr@    bjm;None  64  Oct 10  2012 D:\WS_FTP.LOG
```

Example 2 - List the files that were backed up and associated with all or part of the keyword phrase "MyHomeDirectory".

```
UNIX: # bplist -keyword "*MyHomeDirectory*" -l /home/kwc/

Windows: # bplist -keyword "*MyHomeDirectory*" -l C:\home\kwc\
```

Example 3 - List the files that were archived and associated with all or part of the keyword phrase "MyHomeDirectory"

```
UNIX: # bplist -A -keyword "*MyHomeDirectory*" -l /home/kwc/
```

```
Windows: # bplist -A -keyword "*MyHomeDirectory*" -l C:\home\kwc\
```

Example 4 - Lists recursively and with details the output from `bplist` on a Windows master server from a Windows client. Enter the following command to list the files that were backed up on drive D of Windows client slater and associated with all or part of the keyword phrase `"Win NT"`:

```
# bplist -keyword "*Win NT*" -C slater -R -l C:\client_data_2

drwx------ root;usr@ root;None  0 Aug 28 17 C:\client_data_2\
-rwx------ root;usr@ root;None 40 Aug 05 24 C:\client_data_2\ewr.txt
drwx------ root;usr@ root;None  0 Aug 28 17 C:\client_data_2\
-rwx------ root;usr@ root;None 40 Aug 05 24 C:\client_data_2\ewr.txt
```

The user column (`root;usr@`) for the Windows images displays the user that backed up the file and the owner@domain separated by a semicolon. The group column (`root;None`) for the Windows images is the group that backed up the file and the group@domain separated by a semicolon.

Example 5 - List the files from a Linux VMware backup and translate the UID and GID to the user name and the group name:

```
# bplist -Translateownership -S host0.example.com
-C client0.example.com -R 1 -l -t 40 -E -unix_files -b /user1_home

drwxr-xr-x user1   grp   0 Sep 09 10:39 /user1_home/
drwxr-xr-x user1   grp   0 Sep 09 10:39 /user1_home/user_data/
drwxr-xr-x root    root  0 Sep 09 10:39 /user1_home/root_data/
drwxr-xrwx root    root  0 Sep 09 10:39 /user1_home/root_data_write/
drwxr-xr-x root    root  0 Sep 09 10:39 /user1_home/root_data.orig/
drwxr-xr-x user1   grp   0 Sep 09 10:39 /user1_home/444.txt/
```

FILES

UNIX systems: `/usr/openv/netbackup/logs/bplist/log.`*`mmddyy`*

Windows systems: *`install_path`*`\NetBackup\logs\bplist\*.log`

SEE ALSO

See bp on page 49.

See bparchive on page 51.

See bpbackup on page 57.

See bprestore on page 386.

bpmedia

bpmedia – freeze, unfreeze, suspend, or unsuspend NetBackup media

SYNOPSIS

bpmedia -freeze | -unfreeze | -suspend | -unsuspend -m *media_id* [-h *host*] [-v]

bpmedia -movedb -m *media_id* -newserver *newservername* [-newsvr_group *groupname*] [-oldserver *oldservername*] [-v]

bpmedia -movedb -allvolumes -newserver *newservername* -oldserver *oldservername* [-v]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpmedia command enables you to do the following:

- Freeze, unfreeze, suspend, or unsuspend NetBackup tape media. That is, it allows or disallows future backups or archives to be directed to the media. This command applies only to media that Media Manager manages.
- Move a media catalog entry from one server to another in a primary server cluster.
- Move ownership of tape media to a different media server. It changes all media database and image records that reference one server name (oldservername) to reference another server name (newservername).

Note: Under certain media or hardware error conditions, NetBackup automatically suspends or freezes media. If this action occurs, the reason is logged in the NetBackup Problems report. If necessary, you can use the bpmedia -unfreeze or -unsuspend options to reverse this action.

Any authorized user can run this command. For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

`-freeze`

Freezes the specified media ID. When an active NetBackup media ID is frozen, NetBackup does not direct backups and archives to the media. All unexpired images on the media continue to be available for restores. NetBackup never deletes a frozen media ID from the NetBackup media catalog, nor is it unassigned in the NetBackup volume pool when it expires.

`-unfreeze`

Unfreezes the specified media ID. This option reverses the action of `freeze` and allows the media to be used for backups or archives again if it has not expired. If a media is expired when it is unfrozen, it is immediately unassigned in the NetBackup volume pool.

`-suspend`

Suspends the specified media ID. The action is the same as `freeze` except when the media ID expires, it is immediately unassigned in the NetBackup volume pool.

`-unsuspend`

Unsuspends the specified media ID. This option reverses the action of `suspend` and allows the media to be used for backups or archives again.

`-movedb -newserver` *`newservername`* `[-newsvr_group` *`groupname`*`] [-oldserver` *`oldservername`*`]`

Note: You cannot use the `-movedb` option with NetBackup server.

Moves a media catalog entry from one server to another in a primary server cluster. This command moves the media catalog entry for the specified media ID from *oldservername* to *newservername*. It updates the NetBackup image catalog to reflect that the media ID was moved. You can assume that after the move, *newservername* has access to the media.

`-newserver` *`newservername`* specifies the name of the host to which the entry is moved.

`-newsvr_group` *`groupname`* specifies the name of the new server group that is to own the media.

`-oldserver`***oldservername*** specifies the name of the host where the catalog entry to be moved currently resides. If you do not specify *oldservername*, the system where the command runs is considered to be the old server.

The -movedb option is most meaningful in the following configurations: A master and its media servers share a robotic library and have access to all the media in the robot. At a minimum, all NetBackup servers must use the same Enterprise Media Manager Database. With the same database, the media can move from one robotic library to another without losing their attributes and assignment status.

-movedb -allvolumes -newserver *newservername* -oldserver *oldservername*

Moves all media that are assigned to one media server (*oldservername*) to another media server (*newservername*). This operation occurs on the EMM database, changing the lastwritehost of the media to *newservername*. The following is true for the media that belongs to a share group: If the lastwritehost was set to the *oldservername*, then the *newservername* must belong to the share group, and lastwritehost is changed to *newservername*.

If the first step succeeds, then the option changes the media server name for all fragments in the image database from *oldservername* to *newservername*. This action may take a long time, because the command must traverse the entire image database.

Note: You cannot use the -movedb option with the NetBackup server.

-m *media_id*

Specifies the media ID that requires action. The media ID must be six or fewer characters and must be in the NetBackup media catalog.

-h *host*

Specifies the host name of the server where the media catalog resides. This option is required only if the volume was not written on the server where you run the bpmedia command. In this case, the media ID is in the NetBackup media catalog on the other server. You must specify the name of that server on the bpmedia command.

For example, assume that you have a master server named whale and a media server named eel. You run the following bpmedia command on whale to suspend media ID BU0001 that is in the media catalog on eel:

```
bpmedia -suspend -m BU0001 -h eel
```

Use the NetBackup Media List report to determine the host that has the volume in its media catalog.

-v

Selects verbose mode. This option is only meaningful when NetBackup runs with debug log function on (that is, when the following directory exists):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

```
install_path\NetBackup\logs\admin
```

EXAMPLE

Assume that the master server is HOSTM, with HOSTS1 and HOSTS2 being media servers. It moves the media catalog entry for media ID DLT001 from HOSTS1 to HOSTS2 and updates the NetBackup image catalog. The following command is run on master server `HOSTM`:

```
# bpmedia -movedb -m DLT001 -newserver HOSTS2 -oldserver HOSTS1
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/media/*
```

Windows systems:

install_path\NetBackup\logs\admin*.log
install_path\NetBackup\db\media*.log

bpmedialist

bpmedialist – display NetBackup tape media status

SYNOPSIS

bpmedialist [-mlist] [-U | -l | -L] [-m *media_id*] [-rl *ret_level*] [-d *density*] [-p *pool_name*] [-json] [-h *host_name* | -M *master_server*,...] [-owner *host_name* | *group_name*] [-v]

bpmedialist -summary [-U | -L] [-brief] [-p *pool_name*] [-h *host_name* | -M *master_server*,...] [-owner *host_name* | *group_name*] [-v]

bpmedialist -mcontents -m *media_id* [-U | -l | -L] [-d *density*] [-h *host_name* | -M *master_server*,...] [-owner *host_name* | *group_name*] [-v] [-priority *number*]

bpmedialist -rt *robot_type* -rn *robot_number* [-d *density*] [-U | -l] [-h *host_name* | -M *master_server*] [-v]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpmedialist queries one or more NetBackup media catalogs and produces a report on the status of the NetBackup media. Authorized users can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

bpmedialist produces one of three reports: Media List Report, Media Summary Report, and Media Contents Report.

Media List Report

Media List (-mlist) report, provides information on either a single volume or all volumes in the NetBackup media catalog. This report does not apply to disk storage units. The report lists, for each volume in the report, the volume's media ID, media server, and other attributes, which is the default report type.

If the -U option is used (default), the status field appears as English text. With the -L option, the status appears as a hexadecimal integer. The interpretation of the digits is given here. Any or all of these flags can be set. Settings other than those listed here correspond to unreported states.

>= 0x2000 Media contains some encrypted images.

>= 0x800 This tape is WORM (write once, read many).

>= 0x400 Used for alternate server restores.

>= 0x200 Multiplexing is TRUE.

>= 0x080 Imported is TRUE.

>= 0x040 Multiple retention levels is TRUE.

To determine the interpretation for the low-order status digit, compare the digit to the following values in order.

>= 0x008 The status is Full.

>= 0x004 This is an unreported state.

>= 0x002 The status is Suspended.

== 0x001 The status is Frozen.

== 0x000 The status is Active.

The reported status is the status for the low-order digit that is combined with the status for the upper-order digits. For instance, for a status value of 0x040, the media ID is active, and multiple retention levels are in effect.

The -l option produces a report in Short mode. Each media ID occupies one line of the report. The fields on this line are listed later in this description.

Any of the following fields that are not documented in that section are reserved for NetBackup internal use:

- media id
- partner id
- version
- density
- time allocated
- time last written
- time of expiration
- time last read

- `Kbytes`
- `nimages`
- `vimages` (unexpired images)
- `retention level`
- `volume pool`
- `number of restores`
- `status` (described previously)
- `hsize`
- `ssize`
- `l_offset`
- `reserved`
- `psize`
- `reserved`
- four reserved fields

Media Summary Report

The Media Summary report lists (by server) summary statistics for active and inactive media, which is grouped according to expiration date. The report shows the expiration date for the media and the number of media at each retention level, and the status of each media ID.

Media Contents Report

The Media Contents report lists the contents of media as read directly from the media. It lists the backup IDs that are on a single media ID. It does not list each individual file. This report does not apply to disk storage units. Note that the storage unit may stay in use for some time after the break if the following occurs: You try to abort the command by entering `ctl-c` and the requested media are not mounted or positioned. Each entry in the report appears as that area of the storage unit is read.

The `-l` format for the Media Contents report produces one line for each backup ID and contains the following fields.

For more detail, see the Media Contents Report section in the *NetBackup Administrator's Guide, Volume II*.

Any of the following fields that are not documented in that section are reserved for NetBackup internal use.

- Version (1 denotes a DB backup image, 2 denotes a regular backup image)
- Backup ID
- Creation time
- Expiration time
- Retention level
- Fragment number
- File number
- Block size (in bytes)
- Status
- media_id
- Size
- Reserved
- data_start
- Reserved
- client_type *
- copy_num *
- sched_type *
- Flags *
- opt_extra
- mpx_headers
- res1
- Policy name *
- Schedule label *

* These fields are significant only if version is 2.

OPTIONS

Report-type Options

`bpmedialist` produces one of four types of reports. An option on the command line determines the type of report that is produced. The report-type options are as follows:

`-mlist`
: Produces a Media List report (the default report type).

`-summary`
: Produces a Media Summary report.

`-mcontents`
: Produces a Media Contents report.

The `bpmedialist` report can appear in one of several formats. The report-format options are as follows:

`-brief`
: Produces a brief report. This option is available for the Media Summary report only. The default is a full report, which includes a breakdown of active and non-active media that report on each media ID status within these categories.

`-U`
: Reports in user mode (the default report mode). The report includes a banner that lists the column titles. The report style is descriptive, rather than terse.

`-L`
: Reports in long mode. This format produces the report with the most complete information. For instance, for the Media List report, the report lists each media ID attribute as a series of *`keyword = value`* pairs, one attribute per line. A value can be expressed as both a numeric value and a descriptive value.

`-l`
: Reports in short mode. This format produces a terse report. This option is useful for scripts or the programs that rework the listing contents into a customized report format.

The following are the remaining options used by `bpmedialist`:

`-d` *`density`*
: Reports on media of this density type. If the robot type is specified on the command line, the value for density should be consistent with the robot type. Available density types are:

  `dlt` - DLT Cartridge

  Note: The following densities are supported only on NetBackup Enterprise Servers.

`dlt2` - DLT Cartridge 2

`dlt3` - DLT Cartridge 3

`hcart` - 1/2 Inch Cartridge

`hcart2` - 1/2 Inch Cartridge 2

`hcart3` - 1/2 Inch Cartridge 3

`-h` *`host_name`*

The name of a host that contains the media to be reported. Use `-h` instead of `-M` to collect the contents list of expired media.

To extract records for media from NDMP hosts, use the NDMP hostname, not the NetBackup for NDMP server hostname. The NCMP hostname is defined in the NDMP storage unit or EMM as an NDMP server type (or an associated EMM alias name) that is associated with that master server domain.

`-json`

Prints the output in `json` (JavaScript Object Notation) format on a single line.

`-m` *`media_id`*

Reports on this media ID only. This option is required for the Media Contents report.

For the Media List report, this option is optional, The default condition is that all media IDs are included in that report. The media ID can be provided in either uppercase or lowercase. The media ID must be six or fewer characters and must be in the NetBackup media catalog (that is, assigned from the NetBackup volume pool).

`-owner` *`host_name`* | *`group_name`*

Specifies the owner of the media list. The owner can be a host or a server group.

Note: NetBackup server has only one server (the master), so use the name of that server for *host_name*.

---

host_name is either the name of a host, or the character string `ALL`. If *host_name* is the name of a host, the query goes to the media catalog that resides on the system host_name. For the `-mcontents` option, this option can appear once. For the `-mlist` and `-summary` options, this option can appear more than once. The default is all servers in the set of storage units for removable media.

The system *host_name* must allow access by the system running `bpmedialist`. *host_name* can be a media server for a master server other than the local master server. The default is the master server of the local cluster.

For a media server or for a master server other than the local master, `bpmedialist -h the_media_server` may complete faster than an equivalent `bpmedialist -M the_media_servers_master` command. The difference in response time can be significant if the media server from the `-h` command is local and the master server from the `-M` command is remote.

If host_name is `ALL`, the query goes to the local master server and its media servers.

group_name specifies the name of a server group or the character string `ALL`. If *group_name* is the name of a server group, the query returns the media that the server group owns. If group_name is `ALL`, the query returns the media that all the server groups own.

`-M master_server,...`

A list of alternative master servers. This list is a comma-delimited list of host names. If this option is present, each master server in the list runs the `bpmedialist` command. If an error occurs for any master server, the report process stops at that point.

The report is the composite of the information that all the master servers in this list return. `bpmedialist` queries each of these master servers. Each master server in the list must allow access by the system that issues the `bpmedialist` command.

For `-mcontents` (Media Contents report) only, the master server returns media information from the media catalogs. This media information is for both the master and its media servers (except for NetBackup server, which does not support remote media servers). For example, if a media ID exists on a media server of one of the master servers in the `-M` list, the following occurs: The master retrieves the media information from the media server and returns it to the system running `bpmedialist`. In this case, both the master server and the media server must allow access by the system that issues the `bpmedialist` command.

The default is the master server for the server running `bpmedialist`.

Note: NetBackup server supports only one server, the master; the default in this case is always the NetBackup server master where you run `bpmedialist`.

`-p pool_name`

Reports on the media IDs that belong to this volume pool. The default is all pools.

`-priority number`

Specifies a new priority (*number*) for the media contents job (for a Media Contents report) that overrides the default job priority.

`-rl retention_level`

Reports on the media that use this retention level. The retention level determines how long to retain backups and archives. The *retention_level* is an integer between 0 and 100 (default level is 1).

Note: If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

Following are the retention levels with the installation values for the corresponding retention periods. Your site may have reconfigured the retention periods that correspond to the retention levels.

- 0 (one week)
- 1 (2 weeks)
- 2 (3 weeks)
- 3 (1 month)
- 4 (2 months)
- 5 (3 months)
- 6 (6 months)
- 7 (9 months)
- 8 (1 year)
- 9-100 (infinite, except 25 which is expire immediately)

`-rn robot_number`

Reports on the robot by using this robot number. The robot number can be obtained from the Media and Device Management.

For rules about the use of this number, see the *NetBackup Administrator's Guide, Volume II*.

`-rt robot_type`

Reports on a robot of this type. For non-robotic (stand-alone) devices select NONE. Valid robot types include the following:

TLD - Tape Library DLT

NONE - Not robotic

Note that the following robot types apply only to NetBackup Enterprise Server:

ACS - Automated Cartridge System

-v

Selects verbose mode. This option causes bpmedialist to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup has the debug logging enabled; that is, when the following directory is defined:

For UNIX systems: /usr/openv/netbackup/logs/admin

For Windows systems: *install_path*\NetBackup\logs\admin

EXAMPLES

Example 1 - Produce a media report for all media IDs that are defined for the master server and media servers of the local system.

Note: For NetBackup server, the report includes only media IDs for the master server because remote media servers are not supported.

```
# bpmedialist

Server Host = hatt

id      rl  images   allocated      last updated   density   kbytes  restores
            vimages   expiration     last read        <------- STATUS ------->
--------------------------------------------------------------------------------
143191  0    28   12/03/2012 23:02  12/22/2012 23:00    dlt     736288     1
              7   12/29/2012 23:00  12/09/2012 10:59

144280  0     9   11/25/2012 11:06  12/01/2012 23:03    dlt     290304     0
              0   12/08/2012 23:03      N/A         EXPIRED  FROZEN

AEK800  0    22   12/06/2012 03:05  12/23/2012 03:01    dlt    23213184    0
              7   12/30/2012 03:01  12/09/2012 10:48

C0015   0    28   11/26/2012 02:09  12/23/2012 02:01    dlt     896448     0
              7   12/30/2012 02:01      N/A
```

```
IBM001  0    16   12/16/2012  01:01  12/23/2012 01:07   dlt     6447360    0
             14   12/30/2012 01:07      N/A

L00103  0    20   12/07/2012 08:33   12/23/2012 01:07   dlt     7657728    0
              9   12/30/2012 01:07      N/A

L00104  0     9   12/11/2012  01:09  12/21/2012 01:04   dlt     5429504    0
              5   12/28/2012 01:04      N/A
```

Example 2 - Produce a media contents report for media ID AEK802. The report is partially listed as follows.

```
# bpmedialist -mcontents -m AEK802
media id = AEK802, allocated 01/08/2007 03:10, retention level = 0

        File number 1
         Backup id = hat_0915786605
         Creation date = 01/08/2007 03:10
         Expiration date = 01/15/2007 03:10

         Retention level = 0
         Copy number = 1
         Fragment number = 2
         Block size (in bytes) = 65536

    File number 2
         Backup id = hat_0915809009
         Creation date = 01/08/2007 09:23
         Expiration date = 01/15/2007 09:23
         Retention level = 0
         Copy number = 1
         Fragment number = 1
      Block size (in bytes) = 65536
```

Example 3 - Produce a Media List report for master servers `hatt` and `duo`.`bpmedialist` runs on the master server `buff`.

```
# bpmedialist -M hatt,duo

Server Host = hatt

 id     rl  images   allocated      last updated    density  kbytes   restores
           vimages   expiration     last read        <------- STATUS ------->
--------------------------------------------------------------------------------
143191   0     51   12/03/2008 23:02  01/11/2009 23:04    dlt    1436686      2
```

```
                9   01/18/2009 23:04  01/08/2009 10:26

144280   0      9   11/25/2008 11:06  12/01/2008 23:03    dlt     290304      0
                0   12/08/2008 23:03  01/12/2009 16:10  EXPIRED  FROZEN

AEK800   0     38   12/06/2008 03:05  01/08/2009 03:10     dlt  3922200024      0
                3   01/15/2009 03:10  12/09/2008 10:48  FULL

AEK802   0      6   01/08/2009 03:10  01/12/2009 03:05     dlt   6140544      0
                6   01/19/2009 03:05  01/12/2009 16:12

C0015    0     48   11/26/2008 02:09  01/12/2009 02:11     dlt   1531968      0
                7   01/19/2009 02:11      N/A

IBM000   0     19   01/01/2009 01:09  01/12/2009 02:05     dlt   8284224       0
               13   01/19/2009 02:05  01/09/2009 05:41

Server Host = duo

 id     rl  images   allocated      last updated    density    kbytes  restores
           vimages   expiration     last read        <------- STATUS ------->
--------------------------------------------------------------------------------
A00004   0      0   11/16/2009 05:31      N/A            4mm         0       0
                0       N/A             N/A         FROZEN

DLT210   1      5   12/09/2008 06:10  01/08/2009 06:04     dlt      2560       0
                2   01/22/2009 06:04      N/A

DLT215   0    124   12/08/2008 14:57  01/12/2009 08:07     dlt   9788072       4
               28   01/19/2009 08:07  12/31/2008 15:42
```

Example 4- Report on which of two hosts has a given media ID configured. The host `hatt` does not have A00004 configured in its media catalog. Therefore, it reports that the requested media ID was not found in the NetBackup media catalog or Enterprise Media Manager Database.

The host duo does have A00004 configured, so it produces a Media List report for A00004 (the command is all on one line).

```
# bpmedialist -mlist -h hatt -h duo -m A00004

requested media id was not found in NB media database and/or MM volume database

Server Host = duo
```

```
 id      rl  images    allocated       last updated    density    kbytes  restores
           vimages    expiration      last read        <------- STATUS ------->
-------------------------------------------------------------------------------
A00004    0       0   11/16/2009 05:31       N/A             4mm        0        0
                  0        N/A                N/A          FROZEN
```

FILES

UNIX systems: `/usr/openv/netbackup/logs/admin/*`

Windows systems: *`install_path`*`\NetBackup\logs\admin\*`

bpminlicense

`bpminlicense` – manage NetBackup licenses

SYNOPSIS

bpminlicense -add_keys | -validate_keys *slffilepath1* [...*slffilepathn*] [-debug] [-verbose]

bpminlicense -find_keys | -delete_keys *entitlement1* [...*entitlementn*] [-debug] [-verbose]

bpminlicense [-debug] [-list_keys] [-M *nb_server*] [-nb_features] [-verbose]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `bpminlicense` utility manages NetBackup licenses. This utility is only supported on the NetBackup primary server. The preferred method to manage NetBackup licenses is to use the **Settings-> License Management** in the NetBackup web UI. For UNIX servers, you may also use the `get_license_key` utility to manage the NetBackup licenses.

Any authorized user can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

-add_keys *slffilepath1...slffilepathn*

This option adds licenses to the license repository. It accepts one or more `slf` file paths as input. For UNIX and Linux, the license repository location is `/usr/openv/var/global/licenses`. For Windows, the location is *install_path*\NetBackup\var\global\licenses.

-debug

Displays detailed information to standard error.

`-delete_keys` *entitlement1...entitlementn*

Deletes one or more licenses that are specified with the serial number from the license file.

`-find_keys` *entitlement1...entitlementn*

This option accepts one or more serial numbers as input and finds the corresponding license file.

`-list_keys`

Lists the licenses in the NetBackup license repository.

`-nb_features`

Lists only active NetBackup feature IDs. When this option is specified with the `-verbose` option, the command also lists the active licenses.

`-validate_keys` *slffilepath1...slffilepathn*

This option validates licenses without adding the licenses to the license repository. It accepts one or more `slf` file paths as input.

`-verbose`

Displays additional information to standard output.

EXAMPLE

Example 1 - The administrator wants to add license to the license repository.

```
bpminlicense -add_keys file.slf
Added license file.slf A0123456789.
```

Example 2 - The administrator wants to delete license from the license repository.

```
bpminlicense -delete_keys A0123456789
The license A0123456789 is deleted.
```

Example 3 - The administrator wants to list licenses.

```
bpminlicense -list_keys
A0123456789 NETBACKUP PLATFORM BASE COMPLETE ED WITH FLEXIBLE LICENSING
XPLAT 1 FRONT END TB PLUS ONPREMISE STANDARD SUBSCRIPTION
```

bpnbat

`bpnbat` – perform Authentication tasks from within NetBackup

SYNOPSIS

bpnbat [-AddDomain | -RemoveDomain] *Private_Domain*

bpnbat [-AddMachine]

bpnbat [-AddUser | -RemoveUser] *Name Private_Domain*

bpnbat -GetBrokerCert *Broker_Name Broker_Port*

bpnbat -Login [-Info *answer_file*] [-cf *credential_file*] [-LoginType AT|WEB|APIKEY|WEBUI] [-skipDomainValidation] [-i | -Interactive]

bpnbat -LoginMachine

bpnbat -Logout [-LogoutType AT|WEB|APIKEY|WEBUI] [-cf *credential_file*]

bpnbat -RemoveBrokerCert *host_name*

bpnbat -RenewCred [-cf *credential_file*]

bpnbat -ShowBrokerCerts

bpnbat -ShowMachines

bpnbat -Version

bpnbat -WhoAmI [-cf *credential_file*] [-Verify]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `bpnbat` command is a tool that enables a user to use the Veritas Product Authentication and Authorization Service.

This service contains the following two distinct parts:

- Authentication - prove who you are
- Authorization - check what you can do

`bpnbat` enables a user to do authentication tasks from within NetBackup.

If a command needs a password, it doesn't echo the password or asterisks, which someone can use to narrow the password search space significantly.

NetBackup Access Control requires the user's home directories to work correctly.

You must have administrator privileges to run the following command options: `-AddDomain`, `-RemoveDomain`, `-AddMachine`, `-AddUser`, `-RemoveUser`, `-LoginMachine`, and `-ShowMachines`.

OPTIONS

`[-AddDomain | -RemoveDomain] Private_Domain`

These options enable an administrator that runs locally on an Authentication server to add or remove domains within the private Veritas Domain Database. These domains are not accessible from within any operating system. They are meaningful only within Veritas Product Authentication and Authorization Service. Use them where a centralized naming authority (such as a PDC/AD or NIS domain) is not available.

`-AddMachine`

Registers a computer in a private Veritas Product Authentication. The identity is placed in the private domain NBU_Machines@*at.server.name*. Run this option on your authentication broker (root +ab).

`[-AddUser | -RemoveUser] Private_Domain`

Enables an administrator that runs locally on an Authentication server to add or remove users from domains in the private Veritas Domain Database. These accounts are meaningful only within Veritas Product Authentication and Authorization Service. Use them when a centralized naming authority (such as PDC/AD or NIS domain) is not available.

`-GetBrokerCert`

Obtains a broker certificate without authenticating to a broker.

`-Login [-Info answer_file] [-cf credential_file] [-LoginType AT|WEB|APIKEY|WEBUI][-requestApproval] [-i | -Interactive]`

Identifies yourself to the system. When you run this command with no options, you are prompted to enter a name, password, domain, authentication type, and a server to authenticate. The combination of a name, password, domain, and domain type creates a unique identity within an Enterprise-wide network. The first time a broker is contacted, you are asked if you want to trust that broker and authenticate them. You cannot use an untrusted broker.

Note: You must use the `bpnbat -login` command to perform certain authorization token and host ID-based certificate-related operations.

The `-Info` option accepts the name, password, and domain information from an answer file. The password is optional in the answer file. You can also place the certificate in a credential file (if specified) or the default location. If you do not provide a password, you are prompted for the password when you run the command.

The `-Info` option accepts the name, password, and domain information from an answer file. The password is optional in the answer file. You can also place the certificate in a credential file (if specified) or the default location. If you do not provide a password, you are prompted for the password when you run the command. The `-Info` option is applicable only for `AT`, `WEB`, and `APIKEY` login.

The `-Info [-i | -Interactive]` option prompts you to enter the one-time password during logon when your user account is configured for multifactor authentication.

If multifactor authentication is enforced and you have not configured multifactor authentication for your user account, use of NetBackup web UI is recommended to configure multifactor authentication.

For the `bpnbat -login` operation on NetBackup host earlier than 10.3, you must append the one-time password to the password.

If you have not provided any value for the `bpnbat -LoginType` option and user enters one-time password appended to password, the web logon succeeds. The authentication of the Veritas authentication service (AT), however, fails. For successful AT authentication and web logon, you must enter the password and one-time password separately.

The `-requestApproval` option is applicable only for `WEBUI` login. Use this option to request NetBackup command line interface execution permission.

For the `APIKEY` login type, the answer file should contain the details in the following order:

```
User name
API key
Master server
```

Example of a sample answer file:

```
administrator
A1WMg0EmC4pKBXlZjL61qlqJ0YE4-IRacjViMKLg9pUVaU-XJAnroQNawlnKLaNx
nbmaster1
```

Warning: Saving the user name and password in a plain text file is a potential security issue. Unauthorized users with read access to the text file can obtain the user name and password for the Veritas Product Authentication and Authorization Service to manually authenticate with the `bpnbat` command. Make certain that you secure access to the answer text file.

The answer file is a text file with entries for the required information.

The answer file for `WEB` must contain the four lines that are shown in the order shown:

domain type
domain
user name
password

A sample answer file is:

```
NT
Sample_Domain
administrator
s@Mpl3
```

The answer file for `AT` must contain the four lines that are shown in the order shown:

domain type
domain
user name
password
authentication broker

A sample answer file is:

```
unixpwd
Sample_Domain
root
s@Mpl3
Sample_Domain
```

As previously explained, *password* is an optional value. The *domain type* value must be one of the values shown:

- `NIS`
- `NIS+`

- NT
- vx
- unixpwd

If you use an answer file, ensure that the appropriate AUTHENTICATION_DOMAIN is configured on the server. See the *NetBackup Security and Encryption Guide*.

The NetBackup Web Management Console Service (nbwmc) always runs on the NetBackup master server. The Authentication Broker normally runs on the NetBackup master server as well. But in certain instances, it can run on a host other than the master server.

The answer file for APIKEY must contain the three lines that are shown:

```
Login name
API key
Master server
```

If the -LoginType is AT, only a NetBackup AT broker log on for the master server is performed. If the -LoginType is WEB or APIKEY, only a NetBackup web application log on for the Authentication Broker or the master server is performed. If the -LoginType is not specified, both the AT and the WEB logons are performed if the Authentication Broker is on the master server. If the -LoginType is not specified and the Authentication Broker is not on the master server: the WEB logon succeeds and the AT logon fails. The AT logon fails with a security services status code 96. If the -LoginType is APIKEY, only API key logon is performed. The -cf option is not applicable if the -LoginType is WEB or APIKEY.

-LoginMachine

Identifies a computer that uses an account within the Veritas Security Subsystem private domain NBU_Machines@*at.server.name*. Run this option on your NetBackup Media, Master, and Clients. This option is similar to when you log on as a user to an authentication broker.

-Logout [-cf *credential_file*] [-LogoutType AT|WEB|APIKEY|WEBUI]

Invalidates the current user credentials that require the user to log on again to continue. Without the -cf option, the credential that is stored at the default location is expired. The -cf option points to the actual credential file, which allows a user to explicitly specify the credential to be expired.

If the -LogoutType is AT, only a NetBackup AT broker logout is performed. If the -LogoutType is WEB, WEBUI, or APIKEY, it is a NetBackup web application logout. If the -LogoutType is not specified, the AT, web and the WEBUI logout are performed. The -cf option is applicable only for the AT logout.

`-RemoveBrokerCert` *`server.name.com`*

Removes a trust of a specified authentication broker for all users except the root user (administrator). You can use this command to remove a broker when you no longer trust it. For example, an authentication broker is moved to a different corporate division.

`-RenewCred [-cf` *`credential_file`*`]`

Renews the current user credentials from the VxSS store or the credential file that is specified with the `-cf` option.

`-ShowBrokerCerts`

Lists all of the brokers that the user currently trusts. NetBackup trusts any broker that is listed to handle the authentication requests that are sent to it.

`-ShowMachines`

Lists all computers that have been added to the computers domain of a private Veritas Security Subsystem database by using the `-AddMachines` option. It also shows if DNS fully resolved the computer name. Run this option on your authentication broker (root +ab).

`-skipDomainValidation`

Use this option to skip authentication domain validation. Applicable only for `AT` or `WEB` login.

`-Version`

Retrieves the version of the executable.

`-WhoAmI [-cf` *`credential_file`*`] [-Verify]`

Specifies the identity you currently use within Veritas Product Authentication and Authorization Service. It lists the following:

- Name
- Domain
  For `API` key type of login, the domain is displayed as `vrts.apikey`
  For `WEBUI` type of login, if approval is requested to execute NetBackup command line interface, then the domain is displayed as `CLI`.
- Authentication broker who issued the credential
- The time a certificate expires
- The domain type that was used when the credential was created

EXAMPLES

Example 1 - The user uses `-Login` and the default port number to connect to the authentication broker that is called test.domain.veritas.com. (It is the server that handles the Authentication process.) An NIS account is used. Therefore, a domain name that is associated with the NIS account is provided in addition to a user and password.

```
# bpnbat -Login
Authentication Broker: test.domain.veritas.com
Authentication port[ Enter = default]:
Authentication type (NIS, NISPLUS, WINDOWS, vx, unixpwd): NIS
Domain: domain.veritas.com
Name: username
Password:
You do not currently trust the server: test.domain.veritas.com, do
you wish to trust it? (y/n): y
Operation completed successfully.
```

Example 2 - The `-WhoAmI` option verifies the identity that you currently use within the Veritas Product Authentication and Authorization Service.

```
# bpnbat -WhoAmI
Name: user name
Domain: domain.veritas.com
Issued by: /CN=broker/OU=root@eek.example.com/O=vx
Expiry Date: Oct 27 20:57:43 2009 GMT
Authentication method: NIS
Operation completed successfully.
```

Example 3 - Add a computer to the computer identities list:

```
# bpnbat -AddMachine
Machine Name: auto.domain.veritas.com
Password:
Operation completed successfully.
```

Next, it shows the computer identities list:

```
# bpnbat -ShowMachines
auto.domain.veritas.com
Operation completed successfully
```

Then it logs on a computer to a specified authentication broker:

```
# bpnbat -LoginMachine
Does this machine use Dynamic Host Configuration Protocol (DHCP)?
(y/n) n
Authentication Broker: test.domain.veritas.com
Authentication port[ Enter = default]:
Name: auto.domain.veritas.com
Password:
Operation completed successfully.
```

Finally, you log into a computer to a specified authentication broker and a problem occurs:

If the user has a multi-NIC configuration or types the broker name incorrectly, a second prompt appears. It gives the user a second chance to enter the proper broker name. The following example assumes `sleemanNB` is a private NIC name. The public NIC name that Veritas Product Authentication and Authorization Service uses to build the authentication domain is `sleeman.example.com`. If a failure occurs with `-loginmachine`, the user has a second chance to enter an explicit primary host name for the authentication broker. (Failures include a bad computer name, wrong password, or incorrect broker name.) Refer to the following example:

```
# bpnbat -LoginMachine
Does this machine use Dynamic Host Configuration Protocol (DHCP)?
(y/n) n
Authentication Broker: sleemanNB
Authentication port[ Enter = default]:
Machine Name: challenger
Password:
Primary host name of broker: sleeman.example.com
Operation completed successfully.
```

Example 4 - Obtain a broker certificate without authenticating to a broker. It expects a broker (test.domain.veritas.com) and a port (0 for default)

```
# bpnbat -GetBrokerCert test.domain.veritas.com 0
Operation completed successfully.
```

Example 5 - Lists all the brokers that the user currently trusts

```
# bpnbat -ShowBrokerCerts
Name: root
Domain: root@test.domain.veritas.com
Issued by: /CN=root/OU=root@test.domain.veritas.com/O=vx
Expiry Date: Jun 12 20:45:19 2006 GMT
Authentication method: Veritas Private Security
```

```
Name: root
Domain: root@auto.domain.veritas.com
Issued by: /CN=root/OU=root@auto.domain.veritas.com/O=vx
Expiry Date: Feb 17 19:05:39 2006 GMT
Authentication method: Veritas Private Security
Operation completed successfully.
```

Example 6 - The `-RemoveBrokerCert` option removes a broker when the user no longer wants to trust it. In the following example, an authentication broker is moved to a different corporate division.

```
# bpnbat -RemoveBrokerCert test.domain.veritas.com
Operation completed successfully.
```

The user can now use the `-ShowBrokerCerts` option to display current certificates. The previously removed certificate is no longer displayed.

Example 7 - Show how to use an answer file to supply logon information for automated commands (cron, etc.).

For UNIX: The UNIX NIS domain name is `location.example.com`, the user name in this domain is `bgrable`, and the password is `hello456`. The corresponding answer file for `bpnbat -login` must contain the following four lines:

```
NIS
location.example.com
bgrable
hello456
```

If the answer file is located in `/docs` and is called `login.txt`, the `bpnbat` command executes as follows:

```
# bpnbat -login -info /docs/vslogin.txt
```

After the `bpnbat -login` command is run, commands like `bpbackup` can be run without authentication errors.

For Windows: The windows domain name is corporate, the user name in this domain is `jsmith`, and the user password is hello123. The corresponding answer file for `bpnbat -login` has to contain the following four lines:

```
NT
corporate
jsmith
hello123
```

If the answer file is located in `/docs` and is called `login.txt`, the `bpnbat` command executes as follows:

```
# bpnbat -login -info c:\docs\vslogin.txt
```

After the `bpnbat -login` command is run, commands like `bpbackup` can be run without authentication errors.

Example 8 - How to use the `bpnbat -login` command with the `-LoginType` parameter.

```
# bpnbat -login -LoginType AT
Authentication Broker: server.domain.com
Authentication port [0 is default]: 0
Authentication type (NIS, NISPLUS, WINDOWS, vx, unixpwd, ldap): unixpwd
Domain:  server.domain.com
Login Name: root
Password:
Operation completed successfully.

# bpnbat -login -LoginType WEB
Authentication Broker: server.domain.com
Authentication port [0 is default]: 0
Authentication type (NIS, NISPLUS, WINDOWS, vx, unixpwd, ldap): unixpwd
Domain:  server.domain.com
Login Name: root
Password:
Operation completed successfully.
```

Example 9 - `bpnbat` logon for a multifactor authentication registered user

```
# bpnbat -Login -LoginType WEB
Authentication Broker [primaryserver is default]:
Authentication port [0 is default]:
Authentication type (NIS, NISPLUS, WINDOWS, vx, unixpwd, ldap) [unixpwd
is default]:
Domain:  primaryserver
Login Name [root is default]:
Password:
One-time password: 016594

Operation completed successfully.
```

Example 10 - `bpnbat` logon for multifactor authentication registered user with the interactive option

```
# bpnbat -Login -info "/root/bpnbat.txt" -interactive
Password:
One-time password: 295362

Operation completed successfully.
```

SEE ALSO

See bpnbaz on page 256.

See nbcertcmd on page 578.

bpnbaz

bpnbaz – perform Authorization administration tasks from within NetBackup

SYNOPSIS

bpnbaz -[AddGroup | DelGroup] *Group_Name* [-M *server*] [-Server *server1.domain.com*] [-CredFile Credential]

bpnbaz -[AddPerms | DelPerms] Permission_1[,Permission_2,...] -Group *Group_Name* -Object *Object* [-M *server*] [-Server *server1.domain.com*] [-CredFileCredential]

bpnbaz -[AddPolicy | DelPolicy] *Policy_Name* [-M *server*] [-Server *server1.domain.com*] [-CredFile Credential]

bpnbaz -AddRBACPrincipal -User | -UserGroup *Domain_Type*:*Domain_Name*:*User_Name* [-reason "*reason*"]

bpnbaz -[AddUser | DelUser] *Group_NameDomain_Type*:*Domain_Name*:*User_Name* [-OSGroup] [-M *server*] [-Server *server1.domain.com*] [-CredFile Credential]

bpnbaz -[AddUser | DelUser] *Domain_Type*:*Domain_Name*:*User_Name* [-reason "*reason*"] [-CredFile Credential]

bpnbaz -[AllowAuthorization | DisallowAuthorization] *Machine_Name* [-M *server*] [-Server *server1.domain.com*]

bpnbaz -CheckUpgrade [-Server *server1.domain.com*]

bpnbaz -Configureauth

bpnbaz -GetConfiguredHosts [*target.server.com*] [-out *file*] | -all [-out *file*] | [-file *progress_file*]

bpnbaz -GetDomainInfosFromAuthBroker [*target.server.com* [-out *file*] | [-file *progress_file*]

bpnbaz -ListGroupMembers *Group_Name* [-M *server*] [-Server *server1.domain.com*][-CredFile Credential]

bpnbaz -[ListPerms | ListMainObjects | ListGroups | ListPolicyObjects | ShowAuthorizers] [-M *server*] [-Server *server1.domain.com*] [-CredFile Credential]

bpnbaz -ListLockedUsers [-U | -l] [-User *Domain_Type*:*Domain_Name*:*User_Name*]

bpnbaz -ProvisionCert *NetBackup_host_name*[-out *file*] | -AllMediaservers -AllClients [-images] [-out *file*] [-dryrun] | -file *progress.file*

bpnbaz -SetupAT [-fsa [*Domain_Type*:*Domain_Name*:*User_Name*]

bpnbaz -SetupAuthBroker [*target.server.com* [-out *file*] | -file *progress_file*]

bpnbaz -SetupClient [*client.server.com*] [-out *file*] | -all [-images] [-out *file*] | [-file *progress_file*] [-dryrun] [-disable]

bpnbaz -SetupMaster [-fsa [*Domain_Type*:*Domain_Name*:*User_Name*]

bpnbaz -SetupMedia [*media.server.com* [-out *file*] | -all [-out *file*] | -file *progress_file*] [-dryrun] [-disable]

bpnbaz -SetupSecurity NBU.Master.Server.com [-M *server*] [-Server *server1.domain.com*]

bpnbaz -UnconfigureAuthBroker [*target.server.com* [-out *file*] | -file *progress_file*]

bpnbaz -UnlockUser -User [*Domain_Type*:*Domain_Name*:*User_Name*]

bpnbaz -UnhookSharedSecSvcsWithPBX [*target.server.com* [-out *file*] | -file *progress_file*]

bpnbaz -Upgrade [-Silent] [-Server *server1.domain.com*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

NetBackup uses the bpnbaz command to access the authorization portion of NetBackup Product Authentication and Authorization Service. Authorization checks the rights on an object. This command enables you to do the following:

- -AddGroup creates Az groups and -DelGroup deletes Az groups. -DelGroup deletes all the members of the group when you delete an Az group from the authorization engine. This operation is not reversible; if you remove a group, you revoke the rights that are granted to members of the group.

Note: An authorization (Az) group is a collection within the Authorization engine into which OS groups and OS users can be placed. When you add a user to an Az group, you grant them the rights and privileges that are associated with that group.

- `-AddPerms` and `-DelPerms` add and delete the specified permissions for the given role on individual policies from the main NetBackup resource objects. For more about permissions, see the NetBackup Administrator's Guide, Volume I.
- `-AddPolicy` and `-DelPolicy` add and delete policies from the main NetBackup resource objects.
- `-AddRBACPrincipal` adds role-based access control (RBAC) permissions for the Administrator role to a specified user or user group. For more about permissions, see the NetBackup Web UI Administrator's Guide.
- `-AddUser` and `-DelUser` add and delete permissions on individual policies from the main NetBackup resource objects.
- `-AllowAuthorization` and `-DisallowAuthorization` specify which computers are allowed or not allowed to perform authorization checks. The security administrator must specify which servers (master or media) can examine the Authorization database to perform authorization checks.
- `-AllClients` deploys the security certificate to all the available clients.
- `-AllMediaservers` deploys the security certificate to all the available media servers.
- `-CheckUpgrade` determines if an upgrade of existing authorization information is needed for the specified server. If so, this option returns 61. Only NetBackup installers use this option.
- `-Configureauth` configures the Authentication Broker.
  Incorrect information for the domain name results in failures during the configuration of Authentication Broker and NetBackup Access Controls. To correct this problem, use this command to configure Authentication Broker.
- `-GetConfiguredHosts` obtains NBAC status on the host. Either the `-all` or `target.server.com` option is required for this command.
- `-GetDomainInfosFromAuthBroker` requests broker domain maps from the authorization broker.
- `-ListGroupMembers` lists the group member that is associated with a particular group defined by *Group_Name*.

- `-ListGroups` lists the defined groups
- `-ListMainObjects` lists the current permissions for each group on each of the main NetBackup objects. This list is an informative view that you can use to verify changes to permissions on an object. This option shows the permissions each group has within the authorization system.
- `-ListPerms` lists the current permissions on NetBackup resource and policies. It shows all applicable permissions for a given object or object type within the database. This option helps the user to create meaningful customizations to their authorization.
- `-ListPolicyObjects` displays all objects or object collections that are associated with the specified policy.
- `-ListLockedUsers` lists all user accounts that are locked.
- `-ProvisionCert` generates an authentication certificate for the specified host and is unique to that host. The certificate must be generated for each host and cannot be pushed from one host to another. An authentication certificate is required on the media servers that host the NetBackup CloudStore Service Container (nbcssc). For more information, see the NetBackup Cloud Administrator's Guide.

  The security certificate is also required on master servers, media servers, and clients to establish a secure communication with the NetBackup-Java Administration Console.

  For more information, see the NetBackup Cloud Administrator's Guide.
- `-SetupAT` generates credentials for all nodes in a clustered master environment. Run this command after NetBackup installation or upgrade.
- `-SetupAuthBroker` sets up the authentication broker to use NBAC.
- `-SetupClient` sets up NBAC on the client. Run it after `bpnbaz -SetupMaster` has been completed successfully. It can be run from the master server. It expects connectivity between the master server and target client systems.

  By default, NBAC messages are logged to a file in the local directory that is called `SetupClient.nbac`. The following is an example of the format of this file:

  ```
  client1.server.com
  #client2.server.com #SUCCESS (0) @(07/16/10 12:09:29)
  client3.server.com #INTERNAL_ERROR(68) @(07/16/10 12:09:39)
  ```

  - The first line indicates that client1.server.com has not yet been contacted at all.

  - The second line indicates that client2.server.com has been successfully contacted. Each success is commented out (with a leading #) and not contacted multiple times.
  - The third line indicates that client3.server.com has been contacted but an error has occurred. Errors are printed out on the command line with a recommendation of what to do. The error number that is indicated in the logs may indicate the problem.

- `-SetupMaster` sets up the master server to use NBAC. The `bpnbaz -SetupMaster` command contains no user arguments. You are prompted for the password for your current operating system user identity. The authorization server and authentication broker must be installed and running on the master server.

  `-SetupMaster` adds root/administrator by default to the NBU_Security Admin group. The first time that you use `-SetupMaster` with the `-fsa` option adds the first security administrator member to the NBU_Security Admin group. If you have configured NBAC already using `-SetupMaster` without the `-fsa` option, use the `-AddUser` option to add any more members.

- `-SetupMedia` sets up the media server to use NBAC. An NetBackup administrator group member can run the `bpnbaz -SetupMedia` command after `bpnbaz -SetupMaster` has been completed successfully. It can be run from the master server and expects connectivity between the master server and target media server systems.

  By default, NBAC messages are logged to a file in the local directory that is called `SetupClient.nbac`. Refer to the `SetupClient` description of an example of the file format.

- `-SetupSecurity` sets up the initial security information. It must be run as root on the Az server.
- `-ShowAuthorizers` lists the computers that are allowed to perform authorization checks.
- `-U` list type is user.
- `-UnlockUser` unlocks the specified user account.
- `-User` is optional for the `-ListLockedUsers` parameter. It lists information about the specified user account. Data is returned only if the user account is locked. This option is required when using the `-UnlockUser` parameter.
- `-UnconfigureAuthBroker` removes the configuration from the Authorization Broker.

- `-UnhookSharedSecSvcsWithPBX` unhooks the shared Authentication and Authorization services from PBX in Windows Server Failover Clustering (WSFC) environments.
- `-Upgrade` modifies the NetBackup operation schema by adding authorization objects. In addition, this option upgrades default user accounts with default permissions for these new objects. You must have NBU_Security Admin privileges.

For more about NBAC and the use of the `bpnbaz` command, see the *NetBackup Security and Encryption Guide*.

To use this command and its associated options, you must be a member of the NetBackup Security Administrators group (NBU_Security Administration). The only exception is with the `SetupSecurity` command.

You must have local administrator privileges on the authorization server to run this command.

When you use `bpnbaz`, assume that the master server and the Az server are the same computer.

Note: The use of NetBackup Access Control requires the user's home directories to work correctly.

OPTIONS

`-all`

Scans all the storage units or policies and collects all the associated unique host names that are found in the policies. You can scan in a sorted order. The results are written to the progress file.

`client.server.com`

Specifies the name of a single target host. Use this option to add a single additional host for use with NBAC.

`-CredFile` *`Credential`*

Specifies a file name (*Credential*) from which to obtain a Veritas Product Authentication and Authorization Service credential, rather than the default location.

`-disable`

Disables NBAC (USE_VXSS = PROHIBITED) on targeted hosts.

`Group_Name`

Identifies the authorization group on which an operation is to be performed. NetBackup does not allow user groups to be nested.

Domain_Type:Domain_Name:User_Name

The *Domain_Type* variable is the domain to which the user or group belongs, and the *User_Name* variable defines the applicable user or group name designating the NetBackup administrator.

-dryrun

Generates a list of computers to receive the security certificate. The exact details of how this option works depends on the parameter with which it is used.

- dryrun, when used with ProvisionCert

  Generates a list of hosts to receive the security certificate and writes that list to the file name that is provided in the -out option. The -dryrun option only works with the –AllMediaservers and the –Allclients parameters. Generates a list of hosts to receive the security certificate and writes that list to the file name that is provided in the -out option. If the -out file option is not provided, then the host list is written to the default DeploySecurityCerts.progress file.

- dryrun, when used with either SetupMedia or SetupClient

  Generates a list of media server names or client names depending on the option used. The command writes the list of names to the log. This option works with *client.server.com* and *media.server.com* but the intention is to use it with the -all option. Generates the list of media server names and writes them to the log. The log file name is SetupMedia.nbac if the command is used with SetupMedia option. The log file name is SetupClient.nbac if the command is used with SetupClient option.

  If you have more than 250 clients, use -dryrun with -SetupClient to see all of the clients that are visible to the master server.

-file *progress_file*

Specify a different file name for the progress log. If -file is used, the input and the output files are the same, which allows multiple rounds to execute without changing the command. Use the progress file iteratively by feeding the file back in multiple times until all clients are available online.

-fsa

Provisions a specific OS user as the NetBackup administrator. You are asked for the password for your current OS user identity.

Group_Name

Adds the users by creating a unique enterprise account name, following this format: *Authentication type*:*Domain_Type*:*User_Name*

The supported Authentication types for this variable are the following:

- Nis - Network Information Services

- NISPLUS - Network Information Services Plus
- Unixpwd - UNIX Password file on the Authentication server
- WINDOWS - Primary Domain Controller or Active Directory
- Vx - Veritas Private database.

`-images`

`-images` searches all images for unique host names. Do not use this option with large catalogs unless you include the `-dryrun` option. This option discovers all unique clients that are contained in the image catalog. Older catalogs may contain a large number of decommissioned hosts, renamed hosts, and hosts relocated to new masters. Run-time can increase significantly as this command tries to contact unreachable hosts.

`-M` *`server`*

Specifies the name of the master server as defined in the variable *server*. This server name may be different from the local host name.

`Machine_Name`

Specifies the computer to be allowed or disallowed to perform authorization checks. The security administrator must specify which master servers or media servers can examine the Authorization database to perform authorization checks.

`media.server.com`

Specifies the name of a single target host. Use this option to add a single additional host for use with NBAC.

`-Object` *`Object`*

Controls the access to specified objects or object collections.

`-OSGroup`

Defines a named collection of authentication principals that are established in a native operating system and treated as a single entity. All members of an authentication group or OS group are from the same authentication domain.

`-out` *`file`*

Specifies a custom output file name. By default, the output is written to the `SetupMedia.nbac` file. Use this option with the `-all` option.

`Permission_1``[,`*`Permission_2,...`*`]`

Permissions for the role that is given to the designated object or policy.

`policy_name`

Specifies the name of the policy from the main NetBackup resource objects.

`-ProvisionCert` *media_server_name*

Generates an authentication certificate for the media server that is indicated.

`-reason "`*reason*`"`

The string must be enclosed in double quotes ("...") and cannot exceed 512 characters. In addition, it cannot begin with a dash character (-) and must not contain the single quotation mark symbol (').

`-Server` *server1.domain.com*

This option specifies the Az server being used. Currently we expect the Az server and the NetBackup master server to exist on the same system.

Determines if an upgrade of existing authorization information is needed for the specified server. If so, this option returns "61". Only NetBackup installers use this option.

`-Silent`

Directs the upgrade operation to automatically enhance the permissions of groups to account for new objects in the system. This option occurs only for the default groups, and only if those groups have never been changed.

target.server.com

Specifies the name of a single target host. Use this option to find the NBAC status on a single host. It captures the status of the host in the `ConfiguredHosts.nbac` file.

EXAMPLES

Example 1 - Create and list an Az group.

An Az group is a collection within the Authorization engine where other OS groups and OS users are placed. This collection is the building block against which permissions are applied on the objects within the database. If you add a user to an Az group, you grant them all the rights and privileges that are associated with that group. When a user is placed in more than one group, that user's effective permissions are as follows: the logical "or" of the applicable permissions of each group to which the user belongs. The following example demonstrates how to create and list an existing Az group:

```
# bpnbaz -AddGroup "New Group 1" -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListGroups -server test.domain.veritas.com
Administrators
Operatorsroo
Security Administrators
Resource Management Applications
```

```
Applications
New Group 1
NBU_Unknown
NBU_User
NBU_Operator
NBU_Media Device Operator
NBU_Admin
NBU_Executive
NBU_Security Admin
NBU_Database Agent Operator
NBU_Database Agent Administrator
Operation completed successfully.
```

Example 2 - Delete an Az group.

If you delete an Az group from the authorization engine, all the members are removed from the group. This operation is not reversible. When you remove a group, you revoke the rights that are granted to members of the group. Therefore, carefully consider the implications of deleting groups.

```
# bpnbaz -DelGroup "New Group 1" -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListGroups -server test.domain.veritas.com
Administrators
Operators
Security Administrators
Resource Management Applications
Applications
NBU_Unknown
NBU_User
NBU_Operator
NBU_Media Device Operator
NBU_Admin
NBU_Executive
NBU_Security Admin
NBU_Database Agent Operator
NBU_Database Agent Administrator
Operation completed successfully.
```

Example 3 - Add and remove users from Az groups (and List group members)

Add users by creating a unique enterprise name of the following format:
Authentication type:*Domain to which user or group belongs*:*user or group name*

The following are the Supported Authentication types:

- Nis - Network Information Services
- NisPlus - Network Information Services Plus
- Unixpwd - UNIX Password file on the Authentication server
- WINDOWS - Primary Domain Controller or Active Directory
- Vx - Veritas Private database

```
# bpnbaz -AddUser NBU_Operator
nis:domain.veritas.com:ssosa -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListGroupMembers
NBU_Operator -server test.domain.veritas.com
==========
Type: User
Domain Type: nis
Domain:domain.veritas.com
Name: jdimaggio
==========
Type: User
Domain Type: nis
Domain:domain.veritas.com
Name: ssosa
Operation completed successfully.
# bpnbaz -DelUser NBU_Operator
nis:domain.veritas.com:ssosa -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListGroupMembers
NBU_Operator -server test.domain.veritas.com
==========
Type: User
Domain Type: nis
Domain:domain.veritas.com
Name: jdimaggio
Operation completed successfully.
```

Example 4 - List applicable permissions

The `-ListPerms` option shows all applicable permissions for a given object or object type within the database. This information helps the user to create meaningful customizations to their authorization.

```
# bpnbaz -ListPerms -server
test.domain.veritas.com
    Object Type: Unknown
```

```
Browse
Object Type: Media
    Browse
    Read
    New
    Delete
    Eject
    . . .
    Restart
    Synchronize
Object Type: PolicyGroup
    Browse
    Read
    New
    Delete
    Activate
    Deactivate
    Backup
Operation completed successfully.
```

Example 5 - List main objects

The `-ListMainObjects` option lists the current permissions for each group on each of the main NetBackup objects. This list is an informative view that can be used to verify changes to permissions on an object. It shows what permissions each group has within the authorization system.

```
# bpnbaz -ListMainObjects -server
test.domain.veritas.com
. . .
NBU_RES_Policy:
    Role: NBU_User
        Unknown
    Role: NBU_Media Device Operator
        Browse
        Read
    Role: NBU_Executive
        Read
        Browse
    Role: NBU_Database Agent Operator
        Unknown
        Role: NBU_Unknown
    Unknown
    Role: NBU_Operator
```

```
        Browse
        Read
    Role: NBU_Admin
        Browse
        New
        Activate
        Backup
        Read
        Delete
        Deactivate
    Role: NBU_Security Admin
        Unknown
    Role: NBU_Database Agent Administrator
        Unknown
    Role: Administrators
        Unknown
    Role: Operators
        Unknown
    Role: Applications
        Unknown
    Role: NBU_Security Admin
        Unknown
. . .
NBU_RES_Job:
    Role: NBU_Media Device Operator
        Browse
        Suspend
        Cancel
        Read
        Resume
        Delete
    Role: NBU_Executive
        Browse
        Read
    Role: NBU_Database Agent Operator
        Unknown
    Role: NBU_User
        Unknown
    Role: NBU_Unknown
        Unknown
    Role: NBU_Operator
        Browse
        Suspend
```

```
        Cancel
        Read
        Resume
        Delete
    Role: NBU_Admin
        Browse
        Delete
        Resume
        Read
        Suspend
        Cancel
    Role: NBU_Security Admin
        Unknown
    Role: NBU_Database Agent Administrator
        Unknown
    Role: Administrators
        Unknown
    Role: Operators
        Unknown
    Role: Applications
        Unknown
    Role: NBU_Security Admin
        Unknown
. . .
Operation completed successfully.
```

Example 6 - Add and delete permissions from an object or policy

Delete all permissions from an object for a given group. Add the permissions that are specified for the given role to the object or policy in question.

```
# bpnbaz -AddPerms Browse,Read,
New,Delete -Group TestGroup1 -Object NBU_RES_Job -server
test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ListMainObjects -server
test.domain.veritas.com
NBU_RES_Unknown:
    Role: NBU_User
. . .
NBU_RES_Job:
    Role: NBU_Media Device Operator
        Browse
        Suspend
```

```
    Cancel
    Read
    Resume
    Delete
Role: NBU_Executive
    Browse
    Read
Role: NBU_Database Agent Operator
    Unknown
Role: TestGroup1
    Read
    Delete
    New
    Browse
Role: NBU_User
    Unknown
Role: NBU_Unknown
    Unknown
Role: NBU_Operator
    Browse
    Suspend
    Cancel
    Read
    Resume
    Delete
Role: NBU_Admin
    Browse
    Delete
    Resume
    Read
    Suspend
    Cancel
Role: NBU_Security Admin
    Unknown
Role: NBU_Database Agent Administrator
    Unknown
Role: Administrators
    Unknown
Role: Operators
    Unknown
Role: Applications
    Unknown
Role: NBU_Security Admin
```

```
        Unknown
NBU_RES_Service:
    Role: NBU_Unknown
. . .
Operation completed successfully.
# bpnbaz -DelPerms -Group
TestGroup1 -Object NBU_RES_Policy -server test.domain.veritas.com
Operation completed successfully.
```

Example 7 - Specify what servers can perform authorization checks

This example also views what servers can perform authorization checks. In addition. It also disallows a server from performing authorization checks.

The `-AllowAuthorization` option specifies which computers are allowed to perform authorization checks. The security administrator must specify which servers (Master or Media) are permitted to examine the Authorization database to perform authorization checks. The following examples demonstrate how to allow or disallow a computer to perform authorization.

```
# bpnbaz -AllowAuthorization
butterball.domain.veritas.com -server test.domain.veritas.com
Operation completed successfully.

# bpnbaz -ShowAuthorizers -server
test.domain.veritas.com
==========
Type: User
Domain Type: vx
Domain:NBU_Machines@test.domain.veritas.com
Name: butterball.domain.veritas.com
Operation completed successfully.
# bpnbaz --DisallowAuthorization
butterball.domain.veritas.com -server test.domain.veritas.com
Operation completed successfully.
# bpnbaz -ShowAuthorizers -server
test.domain.veritas.com
Operation completed successfully.
```

Example 8 - Set up initial security boot strapping

The user must run the `-SetupSecurity` option as root on the Az server. The user must then provide the logon information for the first NetBackup Security administrator.

Note: The root user on the system upon which the Az server is installed is always a security administrator.

```
# bpnbaz -SetupSecurity
test.domain.veritas.com -server test.domain.veritas.com
Authentication Broker: test.domain.veritas.com
Authentication port[ Enter = default]:
Domain: domain.veritas.com
Name: ssosa
Password: Authentication type (NIS, NISplus, WINDOWS, vx, unixpwd:
NIS
Operation completed successfully.
```

SEE ALSO

See bpnbat on page 245.

bppficorr

bppficorr – list the persistent snapshot information in the NetBackup catalog for a specified client and delete catalog entries for the snapshots that no longer exist

SYNOPSIS

bppficorr [-media] [-hoursago *hours*] [-policy *policy_name*] -client *client_name*

bppficorr -rotation -policy *policy_name* -client *client_name* -fim *fim_args*

bppficorr -delete_snapshot -fragment_id *fragment_id* -client *client_name* [-cnum *copy_number*] [-ctype MIRROR | NON_MIRROR]

bppficorr -report -clientlist *snapshot_client_list_file*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

For the specified client, bppficorr lists the persistent snapshots currently found in the NetBackup catalog. Without the *-media* option, bppficorr compares the catalog information to the actual information on the client. It removes any entries in the catalog that do not have corresponding snapshots on the client. This option is useful if a snapshot on the client is renamed or removed.

Note: NetBackup manages persistent snapshots. Do not rename or remove a persistent snapshot; otherwise, the data cannot be restored.

The output of bppficorr goes to standard output.

You must have adminis

trator privileges to initiate this command.

OPTIONS

`-client` *client_name*

A required option. NetBackup lists the persistent snapshot information in the NetBackup catalog for this client. This name must be as it appears in the NetBackup catalog. By default, `bppficorr` searches for all clients.

`-clientlist` *snapshot_client_list_file*

`-cnum` *copy_number*

`-ctype MIRROR | NON-MIRROR`

`-delete_snapshot`

`-fim` *fim_args*

`-fragment_id` *fragment_id*

`-hoursago` *hours*

Includes the images that were written up to *n* hours ago (1 or greater). The default is all images.

`-media`

Lists all persistent snapshot entries in the NetBackup catalog for the client that is specified on the `-client` option. The list includes the backup IDs and the media descriptions for each backup ID.

For more about the media description, See the *NetBackup Administrator's Guide, Volume II*.

`-policy` *policy_name*

NetBackup lists the persistent snapshot information in the NetBackup catalog for this policy for the specified client. The default is all policies that include the client that is specified on the `-client` option.

`-report`

`-rotation`

NOTES

`bppficorr` writes activity log information to the `/usr/openv/netbackup/logs/admin` directory (UNIX systems) or the *install_path*`\NetBackup\logs\admin` directory (Windows systems). You can use the information in the directory for troubleshooting.

EXAMPLES

Example 1 - Resynchronize the NetBackup catalog with a client's actual snapshots:

```
# bppficorr -client lupine
```

Example 2 - Display the snapshots that are currently in the catalog for client lupine:

```
# bppficorr -media -client lupine
```

Sample output:

```
Listing frozen image info from NBU catalog
------------------------------------------
backup_id            created      name
---------            -------      ----
1 lupine_1034167036   Wed Oct  9 07:37:16 2002
1 vxvm:32:vxfs:/V1fs:/dev/vx/dsk/oradg/PFI-V1_1034167036
2 lupine_1033995680   Mon Oct  7 08:01:20 2002
1vxfs_pfi:34:vxfs:/ora8:VX+NBU+PFI+ORA+2002.10.07.08h01m20s
3 lupine_1033880459   Sun Oct  6 00:00:59 2002
1 vxfs_pfi:34:vxfs:/V1fs:VX+NBU+PFI+FS+2002.10.06.00h00m59s
```

bpplcatdrinfo

bpplcatdrinfo – list, modify, or set the disaster recovery policies

SYNOPSIS

bpplcatdrinfo*policy_name* [-v] [-M *master_server*] -L | -l | -U

bpplcatdrinfo*policy_name* -set | -modify [-v] [-M *master_server*,...] [-generation *generation*] [-reason "*string*"] [-e *email*] -p *path* [-u *user*] [-pwd *password*] [-cp *critical_policy_name1critical_policy_name2* ...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpplcatdrinfo command lists, sets, and modifies the disaster recovery and critical policy information for policies of type NBU-Catalog:

Authorized users can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

Note:

It is not recommended that users modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

OPTIONS

-cp *critical_policy_name1 ...*

Lists the policy names that need to be added as critical policies.

`-e` *email*

Specifies the email address where the disaster recovery information is sent when a catalog backup completes.

`-generation` *generation*

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bpplist` to list the current generation value. If no generation is specified, the command acts on the current version.

`-L`

Displays the listing in long format. See EXAMPLE that follows.

`-l`

Displays the listing in short format; this option produces a terse listing. It also is called *raw output mode*. See EXAMPLE that follows.

`-M` *master_server,...*

Lists alternative master servers. This option consists of a comma-delimited list of host names. If this option is present, each master server in the list runs the `bpplcatdrinfo` command. Each master server in the list must allow access by the system that issues the `bpplcatdrinfo` command. If an error occurs for any master server, the process stops at that point.

If `bpplcatdrinfo` produces a list, the list is the composite of the returned information from all the master servers in this list.

If `bpplcatdrinfo` adds, deletes, or modifies a client (explained later), the change is made on all the master servers in this list.

`-modify`

Updates only the specified fields in the catalog policy. The fields that are not specified remain unchanged.

`-p` *path*

Specifies the disk path where the disaster recovery information is stored when the catalog backup runs.

policy_name

Specifies the name of the policy whose disaster recovery information is set, modified, or listed.

`-pwd` *password*

Specifies the password if one is needed to access the path (`-p`). The `-u` option specifies the user ID.

`-reason "`*`string`*`"`

Indicates the reason that you choose this command action. The reason text string is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-set`

Modify updates of the specified fields in the catalog policy. The fields that are not specified are cleared.

`-U`

Displays the listing in user format. This output format is exactly the same as `-L`.

`-u` *`user`*

The user ID that is used with the password (`-pwd`) to access the path (`-p`).

`-v`

Selects the verbose mode. This option causes `bpplcatdrinfo` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when you enable the debug log function (that is, when the following directory is defined):

`UNIX systems: /usr/openv/netbackup/logs/admin`

`Windows systems: `*`install_path`*`\NetBackup\logs\admin`

EXAMPLE

Set the disaster recovery information path, username, password, email, and four critical policies for NBU-Catalog policy `catpol`. Then list the catalog disaster recovery configuration for `catpol` in long format (`-L`) and short format (`-l`).

```
# bpplcatdrinfo catpol -set -e test@domain.com -p /drx
-u test -pwd passwd -cp pol1 pol2 pol3 pol4

# bpplcatdrinfo catpol -L
Catalog Disaster Recovery Configuration:
  Email Address:   test@domain.com
  Disk Path:       /drx
  User Name:       test
  Pass Word:       xxxx
  Critical policy:
    pol1
    pol2
```

```
    pol3
    pol4

# bpplcatdrinfo catpol -l
DR_EMAIL test@domain.com
DR_PATH /drx
DR_MEDIA_ID *NULL*
DR_DENSITY 0
DR_USER_NAME test
DR_PASSWORD 1
DR_CRITICAL_POLICY pol1 pol2 pol3 pol4
```

SEE ALSO

See bpplinclude on page 293.

See bpplinfo on page 301.

See bppllist on page 328.

See bppolicynew on page 367.

bpplclients

bpplclients – administer clients within NetBackup policies

SYNOPSIS

bpplclients*policy_name* | [[-allunique | -allunique_hw_os] [-pt *policy_type*]] [-L | -l | -U | -noheader] [-M *master_server*,...] [-v] [-include_discovered]

bpplclients*policy_name* [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] -add *host_name hardware_os* [-priority *priority*]

bpplclients*policy_name* [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] -delete *host_name* ...

bpplclients*policy_name* [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] -modify *host_name* [-hardware *hardware*] [-os *os*] [-priority *priority*]

bpplclients*policy_name* -rename *old_client_name new_client_name* [-os *os*] [-priority *priority*] [-hardware *hardware*] [-generation *generation*] [-reason "*string*"]

bpplclients*policy_name* [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] {-add_rac_database *db_unique_namedbid* } | {-delete_rac_database *db_unique_namedbid*} {-add_rac_pdb *db_unique_namedbidpluggable_database_name*} | {-delete_rac_pdb *db_unique_namedbidpluggable_database_name*}

bpplclients policy_name [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] {-add_availability_group -ag_name *availability_group_name* [-cluster *cluster_name*] [-ag_id*availability_group_ID*]} | {-delete_availability_group -ag_name *availability_group_name* [-cluster *cluster_name*] [-ag_id *availability_group_ID*]}

bpplclients policy_name [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] {-add_availability_group_database -ag_name *availability_group_name* -database *database_name* [-cluster *cluster_name*] [-ag_id *availability_group_ID*]} | {-delete_availability_group_database -ag_name *availability_group_name*

-database *database_name* [-ag_id *availability_group_ID*] [-cluster *cluster_name*]}

bpplclients *policy_name* [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] -add_instance *instance_namehost_name* | -delete_instance {*instance_namehost_name* [*instance_name2host_name2*] [...]}

bpplclients policy_name [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] {-add_instance_database *instance_name database_name host_name*} | {-add_instance_pdb *instance_name pluggable_database_name host_name*} | {-delete_instance_database *instance_name database_name host_name*} | {-delete_instance_pdb *instance_name pluggable_database_name host_name*}

bpplclients *policy_name* [-M *master_server*,...] [-v] [-generation *generation*] [-reason "*string*"] -add_instance_group *instance_group_name* | -delete_instance_group *instance_group_name* ...

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpplclients does one of the following:

- Produces a listing of clients.
- Adds a new client to a policy.
- Deletes a list of clients from a policy.
- Modifies an existing client in a policy.
- Adds a SQL Server object to a SQL Server Intelligent policy: instance, instance group, a specific database in an instance, availability group, or availability database.
- Deletes a SQL Server object from a SQL Server Intelligent policy: instance, instance group, a specific database in an instance, availability group, or availability database.
- Adds an Oracle object to an Oracle Intelligent Policy: instance, instance group, a specific pluggable database in an instance, or RAC database.

- Deletes an Oracle object from an Oracle Intelligent Policy: instance, instance group, a specific pluggable database in an instance, or RAC database.

For the `-add`, `-delete`, and `-modify` options, `bpplclients` returns to the system prompt immediately after it submits the client change request to NetBackup. To determine whether the change was successful, run `bpplclients` again to list the updated client information.

When the listing option is used, the list is ordered alphabetically by client name. Each client entry is on a single line, with a single entry for each client.

Authorized users can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

Note:

It is not recommended that users modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

OPTIONS

`bpplclients` consists of two forms. The `bpplclients` form that you use determines the options that you use with `bpplclients`.

The first form of `bpplclients` has no options and produces a listing of information about the clients for all policies. For SQL Server Intelligent policies, `bpplclients` produces a list of the instance groups or the instances and databases for all policies. If you have other policy types, it is best to use `bpplclients` *`policy_name`* to display the backup selections for an MS-SQL-Server policy.

The second form of `bpplclients` produces a listing of information about the clients for a single policy or for all policies. The following options apply to this form:

`-add_availability_group -ag_name` *`availability_group_name`* `[-cluster` *`cluster_name`*`] [-ag_id` *`availability_group_ID`*`]`

This option applies to SQL Server Intelligent Policies. Adds an availability group to the policy.

In the policy attributes (`bpplinfo`), `-client_list_type` must be set to `3` (AVAILABILITY_GROUP). For advanced and basic availability groups, provide the `-cluster` *`cluster_name`*. For read-scale availability groups, provide the

-ag_id *availability_group_ID*. You can add availability groups and availability databases to the same policy. You cannot add instance groups, instances, or standalone databases to a policy that contains availability groups or availability databases.

-add_availability_group_database -ag_name *availability_group_name* -database *database_name* [-cluster *cluster_name*] [-ag_id *availability_group_ID*]

This option applies to SQL Server intelligent policies. Adds a specific availability database to the policy.

In the policy attributes (bpplinfo), -client_list_type must be set to 3 (AVAILABILITY_GROUP). For advanced and basic availability groups, provide the -cluster *cluster_name*. For read-scale availability groups, provide the -ag_id *availability_group_ID*. You can add availability groups and availability databases to the same policy. You cannot add instance groups, instances, or standalone databases to a policy that contains availability groups or availability databases.

-add_rac_database *db_unique_name dbid*

This option applies to Oracle Intelligent Policies. Adds a RAC database to the policy. In the policy attributes (bpplinfo), -client_list_type must be set to 4 (RAC DATABASE).

-add *host_name hardware os [priority]*

Adds a client to the policy. If the local system has defined the maximum number of clients already, an error is returned. The maximum number of clients is unlimited (the installation default) for NetBackup Enterprise Server and 4 for NetBackup Server. Specify the host name, hardware type, and operating system. The priority option is not implemented at this time.

To back up a Nutanix Acropolis Cluster, you must add the display name of the virtual machine. The display name of a virtual machine is case-sensitive and it must not include a space.

For the NAS-Data-Protection policy, the clients are the NAS storage arrays or filers. You can add a NetApp filer as client entry in this policy in the form of *cluster@StorageVirtualMachine* and for Nutanix in the form of *NutanixFileServer@NAS-Array-Asset*.

-add_instance_database *instance_namedatabase_namehost_name*

This option applies to SQL Server intelligent policies. Adds a specific database in an instance to the policy.

In the policy attributes (bpplinfo), -client_list_type must be set to 1 (INSTANCE). You can add instances and databases to the same policy. You

cannot add instances groups, availability groups, or availability databases to a policy that contains instances or standalone databases.

`-add_instance_pdb` *instance_name pluggable_database_name host_name*

This option applies to Oracle Intelligent Policies. Adds a specific pluggable database in an instance to the policy.

`-add_instance` *instance_namehost_name*

This option applies to SQL Server and Oracle Intelligent Policies. Adds an instance to the policy.

In the policy attributes (`bpplinfo`), `-client_list_type` must be set to `1` (`INSTANCE`). You can add instances and databases to the same policy. You cannot add instances groups, availability groups, or availability databases to a policy that contains instances or standalone databases.

`-add_instance_group` *instance_group_name*

This option applies to SQL Server and Oracle Intelligent Policies. Adds an instance group to the policy.

In the policy attributes (`bpplinfo`), `-client_list_type` must be set to `2` (`INSTANCE_GROUP`). You cannot add instances, standalone databases, availability groups or availability databases to a policy that contains or instances groups.

`-delete_availability_group -ag_name` *availability_group_name* `[-cluster`*cluster_name*`] [-ag_id` *availability_group_ID*`]`

This option applies to SQL Server intelligent policies. Deletes an availability group from the policy. For advanced and basic availability groups, provide the `-cluster` *cluster_name*. For read-scale availability groups, provide the `-ag_id` *availability_group_ID*.

`-delete_availability_group_database -ag_name` *availability_group_name* `-database` *database_name* `[-cluster` *cluster_name*`] [-ag_id` *availability_group_ID*`]`

This option applies to SQL Server intelligent policies. Deletes an availability database from the policy. For advanced and basic availability groups, provide the `-cluster` *cluster_name*. For read-scale availability groups, provide the `-ag_id` *availability_group_ID*.

`-delete_rac_db` *db_unique_name dbid*

This option applies to Oracle Intelligent Policies. Deletes a RAC database from the policy.

`-delete` *host_name ...*

Deletes one or more clients from the policy. Up to 20 clients can be deleted at a time. Specify the clients as a space-delimited list of host names.

-delete_instance {*instance_namehost_name* [*instance_name2host_name2*] [...]}

This option applies to SQL Server and Oracle Intelligent Policies. Deletes an instance from the policy. Up to 20 instances can be deleted at a time. Group instances and host names in a space-delimited list.

-delete_instance_database {*instance_name1database_name1host_name1* [*instance_name2database_name2host_name2*] [...]}

This option applies to SQL Server intelligent policies. Deletes a database in an instance from the policy. Up to 20 databases can be deleted at a time. Group database names, instance names, and host names in a space-delimited list.

-delete_instance_pdb *instance_name pluggable_database_name host_name*

This option applies to Oracle Intelligent Policies. Deletes a pluggable database in an instance from a policy.

-delete_instance_group *instance_group_name* ...

This option applies to SQL Server and Oracle Intelligent Policies. Deletes an instance group from the policy. Up to 20 instance groups be deleted at a time. Specify the names in a space-delimited list.

-generation *generation*

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bpplist` to list the current generation value. If no generation is specified, the command acts on the current version.

-hardware *hardware*

Specifies the hardware type of this client. In the dialog box for adding clients to a policy with the Backup Policy Management utility, select one of the hardware types.

-include_discovered

This option lists the virtual machines that were discovered and selected the last time a VMware or Hyper-V intelligent policy ran. It also lists the host that performed the virtual machine discovery, such as the media server. This option is ignored if the intelligent policy has never been run.

When the option is used with `-allunique`, it additionally lists the virtual machines that were discovered and selected in the last run of all VMware and Hyper-V intelligent policies.

When the option is used with `-allunique -pt` *policy_type* and the *policy_type* is either VMware or Hyper-V, it lists the virtual machines that were discovered and selected in the last run of all VMware or all Hyper-V intelligent policies

`-L`

Displays the listing in long format. No two-line header appears at the top of the listing; the header is embedded in the line for each client. The line for each client includes the following fields:

Client/HW/OS/Pri: (the header)

Client name

Hardware type

Operating system

Priority

Ignore the four additional fields. They are either unused or used for internal processes.

`-l`

Displays the listing in short format; this option produces a terse listing. It also is called *raw output mode*. No two-line header appears at the top of the listing; the header is embedded in the line for each client. The listing consists of the following fields:

Field 1 = Client name

Field 2 = Hardware. The operating system type of the client. Example: Linux

Field 3 = Operating system name of the client. Example: Red Hat

Field 4 = Priority. The priority of the client in the specified policy.

Fields 5-7 are unused.

This option is useful for scripts or the programs that rework the listing contents into a customized report format.

`-M` *`master_server,...`*

Lists the alternative master servers. This option consists of a comma-delimited list of host names. If this option is present, each master server in the list runs the `bpplclients` command. Each master server in the list must allow access by the system that issues the `bpplclients` command. If an error occurs for any master server, the process stops at that point.

If `bpplclients` produces a list, the list is the composite of the returned information from all the master servers in this list.

If `bpplclients` adds, deletes, or modifies a client (explained later), the change is made on all the master servers in this list.

-modify *host_name ...*

Modifies the attributes for a client within a policy. The client was added to the policy previously. The attribute values follow the client name and replace the previous equivalent attribute values for this client. You must modify at least one of the client's attributes. -priority is not implemented at this time.

-noheader

Displays the listing without any header. The listing consists of one line for each client, which contains the hardware type, operating system, and client name.

-os *os*

Specifies a different operating system for the client. In the dialog box for adding clients to a policy with the Backup Policy Management utility, select one of the operating systems.

The values that you choose for the hardware and the -os options must form a valid combination.

policy_name | {[-allunique | -allunique_hw_os] [-pt *policy_type*]}

If the *policy_name* option is used it must be the first option on the command line.

The *policy_name* specifies the name of a policy. It lists client information only for that policy.

If you use -allunique without the -pt *policy_type* option, the command lists client information for all policies that are defined for NetBackup on the master server.

If you use -allunique -pt *policy_type*, the command lists the client information for only the clients that belong to that policy type.

The -allunique_hw_os without the -pt *policy_type* option lists all unique hosts based on host name, hardware, and operating system information.

If you use -allunique_hw_os -pt *policy_type*, the command lists all unique hosts based on host name, hardware, and operating system information for all clients that belong to that policy type.

-pt *policy_type*

Specifies the policy type by entering one of the following character strings (the default is Standard):

```
BigData
DataStore
DataTools-SQL-BackTrack
DB2
Deployment
```

```
Enterprise-Vault
FlashBackup
Hyper-V
Informix-On-BAR
Lotus-Notes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
MS-Windows
NAS-Data-Protection
NBU-Catalog
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Universal-share
Vault
VMware
```

`-priority` *priority*

Not implemented.

policy_name

Identifies the policy that has the client. This option must be the first option on the command line.

`-reason "`*string*`"`

Indicates the reason that you choose this command action. The reason text string is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-rename` *old_client_name new_client_name*

`old_client_name` specifies the current name of the client and `new_client_name` specifies the new name.

`-U`

Displays the listing in user format. The listing consists of one line for each client, which contains the hardware type, operating system, and client name. A two-line header begins the listing which is the default format.

-v

Selects the verbose mode. This option causes bpplclients to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when you enable the debug log function (that is, when the following directory is defined):

UNIX systems: /usr/openv/netbackup/logs/admin

Windows systems: *install_path*\NetBackup\logs\admin

This option must precede the -add, -delete, or -modify option on the command line.

EXAMPLES

Example 1 - While the master server runs, list the clients that are known to the master server.

```
# bpplclients
Hardware         OS               Client
---------------  ---------------  --------------
HP9000-800       HP-UX 11.23      squash
```

This command can also be entered on a client named hatt, with the same results.

Example 2 - List the defined clients for the policy onepolicy:

```
# bpplclients onepolicy
Hardware         OS               Client
---------------  ---------------  --------------
Solaris          Solaris10        jeckle
RS6000           AIX5             streaky
HP9000-800       HP-UX 11.31      shark
```

Example 3 - Add the client marmot to the policy twopolicy on the master servers serv1 and serv2. The hardware type for lynx is HP9000; the operating system is HP-UX 11.23. The default priority is used.

```
# bpplclients twopolicy -M serv1,serv2 -add lynx HP9000 HP-UX 11.23
```

Example 4 - Delete the clients marmot and vole from the policy twopolicy on the master servers serv1 and serv2.

```
# bpplclients twopolicy -M serv1,serv2 -delete marmot vole
```

Example 5 - While the master server hatt runs, list client information for policy BackTrack on master server *beaver*:

```
# bpplclients BackTrack -M beaver
Hardware         OS               Client
---------------  ---------------  --------------
Solaris          Solaris10        saturn
```

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, the exit status is logged in the administrative daily log under the log directory:

UNIX systems: `/usr/openv/netbackup/logs/admin`

Windows systems: *`install_path`*`\NetBackup\logs\admin`

It has the following form:

`bpplclients: EXIT status = `*`exit status`*

If an error occurred, a diagnostic precedes this message.

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/NetBackup/db/policy/policy_name/clients
```

Windows systems:

```
install_path\netbackup\logs\admin\*
install_path\NetBackup\db\policy\policy_name\clients
```

SEE ALSO

See bpplinfo on page 301.

bppldelete

bppldelete – delete policies from the NetBackup database

SYNOPSIS

bppldelete*policyname* [-verbose] [-M *master_server,...*] [-generation *generation*] [-reason "*string*"]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bppldelete deletes policies from the NetBackup database.

Any authorized user can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

Note:

It is not recommended that users modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

OPTIONS

-generation *generation*

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use bpplinfo or bpplist to list the current generation value. If no generation is indicated, the command acts on the current version.

`-M master_server,...`

Deletes the policy information for a specific master server(s). For example, to delete policy MWF_PM from master server Saturn, enter the following:

```
bppldelete MWF_PM -M Saturn
```

policyname

Specifies the policy to remove from the NetBackup database.

`-reason "string"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-verbose`

Selects verbose mode for logging.

bpplinclude

bpplinclude – maintain list of files automatically backed up by NetBackup policy

SYNOPSIS

bpplinclude*policy_name* [-v] [-M *master_server,...*] -L | -l [-generation *generation*] [-exclude_volumes]

bpplinclude*policy_name* [-v] [-M *master_server,...*] [-generation *generation*] -add *pathname or directive ...* | -add -f *filename* | -addtoquery *query_string...* -addtoquery -f *filename* | -delete *pathname or directive ...* | -delete -f *filename* | -deletefromquery *query_string...* | -deletefromquery -f *filename* | -modify *old_pathname new_pathname ...* [-reason "*string*"] [-exclude_volumes]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpplinclude maintains the policy file list for a NetBackup policy. The policy file list is the list of files that are backed up when NetBackup runs an automatic backup for the policy. The policy file list does not apply to user backups or archives since users select the files when they start those operations.

bpplinclude performs one of the following operations:

- Adds the pathnames to the policy file list
- Deletes the pathnames from the policy file list
- Modifies the pathnames in the policy file list
- Displays the policy file list for a policy
- Excludes specified volumes from a policy. This option is only applicable for the NAS-Data-Protection policy type.

For most policies, the -add, -delete, and -modify options include a list of pathnames. The list of pathnames must be the final part of the bpplinclude command line. The pathname must be the entire path from the root of the file system to the desired location.

For the pathname syntax for your client type, see the NetBackup Administrator's Guide, Volume I.

The last part of the path can be a file name, a directory name, or a wildcard specification. You can enclose pathnames in quotes. Use enclosing quotes if the pathname contains special characters or a wildcard specification.

Filepath rules do not verify the existence of the input directories or files. NetBackup backs up only the files it finds and does not require that all entries in the list be present on every client.

For most database agents, the input entries are scripts or a directive. See the NetBackup guide that comes with the database agent product for additional information. Also see the `-add` *`pathname`* option.

The added entries to the policy file list can be directives, rather than pathnames for the following: certain policy attributes (such as **Allow multiple data streams**) and add-on products (such as NetBackup for NDMP).

See the *NetBackup Administrator's Guide, Volume I* or the NetBackup guide for the extension product.

The options `-l` and `-L` produce nearly identical displays of the policy file list.

`bpplinclude` sends its error messages to `stderr`. `bpplinclude` sends a log of its activities to the NetBackup admin log file for the current day.

Authorized users can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

Note:

It is not recommended that users modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

OPTIONS

`-add` *`pathname`* `...`

Adds the specified *pathname* to the policy file list. The *pathname* can be a directory, file name, script, or directive.

A pathname must be enclosed in quotes (") if it contains special characters, such as blank (" "), or a wildcard specification. Use a blank to separate two pathnames, not a comma. `bpplinclude` interprets a comma as part of the pathname; it concatenates two or more comma-delimited pathnames into a single pathname with embedded commas. The command does not verify the syntax or the existence of the pathnames.

For MS-SQL-Server Intelligent Policies, this option adds a SQL Server object to the backup selections. Valid values are `WHOLE_DATABASE`, the name of a filegroup, or the name of a file. `WHOLE_DATABASE` backs up all databases in the SQL Server instance. When you add a filegroup or file, that object is included for all databases in the policy that contain a filegroup or file with that name. Use the `bpplclients` command to configure the list of instances and databases that is configured for the policy.

For NAS-Data-Protection policy, you can specify backup selection in the following format:

```
nfs:<array>StorageArrayIPAddress</array><nas_head>Filer_or_NAS_Server
</nas_head><nas_share./volume_name</nas_share>"
```

Example:

```
NetApp:
nfs:<array>10.0.0.1</array><nas_head>ExampleNAS</nas_head><nas_share>
/nas_share_01</nas_share>

Nutanix AFS:
nfs:<array>Example.company.com</array><nas_head>EXAMPLE_AFS</nas_head>
<nas_share>/afs_share_01</nas_share>
```

`-add -f` *filename*

Adds all files that are listed in *filename* to the policy file list.

`-addtoquery` *query_string...*

Adds the specified query string to the end of the policy query rules, or creates a query if none exists. Quotes (") must be escaped with a backslash (\).

For more details and examples, refer to the *NetBackup for VMware Guide*.

`-addtoquery -f` *filename*

Add an entry to the query rules from the specified file, or creates a query if none exists. In the file, quotes (") do not need to be escaped.

For more details and examples, refer to the *NetBackup for VMware Guide*.

`-delete` *`pathname ...`*

Deletes the specified pathnames, file name, script, or directive from the policy file list. Refer to `-add` for the pathname-list syntax. If you delete an item from the policy file list, you still can recover any backups or archives for that item. This option must be the final entry on the command line.

`-delete -f` *`filename`*

Deletes the specified file in *filename* from the policy file list.

`-deletefromquery` *`query_string...`*

Deletes the specified query string from the policy query rules.

For more details and examples, refer to the *NetBackup for VMware Guide*.

`-deletefromquery -f` *`filename`*

Deletes the file entries from the query rules.

For more details and examples, refer to the *NetBackup for VMware Guide*.

`-exclude_volumes`

Excludes specified volumes from being backed up when the policy is executed. Currently, applicable only for the NAS-Data-Protection policy.

`-generation` *`generation`*

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bpplist` to list the current generation value. If no generation is indicated, the command acts on the current version.

`-L`

Displays the contents of the policy file list in long format.

`-l`

Displays the contents of the policy file list in compact format.

Note: The `-l` and `-L` displays are similar.

`-modify {`*`old_path_name new_path_name`*`}`

Modifies an entry in the policy file list. The values are a list of pathname pairs {`old_path_name new_path_name`}. For each pathname pair, `new_name_path` replaces `old_name_path` in the policy file list. If no list entry matches old_path_name, then new_path_name is not entered into the policy file list. Refer to the `-add` option for the pathname syntax. Delimit the list entries with spaces, both within a pathname pair and between pathname pairs. This option must be the final entry on the command line.

`-M master_server,...`

A list of master servers. This list is a comma-separated list of host names. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issues the command. If an error occurs for any master server, the process stops at that point in the list. The default is the master server for the system where the command is entered.

`policy_name`

Specifies the policy for which the policy file list is to be set.

`-reason "string"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-v`

Selects the verbose mode for logging. This option is meaningful only when you run with the debug log function on (that is, when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

```
install_path\NetBackup\logs\admin
```

EXAMPLES

Example 1 - While the backup runs on another master server kiwi, display the policy file list for policy `oprdoc_policy` on the master server `plim`:

```
# bpplinclude oprdoc_policy -L -M plim

Include:    /oprdoc   (UNIX systems)

Include:    c:\oprdoc (Windows systems)
```

Example 2 - Add and delete the pathnames that include one wildcard entry to illustrate `bpplinclude` interpretation of wildcards:

UNIX systems:

```
# bpplinclude mkbpolicy -add /yap /y*
# bpplinclude mkbpolicy -L
```

```
     Include: yap
     Include: /y*
# bpplinclude mkbpolicy -delete /y*
# bpplinclude mkbpolicy -L
     Include: /yap
```

Windows systems:

```
# bpplinclude mkbpolicy -add C:\yap C:\y*
# bpplinclude mkbpolicy -L
     Include: C:\yap
     Include: C:\y*/y*
# bpplinclude mkbpolicy -delete C:\y*
# bpplinclude mkbpolicy -L
     Include: C:\yap
```

Note: `bpplinclude` does not interpret the wildcard entry `y*` for `-delete` as meaning that both `yap` and `y*` should be deleted. Only `y*` is deleted from the include list for `mkbpolicy`. The interpretation of the wildcard occurs during the actual backup when NetBackup selects files to back up.

Example 3 - Add two entries to the policy file list for a policy, then modify them:

UNIX systems:

```
# bpplinclude mkbpolicy -add "/ima file" "/ura file"
# bpplinclude mkbpolicy -L
     Include: /ima file
     Include: /ura file
bpplinclude mkbpolicy -modify "/ima file" "/ima file 2" "/ura file"
"/ura file 2"
bpplinclude mkbpolicy -L
  Include: /ima file 2
  Include: /ura file 2
```

Windows systems:

```
# bpplinclude mkbpolicy -add "C:\ima file" "C:\ura file"
# bpplinclude mkbpolicy -L
     Include: C:\ima file
     Include: C:\ura file
# bpplinclude mkbpolicy -modify "C:\ima file" "C:\ima file 2"
"C:\ura file" "C:\ura file 2"
# bpplinclude mkbpolicy -L
```

```
  Include: C:\ima file 2
  Include: C:\ura file 2
```

Example 4 - Add a raw partition to the policy file list for the policy `rc` (UNIX clients). The full path name for the device is used (the command is all on one line):

```
bpplinclude rc -add /devices/sbus@2,0/dma@2,81000/esp@2,80000/
sd@6,0:h,raw
```

For more about UNIX raw partitions, see the *NetBackup Administrator's Guide, Volume I*.

Example 5 - Display the policy file list for the policy `mkb_policy`:

```
# bpplinclude mkb_policy -l
```

UNIX systems:

```
INCLUDE /etc/services
    INCLUDE /etc/aliases
    INCLUDE /usr/bin
```

Windows systems:

```
INCLUDE C:\services
    INCLUDE C:\aliases
    INCLUDE C:\Programs
```

Example 6 - Add `vm17` to the list of values in the query rules of policy1.

```
# bpplinclude policy1 -addtoquery ,\"vm17\"
```

Example 7 - Delete a query from a policy.

```
# bpplinclude policy1 -deletefromquery -f qfile1
```

Example 8 - Add a SQL Server filegroup to the policy file list.

```
# bpplinclude sql_policy -add FG1
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/policy/policy_name/includes
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\dv\policy\policy_name\includes
```

SEE ALSO

See bpplclients on page 280.

See bpplinfo on page 301.

See bpschedule on page 405.

See bppldelete on page 291.

See bpplist on page 328.

bpplinfo

bpplinfo – manage or display policy attributes for NetBackup

SYNOPSIS

bpplinfo *policy_name* -L | -l | -U [-v] [-M *master_server*,...]

bpplinfo *policy_name* -set | -modify [-v] [-M *master_server*,...] [-reason "*string*"] [-generation *generation*] [-active | -inactive] [-pt *policy_type*] [-job_subtype *sub_type*] [-ut] [-ef *effective_time*] [-residence *label*] [-pool *label*] [-priority *number*] [-rfile *flag*] [-blkincr *flag*] [-multiple_streams *flag*] [-keyword *"keyword phrase"*] [-encrypt *flag*] [-collect_tir_info *value*] [-compress *flag*] [-crossmp *flag*] [-followNfs *flag*] [-policyjobs *max_jobs*] [-chkpt *flag*] [-chkpt_intrvl *interval*] [-collect_bmr_info *flag*] [-application_consistent *flag*] [-sg *server_group* | *ANY* | *NONE*] [-data_class *class* | *NULL*] [-res_is_stl 0 | 1] [-granular_restore_info 0 | 1] [-enable_client_direct 0 | 1] [-ignore_client_direct 0 | 1] [-use_accelerator 0 | 1] [-application_discovery 0 | 1] [-discovery_lifetime *seconds*] [-ASC_apps_attr *agent*:[;truncatelogs=1|0],...] [-optimized_backup 0 | 1] [-ExchangeSource *source* [-Exchange2010Server *server*,...]] [client_list_type *type*] [- selection_list_type *type*] [-application_defined *value*,...] [-dynamic_multi_streaming flag 0 | 1 [-max_streams_per_volume [1-20]] [-max_files_in_batch [1-2000]]] [-use_backup_host_pool flag 0 | 1 [-backup_host_pool "backup host pool name"]] [-use_vendor_change_tracking flag 0 | 1] [-ora_bkup_arch_file_name_fmt "[file_name_fmt]"] [-ora_bkup_ctrl_file_name_fmt "[file_name_fmt]"] [-ora_bkup_data_file_name_fmt "[file_name_fmt]"] [-ora_bkup_fra_file_name_fmt "[file_name_fmt]"] [-ora_bkup_set_id "[set_id]"] [-ora_bkup_data_file_args "[args]"] [-ora_bkup_arch_log_args "[args]"] [-snapshot_method_args *keyword=value*,*keyword=value*,...] [-dynamic_multi_streaming flag 0 | 1 [-max_streams_per_volume *number*] [-max_files_in_batch *number*]] [-use_backup_host_pool flag 0 | 1 [-backup_host_pool "*name*"]] [-use_vendor_change_tracking flag 0 | 1]

bpplinfo *policy_name* -set | -modify -deployment_package *item* -deployment_media_server *media_server* [-deployment_limit_jobs *max_concurrent_jobs*] [-deployment_master_server *master_server*]

```
[-deployment_use_existing_certs 0 | 1] [-deployment_cert_source
(cert_store | file)] [ -deployment_components javagui_jre=(include
| exclude | match)] [-deployment_unix_stage_loc path]
[-deployment_win_stage_loc path] [-unix_eca_cert_path path]
[-unix_eca_trust_store_path path] [-unix_eca_private_key_path path]
[-unix_eca_crl_path path] [-unix_eca_key_passphrasefile path]
[-unix_eca_crl_check_level (use_cdp | use_path | disabled)]
[-win_eca_cert_path path] [-win_eca_trust_store_path path]
[-win_eca_private_key_path path] [-win_eca_crl_path path]
[-win_eca_key_passphrasefile path] [-win_eca_crl_check_level (use_cdp
| use_path | disabled)] [-win_eca_cert_store path]
```

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

`bpplinfo` initializes, modifies, or displays the attribute values for a NetBackup policy. Authorized users can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

`bpplinfo` consists of two forms. The options that you use with `bpplinfo` depend on the form of `bpplinfo` being used.

The first form of `bpplinfo` displays policy information. The `-L`, `-l`, and `-U` options lists the policy information in different ways.

The second form of `bpplinfo` initializes or modifies the policy attributes.

- `-set` initializes or reinitializes policy attributes to their default values, except for those attributes that are specified on the current command line.
- `-modify` modifies the policy attributes specified on the current command line. The rest of the policy attributes not on the current command line remain unchanged.

Warning: To modify policy attributes, use the `-modify` option. This option affects only the attributes that you specify on the command line. Be careful how you use the `-set` option, which resets all attributes to their default values, except those that are specified on the command line. If you use `-set` to change one or two attributes, you may inadvertently return all the unspecified attributes to their default values.

Note: It is not recommended that users modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

OPTIONS

policy_name `-L | -l | -U`

Lists the information for this policy. This option is required.

`-L` specifies a long list type and produces a listing with one policy attribute per line, in the format *policy_attribute*: *value*. The value can be expressed both in numeric and name form. Fields in the list include:

Policy Type

Policy Generation (version)

Active

Follow NFS Mounts (applies only to NetBackup Enterprise Server)

Cross Mount Points

Client Compress

Collect TIR Info

Policy Priority

Ext Security Info

File Restore Raw

Client Encrypt

Max Jobs/Policy

Mult. Data Stream

Snapshot Method

Snapshot Method Arguments

Perform Offhost Backup

Backup Copy

Use Data Mover

Data Mover Type

Use Alternate Client

Alternate Client Name

Use Virtual Machine

Hyper-V Server

Enable Instant Recovery

Disaster Recovery

Collect BMR Info

Max Frag Size

Checkpoint Restart

Residence

Volume Pool

Share Group

Data Classification

Residence is Storage Lifecycle Policy

Granular Restore

Generation

Backup Host Pool Name

Use Vendor Change Tracking

Dynamic Multi-Stream

Max Streams/Volume

Max Files in batch

`-l` specifies a short list type and produces a terse listing. This option is useful for scripts or the programs that rework the listing contents into a customized report format. A short listing contains the following information for the specified policy:

Line 1: "INFO", client_type, follow_nfs_mounts, client_compress, priority, proxy_client, client_encrypt, disaster recovery, max_jobs_per_policy, cross_mount_points, max_frag_size, active, collect_tir_info, block_incr,

ext_sec_info, i_f_r_f_r, streaming, frozen_image, backup_copy, effective_date, policy ID, number_of_copies, checkpoint, chkpt_interval, policy_info_unused1, pfi_enabled, offhost_backup, use_alt_client, use_data_mover, data_mover_type, collect_bmr_info, res_is_ss, granular_restore_info, job_subtype

Line 2: "KEY",keyword

Line 3: "BCMD",backup_command

Line 4: "RCMD",restore_command

Line 5: "RES", residence

Line 6: "POOL", pool

Line 7: "FOE", this field is not used

`-U` specifies a user list type and produces a listing with one policy attribute per line, in the format *policy_attribute*: *value*. This listing is similar to the `-L` listing, but contains fewer fields.

`-v`

Selects the verbose mode. This option causes `bpplinfo` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

```
UNIX systems: /usr/openv/netbackup/logs/admin

Windows systems: install_path\NetBackup\logs\admin
```

`-M` *master_server,...*

A list of alternative master servers. This list is a comma-delimited list of host names. If this option is present, each master server in the list runs the `bpplinfo` command. Each master server in the list must allow access by the system that issues the `bpplinfo` command. If an error occurs for any master server, the process terminates at that point.

For the display form of `bpplinfo`, the report is the composite of the returned information from all the master servers in this list. `bpplinfo` queries each of these master servers. The master server returns information from its policy catalog.

For the policy-definition form of `bpplinfo`, the policy is created or modified on each master server in the list.

The default is the master server for the system running `bpplinfo`.

The second form of `bpplinfo` initializes attribute values for a policy or modifies the attribute values for a policy. The following options apply to this form:

Note: Not all options apply to every policy type. For example, if the policy type is MS-Windows, `bpplinfo` accepts the options `-compress` and `-crossmp`. When `bpplinfo` completes, it returns a zero status. However, NetBackup handles the policy with the MS-Windows policy type as though the options were not set.

`-active | -inactive`

Set the policy to active or inactive. If the policy is active, NetBackup runs all its automatic schedules and permits user-directed backups and archives to be used. A policy must be active for an automatic backup to occur (the default).

If the policy is inactive, NetBackup does not run any automatic schedules or permit user-directed schedules to be used. This option is useful to inactivate a policy temporarily to prevent schedules from being used.

`-application_consistent` *flag*

Specifies that the virtual machine is quiesced before a persisted hardware snapshot is taken (*flag*=1). Otherwise, the hardware snapshot does not quiesce the virtual machine (*flag*=0) (default condition).

`-application_defined` *value,...*

This option only applies to a SQL Server Intelligent Policy. The `client_list_type` must be set to `1`, `2`, or `3`. The values that are defined for this option apply to database operations, unless the value is preceded with *TL_*.

An exception is `VDI_TIMEOUT`. The value is applied to both database backups and transaction log backups.

This option can use one or more of the following values:

- `STRIPES=`*value* or `TL_STRIPES=`*value* - Divides the backup operation into multiple concurrent streams. A stream corresponds to a job in the activity monitor. For example, if `STRIPES=3` is set, each database is backed up using three jobs. The value range is 1-32. The default value is 1.
- `BUFFERS=`*value* or `TL_BUFFERS=`*value* - The buffer size that SQL Server uses for reading and writing backup images. The value range is 1-32. The default value is 2.
- `MAX_TRANSFER_SIZE=`*value* or `TL_MAX_TRANSFER_SIZE=`*value* - Specifies the maximum size of an I/O transfer (buffer read-write) between SQL Server and the NetBackup SQL Agent. Calculated as 64 KB *

2^MAX_TRANSFER_SIZE. The range value is 0-6 (64 KB-4 MB). The default value is 6 (4 MB).

- BLOCK_SIZE=*value* or TL_BLOCK_SIZE=*value* - Sets the incremental size that SQL Server uses for reading and writing backup images and can be set for each backup operation. All data transfers are a multiple of this value up to the MAX_TRANSFER_SIZE. Calculated as 512 bytes * 2^BLOCK_SIZE. The range value is 0-7 (512 B-64 KB). The default value is 7 (64 KB).
- BATCH_SIZE=*value* or TL_BATCH_SIZE=*value* - The number of backup operations to start simultaneously. The range value is 1-32. The default value is 1.
- CHECKSUM=0 | 1 | 2 or TL_CHECKSUM=0 | 1 | 2 - Controls if SQL Server performs backup checksums. The default is 0.
  0 = No checksum is performed.
  1 = Checksums are performed and the backup continues even if SQL detects an error.
  2 = Checksums are performed, but the backup stops if any errors are detected.
- CONVERT_BACKUP=0 | 1 or TL_CONVERT_BACKUP=0 | 1 - Converts a differential or a transaction log backup to a full backup if no full backup exists for the database.
  For more information, see the NetBackup for SQL Server Administrator's Guide.
- COMPRESSION=0 | 1 or TL_COMPRESSION=0 | 1 - Controls if SQL Server backup compression is used. If you enable SQL Server compression, do not enable NetBackup compression. The default is 0.
  0 = Compression is not enabled.
  1 = Compression is enabled.
- SKIP_OFFLINE=0 | 1 or TL_SKIP_OFFLINE=0 | 1 - Controls how the agent deals with the databases with a status that prevents NetBackup from successfully backing up the database. These statuses include offline, restoring, recovering, and emergency mode, etc. When this option is enabled, the agent skips the backup of that database. NetBackup does not log an error for these databases. The job details indicate if a database is skipped. The default is 0.
  0 = Offline databases are not skipped and a failed job are generated for each offline database.
  1 = Offline databases are skipped and no failures are generated for skipped databases.

- COPYONLY=0 | 1 - This option allows SQL Server to create an out-of-band backup so that it does not interfere with the normal backup sequence. The default value is unchecked except for full database persistent frozen image backups. The default is 0.
  0 = Backup is not copy-only.
  1 = Backup is performed as copy-only.
- SKIP_READONLY_FGS=0 | 1 - This option can exclude any filegroups that are read-only from the backup. The resulting backup is a partial image because the image does not contain all filegroups. The default is 0.
  0 = Read-only filegroups are not skipped.
  1 = Read-only filegroups are skipped.
- TL_* - All values that have a TL_* correspond to transaction log backups (for example, when the transaction log schedule is run).
- TL_TRUNCATE_LOGS=0 | 1 - Determines if the transaction log is truncated at the end of the backup. The default is 1.
  0 = Logs are not truncated.
  1 = Logs are truncated.
- PREFERRED_REPLICA - Determines how to perform instance or availability group backups.
  0 = Performs the backup on the specified instance.
  1 = Backups always occur on the primary replica.
  2 = Honors your SQL Server backup preferences and protects the preferred replica.
  3 = Skips any availability databases on the instance.
- VDI_TIMEOUT - The timeout interval for the SQL Server Virtual Device Interface. The selected interval is applied to both database backups and transaction log backups. The range value is 300-2147483647. The default value is 300.

-application_discovery 0 | 1

Enables the VMware policy to automatically select virtual machines for backup when you create a policy for vCloud Director.

-ASC_apps_attr *agent*:[;truncatelogs=1|0],...

Enables the file-level recovery of database data for Exchange, SQL Server, or SharePoint. The *agent* value can be exchange, mssql, or sharepoint.

You can enable (;truncatelogs=1) and disable (;truncatelogs=0) truncate logs for Exchange and SQL Server.

The following are several examples that show how to use this option:

To enable Exchange file recovery:`-ASC_apps_attr exchange:`

To enable Exchange, SQL Server, and SharePoint file recovery:`-ASC_apps_attr exchange:,mssql:,sharepoint:`

To enable SQL Server recovery and truncate logs:`-ASC_apps_attr mssql:;truncatelogs=1`

To truncate Exchange logs and not truncate SQL Server logs (note the final colon):`-ASC_apps_attr exchange:;truncatelogs=1,mssql:`

To enable both Exchange and SQL Server with truncate logs:`-ASC_apps_attr exchange:;truncatelogs=1,mssql:;truncatelogs=1`

`-blkincr` *flag*

Note: This option applies only if you are running NetBackup Enterprise Server and also have Veritas Oracle Edition, which supports block-level incrementally.

`0` (disabled) or `1` (enabled). Perform block-level-incremental backups for clients in this policy.

If `1`, perform block-level-incremental backups.

If `0`, disable block-level-incremental backups.

`-client_list_type` *type*

This option is used for MS-SQL-Server and Oracle policies.

If 0, the type is `HOST`. This policy is the legacy MS-SQL-Server or Oracle policy. The valid schedule types are `FULL` and `USER`.

The following types apply to a SQL Server or Oracle Intelligent Policy. The valid schedules types are `FULL`, `INCR`, and `TLOG`.

If `1`, the type is `INSTANCE` and you can add registered instances or databases in the instances to the policy.

If `2`, the type is `INSTANCE_GROUP` and you can add registered instance groups to the policy.

The following type applies only to SQL Server Intelligent Policies.

If `3`, the type is `AVAILABILITY_GROUP` and you can add availability groups with registered replicas to the policy.

The following type applies only to Oracle Intelligent Policies.

If `4`, the type is `RAC_DATABASE` and the client type for backup is Oracle RAC.

`-chkpt [1|0]`

Enables and disables the checkpoint restart for the policy. If 1, the command enables the checkpoint restart. If 0, the command disables the checkpoint restart. The default is 0.

`-chkpt_intrvl` *interval*

Enables and disables the checkpoint interval for the policy. The variable `interval` is the checkpoint interval in minutes. The default interval is 15 minutes. The range for this interval is between 5 minutes and 180 minutes. If the checkpoint restart is not enabled, then this parameter has no effect.

`-collect_tir_info` *value*

Collect true image recovery (TIR) information. True-image recovery allows NetBackup to restore a directory to exactly what it was at the time of any scheduled full or incremental backup. The files that are deleted before the selected backup time are not restored. After this attribute is enabled, NetBackup starts to collect additional information. It begins with the next full or incremental backup for the policy.

If `0`, NetBackup does not keep track of true-image-recovery information.

If `1`, NetBackup collects TIR information.

If `2`, NetBackup collects TIR information and tracks client files.

`-collect_bmr_info` *flag*

Collect Bare Metal Restore information.

If *flag* is 0, do not collect Bare Metal Restore information.

If *flag* is 1, collect Bare Metal Restore information.

If `-collect_bmr_info` is set to 1 and the policy type is not Standard or MS-Windows, `bpplinfo` fails.

If `-collect_bmr_info` is set to 1 but the policy does not collect true image restore information with move detection, Bare Metal Restore ignores the following: incremental backups and restore files from the last full backup.

`-compress` *flag*

Specifies whether to compress files or not. If set to 1 (enabled), the client software compresses the selected files onto the media. Compression reduces the size of the backup files and the storage media required, but may increase the total backup time. If set to 0 (disabled), the files are not compressed onto the media (the default condition). Note compression is independent of the VxFS compression.

This option has no effect on the hardware compression that may be available on the storage unit.

`-crossmp` *flag*

`0` (disabled) or `1` (enabled). Specifies whether to cross mount points during backups or not.

If `1`, NetBackup backs up or archives all files and directories in the selected path, regardless of the file system on which they reside.

If `0`, NetBackup backs up or archives only those files and directories on the same file system as the selected file path (the default).

This attribute can affect the Follow NFS policy attribute, which applies only to NetBackup Enterprise Server.

For more about the cross mount point attribute, see the *NetBackup Administrator's Guide, Volume I*.

`-data_class` *class*

Specifies the data classification (for example, gold or platinum).

`-deployment_cert_source (cert_store | file)`

Use this option to indicate the source of the certificate for Windows hosts. Use `-deployment_cert_source cert_store` to indicate a Windows certificate store. Use `-deployment_cert_source file` to indicate that the certificate is in a file. If you use the `-win_eca_cert_store` option, you must specify `-deployment_cert_source cert_store`. In all other cases, use `-deployment_cert_source file`.

`-deployment_components javagui_jre=(include | exclude | match)`

Use this option to specify if the Java GUI and JRE should be present on the target systems after the deployment job runs.

A value of `include` indicates that you want these components to be installed or upgraded on the target systems.

A value of `exclude` indicates that you do not want the components on the target systems. Any preexisting Java GUI and JRE components are removed.

A value of `match` indicates that you want to preserve the current state of the Java GUI and JRE components. The components are upgraded if they are present on the pre-upgraded system. The components are not installed if they are not present on the pre-upgraded system.

`-deployment_limit_jobs` *max_concurrent_jobs*

The maximum number of jobs that are allowed per policy. You can only use this option with the `Deployment` policy type.

`-deployment_master_server` *master_server*

If the client has multiple master servers, the *master_name* value is the master server that contains the repository. You can only use this option with the `Deployment` policy type.

`-deployment_media_server` *media_server*

The name of the media server that communicates with and deploys packages to the policy's clients. Packages are cached on the media server to minimize communication and improve performance. The package repository resides on the master server. You can only use this option with the `Deployment` policy type.

`-deployment_package` *item*

The name of the package you want installed. You can only use this option with the `Deployment` policy type.

`-deployment_unix_stage_loc` *path*

Used to specify an alternate staging location for UNIX or Linux clients. Currently not used.

`-deployment_use_existing_certs 0 | 1`

Use this option to specify if you want the installation to use existing certificates if they are available. Use `1` to enable this option and `0` to disable this option.

`-deployment_win_stage_loc` *path*

Used to specify an alternate staging location for Windows clients. Currently not used.

`-disaster 0 | 1`

Collect required information for Intelligent Disaster Recovery. This attribute applies only when you back up Windows clients.

`0` = Do not allow disaster recovery (Default)

`1` = Allow disaster recovery

`-discovery_lifetime` *seconds*

Specifies the time in seconds to reuse the VM selection query results.

`-dynamic_multi_streaming flag 0 | 1`

Enable dynamic multistreaming for NAS-Data-Protection policy type. A value of `1` allows dynamic multistreaming and a value of `0` does not allow dynamic multistreaming.

- `-max_streams_per_volume` *number*: Specify the maximum number of streams per volume between 1 to 20. The default value is two.

- `-max_files_in_batch` *number*: Specify the maximum number of files in a batch between 1 to 2000. The default value is 500.

`-ef` *effective time*

This time specifies the time the policy is active.

`-enable_client_direct`

- `0` - Does not enable client-side deduplication for all clients. If this setting is set to `0` and if `-ignore_client_direct` is set to `0`, then the client-side deduplication setting in host properties is used for each client.
- `1` - Enables client-side deduplication for all clients.

`-encrypt` *flag*

Specifies whether files should be encrypted or not. If *flag* is set to `1`, encryption is enabled.

`-Exchange2010Server` *server,...*

For an Exchange DAG, a list of one or more servers in the DAG that you select as preferred backup sources. The preferred server list is required if `-ExchangeSource` is `1`, unless the database only has an active copy. The list is ignored if `-ExchangeSource` is `2` and is optional if `-ExchangeSource` is `0`.

`-ExchangeSource` *source*

Indicates what database backup source you want to use for an Exchange Database Availability Group (DAG). The default is `0`. The following are the possible values for this option:

- 0 - Backs up the passive copy of a database or the passive server. For a DAG, you can also configure a preferred server list. NetBackup backs up the passive copy on a server in the preferred server list. If the passive copy is not available, NetBackup backs up the active copy.
- 1 - Backs up the passive copy of a database or passive server. For a DAG, you must also configure a preferred server list. NetBackup backs up the passive copy on a server in the preferred server list.
- 2 - Backs up the active copy of a database or active node. For Exchange 2010 and later, the preferred server list is ignored.
- 3 - Disables the database backup source.

`-followNfs` *flag*

Note: This option applies only to NetBackup Enterprise Server.

`0` (disabled) or `1` (enabled). Specifies whether to follow NFS mount points or not. For MS-Windows policy types, setting this flag affects the policy attribute **Backup network drives** instead of the Follow NFS attribute.

If `1`, NetBackup backs up or archives any NFS-mounted files encountered.

If `0`, NetBackup does not back up or archive any NFS-mounted files encountered (the default).

The behavior of this attribute varies depending on the setting of the Cross Mount Points attribute.

For more about the Cross Mount Points attribute, see the *NetBackup Administrator's Guide, Volume I*.

`-granular_restore_info` *flag*

Enables or disabled the granular recovery attribute, which restores the individual objects that reside within a database backup image. This attribute is available for MS-Exchange_Server, MS-SharePoint, and MS-Windows (for Active Directory).

If `1`, display granular restore information.

If `0`, do not display granular restore information.

For more information about granular restores, see the NetBackup for Exchange Administrator's Guide, Volume I.

`-ignore_client_direct 0 | 1`

- `0` - Does not disable client-side deduplication for all clients. If this setting is set to `0` and if `-enable_client_direct` is set to `0`, then the client-side deduplication setting in host properties is used for each client.
- `1` - Disables client-side deduplication for all clients.

`-job_subtype DUPLICATE | LIVEUPDATE, INDEXING`

Allows the generic policies for the Duplicate feature or the LiveUpdate feature to be displayed. By default, the policies for these two features are not displayed.

`-keyword "`*keyword phrase*`"`

The value is associated with all backups created by using this policy. The keyword phrase can be used to link related policies. It can also be used during restores to search only for the backups that have the keyword phrase association.

`-M` *master_server,...*

Same as explained earlier.

`-multiple_streams` *flag*

`0` (disabled) or `1` (enabled). **Allow Multiple data streams**.

If `1`, allow multiple data streams.

If `0`, disable multiple data streams.

`-optimized_backup 0 | 1`

Enables the backup of deduplicated data that some Microsoft Windows operating system versions provide. If a client has a deduplicated file system configured, NetBackup backs up the deduplicated data. If the client is not set up for deduplication or does not support it, then a normal file backup occurs.

`-ora_bkup_arch_file_name_fmt "[file_name_fmt]"`

Specifies the Oracle RMAN backup piece names for the archived redo logs. Ensure that the format ends with `_%t` to indicate a timestamp. NetBackup uses this timestamp as part of its search criteria for catalog images. Without this timestamp, performance might degrade as the NetBackup catalog grows.

Specify an empty string ("") for the `file_name_fmt` to cause the default format to be used.

`-ora_bkup_ctrl_file_name_fmt "[file_name_fmt]"`

Specifies the Oracle RMAN backup piece names for the control files. Ensure that the format ends with `_%t` to indicate a timestamp. NetBackup uses this timestamp as part of its search criteria for catalog images. Without this timestamp, performance might degrade as the NetBackup catalog grows.

Specify an empty string ("") for the `file_name_fmt` to cause the default format to be used.

`-ora_bkup_data_file_name_fmt "[file_name_fmt]"`

Specifies the Oracle RMAN backup piece names for the data files. Ensure that the format ends with `_%t` to indicate a timestamp. NetBackup uses this timestamp as part of its search criteria for catalog images. Without this timestamp, performance might degrade as the NetBackup catalog grows.

Specify an empty string ("") for the `file_name_fmt` to cause the default format to be used.

`-ora_bkup_fra_file_name_fmt "[file_name_fmt]"`

Specifies the Oracle RMAN backup piece names for the Fast Recovery Area (FRA). Ensure that the format ends with `_%t` to indicate a timestamp. NetBackup uses this timestamp as part of its search criteria for catalog images. Without this timestamp, performance might degrade as the NetBackup catalog grows.

Specify an empty string ("") for the `file_name_fmt` to cause the default format to be used.

`-ora_bkup_arch_log_args "[key=value,...]"`

The `key=value` pairs are used to override the default arguments that are used when backing up Oracle archived redo logs using RMAN. Any key not explicitly specified is reset to the default value. Specify an empty string ("") to reset all keys to the default values. Use a comma (,) to separate key value pairs. Spaces are not permitted. The keys and their values are as follows:

- `ARCH_DELETE_UNTIL` - After a successful backup, archive logs that are older than the number of hours configured here are removed. The default is zero (`0`) which is off, to a maximum of `999` hours.
- `DELETE_ARCH_LOGS_AFTER_COPIES` - Delete the archived redo logs after they are successfully backed up one or more times. You can omit this key or set the key to 0 to not delete the logs after the backup. The default is 0.
- `INCLUDE_ARCH_LOGS` - Includes the archived redo logs in the full and the incremental schedule backups. Valid values are 0 and 1, the default is 1.
- `NUM_FILES_PER_BACKUP_SET` - Specifies the maximum number of archived redo log files to include in each backup set (FILESPERSET). If not specified, the RMAN default is used.
- `NUM_STREAMS` - The number of parallel backup streams that can be used in a backup operation. RMAN is instructed to allocate a concurrent channel for each stream. The default value is 1.
- `SIZE_BACKUP_SET` - Specifies a maximum size for each backup set in kilobytes (MAXSETSIZE). If not specified, the RMAN default is used.
- `SPECIFY_MAX_LIMITS` - Must be enabled to modifying these additional keys. Valid values are 0 and 1, the default is 0.

`-ora_bkup_data_file_args "[key=value,...]"`

Specifies the `key=value` pairs that are used to override the default arguments that are used when backing up Oracle data files using RMAN. Any key not explicitly specified is reset to the default value. Specify an empty string ("") to reset all keys to the default values. Use a comma (,) to separate key value pairs. Spaces are not permitted. The keys and their values are as follows:

- `NUM_STREAMS` - The number of parallel backup streams that can be used in a backup operation. RMAN is instructed to allocate a concurrent channel for each stream. The default value is 1.
- `SKIP_READ_ONLY or FORCE_READ_ONLY` - Enable read-only tablespace options. The SKIP option ignores the read-only tablespace during backup. FORCE means that RMAN backs up all files. Only one of the two may be enabled concurrently. Valid values are 0 and 1, the default is 0.

- OFFLINE - Shut down the Oracle database and put it in the mount state before the backup. Valid values are 0 and 1, the default is 0.
- SKIP_OFFLINE - Direct the backup operation to not access offline data files. Valid values are 0 and 1, the default is 0.
- SPECIFY_MAX_LIMITS - Must be enabled to modifying these additional keys. Valid values are 0 and 1, the default is 0.
- READ_RATE - Specifies the maximum number of kilobytes (KB) that RMAN reads each second on this channel (RATE). This parameter sets an upper limit for bytes read so that RMAN does not consume too much disk bandwidth and degrade performance. If not specified, the RMAN default is used.
- SIZE_BACKUP_PIECE - Specifies the maximum size, in kilobytes, of each backup piece that is created on this channel (MAXPIECESIZE). If not specified, the RMAN default is used.
- NUM_OPEN_FILES – Controls the maximum number of input files that the backup operation can have open at any given time (MAXOPENFILES). If not specified, the RMAN default is used.
- NUM_FILES_PER_BACKUP_SET - Specifies the maximum number of input files to include in each backup set (FILESPERSET). If not specified, the RMAN default is used.
- SIZE_BACKUP_SET - Specifies a maximum size for each backup set in kilobytes (MAXSETSIZE). If not specified, the RMAN default is used.
- DATA_GUARD - This option lets you specify a policy to always back up the primary or a standby database. If the option is not specified then the default is 0.
  - 0 is None.
  - 1 is Require Standby.
  - 2 is Require Primary.
  - 3 is Prefer Standby.

policy_name -set | -modify

Initializes or modifies attributes for this policy. This option is required.

-set initializes (or reinitializes) attributes for the policy to their default values, except for those attributes that the options on the current command-line set.

-modify modifies attributes for the policy. Attributes not explicitly set by options on the current command line do not change their values.

-policyjobs *max_jobs*

The maximum number of concurrent jobs that NetBackup allows for this policy (corresponds to the Limit Jobs per Policy setting in the administration interface). The value of *max_jobs* is always greater than or equal to 0.

For the default or when -policyjobs is 0, bpplinfo sets *max_jobs* to a value that corresponds to unlimited. The maximum number of jobs is 8 for NetBackup and 999 for NetBackup Enterprise Server.

-pool *label*

Specifies the volume pool for the policy. The default is NetBackup. The volume pool should be one of the volume pools for the policy storage unit. This attribute is not relevant if a disk storage unit is the residence for the policy. If the policy storage unit is Any_available (Residence: - appears on the bpplinfo display), the volume pool for any storage unit can be selected. If "*NULL*" is specified, the volume pool is set to NetBackup. To display the configured volume pools, run the following command:

```
UNIX systems: /usr/openv/volmgr/bin/vmpool -listall

Windows systems: install_path\Volmgr\bin\vmpool -listall
```

-priority *number*

The priority of this policy in relation to other policies. Priority is greater than or equal to 0. This value determines the order in which policies are run. The higher the value, the earlier the policy is run. The default is 0, which is the lowest priority.

-pt *policy_type*

Specify the policy type by entering one of the following character strings (the default is Standard):

```
BigData
DataStore
DataTools-SQL-BackTrack
DB2
Deployment
Enterprise-Vault
FlashBackup
Hyper-V
Informix-On-BAR
Lotus-Notes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
```

```
MS-Windows
NAS-Data-Protection
NBU-Catalog
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Universal-share
Vault
VMware
```

`-reason "`*`string`*`"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-res_is_stl 0 | 1`

Specify this flag only when the name of the storage unit and the name of the storage lifecycle policy are the same. In all other cases this flag is ignored. The possible values are as follows:

0 - the residence is a non-storage life cycle policy

1 - the residence is a storage lifecycle policy

`-residence` *`label`*

Specifies the label of the storage unit for storing the backups that were created according to this schedule. The default is Any_available, which allows the policy to use any storage unit whose **On demand only** attribute is set to No. Specify the storage unit if the policy must use a specific storage unit. You must select the desired storage unit if it has the **On demand only** attribute set to Yes. If "*NULL*" is specified, the residence for the schedule is set (or reset) to Any_available. The policy residence determines the residence for the policy schedules, unless the **Override Policy Storage Unit** setting on an individual schedule specifies a residence. Run `bpstulist` to display the set of defined storage units.

`-rfile` *`flag`*

`0` (disabled) or `1` (enabled).

If `1`, allow Individual File Restore From Raw.

If `0`, disable Individual File Restore From Raw.

For a FlashBackup policy, this option is ignored, since the attribute is always enabled.

Note: Advanced Client is available only if you are running NetBackup Enterprise Server and have the separately-priced option.

`-selection_list_type` *type*

This option is used for MS-SQL-Server policies. The value you choose determines the type of backup selections or file list items you can add with the `bpplinclude` command.

If 0, the type is `HOST`. This type must be used with the legacy MS-SQL-Server policy. The only backup selection that is valid for this type is the path of the backup batch file.

The following types apply only to a SQL Server Intelligent Policy.

If `1`, the type is `WHOLE_DATABASE`. The only backup selection that is valid for this type is `WHOLE_DATABASE`.

If `3`, the type is `DATAFILE`. The only backup selection that is valid for this type is the name of the file.

If `7`, the type is `FILEGROUP`. The only backup selection that is valid for this type is the name of the filegroup.

`-sg [`*server_group* `| *ANY* | *NONE*]`

Specifies the server group(s) for the schedule. Do not use this option if the schedule resides on a disk storage unit. If *NONE* is specified, the writing media server owns the media that this policy writes. If *ANY* is specified, EMM chooses the media owner. *ANY* is the default value. Otherwise, the named share group owns the media. Specify a share group for each copy to display the configured share groups. Enter the following command:

UNIX systems:

```
/usr/openv/netbackup/bin/admincmd/nbsvrgrp -list -summary
```

Windows systems:

```
install_path\NetBackup\bin\admincmd\nbsvrgrp -list -summary
```

`-snapshot_method_args` *keyword=value,keyword=value,...*

Specifies the arguments for the snapshot method for a VMware policy. The following are the keywords and their values that you can specify:

- `disable_quiesce`. The state of virtual machine I/O during the snapshot. The following are the allowed values:

`0` virtual machine quiesce is enabled or `1` virtual machine quiesce is disabled.

Caution: Veritas does not recommend that you disable quiesce. In most cases, this option should be enabled.

Note: To use this option, VMware Tools must be installed on the virtual machine.

Note: To use this option with Linux virtual machines, you must also install the SYMCquiesce utility.

- `drive_selection`. For the virtual machines that have multiple virtual disks, determine the kind of disks on the virtual machine that are included in the backup. This option can reduce the size of the backup, but should be used with care. The following are the allowed values:
  `0` include all disks, `1` exclude boot disk, or `2` exclude data disks.
- `enable_vCloud`. Enables backup of the virtual machines that reside in a vCloud environment. Requires the automatic selection of virtual machines. The following are the allowed values:
  `0` disabled or `1` enabled.
- `exclude_swap`. Exclude the data in the swapping and paging files from the backup. If the files are restored, they are restored as empty files. The following are the allowed values:
  `0` disabled or `1` enabled.
- `file_system_optimization`. Reduces the size of the backup image by excluding any unused or deleted blocks within the file system on the virtual machine. This option supports the following file systems: Windows NTFS, and Linux ext2, ext3, and ext4. The following are the allowed values:
  `0` disabled or `1` enabled.
- `ignore_irvm`. Ignore any virtual machine that was restored with Instant Recovery for VMware if the virtual machine is running from a NetBackup NFS datastore. The following are the allowed values:
  `0` disabled or `1` enabled.
- `multi_org`. Allow the query rules to select virtual machines from different vCloud Director organizations and back them up to the same storage unit. The following are the allowed values:
  `0` disabled or `1` enabled.

- `nameuse`. The type of name by which NetBackup recognizes virtual machines when it selects them for backup. The following are the allowed values:
  `0` VM host name, `1` VM display name, `2` VM BIOS UUID, `3` VM DNS name, or `4` VM instance UUID
- `post_events`. The backup related events to send to the vCenter server. To post events to vCenter, NetBackup must perform the backup through a vCenter server. If NetBackup accesses the ESX server directly, the backup information cannot be displayed in vSphere Client. You must set the following permissions in vCenter: **Log event**, **Manage custom attributes**, and **Set custom attribute**. The following are the allowed values:
  `0` no events, `1` all events, or `2` error events.
- `rHz`. The wait time (in seconds) before the snapshot is retried. The default is 10 seconds. The following are the allowed values:
  `0` to `3600`, inclusive.
- `rLim`. The number of times the snapshot is retried. The default is 10. The following are the allowed values:
  `0` to `100`, inclusive.
- `rTO`. The timeout period (in minutes) for completion of the snapshot. The default is 0, which means no timeout. The following are the allowed values:
  `0` to `1440`, inclusive.
- `serverlist`. A colon-delimited list of virtual machine servers that NetBackup communicates with for this policy. To specify no server list, enter `serverlist=`.
- `skipnodisk`. Do not back up a replicated (passive) VM in a vCenter Site Recovery Manager (SRM) environment if that VM has no vmdk files. NetBackup skips that VM and backs up the corresponding active VM, which has vmdk files. The following are the allowed values:
  `0` disabled or `1` enabled.
- `snapact`. This option specifies the action that NetBackup takes when a snapshot is discovered before NetBackup creates a new snapshot for the virtual machine backup. After it creates a snapshot, NetBackup usually deletes the snapshot when the backup completes. If snapshots are not automatically deleted (whether created by NetBackup or not), the performance of the virtual machine may eventually decline. The following are the allowed values:
  `0` continue backup, `1` abort if any snapshot(s) exist, `2` remove NetBackup snapshot(s) and continue backup, or `3` abort if NetBackup snapshot(s) exist.

- `trantype`. How the snapshot data travels from the VMware datastore to the VMware backup host. The following are the allowed values:
  `san`, `hotadd`, `nbd`, or `nbdssl`.
  To specify more than one transport method, separate each with a colon. The order of modes indicates priority. For example, the following specification selects two modes and tries `nbd` first:
  `trantype=nbd:hotadd`
- `Virtual_machine_backup`. Allows restore of individual files from the backup. With or without this option, you can restore the entire virtual machine. The following are the allowed values:
  `1` disabled or `2` enabled
- `vmdk_ca`. The name of the VMware custom attribute that specifies the disk or disks to exclude from backups. For example,
  `vmdk_ca=NB_DISK_EXCLUDE_LIST`.
  Set the value for the attribute on each virtual machine or managed host, as appropriate. The attribute must have comma separated values of device controllers for the disks to be excluded. For example:
  `scsi0-0,ide0-0,sata0-0`.
- `vmdk_list`. Colon separated values of device controllers for the disks to exclude from VMware backups. For example:
  `vmdklist=scsi0-0:ide0-0:sata0-0`.

`-unix_eca_cert_path` *path*

Use this option to specify the path to the certificate file and the certificate file name for UNIX and Linux hosts.

`-unix_eca_crl_check_level (use_cdp | use_path | disabled)`

Specifies how you want to handle the Certificate Revocation List on UNIX and Linux hosts. Specify `use_cdp` to use the CRL defined in the certificate. Specify `use_path` to specify the path to the CRL. Specify `disabled` to not use a CRL.

`-unix_eca_crl_path` *path*

Use this option to specify the path to the external certificate authority file for UNIX and Linux hosts. If you use the `-unix_eca_crl_check_level use_path` option, this option is required.

`-unix_eca_key_passphrasefile` *path*

Use this option to provide the path to the passphrase file on UNIX and Linux hosts. This option is not required.

`-unix_eca_private_key_path` *path*

Use this option to specify the path to the private key file and the private key file name on UNIX and Linux hosts.

`-unix_eca_trust_store_path` *path*

This option lets you specify the path to the trust store and the trust store file name on UNIX and Linux hosts.

`-use_accelerator 0 | 1`

Specifies that you want to use the NetBackup Accelerator which increases the speed of full backups through change detection techniques on the client.

If `1`, enable NetBackup Accelerator.

If `0`, disable NetBackup Accelerator.

For more about NetBackup Accelerator, see the *NetBackup Administrator's Guide, Volume I*.

`-use_backup_host_pool flag 0 | 1`

Specifies if you want NetBackup to use a backup host pool. A backup host pool is a group of master or media servers that is used for backups. A value of `1` enables the use of backup host pool. A value of `0` disables the use of backup host pool. When `-use_backup_host_pool` is enabled, use the `-backup_host_pool` *name* option to specify the backup host pool name.

`-use_vendor_change_tracking flag 0 | 1`

Enable vendor change tracking for incremental backups. Specify `1` to allow vendor change tracking for incremental backups. A value of `0` does not allow vendor change tracking for incremental backups.

`-ut`

If any of the date or the time arguments follow `-ut`, they are accepted as UNIX time, instead of the standard time format. The `-ut` option is used primarily for Java.

`-win_eca_cert_path` *path*

Use this option to specify the path to the certificate file and the certificate file name for Windows hosts.

`-win_eca_cert_store` *path*

Use this option to specify the path to the Windows certificate store. You must enter the certificate location as *Certificate_Store_Name**Issuer_Distinguished_Name**Subject_Distinguished_Name*.

`-win_eca_crl_check_level (use_cdp | use_path | disabled)`

Specifies how you want to handle the Certificate Revocation List on Windows hosts. Specify `use_cdp` to use the CRL defined in the certificate. Specify `use_path` to specify the path to the CRL. Specify `disabled` to not use a CRL.

`-win_eca_crl_path` *path*

Use this option to specify the path to the external certificate authority file for Windows hosts. If you use the `-win_eca_crl_check_level use_path` option, this option is required.

`-win_eca_key_passphrasefile` *path*

Use this option to provide the path to the passphrase file on Windows hosts. This option is not required.

`-win_eca_private_key_path` *path*

Use this option to specify the path to the private key file and the private key file name on Windows hosts.

`-win_eca_trust_store_path` *path*

This option lets you specify the path to the trust store and the trust store file name on Windows hosts.

EXAMPLES

Note: References to NFS Mounts in the following examples apply only to NetBackup Enterprise Server.

Example 1 - Set the storage unit of the policy `tstpolicy` to `tstunit` and view the results:

```
# bpplinfo tstpolicy -modify -residence tstunit
# bpplinfo tstpolicy -L
    Policy Type:         Standard (0)
        Active:             no
        Effective:          no
        Follow NFS Mounts:  no
        Cross Mount Points: no
        Client Compress:    no
        Collect TIR Info:   no
        Policy Priority:     0
        Ext Security Info:  no
        File Restore Raw:   no
        Client Encrypt:     no
        Max Jobs/Policy:     8
        Mult. Data Streams:  1
        Block Level Incremental:  no
        Perform Snapshot Backup:  no
```

```
        Backup Copy:          0
        Date Mover Type:      2
        Use Alternate Client:     no
        Alternate Client Name:    (none)
        Enable Instant Recovery:  no
        Disaster Recovery:  0
        Collect BMR Info:   no
        Max Frag Size:      0 MB  (1048576 MB)
        Checkpoint Restart: no
        Residence:          tstunit
        Volume Pool:        NetBackup
        Use Backup Host Pool:        no
        Backup Host Pool Name:       (none)
        Use Vendor Change Tracking:  no
        Dynamic Multi-Stream:        no
        Max Streams/Volume:          4
        Max Files in batch:          300
```

Example 2 - Activate the policy named test1 without modifying any other policy attributes, enter the following:

```
# bpplinfo test1 -modify -active
```

Example 3 - Return the attributes of `tstpolicy` to their default values, perform the following:

```
# bpplinfo tstpolicy -set
# bpplinfo tstpolicy -L
        Policy Type:         Standard (0)
        Active:             yes
        Follow NFS Mounts:  no
        Cross Mount Points: no
        Client Compress:    no
        Collect TIR Info:   no
        Policy Priority:     0
        Ext Security Info:  no
        File Restore Raw:   no
        Client Encrypt:     no
        Multiple Streams:   0
        Disaster Recovery:  0
        Max Jobs/Policy:    8
        Disaster Recovery:  0
        Collect BMR Info:   no
        Max Frag Size:      0 MB  (1048576 MB)
```

```
        Residence:          -
        Volume Pool:        NetBackup
```

Example 4 - Display a short listing for the policy that is named `mkbpolicy`:

```
# bpplinfo mkbpolicy -l
INFO 0 0 0 0 *NULL* 0 0 99 0 0 0 0 0 0 0 0 *NULL* 1
KEY my temp directory
BCMD *NULL*
RCMD *NULL*
RES mkbunit *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
POOL NetBackup *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
FOE 0 0 0 0 0 0 0 0 0 0
```

Example 5 - Configure the Oracle policy that is named `mypolicy`. This example uses two RMAN channels concurrently for the data file backups. The example also skips read-only data files and includes no more than four files in each backup set. Remember that any key that is not explicitly set is automatically reset to the default value. Confirm the changes afterwards.

```
# bpplinfo mypolicy –modify –ora_bkup_data_file_args NUM_STREAMS=2,
SKIP_READ_ONLY=1,FORCE_READ_ONLY=0,SPECIFY_MAX_LIMITS=1,
NUM_FILES_PER_BACKUP_SET=4
```

```
# bpplinfo mypolicy –L
Oracle Backup Data File Arguments: NUM_STREAMS=2,
SKIP_READ_ONLY=1,FORCE_READ_ONLY=0,SPECIFY_MAX_LIMITS=1,
NUM_FILES_PER_BACKUP_SET=4
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/policy/policy_name/info
```

Windows systems:

```
install_path\NetBackup\logs\admin/*
install_path\NetBackup\db\policy\policy_name\info
```

bppllist

bppllist – list policy information

SYNOPSIS

bppllist [*policyname*] [-L | -l | -U] [-allpolicies] [-inventory] [-M *master_server*,...] [-hwos] [-byclient *client*] [-keyword *"keyword phrase"*] [-verbose] [generation -*generation*] [-include_automanaged] [-include_discovered]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bppllist lists policies within the NetBackup database.

Any authorized users can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

-allpolicies
: Lists all policies.

-hwos
: Lists possible hardware and the operating system.

-include_discovered
: This option lists the virtual machines that were discovered and selected the last time a VMware or Hyper-V intelligent policy ran. It also lists the host that performed the virtual machine discovery, such as the media server. This option is ignored if the intelligent policy has never been run.

  Please be aware you cannot use this option with the -inventory option.

  When the option is used with -byclient *client*, it lists information on the VMware and Hyper-V intelligent policies that discovered and selected the specified client (virtual machine) in the last policy run.

When the option is used with `-allpolicies`, it lists the virtual machines that were discovered and selected for all VMware and Hyper-V intelligent policies.

`-L`

Displays a full (long) listing. See the *policyname* option for details on the fields shown.

`-l`

Displays the information in raw output mode.

`-M` *`master_server,...`*

Lists the policy information for one or more specified masters.

`-U`

Displays information in user list mode. This listing is similar to the long-type list, but it has fewer entries.

`-byclient` *`client`*

Lists the policy information for all policies that contain the client indicated.

`-include_automanaged`

Lists all policies, including automanaged policies. Automanaged policies are generated when a workload administrator protects an asset by subscribing to a protection plan. Protection plans are created by using the NetBackup Service Level Objectives (SLO) technology. Automanaged policy names use the prefix SLO_ENGINE_MANAGED+.

`-inventory`

Creates an inventory of the current NetBackup policies and compares it to the previously created inventory. You can create touch file LOG_CLASS_QUERIES in `/usr/openv/netbackup` to log changes to policies.

The changes are logged in `/usr/openv/netbackup/logs/PolicyQueries.log`. The customer is responsible for the administration of the log file (periodic truncation, etc.).

Please be aware you cannot use this option with the `-include_discovered` option.

`-keyword` *`"keyword phrase"`*

The value is associated with all backups created by using this policy. The keyword phrase can be used to link related policies. It can also be used during restores to search only for the backups that have the keyword phrase association.

`policyname`

Specifies the policy in the NetBackup database.

The following describes the fields in the output of a `bppllist` *`policyname`* command:

CLASS

- Field 1 - Policy name
- Field 2 - Name (internal)
- Field 3 - Options
- Field 4 - Protocol version
- Field 5 - Time zone offset from GMT
- Field 6 - Audit reason

INFO

- Field 1 - Policy type
  0 = Standard (UNIX and Linux clients), 1 = Proxy, 4 = Oracle, 6 = Informix-On-BAR, 7 = Sybase, 8 = MS-SharePoint portal server, 11 = DataTools-SQL-BackTrack, 13 = MS-Windows, 15 = MS-SQL-Server, 16 = MS-Exchange-Server, 17 = SAP, 18 = DB2, 19 = NDMP, 20 = FlashBackup, 21=Splitmirror, 25 = Lotus Notes, 29 = FlashBackup-Windows, 35 = NBU-Catalog, 36 = Generic, 39 = Enterprise_Vault, 40 = VMware, 41 = Hyper-V, 44 = BigData, 46 = Deployment, 48 = Universal-share
- Field 2 - Follow NFS mounts. 0 = no, 1 = yes
- Field 3 - Client compress. 0 = no, 1 = yes
- Field 4 - Job priority. Valid values are 0-99999.
- Field 5 - Proxy client.
- Field 6 - Client encrypt. 0 = no, 1 = yes
- Field 7 - Disaster recovery. Catalog use DR file option. 0 = no, 1 = yes
- Field 8 - Maximum jobs allowed per client. Valid values are 0-999.
- Field 9 - Cross mount points. 0 = no, 1 = yes
- Field 10 - max frag size (deprecated)
- Field 11 - Active. Specifies if the policy is active or not. 0 = yes, 1 = no
- Field 12 - Collect TIR (true image restore) info. 0=do not collect TIR info, 1=collect TIR info without move detection, 2=collect TIR info with move detection
- Field 13 - Enable block level incremental backups. 0 = no, 1 = yes
- Field 14 - Ext_sec_info.

- Field 15 - Individual file restore from raw
- Field 16 - Streaming
- Field 17 - Frozen image (internal use)
- Field 18 - Backup copy (internal use)
- Field 19 - Date when policy becomes effective
- Field 20 - Class ID
- Field 21 - Number of backup copies to create. Valid values are 1-4.
- Field 22 - Enable checkpoints. 0 = no, 1 = yes
- Field 23 - Checkpoint interval.
- Field 24 - Unused.
- Field 25 - Enable Instant Recovery. 0 = no, 1 = yes
- Field 26 - Perform off-host backup. 0 = no, 1 = yes
- Field 27 - Enable use alternate client for backup. 0 = no, 1 = yes
- Field 28 - Enable data mover. 0 = no, 1 = yes
- Field 29 - Data mover type
  -1 = Unknown data mover type, 1 = Third-party copy, 2 = Media server copy, 3 = Network attached storage, 5 = NDMP
- Field 30- Collect BMR (Bare Metal Restore) information. 0 = no, 1 = yes
- Field 31 - Storage service (lifecycle) is in use by residence. 0 = no, 1 = yes
- Field 32 - Enable granular restore. 0 = no, 1 = yes
- Field 33 - Job subtype (internal)
- Field 34 - Use virtual machine. 0 = No virtual machine, 1 = VMware, 2 = Hyper-V, 3 = VxVI
- Field 35 - Ignore the client side deduplication setting. 0 = no, 1 = yes
- Field 36 - Enable Exchange Database backup source. String output.
- Field 37 - Generation.
- Field 38 - Application discovery. 0 = no, 1 = yes. Enabled intelligent policy processing.
- Field 39- Discovery lifetime. Time in seconds for which application discovery is valid.
- Field 40 - Enable fast backup. 0 = no, 1 = yes

- Field 41 - Optimized backup. 0 = no, 1 = yes. Enables the backup of deduplicated data that some Microsoft Windows operating system versions provide. If a client has a deduplicated file system configured, NetBackup backs up the deduplicated data. If the client is not set up for deduplication or does not support it, then a normal file backup occurs.
- Field 42 - client_list_type. This option is used for MS-SQL-Server policies. If **0**, the type is **HOST**. This policy is the legacy MS-SQL-Server policy. The valid schedule types are **FULL** and **USER**. The types that are shown apply only to a SQL Server Intelligent Policy. The valid schedules types are **FULL**, **INCR**, and **TLOG**. If **1**, the type is **INSTANCE** and you can add registered instances or databases in the instances to the policy. If **2**, the type is **INSTANCE_GROUP** and you can add registered instance groups to the policy.
- Field 43 - select_list_type. This option is used for MS-SQL-Server policies. The value determines the type of backup selections or file list items. If **0**, the type is **HOST**. This type must be used with the legacy MS-SQL-Server policy. The only backup selection that is valid for this type is the path of the backup batch file. The types that are shown apply only to a SQL Server Intelligent Policy. If **1**, the type is **WHOLE_DATABASE**. The only backup selection that is valid for this type is **WHOLE_DATABASE**. If **3**, the type is **DATAFILE**. The only backup selection that is valid for this type is the name of the file. If **7**, the type is **FILEGROUP**. The only backup selection that is valid for this type is the name of the filegroup.
- Field 44 - Application consistent. Specifies that the virtual machine is quiesced before a persisted hardware snapshot is taken (1). Otherwise, the hardware snapshot does not quiesce the virtual machine (0 - default condition).

KEY

- Field 1 - Policy keyword phrase (string).

RES

- Field 1 - Residence or storage unit, one for each copy

POOL

- Field 1 - volume pool name, one for each copy

FOE

- Field 1 - Fail on error. 0 = continue, 1 = fail all copies

SHAREGROUP

- Field 1 - Media share group (media owner), a value pair for each copy

DATACLASSIFICATION

- Field 1 - Policy data classification. platinum = highest classification, gold = 2nd highest, silver = 3rd highest, bronze = lowest rank

HYPERVSERVER

- Indicates that the policy is for a Hyper-V server

NAMES

- Generic list of names defined by the query type

BCMD

- This field is obsolete and is scheduled to be removed from NetBackup.

RCMD

- This field is obsolete and is scheduled to be removed from NetBackup.

APPLICATIONDEFINED

- Application or client defined multipurpose string

ORABKUPDATAFILEARGS

- Lists the values used to override the default arguments for Oracle data files backup using RMAN

ORABKUPARCHLOGARGS

- Lists the values used to override the default arguments for Oracle archived redo log backup using RMAN

CLIENT

- Client in the policy

SCHED

- Field 1 - Schedule name for the specified policy
- Field 2 - Backup type for the schedule. 0 = Full schedule, 1 = Differential incremental schedule, 2 = User backup schedule, 3 = User archive schedule, 4 = Cumulative incremental schedule.
- Field 3 - Number of multiplexing copies to run. Valid values are 1-32.
- Field 4 - Frequency of the schedule in seconds. Valid values are 1-2147040000 (3550 weeks).
- Field 5 - Retention level of the schedule. All retention levels except 9 and 25 are user editable. Valid values are 0-100. See the `-rl` *`retention_level`* option description for a complete list of default values and their retention levels.

Note: If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

- Field 6 - u_wind/o/d. Reserved for future use
- Fields 7-8 - Reserved for future use
- Field 9 - Alternate read server
- Field 10 - Maximum fragment size in megabytes
- Field 11 - Calendar. 0 = Schedule is frequency-based, 1 = Schedule is calendar-based with no retries, 2 = Schedule is calendar-based with retries
- Field 12 - Number of copies that are configured for a backup. Valid values are 2-4.
- Field 13 - Fail on error setting for each copy
- Field 14 - Synthetic backup. 0 = no, 1 = yes
- Field 15 - PFI fast recover enable. 0 = no, 1 = yes
- Field 16 - Priority of migration job
- Field 17 - Storage service (lifecycle) used for residence. 0 = no, 1 = yes
- Field 18 - Checksum change detection enable. 0 = no, 1 = yes

SCHEDCALEDATES

- Exclude calendar dates in Epoch time. Example: To exclude dates of 06/04/2013, 06/07/2013 and 06/18/2013 (all at 05:00:00 GMT) is shown as follows: SCHEDCALEDATES 1346734800 1346994000 1347944400

SCHEDCALENDAR

- If schedule type is CALENDAR, this field indicates whether retries are allowed after run day. 0 = no, 1 = yes

SCHEDCALDAYOWEEK

- Include calendar days of week in day-week format, where day is 1-7 (Sunday is 1) and week is week number of the month. Example: To include days of the week Sunday, Week 1; Tuesday, Week 1; Wednesday, Week 4 is shown as follows: SCHEDCALDAYOFWEEK 1,1;3,1;4,4

SCHEDWIN

- Seven pairs of the form start,duration, which expresses the start and duration of the window for each day of the week. The starting day is Sunday. Start value is the number of seconds past midnight. Duration is the number of seconds past start.

SCHEDRES

- Residence or storage unit, a value pair for each copy (storage_unit storage_unit). Example: 2 copies are specified, with copy 1 going to stu_msdp_myhost1, and copy 2 going to stu_advdisk_myhost2: SCHEDRES stu_msdp_myhost1 stu_advdisk_myhost2 *NULL* *NULL* *NULL* *NULL* *

SCHEDPOOL

- Pool, a value pair for each copy (volume_pool_name volume_pool_name). Example: 2 copies are specified, with copy 1 going to pool NetBackup, and copy 2 going to pool MediaPool_1: SCHEDRES NetBackup MediaPool_1 *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*

SCHEDRL

- Retention level of the schedule. All retention levels except 9 and 25 are user editable. Valid values are 0-100. See the `-rl retention_level` option description for a complete list of default values and their retention levels.

  Note: If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

SCHEDFOE

- Fail on error. A value pair for each copy. 0 = continue, 1 = fail all copies

SCHEDSG

- Share group (media owner), a value pair for each copy. Example: Copies are defined, the first copy having a share group of NONE, the second copy have a share group of ANY. SCHEDSG *NONE* *ANY* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*

`-verbose`

Selects verbose mode for logging.

bpplsched

bpplsched – add, delete, or list NetBackup schedules

SYNOPSIS

bpplsched [-v] [-M *master_server*,...] [-L | -l | -U] [-label *sched_label*] [[SLP_Internal_Policy] -slpwindow]

bpplsched*policy_name* [-v] [-M *master_server*,...] -delete *sched_label*,... [-generation *generation*] [-reason "*string*"] [[SLP_Internal_Policy] -slpwindow]

bpplsched*policy_name* [-v] [-M *master_server*,...] -deleteall [-generation *generation*] [-reason "*string*"] [[SLP_Internal_Policy] -slpwindow]]

bpplsched*policy_name* [-v] [-M *master_server*,...] -add *sched_label* [-st *sched_type*] [-freq *frequency*] [-mpxmax *mpx_factor*] [-number_copies *number*] [-synthetic 0|1] [-pfi_fast_recovery 0|1] [-rl *retention_level* [,*rl_copy*,...]] [-residence *storage_unit_label* [,*stunit_copy*,...]] [-pool *volume_pool_label* [,*pool_copy*,...] [-res_is_stl 0|1] [-fail_on_error 0|1[,0|1,...,0|1]] [-sg share_group [,*share_copy*,...] [-window *start duration*] [-cal 0|1|2] [-ut] [-incl mm/dd/yyyy] [-excl *mm/dd/yyyy*] [-weekday *day_name week* [*day_name week*]...] [-dayomonth 1-31 [1-31]... | l] [-xweekday *day_name week* [*day_name week*]...] [-xdayomonth 1-31 [1-31]... | l] [-generation *generation*] [-reason "*string*"] [[SLP_Internal_Policy] -slpwindow]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpplsched does one of the following:

- Add a new schedule to a policy.
- Delete one or more schedules from a policy.
- List one or all schedules in a policy.

Note:

Veritas recommends that users do not modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

For the `-add` and `-delete` options, `bpplsched` returns to the system prompt immediately after it submits the schedule change request to NetBackup. To determine whether the change was successful, run `bpplsched` again to list the updated schedule information.

The `-slpwindow` option lets you set up a schedule for a storage lifecycle policy (SLP) that is based on a time window and only supports start time and end time. You must use the predefined policy name SLP_Internal_Policy, and the schedule type must be UBAK (User Backup).

When the listing option is used, a single entry for each schedule appears even if the `-M` option is used. The `-l` form lists the following information for each schedule:

SCHED

Field 1 - Schedule name for the specified policy.

Field 2 - Backup type for the schedule. 0 = Full schedule, 1 = Differential incremental schedule, 2 = User backup schedule, 3 = User archive schedule, 4 = Cumulative incremental schedule.

Field 3 - Number of multiplexing copies to run. Valid values are 1-32.

Field 4 - Frequency of the schedule in seconds. Valid values are 1-2147040000 (3550 weeks).

Field 5 - Retention level of the schedule. All retention levels except 9 and 25 are user editable. Valid values are 0-100. See the `-rl` *`retention_level`* option description for a complete list of default values and their retention levels.

Note: If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

Field 6 - u_wind/o/d. Reserved for future use.

Fields 7-8 - Reserved for future use.

Field 9 - Alternate read server.

Field 10 - Maximum fragment size in megabytes.

Field 11 - Calendar. 0 = Schedule is frequency-based, 1 = Schedule is calendar-based with no retries, 2 = Schedule is calendar-based with retries.

Field 12 - Number of copies that are configured for a backup. Valid values are 2-4.

Field 13 - Fail on error setting for each copy.

Field 14 - Synthetic backup. 0 = no, 1 = yes.

Field 15 - PFI fast recover enable. 0 = no, 1 = yes.

Field 16 - Priority of migration job.

Field 17 - Storage service (lifecycle) used for residence. 0 = no, 1 = yes.

Field 18 - Checksum change detection enable. 0 = no, 1 = yes.

SCHEDCALENDAR

- If schedule type is CALENDAR, this field indicates whether retries are allowed after run day. 0 = no, 1 = yes

SCHEDCALEDATES

- Exclude calendar dates in Epoch time.
  Example: To exclude dates of 06/04/2013, 06/07/2013 and 06/18/2013 (all at 05:00:00 GMT) is shown as follows:

```
SCHEDCALEDATES 1346734800 1346994000 1347944400
```

SCHEDCALDAYOWEEK

- Include calendar days of week in day-week format, where day is 1-7 (Sunday is 1) and week is week number of the month.
  Example: To include days of the week Sunday, Week 1; Tuesday, Week 1; Wednesday, Week 4 is shown as follows:

```
SCHEDCALDAYOFWEEK 1,1;3,1;4,4
```

SCHEDCALEDATES

- Exclude calendar dates in Epoch time. Example: To exclude dates of 09/04/2012, 09/07/2012 and 09/18/2012 (all at 05:00:00 GMT) is shown as follows:

```
SCHEDCALEDATES 1346734800 1346994000 1347944400
```

SHAREGROUP

- Field 1 - Media share group (media owner), a value pair for each copy

DATACLASSIFICATION

- Field 1 - Policy data classification. platinum = highest classification, gold = 2nd highest, silver = 3rd highest, bronze = lowest rank

SCHEDWIN

- Seven pairs of the form *start*,*duration*, which expresses the start and duration of the window for each day of the week. The starting day is Sunday. *Start* value is the number of seconds past midnight. *Duration* is the number of seconds past start.

SCHEDRES

- Residence or storage unit, a value pair for each copy (storage_unit storage_unit). Example: 2 copies are specified, with copy 1 going to `stu_msdp_myhost1`, and copy 2 going to `stu_advdisk_myhost2`:

```
SCHEDRES stu_msdp_myhost1 stu_advdisk_myhost2 *NULL* *NULL* *NULL* *NULL*
```

SCHEDPOOL

- Pool, a value pair for each copy (volume_pool_name volume_pool_name). Example: 2 copies are specified, with copy 1 going to pool `NetBackup`, and copy 2 going to pool `MediaPool_1`:

```
SCHEDRES NetBackup MediaPool_1 *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
```

SCHEDRL

- Retention level of the schedule. All retention levels except 9 and 25 are user editable. Valid values are 0-100. See the `-rl` *`retention_level`* option description for a complete list of default values and their retention levels.

Note: If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

SCHEDFOE

- Fail on error. A value pair for each copy. 0 = continue, 1 = fail all copies

SCHEDSG

- Share group (media owner), a value pair for each copy. Example: Copies are defined, the first copy having a share group of NONE, the second copy have a share group of ANY.

```
SCHEDSG *NONE* *ANY* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
```

If the -M option is used, bpplsched performs the operation on each of the master servers that are listed. For instance, if bpplsched adds a schedule, bpplsched adds the schedule to the policy on each of the master servers that is listed for -M. If -M is used on a listing request, the listing is composed of returned information from all of the master servers in the -M list. If the command fails for any of the master servers, activity stops at that point.

To modify an existing NetBackup schedule, use the NetBackup command bpplschedrep.

Authorized users can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

These options are common to all forms of bpplsched:

policy_name

The name of the policy that contains the schedules. The policy must exist before you run this command. This option is required, and must be the first one on the command line.

-M *master_server,...*

A list of alternative master servers. This list is a comma-separated list of host names. If this option is present, each master server in the list runs the bpplsched command. Each master server in the list must allow access by the system that issues the bpplsched command.

If this option is present, the command is run on each master server in the list. If an error occurs for any master server, the process terminates at that point.

If bpplsched produces a listing, the listing is the composite of the returned information from all the master servers in this list.

If bpplsched adds or deletes a schedule, all master servers in this list receive the change.

-v

Selects the verbose mode. This option causes bpplsched to log additional information for debugging purposes. The information goes into the NetBackup administration debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

Windows systems:

install_path\NetBackup\logs\admin

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

The remaining options depend on the form of `bpplsched`. The first form of `bpplsched` adds a schedule to the named policy. The following options apply to this form of `bpplsched`:

`-add` *`sched_label`* [*`suboptions`*]

Add a single schedule to the named policy.

The sub-options for the `-add` option are explained later in this description. These are attributes of the schedule being added.

For more about schedules and their attributes, see the *NetBackup Administrator's Guide, Volume I*.

`-cal 0 | 1 | 2`

Indicates whether `bpplsched` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retries after run day

`-dayomonth 1-31 [1-31]... | l`

Specifies the day or days of every month to run the schedule. Enter l (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the policy backup on the 14th day and the 28th day of every month, enter the following:

```
-dayomonth 14 28
```

To run the last day of every month, enter:

```
-dayomonth l
```

`-excl` *`mm/dd/yyyy`*

Indicates to exclude this single date.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, `0` is default for all copies. Specify a value for each copy.

0 = Do not fail the other copies

1 = Fail other copies

`-freq` *frequency*

Determines how often backups run. Represents the number of seconds between the backups that are initiated according to this schedule. When it is omitted on the command line, the default value is 604800 (duration of one week in seconds). This option is not valid if a deployment schedule is specified (`-st [precheck|stage|install]`).

`-generation` *generation*

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bppllist` to list the current generation value. If no generation is indicated, the command acts on the current version.

`-incl` *mm/dd/yyyy*

Indicates to include this single date.

`-keep_until 0|1`

Sets the Oracle RMAN catalog retention to the same retention that NetBackup uses. For storage lifecycle policies, this level is the longest retention level found in the SLP. Set to `1` for on and `0` for off.

The value maps to the Oracle property `KEEP UNTIL TIME` property.

`-mpxmax` *mpx_factor*

The maximum number of jobs for this schedule that NetBackup multiplexes on any one drive. `mpx_factor` is an integer that can range from 1 through 8 for NetBackup Server and 1 through 32 for NetBackup Enterprise Server. A value of one (1) means that backups for this schedule are not multiplexed. The default is no multiplexing.

`-number_copies` *number*

Specify the number of simultaneous backup copies. The valid value range is 1-4. The default is 1.

`-pfi_fast_recovery 0|1`

Enables the user to turn on the feature to retain snapshots for instant recovery. The default value is 0, which means this feature is disabled. A value of 1, enables this feature.

`-pool` *volume_pool_label*`[,`*pool-copy*`,...]`

The name of the volume pool. This choice overrides the policy-level volume pool. If you enter "*NULL*", NetBackup uses the volume pool that is specified at the policy level. The default is to use the volume pool that is specified at the policy level. The volume pool label cannot be None. If you do not specify a volume pool at either the schedule level or the policy level, NetBackup uses a default value of NetBackup.

When you specify `-number_copies` greater than 1, specify a pool for each copy. If the storage unit is a disk enter "*NULL" for that copy.

`-reason "`*`string`*`"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-res_is_stl`

Identifies that the data in the storage unit is storage lifecycle.

`-residence` *`storage_unit_label`*`[,`*`stunit-copy`*`,...]`

The name of the storage unit, which specifies the location of the backup images. The value "*NULL*" causes NetBackup to use the storage unit that is specified at the policy level. The default is for NetBackup to use the storage unit that is specified at the policy level. If you do not specify a storage unit at either the schedule level or the policy level, NetBackup uses the next storage unit available.

When you specify `-number_copies` greater than 1, specify a residence for each copy.

`-rl` *`retention_level`*`[,`*`rl-copy`*`,...]`

The retention level determines how long to retain backups and archives. The retention_level is an integer between 0 and 100. The default retention level is 1. Valid retention levels and their corresponding default retention times are listed later in this description.

Note: If you run this command on a pre-NetBackup 8.0 media server, you can only specify a retention level between 0 and 24.

When you specify `-number_copies` greater than 1, specify a retention level for each copy.

Caution: You can change the retention period that is associated with each level by using the NetBackup administration interface. Therefore, your configuration may have different values for each level than those shown here. Use the NetBackup administration interface to determine the actual retention periods before you make any changes with this command.

Otherwise, backups can expire sooner than you expect, which results in loss of data.

- 0 (one week)

- 1 (2 weeks)
- 2 (3 weeks)
- 3 (1 month)
- 4 (2 months)
- 5 (3 months)
- 6 (6 months)
- 7 (9 months)
- 8 (1 year)
- 9-100 (infinite, except 25 which is expire immediately)

`-sg` *share_group* `[,`*share_copy*`,...]`

Specifies the share group(s) for the schedule. Do not use this option if the schedule resides on a disk storage unit. If *NONE* is specified, the writing media server owns the media that this policy writes. If *ANY* is specified, EMM chooses the media owner. *ANY* is the default value. Otherwise, the named share group owns the media. Specify a share group for each copy to display the configured share groups. Enter the following:

UNIX systems:

```
/usr/openv/netbackup/bin/admincmd/nbsvrgrp -list -summary
```

Windows systems:

```
install_path\NetBackup\bin\admincmd\nbsvrgrp
-list -summary
```

`[SLP_Internal_Policy] -slpwindow`

Adds, deletes, or lists time windows for an SLP_Internal_Policy. You can perform this action in the following two ways:

```
bpplsched -slpwindow
```

```
bpplsched SLP_Internal_Policy -slpwindow
```

`-st` *sched_type*

The type of the schedule. The default schedule type is FULL. The following list contains the possible values for this attribute with their meanings:

`FULL` - full

`INCR` - differential incremental

`CINC` - cumulative incremental

`TLOG` - transaction log

`UBAK` - user backup

`UARC` - user archive

`precheck` - Runs the NetBackup preinstall environment checker. You can only use this option with the `Deployment` policy type.

`stage` - Moves a package to the client, but does not install it. Also performs the `precheck` operation. You can only use this option with the `Deployment` policy type.

`install` - Installs the specified package. Also performs the `precheck` and `stage` operations. If you already performed the `stage` operation, the `install` command does not move the package again. You can only use this option with the `Deployment` policy type.

`-synthetic 0|1`

Enables the user to determine which schedule occurs. A value of zero (0)means that the schedule is a real (non-synthetic) backup schedule. (0 is the default.) A value of one (1) means that the schedule is a synthetic backup schedule.

`-ut`

If any of the date or the time arguments follow `-ut`, they are accepted as UNIX time, instead of the standard time format. The `-ut` option is used primarily for Java.

`-weekday` *`day_name week`* `[`*`day_name week`*`]...`

Specifies a day of the week, and the week of the month, as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month. A week begins on Sunday and ends on Saturday. Valid values are 1-5.

For example, to instruct the policy to run every Sunday of the month, enter:

```
-weekday Sunday 1 Sunday 2 Sunday 3 Sunday 4 Sunday 5
```

`-window` *`start duration`*

Specifies when NetBackup can run the backups for this schedule. Every day of the week has the same window. This option is not valid if a deployment schedule is specified (`-st [precheck|stage|install]`).

start is the time at which the backup window opens for this schedule. This time is the number of seconds since midnight. This number is an integer between 0 and 86399 (86400 seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. This unit is a non-negative integer.

`-xdayomonth 1-31 [1-31]... | l`

Specifies the day or days of the month that you want to exclude as run days in the schedule. Use `l` (lowercase L) to indicate the last day of the month.

For example, to instruct the policy to not run on the 14th and 15th of the month, enter:

```
-xdayomonth 14 15
```

`-xweekday` *`day_name week`* `[`*`day_name week`*`]...`

Specifies the day of the week and week of the month, to exclude as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month. Valid values are 1-5.

For example, to instruct the policy to not run on the first and the third Mondays of the month, enter:

```
-xweekday Monday 1 Monday 3
```

The second form of `bpplsched` deletes one or more schedules from the named policy. The following option applies to this form of `bpplsched`:

`-delete` *`sched_label`*

Delete the listed schedules from the named policy Separate the elements of the sched_label list with spaces. There can be up to 25 labels in the list.

The third form of `bpplsched` deletes all schedule from the named policy. The following option applies to this form of `bpplsched`:

`-deleteall`

Delete all schedules from the named policy.

The fourth form of `bpplsched` produces a listing of information about the schedules for the named policy. The following options apply to this form of `bpplsched`:

`-l`

The list type is short (the default list type). This option produces a terse listing that includes all attributes for the schedule. Each schedule occupies one line of the listing. Most attribute values are expressed numerically. This option is

useful for scripts or the programs that rework the listing contents into a customized report format.

`-L`

The list type is long. This listing includes all attributes for the schedule. Some attribute values are descriptive terms, rather than numbers.

`-label` *`sched_label`*

List the attributes for this schedule in the named policy. The default is to list information for all schedules for the named policy.

`-U`

The list type is user. This listing is similar to the long-type list, but it has fewer entries. Most attribute values are descriptive terms, rather than numbers.

EXAMPLES

Example 1 - List the information for schedule user within policy `tstpolicy` in two different ways. The first display is in long mode. The second is in User mode, which shows fewer entries than the Long mode display.

```
# bpplsched tstpolicy -L -label user
    Schedule:          user
        Type:            UBAK (2)
        Frequency:       1 day(s) (86400 seconds)
        Retention Level: 0 (1 week)
        u-wind/o/d:      0 0
        Incr Type:      DELTA (0))
        Incr Depends: (none defined)
        Max Frag Size:0 MB (1048576 MB)
        Maximum MPX:  1
        Number copies:1
        Fail on Error:0
        Residence:       (specific storage unit not required)
        Volume Pool:     (same as policy volume pool)
        Daily Windows:
        Day         Open       Close       W-Open     W-Close
         Sunday      000:00:00  024:00:00   000:00:00  024:00:00
         Monday      000:00:00  024:00:00   024:00:00  048:00:00
         Tuesday     000:00:00  024:00:00   048:00:00  072:00:00
         Wednesday   000:00:00  024:00:00   072:00:00  096:00:00
         Thursday    000:00:00  024:00:00   096:00:00  120:00:00
         Friday      000:00:00  024:00:00   120:00:00  144:00:00
       Saturday    000:00:00  024:00:00   144:00:00  168:00:00
```

```
# bpplsched tstpolicy -U -label user
    Schedule:          user
        Type:            User Backup
        Retention Level: 0 (1 week)
        Maximum MPX:     1
        Number copies:1
        Fail on Error:0
        Residence:       (specific storage unit not required)
        Volume Pool:     (same as policy volume pool)
        Daily Windows:
         Sunday     00:00:00  -->  Sunday     24:00:00
         Monday     00:00:00  -->  Monday     24:00:00
         Tuesday    00:00:00  -->  Tuesday    24:00:00
         Wednesday  00:00:00  -->  Wednesday  24:00:00
         Thursday   00:00:00  -->  Thursday   24:00:00
         Friday     00:00:00  -->  Friday     24:00:00
         Saturday   00:00:00  -->  Saturday   24:00:00
```

Example 2 - While in operation on the system `hatt`, list information for the schedule named full in policy `tstpolicy`, as defined on the master server beaver:

```
# bpplsched tstpolicy -M beaver -L -label full
    Schedule:          full
     Type:            FULL (0)
     Frequency:       0+ day(s) (14400 seconds)
     Retention Level: 0 (1 week)
     u-wind/o/d:      0 0
     Incr Type:       DELTA (0)
     Incr Depends:    (none defined)
     Max Frag Size:   0 MB (1048576 MB)
     Maximum MPX:     1
        Number copies:1
        Fail on Error:0
        Residence:       (specific storage unit not required)
     Volume Pool:     (same as policy volume pool)
     Daily Windows:
     Day          Open       Close       W-Open     W-Close
     Sunday       000:00:00  024:00:00   000:00:00  024:00:00
     Monday       000:00:00  024:00:00   024:00:00  048:00:00
     Tuesday      000:00:00  024:00:00   048:00:00  072:00:00
     Wednesday    000:00:00  024:00:00   072:00:00  096:00:00
     Thursday     000:00:00  024:00:00   096:00:00  120:00:00
     Friday       000:00:00  024:00:00   120:00:00  144:00:00
     Saturday     000:00:00  024:00:00   144:00:00  168:00:00
```

Example 3 - Add new schedule `full_2` to the policy `tstpolicy` on `beaver`, then list the new schedule in long mode (-L). These commands run on the system `hatt`.

```
# bpplsched tstpolicy -M beaver -add full_2
# bpplsched tstpolicy -M beaver -label full_2 -L
    Schedule:          full_2
     Type:             FULL (0)
     Frequency:        7 day(s) (604800 seconds)
     Retention Level: 1 (2 weeks)
     u-wind/o/d:       0 0
     Incr Type:        DELTA (0)
     Incr Depends:     (none defined)
     Max Frag Size:    0 MB (1048576 MB)
     Maximum MPX:      1
        Number copies:1
        Fail on Error:0
        Residence:        (specific storage unit not required)
     Volume Pool:      (same as policy volume pool)
     Daily Windows:
     Day          Open        Close       W-Open     W-Close
     Sunday       000:00:00   000:00:00
     Monday       000:00:00   000:00:00
     Tuesday      000:00:00   000:00:00
     Wednesday    000:00:00   000:00:00
     Thursday     000:00:00   000:00:00
     Friday       000:00:00   000:00:00
     Saturday     000:00:00   000:00:00
```

Example 4 - Delete the specified schedules from policy `tstpolicy`:

```
# bpplsched tstpolicy -delete full_3 user user_2 user_3
```

Example 5 - List the schedule information for policy `tstpolicy`:

```
# bpplsched tstpolicy -L
    Schedule:          full
     Type:             FULL (0)
     Frequency:        1 day(s) (86400 seconds)
     Retention Level: 0 (1 week)
     u-wind/o/d:       0 0
     Incr Type:        DELTA (0)
     Incr Depends:     (none defined)
     Max Frag Size:    0 MB (1048576 MB)
     Maximum MPX:      1
```

```
        Number copies:1
        Fail on Error:0
        Residence:       (specific storage unit not required)
     Volume Pool:     (same as policy volume pool)
     Daily Windows:
     Day          Open       Close       W-Open     W-Close
     Sunday       000:00:00  024:00:00   000:00:00  024:00:00
     Monday       000:00:00  024:00:00   024:00:00  048:00:00
     Tuesday      000:00:00  024:00:00   048:00:00  072:00:00
     Wednesday    000:00:00  024:00:00   072:00:00  096:00:00
     Thursday     000:00:00  024:00:00   096:00:00  120:00:00
     Friday       000:00:00  024:00:00   120:00:00  144:00:00
     Saturday     000:00:00  024:00:00   144:00:00  168:00:00

    Schedule:          user
     Type:            UBAK (2)
     Frequency:       1 day(s) (86400 seconds)
     Retention Level: 0 (1 week)
     u-wind/o/d:      0 0
  Incr Type:       DELTA (0)
  Incr Depends:    (none defined)
  Max Frag Size:   0 MB (1048576 MB)
  Maximum MPX:     1
    Number copies:1
    Fail on Error:0
    Residence:       (specific storage unit not required)
     Volume Pool:     (same as policy volume pool)
     Daily Windows:
     Day          Open       Close       W-Open     W-Close

     Sunday       000:00:00  024:00:00   000:00:00  024:00:00
     Monday       000:00:00  024:00:00   024:00:00  048:00:00
     Tuesday      000:00:00  024:00:00   048:00:00  072:00:00
     Wednesday    000:00:00  024:00:00   072:00:00  096:00:00
     Thursday     000:00:00  024:00:00   096:00:00  120:00:00
     Friday       000:00:00  024:00:00   120:00:00  144:00:00
     Saturday     000:00:00  024:00:00   144:00:00  168:00:00
```

Example 6 - Add a new schedule, full, with a window from 11 P.M. to midnight. The second `bpplsched` lists the information for schedule full:

```
# bpplsched elevenpm -add full -window 82800 3600
    bpplsched elevenpm -U -label full
    Schedule:          FULL (0)
```

```
    Type:            Full Backup
    Frequency:       every 7 days (604800 seconds)
    Retention Level: 1 (2 weeks)
    Maximum MPX:     1
       Number copies:1
       Fail on Error:0
       Residence:       (specific storage unit not required)
    Volume Pool:     (same as policy volume pool)
    Daily Windows:
       Sunday     23:00:00  -->  Sunday     24:00:00
       Monday     23:00:00  -->  Monday     24:00:00
       Tuesday    23:00:00  -->  Tuesday    24:00:00
       Wednesday  23:00:00  -->  Wednesday  24:00:00
       Thursday   23:00:00  -->  Thursday   24:00:00
       Friday     23:00:00  -->  Friday     24:00:00
       Saturday   23:00:00  -->  Saturday   24:00:00
```

Example 7 - Add an SLP schedule called `dup_tape1` with a window open from 6:00 to 10:00 a.m. Use the predefined policy name `SLP_Internal_Policy` and the UBAK schedule type. This window has no properties.

```
# bpplsched SLP_Internal_Policy -add dup_tape1 -window 21600 14400
-st UBAK -slpwindow
```

Example 8 - List the SLP windows that were created for your system. The output lists all the attributes for the two schedules.

```
# bpplsched -slpwindow -L
Schedule:              Default_24x7_Window
  Type:                UBAK (2)
  Frequency:           7 day(s) (604800 seconds)
   Excluded Dates----------
      No specific exclude dates entered
      No exclude days of week entered
  Retention Level:     0 (1 hour)
  u-wind/o/d:          0 0
  Incr Type:           DELTA (0)
  Alt Read Host:       (none defined)
  Max Frag Size:       0 MB
  PFI Recovery:        0
  Maximum MPX:         1
  Number Copies:       1
  Fail on Error:       0
  Residence:           (specific storage unit not required)
```

```
  Volume Pool:          (same as policy volume pool)
  Server Group:         (same as specified for policy)
  Residence is Storage Lifecycle Policy:         0
  Daily Windows:
   Day          Open        Close       W-Open     W-Close
   Sunday       000:00:00   024:00:00   000:00:00  024:00:00
   Monday       000:00:00   024:00:00   024:00:00  048:00:00
   Tuesday      000:00:00   024:00:00   048:00:00  072:00:00
   Wednesday    000:00:00   024:00:00   072:00:00  096:00:00
   Thursday     000:00:00   024:00:00   096:00:00  120:00:00
   Friday       000:00:00   024:00:00   120:00:00  144:00:00
   Saturday     000:00:00   024:00:00   144:00:00  168:00:00

Schedule:               Overnight
  Type:                 UBAK (2)
  Frequency:            7 day(s) (604800 seconds)
   Excluded Dates----------
      No specific exclude dates entered
      No exclude days of week entered
  Retention Level:      0 (1 hour)
  u-wind/o/d:           0 0
  Incr Type:            DELTA (0)
  Alt Read Host:        (none defined)
  Max Frag Size:        0 MB
  PFI Recovery:         0
  Maximum MPX:          1
  Number Copies:        1
  Fail on Error:        0
  Residence:            (specific storage unit not required)
  Volume Pool:          (same as policy volume pool)
  Server Group:         (same as specified for policy)
  Residence is Storage Lifecycle Policy:         0
  Daily Windows:
   Day          Open        Close       W-Open     W-Close
   Sunday       020:00:00   030:00:00   020:00:00  030:00:00
   Monday       020:00:00   030:00:00   044:00:00  054:00:00
   Tuesday      020:00:00   030:00:00   068:00:00  078:00:00
   Wednesday    020:00:00   030:00:00   092:00:00  102:00:00
   Thursday     020:00:00   030:00:00   116:00:00  126:00:00
   Friday       020:00:00   030:00:00   140:00:00  150:00:00
   Saturday     020:00:00   030:00:00   164:00:00  174:00:00 006:00:00
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/policy/policy_name/schedule
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\policy\policy_name\schedule
```

SEE ALSO

See bpplschedrep on page 354.

bpplschedrep

bpplschedrep – modify NetBackup schedule attributes

SYNOPSIS

bpplschedrep*policy_name sched_label* [-M *master_server*,...] [-v] [-generation *generation*] [-st *sched_type*] [-freq *backup_frequency*] [-mpxmax *mpx_factor*] [-cal 0|1|2] [-incl *mm/dd/yyyy*] [-excl *mm/dd/yyyy*] [-delincl *mm/dd/yyyy*] [-delexcl *mm/dd/yyyy*] [-weekday *day_name week* [*day_name week*]...] [-dayomonth 1-31 [1-31]... | l] [-xweekday *day_name week* [*day_name week*]...] [-xdayomonth 1-31 [1-31]... | l] [-deldayomonth 1-31 [1-31]... | l] [-delweekday *day_name week* [*day_name week*]...] [-ci] [-ce] [-cw] [-cd] [-number_copies *number*][-rl *retention_level*[,*rl-copy2*,...]] [-fail_on_error 0|1[,0|1,...,0|1]] [-residence *storage_unit_label* [,*stunit_copy2*,...]] [-pool *volume_pool_label* [,*pool_copy2*,...]] [-sg *share_group* [,*share_copy2*,...]] [-(0..6) start duration] [-res_is_stl 0 | 1] [-reason "*string*"] [-slpwindow] [-checksum_change_detection 0|1]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpplschedrep changes the attributes of a NetBackup schedule for a defined policy. The schedule and policy that bpplschedrep names should already exist when this command is run. If the -M option is used, bpplschedrep changes the schedule on each of the listed master servers.

The -slpwindow option lets you set up a schedule for a storage lifecycle policy (SLP) that is based on a time window and only supports start time and end time. You must use the predefined policy name SLP_Internal_Policy, and the schedule type must be UBAK (User Backup).

Any authorized user can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

Note:

It is not recommended that users modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

OPTIONS

`-(0..6) start duration`

Specifies the window during which NetBackup can run the backups for this schedule. This window applies to a specific day of the week. `0` corresponds to Sunday, `1` to Monday, and so on.

start is the time at which the backup window opens for this schedule. This time is the number of seconds since midnight. It is an integer between 0 and 86400 (the number of seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. This unit is a non-negative integer.

`-cal 0|1|2`

Indicates whether `bpplschedrep` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retries after run day

`-checksum_change_detection 0|1`

Enables or disables Accelerator Force Rescan in the policy schedule.

0 = disable

1 = enable

`-dayomonth 1-31 [1-31]... | l`

Specifies the day or days of every month to run the schedule. Enter l (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the policy backup on the 14th day and the 28th day of every month, enter the following:

```
-dayomonth 14 28
```

To run the last day of every month, enter:

```
-dayomonth l
```

`-deldayomonth 1-31 [1-31]... | l`

Specifies a day of every month to exclude as a run day. Enter 1 (lowercase L) to exclude the last day of every month, whether the month contains 28, 29, 30, or 31 days. This command can only remove the dates that were added by using the `-dayomonth` command.

For example, to exclude from the schedule the 20th day and 21st day of every month that you originally specified as run days, enter:

```
-deldayomonth 20 21
```

`-delweekday` *day_name week* [*day_name week*]...

Specifies a day of the week and the week of the month to exclude as a run day from the schedule. This command can only remove the dates that were added by using the `-weekday` command.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month. A week begins on Sunday and ends on Saturday. Valid values are 1-5.

For example, to delete the second Monday of the month that you originally specified as a run day, enter:

```
-delweekday Monday 2
```

`-excl` *mm/dd/yyyy*

Indicates to exclude this single date.

`-delincl` *mm/dd/yyyy*

Indicates to delete this single date. This command can only remove the dates that were added by using the `-incl` command.

`-delexcl` *mm/dd/yyyy*

Indicates to delete this single date.

`-ci`

Clear all specific include dates.

`-ce`

Clear all specific exclude dates.

`-cw`

Clear all week days.

`-cd`

Clear all days of a month.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, 0 is default for all copies. Specify a value for each copy.

0 - Do not fail the other copies

1 - Fail other copies

`-freq` *backup_frequency*

The backup frequency controls how much time can elapse between successful automatic backups for clients on this schedule. Frequency does not apply to user schedules because the user can perform a backup or archive any time the backup window is open. This value is a positive integer that represents the number of seconds between successful automatic backups for this schedule.

`-help`

Prints a command-line usage message when `-help` is the only option on the command line.

`-generation` *generation*

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use `bpplinfo` or `bppllist` to list the current generation value. If no generation is indicated, the command acts on the current version.

`-incl` *mm/dd/yyyy*

Indicates to include this single date.

`-M` *master_server,...*

A list of alternative master servers. This list is a comma-separated list of host names. If this option is present, each master server in the list runs the `bpplschedrep` command. Each master server in the list must allow access by the system that issued the `bpplschedrep` command. If an error occurs for any master server, the process terminates at that point.

The schedule attributes are modified on all the master servers in this list.

`-mpxmax` *mpx_factor*

The maximum multiplexing factor for this schedule. Multiplexing sends concurrent, multiple backups from one or several clients to a single drive.

The multiplexing factor can range from 1 through 8 for the NetBackup Server and 1 through 32 for the NetBackup Enterprise Server. A value of 1 specifies no multiplexing and a value greater than one means that NetBackup should

create multiplexed images on the destination media. The multiplexing factor should be less than or equal to the multiplexing factor for the storage unit.

For more about multiplexing, see the *NetBackup Administrator's Guide, Volume I*.

`-number_copies` *number*

Specify the number of simultaneous backup copies. The valid value range is 1-4. The default is 1.

policy_name

The name of the policy that contains the schedule. This policy has been previously created.

`-pool` *volume_pool_label*`[,`*pool-copy2*`,...]`

Specifies the volume pool(s) for the schedule. Do not use this option if a disk storage unit is the residence for the schedule. If "*NULL*" is specified, the volume pool for the schedule is the volume pool of the policy that contains this schedule.

Specify a pool for each copy.

To display the configured volume pools, run the following command:

UNIX systems:

```
/usr/openv/volmgr/bin/vmpool -listall
```

Windows systems:

```
install_path\Volmgr\bin\vmpool -listall
```

`-reason "`*string*`"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-res_is_stl 0 | 1`

Specify this flag only when the name of the storage unit and the name of the storage lifecycle policy are the same. In all other cases this flag is ignored. The possible values are as follows:

0 - the residence is a non-storage life cycle policy

1 - the residence is a storage lifecycle policy

`-residence` *storage_unit_label*`[,`*stunit-copy2*`,...]`

Specifies the label(s) of the storage unit to be used for storing the backups that were created according to this schedule. If "*NULL*" is specified, the residence

for the schedule defaults to the residence of the policy that contains this schedule. If the residence value is a storage unit label, the residence for the schedule becomes that storage unit and overrides the residence for the policy.

Specify a storage unit for each copy.

Run `bpstulist` to display the set of defined storage units.

`-rl` *`retention_level`*`[,`*`rl-copy2`*`,...]`

Specifies how long NetBackup retains the backups that it creates by using this schedule. Valid retention levels and their corresponding default retention times are listed later in this description.

Specify a retention level for each copy.

Caution: You can change the retention period that is associated with each level by using the NetBackup administration interface. Therefore, your configuration may have different values for each level than those shown here. Use the NetBackup administration interface to determine the actual retention periods before you make any changes with this command.

Otherwise, backups can expire sooner than you expect, which results in loss of data.

- 0 (one week)
- 1 (2 weeks)
- 2 (3 weeks)
- 3 (1 month)
- 4 (2 months)
- 5 (3 months)
- 6 (6 months)
- 7 (9 months)
- 8 (1 year)
- 9-100 (infinite, except 25 which is expire immediately)

Note: If you run this command on a pre-NetBackup 8.0 media server, you can only specify a retention level between 0 and 24.

NetBackup keeps the information about the backups for the specified time. Then it deletes information about them. When the information is deleted, the

files in the backups are unavailable for restores. When all the backups on a volume have expired, the volume can be reassigned.

sched_label

Specifies the name of the schedule to be changed. This schedule has been previously created.

-sg *share_group* [,*share_copy2*,...]

Specifies the share group(s) for the schedule. Do not use this option if the schedule resides on a disk storage unit. If *NONE* is specified, the writing media server owns the media that this policy writes. If *ANY* is specified, EMM chooses the media owner. *ANY* is the default value. Otherwise, the named share group owns the media. Specify a share group for each copy to display the configured share groups. Enter the following:

UNIX systems:

```
/usr/openv/netbackup/bin/admincmd/nbsvrgrp
 -list -summary
```

Windows systems:

```
install_path\NetBackup\bin\admincmd\nbsvrgrp
 -list -summary
```

-slpwindow

Adds or deletes time windows for an SLP_internal_policy.

-st *sched_type*

Specifies the type of backup this schedule performs. Schedule types fall into either an automatic category or user category. Automatic schedules define the windows during which the NetBackup scheduler can initiate a backup for this policy.

User schedules define the windows during which a user can initiate a backup or archive.

The values for schedule type are as follows:

- FULL - full backup
- INCR - differential incremental backup
- CINC - cumulative incremental backup
- TLOG - transaction log
- UBAK - user backup
- UARC - user archive

- `Pre-check` - Runs the NetBackup preinstall environment checker. You can only use this option with the `Deployment` policy type.
- `StagePackage` - Moves a package to the client, but does not install it. Also performs the `precheck` operation. You can only use this option with the `Deployment` policy type.
- `InstallPackage` - Installs the specified package. Also performs the `precheck` and `stagepackage` operations. If you already performed the `stagepackage` operation, the `installpackage` command does not move the package again. You can only use this option with the `Deployment` policy type.

`-weekday` *`day_name week`* [*`day_name week`*]...

Specifies a day of the week and a week of the month as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month. A week begins on Sunday and ends on Saturday. Valid values are 1-5.

For example, to instruct the policy to run every Sunday of the month, enter:

```
-weekday Sunday 1 Sunday 2 Sunday 3 Sunday 4 Sunday 5
```

`-v`

Selects the verbose mode. This option causes `bpplschedrep` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

`install_path``\NetBackup\logs\admin`

`-xdayomonth 1-31 [1-31]... | l`

Specifies the day or days of the month that you want to exclude as run days in the schedule. Use `l` (lowercase L) to indicate the last day of the month.

For example, to instruct the policy to not run the backup on the 6th of the month, enter:

```
-xdayomonth 6
```

`-xweekday` *day_name week* [*day_name week*]...

Specifies the day of the week and week of the month, to exclude as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month. Valid values are 1-5.

For example, to instruct the policy to not run on the third Monday and Wednesday of the month, enter:

```
-xweekday Monday 3 Wednesday 3
```

EXAMPLES

Example 1 - Set the frequency for a schedule.

```
# bpplschedrep mkbpolicy incr -freq 604800
```

This sets to one (1) week the frequency with which automatic backups are performed for the schedule *incr* in policy *mkbpolicy*.

Example 2 - For Saturday and Sunday of each week, have the window for schedule in policy *mkbpolicy* open at 10 P.M. instead of 11 P.M. Also, set the window duration to two (2) hours instead fullof one (1) hour. `bpplschedrep` resets the windows, and `bpplsched` lists the new schedule values.

```
# bpplschedrep newpolicy full -0 79200 7200 -6 79200 7200
# bpplsched newpolicy -U -label full
Schedule:          full
  Type:            Full Backup
  Frequency:       every 7 days
  Retention Level: 1 (2 weeks)
  Maximum MPX:     1
  Residence:       (specific storage unit not required)
  Volume Pool:     (same as policy volume pool)
  Daily Windows:
        Sunday     22:00:00  -->  Sunday     24:00:00
        Monday     23:00:00  -->  Monday     24:00:00
        Tuesday    23:00:00  -->  Tuesday    24:00:00
        Wednesday  23:00:00  -->  Wednesday  24:00:00
        Thursday   23:00:00  -->  Thursday   24:00:00
        Friday     23:00:00  -->  Friday     24:00:00
        Saturday   22:00:00  -->  Saturday   24:00:00
```

Example 3 - Change the open window of SLP schedule `dup_tape1` to 6 A.M. to 10 A.M. Use the predefined policy name `SLP_internal_policy` and the UBAK schedule type. This window has no properties.

```
# bpplschedrep SLP_internal_policy -add dup_tape1 -window 21600 14400
-st UBAK -slpwindow
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/policy/policy_name/schedule
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\policy\policy_name\schedule
```

SEE ALSO

See bpplsched on page 336.

bpplschedwin

`bpplschedwin` – used to add or modify schedule windows.

SYNOPSIS

bpplschedwin*policy_namesched_label* [-verbose] [-M *master_server*,...] [-generation *generation*] [-reason *string*] [-0..6 *seconds_past_midnight duration_seconds*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

Use the `bpplschedwin` command add new schedule windows or modifies the current schedule windows. Use the `bpplsched` command to list the schedule information and determine if the change was successful.

OPTIONS

`-0..6` *seconds_past_midnight duration_seconds*

Use this combination of three numbers to define the day, start time, and duration of the schedule window.

The first number indicates the day of the week: `-0` is Sunday, `-1` is Monday, `-2` is Tuesday, `-3` is Wednesday, `-4` is Thursday, `-5` is Friday, and `-6` is Saturday.

The *seconds_past_midnight* number indicates the start time. It is specified as the number of seconds after midnight. For example, 5:00 A.M. is 18000 seconds past midnight.

The *duration_seconds* value is the number of seconds past the start of the window. So 3600 is one hour. The minimum duration value for a deployment schedule is 300 seconds. You cannot specify a duration value larger than 8553600 seconds for a deployment schedule.

-generation *generation*

Ensures that the command acts on a specific generation or version of a policy. The generation value increments each time a policy is saved. Use the bpplinfo command or the bppllist command to list the current generation value. If no generation is indicated, the command acts on the current version.

-M *master_server,...*

This comma-separated list of host names specifies alternative master servers. If this option is included, each master server in the list runs the bpplschedwin command. Each master server in the list must allow access by the system that issues the bpplschedwin command. If this option is used, the command is run on each master server in the list. If an error occurs for any master server, the process terminates at that point.

policy_name

The name of the policy that contains the schedule you want to add or modify. The policy must exist before you run this command. This option must be the first one on the command line.

-reason "*string*"

If this option is specified, it indicates why the schedule was added or modified. The text string that is entered is captured and appears in the audit report. This string must be enclosed in double quotes ("..."). The string cannot exceed 512 characters. It cannot begin with a dash character (-) or contain a single quotation mark (').

sched_label

The name of the schedule that contains the window being added or modified. The schedule must exist before you run this command. This option is required and must follow the *policy_name* option in the command line.

-verbose

Selects the verbose mode. This option is only useful if debug logging is enabled. This option causes bpplschedwin to log additional information into the NetBackup administration debug log. The NetBackup administration debug log is found at *install_path*\NetBackup\logs\admin on Windows and /usr/openv/netbackup/logs/admin on UNIX and Linux.

EXAMPLES

Example 1: Modify sched3 deployment schedule in the dpol1 policy to start on 5/30/2018 at 5:00 A.M. and end on 6/2/2018 5:00 A.M.

```
# bpplschedwin dpol1 sched3 -0 0 0 -1 0 0 -2 0 0 -3 18000 259200
-4 0 0 -5 0 0 -6 0 0
```

```
# bpplsched dpol1 -label sched3
SCHED sched3 6 1 604800 1 0 0 0 *NULL* 0 1 0 0 0 0 -1 0 0
SCHEDCALENDAR
SCHEDCALIDATES 1528223400 1528309800 1528396200
SCHEDWIN 0 0 0 0 0 0 18000 259200 0 0 0 0 0 0
SCHEDRES *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
 *NULL* *NULL*
SCHEDPOOL *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
 *NULL* *NULL*
SCHEDRL 1 1 1 1 1 1 1 1 1 1
SCHEDFOE 0 0 0 0 0 0 0 0 0 0
SCHEDSG *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
 *NULL* *NULL*
```

SEE ALSO

See bpplinfo on page 301.

See bppllist on page 328.

See bpplsched on page 336.

bppolicynew

bppolicynew – create, copy, or rename a NetBackup policy

SYNOPSIS

bppolicynew*policy_name* [-verbose] [-M *master_server,...*] [-reason "*string*"]

bppolicynew*policy_name* -sameas *existing_policy_name* [-verbose] [-M *master_server,...*] [-reason "*string*"]

bppolicynew*existing_policy_name* -renameto *policy_name* [-verbose] [-M *master_server,...*] [-reason "*string*"]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bppolicynew performs one of the following operations on a NetBackup policy:

- Create a new policy with default attribute values.
- Create a new policy with the same attributes as an existing policy.
- Rename an existing policy.

When bppolicynew runs without -sameas or -renameto, it creates a new NetBackup policy with default attribute values. If -M is present, the defaults that are used for the policy definition on each master server are the defaults for that master server.

bppolicynew copies a policy by adding a new policy to the NetBackup database. The clients, files, schedules, and attributes for the new policy are the same as those for the existing policy. bppolicynew does not create a policy copy with the same name as an existing policy.

If bppolicynew renames a policy, the existing association of images with the policy is lost. This means that the images that were created before the policy was renamed are not included in a list of images for the renamed policy. The command does not rename a policy with the same name as an existing policy.

`bpplinfo` replaces the policy-attribute defaults with new values. `bpplclients`, `bpplinclude`, and `bpplsched` define the clients, backup files, and schedules for the policy. A policy needs to have at least one client, one file specification, and one automatic schedule before it can run automatic backups.

`bppolicynew` sends its error messages to `stderr`. `bppolicynew` sends a log of its activity to the NetBackup admin log file for the current day.

Authorized user can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

For more about policies, see the *NetBackup Administrator's Guide, Volume I*.

Note:

It is not recommended that users modify or delete automanaged policies.

If the user modifies the policy, they must make sure that the policy continues to meet the service level objective as defined by the protection plan.

If the user deletes the policy, they must make sure that the asset is added to another protection plan that meets the service level objective.

OPTIONS

policy_name

Specifies the name of a NetBackup policy that `bppolicynew` creates or the name to which `bppolicynew` changes an existing policy. The option has no default value.

This policy name must differ from any existing policy name. It is composed of numeric, alphabetic, plus, minus, underscore, and period characters. Do not use a minus as the first character or leave spaces between characters.

existing_policy_name

The name of a NetBackup policy that already exists when `bppolicynew` runs. The option does not have a default value.

`-renameto`

Change the name of the existing policy to the new policy name.

`-sameas`

Create a new policy by copying its characteristics from the existing policy.

`-help`

Prints a command-line usage message.

-M *master_server,...*

Specifies a list of comma-separated master server host names. If this option is present, the command is run on each of the master servers in this list. The servers must allow access by the system that issued the command. If an error occurs, the process stops at that point in the list. The default is the master server for the system where the command is entered.

-reason "*string*"

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

-verbose

Select verbose mode for logging. This option is meaningful only when it runs with the debug log function (that is, when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

install_path\NetBackup\logs\admin

policy_name

Specifies the name of a NetBackup policy that bppolicynew creates or the name to which bppolicynew changes an existing policy. The option has no default value.

This policy name must differ from any existing policy name. It is composed of numeric, alphabetic, plus, minus, underscore, and period characters. Do not use a minus as the first character or leave spaces between characters.

existing_policy_name

The name of a NetBackup policy that already exists when bppolicynew runs. The option does not have a default value.

-renameto

Change the name of the existing policy to the new policy name.

-sameas

Create a new policy by copying its characteristics from the existing policy.

-help

Prints a command-line usage message.

-M *master_server,...*

Specifies a list of comma-separated master server host names. If this option is present, the command is run on each of the master servers in this list. The servers must allow access by the system that issued the command. If an error occurs, the process stops at that point in the list. The default is the master server for the system where the command is entered.

-verbose

Select verbose mode for logging. This option is meaningful only when it runs with the debug log function (that is, when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

install_path\NetBackup\logs\admin

EXAMPLES

Note that references to Follow NFS Mounts in these examples apply only to NetBackup Enterprise Server.

Example 1 - Create a policy with default attribute values on the master server *plim*:

```
# bppolicynew ishkabibble -M plim
# bppllist ishkabibble -U -M plim
------------------------------------------------------------
  Policy Name:          ishkabibble
  Policy Type:          Standard
  Active:               yes
  Client Compress:      no
  Follow NFS Mounts:    no
  Cross Mount Points:   no
  Collect TIR info:     no
  Block Incremental:    no
  Mult. Data Streams:   no
  Client Encrypt:       no
  Policy Priority:       0
  Max Jobs/Policy:       99
  Disaster Recovery:    0
  Residence:            (specific storage unit not required)
  Volume Pool:          NetBackup
  Keyword:              (none specified)
```

```
  Clients:       (none defined)

  Include:       (none defined)

  Schedule:      (none defined)
```

Example 2 - Create new policy `mypolicy_copy` from the existing policy *mypolicy*. `bppllist` shows that `mypolicy_copy` has the same attributes as *mypolicy*. For brevity, most of the schedule information is omitted here:

```
# bppolicynew mypolicy_copy -sameas mypolicy
# bppllist mypolicy_copy -U
------------------------------------------------------------
Policy Name:        mypolicy_copy
  Policy Type:          Standard
  Active:              yes
  Client Compress:     no
  Follow NFS Mounts:   no
  Cross Mount Points:  no
  Collect TIR info:    no
  Block Incremental:   no
  Mult. Data Streams:  no
  Client Encrypt:      no
  Policy Priority:      0
  Max Jobs/Policy:     99
  Disaster Recovery:    0
  Residence:           myunit
  Volume Pool:         NetBackup
  Keyword:             (none specified)

  HW/OS/Client:  Linux         RedHat        zippity

  Include:  /tmp/my

  Schedule:          full
    Type:            Full Backup
    Frequency:       every 7 days
    Maximum MPX:     1
    Retention Level: 0 (1 week)
    Residence:       (specific storage unit not required)
    Volume Pool:     (same as policy volume pool)
    Daily Windows:
          Sunday     00:00:00  -->  Sunday     08:00:00
          Monday     00:00:00  -->  Monday     08:00:00
```

```
          Tuesday    00:00:00  -->  Tuesday    08:00:00
          Wednesday  00:00:00  -->  Wednesday  08:00:00
          Thursday   00:00:00  -->  Thursday   08:00:00
          Friday     00:00:00  -->  Friday     08:00:00
          Saturday   00:00:00  -->  Saturday   08:00:00

  Schedule:          incr
    Type:            Differential Incremental Backup

# bppolicynew mypolicy_copy -sameas mypolicy
# bppllist mypolicy -U
------------------------------------------------------------
Policy Name:        mypolicy
  Policy Type:         Standard
  Active:              yes
  Client Compress:     no
  Follow NFS Mounts:   no
  Cross Mount Points:  no
  Collect TIR info:    no
  Block Incremental:   no
  Mult. Data Streams:  no
  Client Encrypt:      no
  Policy Priority:      0
  Max Jobs/Policy:     99
  Disaster Recovery:    0
  Residence:           myunit
  Volume Pool:         NetBackup
  Keyword:             (none specified)

  HW/OS/Client:  Linux         RedHat        zippity

  Include:  /tmp/my

  Schedule:          full
    Type:            Full Backup
    Frequency:       every 7 days
    Maximum MPX:     1
    Retention Level: 0 (1 week)
    Residence:       (specific storage unit not required)
    Volume Pool:     (same as policy volume pool)
    Daily Windows:
          Sunday     00:00:00  -->  Sunday     08:00:00
          Monday     00:00:00  -->  Monday     08:00:00
```

```
          Tuesday    00:00:00  -->  Tuesday    08:00:00
          Wednesday  00:00:00  -->  Wednesday  08:00:00
          Thursday   00:00:00  -->  Thursday   08:00:00
          Friday     00:00:00  -->  Friday     08:00:00
          Saturday   00:00:00  -->  Saturday   08:00:00

  Schedule:          incr
    Type:            Differential Incremental Backup

# bppllist mypolicy_copy -U
------------------------------------------------------------
Policy Name:        mypolicy_copy
  Policy Type:          Standard
  Active:              yes
  Client Compress:     no
  Follow NFS Mounts:   no
  Cross Mount Points:  no
  Collect TIR info:    no
  Block Incremental:   no
  Mult. Data Streams:  no
  Client Encrypt:      no
  Policy Priority:      0
  Max Jobs/Policy:      99
  Disaster Recovery:   0
  Residence:           myunit
  Volume Pool:         NetBackup
  Keyword:             (none specified)

  HW/OS/Client:  Linux         RedHat        zippity

  Include:  /tmp/my

  Schedule:          full
    Type:            Full Backup
    Frequency:       every 7 days
    Maximum MPX:     1
    Retention Level: 0 (1 week)
    Residence:       (specific storage unit not required)
    Volume Pool:     (same as policy volume pool)
    Daily Windows:
          Sunday     00:00:00  -->  Sunday     08:00:00
          Monday     00:00:00  -->  Monday     08:00:00
          Tuesday    00:00:00  -->  Tuesday    08:00:00
```

```
        Wednesday  00:00:00  -->  Wednesday  08:00:00
        Thursday   00:00:00  -->  Thursday   08:00:00
        Friday     00:00:00  -->  Friday     08:00:00
        Saturday   00:00:00  -->  Saturday   08:00:00

Schedule:          incr
  Type:            Differential Incremental Backup
```

Example 3 - Rename a policy from policy_old to policy_new. Before and after the renaming, `bppllist` shows the policies in the NetBackup configuration database:

```
bppllist
  mypolicy
  policy_old
  test
 bppolicynew policy_old -renameto policy_new
 bppllist
  mypolicy
  policy_new
  test
```

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, `bppllist` logs the exit status in the administrative daily log under the log directory:

UNIX systems:

`/usr/openv/netbackup/logs/admin`

Windows systems:

`install_path``\NetBackup\logs\admin`

It has the following form:

`bppolicynew: EXIT status = `*`exit status`*

If an error occurred, a diagnostic precedes this message.

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/policy/policy_name
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\policy\policy_name
```

SEE ALSO

See bpplclients on page 280.

See bpplinfo on page 301.

See bpplsched on page 336.

See bppldelete on page 291.

See bpplist on page 328.

bpps

bpps – list process statistics for the processes that run on your system. Be aware this command operates differently on Windows systems than it does on UNIX systems.

SYNOPSIS

bpps [-a | -x | [{[-n][-3]} [-f]]]

bpps [-l | -s | -S] [-t *sample_time*[*m*]] [-i | -x *process_group*] ... [*host_name*] ...

install_path\NetBackup\bin\bpps -? [*process_group ...*]

For UNIX systems, the directory path for this command is /usr/openv/netbackup/bin/

For Windows, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

This command operates differently on Windows systems than it does on UNIX systems.

The bpps command lists the process statistics for all processes that run on your system. This command enables you to list a specific process group. It also enables you to specify a sample time in seconds (or milliseconds) before it lists the processes.

Note: The command options that bpps uses on Windows are unrelated to the options that the UNIX bpps command uses.

OPTIONS: UNIX and Linux

-3 Display all processes running from programs resident outside the NetBackup installation directories but using libraries, open files, or current working directory within the NetBackup installation directories. This option includes any currently running notify scripts.

-a Includes the Media Manager processes in the listing.

`-f` Display the NetBackup files and directories in use by the NetBackup (-n) or third-party (-3) processes. This option includes files either mapped into the process or currently open by the process. The option also includes any directories which are the current working directory for the process.

`-n` Display all processes running from programs resident within the NetBackup installation directories. Excludes notify scripts because they contain third-party commands.

`-x` Includes NetBackup Scale-out relational database processes, Media Manager processes, and the extra shared processes such as `pbx_exchange` in the listing.

OPTIONS: Windows

`host_name`

The name of the host computer on which you list group process statistics.

`-?`

Print the help screen. If you specify process_group here, it displays the list of processes that are included or excluded when you specify process_group with -i or -x options.

`-i` *`process_group`*

Include the specified process group in the listing (default NB_ALL).

`-l`

Output a long listing.

`-s`

Output a short listing (default).

`-S`

Output a short listing without the header (for example, host name, date, and column headings).

`-t` *`sample_time`*`[`*`m`*`]`

Specify the sample time (default 1 second). The sample time is specified in seconds unless followed by *m*, which specifies the sample time in milliseconds.

`-x` *`process_group`*

Exclude the specified process group from the listing.

NOTES

The following is a list of all of the valid process groups and a brief description of each:

`MM_ALL`
: All Media Manager processes.

`MM_CLIS`
: Media Manager command line programs.

`MM_CORE`
: Media Manager core processes.

`MM_GUIS`
: Media Manager GUI programs.

`MM_SERVICES`
: Media Manager services.

`MM_UIS`
: Media Manager user interface programs.

`MM_WORKERS`
: Media Manager worker processes.

`NB_ALL`
: All NetBackup, Media Manager, and ARO processes.

`NB_ALL_CLIS`
: All NetBackup and Media Manager command line programs.

`NB_ALL_CORE`
: All NetBackup, Media Manager, and ARO core processes.

`NB_ALL_GUIS`
: All NetBackup and Media Manager GUI programs.

`NB_ALL_SERVICES`
: All NetBackup and Media Manager Services.

`NB_ALL_UIS`
: All NetBackup and Media Manager user interface programs.

`NB_ALL_WORKERS`
: All NetBackup and Media Manager worker processes.

`NB_CLIENT_ALL`
: All NetBackup client processes.

`NB_CLIENT_CLIS`
: NetBackup client command line programs.

`NB_CLIENT_CORE`
: NetBackup client core processes.

`NB_CLIENT_GUIS`
: NetBackup client GUI programs.

`NB_CLIENT_SERVICES`
: NetBackup client services.

`NB_CLIENT_UIS`
: NetBackup client user interface p

`NB_CLIENT_WORKERS`
: NetBackup client worker processes.

`NB_SERVER_ALL`
: All NetBackup server processes.

`NB_SERVER_ALL_DB`
: All NetBackup Scale-out relational database processes.

`NB_SERVER_CLIS`
: NetBackup server command line programs.

`NB_SERVER_CORE`
: NetBackup server core processes.

`NB_SERVER_GUIS`
: NetBackup server GUI programs.

`NB_SERVER_SERVICES`
: NetBackup server services.

`NB_SERVER_UIS`
: NetBackup server user interface programs.

`NB_SERVER_WORKERS`
: NetBackup server worker processes.

`NBDB_SERVICES`
: NetBackup Database services.

`NBDB_CLIS`
: NetBackup Database command line programs.

`NBDB_ALL`
: All NetBackup Database processes.

`VLT_CORE`
: Core Vault processes.

`VLT_GUIS`
: Vault GUI programs.

`VLT_CLIS`
: Vault command line programs.

`VLT_UIS`
: Vault user interface programs.

`VLT_ALL`
: All Vault processes.

`OTHER_PROCESSES`
: All processes that are not included in NB_ALL.

FILES

install_path\NetBackup\bin\bp.conf

bprd

`bprd` – initiate NetBackup request daemon

SYNOPSIS

bprd [-verbose]

The directory path to this command is /usr/openv/netbackup/bin/

DESCRIPTION

This command operates only on UNIX systems.

`bprd` is responsible for starting automatic client backups and for responding to client requests for file restores and user backups and archives. `bprd` runs only on the master server and can be started only by the administrator.

The following steps occur in the order listed when `bprd` starts:

- After it disassociates itself from the terminal, the daemon does the following:
  - Logs a message that indicates it started.
  - Starts `bpdbm` (NetBackup database manager).
  - Verifies that no other instance of `bprd` is running. If another instance of `bprd` is found, the program terminates.
- The program reads the NetBackup configuration attributes and recycles older error and debug log files. Activity and error logs are also recycled on a daily basis.
- `bprd` determines its port number by checking the `services` file for an entry with a service name of `bprd` and a protocol name of `tcp`. For example:

  ```
  bprd 13720/tcp
  ```

- After it binds to its port, the program performs the following tasks: It schedules automatic client backups, accepts requests from client computers for file restores or user backups or archives, and accepts administrative requests from the server.

You can use `bprdreq -terminate` to terminate `bprd`. If you terminate `bprd`, it does not terminate `bpdbm`.

OPTIONS

`-verbose`

Specifies that the `bprd` command writes additional information in its daily debug log for debugging purposes.

FILES

```
/usr/openv/netbackup/db/*
/usr/openv/netbackup/bp.conf
/usr/openv/netbackup/logs/bprd/*
/usr/openv/netbackup/bin/initbprd
/usr/openv/netbackup/bin/initbpdbm
```

SEE ALSO

See bpdbm on page 117.

bprecover

`bprecover` – recover selected NetBackup related catalogs

SYNOPSIS

bprecover -wizard [-copy *number*]

bprecover -r -nbdb [-priority *number*] [-copy *number*] [-L *output_file*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `bprecover` command initiates the NetBackup utility for restoring the NetBackup catalogs. It recovers the catalogs that were backed up by using the procedures that are described in the *NetBackup Administrator's Guide, Volume I*. Use `bprecover` only if catalogs were destroyed on disk.

`bprecover` has three modes:

- `-wizard` lets you recover the entire NetBackup catalog or the catalog image and configuration files by using a recovery wizard.
- NBDB recovery (`-r -nbdb`) lets you recover the NetBackup relational database and the BMR database, if BMR is configured.

In Windows, the NetBackup catalog backup does not back up registry entries. If you reinstall NetBackup but do not provide media server names during installation, the master server is unaware of the media servers. The `bprecover` command returns media servers, related storage servers, and disk pools. Because these entries are not in the registry, the backup fails. Therefore, you must provide the media server names during reinstallation, or add them manually to the registry after the reinstallation.

You must have administrator privileges to run this command.

OPTIONS

`-copy` *number*

Specifies the number of the copy of the catalog backup image to be used for the recovery operation. This option restores from a non-primary copy of the catalog backup image.

`-L` *output_file*

Reports the results of the recovery in the specified output file.

`-nbdb`

Used with the `-r` option during catalog recovery to recover and resynchronize the NetBackup relational databases (NBDBs) and the BMR database (BMRDB), if BMR is configured.

For complete catalog recovery procedures, see the *NetBackup Troubleshooting Guide*.

`-priority` *number*

Recovers the NetBackup relational database when used with `-nbdb`.

`-r`

Recovers the images from the specified policy name.

`-wizard`

Enables a user to perform the same functions from a command line that are present on the recovery wizard. For example, a user can specify the full pathname to the catalog disaster recovery file or recover the entire NetBackup catalog. The wizard prompts you for the catalog disaster recovery file.

The `-copy` option lets you select the number of the copy

Note: The operator must be logged on locally to the master server that is to be recovered.

EXAMPLES

Example 1 - Recover the entire NetBackup catalog or the catalog image and configuration files. On Windows, a series of screens takes you through the recovery process. On UNIX, a series of prompts takes you through the recovery process.

```
# bprecover -wizard
```

The disaster recovery information in the *NetBackup Troubleshooting Guide* describes each step of the recovery process.

Example 2 - Recover the NetBackup relational databases and reports the results of the recovery in the `recovery.rpt` file.

```
# bprecover -r -nbdb -L recovery.rpt
```

ERRORS

If any errors occur during the recover operation, NetBackup writes error messages to one of the following: `stderr` (UNIX systems) or the MS-DOS command window when you run the `bprecover` command (Windows systems).

Also, debug logs are accumulated in the following directory path:

On Windows, *`install_path`*`\NetBackup\logs\admin`

On UNIX, `/usr/openv/netbackup/logs/admin`

SEE ALSO

NetBackup Troubleshooting Guide for information on disaster recovery.

bprestore

bprestore – restore files from NetBackup Server

SYNOPSIS

bprestore [-A | -B | -rb] [-K] [-l | -H | -y] [-r] [-T] [-L *progress_log* [-en]] [-R *rename_file*] [-C *client*] [-D *client*] [-S *master_server*] [-disk_media_server *media_server*][-t *policy_type*] [-p *policy*] [-k *"keyword_phrase"*] [-cm] [-drs] [-md] [-dd] [-td *temp_dir*] [-s *date*] [-e *date*] {-F *file_options*] [-spsredir_server *hostname*] [-spscurver] [-spsignorelock] [-spspreserveiis] [-spsrestoresecurity] [-spsverkeep [0 | 1 | 2]] [-vhd_fn *VHD_filename*] [-vhd_type 0 | 1] [-vhd_dsize *VHD_disk_size*] [-vhd_dof 0 | 1] -BR *portal_name* | *teamsite_name* | *Exchange_2010_redirected_path*] [-copy *copy_number*] [-granular_restore] [-priority *number*] [-w [*hh*:*mm*:*ss*]] [-ev_migrated_data] -f *listfile* | *filenames* [-print_jobid] [-optimized_backup 0 | 1] [-force_group_rollback]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

bprestore lets users restore a backed up or archived file or list of files. You can also name directories to restore. If you include a directory name, bprestore restores all files and subdirectories of that directory. You can exclude a file or a directory path that was previously included in the restore by placing an exclamation mark (!) in front of the file or the directory path (does not apply to NDMP restores). For example, the exclude capability is useful if you want to exclude part of a directory from the restore.

Note: If a policy or date range is not specified, bprestore starts with the most recent full backup image. It includes all subsequent incremental and differential backup images. The most recent copy of a file is restored from these images.

By default, you are returned to the system prompt after bprestore is successfully submitted. The command works in the background and does not return completion status directly to you. The -w option lets you change this behavior so bprestore

works in the foreground and then returns completion status after a specified time period.

The bprestore command restores the file from the most recent backups within the time period you specify, except for a true-image restore. (See the -T option description.)

bprestore overwrites any file of the same name that already exists on the local client disk, unless you include the -K option. You also can restore the files that were backed up or archived on another client (-C option). To restore from other clients, the NetBackup administrator must validate you.

bprestore writes informative and error messages to a progress log file if you do the following: create the file before you run the bprestore command and then specify the file with the -L *progress_log* option. If bprestore cannot restore the requested files or directories, you can use the progress log to find the reason for the failure.

For detailed troubleshooting information, create a directory that is named /usr/openv/netbackup/logs/bprestore (UNIX systems) or *install_path*\NetBackup\logs\bprestore (Windows systems) with public-write access. bprestore then creates a debug log file in this directory.

For UNIX systems, if a nonroot user specifies USEMAIL = *mail_address* in the $HOME/bp.conf file, the following occurs: NetBackup sends mail on the restore completion status to *mail_address*. This message is sent when the restore process is complete.

The following restrictions apply to bprestore:

- You can restore the files and the directories that you own and those owned by other users if you have read access. You need write access to another user's directories and files to restore that user's files to their original location.
- The operating system restricts the number of files and directories that you can specify on a single bprestore command line. If this restriction is a problem, use the -f option to restore the files.
- When you use bprestore on a Windows computer, if the file names contain non-ASCII characters, the acceptable format for the file names depends on the policy type. For the policy types listed, you must give the file list in the Windows code page format:

  DB2
  MS-Exchange-Server
  Informix
  Lotus-Notes
  Oracle

```
SAP
MS-SQL-Server
Sybase
TeraData
MS-Windows
Standard
```

For all other policy types, the file list must be given in UTF-8 format. The rule applies for the file lists that are given on the command line and file lists that are provided in a file with the `-f` option.

Use the `bplist` command to display information on the files and directories that were backed up or archived.

Note: If you restore catalog files directly by using `bprestore` on a Solaris system, use the following path: `/opt/openv/netbackup/bin/bprestore`.

OPTIONS

`-A | -B | -rb`

Specifies if data is to be restored from archives (`-A`), backups (`-B`), or snapshot rollbacks (-rb). The default is `-B`.

Note: The rollback (-rb) operation always occurs from copy 1. If copy 1 is expired, the rollback fails.

`-BR` *`portal_name | teamsite_name | Exchange_2010_redirected_path`*

Specifies a portal name, team site name, or Exchange 2010 redirected path name where the selected portal or team site is to be redirected in a SharePoint farm. A user should specify the redirected portal or team site as `http://portalname` | `http://teamsitename`, and should already exist in a farm.

`-C` *`client`*

Specifies a client name to use for finding backups or archives from which to restore files. This name must be as it appears in the NetBackup catalog. The default is the current client name.

Note: The destination client does not default to the source client. See the description for `-D` *`client`* option.

`-cm`

Enables the restore operation to play through log files and roll back any incompleted transactions. Use this option if your selection contains the last backup to be restored. If this option is not selected, the database is left in an intermediate state and is not yet usable.

`-copy` *copy_number*

Specifies the copy number to restore from. The user is able to restore from a different copy than the primary copy. For example, `-copy 3` restores copy 3 of a file or list of files.

Alternatively, you may specify the copy from which to restore at a global level (for all restore operations). Put the copy number into the file ALT_RESTORE_COPY_NUMBER.

Refer to "Restoring from a specific backup copy" of the NetBackup Backup, Archive, and Restore online Help for a complete description.

`-D` *client*

Specifies a destination client. The default is the current client name.

On UNIX systems, the master server root user can use this option to do the following: Direct restored files to a computer other than the client that the `-C` option specifies.

On Windows systems, the master server administrator can use this option to do the following: Direct restored files to a computer other than the client that the `-C` option specifies.

`-disk_media_server` *media_server*

Identifies the disk media server to be used for the restore operation. The default server is the one currently being used.

`-drs`

Restores the files without access-control attributes. By default, access-control attributes are restored along with file and directory data. Option `-drs` is available only to NetBackup administrators.

`-ev_migrated_data`

Restores the migrated data from Enterprise Vault. `bprestore -ev_migrated_data`does not support the restoration of migrated data from a non-Enterprise Vault source. Use the other `bprestore` parameters as required.

The following example restores migrated data from Vault1 to master server ms1 using an NDMP policy type. The files to be restored are listed in file `restorefiles`.

```
# bprestore -S ms1 -C Vault1 -t 19 -ev_migrated_data restorefiles
```

`-f listfile`

Specifies a file (*listfile*) that contains a list of files to be restored and can be used instead of the *filenames* option. In *listfile*, list each file path must be on a separate line.

The required format for the file list depends on whether the files have spaces or newlines in the names.

To restore the files that do not have spaces or new lines in the names, use this format:

```
filepath
```

Where *filepath* is the path to the file that you restore. For example:

Note: For Windows systems, use upper case for the drive letter. For example, `C:\NetBackup\Log1`.

UNIX systems:

```
/home
/etc
/var
```

Windows systems:

```
C:\programs
C:\winnt
C:\documents\old_memos
```

To restore the files that have spaces or new lines in the names, use one of the following formats:

```
filepathlen filepath
filepathlen filepath start_date_time end_date_time
filepathlen filepath -s datetime -e datetime
```

The *filepath* is the path to the file you restore.

The *filepathlen* is the total number of characters in the file path.

The *start_date_time* and *end_date_time* are the decimal number of seconds since 01/01/1970 00:00:00.

datetime is the same as the command line (*mm/dd/yy* [*hh*[:*mm*[:*ss*]]]). The command uses the start date, end date, and time from the command line unless a line in *listfile* overrides it. The dates may change from line to line.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

To exclude a file or a directory path that was previously included in the restore, place an exclamation mark (!) in front of the file or the directory path. NDMP and FlashBackup restores do not support the exclude option.

The following is an example that uses *filepathlen filepath*:

UNIX systems:

```
5 /home
4 /etc
4 /var
19 /home/abc/test file
12 !/etc/passwd
```

Windows systems:

```
11 C:\programs
8 C:\winnt
22 C:\documents\old memos
17 !C:\programs\test
```

`-f` *filenames*

Names one or more files to be restored and can be used instead of the `-f` option.

Any files that you specify must be listed at the end of the command line after all other options. You must use absolute file paths.

To exclude a file or a directory path that was previously included in the restore, place an exclamation mark (!) in front of the file or the directory path. NDMP and FlashBackup restores do not support the exclude option.

For Windows systems, use upper case for the drive letter. For example, `C:\NetBackup\log1`.

`-F` *file_options*

Allows NetBackup files to be restored.

-force_group_rollback

When you use this option, NetBackup performs a rollback restore with warning messages. The rollback restore happens even if the number of devices on the storage array consistency group configuration is not equal to the number of devices that you selected for restore.

Note: Use this option only when it is safe to rollback all the devices on the concerned storage array consistency group.

-granular_restore

Enables the restore of the objects and attributes in the Active Directory. If this option is not specified, the restore still runs, but the backup cannot produce granular restores.

-J

If specified, newer snapshots on the volume may be lost. This option is used only with the rollback restore (-rb) option.

-K

Causes bprestore to keep existing files rather than overwrite them when it restores files with the same name. The default condition is to overwrite existing files.

When you use -K with the rollback (-rb) option, it means to not perform verification before the rollback. Files that are added on the volume after the snapshot is taken would be lost.

-k "*keyword_phrase*"

Specifies a keyword phrase for NetBackup to use when it searches for backups or archives from which to restore files. The phrase must match the one that was previously associated with backup or archive by the -k option of the bpbackup or the bparchive command.

Use this option in place of or in combination with the other restore options to more easily restore your backups and archives. The meta-characters that follow simplify the match of keywords or parts of keywords in the phrase:

* matches any string of characters.

The "?" character matches any single character.

[ ] matches one of the sequence of characters that is specified within the brackets.

[-] matches one of the range of characters that the "-" separates.

The keyword phrase can be up to 128 characters in length. All printable characters are permitted including space (" ") and period (".").

The phrase must be enclosed in double quotes ("...") or single quotes ('...').

The default keyword phrase is the null (empty) string.

`-L progress_log [-en]`

Specifies the name of an existing file in which to write progress information. For example:

UNIX systems: `netbackup/logs/user_ops/proglog`

Windows systems: `NetBackup\logs\user_ops\proglog`

The default is not to use a progress log.

Include the `-en` option to generate a log entry in English. The name of the log contains the string `_en`. This option is useful to support any personnel that assist in a distributed environment where different locales may create logs of various languages.

Only default paths are allowed for this option and Veritas recommends to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-l | -H | -y`

Note: The `-l` | `-H` | `-y` options apply only when you restore UNIX files to a UNIX system.

Specify `-l` to rename the targets of UNIX links by using the `-R rename_file` option in the same way as when you rename files.

Specify `-H` to rename UNIX hard links by using the `-R rename_file` option in the same way as when you rename files. Soft links are unchanged.

Specify `-y` to rename UNIX soft links by using the `-R rename_file` option in the same way as when you rename files. Hard links are unchanged.

See Example 5 in the EXAMPLES section.

`-M`

Enables the client job to be monitored.

`-md`

Mounts the database so that it is available to users. This option is only available if **Commit after restore completes** is selected.

`-optimized_backup 0 | 1`

Specifies if the restore operation is done from an optimized backup.

`-p` *policy*

Specifies the policy for which the backups or archives were performed.

`-print_jobid`

Display to the `stdout` the job ID of the restore job that the `bprestore` command initiates.

`-r`

Specify this option to restore raw partitions (UNIX systems) or disk images (Windows systems) instead of file systems.

`-R` *rename_file*

Specifies the name of a file with name changes for alternate-path restores.

For example: `bprestore -R /C/renamefile /C/origfile`

Where `/C/rename_file` is the file with the name change and `/C/origfile` is the file to be renamed. The pathname that you enter must be an absolute path.

Use the following form for entries in the rename file:

```
change backup_filepath to restore_filepath
```

The file paths must start with / (slash)

The first *backup_filepath* that is matched is replaced with the *restore_filepath* string.

The default is to restore by using the original path.

On UNIX systems: For example, the following entry renames `/usr/fred` to `/usr/fred2`:

```
change /usr/fred to /usr/fred2
```

On Windows systems: For example, the following entry renames `C:\users\fred` to `C:\users\fred2`:

```
change /C/users/fred to /C/users/fred2
```

Use all upper case for the drive letter and end the entry with a return.

When you restore to a Windows client, you can also use the following method for specifying entries in the rename file. (Do not use this method for other clients.)

```
rename bulength backup_filepath reslength
restore_filepath
```

Where:

bulength is the number of ASCII characters in the backup path.

reslength is the number of ASCII characters in the restore path.

The first *backup_filepath* that is matched is replaced with the *restore_filepath* string.

For example, the following entry renames `C:\fred.txt` to `C:\fred2.txt`:

```
rename 11 /C/fred.txt 12 /C/fred2.txt
```

(Be sure to end the entry with a return.)

Only default paths are allowed for this option and Veritas recommends to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-s` *date*, `-e` *date*

Specifies the start and the end date range for the listing. The `bprestore` command restores only files from backups or the archives that occurred within the specified start and end date range.

`-s` specifies a start date and time for the restore window. `bprestore` restores files only from the backups or the archives that occurred at or after the specified date and time.

Note: To restore multistreamed images, first run `bplist -l` to get the modification time of the desired files during the last backup that contained the files. Specify that date as the `-s` when you run the `bprestore` command. If you specify no start or no end date for the files that have been backed using multiple data streams, errors may result.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such

as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default start date is 01/01/1970 00:00:00.

The default is to return the most recent image. For backups, this image is the most recent full backup if a full backup exists. If a full backup does not exist, then the most recent incremental or user-directed backup is restored.

`-e` specifies an end date and time for the restore window. `bprestore` restores only files in the backups or the archives that occurred at or before the specified date and time. Use the same format as for the start date and time.

The end backup date and time do not need to be exact, except for a true-image restore (see the `-T` option description). `bprestore` restores the file that has the specified backup date and time. Or it restores the file that precedes the end date and time, which is the most recent backup. The default is the current date and time.

`-S` *`master_server`*

Specifies the name of the NetBackup server.

On UNIX systems, the default is the first server found in the `/usr/openv/netbackup/bp.conf` file.

On Windows systems, the default is the server designated as current on the **Servers** tab of the **Specify NetBackup Machines** dialog box. To display this dialog box, start the **Backup, Archive, and Restore** user interface on the client. Then click **Specify NetBackup Machines** on the **File** menu.

`-spscurver`

For SharePoint operation, `-spscurver` restores only the most recent version of an item.

`-spsignorelock`

For SharePoint operation, `-spsignorelock` releases the lock on the SharePoint farm topology, if it is set.

`-spspreserveiis`

For SharePoint operation, `-spspreserveiis` preserves the existing Internet Information Services (IIS) website and application pool.

`-spsredir_server` *`hostname`*

For SharePoint operation, this option specifies the web server on which the redirected portal or team site resides in a SharePoint farm. The redirected web server should be specified as *hostname*.

`-spsrestoresecurity`

For SharePoint operation, `-spsrestoresecurity` includes security information in the restore operation.

`-spsverkeep 0 | 1 | 2`

For SharePoint operation, `-spsverkeep` specifies if versioning is enabled on the restore destination.

`-t` *`policy_type`*

Specifies one of the following numbers that corresponds to the policy type. The default is 0 for all clients except Windows, where the default is 13.

`0` = Standard

`8` = MS-SharePoint

`13` = MS-Windows

`16` = MS-Exchange-Server

`19` = NDMP

`20` = FlashBackup

`21` = Split-Mirror

`25` = Lotus-Notes

`29` = FlashBackup-Windows

`30` = Vault

`35` = NBU-Catalog

`39` = Enterprise-Vault

`40` = VMware

`41` = Hyper-V

`44` = BigData

`48` = Universal-share

`-T`

Specifies a true-image restore, where only the files and the directories that existed in the last true-image backup are restored. This option is useful only if true-image backups were performed. If this option is not specified, all files and

directories that meet the specified criteria are restored, even if they were deleted.

When the -T option is specified, the image that is requested must be uniquely identified. Unique identification is accomplished by using the -e option with seconds granularity. The -s option (if any) is ignored. The seconds granularity of an image can be retrieved by using the bplist command with the -l and -Listseconds options.

-td *temp_dir*

This option provides a location where the associated log and any patch files are to be kept until the database is restored. If storage groups are restored, a subdirectory in *temp_dir* is created for each storage group. The log and patch files for each storage group are kept in the corresponding subdirectory.

On UNIX systems, the default location is /temp.

On Windows systems, the default location is C:\temp.

-vhd_dof 0 | 1

For Hyper-V operation, -vhd_dof specifies whether or not to delete on any failure. Possible values are 1 (delete on failure) and 0 (do not delete on failure).

-vhd_dsize *VHD_disk_size*

For Hyper-V operation, -vhd_dsize specifies the size of the VHD file to be recovered.

-vhd_fn *VHD_filename*

For Hyper-V operation, -vhd_fn specifies the name of the VHD file to be recovered.

-vhd_type 0 | 1

For Hyper-V operation, -vhd_type specifies the type of the VHD file. Possible values for this option are the following:

1 - Fixed.

2 - Dynamic.

-w [*hh:mm:ss*]

Causes NetBackup to wait for a completion status from the server before it returns you to the system prompt.

The required date and time values format in NetBackup commands varies according to your locale. The /usr/openv/msg/.conf file (UNIX) and the *install_path*\VERITAS\msg\LC.CONF file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

More information is available about the locale of your system.

See "About specifying the locale of the NetBackup installation" in the NetBackup Administrator's Guide, Volume II.

You can optionally specify a wait time in hours, minutes, and seconds. The maximum wait time you can specify is 23:59:59. If the wait time expires before the restore is complete, the command exits with a timeout status. The restore, however, still completes on the server.

If you specify 0 or do not specify a time, the wait time is indefinite for the completion status.

EXAMPLES

Example 1 - Restore files from backups of `file1` that were performed between 04/01/2010 06:00:00 and 04/10/2010 18:00:00. Enter the following:

UNIX systems:

```
# bprestore -s 04/01/2010 06:00:00 -e 04/10/2010 18:00:00 /usr/user1/file1
```

Windows systems:

```
# bprestore -s 04/01/2010 06:00:00 -e 04/10/2010 18:00:00 C:\user1\file1
```

Example 2 - Restore the files that are listed in a file named `restore_list` by using the most recent backups, enter the following:

UNIX systems:

```
# bprestore -f restore_list
```

Windows systems:

```
# bprestore -f c:\restore_list
```

Example 3

UNIX systems:

Restore directory `/home/kwc` from the backups that are associated with a keyword phrase that contains "My Home Directory". Use a progress log named `/usr/openv/netbackup/logs/user_op/bkup.log`. Enter the following on one line:

```
# bprestore -k "*My Home Directory*"
-L /usr/openv/netbackup/logs/user_op/bkup.log
/home/kwc
```

Windows systems:

Restore directory `C:\kwc` from the backups that are associated with a keyword phrase that contains "My Home Directory". Use a progress log named `c:\Program Files\Veritas\NetBackup\logs\user_ops\bkup.log`. Enter the following on one line:

```
# bprestore -k "*My Home Directory*"
-L c:\Program Files\Veritas\NetBackup\logs\user_ops\bkup.log
C:\kwc
```

Example 4 - Restore the `D` drive on the Windows client slater from the backups that are associated with a keyword phrase that contains "My Home Dir". Use a progress log named bkup.log. Enter the following all on one line or use the backslash continuation character:

UNIX systems:

```
# bprestore -k "*My Home Dir*" -C slater
-D slater -t 13
-L /usr/openv/netbackup/logs/user_op/bkup.log /D
```

Windows systems:

```
# bprestore -k "*My Home Dir*" -C slater -D slater
-t 13
-L c:\Program Files\Veritas\NetBackup\logs\user_ops\bkup.log D:\
```

Example 5 - Assume that you have a rename file named `/usr/openv/netbackup/logs/user_ops/rename` on a UNIX client and it contains the following:

```
change /home/kwc/linkback to /home/kwc/linkback_alt
```

To restore the hard link that is named `/home/kwc/linkback` to alternate path `/home/kwc/linkback_alt` on that client, run the following command:

```
# bprestore -H -R
/usr/openv/netbackup/logs/user_ops/rename
/home/kwc/linkback
```

Example 6 - Assume that you want to restore files from backups of the file `user1`.

The backups were performed between 04/01/12 06:00:00 and 04/10/12 18:00:00. You also want to exclude all files with a `.pdf` extension, except for the file named `final_doc.pdf`. To perform this operation, run the following (on one line):

UNIX systems:

```
# bprestore -s 04/01/12 06:00:00 -e 04/10/12
18:00:00 /home/user1 \!/home/user1/*.pdf /home/user1/final_doc.pdf
```

Windows systems:

```
# bprestore -s 04/01/12 06:00:00 -e 04/10/12 18:00:00
C:\user1\ !C:\user1\*.pdf C:\user1\final_doc.pdf
```

FILES

UNIX systems:

```
$HOME/bp.conf
/usr/openv/netbackup/logs/bprestore/log.mmddyy
```

Windows systems:

install_path\NetBackup\logs\bprestore*.log

SEE ALSO

See bp on page 49.

See bparchive on page 51.

See bplist on page 219.

bpretlevel

`bpretlevel` – display or change the values of the retention levels on the master server

SYNOPSIS

bpretlevel [-s | -l | -L | -U] [-M *master_server,...*]

bpretlevel {-r *levelperiod*} | -d [-M master_server,...]

On UNIX and Linux systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

`bpretlevel` sets or changes time periods for each of the 100 retention levels and lists the current settings for levels. The time period can be specified in hours, days, weeks, months, or years. Retention levels 9 and 25 cannot be edited by the user.

The default periods for the retention values are as follows:

- 0 (1 week)
- 1 (2 weeks)
- 2 (3 weeks)
- 3 (1 month)
- 4 (2 months)
- 5 (3 months)
- 6 (6 months)
- 7 (9 months)
- 8 (1 year)
- 9-100 (infinite, except 25 which is expire immediately)

Note: If you run this command on a pre-NetBackup 8.0 media server, you can only specify a retention level between 0 and 24.

OPTIONS

`-s | -l | -L | -U`

Specifies what information is listed and how the information is formatted in the output. The possible values are the following:

- `-s` is the short listing which contains the retention level, retention period, and equivalent days. `-s` is the default value.
- `-l` is the condensed listing which contains the retention level, number of seconds, and period with no headings or formatting.
- `-L` is the long listing which contains the retention level, equivalent days, retention in seconds, and retention period.
- `-U` is the user listing which contains the level, number of days, and label of the retention period.

`master_server`

Specifies the master server whose job retention levels are to be reported or changed.

`-d`

Restores default retention periods for all retention levels. See the default values listed in the Description.

`-r` *`levelperiod`*

Changes the retention period for a specified retention level. You can edit all retention levels (*level*) except 9 and 25. Levels 9-100 are set to infinity, except 25 which is set to expire immediately. The retention period (*period*) can be specified in days, weeks, months, years, or infinity (no limit). Include a space between the value and the units. For example, `3 d`.

Note: If you run this command on a pre-NetBackup 8.0 media server, you can only specify a retention level between 0 and 24.

Enter the retention period in any of the following ways:

- *#hours*: `hour | hours | h`
  For example, four hours can be represented by `4 h`.
- *#days*: `day | days | d`
  For example, four days can be represented by `4 d`.
- *#weeks*: `week | weeks | w`
  For example, eight weeks can be represented by `8 week`.
- *#months*: `month | months | m`

For example, one month can be represented by `1 m`.

- *#years*: `year | years | y`
  For example, one year can be represented by `1 years`.
- `infinite | infinity | i`

EXAMPLE

Example - Change the retention period of retention level 2 from its default value of three (3) weeks to five (5) weeks.

```
orbitervm1 # bpretlevel -r 2 5 w
```

SEE ALSO

See bpduplicate on page 123.

See bpimagelist on page 176.

See bpimmedia on page 186.

See bpmedialist on page 231.

See bpplsched on page 336.

See bpplschedrep on page 354.

See nbstl on page 908.

bpschedule

bpschedule – add, delete, or list disk staging storage unit (DSSU) schedules

SYNOPSIS

bpschedule [-v] [-M *master_server*,...] -add *sched_label* [-freq *frequency*] [-stage_priority *number*] [-altreadhost *hostname*] [-number_copies *number*] [-residence *storage_unit_label* [,*stunit-copy2*,...]] [-pool *volume_pool_label* [,*pool-copy2*,...]] [-fail_on_error 0|1[,0|1,...0|1] [-window *start_duration*]] [-cal 0|1|2] [-ut] [-incl *mm/dd/yyyy*] [-excl *mm/dd/yyyy*] [-weekday *day_name week* [*day_name week*]...] [-dayomonth 1-31 [1-31]... | l] [-xweekday *day_name week* [*day_name week*]...] [-xdayomonth 1-31 [1-31]... | l]

bpschedule [-v] [-M *master_server*,...] -delete *sched_label*...

bpschedule [-v] [-M *master_server*,...] -deleteall

bpschedule [-v] [-M *master_server*,...] [-L | -l | -U] [-label *sched_label*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpschedule command does the following:

- Adds a new disk staging storage unit (DSSU) schedule.
- Deletes one or more DSSU schedules.
- Deletes all the DSSU schedules.
- Lists one or all DSSU schedules (default is list all DSSU schedules).

For the -add and -delete options, bpschedule returns to the system prompt immediately after it submits the DSSU schedule change request to NetBackup. To determine whether the change was successful, run bpschedule again to list the updated schedule information.

The list option displays a single entry for each schedule, even if the -M option is used. The -l form lists the information for each schedule on several lines. -l does not identify the attributes by name; these are as follows (where the names are not described, they are reserved for internal NetBackup use):

Line 1: SCHED, schedule name, type, max_mpx, frequency, retention level, u_wind/o/d, two internal attributes, maximum fragment size, calendar, number of copies, and fail on error. Note that u_wind/o/d is a field reserved for future use. The u_wind entry in the -L display is also reserved for future use.

Line 2: SCHEDWIN, seven pairs of the form start,duration, expresses the start and duration of the window for each day of the week. The week starts with Sunday.

Line 3: SCHEDRES, residence (a value for each copy).

Line 4: SCHEDPOOL, pool (a value for each copy).

Line 5: SCHEDRL, retention level (a value for each copy).

Line 6: SCHEDFOE, fail on error (a value for each copy).

If the -M option is used, bpschedule performs the operation on each of the listed master servers. For instance, if bpschedule adds a schedule, bpschedule adds the schedule to the policy on each of the listed master servers for -M. If -M is used on a listing request, the listing is composed of the returned information from all the master servers in the -M list. If the command fails for any of the master servers, activity stops at that point.

To modify an existing NetBackup schedule, use the NetBackup command bpschedulerep.

Any authorized user can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

These options are common to all forms of bpschedule:

-M *master_server,...*

Specifies a list of alternative master servers. This list is a comma-separated list of host names. If this option is present, each master server in the list runs the bpschedule command. Each master server in the list must allow access by the system that issues the bpschedule command.

If this option is present, the command is run on each master server in the list. If an error occurs for any master server, the process terminates at that point.

If `bpschedule` produces a listing, the listing is the composite of the returned information from all the master servers in this list.

If `bpschedule` adds or deletes a schedule, all master servers in this list receive the change.

`-v`

Selects the verbose mode where `bpschedule` logs additional information for debugging purposes. The information goes into the NetBackup administration debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

```
install_path\NetBackup\logs\admin
```

The remaining options depend on the form of `bpschedule`. The first form of `bpschedule` adds a schedule to the specified storage unit name. The following options apply to this form of `bpschedule`:

`-add sched_label [suboptions]`

Adds a single schedule to the specified storage unit name. The following describes the suboptions for the `-add` option. These are attributes of the schedule being added.

`-cal 0|1|2`

Indicates whether `bpschedule` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retires after run day

`-dayomonth 1-31 [1-31]... | l`

Specifies the day or days of every month to run the schedule. Enter l (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the policy backup on the 14th day and the 28th day of every month, enter the following:

```
-dayomonth 14 28
```

To run the last day of every month, enter:

```
-dayomonth l
```

`-excl` *mm/dd/yyyy*

Indicates to exclude this single date.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, `0` is default for all copies. Specify a value for each copy.

0 = Do not fail the other copies

1 = Fail other copies

`-freq` *frequency*

Determines how often backups run. Represents the number of seconds between the backups that are initiated according to this schedule. Valid range for this option is 0 through 2419200 (number of seconds in four weeks). When this value is omitted on the command line, the default value is 604800 (duration of one week in seconds).

`-incl` *mm/dd/yyyy*

Indicates to include this single date.

`-number_copies` *number*

Specify the number of simultaneous backup copies. The valid value range is 1-4. The default is 1.

`-pool` *volume_pool_label*`[,`*pool-copy2*`,...]`

The name of the volume pool. This choice overrides the policy-level volume pool. The value "*NULL*" causes NetBackup to use the volume pool that is specified at the policy level. The default is to use the volume pool that is specified at the policy level. The volume pool label cannot be None. If you do not specify a volume pool at either the schedule level or the policy level, NetBackup uses a default value of NetBackup.

When you specify `-number_copies` greater than 1, specify a pool for each copy.

`-residence` *storage_unit_label* `[,`*stunit-copy2*`,...]`

The name of the storage unit, which specifies the location of the backup images. The value "*NULL*" causes NetBackup to use the storage unit that is specified at the policy level. The default is for NetBackup to use the storage unit that is specified at the policy level. If you do not specify a storage unit at either the schedule level or the policy level, NetBackup uses the next storage unit available.

When you specify `-number_copies` greater than 1, specify a residence for each copy.

`-stage_priority` *number*

The order in which storage units are to be selected within a storage unit group:

1 = Use the storage units in the order that appears in the storage unit group dialog box (default).

2 = Use the storage unit least recently used. (The storage units take turns.)

3 = Use the first storage unit in the list that is not full or down. If the storage unit is only busy, the policy waits to write to it.

`-altreadhost` *hostname*

The server to be used to read a backup image that a different media server originally wrote.

`-ut`

If any of the date or the time arguments follow `-ut`, they are accepted as UNIX time, instead of the standard time format. The `-ut` option is used primarily for Java.

`-weekday` *day_name week* [*day_name week*]...

Specifies a day of the week, and the week of the month, as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month. A week begins on Sunday and ends on Saturday. Valid values are 1-5.

For example, to instruct the policy to run every Sunday of the month, enter:

```
-weekday Sunday 1 Sunday 2 Sunday 3 Sunday 4 Sunday 5
```

`-window` *start_duration*

Specifies when NetBackup can run the backups for this schedule. Every day of the week has the same window.

start is the time at which the backup window opens for this schedule. This number is the number of seconds since midnight. This number is an integer between 0 and 86399 (86400 seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. This number is a non-negative integer.

`-xdayomonth 1-31 [1-31]... | l`

Specifies the day or days of the month that you want to exclude as run days in the schedule. Use `l` (lowercase L) to indicate the last day of the month.

For example, to instruct the policy to not run on the 14th and 15th of the month, enter:

```
-xdayomonth 14 15
```

`-xweekday` *day_name week* [*day_name week*]...

Specifies the day of the week and week of the month, to exclude as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month.
- Use `l` to indicate the last week of the month. The week of the month starts on Sunday and ends on Monday. Valid values are 1-5.

For example, to instruct the policy to not run on the first and third Mondays of the month, enter:

```
-xweekday Monday 1 Monday 3
```

The second form of `bpschedule` deletes one or more schedules from the named policy. The following option applies to this form of `bpschedule`:

`-delete` *sched_label*

Deletes the listed schedules from the named policy. Separate the elements of the sched_label list with spaces. There can be up to 25 labels in the list.

The third form of `bpschedule` deletes all schedule from the named policy. The following option applies to this form of `bpschedule`:

`-deleteall`

Deletes all schedules from the named policy.

The fourth form of `bpschedule` produces a listing of information about the schedules for the named policy. The following options apply to this form of `bpschedule`:

`-l`

The list type is short. This list is the default list type. This option produces a terse listing that includes all attributes for the schedule. Each schedule occupies one line of the listing. Most attribute values are expressed numerically. This option is useful for scripts or the programs that rework the listing contents into a customized report format.

`-L`

The list type is long. This listing includes all attributes for the schedule. Some attribute values are descriptive terms, rather than numbers.

`-label` *sched_label*

List the attributes for this schedule in the named policy. The default is to list information for all schedules for the named policy.

`-U` The list type is user. This listing is similar to the long-type list, but it has fewer entries. Most attribute values are descriptive terms, rather than numbers.

EXAMPLE

List the information for schedule `test` in long form.

```
# bpschedule -L -label test
    Schedule:          test
        Type:            FULL (0)
        Frequency: 7day(s) (604800 seconds)
        Retention Level: 1(2 weeks)
        u-wind/o/d:      0 0
        Incr Type:               DELTA (0)
        Incr Depends:     (none defined)
        Max Frag Size:    0 MB (1048576 MB)
        Maximum MPX:      1
        Number copies:    1
        Fail on Error:    0
        Residence:       (specific storage unit not required)
        Volume Pool:     (same as policy volume pool)
        Daily Windows:
        Day         Open       Close       W-Open     W-Close
     Sunday      000:00:00  000:00:00
     Monday      000:00:00  000:00:00
     Tuesday     000:00:00  000:00:00
     Wednesday   000:00:00  000:00:00
     Thursday    000:00:00  000:00:00
     Friday      000:00:00  000:00:00
     Saturday    000:00:00  000:00:00
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/sched/schedule name
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\sched\schedule name
```

SEE ALSO

See bpschedulerep on page 413.

bpschedulerep

bpschedulerep – modify attributes of disk staging storage unit (DSSU) schedule

SYNOPSIS

bpschedulerep*sched_label* [-M *master_server*,...] [-v] [-freq *backup_frequency*] [-stage_priority *number*] [-altreadhost *hostname*] [-cal 0|1|2] [-incl *mm/dd/yyyy*] [-excl *mm/dd/yyyy*] [-delincl *mm/dd/yyyy*] [-delexcl *mm/dd/yyyy*] [-weekday *day_name week* [*day_name week*]...] [-dayomonth 1-31 [1-31]... | l] [-xweekday *day_name week* [*day_name week*]...] [-xdayomonth 1-31 [1-31]... | l] [-deldayomonth 1-31 [1-31]... | l] [-delweekday *day_name week* [*day_name week*]...] [-ci] [-ce] [-cw] [-cd] [-number_copies *number*] [-fail_on_error 0|1[,0|1,...,0|1]] [-residence *storage_unit_label* [,*stunit-copy2*,...]] [-pool *volume_pool_label* [,*pool-copy2*,...]] [-(0..6) start duration]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpschedulerep changes the attributes of a NetBackup disk staging storage unit (DSSU) schedule. The schedule that bpschedulerep named should already exist when this command is run. bpschedulerep changes the schedule on each of the master servers that are listed, if the -M option is used.

Any authorized user can initiate this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

-(0..6) *start duration*

Specifies the window during which NetBackup can run the backups for this schedule. This window applies to a specific day of the week. 0 corresponds to Sunday, 1 to Monday, and so on.

start is the time at which the backup window opens for this schedule. This number is the number of seconds since midnight. It is an integer between 0 and 86400 (the number of seconds in a day).

duration is the length of time that the window remains open. The time unit is seconds. It is a non-negative integer.

`-cal 0|1|2`

Indicates whether `bpschedulerep` follows a calendar-based schedule or a frequency-based schedule.

0 = frequency-based schedule

1 = calendar-based schedule with no retries after run day

2 = calendar-based schedule with retires after run day

`-dayomonth 1-31 [1-31]... | l`

Specifies the day or days of every month to run the schedule. Enter l (lowercase L) to run the last day of every month, whether the month contains 28, 29, 30, or 31 days.

For example, to run the policy backup on the 14th day and the 28th day of every month, enter the following:

```
-dayomonth 14 28
```

To run the last day of every month, enter:

```
-dayomonth l
```

`-deldayomonth 1-31 [1-31]... | l`

Specifies a day of every month to exclude as a run day. Enter 1 (lowercase L) to exclude the last day of every month, whether the month contains 28, 29, 30, or 31 days. This command can only remove the dates that were added by using the `-dayomonth` command.

For example, to exclude from the schedule the 20th day and 21st day of every month that you originally specified as run days, enter:

```
-deldayomonth 20 21
```

`-delweekday` *`day_name week`* [*`day_name week`*]...

Specifies a day of the week and the week of the month to exclude as a run day from the schedule. This command can only remove the dates that were added by using the `-weekday` command.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.

- The *week* is the number of the week in the month. A week begins on Sunday and ends on Saturday. Valid values are 1-5.

For example, to delete the second Monday of the month that you originally specified as a run day, enter:

```
-delweekday Monday 2
```

`-excl` *mm/dd/yyyy*

Indicates to exclude this single date.

`-delincl` *mm/dd/yyyy*

Indicates to delete this single date.

`-delexcl` *mm/dd/yyyy*

Indicates to delete this single date.

`-ci`

Clears all specific include dates.

`-ce`

Clears all specific exclude dates.

`-cw`

Clears all week days.

`-cd`

Clears all days of a month.

`-fail_on_error 0|1[,0|1,...,0|1]`

Specifies whether to fail all other copies if one copy fails. If no parameter is specified, `0` is default for all copies. Specify a value for each copy.

0 = Do not fail the other copies

1 = Fail other copies

`-freq` *backup_frequency*

Specifies how much time can elapse between successful automatic backups for clients on this schedule. Frequency does not apply to user schedules because the user can perform a backup or archive any time the backup window is open. This value is a positive integer that represents the number of seconds between successful automatic backups for this schedule.

`-help`

Prints a command-line usage message.

`-incl` *mm/dd/yyyy*

Indicates to include this single date.

`-M master_server,...`

A list of alternative master servers. This list is a comma-separated list of host names. If this option is present, each master server in the list runs the `bpschedulerep` command. Each master server in the list must allow access by the system that issued the `bpschedulerep` command. If an error occurs for any master server, the process terminates at that point.

The schedule attributes are modified on all the master servers in this list.

`-number_copies number`

Specify the number of simultaneous backup copies. The valid value range is 1-4. The default is 1.

`-pool volume_pool_label[,pool-copy2,...]`

Specifies the volume pool(s) for the schedule. Do not use this option if a disk storage unit is the residence for the schedule. If "*NULL*" is specified, the volume pool for the schedule is the volume pool of the policy that contains this schedule.

Specify a pool for each copy.

To display the configured volume pools, run the following command:

UNIX systems:

```
/usr/openv/volmgr/bin/vmpool -listall
```

Windows systems:

```
install_path\Volmgr\bin\vmpool -listall
```

`-residence storage_unit_label[,stunit-copy2,...]`

Specifies the label(s) of the storage unit to be used for storing the backups that were created according to this schedule. If "*NULL*" is specified, the residence for the schedule defaults to the residence of the policy that contains this schedule. If the residence value is a storage unit label, the residence for the schedule becomes that storage unit; it overrides the residence for the policy.

Specify a storage unit for each copy.

Run `bpstulist` to display the set of defined storage units.

`-stage priority number`

The order in which storage units are to be selected within a storage unit group:

1 = Use the storage units in the order that appears in the storage unit group dialog box (default).

2 = Use the storage unit least recently used. (The storage units take turns.)

3 = Use the first storage unit in the list that is not full or down. If the storage unit is only busy, the policy waits to write to it.

`-altreadhost` *`hostname`*

The server to be used to read a backup image that a different media server originally wrote.

`sched_label`

The name of the previously created schedule to be changed.

`-weekday` *`day_name week`* `[`*`day_name week`*`]...`

Specifies a day of the week and a week of the month as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month. A week begins on Sunday and ends on Saturday. Valid values are 1-5.

For example, to instruct the policy to run every Sunday of the month, enter:

```
-weekday Sunday 1 Sunday 2 Sunday 3 Sunday 4 Sunday 5
```

`-v`

Selects the verbose mode. This option causes `bpschedulerep` to log additional information for debugging purposes. The information goes into the NetBackup administration daily debug log. This option is meaningful only when NetBackup enables the debug log function (that is, when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

`install_path``\NetBackup\logs\admin`

`-xdayomonth 1-31 [1-31]... | l`

Specifies the day or days of the month that you want to exclude as run days in the schedule. Use `l` (lowercase L) to indicate the last day of the month.

For example, to instruct the policy to not run the backup on the 6th of the month, enter:

```
-xdayomonth 6
```

`-xweekday` *day_name week* [*day_name week*]...

Specifies the day of the week and week of the month, to exclude as a run day in the schedule.

- The *day_name* is: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, or Saturday.
- The *week* is the number of the week in the month.
- Use `l` to indicate the last week of the month. The week of the month starts on Sunday and ends on Monday. Valid values are 1-5.

For example, to instruct the policy to not run on the third Monday and Wednesday of the month, enter:

```
-xweekday Monday 3 Wednesday 3
```

EXAMPLES

Example 1 - Change and schedule named test.

```
# bpschedulerep test -cal 2
```

The following is received after the change and a `bpschedule -label test` listing.

```
SCHED test 0 1 604800 1 0 0 0 *NULL* 0 2 0 0 0
SCHEDWIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SCHEDRES *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
SCHEDPOOL *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL* *NULL*
SCHEDRL 1 1 1 1 1 1 1 1
SCHEDFOE 0 0 0 0 0 0 0 0
```

Example 2 - For Saturday and Sunday of each week, have the window for schedule test open at 10 p.m. instead of 11 p.m. Also, set the window duration to two (2) hours instead of one (1) hour. `bpschedulerep` resets the windows, and `bpschedule` lists the new schedule values.

```
# bpschedulerep test -0 79200 7200 -6 79200 7200
bpschedule -U -label test
Schedule:          test
  Type:            Full Backup
  Frequency:       every 7 days
  Retention Level: 1 (2 weeks)
  Maximum MPX:     1
  Residence:       (specific storage unit not required)
  Volume Pool:     (same as policy volume pool)
  Daily Windows:
```

```
Sunday      22:00:00  -->  Sunday      24:00:00
Monday      23:00:00  -->  Monday      24:00:00
Tuesday     23:00:00  -->  Tuesday     24:00:00
Wednesday   23:00:00  -->  Wednesday   24:00:00
Thursday    23:00:00  -->  Thursday    24:00:00
Friday      23:00:00  -->  Friday      24:00:00
Saturday    22:00:00  -->  Saturday    24:00:00
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/sched/schedule name
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\sched\schedule name
```

SEE ALSO

See bpschedule on page 405.

bpsetconfig

`bpsetconfig` – update a NetBackup configuration

SYNOPSIS

bpsetconfig [-h *host*] [-u *user*] [*filename*,...] [-r "*reason*"]

UNIX only: **bpsetconfig** -i | -e *filename* [-c *class* [-s *schedule*]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `bpsetconfig` command is used as a stand-alone program, or as a helper program with the `backuptrace` and the `restoretrace` commands, to update a configuration. This command is available for all NetBackup server platforms.

You must have administrator privileges to run this command.

OPTIONS

-e *filename* [-c *class* [-s *schedule*]]

Writes the exclude_list file to `/usr/openv/netbackup/exclude_list` on client *client*. The *class* (policy) and *schedule* qualifiers allow the exclude_list.*class* file and the exclude_list.*class*.*schedule* to be written. The files in the exclude list are excluded from being backed up.

This option applies only to UNIX.

filename,...

Specifies the file or files where the updates are listed. If not specified, standard input is read.

-h *host*

Specifies the host name of the server or client whose configuration is updated.

`-i filename [-c class [-s schedule]]`

Writes the include_list file to `/usr/openv/netbackup/include_list` on client *class*. The *class* (policy) and *schedule* qualifiers allow the include_list.*class* file and the include_list.*class*.*schedule* to be written. The files in the include list are the exceptions to the exclude list. They are therefore included in a backup operation.

This option applies only to UNIX.

`-r "reason"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-u user`

Specifies the user whose configuration is updated.

EXAMPLE

Example 1 - Set a NetBackup configuration on a different system.

```
bpsetconfig -h orange.colors.org
SERVER = yellow.colors.org
SERVER = orange.colors.org
```

UNIX systems: `Ctl+D`

Windows systems: `Ctl+Z`

Sets the NetBackup configuration on the system `orange.colors.org` to the designated server that follows. That is, `yellow.colors.org` is the master server for the client `orange.colors.org`:

```
SERVER = yellow.colors.org
SERVER = orange.colors.org
```

Example 2 - Write the file `/usr/openv/netbackup/lists/sun01_excl_list.fullb` to `/usr/openv/netbackup/excl_list.fullb` on the client `sun01`.

```
# bpsetconfig -e /usr/openv/netbackup/lists/sun01_excl_list.fullb /
-h sun01 -c fullbck
```

SEE ALSO

See bpgetconfig on page 162.

See nbgetconfig on page 718.

See nbsetconfig on page 874.

bpstsinfo

bpstsinfo – display information on storage servers, LSUs, images, and plugins

SYNOPSIS

bpstsinfo -comparedbandstu | -cdas -servername | -sn *server_name* | -storage_server *storage_server* -serverprefix *server_prefix* | -stype *server_type* [-lsuname *lsu_name*],... -oldservervolume *old_sts_server*:*old_volume* [-oldservervolume *old_sts_server*:*old_volume* ...] [-remote *remote_server*...]

bpstsinfo -deleteimage | -di -servername | -sn *server_name* -serverprefix *server_prefix* -lsuname *lsu_name* -imagename *image_name* -imagedate *image_date* [-remote *remote_server*...]

bpstsinfo -deleteimagegroup | -dig -servername | -sn *server_name* | -storage_server *storage_server* -serverprefix *server_prefix* -lsuname *lsu_name* -imagename *image_name* -imagedate *image_date* [-remote *remote_server*...]

bpstsinfo -diskspaceinfo | -dsi -stype *storage_type*

bpstsinfo -imagegrouplist | -igl [-servername | -sn *server_name*] [-serverprefix *server_prefix*] [-lsuname *lsu_name*,...] [-imagename *image_name*] [[-imagedatestart *image_date*] [-imagedateend *image date*]] [-imagetype STS_FULL_ONLY | STS_INCR_ONLY] [-remote *remote_server*...]

bpstsinfo -imageinfo | -ii [-servername | -sn *server_name*] [-serverprefix *server_prefix*] [-lsuname *lsu_name*,...] [-imagename *image_name*] [-imagedate *image_date*] [[-imagedatestart *image_date*] [-imagedateend *image date*]] [-imagetype STS_FULL_ONLY | STS_INCR_ONLY] [-remote *remote_server*...]

bpstsinfo -lsuinfo | -li [-servername | -sn *server_name*] [-serverprefix *server_prefix*] [-lsuname *lsu_name*,...] [-filteronimagemodetype [STS_SA_IMAGE | STS_SA_OPAQUEF | STS_SA_CLEARF] [-remote *remote_server*...]

bpstsinfo -plugininfo | -pi [-serverprefix *server_prefix*] [-stype *server_type*] [-remote *remote_server*...]

bpstsinfo -servercap | -sc [-stype *server_type*] -storage_server *storage_server* [-remote *remote_server*...]

bpstsinfo -serverinfo | -si [-servername | -sn *server_name*] [-serverprefix *server_prefix*] [-remote *remote_server*...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpstsinfo command displays the attributes for plugins, storage servers, logical storage units (LSUs), and the images that reside on disk. The command also compares images old and current servers and volumes, displays all image IDs for an image group, and deletes a specified image. A log of the command activity is sent to the NetBackup admin log file for the current day. All errors for this command go to stderr.

Only authorized users can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

Only one of the following options can be specified on a single command line.

-comparedbandstu | -cdas
: Compares the image information in the catalog to image information on the storage server physical media. -comparedbandstu compares the specified previous OpenStorage server(s) and volume(s) to the current OpenStorage server and volume.

-deleteimage | -di
: Deletes the specified image.

-deleteimagegroup | -dig
: Deletes the specified image group.

-diskspaceinfo | -dsi
: Prints the aggregated space for a specified disk type.

-imagegrouplist | -igl
: For a given image and image group type, print all associate image IDs

`-imageinfo | -ii`
Prints the image information.

`-lsuinfo | -li`
Prints the LSU information.

`-plugininfo | -pi`
Prints the plugin information for internal and external plugins on the system. When you use `-plugininfo` with no sub-options, all plugins are printed. Use with `-serverprefix` to restrict the printout to only the plugin with the specified prefix. Use `-stype` to restrict the printout to only plugins of the specified storage server type.

`-serverinfo | -si`
Prints the storage server information.

`-servercap | -sc`
Prints the storage server capabilities.

SUB-OPTIONS

`-filteronimagemodetype [STS_SA_IMAGE | STS_SA_OPAQUEF | STS_SA_CLEARF]`
Limits the LSUs to be printed on the system to the specified image mode type.

`-imagedate` *`image_date`*
Specifies a single image. The following are acceptable formats:

03/08/2009 09:41:22

1110296416

This option can be used with `-imageinfo` only; it cannot be used with `-imagedatestart` or `-imagedateend`.

`-imagedateend` *`image_date`*
Optional filter argument. By default, all images are used. Specify `MM/DD/YYYY hh:mm:ss` to the images to something that is equal to or newer than the *image_date*.

`-imagedatestart` *`image_date`*
Optional filter argument. By default, all images are used. Specify `MM/DD/YYYY hh:mm:ss` to limit the images to something that is equal to or newer than the *image_date*.

`-imagename` *`image_name`*
Optional filter argument. By default, all images are used. Specify *image_name* to limit to only the images that match.

`-imagetype STS_FULL_ONLY | STS_INCR_ONLY`

Optional filter argument. By default, both the full and the incremental images are used. STS_FULL_ONLY or STS_INCR_ONLY to limit to only images from a full backup or an incremental backup.

`-lsuname` *`lsu_name`*`,...`

Optional filter argument. By default, all LSUs are used. Specify `lsu_name` to limit to one LSU for each `-lsuname` supplied.

`-remote` *`remote_server`*`...`

Specifies the name of a remote server to query for disk information. The remote server performs the `bpstsinfo` operation instead of the host on which the `bpstsinfo` command is executed. You can specify multiple remote servers, one for each `-remote` supplied.

`-servername` *`server_name`*

Specifies the hostname of the STS server. If `-servername` is not specified, the hostname of the local host is used.

`-serverprefix` *`server_prefix`*

Limits server prefixes to the one that *server_prefix* specifies. Optional filter argument. By default, all server prefixes are used. This option can be used with `-serverinfo`, `-lsuinfo`, and `-imageinfo`. The following are valid prefixes:

- ntap:
- STSBasicDisk:
- PureDisk:

`-stype` *`server_type`*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.

- `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
- `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case sensitive.

When used with the `-diskspaceinfo` option, `-stype` specifies the disk type that is to display the aggregated space. An example of the output display:

```
Disktype: AdvancedDisk TotalCapacity: 100000000 TotalUsed:
10000000
```

Licensing is based on the *TotalCapacity* and *TotalUsed* values.

EXAMPLES

Example 1 - List the attributes of the `lsu SnapMirrorA1` on storage server apricot:

```
# bpstsinfo -lsuinfo -serverprefix "ntap:" -servername apricot /
-lsuname /vol/dsu1
LsuInfo:
    Server Name: ntapdfm
    LSU Name: SnapMirrorA1
    Allocation: STS_LSU_AT_STATIC
    Storage: STS_LSU_ST_NONE
    Description:
    Configuration:
    Media: (STS_LSUF_DISK | STS_LSUF_REP_ENABLED)
    Save As: (STS_SA_SNAPSHOT | STS_SA_MIRROR)
    Replication Sources: 1 ( simdisk:ntapdfm:SnapVaultA )
    Replication Targets: 0 ( )
    Maximum Transfer: 0
    Block Size: 4096
    Allocation Size: 0
    Size: 171798691840
    Bytes Used: 8895016960
    Physical Bytes Used: 0
    Resident Images: 0
```

Example 2 - List all capabilities for storage server `sigt32`.

```
# bpstsinfo -sc -stype Network_MWS -storage_server sigt32
Network_MWS:sigt32
```

```
STS_SRVC_ASYNC_WAIT
STS_SRVC_CLAIM
STS_SRVC_CLOSE_IMAGE
STS_SRVC_CLOSE_IMAGE_LIST
STS_SRVC_CLOSE_LSU_LIST
STS_SRVC_CLOSE_SERVER
STS_SRVC_COPY_IMAGE
...
STS_SRVC_NAMED_ASYNC_ROLLBACK_SNAP
STS_SRVC_NAMED_ASYNC_VALIDATE_SNAP_BYNAME
STS_SRVC_NAMED_ASYNC_WAIT_SNAP
STS_SRVC_OPEN_SNAP_LIST
STS_SRVC_VALIDATE_ROLLBACK
STS_SRVC_VALIDATE_SNAP_BYNAME
```

SEE ALSO

See bpstuadd on page 429.

See bpstudel on page 439.

See bpstulist on page 442.

See bpsturep on page 450.

bpstuadd

bpstuadd – create NetBackup storage unit or storage group

SYNOPSIS

bpstuadd -label *storage_unit_label* -path *path_name* [-dt *disk_type*] | -dp *disk_pool* [-dt *disk_type*] | -density *density_type* [-rt *robot_type* -rn *robot_number*] [-host *host_name*] [-cj *max_jobs*] [-odo *on_demand_only_flag*] [-flags *flags*] [-cf *clearfiles*] [-tt *transfer_throttle*] [-hwm *high_water_mark*] [-lwm *low_water_mark*] [-okrt *ok_on_root*] [-mfs *max_fragment_size*] [-maxmpx *mpx_factor*] [-nh *NDMP_attach_host*] [-nodevhost] [-verbose] [-hostlist *host_name...*] [-M *master_server,...*] [-reason "*string*"] [-uw 1|0]

bpstuadd -group *storage_unit_group storage_unit_label ...* [-sm *selection_method*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpstuadd command creates a NetBackup storage unit or storage unit group. When you create a single storage unit, make sure that you include a label for the new storage unit: either the -density the -path, or the -dp option. bpstuadd cannot create the storage unit if the master server has already created the maximum number of storage units that its NetBackup configuration allows. The command does not create a storage unit that specifies the same destination medium as an existing storage unit.

Note: This command does not enable you to change a disk storage unit (DSU) or a tape storage unit to a disk staging storage unit (DSSU). In addition, you cannot change a DSSU to a DSU or a tape storage unit.

NetBackup has several types of storage units. The storage-unit type affects how NetBackup stores the data. The options on the bpstuadd command line determine one of the following:

- Disk. The storage destination is a disk file system directory, a disk pool, or both.
- Disk Staging. A disk staging storage unit (DSSU) addresses the automatic (or scheduled sweeping) of images from the DSSU to the final storage unit.
- Media Manager. The storage destination is a tape device managed by the Media Manager.
- NDMP. An NDMP is a storage unit that Media Manager controls. The NetBackup for NDMP option must be installed. In this command description, references to Media Manager storage-unit types also apply to the NDMP storage-unit type except where specifically mentioned. The media for an NDMP storage unit always attach directly to an NDMP host and cannot be used to store data for other NetBackup clients. To define an NDMP storage unit, run the `bpstuadd` command on the master server.

  For more about how to add NDMP storage units, see the *NetBackup NAS Administrator's Guide*.

Errors go to `stderr`. A log of the command activity goes to the NetBackup admin log file for the current day.

For more about storage units, see the *NetBackup Administrator's Guide, Volume II*.

Only authorized users can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

`-cf` *clearfiles*

Enables the NetBackup media to perform data translation operations on backup data. Typically, OpenStorage plugins use metadata to perform the block-level deduplication operations that reduce the total amount of disk space being used. This value is valid only for disk storage units that are configured with OST disk pools.

The *clearfiles* variable can be one of the following values:

- 0 - Disables all data translation operations.
- 1 - Enables detailed translation operation. The metadata describes all of the attributes of the files that are backed up. These files are called clear files.
- 2 - Enables simple translation operation. The metadata identifies only the name, size, and byte offset location of the files that are backed up. They are called opaque files.

`-cj` *max_jobs*

Specifies the maximum number of concurrent jobs that are permitted for this storage unit. *max_jobs* is a non-negative integer. The appropriate value depends on your server's ability to run multiple backup processes comfortably and the available space on the storage media.

For more about maximum jobs per client, see the *NetBackup Administrator's Guide, Volume I*.

The *max_jobs* option that is set to zero (0) means that this storage unit is never selected when a job is scheduled. The default is 1.

`-density` *density_type*

Specifies the density type of the media. If this option is present, the storage unit type is Media Manager. This option has no default. Either `-density`, `-path`, or `-dp` must be on the command line. If you have specified the robot type on the command line, the value for *density* should be consistent with the robot type. The `-density`, `-path`, and `-dp` options can only be used independently.

Valid values for *density_type* are:

`dlt` - DLT Cartridge

`dlt2` - DLT Cartridge alternate

Note: NetBackup supports the following densities on NetBackup Enterprise Servers.

`hcart` - 1/2-inch cartridge

`hcart2` - 1/2-inch cartridge alternate

`-dp` *disk_pool*

Specifies the name of the disk pool, which is the data storage area for this storage unit. The disk pool must already exist.

`-dt` *disk_type*

Enables the user to specify a disk type. The following are the valid values for *disk_type*:

1 - BasicDisk

3 - SnapVault

6 - DiskPool

`-flags` *flags*

Specifies the storage unit to be a staging storage unit, which allows for a quick restore. Valid values for *flags* are: NONE and STAGE_DATA. Currently valid for only disk storage units.

`-group` *storage_unit_group storage_unit_label...*

Adds a storage unit group and specifies the group name and the storage unit(s) that comprise the group. Add multiple storage units to the storage unit group by separating the names with a space. The maximum length of a storage unit group label is 128 characters.

`-host` *host_name*

Indicates a single specific media server that is associated with the storage unit. Only this media server can be selected as the system to read or write from the storage. The default is the host name of the local system.

Note: NetBackup Server does not support remote media servers.

The host you select must be either your NetBackup master server or a remote media server (if you configure remote media servers). The host name must be the network name for the server as known by all NetBackup servers and clients.

If *host_name* is a valid network name, but was not configured previously in NetBackup, it is added to NetBackup's configuration as a media server. On UNIX, this server shows up as a `SERVER` entry in the `bp.conf` file; on Windows, Host Properties specifies the server in the Servers list. If *host_name* is not a valid network name, you must configure it manually.

`-hostlist` *host_name...*

Indicates that a subset of the media servers with access to the storage should be used. Use this option if multiple media servers share a disk pool. You want to dedicate one set of media servers to service a set of policies and clients. Then you want a different set to service other policies and clients (or for a specific role such as duplication jobs).

`-hwm` *high_water_mark*

Specifies a percentage of a disk storage unit at which it is considered full. This option is a user-configurable threshold. The valid range for the High Water Mark is 0 to 100 (percentage), and the default setting is 98(%). When the High Water Mark is reached, NetBackup becomes proactive in the following two different scenarios:

- When you run a job and the total capacity is used, the DSU is considered to be Full. If you choose a storage unit in a Storage Unit Group, the following occurs: The media and the device selection (MDS) does not assign a new

job to a storage unit whose used capacity exceeds the High Water Mark. Instead, it looks for another storage unit in the group to assign to the job.

- During a job, if the Staging attribute is set and the total capacity is used, staging expires images to free space on the DSU. This action accommodates more backup data.

`-label` *storage_unit_label*

Specifies the name of the storage unit. This option is required unless you use `-group`. The maximum length of a storage-unit label is 128 characters.

`-lwm` *low_water_mark*

This option is a user-configurable threshold that the disk storage units that do disk staging use. The valid range for the Low Water Mark is 0 to 100 (percent). The default setting is 80 (percent).

When the High Water Mark is reached, do one of the following:

- Migrate images to other storage units until the Low Water Mark is reached.
- Free disk space by expiring disk images for the oldest staged images until the Low Water Mark is reached.

If you want to save most of your data, configure the Low Water Mark to be near the High Water Mark.

`-M` *master_server,...*

A list of master servers. This list is a comma-separated list of host names. If this option is present, the command is run on each of the master servers in this list. The servers must allow access by the system that issues the command. If an error occurs for any master server, the process stops at that point. The default is the master server for the system where the command is entered.

`-maxmpx` *mpx_factor*

The maximum multiplexing factor. Multiplexing sends concurrent, multiple backups from one or several clients to a single drive.

For more about multiplexing (MPX), see the *NetBackup Administrator's Guide, Volume I*.

The multiplexing factor can range from 1 to 32. The default is 1, which means no multiplexing. A value greater than one (1) means that NetBackup can create multiplexed images on the destination medium. The license determines the effective subset of the 1 to 32 range for the local NetBackup installation.

`-mfs` *max_fragment_size*

Specifies the maximum fragment size in megabytes, or how large a fragment a NetBackup image can be. NetBackup supports a maximum fragment size of 1,000,000 megabytes (one terabyte).

For removable media, this value is zero or any integer between 50 (megabytes) and 1,048,576 (megabytes) (1024 GB) inclusive. The default value is 0, which means the maximum of 1,048,576 MB.

For a Disk storage unit, this value ranges from 20 MB to 524,288 MB (512 GB). The default value is 524,288 MB.

`-nh` *`NDMP_attach_host`*

Specifies the host name of the NDMP server. If this option is present, the storage unit type is set to NDMP. The default is no NDMP server.

`-nodevhost`

Indicates that no media server is associated with this storage unit. You can select any media server that can access the storage to move the data (such as backup, duplicate, restore).

`-odo` *`on_demand_only_flag`*

The On-Demand-Only flag controls the condition under which NetBackup uses the storage unit:

- To make the storage unit available only to the policies or the schedules that request it, set the flag to 1 (enabled).
- To make the storage unit available to any policy or schedule, set the flag to 0 (disabled).

If the storage unit type is Disk, the default is 1; NetBackup uses the storage unit only when explicitly requested. Otherwise, the default is 0.

DSSUs are on demand only. They have to be chosen explicitly as a backup target.

`-okrt` *`ok_on_root`*

If this flag is not set, neither backups nor directory creation occur on the root file system. If the *ok_on_root* flag is set, then backups and directory creations occur normally.

The default value for this flag is 0. Backups and directory creations to a disk storage unit (BasicDisk) do not occur if the path is on the root file system.

`-path` *`path_name`*

Specifies the path to a disk file system that expressed as an absolute pathname, which is the data storage area for this storage unit. When this option is present, the storage unit type is Disk. This option has no default. Either `-path`, `-dp`, or `-density` must be on the command line. The `-density`, `-path`, and `-dp` options can only be used independently.

In general when this option is used, enable the On-Demand-Only flag (see `-odo`). Otherwise, if you have any NetBackup policies that do not require specific

storage units, they can fill the disk file system *path_name*. This action can cause serious system problems. For example, if the system swap area happens to be on the same file system, new processes may fail.

`-reason "`*`string`*`"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-rn` *`robot_number`*

Specifies the robot number for this storage unit. It must be greater than or equal to 0. The robot number can be obtained from the Media and Device Management of the Administration Console. This option is ignored unless the `-rt` option is present. This option has no default.

For more about rules that concern the use of the robot number, see the *NetBackup Administrator's Guide, Volume II*.

`-rt` *`robot_type`*

The robot type for this storage unit. For non-robotic (stand-alone) devices select `NONE` or omit this option. The default value is `NONE` (Not Robotic). The value for density should be consistent with the robot type.

If this option is set to any value other than `NONE`, the -rn option is required. Available robot type codes are:

`NONE` - Not Robotic

`TLD` - Tape Library DLT

`ACS` - Automated Cartridge System

`-sm` *`selection_method`*

Selects the method in which a storage unit group is chosen. This option is valid only for storage unit groups. The possible values for *selection_method* are:

Prioritized = 1 (default)

Least Recently Selected = 2

Failover = 3

Load Balance = 4

Option 1: Prioritized, selects the first storage unit in the list until the unit is down, is full, or its max-concurrent-jobs setting is reached. Then the next storage unit in the list is examined and so on until an available one is found.

Option 2: Least Recently Selected, selects the least-recently selected storage unit.

Option 3: Failover is the same as Prioritized except MDS queues a job to wait for the first storage unit if the max-concurrent-jobs is reached. MDS moves on to the next storage unit in the list only if the first unit is down or full.

Option 4: Load Balance. If the user selects this option and has installed the capacity management license, Media Device Selection (MDS) balances the job load. It balances the job load by considering if a media server meets the following conditions:

- Enough disk volume free space available to accommodate the estimated job size.
- Enough CPU and memory resources available to accommodate another job.
- Least amount of estimated job size data being processed compared to other media servers of the same class or rank.

If the user does not have the capacity management license, then Load Balance reverts to option 2, the least-recently selected storage unit.

`-tt transfer_throttle`

The Transfer Throttle setting appears for SnapVault storage units only.

The setting indicates the maximum SnapVault data transfer bandwidth. A setting of zero (default) indicates an unlimited bandwidth and data transfer would occur at the full network bandwidth. (Range: 0 (default) to 9999999.)

`-uw 1|0`

This option is used to define a storage unit as write once, read many (WORM). If this option is set, the images that are written to the storage until are WORM locked. The default value for this option is `0`. Once `-uw` is set to `1`, defining the storage unit for WORM, it cannot be reverted. You must delete the storage unit and create it again with `-uw 0`.

`-verbose`

Select verbose mode for logging. This option is meaningful only when it runs with debug log function on (that is, when the following directory is defined):

`UNIX systems: /usr/openv/netbackup/logs/admin`

`Windows systems: install_path\NetBackup\logs\admin`

EXAMPLES

Example 1 - Create a new storage unit, named *hatunit*. Its storage unit type is Disk.

On UNIX systems, the path for the storage unit is `/tmp/hatdisk`.

On Windows systems, the path for the storage unit is `C:\tmp\hatdisk`.

UNIX systems:

```
# bpstuadd -label hatunit -path /tmp/hatdisk -verbose
```

Windows systems:

```
# bpstuadd -label hatunit -path C:\tmp\hatdisk -verbose
    <2>bpstuadd: INITIATING: NetBackup 8.0 created: 0
    <2>bpstuadd: EXIT status = 0.
```

RETURN VALUES

An exit status of zero (0) means that the command ran successfully.

Any exit status other than zero (0) means that an error occurred.

If the administrative log function is enabled, `bpstuadd` logs the exit status in the administrative daily log under the log directory:

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

install_path\NetBackup\logs\admin

It has the following form:

```
# bpstuaddnew: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
```

Windows systems:

install_path\NetBackup\logs\admin*

EMM database

SEE ALSO

See bpstsinfo on page 423.

See bpstudel on page 439.

See bpstulist on page 442.

See bpsturep on page 450.

bpstudel

bpstudel – delete NetBackup storage unit or storage unit group

SYNOPSIS

bpstudel -label *storage_unit_label* [-verbose] [-M *master_server* [,...]] [-reason "*string*"]

bpstudel -group *storage_unit_group* [-M *master_server* [,...]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpstudel command deletes a NetBackup storage unit or storage unit group. The command must include either a label name for the storage unit or a group name for the storage unit group, but not both.

If bpstudel cannot delete the storage unit (for example, the storage unit label is mistyped), it does not return an error message. You can run bpstulist to verify that the storage unit was deleted.

Errors are sent to stderr. A log of the command's activity is sent to the NetBackup admin log file for the current day.

For more about storage units, see the *NetBackup Administrator's Guide, Volume II*.

Any authorized user can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

-label *storage_unit_label*

The name of the storage unit. This option is required. The maximum length for a storage-unit label is 128 characters.

`-group` *storage_unit_group*

Deletes the specified storage unit group the name. If this option is present, the named storage unit group is deleted.

`-M` *master_server [,...]*

Runs this command on each of the master servers in this list. This list is a comma-separated list of master servers. The master servers must allow access by the system that issued the command. If an error occurs for any master server, the process stops at that point. The default is the master server for the system where the command is entered.

`-reason "`*string*`"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-verbose`

Selects the verbose mode for logging. This mode is meaningful only when you run with the debug log function on (that is, when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

install_path`\NetBackup\logs\admin`

EXAMPLE

Delete the storage unit named `tst.dsk` and list the existing storage units before and after the deletion:

```
# bpstulist
```

UNIX systems:

```
stuunit 0 mango 0 -1 -1 1 0 /tmp/stuunit 1 1 2000 *NULL*
tst.dsk 0 mango 0 -1 -1 3 0 /hsm3/dsk 1 1 2000 *NULL*
```

Windows systems:

```
stuunit 0 mango 0 -1 -1 1 0 C:\tmp\stuunit 1 1 2000 *NULL*
tst.dsk 0 mango 0 -1 -1 3 0 C:\hsm3\dsk/ 1 1 2000 *NULL*
```

```
# bpstudel -label tst.dsk

# bpstulist
```

UNIX systems:

```
stuunit 0 mango 0 -1 -1 1 0 /tmp/stuunit 1 1 2000 *NULL*
```

Windows systems:

```
stuunit 0 mango 0 -1 -1 1 0 C:\tmp\stuunit 1 1 2000 *NULL*
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
```

Windows systems:

install_path\NetBackup\logs\admin*

SEE ALSO

See bpstsinfo on page 423.

See bpstuadd on page 429.

See bpstulist on page 442.

See bpsturep on page 450.

bpstulist

`bpstulist` – display NetBackup storage units or storage unit groups

SYNOPSIS

bpstulist -label *storage_unit_label* [,...] [-L | -l | -U | -show_available | -lsa] [-g | -go] [-verbose] [-M *master_server* [,...]] [-reason "*string*"]

bpstulist -group *storage_unit_group* [-verbose] [-M *master_server* [,...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `bpstulist` command displays the attributes for a NetBackup storage unit or storage unit group. If no storage label or storage unit group name is specified, `bpstulist` displays the attributes for all NetBackup storage units or storage unit groups. In addition, this command accepts a comma-separated list of storage unit labels and displays the information for each of the storage units. The `-show_available` and `-lsa` flags enable you to list all of the configured media servers for a particular storage unit.

Errors are sent to `stderr`. A log of the command's activity is sent to the NetBackup admin log file for the current day.

For more about storage units, see the *NetBackup Administrator's Guide, Volume I*.

Any authorized user can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

List-type options:

-L The list type is long. This option produces a listing with one storage unit attribute per line, in the format *storage-unit attribute*: *value*. Some attribute values are expressed in both interpreted form and raw form.

For a disk storage unit, a long listing has these attributes for each storage unit:

- Label
- Storage Unit Type (For example, Disk (0))
- Media Subtype (For example, BasicDisk (1))
- Host Connection
- Concurrent Jobs
- On Demand Only
- Max MPX
- Max Fragment Size
- Block Sharing
- OK On Root

A long listing has these attributes for each DiskPool disk storage unit:

- Label
- Storage Unit Type
- Media Subtype (DiskPool (6))
- Host Connection (one host per line)
- Concurrent Jobs
- On Demand Only
- Max Fragment Size
- Max MPX
- Block sharing
- Use WORM
- File System Export
- Disk Pool
- Snapshots
- Replication Primary
- Replication Source

- Replication Target
- Mirror

A long listing has these attributes for each Media Manager storage unit:

- Label
- Storage Unit Type (For example, Tape (0))
- Host Connection
- Concurrent Jobs
- On Demand Only
- Robot Type
- Max Fragment Size
- Max MPX/drive

`-l` The list type is short, which produces a terse listing. This option is useful for the scripts or the programs that rework the listing contents into a customized report format. This option is the default list type.

A single line contains the information for a storage unit, with all attribute values expressed in raw form. The fields on this line are:

- label
- storage unit type
- host
- density
- concurrent_jobs
- initial_mpx
- path
- on_demand_only
- max_mpx
- maxfrag_size
- ndmp_attach_host
- throttle (SnapVault only)
- subtype
- disk_flags
- high_water_mark

- low_water_mark
- ok_on_root
- disk_pool
- host_list (one or more comma delimited)

-U The list type is user. This option produces a listing with one storage-unit attribute per line, in the format *storage-unit attribute*: *value*. Attribute values are expressed in interpreted form.

For a disk storage unit, a user-type list has these attributes for each storage unit:

- Label
- Storage Unit Type (the storage-unit type)
- Storage Unit Subtype
- Host Connection
- Concurrent Jobs
- On Demand Only
- Max MPX
- Path
- Max Fragment Size
- Stage data
- High Water Mark
- Ok On Root

For a DiskPool disk storage unit, a user-type list has these attributes for each storage unit:

- Label
- Storage Unit Type
- Host Connection (one host per line)
- Concurrent Jobs
- On Demand Only
- Max Fragment Size
- Max MPX
- Use WORM

- DiskPool
- WORM Capable

For a Media Manager storage unit, a user-type list has these attributes for each storage unit:

- Label
- Storage Unit Type
- Storage Unit Subtype
- Host Connection
- Concurrent Jobs
- On Demand Only
- Max MPX/drive
- Robot Type
- Max Fragment Size

`-g` This list type causes the storage unit list to include the storage unit groups. The format of this option produces a listing with one storage unit group per line, in the format *group_name*: *group_members*. This option also includes the Selection Method value at the beginning of the Storage Unit Group List.

`-go`

This list type causes the storage unit list to include only information on the storage unit groups.

`-label` *`storage_unit_label1`* `[,`*`storage_unit_label2...`*`]`

Specifies the name of the storage unit. This list is a comma-separated list of storage unit labels. If this option is not present, the listing is for all storage units. The maximum length for a storage-unit label is 128 characters.

`-group` *`storage_unit_group`*

Specifies a list of defined storage units and storage unit groups. For the list of storage units, the list type is short, which produces a terse listing. The list of storage unit groups is in the format *group_name*: *group_members*.

`-lsa`

Lists all storage units in the database including any available media servers on the media server list.

`-M` *`master_server1`* `[,`*`master_server2...`*`]`

Specifies a comma-separated list of master servers. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issued the command. If an error

occurs for any master server, the process stops at that point in the list. The default is the master server for the system where the command is entered.

`-reason "`*`string`*`"`

Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-show_available`

Lists all storage units in the database including any available media servers on the media server list.

`-verbose`

Select verbose mode for logging. This mode is meaningful when only you run with the debug log function on (that is, when the following directory is defined):

UNIX systems:

`/usr/openv/netbackup/logs/admin`

Windows systems:

`install_path``\NetBackup\logs\admin`

EXAMPLES

Example 1 - List the storage units that are defined on the master server apricot by using the `-U` display option:

```
# bpstulist -U -M apricot

Label:               redtest
Storage Unit Type:   Disk
Host Connection:     apricot
Concurrent Jobs:     1
On Demand Only:      yes
Max MPX:             4
Max Fragment Size:   512000 MB
Block Sharing:       yes
OK On Root:          no
Use WORM:            no
Disk Pool:           simSnapVaultA
Snapshots:           yes
Replication Primary: no
Replication Source:  yes
```

```
Replication Target:  yes
Mirror:              no
WORM Capable:        no
```

Example 2 - The following output is realized by using the following `bpstuadd` command to create a regular disk staging storage unit:

```
# bpstuadd -label pear -path /tmp/pear -flags STAGE_DATA
```

Short output:

```
pear 0 felix.example.com 0 -1 -1 1 0 "/tmp/pear" 1 1 2000
*NULL* 0 1 0 98 80 1 pear felix.example.com
```

Long output:

```
Label:               pear
Media Type:          Disk (0)
Host Connection:     felix.example.com
Concurrent Jobs:     1
On Demand Only:      yes
Path:                "/tmp/pear"
Robot Type:          (not robotic)
Max Fragment Size:   512000
Max MPX:             1
Stage data:          no
Block Sharing:       no
File System Export:  no
High Water Mark:     98
Low Water Mark:      80
OK On Root:          no
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
```

EMM database

SEE ALSO

See bpstsinfo on page 423.

See bpstuadd on page 429.

See bpstudel on page 439.

See bpsturep on page 450.

bpsturep

bpsturep – replace selected NetBackup storage unit attributes

SYNOPSIS

bpsturep -label *storage_unit_label* [-verbose] [-host *host_name* | -nodevhost] [-path *path_name* | -dp *disk_pool* | -density *density* [-rt *robot_type* -rn *robot_number*] [-nh *NDMP_attach_host*] [-cj *max_jobs*] [-odo *on_demand_only_flag*] [-mfs *max_fragment_size*] [-maxmpx *mpx_factor*] [-cf *clearfiles*] [-flags *flags*] [-tt *transfer_throttle*] [-hwm *high_water_mark*] [-lwm *low_water_mark*] [-okrt *ok_on_root*] [[-addhost | -delhost] *host_name* [*host_name*]] [-hostlist *host_name* [*host_name*]] [-M *master_server* [,...] [-uw 1|0]

bpsturep -group *storage_unit_group* [-addstu | -delstu] *storage_unit_label* [-M *master_server* [,...]] [-sm *selection_method*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bpsturep command modifies an existing NetBackup storage unit by replacing selected storage-unit or storage-unit-group attributes in the NetBackup catalog. The command line must include a label for the storage unit or a group name for the storage unit group. The label or the group name is the only storage-unit attribute that bpsturep cannot modify.

Note: This command does not enable you to change a disk storage unit (DSU) or a tape storage unit to a disk staging storage unit (DSSU). In addition, you cannot change a DSSU to a DSU or a tape storage unit.

Use the bpsturep command with care. The changes to the storage unit or storage unit group must be compatible with existing attributes. Make sure that resulting attribute combinations are valid, especially for the following attributes:

robot_type
robot_number
density_type
max_fragment_size
path_type
NDMP_attach_host

The safest way to modify these attributes is to run `bpsturep` one time for each attribute to be replaced.

`bpsturep` makes the changes by modifying the storage unit with the specified attribute changes. Run `bpstulist` after `bpsturep` to determine whether the intended changes were applied.

Errors go to `stderr`. A log of the command's activity goes to the NetBackup administrative log file for the current day.

For more about storage units, see the *NetBackup Administrator's Guide, Volume I*.

Any authorized user can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

`-cf` *clearfiles*

Enables the NBU media to perform data translation operations on backup data. Typically, OpenStorage plugins use metadata to perform the block-level deduplication operations that reduce the total amount of disk space that is used. This value is valid only for disk storage units that are configured with OST disk pools.

The *clearfiles* variable can be one of the following values:

- 0 - Disables all data translation operations.
- 1 - Enables detailed translation operation. The metadata describes all of the attributes of the files that are backed up. These files are called clear files.
- 2 - Enables simple translation operation. The metadata identifies only the name, size, and byte offset location of the files that are backed up. They are called opaque files.

`-cj` *max_jobs*

The maximum number of concurrent jobs that are permitted for this storage unit. max_jobs is a non-negative integer. The appropriate value depends on

your server's ability to run multiple backup processes comfortably and the available space on the storage media.

For more about maximum jobs per policy, see the *NetBackup Administrator's Guide, Volume I*.

Zero (0) means that this storage unit is never selected when a job is scheduled. The default is 1.

`-density` *density_type*

If this option is present, the storage unit type is Media Manager. This option does not have a default. If the command line includes a robot type, the value for density should be consistent with the robot type. The `-density`, `-path`, and `-dp` options can only be used independently.

Valid density types are:

`dlt` - DLT cartridge

`dlt2` - DLT cartridge alternate

Note: The following densities apply only to NetBackup Enterprise Servers.

`hcart` - 1/2 Inch Cartridge

`hcart2` - 1/2 Inch Cartridge alternate

`-dp` *disk_pool*

Specifies the name of the disk pool, which is the data storage area for this storage unit. This option can be used only when the disk type is 6 (DiskPool). The disk pool must already exist.

`-dt` *disk_type*

Enables the user to specify a disk type. The following are the valid values for *disk_type*:

1 - BasicDisk

3 - SnapVault

6 - DiskPool

`-flags` *flags*

Specifies the storage unit to be a staging storage unit, which allows for a quick restore. Valid values for *flags* are: NONE and STAGE_DATA. Currently valid for only disk storage units.

`-group storage_unit_group`

The name of a storage unit group. This group is the storage unit whose members `bpsturep` adds or deletes. Use `-addstu storage_unit` to add storage units to the group. Use `-delstu storage_unit` to remove storage units from the group.

`-host host_name`

Note: NetBackup Server does not support remote media servers.

The NetBackup host to which the destination media is attached. The default is the host name of the local system.

The host you select must be either your NetBackup master server or a media server (if you configure media servers). The host name must be the network name for the server as known by all NetBackup servers and clients.

If *host_name* is a valid network name and is not yet configured, the value *host_name* is added to NetBackup's configuration as a media server. On UNIX, this value shows up in `bp.conf`; on Windows, this value shows up in the Configuration window for Servers. If *host_name* is not a valid network name, you must configure it manually.

`-hwm high_water_mark`

This option is a user-configurable threshold. The default setting for the high water mark is 98%. When the high water mark is reached, NetBackup becomes proactive, under two different circumstances:

- When it initiates a job and the total capacity is used, the DSU is considered to be Full. If it selects from multiple storage units in a storage unit group, the following occurs: The media and the device selection (MDS) do not assign new jobs to units that are at or over the high water mark. It looks for another storage unit in the group, to assign to the job.

- During a job, if the Staging attribute is set and the total capacity is used, staging expires images to free space on the DSU. This action occurs to accommodate more backup data.

`-label storage_unit_label`

The name of a storage unit. This unit is the storage unit whose attributes `bpsturep` replaces. This option is required. The maximum length of a storage-unit label is 128 characters.

`-lwm low_water_mark`

This option is a user-configurable threshold, which disk storage units that do disk staging use. The default setting for the Low Water Mark is 80%.

When the High Water Mark is reached, you should do one of the following:

- Migrate images to other storage units, until the "Low Water Mark' is reached.

- Free disk space by expiring disk images for the oldest staged images, until the "Low Water Mark" is reached.

Note: If you want to save most of your available data, configure the Low Water Mark setting near the High Water Mark. In addition, the Low Water Mark must be less than High Water Mark. They cannot be equal settings.

`-mfs` *max_fragment_size*

The maximum fragment size in megabytes that is specified (how large a fragment for a NetBackup image can be). NetBackup supports a maximum fragment size of 1,000,000 megabytes (one terabyte).

For a Media Manager storage unit, this value is either zero. Or it is any integer greater than or equal to 50 megabytes (MB) and less than or equal to 1,048,576 megabytes (MB) or (1024 GB). The default value is 0, which is equivalent to the largest value that is allowed, 1024 GB.

For a Disk storage unit, this value ranges from 20 megabytes to 2000 megabytes (2 gigabytes). The default value is 524288 (512 GB).

`-maxmpx` *mpx_factor*

The maximum multiplexing factor. Multiplexing sends concurrent, multiple backups from one or several clients to a single drive.

For more about multiplexing (MPX), see the *NetBackup Administrator's Guide, Volume I*.

The multiplexing factor can range from 1 to 32, where one (1) means no multiplexing. A value greater than one (1) means that NetBackup can create multiplexed images on the destination medium. Because of how the local NetBackup installation may be licensed, you may not be able to assign multiplexing factors in the entire range 1-32. The default is 1.

`-M` *master_server* `[,...]`

Specifies a list of master servers. This list is a comma-separated list of host names. If this option is present, the command is run on each of the master servers in this list. The master servers must allow access by the system that issued the command. If an error occurs for any master server, the process stops at that point in the list. The default is the master server for the system where the command is entered.

`-nh` *`NDMP_attach_host`*

Specifies the host name of the NDMP server. If this option is present, the storage unit type is set to NDMP. The default is no NDMP server.

`-nodevhost`

Indicates that no media server is to be associated with this storage unit.

`-odo` *`on_demand_only_flag`*

The *on-demand-only* flag controls whether the storage unit is used only for the backups that explicitly request (demand) the storage unit:

To make the storage unit available only to the policies or the schedules that request it, set the flag to 1 (enabled).

To make the storage unit available to any policy or schedule, set the flag to 0 (disabled).

If the storage unit's type is Disk, the default is 1; NetBackup uses the storage unit only when explicitly requested. Otherwise, the default is 0.

`-okrt` *`ok_on_root`*

If this flag is not set, neither backups nor directory creation occurs on the root file system. If the *ok_on_root* flag is set, then backups and directory creations happen normally.

The default value for this flag is 0. Backups and directory creations to a disk storage unit (BasicDisk) do not occur if the path is on the root file system.

On UNIX systems, root is "/".

On Windows, root is the Volume where the windows\system directory resides.

`-path` *`path_name`*

The path to a disk file system, expressed as an absolute pathname, the data storage area for this storage unit. When this option is present, the storage unit type is `Disk`. This option does not have a default. The `-density`, `-path`, and `-dp` options can only be used independently.

In general when this option is used, enable the on-demand-only flag (see `-odo`). Otherwise, if you have any NetBackup policies that do not require a specific storage unit, they can fill the disk file system *path_name*. This action can cause serious system problems. For instance, if the system swap area happens to be on the same file system, new processes may fail.

If the path name is defined as a disk staging storage unit (DSSU), use this option to change the path name a different DSSU. It cannot be used to change a DSSU to a different type of storage unit.

`-rn` *robot_number*

The robot number for this storage unit. The robot number must be greater than or equal to 0. The robot number can be obtained from the Media and Device Management of the Administration Console. This option is ignored unless the `-rt` option is present. This option does not have a default.

For more about rules regarding the use of the robot number, see the *NetBackup Administrator's Guide, Volume II*.

`-rt` *robot_type*

The robot type for this storage unit. For non-robotic (stand-alone) devices select `NONE` or omit this option. The default value is `NONE` (Not Robotic). The value for density should be consistent with the robot type

If this option is set to any value other than `NONE`, the `-rn` option is required.

Available robot type codes are:

`NONE` - Not Robotic

`TLD` - Tape Library DLT

`ACS` - Automated Cartridge System

`-sm` *selection_method*

Selects the method in which a storage unit group is chosen. This option is valid only for storage unit groups. The following are its possible values:

```
Prioritized = 1 (DEFAULT)
Least Recently Selected = 2
Failover = 3
```

`Load Balance = 4` (appears if the capacity management license is installed)

Option 1: Prioritized is the default condition. It selects the first storage unit in the list until either the unit is down or full, or its max-concurrent-jobs setting is reached. Then the next storage unit in the list is examined and so on until an available one is found.

Option 2: Least Recently Selected selects the least-recently selected storage unit.

Option 3: Failover is the same as Prioritized except MDS queues a job to wait for the first storage unit if the max-concurrent-jobs is reached. MDS moves to the next storage unit in the list only if the first unit is down or full.

Option 4: Load Balance. For this option to appear, make sure that you have installed the capacity management license. If the user selects this option, Media Device Selection (MDS) balances the job load by considering if a media server meets these conditions:

- Enough disk volume free space available to accommodate the estimated job size.
- Enough CPU and memory resources available to accommodate another job.
- Least amount of estimated job size data being processed compared to other media servers of the same class or rank.

If the license expires, then Load Balance reverts to Option 2 behavior. It selects the least-recently selected storage unit.

`-tt` *`transfer_throttle`*

The Transfer Throttle setting appears for SnapVault storage units only.

The setting indicates the maximum SnapVault data transfer bandwidth. A setting of zero (default) indicates an unlimited bandwidth and data transfer would occur at the full network bandwidth. (Range: 0 (default) to 9999999.)

`-uw 1|0`

This option is used to define a storage unit as write once, read many (WORM). If this option is set, the images that are written to the storage until are WORM locked. The default value for this option is `0`. Once `-uw` is set to `1`, defining the storage unit for WORM, it cannot be reverted. You must delete the storage unit and create it again with `-uw 0`.

`-verbose`

Select `verbose` mode for logging. This mode is meaningful only when it runs with the debug log function on (when the following directory is defined):

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

`install_path``\NetBackup\logs\admin`

EXAMPLE

UNIX systems:

Change the path of disk storage unit *mkbunit*. The path is changed from `/tmp/mkbunit` to `/tmp/mkbunit2`:

```
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 /tmp/mkbunit 1 1 2000 *NULL*
# bpsturep -label mkbunit -path /tmp/mkbunit2
```

```
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 /tmp/mkbunit2 1 1 2000 *NULL*
```

Windows systems:

Change the path of disk storage unit *mkbunit*. The path is changed from `C:\tmp\mkbunit` to `C:\tmp\mkbunit2`:

```
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 C:\tmp\mkbunit 1 1 2000 *NULL*
# bpsturep -label mkbunit -path C:\tmp\mkbunit2
# bpstulist
mkbunit 0 beaver 0 -1 -1 1 0 C:\tmp\mkbunit2/ 1 1 2000 *NULL*
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
```

Windows systems:

install_path\NetBackup\logs\admin*

EMM database

SEE ALSO

See bpstsinfo on page 423.

See bpstuadd on page 429.

See bpstudel on page 439.

See bpstulist on page 442.

bptestbpcd

bptestbpcd – test bpcd connections and verify connect options

SYNOPSIS

bptestbpcd [-host *hostname*] [-client *client_name*] [-M *server*] [-connect_options 0|1|2 0|1|2 0|1|2|3] [-connect_timeout *seconds* [-wait_to_close *seconds*] [-verbose]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The bptestbpcd command tries to establish a connection from a NetBackup server to the bpcd daemon on a NetBackup host or client. If successful, it reports information about the sockets that are established.

The first line of output consists of three digits that represent the effective connect options. These digits are only relevant when you connect to bpcd on the local host.

- The first digit is 0 if reserved source port is used and 1 if non-reserved port is used.
- The second digit is 0 if you use legacy (random port) callback and 1 if you use vnetd callback.
- The third digit is 1 if the connection is initiated to the PBX or vnetd port number. The third digit is 2 if the connection is initiated to the legacy bpcd port number.

The other output lines display the items shown:

- The NetBackup server IP address and port number.
- The connection direction.
- The bpcd IP address and port number.
- Whether the communication was encrypted by a local connection to the secure proxy process.

OPTIONS

`-connect_options 0|1|2 0|1|2|3 0|1|2|3`

The first setting indicates the type of source port to use when you connect to `bpcd` on the host or client. If you use the traditional callback method, this setting also designates the type of server port on which to listen for the inbound connection.

Note: This option is only useful when you test connectivity to `bpcd` on the local host.

---

0 = Use a reserved port number.

1 = Use a nonreserved port number.

2 = Use the value in the DEFAULT_CONNECT_OPTIONS configuration entry on the server.

The second setting indicates the `bpcd` call-back method to use to connect to the client:

0 = Use the traditional call-back method.

1 = Use the `vnetd` no call-back method.

2 = Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

The third setting indicates the connection method to use to connect the host or client:

0 = Connect to the host or client through the PBX port (1556). If unsuccessful, connect through the `vnetd` port (13724). If still unsuccessful, connect through the daemon port (13782).

1 = Connect to the host or client through the PBX port (1556). If unsuccessful, connect through the `vnetd` port (13724). If still unsuccessful, fail the connection attempt.

2 = Connect to the host or client through the daemon port (13782).

3 = Use the value that the DEFAULT_CONNECT_OPTIONS configuration entry on the server defines.

If `-connect_options` is not specified for `-client`, any CONNECT_OPTIONS configured in the Client Attributes for *clientname* are used. Otherwise, any CONNECT_OPTIONS for *clientname* are used. Otherwise, the DEFAULT_CONNECT_OPTIONS are used.

`-client` *client_name*

The client name of the system to connect to. This option creates the same legacy connections to `bpcd` that would normally be used when you connect to a NetBackup client for a multiplex backup. If neither `-host` nor `-client` is specified, the host name of the local system is used.

`-connect_timeout` *seconds*

Specifies the number of seconds to wait for a connection attempt from the server to the host or client to fail. If not specified, the default is the CLIENT_CONNECT_TIMEOUT that is configured on the server that tries to make the connection.

`-host` *hostname*

Specifies the host name of the system to connect to. Typically, *hostname* is the host name of a NetBackup server. This option creates the same legacy connections to `bpcd` that would normally be used when you connect to a NetBackup server. If neither `-host` nor `-client` is specified, the host name of the local system is used.

`-M` *server*

Specifies the host name of the NetBackup server that initiates the connections to the target host or client. If this option is not specified, the local host makes the connections. If it is specified, the local host connects to `bpcd` on the specified server, which then connects to `bpcd` on the target host or client.

`-wait_to_close` *seconds*

Specifies the number of seconds that the server waits before it closes the connections to `bpcd` on the target host or client. The default is 0 (no waiting).

`-verbose`

After successfully connecting to `bpcd` on the target host or client, request and display key configuration information from the remote host. This information can include: The host name, client name, master server, peer name for the connecting server, operating system, NetBackup version, and the host id certificate information used each host for the connection.

EXAMPLES

Example 1 - Try to connect from the local system to server *fred* using secure connections:

```
# bptestbpcd -host fred
1 1 1
127.0.0.1:49613 -> 127.0.0.1:51195 PROXY 10.0.0.32:38828 -> 10.0.0.59:1556
127.0.0.1:53454 -> 127.0.0.1:52214 PROXY 10.0.0.32:54869 -> 10.0.0.59:1556
```

Example 2 - Request the server `fred` to connect to the insecure back-level (pre-8.1) host `wilma` as a client by using the daemon port and no-call-back method. If successful, display the key configuration from `wilma`. Notice that the daemon connect options are ignored, connections are by PBX or vnetd:

```
$ bptestbpcd -M fred -client wilma -connect_options 1 1 2 -verbose
1 1 2
10.0.0.59:36207 -> 10.0.0.104:1556
10.0.0.59:61847 -> 10.0.0.104:1556
PEER_NAME = fred
HOST_NAME = wilma
CLIENT_NAME = wilma
VERSION = 0x07730000
PLATFORM = solaris10
PATCH_VERSION = 7.7.3.0
SERVER_PATCH_VERSION = 7.7.3.0
MASTER_SERVER = wilma
EMM_SERVER = wilma
NB_MACHINE_TYPE = MASTER_SERVER
10.0.0.59:43948 -> 10.0.0.104:1556
```

Example 3 – Request the server `valbl8` to connect to the server host `valbl7`. Notice that the connect options that are user requested are ignored for communication between secure capable hosts. The connections are by a local host connection to the secure proxy process. The secure proxy process then secures the communication with the remote host. The connection to the remote host is made through the PBX or vnetd ports. Some key fields from the certificates, used to secure the connection, are included in the output.

```
# bptestbpcd -host valbl7 –verbose -connect_options 1 1 2
1 1 2
127.0.0.1:48579 -> 127.0.0.1:38397 PROXY 10.0.91.128:62115 ->
10.0.91.127:1556
127.0.0.1:44938 -> 127.0.0.1:59742 PROXY 10.0.91.128:39806 ->
10.0.91.127:1556
LOCAL_CERT_ISSUER_NAME = /CN=broker/OU=root@valbl8.min.veritas.com/O=vx
LOCAL_CERT_SUBJECT_COMMON_NAME = 59a8584a-2f88-4a21-8d91-62ceebc40c29
PEER_CERT_ISSUER_NAME = /CN=broker/OU=root@valbl8.min.veritas.com/O=vx
PEER_CERT_SUBJECT_COMMON_NAME = 4f0f2f15-1cde-4acd-9c82-9bd212741970
PEER_NAME = 10.0.91.128
HOST_NAME = valbl7
CLIENT_NAME = valbl7
VERSION = 0x08100000
PLATFORM = solaris_x86_10_64
```

```
PATCH_VERSION = 8.1
SERVER_PATCH_VERSION = 8.1
MASTER_SERVER = valbl8
EMM_SERVER = valbl8
NB_MACHINE_TYPE = MEDIA_SERVER
```

bptestnetconn

bptestnetconn – test and analyze various configurations and connections

SYNOPSIS

bptestnetconn [-v] -h | -b | -l

bptestnetconn [-v] [-i | -frap] [-s | -H *hostname*]

bptestnetconn [-v] [-c[*service_name*] [-o *time_value*] [-t *time_value*]] [-H *hostname* | -s] [-x]

bptestnetconn -6 [-u]

bptestnetconn [-v] [-w[*webappname*] [-O *port*] [-T *timeout*] [-e *retrycount*]] [-s | -H *hostname*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The bptestnetconn command performs several tasks that help you analyze DNS and connectivity problems with any specified list of hosts, including the server list in the NetBackup configuration. To help troubleshoot connectivity problems between the services that use CORBA communications, bptestnetconn can perform and report on CORBA connections to named services. The command can also perform and report the responsiveness of the NetBackup Web Service. The command also shows the connection direction, whether the communication was encrypted by a connection to the secure proxy process or not.

Logs for the bptestnetconn command are located in /usr/openv/netbackup/logs/bptestnetconn/*.log for UNIX and Linux, and in *install_path*\netbackup\logs\bptestnetconn*.log for Windows.

OPTIONS

-6 or --afcheck

Checks the configuration for IP_ADDRESS_FAMILY requirements.

`-a or --all`

Reports all times. This option has the same effect as `-fr`. This condition is the default.

`-b or --confchecker`

Verifies that `bp.conf` (UNIX) or the NetBackup registry entry (Windows) exists.

`-c or --connect` *`service_name`*

Reports the `connectToObject` times to service. Some CORBA service examples are EMM/EMMServer, NBFSMCLIENT/FSM.ClientClusterMgr, nbrmms/DiskPollingService.DPS nbrmms/STSEventService, and nbsvcmon/NBSvcMon (default). Type this option with no spaces between `-c` and *service_name*.

`-e or --retrycount` *`retry_count`*

Specifies the number of retries that are performed in case of web service connection failures. The default value of this parameter is 5.

`-f or --flkup`

Reports all forward DNS lookup times for the specified host or hosts.

`-h or --help`

Displays this help message.

`-H` *`hostname`*

Specifies a single host name of the system, IPv4 address, or name of a file containing a list of such names, one per line.

`-i or --ipservers`

Lists the IP addresses of all servers in the NetBackup configuration.

`-l or --listservers`

Lists all servers in the NetBackup configuration.

`-O or --port` *`port_number`*

Specifies the web service port to which the command connects. The default web service port is the PBX port, port number 1556.

`-o or --objconntimeout` *`time_value`*

Specifies the timeout in seconds for NetBackup level retries in case of CORBA errors.

`-p or --prefnet`

Includes how PREFERRED_NETWORK affects connections to the specified hosts or servers in the output display.

`-r or --rlkup`

Reports all reverse DNS lookup times for the specified host or hosts.

`-s or --servers`

Looks up all NetBackup servers in the configuration.

`-T or --wsconntimeout` *`time_value`*

Specifies the web service connection timeout in seconds. The `CLIENT_CONNECT_TIMEOUT` specified in the NetBackup configuration is used by default.

`-t or --orbconntimeout` *`time_value`*

Specifies the TCP timeout, the socket level time out for establishing the TCP/IP connection. Specify `-t` larger than `-o` to distinguish between TCP/IP and CORBA errors. Otherwise, all failures time out after retries_timeout seconds (`-o`*time_value*).

`-u or --update`

Updates the bp.conf (UNIX) or the Host Properties (Windows) based on the action of the `--afcheck` operation. This option is used only as part of installation.

`-v or --verbose`

Reports in verbose mode. The reverse lookup report shows which servers are media servers, EMMSERVER (if not local), and if any server is also the PREFERRED_NETWORK or CLUSTERNAME.

`-w or --web` *`webappname`*

Reports the web service responsiveness. The supported names for the *webappname* value are the default `nbwmc/netbackup` and `nbwmc/security`. Type this option with no spaces between `-w` and *`webappname`*.

`-x or --skipproxyinfo`

Skip displaying information about the secure CORBA connection via proxy.

EXAMPLES

Example 1 - List all the servers in the NetBackup configuration.

```
# bptestnetconn -l
               knothead.example.com
                         www.google.com
               r2d2.starwars.galaxy.com
                      whoknows.what.com
                                 zebra
                           lawndartsvm2
                           lawndartsvm1
```

Example 2 - List all the non-default settings.

```
# bptestnetconn -b
CLIENT_PORT_WINDOW (min)               = 2024          [0]
CLIENT_PORT_WINDOW (max)               = 4048          [0]
CLIENT_CONNECT_TIMEOUT                 = 30            [300]
SERVER_CONNECT_TIMEOUT                 = 10            [30]
DEFAULT_CONNECT_OPTIONS (daemon port)  = vnetd         [Automatic]
CONNECT_OPTIONS                        = [configured]
PREFERRED_NETWORK                      = knothead      [NULL]
FIREWALL_IN                            = [configured]
REVERSE_NAME_LOOKUP                    = PROHIBITED    [ALLOWED]
```

Example 3 - Report all forward DNS lookup times for all NetBackup servers in the configuration.

```
# bptestnetconn -f -s
------------------------------------------------------------------------
FL:               knothead.example.com -> 10.80.73.101     :      0 ms [local]
FL:                        www.google.com -> 74.125.19.106    :      0 ms
FL:               r2d2.starwars.galaxy.com -> 0.0.0.0         :      4 ms
FL:                      whoknows.what.com -> 209.139.193.224  :      0 ms [cluster/ri]
FL:                                zebra -> 10.80.120.103    :      0 ms
FL:                           lawndartsvm2 -> 10.80.74.153     :      0 ms
FL:                           lawndartsvm1 -> 10.80.74.154     :      0 ms
------------------------------------------------------------------------
Slow (>5 sec) or/and failed forward lookups:
                       r2d2.starwars.galaxy.com :      0 sec [FAILED]
------------------------------------------------------------------------
Total elapsed time: 0 sec
```

Example 4 - Report all reverse DNS lookup times for all NetBackup servers in the configuration.

```
# bptestnetconn -r -s
------------------------------------------------------------------
RL:     10.80.73.101 -> knothead.example.com                :      0 ms
RL:    74.125.19.106 -> nuq04s01-in-f106.1e100.net              :    156 ms MISMATCH
RL:    **LKUP FAIL** -> r2d2.starwars.galaxy.com                :      0 ms
RL:  209.139.193.224 -> **LKUP FAIL**                           :    739 ms
RL:    10.80.120.103 -> zebra.example.com                   :      0 ms
RL:     10.80.74.153 -> lawndartsvm2.example.com            :      0 ms
RL:     10.80.74.154 -> lawndartsvm1.example.com            :      0 ms
------------------------------------------------------------------
Slow (>5 sec) or/and failed/mismatched reverse lookups:
                www.google.com :      0 sec [MISMATCH] -> nuq04s01-in-f106.1e100.net
```

```
       r2d2.starwars.galaxy.com :      0 sec [FAILED]
              whoknows.what.com :      0 sec [FAILED]
-------------------------------------------------------------
Total elapsed time: 1 sec
```

Example 5 - Report all reverse DNS lookup times for all NetBackup servers in the configuration.

```
# bptestnetconn -s -c -t 10 -o 5
-----------------------------------------------------------------------
CN:                       knothead.example.com :  49 ms  [SUCCESS]
CN:                                 www.google.com :   4 sec [TRANSIENT]
CN:                       r2d2.starwars.galaxy.com :   4 sec [TRANSIENT]
CN:                              whoknows.what.com :   4 sec [TRANSIENT]
CN:                                          zebra :   4 sec [TRANSIENT]
CN:                                   lawndartsvm2 :   4 sec [NO_PERMISSION]
CN:                                   lawndartsvm1 :  20 sec [TRANSIENT]
-----------------------------------------------------------------------
Total elapsed time: 40 sec
```

Example 6 - Report NetBackup Web Service responsiveness for all NetBackup servers in the configuration.

```
# bptestnetconn -s -w -T 30 -e 2
 nbwmc/netbackup web service test for host: server.domain.com :          450 ms [SUCCESS]
 nbwmc/netbackup web service test for host: sample.server2.domain2.com : 800 ms [FAIL]
 nbwmc/netbackup web service test for host:             testvm2 :        550 ms [SUCCESS]
```

Example 7 - Report NetBackup Web Service responsiveness for the security `webapp` on a specified NetBackup master server.

```
# bptestnetconn –wnbwmc/security -T 30 –H server.domain.com
 nbwmc/security web service test for host: server.domain.com :    450 ms [SUCCESS]
```

Example 8: Reports the Secure CORBA connection via proxy by connecting `nbsl` service on the `example.server.domain.com`

```
# bptestnetconn.exe -cnbsl/HSFactory -H example.server.domain.com -v
adding hostname = example.server.domain.com
-----------------------------------------------------------------------
Connecting to 'nbsl/HSFactory'
CN: example.server.domain.com :     91 ms  [SUCCESS] PBX: No VNETD: No
127.0.0.1:4667 -> 127.0.0.1:4668 PROXY 10.210.77.101:4662 -> 10.210.77.101:1556
Certificate Information:
local_cert_info: {
   "certificate_subject_common_name": "08a1395f-81fe-40c6-af59-2631988ca076",
```

```
   "certificate_issuer_name": "/CN=broker/OU=root@example.server.domain.com/O=vx"
}
peer_cert_info: {
   "certificate_subject_name": "/CN=08a1395f-81fe-40c6-af59-2631988ca076/OU=NBU_HOSTS/O=vx",
   "certificate_subject_common_name": "08a1395f-81fe-40c6-af59-2631988ca076",
   "certificate_issuer_name": "/CN=broker/OU=root@example.server.domain.com/O=vx",
   "certificate_issuer_org_unit_name": "root@example.server.domain.com",
   "master_server": "example.server.domain.com",
   "peer_hostname": "example.server.domain.com"
}
------------------------------------------------------------------------
Total elapsed time: 1 sec
```

Example 9: Skip secure CORBA connection information via proxy for host example.server.domain.com

```
# bptestnetconn -cnbsl/HSFactory -t 10 -o 5 -H example.server.domain.com -x
adding hostname = example.server.domain.com
------------------------------------------------------------------------
Connecting to 'nbsl/HSFactory'
CN: example.server.domain.com :    126 ms  [SUCCESS] PBX: No VNETD: No
------------------------------------------------------------------------
Total elapsed time: 1 sec
```

bpup

`bpup` – start NetBackup services on Windows systems

SYNOPSIS

bpup `[-S|v] [-f] [-a] [-c] [-d] [-m] [-n] [-s]`

`On Windows systems, the directory path to this command is` *`install_path`*`\NetBackup\bin\`

DESCRIPTION

This command operates only on Windows systems.

The `bpup` command is used to start NetBackup services including the NetBackup databases, Media Manager, and clients.

OPTIONS

`-S` Enables you to select Silent Mode. With this option, no listing is generated and no confirmation is requested.

`-v` Selects the verbose mode and generates a detailed listing.

`-f` Forces the startup of the NetBackup services without prompting the user for a confirmation.

`-c` Starts the client.

`-d` Starts the NetBackup database.

`-m` Starts Media Manager.

`-n` Starts the NetBackup services.

`-s` Starts the server and not the client (NetBackup Media Manager).

SEE ALSO

See bpdown on page 122.

bpverify

bpverify – verify the backups that NetBackup creates

SYNOPSIS

bpverify [-l] [-p] [-pb] [-v] [-local] [-client *name*] [-st *sched_type*] [-sl *sched_label*] [-L *output_file* [-en]] [-policy *name*] [-s *date*] [-e *date*] [-M *master_server*] [-Bidfile *file_name*] [-pt *policy_type*] [-hoursago *hours*] [[-cn *copy number*] | [-primary]] [-backupid *backup_id*] [[-id *media_id* or *path*] | [-stype *server_type*] [-dp *disk_pool_name* [-dv *disk_volume*]]] [-priority *number*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

bpverify verifies the contents of one or more backups by reading the backup volume and by comparing its contents to the NetBackup catalog. This operation does not compare the data on the volume with the contents of the client disk. However, it does read each block in the image, which verifies that the volume is readable. NetBackup verifies only one backup at a time and tries to minimize media mounts and position time.

If either -Bidfile or -backupid is specified, bpverify uses this option as the sole criterion for selecting the set of backups it verifies. If the command line does not contain -Bidfile or -backupid, then bpverify selects the backups that satisfy all the selection options. For example, if the command line looks like the following:

```
bpverify -pt Standard -hoursago 10
```

then bpverify verifies the set of backups with policy type Standard that run in the past 10 hours.

If -p or -pb is specified, bpverify previews the set of backups that meet the selection criteria. It displays the backup IDs, but does not perform the verification.

bpverify sends its error messages to stderr. It sends a log of its activity for the current day to the NetBackup admin log file in the following directory:

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

```
install_path\NetBackup\Logs\admin
```

Any authorized user can run this command.

For more about NetBackup authorization, see the *NetBackup Security and Encryption Guide*.

OPTIONS

`-backupid` *backup_id*

Specifies the backup ID of a single backup to verify. This option takes precedence over any other selection criteria except `-Bidfile`. The default is any backup.

`-Bidfile` *file_name*

Specifies a file that contains a list of backup IDs to be verified. This file is removed during the activation of the command line interface (CLI). This file is removed because the NetBackup GUIs commonly use this parameter. The GUIs expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option, however it removes the file.

The file contains one backup ID per line. If this option is specified, other selection criteria are ignored. The default is no file of backup IDs, which means any backup can be verified.

`-client` *name*

Specifies the name of the client that produced the original backup. The default is any client.

`-cn` *copy_number* | `-primary`

Determines the copy number of the backup ID to verify. Valid values are 1 through the setting that the `bpconfig -max_copies` setting indicates, up to 10. The default is 1.

`-primary` indicates that the primary copy should be verified rather than the copy.

`-dp` *disk_pool_name* [`-dv` *disk_volume*]

Specifies the name of the disk pool, which is the data storage area for this storage unit. Optionally, `bpverify` verifies the images that reside on the

specified disk volume only. This option must be used with the *-stype* option. The disk pool must already exist.

`-hoursago` *hours*

Specifies the number of hours before the current time to search for backups. This number is equivalent to the specification of a start time (`-s`) of the current time minus hours. Do not use both this option and the `-s` option.

The *hours* value is a non-negative integer. The default starting time is 24 hours ago.

`-id` *media_id* | *path*

Search the image catalog for backups to verify that they are on this media ID or pathname. If a backup has some fragments on this media ID and some another media ID, the following occurs: NetBackup verifies a spanning image as long as the backup begins on the media of the media ID that is provided.

For the images that are stored on disk rather than removable media, specify an absolute pathname instead of *media_id*. The default is any media ID or pathname. BasicDisk uses this option.

`-L` *output_file* `[-en]`

Specifies the name of a file in which to write progress information. The default is not to use a progress file, in which case the progress information is written to `stderr`. For more information, see DISPLAY FORMATS later in this command description.

Example path for UNIX systems,`/usr/openv/netbackup/logs/user_ops`

Example path for Windows systems, `c:\Program Files\Veritas\NetBackup\logs\user_ops`

Include the `-en` option to generate a log entry in English. The name of the log contains the string `_en`. This option is useful to the support personnel that assist in a distributed environment where different locales may create logs of various languages.

Only default paths are allowed for this option and It is recommended to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-l`

Specifies that the list type is long, which causes `bpverify` to write additional information to the progress log. The default list type is short. For additional information, see DISPLAY FORMATS later in this command description.

`-local`

If you initiate `bpverify` from a host other than the master server and do not use `-local` (default), the following occurs: `bpverify` starts a remote copy of the command on the master server.

The remote copy allows the command to be terminated from the Activity Monitor.

Use `-local` to prevent the creation of a remote copy on the master server and to run `bpverify` only from the host where it initiated.

If the `-local` option is used, `bpverify` cannot be canceled from the Activity Monitor.

`-M` *`master_server`*

Specifies the master server that provides the `bpverify` image data. The master server must allow access by the system that issued the `bpverify` command. The default is the master server for the system where `bpverify` is entered:

For NetBackup Server:

The default is always the master server where the command is entered.

For NetBackup Enterprise Server:

If the command is entered on a master server, then that server is the default.

If the command is entered on a remote media server, then the master for that media server is the default.

`-p`

Previews the verification, but does not perform the verification. For additional information, see DISPLAY FORMATS later in this command description.

`-pb`

Previews the verification but does not perform the verification. This option is similar to `-p`, but `-pb` does not display information about the individual backups. For additional information, see DISPLAY FORMATS later in this command description.

`-policy` *`name`*

Search for backups to verify in the specified policy. The default is any policy.

`-priority` *`number`*

Specifies a new priority for the verification job that overrides the default job priority.

`-pt` *policy_type*

Specifies the policy type for selecting backups to verify. The default is any policy type.

The valid policy types are the following:

```
BigData
DataStore
DataTools-SQL-BackTrack
DB2
Enterprise-Vault
FlashBackup
Hyper-V
Informix-On-BAR
Lotus-Notes
MS-Exchange-Server
MS-SharePoint
MS-SQL-Server
MS-Windows
NBU-Catalog
NDMP
Oracle
SAP
Split-Mirror
Standard
Sybase
Universal-share
Vault
VMware
```

`-s` *date*, `-e` *date*

Specifies the start of the range of dates and times that include all backups to verify. The `-e` option specifies the end of the range.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See "About specifying the locale of the NetBackup installation" in the *NetBackup Administrator's Guide, Volume II*.

The valid range of dates is from 01/01/1970 00:00:00 to 01/19/2038 03:14:07. The default start time is 24 hours ago. The default ending time is the current date and time.

`-sl` *sched_label*

Search for backups to verify that the specified schedule created. The default is all schedules.

`-st` *sched_type*

Search for backups to verify that the specified schedule type created. The default is any schedule type.

Valid values are:

`FULL` (full backup)

`INCR` (differential-incremental backup)

`CINC` (cumulative-incremental backup)

`UBAK` (user backup)

`UARC` (user archive)

`NOT_ARCHIVE` (all backups except user archive)

`-stype` *server_type*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.
  - `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
  - `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case sensitive.

`-v`

Selects the verbose mode. When `-v` is specified, the debug logs and progress logs include more information. The default is not verbose.

DISPLAY FORMATS

Preview displays:

`bpverify` runs a preview by searching for backups and then by displaying them in one of the following ways (`bpverify` does not verify the backups):

- The `-p` display lists backup IDs that meet the criteria that the `bpverify` command-line options set. The `-p` information appears in volume order. For each volume that contains a selected backup, the media ID and server appear. The selected backup IDs that reside on that volume follow them.
- The `-pb` display is a brief version of the `-p` display. It lists the media ID and server for each volume that contains the backups that meet the selection criteria.

Verification displays:

`bpverify` creates these displays as it verifies images. If `bpverify` contains no option to set the list format, the display format is short. If the command line contains `-l`, the display format is long. If the command line contains both `-l` and `-L`, `bpverify` creates a file that contains the progress log.

The verification list appears in volume order in the following formats:

- In long format, `bpverify` displays the following information for each selected backup ID:
  - Policy, schedule, backup ID, media ID or path, and creation time
  - Files that are backed up
  - Any problems that `bpverify` detects while it verifies the image
  - Whether the image verification is successful or not
- In short format, `bpverify` does not list the files that were backed up.

EXAMPLES

Example 1 - Verify the backups that ran in the past 36 hours:

```
# bpverify -hoursago 36
      Verify started Thu Feb  3 11:30:29 2012
      INF - Verifying policy mkb_policy, schedule Full
  (plim_0949536546), path /tmp/mkbunit, created 02/02/12 18:09:06.
  INF - Verify of policy mkb_policy, schedule Full
  (plim_0949536546) was successful.
  INF - Status = successfully verified 1 of 1 images.
```

Example 2 - Compare the two preview displays, `-p` and `-pb`:

```
# bpverify -p -hoursago 2002
Media id = A00002  Server = plim
Bid = plim_0949616279  Kbytes = 32800  Filenum = 1   Fragment = 1
Bid = gava_0949681647  Kbytes = 12191  Filenum = 2   Fragment = 1
Bid = gava_0949683298  Kbytes = 161    Filenum = 3   Fragment = 1
Bid = gava_0949683671  Kbytes = 11417  Filenum = 4   Fragment = 1
Bid = gava_0949684009  Kbytes = 11611  Filenum = 5   Fragment = 1
Bid = gava_0949684276  Kbytes = 806    Filenum = 6   Fragment = 1
Bid = gava_0949688704  Kbytes = 9869   Filenum = 7   Fragment = 1
Bid = gava_0949688813  Kbytes = 9869   Filenum = 8   Fragment = 1
Bid = gava_0949949336  Kbytes = 10256  Filenum = 9   Fragment = 1
Bid = plim_0949949337  Kbytes = 6080   Filenum = 9   Fragment = 1
Bid = plim_0949949337  Kbytes = 4176   Filenum = 10  Fragment = 2
Bid = gava_0949949686  Kbytes = 10256  Filenum = 11  Fragment = 1
Bid = plim_0949949687  Kbytes = 5440   Filenum = 11  Fragment = 1
Bid = plim_0949949687  Kbytes = 4816   Filenum = 12  Fragment = 2

Media id = 400032  Server = plim
Bid = toaster2_0950199621 Kbytes = 298180 Filenum = 1 Fragment = 1
Bid = toaster2_0950199901 Kbytes = 298180 Filenum = 3 Fragment = 1

# bpverify -pb -hoursago 200
Media id = A00002  Server = plim
Media id = 400032  Server = plim
```

RETURN VALUES

An exit status of 0 means that the command ran successfully. Any exit status other than 0 means that an error occurred.

If the administrative log function is enabled, `bpverify` logs the exit status in the administrative daily log under the log directory:

UNIX systems:

```
/usr/openv/netbackup/logs/admin
```

Windows systems:

```
install_path\NetBackup\logs\admin
```

It has the following form:

```
bpverify: EXIT status = exit status
```

If an error occurred, a diagnostic precedes this message.

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/error/*
/usr/openv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\logs\admin\*
install_path\NetBackup\db\error\*
install_path\NetBackup\db\images\*
```

cat_convert

cat_convert – run NetBackup catalog format conversion utility

SYNOPSIS

cat_convert -a2b [-o] [-s] [-v] *source_file_directory* [*target_file_directory*]

cat_convert -dump [-short] [-noheader] [-nopath] [-nodata] [-srec *num*] [-erec *num*] [-sep *char*] *source_file*

cat_convert -check *source_file*

cat_convert -decompress *compressed_filetarget_file_directory*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

cat_convert converts NetBackup catalog .f files between version 3.4, 4.0v, or 4.5 ASCII format and 4.5 or later binary format. It automatically detects the source catalog file format and converts it to the other format.

The -dump option enables users to view the contents of the binary catalog image .f (dot-f) files. It echoes the contents of the .f file to stdout in a readable format. It also has helper options that limit the output to only certain records in the file or a subset of the output columns.

The -check option provides a consistency check on specified binary .f files.

The -decompress option allows you to decompress specified binary .f files that have been compressed using the .Z1 compression format. It also supports .Z format decompression on UNIX platforms.

If cat_convert detects inconsistencies, the utility generates up to four of the following reports that depend on the types of inconsistencies reported:

- Invalid Inode Report
  This report lists invalid inodes. The following is an example:

```
Type Problem Additional Information
Dir  No Data Path element name: SUNWmlib
Dir  No Name Filenum: 7
File No Data Path element name: vmd.uds
File No Data Path element name: bpcompatd.uds
File No Name Filenum: 8356
Dir  No Name Filenum: 8374
```

The following describes the column information in this report:

- Type - displays whether the item is a file or a directory.
- Problem - displays whether no data or no name is the cause of the invalid inode.
- Additional information - the path element name that is associated with the inode, the `filenum` field that the catalog received for the inode, or an error message.

- Invalid Directory Report
  This report lists inconsistent directories. The following is an example:

```
Index InodeIndex 1stChild 1stDir LastChild NextIndex NextDir Name
 2539      2230     5605F    -1      5605F   788763F     -1 JSP.cla
21281      2229    43380F    -1   1122108F   257809F  56110 fr.tmp
24157      3330    53103F    -1   2688747F       -1F     -1 UNKNOWN
36766      4406    98367F    -1     98367F       -1F     -1 Root
97393      5134   471040F    -1   3136322F       -1F     -1 udst.js

Total Directories: 150307
      Total Files: 1137006
```

The following describes the column information in this report:

- Index - the relative position of the directory that is reported to the catalog.
- Inode Index - an index into the temporary file in which inode information is stored while the backup is in process.
- 1st Child - the index to the first child (file or directory) under the listed directory. This value is -1 if there is no child. The character F follows the index if the first child is a file, or the character D follows the index if it is a directory.
- 1st Dir - the index to the first directory under the listed directory. This value is -1 if there is no subdirectory.
- Last Child - the index to the last child (file or directory) under the listed directory. This value is -1 if there is no child. The character F follows the

index if the last child is a file, or the character D follows the index if it is a directory.

- Next Index - the index to the next sibling (file or directory) of the listed file. This value is -1 if there is no sibling. The character F follows the index if the next sibling is a file, or the character D follows the index if it is a directory.
- Next Dir - the index to the next sibling directory of the listed directory. This value is -1 if no sibling directory exists.
- Name - the short name of the directory if available, or UNKNOWN if not available.

- Invalid File Report
  This report lists inconsistent files. The following is the format of the report:

```
Index   Inode Index  Next Index   Name
2364          12180        2368F  Report.doc
39774         16642       39776D  UNKNOWN
```

  The following describes the column information in this report:

  - Index - the relative position of the file as reported to the catalog.
  - Inode Index - an index into the temporary file in which inode information is stored while the backup is in process.
  - Next Index - the index to the next sibling (either a file or directory) of the listed file. This value is -1 if there is no sibling. The character F follows the index if the next sibling is a file, or the character D follows the index if it is a directory.
  - Name - the short name of the directory if available, or UNKNOWN if not available.

- Invalid Directory and File Report
  This report lists both inconsistent files and directories. The following is the format of the report:

```
Index   Inode    Type          Name
2363    11134    Directory     /Documents/Directory 1
13679   10077    Directory     /Documents/Directory 2
Total Directories: 460724
      Total Files: 3426572
```

  The following describes the column information in this report:

  - Index - the relative position of the file as reported to the catalog.
  - Inode - the inode number of the file or directory that is reported to the catalog.

- Type - displays whether the item is a file or a directory.
- Name - the short name of the directory if available, or UNKNOWN if not available.

Since this report traverses the directory tree, it may not list all of the files or directories that are reported in the first two reports. Since it provides the fully qualified name of the file or directory, it can be useful in problem resolution. It also provides the total number of files and directories.

These reports are not localized.

You must have administrator privileges to run this command.

OPTIONS

`-a2b`

Convert NetBackup 3.4, 4.0V, 4.5 ASCII format catalog `.f` file(s) to NetBackup 4.5 binary format `.f` file(s).

`-check` *`source_file`*

Checks the consistency of a binary .f file. *source_file* must be the fully qualified path. Inconsistencies may be due to faulty FlashBackup or NDMP type backups. If this utility detects no inconsistencies, it ends silently and returns a zero return code. If the utility detects any inconsistencies, it returns the number of inconsistencies and prints up to three reports depending on the types of inconsistencies reported.

`-decompress` *`compressed_filetarget_file_directory`*

Decompresses the specified compress binary .f file. *compressed_file* must be the fully qualified path. `-decompress` decompresses catalog files that have been compressed using the `.Zl` compression format. On UNIX, it also supports `.Z` format decompression. *target_directory* is the directory where the decompress operation places the decompressed file.

`-dump`

Enables you to view the contents of catalog image `.f` files.

`-erec` *`num`*

Modifies the output from the cat_convert `-dump`. Stops the display of records at this record number.

Note: The record number is not necessarily the same as the file number in the first column of the output.

`-nodata`

Eliminates the data column from the output of the cat_convert `-dump`. The data column can result in excessively large outputs.

`-noheader`

Modifies the output from cat_convert `-dump`. An option that modifies the output from the cat_convert `-dump`. Eliminates the column headers.

`-nopath`

Modifies the output from cat_convert `-dump`. Eliminates the path column. The path column can result in excessively large outputs.

`-o`

Overwrite original catalog file content with the new format that converts. -o cannot be used with *target_file_directory*.

`-s`

Show statistic information to the console window.

`-sep` *`char`*

An option that modifies the output from cat_convert `-dump`. An option that modifies the output from the cat_convert `-dump`. Use *char* to separate the columns instead of the white-space default separation. For example, you can use this command to generate a comma-separated output.

`-short`

An option that modifies the output from cat_convert `-dump`. Limits the output to a subset of the usual columns.

`-srec` *`num`*

An option that modifies the output from cat_convert `-dump`. An option that modifies the output from the cat_convert `-dump`. Starts to display the records at this record number.

Note: The record number is not necessarily the same as the file number in the first column of the output.

`target_file_directory`

`-v`

Show current progress information.

Specify one of the following to convert:

- To specify a target file, the source must be a file.
- To specify a target directory, the source must be a directory.

If the source is a directory, you must use `-a2b`.

The new files that the conversion creates convert to the specified format, and the original file names are used in the target directory.

If you do not specify the target file or directory when you convert source files, the files the conversion process creates have an appended suffix. (`_bin.f` or `_ascii.f`).

If the `catalog .f` file size is more than 4 megabytes, the binary catalog leaves output files separate. It puts them in the `catstore` directory.

EXAMPLES

Example 1

```
# cat_convert -a2b abc.f
```

If `abc.f` is in ASCII format, the *target_file_path* is `abc_bin.f`.

Example 2

```
# cat_convert -a2b abc.f
```

The contents of `abc.f` convert to binary.

Example 3

```
# cat_convert -dump -short abc.f
```

The contents of `abc.f` appear in `stdout` in a user-readable format.

SEE ALSO

See cat_export on page 486.

See cat_import on page 488.

cat_export

cat_export – export catalog image metadata from the NetBackup database (NBDB) to one or more flat ASCII image header files.

SYNOPSIS

cat_export -all | -client *name* | -backupid *backupid* | -mediahost *hostname* [-delete_source] [-replace_destination] [-export_dependents] [-export_no_dependents] [-base *directory_name*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The cat_export utility is used in specific scenarios to export image metadata from NBDB to flat ASCII image header files in a target directory. It organizes the data into a directory hierarchy based on the hierarchy that is used in the NetBackup database.

cat_export is normally used in conjunction with the cat_import command as part of a disaster recovery scenario or to relocate image metadata information from one repository to another. More information is available on NetBackup disaster recovery.

For more about Disaster Recovery, see the NetBackup Troubleshooting Guide.

By default, cat_export exports the image metadata that is specified with the -backupid option as well as the image metadata that is dependent on the specified backup images.

You must have administrator privileges to run this command.

OPTIONS

-all
: Exports the catalog image data of all the clients of the master server.

-base *directory_name*
: Changes the target directory of the catalog metadata from the default directory netbackup/db.export to the specified directory name.

`-backupid` *`backupid`*

Exports the catalog image data of the specified backup ID.

`-client` *`name`*

Exports the catalog image data of the specified client.

`-delete_source`

Deletes the original image metadata in NBDB.

`-export_dependents`

Used with the `-backupid` and `-client` options to export VMware image metadata that is dependent on the specified backup image.

`-export_no_dependents`

Used with the `-backupid`, `-client` and `-mediahost` options to export the specified image header but not any of the dependent image metadata.

`-mediahost` *`hostname`*

Exports the catalog image data that has at least one fragment on the specified media host. The *hostname* value can be a media server or a snapshot client.

`-replace_destination`

Forces the new flat files to overwrite any existing flat files in the target directory.

EXAMPLES

Example 1 - Export all image metadata for `alfred` into the `/catExport/images/alfred` directory:

```
# cat_export -base /catExport -client alfred
```

Example 2 - Export all NBDB image metadata to the `netbackup/db.export` directory:

```
# cat_export -all
```

SEE ALSO

See cat_convert on page 480.

See cat_import on page 488.

cat_import

`cat_import` – migrate catalog image metadata from flat ASCII image header files into the NetBackup database (NBDB)

SYNOPSIS

`cat_import` `-all | -client` *`name`* `| -backupid` *`backupid`* `[-delete_source] [-replace_destination] [-base` *`directory_name`*`]`

`On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/`

`On Windows systems, the directory path to this command is` *`install_path`*`\NetBackup\bin\`

DESCRIPTION

The `cat_import` utility migrates catalog image metadata from flat ASCII image header files into the NetBackup database (NBDB). You can use the `cat_import` command line to move all image metadata or a subset of metadata based on client (`-client`) or backup ID (`-backupid`).

The `cat_import` utility can also be used with the `cat_export` command in the following ways: as part of a disaster recovery scenario or to relocate image metadata information from one repository to another. More information is available on NetBackup disaster recovery.

For more about Disaster Recovery, see the NetBackup Troubleshooting Guide.

You must have administrator privileges to run this command.

OPTIONS

`-all`
: Imports the catalog image data of all the clients of the master server.

`-base` *`directory_name`*
: Changes the source directory of the image metadata from the default directory `netbackup/db.export` to the specified directory name.

`-backupid` *`backupid`*
: Imports the catalog image data of the specified backup ID.

`-client` *name*

Imports the catalog image data of the specified client.

`-delete_source`

Deletes the original image metadata from the source location.

`-replace_destination`

Forces the utility to overwrite any pre-existing image metadata in the destination location.

EXAMPLES

Example 1 - Import all image metadata from flat ASCII image header files:

```
# cat_import -all
```

Example 2 - Import only the image metadata that is related to client `hostname1` from associated flat ASCII image header files:

```
# cat_import -client hostname1
```

SEE ALSO

See cat_convert on page 480.

See cat_export on page 486.

configureCerts

`configureCerts` – configures all the required certificates for the web server and updates the Java Key Store (JKS) with the latest certificate in the trust store.

SYNOPSIS

configureCerts [-renew_webserver_keys]

configureCerts [-update_trust_store]

On UNIX systems, the directory path to this command is /usr/openv/wmc/bin/install/

On Windows systems, the directory path to this command is *install_path*\NetBackup\wmc\bin\install\

DESCRIPTION

The `configureCerts` command configures all the required certificates for the web server and updates the JKS with the latest certificate in the trust store. Additionally, the command is used to update the trust store of the web server configuration.

The command provides a way to regenerate the key-pairs for the web server that include:

- A key-pair for the web service user (the default web service user is `nbwebsvc`)
- A key-pair for the NetBackup Web Management Console (`nbwmc`)
- A key-pair for the web server services (that is a computer certificate)

After renewal of the key-pairs and their respective certificates, the command immediately updates the JKS file with the latest certificates that are available in trust store.

If the command is run without any option, it updates the JKS with the latest certificate that is available in the trust store.

On Windows systems, you must provide the password for the NetBackup Web Services account to successfully complete the key-pair renewal. To skip entering the password, set the `WEBSVC_PASSWORD` environment variable before you run the command. If you do not set this variable, the script prompts for the password three times:

- For the web service user (`nbwebsvc`)

- For the NetBackup Web Management Console (`nbwmc`)
- For the web server

Note: Be sure to stop the NetBackup Web Management Console service (`nbwmc`) before you renew the web server key-pairs.

The command logs to the `configureCerts_KeyPairRenewal.log` and `configureCerts.log` files at the location shown:

- UNIX: `/usr/openv/netbackup/wmc/webserver/logs`
- Windows: *`install_path`*`\NetBackup\wmc\webserver\logs`

OPTIONS

`-renew_webserver_keys`

Regenerates the key-pair and the respective certificates for the web server configuration.

`-update_trust_store`

Updates the trust store of the web server configuration. This option does not update the JKS or regenerate the key-pair of web server configuration.

configureMQ

configureMQ – configures the NetBackup Messaging Broker service.

SYNOPSIS

configureMQ [-defaultPorts] | [-externalPort *port1* -internalPorts *port2 port3 port4 port5*]

configureMQ -enableCluster

configureMQ -disableCluster

On UNIX systems, the directory path to this command is /usr/openv/mqbroker/bin/install/

On Windows systems, the directory path to this command is *install_path*\NetBackup\mqbroker\bin\install\

DESCRIPTION

Use this command to configure NetBackup Messaging Broker or nbmqbroker service. The service is required to initiate the connection between NAT clients and the NetBackup master server or the media server.

In a cluster configuration, you can run the configureMQ command only on the active node.

OPTIONS

-defaultPorts

Specifies the default internal and external communication ports for the NetBackup Messaging Broker service.

The default external port is 13781. The default internal ports are 13780, 13779, 13778, and 13777. Ensure that the default port numbers are available for use.

-disableCluster

Disables monitoring of the NetBackup Messaging Broker service in the cluster.

-enableCluster

Enables the cluster to monitor the NetBackup Messaging Broker service.

`-externalPorts` *port1* `-internalPorts` *port2 port3 port4 port5*

Specify external and internal communication ports for the NetBackup Messaging Broker service. Use these options if you want to specify the ports other than the default ports. Ensure that the port numbers that you specify are unique and available for use.

The external port must be accessible to other NetBackup hosts.

EXAMPLES

Example: Configure the NetBackup Messaging Broker service with the non-default ports.

```
configureMQ -externalPort 13832 -internalPorts 13833 13834 13835 13836
```

configureWebServerCerts

`configureWebServerCerts` – provides a way to enable the NetBackup domain to support NetBackup or external certificate authorities. Lets the user configure certificates for the NetBackup web server.

SYNOPSIS

configureWebServerCerts -addNBCert

configureWebServerCerts -removeNBCert [-force]

configureWebServerCerts -addExternalCert [-nbHost | -webUI | -all] {[-certPath *path_to_certificate_file*] [-privateKeyPath *path_to_certificate_key_file*] [-trustStorePath *path_to_CA_certificate_file*] [-passphrasePath *path_to_passphrase_file*]} [-crlCheckLevel DISABLE | LEAF | CHAIN] [-crlPath *directory_path_to_CRLs*] [-force]

configureWebServerCerts -addExternalCert [-nbHost | -webUI] [-copyNbHost | -copyWebUI]

configureWebServerCerts -enableTLSv1_3

configureWebServerCerts -disableTLSv1_3

configureWebServerCerts -getTLSVersion

configureWebServerCerts -removeExternalCert [-nbHost | -webUI | -all] [-force]

configureWebServerCerts -validateExternalCerts {[-certPath *path_to_certificate_file*] [-privateKeyPath *path_to_certificate_key_file*] [-trustStorePath*path_to_CA_certificate_file*] [-passphrasePath*path_to_passphrase_file*] [-crlCheckLevel DISABLE | LEAF | CHAIN] [-crlPath *directory_path_to_CRLs*] [-fmt DETAILS | FAILURES_ONLY]}

On UNIX systems, the directory path to this command is /usr/openv/wmc/bin/install/

On Windows systems, the directory path to this command is *install_path*\NetBackup\wmc\bin\install\

DESCRIPTION

The `configureWebServerCerts` command provides a way to configure external or NetBackup certificates for the NetBackup web server. A NetBackup web server instance uses the Java Keystore as the repository for security certificates.

You must have root or administrator rights on the master server to run this command.

If you are running this command for the first time, you need to restart the NetBackup Web Management Console service (`nbwmc`) after you run the command.

If the NetBackup Messaging Broker (`nbmqbroker`) service is enabled, then you must restart the service after you successfully run the `configureWebServerCerts` command.

The `-addExternalCert` and `-removeExternalCert` options are audited by default. Use the `-force` option to disable auditing.

NetBackup does not support Windows certificate store as a source for the NetBackup web server certificates.

This command does not apply to the NetBackup appliance.

OPTIONS

`-addExternalCert`

Configures an external certificate for the web server.

`-addNBCert`

Configures the NetBackup certificate authority signed certificate for the web server.

`-all`

Configures an external certificate for communication between NetBackup hosts as well as with the NetBackup web user interface.

`-certPath`

Specifies the path to the certificate file. This command does not support the use of Windows certificate store paths.

A certificate file must have a certificate chain with certificates in the correct order. The chain starts with the server certificate, also known as the leaf certificate, followed by zero or more intermediate certificates. The chain must contain all intermediate certificates up to the Root CA certificate but should not contain the Root CA certificate itself. The chain is created such that each certificate in the chain signs the previous certificate in the chain.

The certificate file should be in one of the following formats:

- PKCS #7 or P7B file that is either DER or PEM encoded that has certificates in the specified order.
- A file with the PEM certificates that are concatenated together in the specified order.

`-copyNbHost`

Specifies that web UI communication uses the same certificate that is used for host communication. This operation is not audited.

`-copyWebUI`

Specifies that host communication uses the same certificate that is used for web UI communication. This operation is not audited.

`-crlCheckLevel`

Specifies the revocation check level for external certificates of the host. You can specify the following values:

- `DISABLE`: Revocation check is disabled. Revocation status of the certificate is not validated against the CRL during host communication.
- `LEAF`: The revocation status of the leaf certificate is validated against the certificate revocation list (CRL). `LEAF` is the default value for this option.
- `CHAIN`: The revocation status of all certificates in the certificate chain are validated against the CRL.

`-crlPath`

Specifies the path to the directory where the certificate revocation lists (CRL) of the external CA are located. If you use the `force` option, the operation is not audited.

`-disableTLSv1_3`

Disables TLSv1.3 protocol for the NetBackup web server. You must restart the web management console (`nbwmc`) service for the changes to be reflected.

`-enableTLSv1_3`

Enables TLSv1.3 protocol for the NetBackup web server. You must restart the web management console (`nbwmc`) service for the changes to be reflected.

`-fmt DETAILS | FAILURES_ONLY`

Provides details of the validation checks that are run for the external certificate-specific configuration options. The `DETAILS` option provides a report of all successful and all failed validation checks. The `FAILURES_ONLY` option provides a report of only the failed checks.

`-force`

Use the `-force` option to forcefully remove NetBackup certificate or to add or remove external certificates forcefully without an audit. In the remove operation, the NetBackup Web Management Console service cannot start if there is no certificate configured for the web server.

`-getTLSVersion`

Retrieves information of the current TLS protocol version that is enabled on the NetBackup web server.

`-nbHost`

Configures an external certificate for communication between NetBackup hosts.

`-passphrasePath`

Specifies the path to the passphrase file that stores the passphrase, which is used to encrypt the private key.

`-privateKeyPath`

Specifies the path to the private key file of the certificate.

NetBackup supports PKCS #1 and PKCS #8 formatted private keys that are either plain text or encrypted. These may either be PEM or DER encoded. If, however, the key is PKCS #1 encrypted, it must be PEM encoded. For encrypted private keys, NetBackup supports the following encryption algorithms:

- DES, 3DES, and AES if the private key is in the PKCS #1 format.
- DES, 3DES, AES, RC2, and RC4 if the private key is in the PKCS #8 format.

`-removeExternalCert`

Removes the external certificate that you have configured for the web server for communication between NetBackup hosts, the NetBackup web user interface, or both, based on the option you have configured. Use this command with the `-nbHost`, `-webUI`, or `-all` options.

`-removeNBCert`

Removes the NetBackup certificate that you have configured for the web server for communication between NetBackup hosts as well as with the NetBackup web user interface.

`-trustStorePath`

Specifies the path to the certificate authority bundle file. The certificate authority bundle file should be in one of the following formats:

- PKCS #7 or P7B file having certificates of the trusted root certificate authorities that are bundled together. This file may be either PEM or DER encoded.

- A file containing the PEM encoded certificates of the trusted root certificate authorities that are concatenated together.

`-validateExternalCerts`

Verifies whether the external certificate-specific configurations that are provided are valid or not. It provides a report of successful and failed validation checks.

`-webUI`

Configures an external certificate for communication with the NetBackup web user interface.

EXAMPLES

Example 1: Configure an external certificate for the web server for NetBackup host communication and audit the operation.

```
configureWebServerCerts -addExternaCert -nbHost -certPath /root/
example_certs/device.crt -privateKeyPath /root/example_certs/
device.key -trustStorePath /root/example_certs/rootCA.pem
-passphrasePath root/example_certs/PassPhrase.txt
```

Example 2: Configure an external certificate for the web server for host communication using the certificate that you have configured for communication with web UI. The activity is not audited.

```
configureWebServerCerts -addExternalCert -webUI -copyNbHost
```

Example 3: Remove the external certificates that you have configured for all kinds of communication - web UI and NetBackup host and audit the operation.

```
configureWebServerCerts -removeExternalCert -all
```

Example 4: Configure an external certificate for the web server for NetBackup host communication. The action is not audited.

```
configureWebServerCerts -addExternaCert -nbHost -certPath /root
/example_certs/device.crt -privateKeyPath /root/example_certs/device.key
-trustStorePath /root/example_certs/rootCA.pem -passphrasePath root
/example_certs/PassPhrase.txt -force
```

Example 5: Remove the external certificates that you have configured for all kinds of communication - web UI and NetBackup host. The action is not audited.

```
configureWebServerCerts -removeExternalCert -all -force
```

create_nbdb

`create_nbdb` – create NBDB database manually

SYNOPSIS

create_nbdb [-drop [*current_data_directory*]] [-dba *new_password*] [-data *data_directory*] [-scripts *db_scripts_directory*] [-out *db_scripts_output_directory*] [-db_home *pathname*] [-staging *staging_directory*] [-force]

create_nbdb -upgrade [-scripts *db_scripts_directory*] [-out *db_scripts_output_directory*] [-db_server |-server *db_server_name*] [-db_home *pathname*]

create_nbdb -drop_only [*current_data_directory*] [-db_server |-server *db_server_name*] [-db_home *install_path*] [-force]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

This command is used to create the NetBackup database (NBDB) manually. This command can be used to drop the existing NBDB database, and to re-create it by using the non-default parameters that were used during installation. A user can perform the following actions:

- Change the default location of the data files.
- Create the catalog configuration file (`vxdbms.conf`) from the information in the `bp.conf` file.

OPTIONS

Without any options, the `create_nbdb` command verifies the version of an existing database and is used during upgrades. If a database does not exist, it creates it by using default parameters.

`-data` *`data_directory`*

Used to identify the directory of the main database files. If the pathname *data_directory* includes an embedded space, put the entire pathname in quotes. For example:

```
create_nbdb -data "Program Files\NetBackup\bin\data"
```

`-db_home` *`install_path`*

Specifies the location of the database directory. The default directory is `/usr/openv/db ..\Veritas\NetBackupDB`.

`-dba` *`new_password`*

A new, randomly generated password is set during NetBackup installation. Use this option to set the password for the NBDB and the BMRDB databases for all DBA and application accounts. To change only the password for NBDB and BMRDB, use `nbdb_admin -dba` *`new_password`*. The password needs to be an ASCII string. Non-ASCII characters are not allowed in the password string.

`-drop`

Drops the existing NBDB database and creates a fresh empty database.

`-drop_only`

Drops the existing NBDB database.

`-force`

Performs the operation without user interaction.

`-out` *`db_scripts_output_directory`*

Specifies the destination directory where `create_nbdb` sends the output results of running the upgrade scripts.

`-scripts` *`db_scripts_directory`*

Specifies the location of the database upgrade scripts.

`-server` *`db_server_name`*

Specifies the name of the database server.

`-staging` *`staging_directory`*

Specifies the location of the staging directory that is used during catalog backup and recovery.

`-upgrade`

Upgrades the NetBackup database (NBDB).

SEE ALSO

See nbdb_backup on page 619.

See nbdb_move on page 621.

See nbdb_ping on page 623.

See nbdb_restore on page 624.

See nbdb_unload on page 626.

csconfig cldinstance

`csconfig cldinstance` – the `cldinstance` option for the `csconfig` command sets and fetches the cloud instance configuration settings.

SYNOPSIS

Synopsis information for Amazon S3

csconfig cldinstance

[**-a** -in *instance_name* -pt *provider_type* -sh *service_host_name* [-se *service_endpoint_path*] [-access_style *access_style_type*] [-http_port *port_no*] [-https_port *port_no*]]

[**-ar** -in *instance_name* -lc *location_constraint* [,*location_constraint*,*location_constraint*] -rn *region_name* [,*region_name*,*region_name*] -sh service_host [,*service_host*,*service_host*]]

[**-as** -in *instance_name* -sts *storage_server_name* [-storage_class *storage_class*] [-obj_size *object_size*] [-ssl 0|1|2] [-crl 0|1] [-ntr 0|1] [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* [-pxuser_name *proxy_user_name*]]] [-lc *location_constraint*,*location_constraint*] [-creds_broker *creds_broker* -url *service_url* -mission *mission* -agency *agency* -role *role* -cert_file *cert_file_name* -key_file *private_key_file_name* [-key_pass *private_key_passphrase*]]]]

[**-at** *api_type*]

[**-i** [-pt *provider_type* | -at *api_type* | -in *instance_name*]]

[**-l** [-pt *provider_type* | -at *api_type*]

[**-r** -in *instance_name*]

[**-rr** -lc *location_constraint* [,*location_constraint*,*location_constraint*] -in *instance_name*]

[**-rs** -in *instance_name* -sts *storage_server_name*]

[**-u** -in *instance_name* [-sh *service_host_name*] [-se *service_endpoint_path*] [-http_port *port_no*] [-https_port *port_no*] [-access_style *access_style_type*]]

[**-ur** -in *instance_name* -lc *location_constraint*] -rn *region_name* -sh *service_host_name*

[**-us** -in *instance_name* -sts *storage_server_name* [-ssl *ssl_usage*] [-crl *crl_usage*] [-lc *location_constraint*,*location_constraint* [-auth_lc *authentication_location_constraint*] [-del_lc *location_constraint* [,*location_constraint*,*location_constraint*]] [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* [-pxuser_name *proxy_user_name*]]] [-url *service_url* -mission *mission1* -agency *agency1* -role *role1* -cert_file *cert_file_name1* -key_file *private_key_file_name1* [-key_pass *private_key_passphrase*]]]

[**-us** -in *instance_name* -sts *storage_server_name* [-ssl *ssl_usage*] [-crl *crl_usage*] [-ntr 0|1] [-lc *location_constraint*,*location_constraint* [-auth_lc *authentication_location_constraint*] [-del_lc *location_constraint* [,*location_constraint*,*location_constraint*]] [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* [-pxuser_name *proxy_user_name*]]] [-url *service_url* -mission *mission1* -agency *agency1* -role *role1* -cert_file *cert_file_name1* -key_file *private_key_file_name1* [-key_pass *private_key_passphrase*]]]

Synopsis information for Microsoft Azure

[**-as** -in *instance_name* -sts *storage_server_name* [-storage_tier *storage_tier*] [-ssl *0|1|2*] [-crl 0|1] [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* [-pxuser_name *proxy_user_name*]]]

[**-at***api_type*]

[**-i** [-pt *provider_type* | -at *api_type* | -in *instance_name*]]

[**-l** [-pt *provider_type* | -at *api_type*]

[**-rs** -in *instance_name* -sts *storage_server_name*]

[**-us** -in *instance_name* -sts *storage_server_name* [-ssl *ssl_usage*] [-crl *crl_usage*] [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* -pxuser_name *proxy_user_name*]]]

Synopsis information for Openstack Swift

[**-a** -in *instance_name* -pt *provider_type* [-auth_id *authentication_identifier*| [-auth_ver *authentication_version* -auth_url *authentication_url*]]]

[**-as** -in *instance_name* -sts *storage_server_name* [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* [-pxuser_name *proxy_user_name*]]] [-tenant_type *id* | *name* -tenant_value *tenant_value* -sr *storage_region_name*] [-user_type *id* | *name* -user_value *user_value* [,*user_value*,*user_value*] [-user_domain_type *id* | *name* -user_domain_value *user_domain_value*] -project_type *id* | *name* -project_value *project_value* [-project_domain_type *id* | *name* -project_domain_value *project_domain_value*] -sr *storage_region_name*]] [-crl 0|1]

[**-at***api_type*]

[**-i** [-pt *provider_type* | -at *api_type* | -in *instance_name*]]

[**-l** [-pt *provider_type* | -at *api_type*]

[**-lr** [-i] -in *instance_name* -user_name *user_name* -tenant_type *id* | *name* -tenant_value *tenant value* [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* [-pxuser_name *proxy_user_name*]]] [-user_type *id* | *name* -user_value *user_value* [-user_domain_type *id* | *name* -user_domain_value *user_domain_value*] -project_type *id* | *name* -project_value *project_value* [-project_domain_type *id* | *name* -project_domain_value *project_domain_value*]]]

[**-r** -in *instance_name*]

[**-rs** -in *instance_name* -sts *storage_server_name*]

[**-us** -in *instance_name* -sts *storage_server_name* [-ssl *ssl_usage*] [-crl *crl_usage*] [-pxtype *proxy_type* -pxhost *proxy_host* -pxport *proxy_port* [-pxtunnel *proxytunnel_usage*] [-pxauth_type *proxy_auth_type* -pxuser_name *proxy_user_name*]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `csconfig` command manages the Cloud Connect configuration settings from a remote or a local computer. The `cldinstance` option sets and fetches the cloud instance configuration settings.

Using this option, you can add, update, or delete only customized cloud instances and storage servers.

OPTIONS

Parameters for option -a

Use this option to add a new cloud instance.

`-access_style` *access_style_type*

Use this option to provide the endpoint access style for the cloud service provider.

Only Amazon S3 supports this option.

Valid values for `-access_style_type` are as follows:

- `1` - Virtual Hosted Style
- `2` - Path Style
  The default value for `access_style_type` is `2`.

`-auth_id` *authentication_identifier*

Use this option to provide the identifier for the authentication URL.

Only OpenStack Swift supports this option.

`-auth_url` *authentication_url*

Use this option to provide the authentication URL provided by your cloud vendor. The authentication URL is composed of either HTTP or HTTPS and a port number.

Only OpenStack Swift supports this option.

`-auth_ver` *authentication_version*

Use this option to provide the authentication version that you want to use.

Only OpenStack Swift supports this option.

`-http_port` *port_no*

Use this option to provide the HTTP port with which you can access the cloud provider service in a non-secure mode.

Only Amazon S3 supports this option.

`-https_port` *port_no*

Use this option to provide the HTTPS port with which you can access the cloud provider service in a secure mode.

Only Amazon S3 supports this option.

`-in` *instance_name*

Use this option to provide the cloud instance name.

`-pt` *provider_type*

Use this option to provide the cloud provider type.

When you use this option to add an OpenStack Swift cloud instance, you must first determine if the **Authentication Identifier**, the **Authentication Version**, and the **Authentication URL** are available within NetBackup. You can list this information with the command shown:

```
csconfig cldprovider -i -pt provider_type
```

Add the cloud instance with one of the commands shown:

- If your **Provider Type** lists an **Authentication Version** and an **Authentication URL** under **Location Name**, you can use the **Authentication Identifier** in this command:

  ```
  csconfig cldinstance -a -in instance_name -pt provider_type
  -auth_id authentication_identifier
  ```

- If there is no **Location Name** section under your **Provider Type**, you must use the cloud vendor provided information. Use the cloud vendor provided **Authentication Version** value and find the corresponding value under the **Credentials Broker Supported** section. Use this value and the **Authentication URL** provided by your cloud vendor in the command shown:

  ```
  csconfig cldinstance -a -in instance_name -pt provider_type
  -auth_ver authentication_version -auth_url authentication_url
  ```

`-se` *service_endpoint_path*

Use this option to provide the cloud service provider endpoint.

For example, in case your cloud provider service can be accessed using the https://service.my-cloud.com/services/objectstore URL, the cloud service endpoint value is **/services/objectstorage**.

You can leave the value blank, if the cloud provider service can be accessed directly from the https://service.my-cloud.com URL.

Only Amazon S3 supports this option.

`-sh` *service_host_name*

Use this option to provide the cloud service provider host name.

If you want to add a public cloud instance, you need to get the service host details from the cloud storage provider.

If you want to add a cloud storage instance for a private cloud deployment, use the host name that is specified in the URL using which you can access your cloud provider. For example, if the URL is https://service.my-cloud.com/services/objectstore, the host name is **service.my-cloud.com**.

Do not prefix the service host name with HTTP or HTTPS.

Only Amazon S3 supports this option.

Parameters for option -ar

Only Amazon S3 supports this option.

Use this option to add a region for a specific cloud instance. When you add a region, access is restricted to the specified region.

`-in` *instance_name*

Use this option to provide the cloud instance name.

`-lc` *location_constraint*

Use this option to provide the location identifier that the cloud provider service uses to access the buckets of the associated region. For a public cloud storage, you need to get the location constraint details from the cloud provider.

`-rn` *region_name*

Use this option to provide a logical name to identify a specific region where the cloud storage is deployed.

`-sh` *service_host*

Use this option to provide the service host name for the region.

Parameters for option -as

Use this option to add a cloud storage server for the cloud instance.

`-agency` *agency*

Use this option to specify the agency name the cloud provider supplied.

Only Amazon S3 supports this option with AmazonGov Cloud.

`-cert_file` *cert_file_name*

Use this option to provide the certificate file name.

The files that are mentioned in the parameters should exist on the master server at the following location:

- On Windows: *install_path*`\netbackup\db\cloud`
- On UNIX: *install_path*`/netbackup/db/cloud`

Only Amazon S3 supports this option with AmazonGov Cloud.

`-creds_broker` *creds_broker*

Use this option to provide the credential broker details. The `creds_broker` parameter is optional.

When you do not specify the `creds_broker` parameter, *`CREDS_PROMPT`* is used by default and you do not need to specify the parameters following `creds_broker` in the given syntax.

If you want to use access key credentials, use *`CREDS_PROMPT`*. The Amazon S3 connector directly communicates with the S3 service host using the access keys.

If you want to use the CAP service as your credentials broker, use *`CREDS_CAP`*.

Only the AmazonGov Cloud supports the *`CREDS_CAP`* option.

If you want to use AWS IAM Role use *`CREDS_ROLE`*. Only Amazon S3 and AmazonGov Cloud support the *`CREDS_ROLE`* option.

If you want to use AWS IAM Role Anywhere use the *`CREDS_IAM_ROLE_ANYWHERE`* value. Only the Amazon S3 and the AmazonGov Cloud support the *`CREDS_IAM_ROLE_ANYWHERE`* value.

If you want to use the Azure Service Principal use the *`CREDS_SERVICE_PRINCIPAL`* value. Only Azure and AzureGov Cloud support the *`CREDS_SERVICE_PRINCIPAL`* value.

The valid values for `creds_broker` are:

- CREDS_PROMPT (default value).
- CREDS_CAP
- CREDS_ROLE
- CREDS_IAM_ROLE_ANYWHERE
- CREDS_SERVICE_PRINCIPAL

`-crl`

Use this option to verify if the SSL certificate must be checked for revocation before communication is established between NetBackup and cloud storage provider. This option can be enabled only if the SSL option is enabled. All cloud providers that use CA signed SSL certificates support this option. Valid values are:

- `0` - Disables certificate revocation check
- `1` - Enable certificate revocation check

`-in` *instance_name*

Use this option to provide the cloud instance name.

`-key_file` *private_key_file_name*

Use this option to specify the private key file name the cloud provider supplied.

The files that are mentioned in the parameters should exist on the master server at the following location:

- On Windows: *install_path*`\netbackup\var\global\wmc\cloud`
- On UNIX: *install_path*`/var/global/wmc/cloud`

Only Amazon S3 supports this option with AmazonGov Cloud.

`-key_pass` *private_key_passphrase*

Use this option to specify the private key pass phrase the cloud provider supplied. It must be 100 or fewer characters.

Only Amazon S3 supports this option with AmazonGov Cloud.

`-lc` *location_constraint*

Use the `-lc` *location_constraint* parameter for adding a region to a storage server. You can configure multiple regions with one storage server.

Only Amazon S3 supports this option.

Considerations for the `-lc` *location_constraint* parameter

- NetBackup uses with the first region (authentication location) you have specified as location constraint to:
  - Verify the credentials.
  - Get the information of all the buckets.
- Ensure that the associated cloud instance supports the region.
- Use an empty set of double quotation marks ("") to provide a blank value.

`-mission` *mission*

Use this option to specify the mission name the cloud provider supplied.

Only Amazon S3 supports this option with AmazonGov Cloud.

`-ntr 0|1`

Use the need token renew option to specify if the cloud alias supports token renew. When the option is enabled, the cloud credentials are not long term or static. Instead, NetBackup uses a mechanism to obtain a short-lived token to communicate with the cloud.

This option is specific to Veritas Alta Recovery Vault. The need token renew value is enabled (1) by default for any newly created cloud aliases. The value is disabled (0) for the aliases that are created on back-level media servers.

`-obj_size` *`object_size`*

During the creation of a cloud storage server, you can specify a custom value for the *`object_size`*. Considerations for this value include the cloud storage provider, hardware, infrastructure, expected performance, and other factors.

Once you set the *`object_size`* for a cloud storage server, you cannot change the value. If you want to set a different *`object_size`*, you must recreate the cloud storage server.

`-project_domain_type` *`id | name`*

Use this option to specify if you want to use either the project's domain ID or domain name that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

`-project_domain_value` *`-project_domain_type_value`*

Use this option to provide either the project's domain ID or domain name value that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

`-project_type` *`id | name`*

Use this option to specify if you want to use the project ID or project name that is associated with your cloud storage credentials. When you provide the project ID, project name and domain information is not required.

Only OpenStack Swift supports this option.

`-project_value` *`project_value`*

Use this option to provide the project ID or project name value that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

`-pxauth_type` *`proxy_auth_type`*

Use this option to provide the authentication type that must be used for proxy type HTTP.

Valid values are as follows:

- `NONE` (Disables authentication)
- `BASIC`
- `NTLM`

`-pxhost` *proxy_host*

Use this option to provide the host name and IP address of the proxy server.

`-pxport` *proxy_port*

Use this option to provide the port number of the proxy server.

`-pxtunnel` *proxy_tunnel_usage*

Use this option to specify if you want to use proxy tunneling.

Valid values are as follows:

- `0`: Disable
- `1`: Enable (Default)

Proxy tunneling is supported only for proxy type HTTP.

`-pxtype` *proxy_type*

Use this option to provide the proxy type of the proxy server.

Valid values are as follows:

- `HTTP`
- `SOCKS`
- `SOCKS4`
- `SOCKS4A`
- `SOCKS5`
- `NONE` (Disables the proxy type)

`-pxuser_name` *proxy_user_name*

Use this option to provide the user name of the proxy server.

`-role` *role*

Use this option to provide the role.

Only Amazon S3 supports this option.

`-sr` *storage_region_name*

Use this option to provide the cloud storage region. You may use the cloud storage region that is geographically closest to the NetBackup media server that sends the backups to the cloud. You must use the value which was derived using `-lr` option.

Only OpenStack Swift supports this option.

`-ssl` *-ssl 0, -ssl 1, -ssl 2*

Use this option to specify the SSL (Secure Sockets Layer) protocol for user authentication or data transfer between NetBackup and cloud storage provider.

Only Amazon S3 supports this option.

Valid values are as follows:

- `0` - Disable SSL
- `1` - SSL for Authentication Only
- `2` - SSL for data transfer and authentication (Default)

`-storage_tier` *`storage_tier`*

Use this option to provide the storage tier for Microsoft Azure. Valid values are:

- `ACCOUNT_ACCESS_TIER` (Default)
- `ARCHIVE`

`-sts` *`storage_server_name`*

Use this option to provide the storage server name.

`-tenant_type` *`id`* | *`name`*

Use this option to specify if you want to use either the tenant ID or tenant name that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

`-tenant_value` *`tenant_value`*

Use this option to provide the tenant ID or tenant name value that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

`-url` *`service_url`*

Use this option to provide the service URL.

The format of the service URL is `https://hostname[:`*`port`*`][/`*`path`*`]`.

Only Amazon S3 supports this option.

`-user_domain_type` *`id`* | *`name`*

Use this option to specify if you want to use either the user's domain ID or domain name that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

`-user_domain_value` *`user_domain_value`*

Use this option to provide either the user's domain ID or domain name value that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

`-user_type` *id | name*

Use this option to specify if you want to use either the user ID or the user name that is associated with your cloud storage credentials. When you provide user ID, user name and domain information is not required.

Only OpenStack Swift supports this option.

`-user_type_value` *user_type_value*

Use this option to provide either the user ID or the user name value that is associated with your cloud storage credentials.

Only OpenStack Swift supports this option.

Parameters for option -i

Use this option to fetch the details of all cloud instances.

`-at` *api_type*

Use this option to fetch the details of cloud instances for the specified cloud storage API type.

Valid values are:

- `s3`
- `azure`
- `swift`

`-in` *instance_name*

Use this option to provide the cloud instance name.

`-pt` *provider_type*

Use this option to fetch the details of cloud instances for the specified cloud provider.

Parameters for option -l

Use this option to fetch the list of all cloud storage (or cloud instances) that are configured inNetBackup.

`-at` *api_type*

Use this option to fetch the details of cloud instances for the specified cloud storage API type.

Valid values are:

- `s3`
- `azure`
- `swift`

`-pt provider_type`

Use this option to fetch the list of the cloud instances specific to a cloud provider.

Parameters for option -lr

Use this option to fetch a list of available storage regions.

This option is supported only for OpenStack Swift using authentication version Identity V2 and V3.

`-in instance_name`

Use this option to provide the cloud instance name.

`-project_domain_type id | name`

Use this option to specify if you want to use either the project's domain ID or domain name that is associated with your cloud storage credentials.

`project_domain_value project_domain_value`

Use this option to provide either the project's domain ID or domain name value that is associated with your cloud storage credentials.

`-project_type id | name`

Use this option to specify if you want to use either the project ID or project name that is associated with your cloud storage credentials.

When you provide project ID, project name and domain information is not required.

`-project_value project_value`

Use this option to provide the project ID or project name value that is associated with your cloud storage credentials.

`-pxauth_type proxy_auth_type`

Use this option to provide the authentication type that must be used for proxy type HTTP.

Valid values are as follows:

- `NONE` (Disables authentication)
- `BASIC`
- `NTLM`

`-pxhost proxy_host`

Use this option to provide the host name or IP address of the proxy server.

`-pxport proxy_port`

Use this option to provide port number of the proxy server.

`-pxtunnel` *proxy_tunnel_usage*

Use this option to specify if you want to use proxy tunneling.

Valid values are as follows:

- `0`: Disable
- `1`: Enable (Default)

Proxy tunneling is supported only for proxy type HTTP.

`-pxtype` *proxy_type*

Use this option to provide the proxy type of the proxy server.

Valid values are as follows:

- `HTTP`
- `SOCKS`
- `SOCKS4`
- `SOCKS4A`
- `SOCKS5`
- NONE (Disables the proxy type)

`-pxuser_name` *proxy_user_name*

Use this option to provide user name of the proxy server.

`-tenant_type` *id* | *name*

Use this option to provide the tenant ID or tenant name that is associated with your cloud storage credentials.

`-tenant_value` *tenant_value*

Use this option to provide the tenant ID or tenant name value that is associated with your cloud storage credentials.

`-user_domain_type` *id* | *name*

Use this option to specify if you want to use either the user's domain ID or domain name that is associated with your cloud storage credentials.

`-user_domain_value` *user_domain_value*

Use this option to provide either the user's domain ID or domain name value that is associated with your cloud storage credentials.

`-user_name` *user_name*

Use this option to provide the cloud storage user name.

`-user_type` *id | name*

Use this option to specify if you want to use either the user ID or the user name that is associated with your cloud storage credentials.

When you provide user ID, user name and domain information is not required.

`-user_type_value` *user_type_value*

Use this option to provide either the user ID or the user name value that is associated with your cloud storage credentials.

Parameters for option -r

Use this option to remove a cloud instance.

`-in` *instance_name*

Use this option to provide the cloud instance name.

Parameters for option -rr

Use this option to remove a region association for a specific cloud instance.

Only Amazon S3 supports this option.

`-in` *instance_name*

Use this option to provide the cloud instance name.

`-lc` *location_constraint*

Use this option to provide the location identifier that the cloud provider service uses to access the buckets of the associated region.

For a public cloud storage, you need to get the location constraint details from the cloud provider.

Parameters for option -rs

Use this option to remove the cloud storage server for specified cloud instance.

`-in` *instance_name*

Use this option to provide the cloud instance name.

`-sts` *storage_server_name*

Use this option to provide the storage server name.

Parameters for option -u

Use this option to update an existing cloud instance.

Only Amazon S3 supports this option.

`-access_style` *access_style_type*

Use this option to provide the endpoint access style for the cloud service provider.

Valid values for `-access_style_type` are as follows:

- `1` - Virtual Hosted Style
- `2` - Path Style

  The default value for `access_style_type` is `2`.

`-http_port` *`port_no`*

Use this option to provide the HTTP port with which you can access the cloud provider service in a non-secure mode.

`-https_port` *`port_no`*

Use this option to provide the HTTPS port with which you can access the cloud provider service in a secure mode.

`-in` *`instance_name`*

Use this option to provide the cloud instance name.

`-se` *`service_endpoint_path`*

Use this option to provide the cloud service provider endpoint.

`-sh` *`service_host_name`*

Use this option to provide the cloud service provider host name.

Parameters for option -ur

Use this option to update a region for a specific cloud instance.

Only Amazon S3 supports this option.

`-in` *`instance_name`*

Use this option to provide the cloud instance name.

`-lc` *`location_constraint`*

Use this option to provide the location identifier that the cloud provider service uses for any data transfer operations in the associated region. For a public cloud storage, you need to get the location constraint details from the cloud provider.

`-rn` *`region_name`*

Use this option to provide the cloud storage region.

`-sh` *`service_host`*

Use this option to provide the cloud service provider host name.

Parameters for option -us

Use this option to update the storage server for the specified cloud instance.

`-agency` *`agency`*

Use this option to specify the agency name the cloud provider supplied.

Only Amazon S3 supports this option with AmazonGov Cloud.

`-auth_lc` *`authentication_location_constraint`*

Use this option to provide the authentication location constraint to update the cloud storage server's authentication location.

Only Amazon S3 supports this option.

`-cert_file` *`cert_file_name`*

Use this option to provide the certificate file name.

The files that are mentioned in the parameters should exist on the master server at the following location:

- On Windows: *`install_path`*`\netbackup\var\global\wmc\cloud`
- On UNIX: *`install_path`*`/var/global/wmc/cloud`

Only Amazon S3 supports this option with AmazonGov Cloud.

`-del_lc` *`location_constraint`*

Use this option to provide the location constraint to delete a region from the storage server.

Only Amazon S3 supports this option.

`-in` *`instance_name`*

Use this option to provide the cloud instance name.

`-key_file` *`private_key_file_name`*

Use this option to specify the private key file name the cloud provider supplied.

The files that are mentioned in the parameters should exist on the master server at the following location:

- On Windows: *`install_path`*`\netbackup\var\global\wmc\cloud`
- On UNIX: *`install_path`*`/var/global/wmc/cloud`

Only Amazon S3 supports this option with AmazonGov Cloud.

`-key_pass` *`private_key_passphrase`*

Use this option to specify the private key file name the cloud provider supplied. It must be 100 or fewer characters.

Only Amazon S3 supports this option with AmazonGov Cloud.

`-lc` *`location_constraint`*

Use this option to provide the location constraint to update the storage server to add a new region.

Only Amazon S3 supports this option.

`-mission` *`mission1`*

Use this option to specify the mission name the cloud provider supplied.

Only Amazon S3 supports this option with AmazonGov Cloud.

`-pxauth_type` *proxy_auth_type*

Use this option to provide the authentication type that must be used for proxy type HTTP.

Valid values are as follows:

- `NONE` (Disables authentication)
- `BASIC`
- `NTLM`

`-pxhost` *proxy_host*

Use this option to provide the host name or IP address of the proxy server.

`-pxport` *proxy_port*

Use this option to provide the port number of the proxy server.

`-pxuser_name` *proxy_user_name*

Use this option to provide the proxy server user name.

`-pxtype` *proxy_type*

Use this option to provide the proxy type of the proxy server.

Valid values are as follows:

- `HTTP`
- `SOCKS`
- `SOCKS4`
- `SOCKS4A`
- `SOCKS5`
- `NONE` (Disables the proxy type)

`-pxtunnel` *proxytunnel_usage*

Use this option to specify if you want to use proxy tunneling.

Valid values are as follows:

- `0`: Disable
- `1`: Enable (Default)

Proxy tunneling is supported only for proxy type HTTP.

`-role` *role*

Use this option to provide the role.

Only Amazon S3 supports this option with AmazonGov Cloud.

-url *service_url*

Use this option to provide the service url.

The format of the service URL is https://hostname[:port][/path].

Only Amazon S3 supports this option.

EXAMPLES

Example 1: Add cloud instance of type Hitachi with custom ports for HTTP and HTTPS.

```
csconfig cldinstance -a -in my-hitachi.com -pt hitachi
-sh my-hitachi.com -http_port 80 -https_port 443 -access_style 2
```

Example 2: Update cloud instance my-hitachi.com of type Hitachi with new Service Host (s3.finance-hitachi.com).

```
csconfig cldinstance -u -in my-hitachi.com -sh s3.finance-hitachi.com
-se s3.hitachi.com -http_port 80 -https_port 443 -access_style 2
```

Example 3: Add storage server for Amazon S3 with proxy type HTTP and authentication type as basic and proxy tunneling disabled.

```
csconfig cldinstance -as -in my-hitachi.com -sts abc-hitachi.com
-pxtype HTTP -pxhost Hostname.DomainName.com -pxport 527
-pxauth_type BASIC -pxtunnel 1 -pxuser_name test
-lc us-east-1,us-west-2
```

Note: This command prompts for the password.

Example 4: Add storage server for an existing AmazonGov Cloud instance with Credentials Broker supported.

```
csconfig cldinstance -as -in my-amzgov.com -sts abc-amzgov.com
-creds_broker CREDS_CAP -url https://my.host.com:8080/service-path
-mission dummy_mission -agency dummy_agency -role dummy_role
-cert_file dummy_file -key_file dummy_key_file
-key_pass dummy_passphrase
```

Example 5: Update storage servers for existing AmazonGov Commercial Cloud Services instance with Credentials Broker supported.

```
csconfig cldinstance -us -in my-amzgov.com -sts abc-amzgov.com
-url https://my.host.com:8080/service-path -mission dummy_mission
```

```
-agency dummy_agency -role dummy_role -cert_file dummy_file
-key_file dummy_key_file key_pass dummy_passphrase
```

Note: You can update one or many parameters of a storage server at the same time.

Example 6: Add OpenStack Swift cloud instance for authentication version Identity V2.

```
csconfig cldinstance -a -in my-swiftstack.com -pt swstksw
-auth_ver IDENTITY_V2 -auth_url
https://lon.identity.api.swiftstack.com/v2.0/tokens
```

Example 7: List the storage regions for an OpenStack Swift-compliant cloud provider. This command is applicable only for authentication version Identity V2.

```
csconfig cldinstance -lr -in my-swiftstack.com -user_name John
-tenant_type id -tenant_value 1234
```

Example 8: Add storage server for an existing OpenStack Swift instance.

```
csconfig cldinstance -as -in my-swiftstack.com -sts abc-swiftstack.com
-tenant_type id -tenant_value 1234 -sr RegionUS
```

Example 9: Add storage server for an existing cloud instance for a OpenStack Swift-compliant cloud using the user ID and project name. When you provide the User ID, Domain Type and Value parameters are not required. This command is applicable only for authentication version Identity V3.

```
csconfig cldinstance -as -in swiftstack_v3 -sts swiftstack
-user_type id -user_value user_id123 -project_type name
-project_value project_name123 -project_domain_type id
-project_domain_value domain_id123 -sr region_name
```

Example 10: Add storage server for an existing cloud instance for a OpenStack Swift-compliant cloud using the user name and project ID. When you provide Project ID, Domain Type and Value parameters are not required. This command is applicable only for authentication version Identity V3.

```
csconfig cldinstance -as -in swiftstack_v3 -sts swiftstack
-user_type name -user_value user_name123 -user_domain_type name
-user_domain_value domain_name123 -project_type id
-project_value project_id123 -sr region_name
```

Example 11: List the storage regions of an existing cloud instance (Identity V3) for a OpenStack Swift-compliant cloud using the user ID and project name.

```
csconfig cldinstance -lr -in swiftstack_v3
-user_type id -user_value user_id123
-project_type name -project_value project_name123
-project_domain_type id -project_domain_value domain_id123
```

Example 12. List the storage regions of an existing cloud instance (Identity V3) for a OpenStack Swift-compliant cloud using the user name and project ID.

```
csconfig cldinstance -lr -in swiftstack_v3
-user_type name -user_value user_name123
-user_domain_type name -user_domain_value domain_name123
-project_type id -project_value project_id123
```

Example 13: Add storage server for existing cloud instance with location constraint.

```
csconfig cldinstance -as -in amazon.com  -sts myamz-us.com
-lc us-east-1,us-west-2
```

Example 14: Add region for a cloud instance.

```
csconfig cldinstance -ar -in myamazon.com -lc us-west-1
-rn "US West (N. California)" -sh s3-us-west 1.amazonaws.com
```

SEE ALSO

See csconfig cldprovider on page 523.

See csconfig meter on page 525.

See csconfig throttle on page 528.

See csconfig reinitialize on page 527.

csconfig cldprovider

`csconfig cldprovider` – the `cldprovider` option for the `csconfig` command fetches the cloud provider configuration settings.

SYNOPSIS

csconfig cldprovider [-i [-pt [provider_type] | -at *api_type*]][-l [-at *api_type*]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `csconfig` command manages the Cloud Connect configuration settings from a remote or a local computer. The `cldprovider` option fetches the cloud provider configuration settings.

Note: You cannot provide multi-byte or localized format values for any of the `csconfig` command `cldprovider` options.

OPTIONS

`-at` *api_type*

This option fetches the list of cloud providers of the specified API type.

Accepted values are `s3`, `azure`, and `swift`

For a complete list of supported cloud providers, refer to the *Cloud – Supported Technology Methods* section of the hardware compatibility list for your version of NetBackup. http://www.netbackup.com/compatibility

`-i`

Use this option to get the details of all the cloud providers that NetBackup supports.

`-l`

This option gets the list of the cloud providers that NetBackup supports.

`-pt` *provider_type*

Use this option to fetch the details of the specified cloud provider.

Accepted values are `amazon`, `azure`, and `swstksw`.

EXAMPLES

Example 1: Get the list of all cloud providers.

```
csconfig cldprovider -l
```

Example 2: Get the list of all cloud providers of a specific storage API type.

```
csconfig cldprovider -l -at s3
```

Example 3: Get the details of all cloud providers.

```
csconfig cldprovider -i
```

Example 4: Get the details of a specific cloud provider.

```
csconfig cldprovider -i -pt amazon
```

SEE ALSO

See csconfig cldinstance on page 502.

See csconfig meter on page 525.

See csconfig reinitialize on page 527.

See csconfig throttle on page 528.

csconfig meter

`csconfig meter` – the `meter` option for the `csconfig` command sets and fetches the metering configuration details from the storage server.

SYNOPSIS

csconfig meter [-cshost *server_name*][-directory *location*][-force][-interval *time*][-setdefaults]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `csconfig` command manages the Cloud Connect configuration settings from a remote or a local computer. The `meter` option fetches and sets the metering configuration details from the storage server.

Note: You cannot provide multi-byte or localized format values for any of the `csconfig` command `meter` options.

OPTIONS

`-cshost` *server_name* `-n`

This option connects a remote computer to a Cloud Connect service.

`-directory` *location*

The directory location for storing the metering data.

`-force | -f`

This option forces the default values for the meter parameters. Used with `-def`.

`-interval |-i` *time*

The metering time interval in seconds. Valid value range is 0 to 86400.

`-setdefaults | -def`

Use this option to reset all metering parameters to the default value.

EXAMPLES

Example 1: Get the metering configuration details.

```
csconfig meter
Metering Configuration Details:
        Metering Interval = 300 Sec
        Data Directory    = /usr/openv/var/global/wmc/cloud
```

Example 2: Set the metering parameters, time interval = 500 sec and metering data storage location = /tmp/metered_data (UNIX path).

```
csconfig meter -interval 500 -directory /tmp/metered_data
```

SEE ALSO

See csconfig cldinstance on page 502.

See csconfig cldprovider on page 523.

See csconfig reinitialize on page 527.

See csconfig throttle on page 528.

csconfig reinitialize

`csconfig reinitialize` – reinitializes the CloudStore service container components in the NetBackup Web Management Console (`nbwmc`) web service.

SYNOPSIS

csconfig reinitialize

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `csconfig reinitialize` command lets you reinitialize the CloudStore Service container components in the `nbwmc` web service. When you use this option, the `nbwmc` service reloads the configuration settings from the `Cloudstore.conf`, `CloudProvider.xml`, and `CloudInstance.xml` files. You can run this command locally on the NetBackup master or media server or remotely by connecting to the server using SSH.

For changes to the cloud configuration settings to take effect, you must restart either the NetBackup CloudStore Service Container (`nbcssc`) or the NetBackup Web Management Console (`nbwmc`) service. This requirement depends on the version of NetBackup. A service restart might fail if there are any configuration errors. One example of a configuration error is the`CloudProvider.xml` file is invalid. Failure to restart a service can lead to a stoppage in the NetBackup operations.

This command option is provided to avoid a service restart. When you make updates to the cloud configuration settings, run this command for the `nbwmc` service to load the updated configuration. A restart of the `nbwmc` service is unnecessary.

SEE ALSO

See csconfig cldinstance on page 502.

See csconfig cldprovider on page 523.

See csconfig meter on page 525.

See csconfig throttle on page 528.

csconfig throttle

`csconfig throttle` – the `throttle` option for the `csconfig` command sets and fetches the throttling configuration details from the Cloud Connect server.

SYNOPSIS

csconfig throttle [-availablebw *available_bandwidth*][-cshost *server_name*][-force][-interval *time*][-maxconn *max_connections*][-offtime *start_time*,*end_time*,*bandwidth_percentage*][-providermaxconn *max_connections*][-readbw *read_bandwidth_percentage*][-setdefaults][-sserver *storage_server_name*][-stype *storage_server_type*][-weekend *start_day*,*end_day*,*bandwidth_percentage*][-worktime *start_time*,*end_day*,*bandwidth_percentage*][-writebw *write bandwidth_percentage*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `csconfig` command manages the Cloud Connect configuration settings from a remote or a local computer. The `throttle` option sets and fetches the throttling configuration details from the Cloud Connect server.

Note: You cannot provide multi-byte or localized format values for any of the `csconfig` command's `throttle` options.

OPTIONS

-availablebw *available_bandwidth* | -abw

Use this option to specify the amount of bandwidth NetBackup can use for cloud-related activities.

Valid values are positive integers followed by KB or MB (e.g., 200MB). If no units are specified, the value is in bytes.

`-cshost` *`server_name`* `|` `-n`

Use this option to connect a remote machine to a Cloud Connect service.

`-force | -f`

Use this option to force the default values for the throttle parameters.

`-interval` *`time`* `| -i`

Use this option to specify the sampling throttle time interval in seconds. The valid value range is 0-86400.

`-maxconn` *`max_connections`* `|-mxc`

This option is the default maximum number of connections for each cloud provider.

`-offtime` *`start_time,end_time,bandwidth_percentage`* `| -oft`

Use this option to specify the time interval that is considered off time for the cloud connection.

Specify a start time and end time in 24-hour format. For example, 2:00 P.M. is 14:00.

You can indicate how much bandwidth the cloud connection can use in percentage.

The bandwidth percentage value range is 0-100. You can only specify whole numbers for the bandwidth percentage.

`-providermaxconn` *`max_connections`* `| -pmc`

Use this option to specify the maximum number of connections for a specific provider.

`-readbw` *`read_bandwidth_percentage`* `| -rbw`

Use this option to specify the percentage of total bandwidth that read operations can use. If there is insufficient bandwidth to transmit the specified amount of data within a few minutes, restore or replication failures may occur due to timeouts. Consider the total load of simultaneous jobs on multiple media servers when you calculate the required bandwidth.

The bandwidth percentage value range is 0-100. You can only specify whole numbers for the bandwidth percentage.

`-setdefaults | -def`

Use this option to reset all throttling parameters to the default value.

`-sserver` *`storage_server_name`* `|-r`

Use this option to specify the name of the storage server.

`-stype` *`storage_server_type`* `| -t`

Use this option to specify the type of storage server.

`-weekend` *start_day,end_day,bandwidth_percentage* | `-wkd`

Use this option to specify the start and stop time for the weekend.

The start day and end day range of values is Monday-Sunday or 1-7.

Note: You can configure weekdays only in English and in the US calendar format (mmddyy).

You can indicate how much bandwidth the cloud connection can use in percentage.

The bandwidth percentage value range is 0-100. You can only specify whole numbers for the bandwidth percentage.

`-worktime` *start_time,end_time,bandwidth_percentage* | `-wkt`

Use this option to specify the time interval that is considered work time for the cloud connection. Specify a start time and end time in 24-hour format.

The start time and end time range of values is 0-23.

You can indicate how much bandwidth the cloud connection can use in percentage or kilobytes per second. This value determines how much of the available bandwidth is used for cloud operations in this time window.

The bandwidth percentage value range is 0-100. You can only specify whole numbers for the bandwidth percentage.

`-writebw` *write bandwidth_percentage* | `-wbw`

Use this option to specify the percentage of total bandwidth that write operations can use.

If there is insufficient bandwidth to transmit the specified amount of data within a few minutes, backup failures may occur due to timeouts.

Consider the total load of simultaneous jobs on multiple media servers when you calculate the required bandwidth.

The bandwidth percentage value range is 0-100. You can only specify whole numbers for the bandwidth percentage.

EXAMPLES

Example 1: Get the throttling configuration details.

```
csconfig throttle

Throttling Configuration Details:
        Read Bandwidth Percent          = 100 %
```

```
Write Bandwidth Percent         = 100 %
Total Available Bandwidth       = 102400 KB/s
Default Maximum Connections     = 10

Work Time:
        Start Time              = 8 Hrs
        End Time                = 18 Hrs
        Allocation Bandwidth    = 100 %

Off Time:
        Start Time              = 18 Hrs
        End Time                = 8 Hrs
        Allocation Bandwidth    = 100 %

Weekend:
        Start Day               = 6 (Saturday)
        End Day                 = 7 (Sunday)
        Allocation Bandwidth    = 100 %

Sampling Interval               = 0 Sec
```

Example 2: Set the read bandwidth to 30% and available bandwidth to 2147483648 Bytes = 2GB.

```
csconfig throttle -readbw 30 -availablebw 2147483648 -f
```

SEE ALSO

See csconfig cldinstance on page 502.

See csconfig cldprovider on page 523.

See csconfig meter on page 525.

See csconfig reinitialize on page 527.

duplicatetrace

duplicatetrace – trace debug logs for duplicate job(s)

SYNOPSIS

duplicatetrace [-master_server *name*] -job_id *number* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy* ...]

duplicatetrace [-master_server *name*] -backup_id *id* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy* ...]

duplicatetrace [-master_server *name*] [-policy_name *name*] [-client_name *name*] [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy* ...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

duplicatetrace consolidates the debug logs for duplicate jobs and writes them to standard output. The messages sort by time. It tries to compensate for time zone changes and clock drift between remote servers and clients.

At a minimum, you must enable debug logging for bptm and bpdm on the media server and for the following directory on the master server:

UNIX systems:

/usr/openv/netbackup/bin/admincmd

Windows systems:

install_path\NetBackup\bin\admincmd

For best results, set the verbose logging level to 5. Enable debug logging for bpdbm on the master server and bpcd on all servers, clients, and the processes that are already identified.

duplicatetrace uses the -job_id or -backup_id option as the sole criteria for selecting the duplicate jobs it traces. The -policy_name option or the -client_name option cannot be used with -job_id or -backup_id. If neither option is specified,

then all duplicate jobs that match the selection criteria are selected. If none of the following options are specified, all the duplicate jobs that are activated on the days that day stamps (*mmddyy*) specify are traced: `-job_id`, `-backup_id`, `-policy_name`, or `-client_name`. If `-start_time` and `-end_time` options are used, then the debug logs that reside in the specified time interval are examined.

If `duplicatetrace` starts with `-backup_id` *`bid`*, it looks for the duplicate jobs that `bpduplicate` started with `-backup_id` *`bid`* where the backup IDs (*bid*) match.

`duplicatetrace -policy_name` *`policy`* looks for the duplicate jobs that it started with the `-policy` *`policy`* option, where the policy names match.

`duplicatetrace -client_name` *`client`* looks for the duplicate jobs that it started with the `-client` option where the client names (*client*) match.

`duplicatetrace` writes error messages to standard error.

You must have administrator privileges to run this command.

OPTIONS

`-master_server`
: Name of the master server. Default is the local host name.

`-job_id`
: Job ID number of the duplicate job to analyze. Default is any job ID.

`-backup_id`
: Backup ID number of the backup image that the duplicate job uses to analyze duplicates. Default is any backup ID.

`-policy_name`
: Policy name of the duplicate jobs to analyze. Default is any policy.

`-client_name`
: Client name of the duplicate jobs to analyze. Default is any client.

`-start_time`
: Specifies the earliest timestamp to start analyzing the logs. Default is 00:00:00.

`-end_time`
: Specifies the latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddyy`
: One or more "day stamps". This option identifies the log file names (log.mmddyy for UNIX, mmddyy.log for Windows) that is analyzed.

OUTPUT FORMAT

The format of an output line is: *daystamp.millisecs.program.sequence machine log_line*

daystamp
The day of the log that is displayed in yyyymmdd format.

millisecs
The number of milliseconds since midnight on the local computer.

program
The name of program (ADMIN, BPTM, BPCD, etc.) being logged.

sequence
Line number within the debug log file.

machine
The name of the NetBackup server or client.

log_line
The line that appears in the debug log file.

EXAMPLES

Example 1 - Analyze the log of duplicate job with job ID 3 activated on May 1, 2010.

```
# duplicatetrace -job_id 3 050110
```

Example 2 - Analyze the log of duplicate jobs that duplicate backup image with backup ID pride_1028666945 executed on May 20, 2010. It analyzes only those jobs that were activated with option -backupid pride_1028666945.

```
# duplicatetrace -backup_id pride_1028666945 052010
```

Example 3 - Analyze the log of duplicate jobs that are activated on policy Pride-Standard and client pride on May 1, 2010 and May 3, 2010. It analyzes only the duplicate jobs that were activated with options -policy Pride-Standard and -client pride.

```
# duplicatetrace -policy_name Pride-Standard -client_name pride
050110 050310
```

Example 4 - Analyze the log of all duplicate jobs that are activated on August 5, 2010 and August 23, 2010.

```
duplicatetrace 080510 082310
```

SEE ALSO

See backupdbtrace on page 25.

See backuptrace on page 27.

See importtrace on page 536.

importtrace

importtrace – trace debug logs for import jobs

SYNOPSIS

importtrace [-master_server *name*] -job_id *number* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy*]

importtrace [-master_server *name*] -backup_id *id* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy*]

importtrace [-master_server *name*] [-policy_name *name*] [-client_name *name*] [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

importtrace consolidates the debug log messages for the specified import job[s] and writes them to standard output. The messages sort by time. importtrace tries to compensate for time zone changes and clock drift between remote servers and clients.

At a minimum, enable debug logging for bpbrm, bptm, and nbtar on the media server and for the following directory on the master server:

UNIX systems:

/usr/openv/netbackup/bin/admincmd

Windows systems:

install_path\NetBackup\bin\admincmd

For best results, set the verbose logging level to 5. Enable debug logging for bpdbm on the master server and bpcd on all servers and clients in addition to the processes already identified.

duplicatetrace uses the -job_id or -backup_id option as the sole criteria for selecting the duplicate jobs it traces. The -policy_name option or the -client_name

option cannot be used with -job_id or -backup_id. If neither option is specified, then all duplicate jobs that match the selection criteria are selected. If none of the following options are specified, all the duplicate jobs that are activated on the days that day stamps (*mmddyy*) specify are traced: -job_id, -backup_id, -policy_name, or -client_name. If -start_time and -end_time options are used, then importtrace examines the debug logs that are generated in the specified time interval.

If importtrace starts with -backup_id *id*, it looks for the import jobs that bpimport started with -backup_id *id* where the backup IDs (*id*) match.

If importtrace starts with -policy_name *policy*, importtrace looks for the import jobs that started with bpimport with -policy *policy* where the policy names (*policy*) match.

If importtrace starts with -client_name *client*, importtrace looks for the import jobs that started with bpimport with -client *client* where the client names (*client*) match.

importtrace writes error messages to standard error.

You must have administrator privileges to run this command.

OPTIONS

-master_server
: Name of the master server. Default is the local host name.

-job_id
: Job ID number of the import job to analyze. Default is any job ID.

-backup_id
: Backup ID number of the backup image that the import job imports to analyze. Default is any backup ID.

-policy_name
: Policy name of the import jobs to analyze. Default is any policy.

-client_name
: Client name of the import jobs to analyze. Default is any client.

-start_time
: Earliest timestamp to start analyzing the logs. Default is 00:00:00.

-end_time
: Latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddyy`

One or more day stamps. This option identifies the log file names (log.mmddyy for UNIX, mmddyy.log for Windows) to be analyzed.

OUTPUT FORMAT

The format of an output line is:

daystamp.millisecs.program.sequencemachinelog_line

`daystamp`

The day of the log displayed in yyyymmdd format.

`millisecs`

The number of milliseconds since midnight on the local computer.

`program`

The name of program (ADMIN, BPBRM, BPCD, etc.) being logged.

`sequence`

Line number within the debug log file.

`machine`

The name of the NetBackup server or client.

`log_line`

The line that appears in the debug log file.

EXAMPLES

Example 1 - Analyze the log of import job with job ID 4 activated on August 6, 2009.

```
# importtrace -job_id 4 080609
```

Example 2 - Analyze the log of import jobs that import backup image with backup ID pride_1028666945 executed on August 20, 2009. This command would analyze only those import jobs, which were activated with option -backupid pride_1028666945.

```
# importtrace -backup_id pride_1028666945 082009
```

Example 3 - Analyze the log of import jobs that are activated on policy Pride-Standard and client pride on August 16, 2009 and August 23, 2009. This command would analyze only those import jobs, which were activated with options -policy Pride-Standard and -client pride.

```
# importtrace -policy_name Pride-Standard -client_name pride
081609 082309
```

Example 4 - Analyze the log of all import jobs that are activated on August 5, 2015 and August 17, 2015.

```
# importtrace 080515 081715
```

SEE ALSO

See backupdbtrace on page 25.

See backuptrace on page 27.

See duplicatetrace on page 532.

jbpSA

jbpSA – start BAR client interface on Java-capable UNIX machines

SYNOPSIS

jbpSA [-d | -display] [-D *prop_filename*] [-fips] [-h | -Help] [-l *debug_filename*] [-lc] [-ms *nnn*] [-mx *xxx*] [-r *version*]

The directory path to this command is /usr/openv/netbackup/bin/

DESCRIPTION

This command operates only on UNIX systems.

The jbpSA command starts the Backup, Archive, and Restore client interface on Java-capable UNIX machines.

OPTIONS

-d | -display
: Displays the environment variable. For example:

  -d eagle:0.0

-D *prop_filename*
: Indicates the debug properties file name. The default name for this file is Debug.properties.

-fips
: Launches the NetBackup Administration Console in the FIPS mode. For more information on Federal Information Processing Standards (FIPS), see the *NetBackup Security and Encryption Guide*.

-h | -Help
: Displays the possible options for the jbpSA command.

-l *debug_filename*
: Indicates the debug log file name. The default name is unique to this startup of jbpSA and is written in /usr/openv/netbackup/logs/user_ops/nbjlogs.

-lc
: Prints the command lines that the application uses to access its log file.

Note: The application does not always use the command lines to get or update data. It has some protocols that instruct its application server to perform tasks using NetBackup and Media Manager APIs. As the application evolves, fewer command lines are used.

`-ms` *nnn*

Allows the memory usage configuration for the Java Virtual Machine (JVM) where *nnn* is the megabytes of memory available to the application. Default: 36 MB (megabytes)

Run `jnbSA` on a computer with 512 megabytes of physical memory with 128 megabytes of memory available to the application.

The `-ms` command specifies how much memory is allocated for the heap when the JVM starts. This value may not require changes since the default is sufficient for quickest initialization of `jnbSA` on a computer with the recommended amount of memory.

Example:

```
# jbpSA -ms 36M
```

The memory that is allocated can be specified by using the `jbpSA` command or by setting the `INITIAL_MEMORY` option in `/usr/openv/java/nbj.conf`.

`-mx` *xxx*

The `-mx` option allows memory usage configuration for the Java Virtual Machine (JVM). The *xxx* value specifies the maximum heap size (in megabytes) that the JVM uses for dynamically-allocated objects and arrays. Default: 512 MB.

This option is useful if the amount of data is large (for example, a large number of jobs in the Activity Monitor).

Example:

```
# jbpSA -mx 512M
```

The maximum heap size can be specified by using the `jbpSA` command or by setting the `MAX_MEMORY` option in `/usr/openv/java/nbj.conf`.

`-r` *version*

Specifies which version of the Backup, Archive, and Restore client to run. NetBackup includes an administration console for all the supported versions of NetBackup. If the `-r` option is not specified, the default is the latest version of NetBackup.

jnbSA

jnbSA – start NetBackup Administration Console on Java-capable UNIX machines

SYNOPSIS

jnbSA [-d | -display] [-D *prop_filename*] [-fips] [-h | -help] [-l *debug_filename*] [-lc] [-ms *nnn*] [-mx *xxx*] [-r *version*]

The directory path to this command is /usr/openv/netbackup/bin/

DESCRIPTION

This command operates only on UNIX systems.

jnbSA starts the NetBackup Administration Console on Java-capable UNIX machines.

OPTIONS

-d | -display
: Display the environment variable. For example:

  -d eagle:0.0

-D *prop_filename*
: Indicate the debug properties file name. The default name for this file is Debug.properties.

-fips
: Launches the NetBackup Administration Console in the FIPS mode. For more information on Federal Information Processing Standards (FIPS), see the *NetBackup Security and Encryption Guide*.

-h | -help
: Displays the possible options for the jnbSA command.

-l *debug_filename*
: Indicates the debug log file name. The default name is unique to this startup of jnbSA and written in /usr/openv/netbackup/logs/user_ops/nbjlogs.

-lc
: Prints the command lines that the application uses to its log file.

Note: The application does not always use the command lines to get or update data. It has some protocols that instruct its application server to perform tasks using NetBackup and Media Manager APIs. The application evolves and fewer command lines are used.

`-ms` *nnn*

Allows memory usage configuration for the Java Virtual Machine (JVM) where *nnn* is the megabytes of memory available to the application. Default: 256 MB

Run `jnbSA` on a machine with 1 GB of physical memory with 256 MB of memory available to the application.

The `-ms` command specifies how much memory is allocated for the heap when the JVM starts. This value may not require changes since the default is sufficient for quickest initialization of `jnbSA` on a machine with the recommended amount of memory.

Example:

```
jnbSA -ms 256M
```

The memory that is allocated can be specified by using the `jnbSA` command or by setting the `INITIAL_MEMORY` option in `/usr/openv/java/nbj.conf`.

`-mx` *xxx*

Allows memory usage configuration for the Java Virtual Machine (JVM). The *xxx* value is the maximum heap size (in megabytes) that the JVM uses for dynamically-allocated objects and arrays. Default: 512 MB.

This option is useful if the amount of data is large (for example, a large number of jobs in the Activity Monitor).

Example:

```
jnbSA -mx 512M
```

The maximum heap size can be specified by using the `jnbSA` command or by setting the `MAX_MEMORY` option in `/usr/openv/java/nbj.conf`.

`-r` *version*

Specifies which version of the NetBackup Administration Console to run. NetBackup includes an administration console for all the supported versions of NetBackup. If the `-r` option is not specified, the default is the latest version of NetBackup.

ltid

ltid – start or stop the Media Manager device daemon

SYNOPSIS

ltid [-v] [-logmounts [*minutes*]] [-noverify]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

DESCRIPTION

This command operates only on UNIX systems.

The ltid command starts the Media Manager device daemon (ltid) and Automatic Volume Recognition daemon (avrd). These daemons manage Media Manager devices. With both daemons started, an operator can initiate the operator display, observe the drive status, and control the assignment of requests to standalone drives. ltid can be placed in a system initialization script.

The Media Manager volume daemon, vmd, also starts with the ltid command. ltid also starts the appropriate robotic daemons, if robotic devices were defined in Media Manager.

The stopltid command stops ltid, avrd, and the robotic daemons.

You must have administrator privileges to run this command.

OPTIONS

-v

Logs debug information using syslogd. This option is most informative when robotic devices are in use. This option starts robotic daemons and vmd in verbose mode.

-logmounts *minutes*

If this option is specified, ltid logs mount requests using syslogd. The mount requests are still posted to Media Manager displays. The mount requests are only logged after a delay of the specified number of minutes.

If -logmounts is specified, the default number of minutes is 3. If -logmounts 0 is specified, ltid logs the mount request through syslogd immediately. If

minutes is not zero and the mount request is satisfied before the number of minutes are up, the request is not logged through `syslogd`.

`-noverify`

If this option is specified, `ltid` does not verify drive names. Normally, `ltid` verifies that the no rewind on close drive name has the correct minor number bits that relate to the following: no rewind, variable, berkeley-style, and so on. This option is normally not required, but may be helpful if you use non-standard platform device files. If this option is specified, make sure that the device files are correct.

ERRORS

Error messages are logged by using `syslogd`.

SEE ALSO

rc(8), syslogd

See stopltid on page 949.

See tpconfig on page 964.

See tpunmount on page 990.

mklogdir

`mklogdir` – creates log directories with the recommended permissions.

SYNOPSIS

mklogdir [-create] [-fixFolderPerm] [-dryrun] [-list] [logdirname(s)]*log directory name*] [-user *username*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/logs/

On Windows systems, the directory path to this command is *install_path*\NetBackup\logs\

DESCRIPTION

`mklogdir` creates all the NetBackup log directories for a user, with the recommended permissions.

OPTIONS

-create
: Creates all NetBackup log directories with the recommended permissions as identified by Veritas. Create is the default option in case no other option is specified.

-list
: Displays a list of all the NetBackup log directories along with the details about the permissions set.

-fixFolderPerm
: Sets the recommended permissions for the already existing NetBackup log directories and the files within them, if the permissions are not already set.

-dryrun
: Allows the user to review the changes before they are made. If you specify this option, no changes are made to the system.

-help
: Displays the possible options for the `mklogdir` command.

`logdirname`

Specifies a list of one or more space-separated log directories on which an action needs to be performed. If no log directories are specified, then the action is performed on all the log directories.

`-user` *`username`*

Creates the user folders for the required process log directory. Use this option only for non-root users or users who are not part of administrator groups.

If the user is local user or system user, only *`username`* should be used. If the user is part of any domain, specify the user name in this format: "*`domain_short_name`*`\`*`username`*". Be aware you must enclose the user name in double quotes (").

EXAMPLES

Example 1 - Create all the NetBackup log directories for a user, with the recommended permissions.

```
# mklogdir -create
```

Example 2 - Create the `admin` and the `bpdbm` log directories with the recommended permissions.

```
# mklogdir admin bpdbm
```

Example 3 - Examine all the existing log directories, subdirectories, and files and set the permissions on those directories and files which do not have the recommended permissions.

```
# mklogdir -fixFolderPerm
```

Example 4 - Examine all the existing log directories, subdirectories, and files within them, and display the changes that need to be made to get the recommended permissions.

```
# mklogdir -fixFolderPerm -dryrun
```

SEE ALSO

See bpgetdebuglog on page 168.

msdpcldutil

`msdpcldutil` – the immutable cloud storage utility

SYNOPSIS

msdpcldutil create --bucket *bucket_name* --volume *volume_name* --mode *retention_mode* --min *min_time* --max *max_time* [--storageclass *storage_class*] [--credfile *cred_file*] [--enable_sas] [--enable_sp] [--enable_iama] [--enable_sts]

msdpcldutil list [--bucket *bucket_name* | --filter *bucket_name_filter*] [--volume *volume_name*] [--credfile *cred_file*] [--enable_sas] [--enable_sp] [--enable_iama] [--enable_sts]

msdpcldutil update mode --bucket *bucket_name* --volume *volume_name* --mode COMPLIANCE --live *live_untildate* [--credfile *cred_file*] [--enable_sas] [--enable_sp] [--enable_iama]

msdpcldutil update range --bucket *bucket_name* --volume *volume_name* --min *min_time* --max *max_time* [--credfile *cred_file*] [--enable_sas] [--enable_sp] [--enable_iama] [--enable_sts]

msdpcldutil update live --bucket *bucket_name* --volume *volume_name* --live *live_untildate* [--credfile *cred_file*] [--enable_sas] [--enable_sp] [--enable_iama] [--enable_sts]

msdpcldutil update inherit --bucket *bucket_name* --volume *volume_name* --inherit *inherit_value* [--credfile *cred_file*] [--enable_sas] [--enable_sp] [--enable_iama] [--enable_sts]

msdpcldutil update bucket-policy --bucket *bucket_name* [--credfile *cred_file*] [--enable_sas] [--userid userid] [--enable_sp] [--enable_iama]

msdpcldutil bucket create --bucket *bucket_name* --mode *retention_mode* -period *period_time*

msdpcldutil bucket info --bucket *bucket_name*

msdpcldutil bucket sync --bucket *bucket_name*

msdpcldutil bucket update --bucket *bucket_name* --mode *retention_mode* -period *period_time*

msdpcldutil platform list

msdpcldutil platform checkperm [-bucket *bucket-name*] [--role *role_name*]

msdpcldutil history list --bucket *bucket_name* --volume *volume_name*

msdpcldutil history download --bucket *bucket_name* --volume *volume_name* --filepath *path_name* --starttime *start_time* --endtime *end_time* --output *output_path*

msdpcldutil --help

msdpcldutil create --help

msdpcldutil list --help

msdpcldutil update mode --help

msdpcldutil update range --help

msdpcldutil update live --help

msdpcldutil update bucket-policy --help

msdpcldutil bucket create --help

msdpcldutil bucket info --help

msdpcldutil bucket sync -help

msdpcldutil bucket list -help

msdpcldutil bucket update --help

msdpcldutil --version

On UNIX systems, the directory path to this command is /usr/openv/pdde/pdcr/bin/

DESCRIPTION

Use the msdpcldutil command to create, update, and list cloud immutable volume for AWS S3 storage, S3-compatible cloud storage, and Azure blob storage.

This utility is only supported on Red Hat Linux.

Set the following environment variables before you use msdpcldutil for AWS S3 immutable storage:

```
export MSDPC_ACCESS_KEY=your_access_key_id
export MSDPC_SECRET_KEY=your_secret_key
```

```
export MSDPC_REGION=your_region
export MSDPC_PROVIDER=amazon
```

MSDPC_ACCESS_KEY is the AWS access key associated with an IAM user. MSDPC_SECRET_KEY is the secret key associated with the access key. MSDPC_REGION is the AWS region where the bucket is created or accessed. MSDPC_PROVIDER is the name of the S3-compatible cloud storage provider.

Set the following environment variables before you use msdpcldutil for S3-compatible cloud storage:

```
export MSDPC_ACCESS_KEY=your_access_key_id
export MSDPC_SECRET_KEY=your_secret_key
export MSDPC_REGION=your_region
export MSDPC_PROVIDER=s3-compatible
export MSDPC_ENDPOINT=your_s3_endpoint_url
```

In addition to the parameters shown, you can now provide MSDPC_CMS_CRED_NAME to run the msdpcldutil commands for AWS as shown:

```
export MSDPC_PROVIDER=vamazon
export MSDPC_REGION=your_region
export MSDPC_CMS_CRED_NAME=your_credential_name
export MSDPC_MASTER_SERVER=your_primary server_name
export MSDPC_ALIAS=your_storage_server_name_your_alias_name
```

MSDPC_CMS_CRED_NAME is the credential name provided that stores the credentials.

MSDPC_ALIAS is the cloud alias created using csconfig.

Set the following environment variables before you use msdpcldutil for Azure blob immutable storage:

```
export MSDPC_ACCESS_KEY=your_storage_account
export MSDPC_SECRET_KEY=your_access_key
export MSDPC_REGION=your_region
export MSDPC_PROVIDER=azure
export MSDPC_ENDPOINT=https://your_storage_account.blob.core.windows.net/
```

Similar to Amazon, for Azure storage, you can use MSDPC_CMS_CRED_NAME.

```
export MSDPC_CMS_CRED_NAME=your_credential_name
```

Set the following environment variables before you use msdpcldutil for Google Cloud Platform bucket retention storage:

```
export MSDPC_ACCESS_KEY=your_storage_account
export MSDPC_SECRET_KEY=your_access_key
```

```
export MSDPC_REGION=your_region
export MSDPC_PROVIDER=google
export MSDPC_ENDPOINT=your_gcp_endpoint_url
export MSDPC_GCP_SAKEY=gcp_service_account_key_file_path
```

Set the following environment variables to configure the proxy settings. The settings include HTTP, HTTPS, SOCKS, and NTLM authentication:

```
MSDPC_PROXY_URL=[http/https/socks/socks4/socks5/socks4a]://ProxyHost:
ProxyPort
MSDPC_PROXY_AUTH=NTLM or none
MSDPC_PROXY_DOMAIN=$NTLM domain name
MSDPC_PROXY_USER=$proxy_user
MSDPC_PROXY_PASSWD=$proxy_password
```

You are not required to set the environment variables if the NetBackup media server is deployed on Amazon EC2 instance. You can use IAM role-based authentication. An access key, secret key, region, endpoint, and the provider are set automatically.

```
export MSDPC_ACCESS_KEY=
export MSDPC_SECRET_KEY=
export MSDPC_REGION=
export MSDPC_ENDPOINT=
export MSDPC_PROVIDER=
```

Use the `-enable_sas` option with Recovery Vault Azure and AzureGov storage. When you provide this option, the environment variables are used as follows:

Use the `-enable_sts` option with Recovery Vault Amazon and Amazon Gov storage.

`MSDPC_ACCESS_KEY` is the credential name, not the account name.

`MSDPC_ALIAS` is the alias of the storage volume that is associated with the credential. `MSDPC_MASTER_SERVER` is the master server. When you provide these two environment variables, they are used to query the NetBackup CMS for the credentials. In this case, `MSDPC_SECRET_KEY` is ignored.

If you do not provide `MSDPC_ALIAS` and `MSDPC_MASTER_SERVER`, provide `MSDPC_ACCESS_TOKEN`. It is used to query Recovery Vault directly for the credentials. You can optionally provide `MSDPC_RVLT_SERVICE_URI` to specify Recovery Vault service endpoint. It is `nrv.veritas.com` by default.

If `MSDPC_ALIAS`, `MSDPC_MASTER_SERVER`, and `MSDPC_ACCESS_TOKEN` environment variables are not provided for Recovery Vault that results in an error.

Besides these parameters, you can provide `MSDPC_CMS_CRED_NAME` directly, which is the credential name.

If you do not set the environment variables and IAM role-based authentication does not exist, `msdpcldutil` enters interactive mode. You can enter the parameters at the command-line prompt as follows:

```
Enter Provider id: amazon
Enter region: us-east-2
Enter Access key: xxxxxxxxx
Enter secret key:
Enter Credential Name: primary_server_name
Enter alias: primary_server_name_cloud-lsu
```

Ensure that you previously created the alias with the `csconfig` command, otherwise this action fails.

Use the `-enable_sp` option for Service Principal with Azure blob and AzureGov storage. When you provide this option, the environment variables are used as follows:

```
export MSDPC_CMS_CRED_NAME=your_cms_credential_name
export MSDPC_ALIAS=your_alias_name
export MSDPC_REGION=your_region
export MSDPC_PROVIDER=azure
export MSDPC_ENDPOINT=https://your_storage_account.blob.core.windows.net/
```

`MSDPC_CMS_CRED_NAME` is the Service Principal credential NetBackup stores in the Credential Management Service.

`MSDPC_ALIAS` is the name of the alias in the CloudStore. The alias must have the authorization type `CREDS_SERVICE_PRINCIPAL`. You can view or add aliases using `csconfig -instance` where the authorization type shows up under `creds_broker`.

Use the `-enable_iama` option for IAM Role Anywhere with Amazon and AmazonGov storage. When you provide this option, the environment variables are used as follows:

```
export MSDPC_CMS_CRED_NAME=your_cms_credential_name
export MSDPC_ALIAS=your_alias_name
export MSDPC_REGION=your_region
export MSDPC_PROVIDER=amazon
```

`MSDPC_CMS_CRED_NAME` is the Iam Role Anywhere credential NetBackup stores in the Credential Management Service.

`MSDPC_ALIAS` is the name of the alias in the CloudStore. The alias must have the authorization type `CREDS_IAM_ROLE_ANYWHERE`. You can view or add aliases using `csconfig -instance` where the authorization type shows up under `creds_broker`.

OPTIONS

`--bucket` *bucket_name*, `-b` *bucket_name*

The bucket name in AWS S3 and S3 compatible storage or the container name in Azure blob.

`--credfile` *credfile_path*

The credential file that contains the environment variables in the following format:

```
MSDPC_ACCESS_KEY=your_storage_account
MSDPC_SECRET_KEY=your_access_key
MSDPC_REGION=your_region
MSDPC_PROVIDER=your_provider
```

`--debug`

Provides a more detailed log for debugging.

`--enable_sas`

Shared access signatures (SAS) authentication method on Azure blob storage. The default value is false.

`--enable_sp`

Service Principal authentication method using Credential Management Service on Azure blob storage. The default value is false.

`--enable_sts`

Security Token Service (STS) authentication method on Amazon storage. The default value is false.

`--enable_iama`

IAM Role Anywhere authentication method on Amazon storage. The default value is false.

`--inherit enable|disable, -i enable|disable`

When you switch retention mode from `ENTERPRISE` mode to `COMPLIANCE` mode, use the inherit option to specify retention time behavior. You can either inherit the retention time from the `ENTERPRISE` mode or overwrite it with the new retention time for the `COMPLIANCE` mode. If you want to inherit the retention time, specify enable. If you want to overwrite the retention time, specify disable.

`--live` *live_utildate*, `-l` *live_utildate*

The cloud immutable volume live duration. This value is set as *YYYY-MM-DD hh:mm:ss timezone*. For a value of noon on August 18, 2025 in UTC, use `2025-08-18 12:00:00 UTC`.

`--max` *max_duration*, `-M` *max_duration*

The maximum object locking duration: *number* plus `D` or `Y`. The value of `12Y` means 12 years.

`--min` *min_duration*, `-N` *min_duration*

The minimum object locking duration: *number* plus `D` or `Y`. The value of `12D` means 12 days.

`--mode` *retention_mode*, `-m` *retention_mode*

The retention mode for the immutable cloud storage. The option has two possible values:

- `COMPLIANCE` mode:

  Users cannot overwrite or delete the data that is protected using the compliance mode for the defined retention period. Once you set a retention period for the data storage, you can extend it but cannot shorten it.

- `ENTERPRISE` mode:

  Users require special permissions to disable the retention lock and then delete the image. Only the cloud administrator user can disable the retention lock and then the delete the image if required. You can use the enterprise mode to test the retention period behavior before you use compliance mode.

`--storageclass` *storage_class*, `-s` *storage_class*

Amazon S3 storage class, such as `STANDARD_IA` or `GLACIER_IR`. The default is `STANDARD`.

For Amazon Recovery Vault, only `STANDARD_IA` and `GLACIER_IR` are applicable.

`--userid` *user_id*, `-u` *user_id*

The AWS user ID in `aws sts get-caller-identity`. The default is null. This option is only available for AWS S3 immutable storage.

`--volume` *volume_name*, `-v` *volume_name*

The volume name is the directory name under the S3 bucket or the Azure blob container.

EXAMPLES

Example 1: Create a cloud immutable volume.

```
/usr/openv/pdde/pdcr/bin/msdpcldutil create -b bucketname -v
volumename --mode ENTERPRISE --min 1D --max 30D
```

Example 2: Update the cloud immutable volume mode.

```
/usr/openv/pdde/pdcr/bin/msdpcldutil update mode -b bucketname -v
volumename --mode COMPLIANCE --live 2021-12-31 --inherit enable
```

Example 3: Update the cloud immutable volume minimum and maximum retention periods.

```
/usr/openv/pdde/pdcr/bin/msdpcldutil update range -b bucketname -v
volumename --min 1D --max 90D
```

Example 4: Update the cloud immutable volume live duration.

```
/usr/openv/pdde/pdcr/bin/msdpcldutil update live -b bucketname -v
volumename -l 2022-01-31
```

Example 5: Create GCP bucket with the bucket level retention.

```
/usr/openv/pdde/pdcr/bin/msdpcldutil bucket create -b bucketname -m
ENTERPRISE -p 100D
```

Example 6: Check Amazon permissions of the current user.

```
/usr/openv/pdde/pdcr/bin/msdpcldutil platform checkperm --role
backup-admin --bucket bucketname

/usr/openv/pdde/pdcr/bin/msdpcldutil platform checkperm --role
cloud_admin
```

nbauditreport

nbauditreport – Generate and view an audit report

SYNOPSIS

nbauditreport -sdate *"MM/DD/YY [HH:[MM[:SS]]]"* [-edate *"MM/DD/YY [HH:[MM[:SS]]]"* [-ctgy | -exclude_ctgy] [ADD_SUSPICIOUS_FILE_EXT | AGGREGATE_ANOMALY | ALERT | ANOMALY | ANOMALY_EXTENSIONS | ANOMALY_EXTENSIONS_DETAILS | ANOMALY_NEW | ANOMALY_RULES_RESULTS | ASSET | ASSETGROUP | AUDITCFG | AUDIT_LOG_FORWARD | AUDITSVC | AZFAILURE | BMR | BPCONF | CATALOG | CERT | CONFIG | CONNECTION | DATAACCESS | EVENT_AUDIT | HOLD | HOST | IRE | JOB | LICENSING | LOGIN | MALWARE_IMPACTED | MALWARE_SCAN_STATUS | MALWARE_SCAN_TRIGGER | PAUSED_CLIENTS | POLICY | POOL | PROTECTION_PLAN_SVC | REMOVE_SUSPICIOUS_FILE_EXT | RETENTION_LEVEL | SEC_CONFIG | SLP | STORAGESRV | STU | TOKEN | UI_CONFIG | USER] -user *username[:domainname]* -fmt [SUMMARY | DETAIL | PARSABLE] [-notruncate] [-iso_std_tfmt] [-pagewidth *NNN*] [-order [DTU | DUT | TDU | TUD | UDT | UTD]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbauditreport command lets you create and view a NetBackup audit report.

When auditing is configured in a NetBackup environment, the following user-initiated actions in NetBackup are recorded and available to view in an audit report:

- Actions that change the NetBackup configuration. Examples are policy creation, deletion, and modification, and changing the audit settings.
- Actions that change NetBackup run-time objects. These actions include initiating a restore job and starting or stopping the audit service.

This command only creates and displays the audit report. You must use the nbemmcmd -changesetting -AUDIT ENABLED and nbemmcmd -changesetting -AUDIT DISABLED commands to enable and disable auditing itself.

For more about auditing and audit reports, see the *NetBackup Administrator's Guide, Volume I* and *NetBackup Security and Encryption Guide*.

OPTIONS

`[-ctgy | -exclude_ctgy] [ALERT | ANOMALY | ANOMALY_EXTENSIONS | ANOMALY_EXTENSIONS_DETAILS | ANOMALY_NEW | ANOMALY_RULES_RESULTS | ASSET | ASSETGROUP | AUDITCFG | AUDIT_LOG_FORWARD | AUDITSVC | AZFAILURE | BMR | BPCONF | CATALOG | CERT | CONFIG | CONNECTION | DATAACCESS | EVENT_AUDIT | HOLD | HOST | IRE | JOB | LICENSING | LOGIN | MALWARE_IMPACTED | MALWARE_SCAN_STATUS | MALWARE_SCAN_TRIGGER | PAUSED_CLIENTS | POLICY | POOL | PROTECTION_PLAN_SVC | RETENTION_LEVEL | SEC_CONFIG | SLP | STORAGESRV | STU | TOKEN | UI_CONFIG | USER]`

Specifies the type of information to be displayed in the audit report. The audit function records and displays information on the use-initiated actions for the pertinent area (job, pool, etc.). The following are the possible values for this option and the items that are audited for each value:

- ADD_SUSPICIOUS_FILE_EXT - audit when suspicious file extension anomaly is raised.
- AGGREGATE_ANOMALY - audit when aggregate anomaly is raised.
- ALERT - failure in alert generation or failure in sending email notifications.
- ANOMALY - anomaly status changes such as report as false positive.
- ANOMALY_EXTENSIONS - for a new anomaly that is generated through a specific anomaly extension.
- ANOMALY_EXTENSIONS_DETAILS - for a modification that was done to a specific anomaly extension.
- ANOMALY_NEW - for any new anomaly generated.
- ANOMALY_RULES_RESULTS - for an output of a specific anomaly rule.
- ASSET - deleting an asset, such as a vCenter server or a virtual machine, as part of the POST /asset-cleanup process in the Asset Database API.
- ASSETGROUP - creating, modifying, or deleting an asset group as well any action on an asset group for which a user is not authorized.
- AUDITCFG - auditing configuration changes
- AUDIT_LOG_FORWARD - auditing events specific to the third-party tools that are configured for audit.
- AUDITSVC - starting and stopping the NetBackup Audit service (`nbaudit`)

- AZFAILURE - authorization failures
- BMR - Create, modify, and delete Bare Metal Restore operations.
- BPCONF - changes to the `bp.conf` file (UNIX only).
- CATALOG - verifying and expiring images; and reading front-end usage data
- CERT - certificate deployment
- CONFIG - changes made to the configuration settings (for example SMTP server configuration) or to the excluded status codes list for alerts
- CONNECTION - dropped host connections
- DATAACCESS - the audit messages that are related to success and failure of access to different NetBackup operations. Audit messages are displayed for restore and browse images operations only.
- EVENT_AUDIT - All the events that are logged are captured as audit records under this audit category. Any user-initiated actions using commands and NetBackup Administration Console (through commands or user services) are event logged. Note the following points:
  - Actions that require the primary server daemons are audited.
  - Any scheduled NetBackup actions like scheduled backup, are not audited.
  - Any user-initiated actions using the NetBackup web UI are not audited.
  - The events that are associated with the first daemon that receives the request are logged.
  - Events that are associated with the subsequent daemons are not logged.
- HOLD - create, modify, and delete hold operations.
- HOST - NetBackup host database-related operations
- IRE - Isolated recovery environment-related operations
- JOB - job changes
- LICENSING - track any access to information that is related to licensing
- LOGIN - logon attempts
- MALWARE_IMPACTED - any client detected as impacted through malware scan.
- MALWARE_SCAN_STATUS - malware scan job status such as failed, completed.

- MALWARE_SCAN_TRIGGER - malware scan that is triggered automatically or manually.
- PAUSED_CLIENTS - for any clients that are added or deleted from the pause protection list.
- POLICY - Adding, deleting, or updating policy attributes, clients, schedules, and backup selections lists.
- POOL - disk storage pool changes.
- PROTECTION_PLAN_SVC - modifications to the protection plan.
- REMOVE_SUSPICIOUS_FILE_EXT - audit when suspicious file extension anomaly is removed.
- RETENTION_LEVEL - changes to the retention level.
- SEC_CONFIG - changes made to the security configuration settings.
- SLP - Creating, modifying, or deleting a storage lifecycle policy (SLP) when initiated through a NetBackup graphical user interface, API, or the `nbstl` command. Successful attempts to activate or suspend an SLP from a NetBackup graphical user interface or API are also audited and logged. Activating and suspending an SLP using the `nbstlutil` command are not audited.
- STORAGESRV - storage server information and user actions
- STU - storage unit changes
- TOKEN - authorization tokens
- UI_CONFIG - changes made for the NetBackup web UI.
- USER - adding or deleting users

The default condition, when none of the options are specified, is to display the audit report of all categories.

`-exclude_ctgy [`*`audit_category`*`]`

Use this option to exclude a specific category from the list of audit records.

`-fmt [SUMMARY | DETAIL | PARSABLE]`

Specifies the output format of the audit report.

- SUMMARY is the default condition (no option used). The audit report is a summary only. It displays the audit report in columnar format using the description, user, and timestamp headings.
- DETAIL displays a comprehensive list of auditing information. For example, when a policy is changed, this view lists the name of the attribute, the old value, and the new value.

- PARSABLE displays the same set of information as the DETAIL report but in a parsable format. The report uses the pipe character (|) as a separator of the audit data. Use keywords available with the report (DESCRIPTION, ACTION, OLDV, NEWV, etc.) to parse the audit record.

  The parsable report contains the following fields:

  - **DESCRIPTION.** The details of the action that was performed. The details include the new values that are given to a modified object and the new values of all attributes for a newly created object. The details also show any deleted objects.
  - **TIMESTAMP.** The time that the action occurred. The time is displayed in Coordinated Universal Time (UTC) and is indicated in seconds.
  - **CATEGORY.** The category of user action that was performed. Categories such as POLICY may contain several sub-categories such as schedules or backup selections. Any modifications to a sub-category are listed as a modification to the primary category. The categories are as follows:

    ALERT - failure in alert generation or failure in sending email notifications.

    AUDITCFG - Auditing configuration changes

    AUDIT_LOG_FORWARD - Auditing events specific to the third-party tools that are configured for audit.

    AUDITSVC - Starting and stopping the NetBackup Audit service (`nbaudit`)

    AZFAILURE - Requests that fail authorization checks

    BPCONF - Changes to the `bp.conf` file (UNIX only)

    CATALOG - Verifying and expiring images; and reading front-end usage data

    CERT - Creating, revoking, renewing, and deploying of certificates and specific certificate failures

    CONFIG - changes made to the configuration settings (for example SMTP server configuration) or to the excluded status codes list for alerts

    DATAACCESS - The audit messages that are related to success and failure of access to different NetBackup operations. Audit messages are displayed for restore and browse images operations only.

    HOLD - Create, modify, and delete hold operations.

    HOST - Information that is related to NetBackup host database operations.

    IRE - Isolated recovery environment configuration and state changes.

    JOB - Job changes such as cancelations or deletions

    LICENSING - track any access to information that is related to licensing

LOGIN - The success and failure that is related to NetBackup Administration Console and NetBackup API logon attempts.

POLICY - Modification to policy attributes, clients, schedules, or backup selections

POOL - Disk storage pool changes

PROTECTION_PLAN_SVC - modifications to the protection plan

RETENTION_LEVEL - changes to the retention level

SEC_CONFIG - Information that is related to changes that are made to the security configuration settings

SLP - Creation, modification, or deletion SLP attributes or windows when they are initiated through a NetBackup graphical user interface, API, or the `nbstl` command.

STORAGESRV - Storage server creation, modification, or deletion. User actions on the storage server.

STU - Storage unit creation, modification, or deletion

TOKEN - Creating, deleting, and cleanup of tokens and specific token issuing failures

UI_CONFIG - Information that is related to changes that are made for the NetBackup web UI.

USER - Adding or deleting users

- **CONNECTION** - Information about the dropped host connections.
- **ACTION.** The activity that was performed. The following actions are possible for all categories: Detailed descriptions of the specific activities that are performed for each action are found in the DESCRIPTIONS and the DETAILS fields of the command output.
- **REASON.** Reason that is given for the performed action if any. If the audit reason for host and host ID-to-host name mapping operations contains more than 512 characters, the reason text is truncated to 512 characters.
- **DETAILS.** Detailed information on the activity that is separated into attributes (`ATTR_`*`num`*), each with a descriptive name followed by OLDV/NEWV (old value/new value) pair.

  Example for a policy deletion: `ATTR_1: Policy Type OLDV: Standard NEWV:`

`-iso_std_tfmt`

Use this option to display the time in ISO8601 and RFC 3339 formats.

`-notruncate`

Displays the old and new values of a changed attribute on separate lines in the details section of the report. This option is used with the `-fmt DETAIL` option.

`-order [DTU | DUT | TDU | TUD | UDT | UTD]`

Specifies the order in which the information is displayed in the parsable format of the audit report. This option can be used only with the -fmt PARSABLE option. The D, T, and U designators represent the following:

- D - description
- T - timestamp
- U - user

`-pagewidth` *`NNN`*

Specifies the page width for the details section of the audit report. This option is used with the `-fmt DETAIL` option.

`-sdate` *`mm/dd/yyyy-hh:mm:ss`* `|` *`mm/dd-hh:mm`* `-edate` *`mm/dd/yyyy-hh:mm:ss`* `|` *`mm/dd-hh:mm`*

Sets the start date-time (-sdate) or the end date-time (-edate) of the audit report data that you want to view. No time indication is necessary.

If the start date is specified and the end date is not, the displayed audit data is from the specified start time to the present. If the end date is specified and the start date is not, the displayed audit data is up to the end date.

`-user` *`username[:domainname]`*

Indicates the name of the user for whom you want to display audit information.

EXAMPLES

Example 1 - Display all audit events that are reported from April 1, 2013 to the present.

```
# nbauditreport -sdate 04/01/13

USER         DESCRIPTION                                                  TIMESTAMP
Admin@entry  Schedule 'test1' was added to Policy 'test1'                 04/06/13
Admin@entry  Audit setting(s) of master server 'server1' were modified    04/06/13
Admin@entry  Audit setting(s) of master server 'server1' were modified    04/06/13
sys@server1  The nbaudit service on master server 'server1' was started 04/06/13
sys@server1  The nbaudit service on master server 'server1' was stopped 04/06/13
sys@server1  The nbaudit service on master server 'server1' was started 04/06/13
```

```
Audit records fetched: 7
```

Example 2 - Display a detailed audit report for when Joe modified a set of policy attributes. Because the policy was changed only one time since 6/8/13, one audit record is retrieved.

```
# nbauditreport -fmt DETAIL -ctgy POLICY -sdate 6/8/13

DESCRIPTION: Attributes of Policy 'pol_stugrp' were modified
USER: joe
TIMESTAMP: 06/08/2013 19:14:25
CATEGORY: POLICY
ACTION: MODIFY
DETAILS:
    ATTRIBUTE                OLD VALUE                 NEW VALUE
  1 Proxy Client
  2 Residence                                          stu_grp
  3 Collect TIR info         2                         0
  4 Checkpoint Restart       0                         1
  5 Checkpoint Interval      0                         15
  6 Data Mover Type          2                         -1
  7 Collect BMR Info         1                         0
  8 Policy Generation        1                         2

Audit records fetched: 1
```

The DETAILS entry shows the old value and new value of all the attributes that Joe changed.

Example 3 - Display an audit report for all hold operations that were performed since August 30, 2013.

```
# nbauditreport -ctgy HOLD -sdate "08/30/13 22:46:50" -fmt DETAIL
DESCRIPTION: Hold with hold name test hold for report1 is created
USER: root@aellora.mydomain.com
TIMESTAMP: 08/30/13 22:47:56
CATEGORY: HOLD
ACTION: CREATE
REASON:
DETAILS:
    ATTRIBUTE             OLD VALUE             NEW VALUE
  1 On-hold image list                          nakul2.mydomain.co

DESCRIPTION: Hold with hold name test hold for report1 is created
```

```
USER: root@aellora.mydomain.com
TIMESTAMP: 08/30/13 22:47:54
CATEGORY: HOLD
ACTION: CREATE
REASON:

Audit records fetched: 2
```

Example 4 - Display a detailed audit report for all security operations.

```
# nbauditreport -ctgy SEC_CONFIG -fmt DETAIL
DESCRIPTION: Updated 'Role' 'Default VMware Administrator'
USER: secadmin@domain
TIMESTAMP: 05/02/2021 10:38:24
CATEGORY: SEC_CONFIG
ACTION: MODIFY
REASON:
DETAILS:
   ATTRIBUTE                OLD VALUE    NEW VALUE
 1 User principal                        domain:vmadmin:nt

Audit records fetched: 1
```

nbcallhomeproxyconfig

`nbcallhomeproxyconfig` – used to create and manage the proxy server configuration that both the NetBackup Product Improvement Program and Usage Insights use.

SYNOPSIS

nbcallhomeproxyconfig `--example`

nbcallhomeproxyconfig `--help`

nbcallhomeproxyconfig `--version`

`On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/`

`On Windows systems, the directory path to this command is` *`install_path`*`\NetBackup\bin\admincmd\`

DESCRIPTION

The `nbcallhomeproxyconfig` command lets users configure a proxy server for Call Home. This configuration supports the NetBackup Product Improvement Program and facilitates the upload of Usage Insights reports. You must configure proxy settings if the NetBackup master server environment has a proxy server between the environment and external internet access.

The proxy configurations shown are supported:

- Unauthenticated proxy servers (no proxy user name or password) using HTTP.
- Unauthenticated proxy servers (no proxy user name or password) using HTTPS.
- An authenticated proxy server that requires a proxy user name and a password using HTTP.
- An authenticated proxy server that requires a proxy user name and a password using HTTPS.

All configurations require a unique credential name. This name is assigned to the `CALLHOME_PROXY_NAME` key in the NetBackup configuration.

Example: `CALLHOME_PROXY_NAME = myproxy`

All configurations have some common requirements:

- A configuration name: This name uniquely identifies the proxy configuration in the NetBackup configuration.
- A server name including protocol: This name is the address of the proxy server. This address is in the form of a URL (http://proxy.example.com) or as an IP address (https://10.23.11.5).
- A server port number: The port that is used to connect to the proxy.

For an unauthenticated proxy server using HTTP, these are the only required fields. For an authenticated proxy server, the configuration requires a proxy user name and password.

If the proxy server uses SSL/TLS (HTTPS), a CA certificate is required to authenticate the proxy server connection. This certificate is typically a `.pem` file. The `nbcallhomeproxyconfig` prompts for path to the CA cert `.pem` file if the server protocol that is specified is HTTPS.

OPTIONS

`--examples`

Show examples of proxy configurations.

`--help`

Display this usage statement.

`--version`

Display the version information.

nbcatsync

nbcatsync – run a utility that resyncs the disk media IDs in the image catalog after catalog recovery operations complete

SYNOPSIS

nbcatsync -backupid *catalog_backup_id* [-prune_catalog] [-no_sync_slp] [-dryrun] [-keepgoing]

nbcatsync -sync_dr_file *dr_file_path* [-copy *number*] [-dryrun]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

nbcatsync is a post-processing utility that is used in the catalog restore process.

After bprecover restores the actual catalog files, the nbcatsync utility can do the following:

- Fix the disk media IDs in the fragment records.
- Mark all recovered images as SS_COMPLETED.
- Restore disabled functionality.
- Prune images from the catalog which were not found on any currently configured disk volumes. The -prune_catalog option deletes catalog entries for the images that do not exist locally.
- Constrain the operation to a set of images based on the catalog restore that was performed.

You can easily create a list of affected backup images for any given catalog restore option. The catalog backup image .f file lists the images that the catalog restore recovers. This file lists the images to which you can constrain the operations of the nbcatsync utility.

The utility uses the current device configuration in EMM to obtain a list of disk volumes to scan for the image fragments that are found in the image list. After the EMM database, the images on currently configured storage, and the image catalog have all been reconciled, nbcatsync tries to turn on normal NetBackup processing.

Note: Use the `nbcatsync -dryrun` option to validate the `nbcatsync` utility operation before the utility actually does it. Because `nbcatsync` actions are irreversible, you would have to perform `bprecover -wizard` again to get the previous contents of the image catalog.

OPTIONS

`-backupid` *`catalog_backup_id`*

Specifies the catalog backup ID that contains a set of backup images. This option enables `nbcatsync` to fix disk media ID references in the image headers that are restored from this catalog backup image ID.

`-copy` *`number`*

Specifies the copy of the catalog to be restored. This option allows catalog recovery from a non-primary copy.

`-dryrun`

Gives the user a chance to validate actions `nbcatsync` normally perform. It lists all the modifications that can occur if the `nbcatsync` command does run.

`-keepgoing`

Ignores bad disk volumes. Otherwise, `nbcatsync` aborts when it encounters an unexpected error while it searches for images on a disk volume.

`-no_sync_slp`

Prevents the scrubbing of the storage lifecycle policy which removes the EMM image records and sets the SS_COMPLETED state in the image catalog to zero. Normally, `nbcatsync` disassociates images from any storage lifecycle policy processing that is performed at the primary site. Then `nbcatsync` can apply appropriate storage lifecycle policy settings for the DR site on the fixed images. However, when `-no_sync_slp` is specified, `nbcatsync` does not change these settings of fixed images, so use this option with care.

`-prune_catalog`

Prunes all non-existent images. `-prune_catalog` removes copies of images on the disk volumes that are not found on any of the disk volumes at the DR site. If none of the copies of an image are located, the image itself is deleted.

`-sync_dr_file` *`dr_file_path`*

Specifies the DR file at the DR site that corresponds to the catalog backup image to restore from.

EXAMPLES

Example 1 - Fix the disk media ID references in DR file `test.txt`, so that `bprecover` can find the catalog backup image. At the DR site, run the following command:

```
# nbcatsync -sync_dr_file test.txt
```

Example 2 - Perform a dry run of fixing the disk media ID references in the image headers of image ID rg9pctrain05_1254127131 that is restored from the catalog backup. When you are satisfied with the results, you can repeat the command without the `-dryrun` option.

```
# nbcatsync -backupid rg9pctrain05_1254127131 -dryrun
```

SEE ALSO

See bprecover on page 383.

See cat_export on page 486.

See cat_import on page 488.

NBCC

NBCC – run the NetBackup consistency check (NBCC) utility.

SYNOPSIS

NBCC [-batch] [-debug] [-gather] [-help] [-idar] [-kbfree ####] [-locale *locale_name*] [-nozip] [-nocleanup] [-terse] [-upgrade] [-use_reg_cmd [32 | 64]] [-version] [-unknown_image_servers_*option*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/support/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\support\

DESCRIPTION

The NBCC command executes the NBCC utility that is used to confirm the integrity of portions of the NetBackup catalog and databases, including the following elements:

- Tape media and associated images
- The NBDB image, ImageCopy table records, ImageFragment table records, and the image catalog
- Enterprise Media Manager (EMM) server entries and configured storage unit entries

If NBCC detects catalog inconsistencies, it generates a set of output files. It can create a support package bundle of these files by using available system utilities.

These inconsistencies include the images whose associated media servers are not known to the EMM database. In these cases, you can use the -unknown_image_servers_*option* feature to select one of the following options: comment out, expire, or let a known media server inherit the images associated with these unknown media servers.

For more about the NBCC utility, see the *NetBackup Troubleshooting Guide*.

OPTIONS

-batch

Runs NBCC in a non-interactive mode. In this mode, the following occurs:

- If the output report already exists, NBCC automatically overwrites it.
- After the processing of `bpimagelist` information, any media servers that EMM does not know about are flagged. The full analysis then generates all repairs to be commented out for later review.
- If NBCC detects no NetBackup catalog inconsistencies, it does not create a support package.

`-debug`

Adds additional program debug information to the `nbcc-info.txt` file, which greatly increases the size of this file.

`-gather`

Gathers NetBackup configuration and catalog information only. This option does not check NetBackup catalog consistency.

`-help`

Outputs a more expanded version of help information about the NBCC utility.

`-idar`

Includes the identification of the abandoned tape media resources in the consistency check.

`-kbfree` *freespace*

Specifies the amount of free file system space that is required to run NBCC. Only whole numbers are allowed. The default value is located in the help output.

The NBCC default is: Free file system space (Kilobytes)= 2048000.

To skip all free file system space checking, set this value to zero (0) to run in a non-English locale environment.

`-locale` *locale_name*

Designates the NetBackup common_local_name. NBCC searches for this name in the following file:

On UNIX: `/usr/openv/msg/.conf`

On Windows: `.\VERITAS\msg\LC_CONF`

This name determines the associated date format to use with the `bpimagelist -d` command line option.

`-nocleanup`

If NBCC runs the consistency checks with no inconsistencies detected, it does not clean up the resultant support package or files.

Note: Do not use the -nocleanup option and the -gather option together. They are mutually exclusive because of the consistency check state.

-nozip

Skips the creation of a support package bundle. The generated NBCC files remain in the output directory.

-terse

Extracts only the fields that are associated with the consistency checks from each catalog record into the individual catalog content files.

-unknown_image_servers_*option*

Designates the action that the consistency analysis takes for any media server that is detected in the image database that is unknown to the EMM. *option* is one of the following values:

- comment_all - Comments out all Suggested Repair Actions (SRAs) that the analysis program generates that are related to the images associated with an unknown media server. Thus, NBCCR does not try to process these commented-out repairs.
- expire_all - The SRAs that the analysis program generates for NBCCR to process expire all images that are associated with any unknown media servers.
- inherit_all *hostname* - Designates a known media server (*hostname*) to replace the unknown server. This new server inherits all the images that are associated with any unknown media server. The analysis program generates these SRA items for NBCCR to process.
  For example, the following command lets media server MS1 inherit all the images that are associated with any unknown media servers.

  ```
  # NBCC -unknown_image_servers_inherit_all MS1
  ```

-upgrade

Includes only the consistency checks that relate to the ability to upgrade the NetBackup catalog.

-use_reg_cmd [32 | 64]

Enables the use of the Reg.exe utility to query the Windows registry. The version of Reg.exe that supports the /reg:32 or the /reg:64 command line parameters must be installed so that this option works correctly.

This option operates only on Windows systems.

`-version`

Outputs the internal version number of NBCC.

PREREQUISITES

The following items are needed before you can use the NBCC utility:

- For NBCC to create a support package (if required), the path to the following programs must be included in the $PATH environment variable: `tar` and `gzip`.
  If `tar` is not available, use the `makecab` program (if available) to bundle and compress the output files.
  If these programs are unavailable and you need a single support package file, manually bundle the files in the output directory into a support package.
- If you do not use the command line option `-kbfree 0`, NBCC inspects file system usage characteristics. Then it unloads the configuration information and catalog information and creates a support package. This information includes available free file system space (in Kilobytes). (Refer to the `-kbfree` option description.)
- The EMM server must be operational.
- The `vmd` process must run on the master server and on all other servers that act as the EMM server in the NetBackup configuration.
- The `bpdbm` process must run on the master server.
- On the installed NetBackup, all media servers and the `ltid` process must be running, and the network services must be configured.
- The UTC time on all servers in the NetBackup configuration and the server where the NBCC utility is run, must be synchronized within a few minutes of each other.

Note: Failure to ensure that the clocks are synchronized may cause NBCC to report inaccurate results.

PROGRAM USAGE

The following are program usage considerations:

- NBCC runs from the support directory (see synopsis). If you want to run from a different directory, NBCC uses the following default directory location:
  On UNIX: `/usr/openv/netbackup/bin/support/config`
  On Windows: *`install_path`*`\NetBackup\bin\support\`

- To ensure that catalog consistency problems are identified and fixed correctly, verify the following: No NetBackup jobs are running or started from the time when the data is collected until the time when the repair work is completed. Because this condition is not possible in most configurations, NBCC tries to identify the tape media that are associated with active NetBackup jobs. Due to the propagation delay that may occur during normal processing, not all active tape media may be identified. Hence, you should carefully review the consistency analysis results.
- NBCC detects EMM master servers. If more than one master server is detected, NBCC identifies the one that is associated with the system on which NBCC runs. NBCC uses the identified EMM master server to determine which EMM media servers are associated with that master server.

RETURN VALUES

The following exit values are returned:

```
0 = Consistency checks skipped (-gather)
    No inconsistency detected

1 = Inconsistency detected

2 = Program error condition detected:

    Invalid command line option
    .nbcc.lock file exists
    File permission problem
    File open/read/write problem
    Insufficient free disk space
    Unable to obtain the version of NetBackup
    Issue with NetBackup configuration information/detection
    Issue with NetBackup catalog information/detection

3 = -help information displayed
    -version information displayed
```

SEE ALSO

See NBCCR on page 575.

See nbcplogs on page 611.

See nbsu on page 930.

NBCCR

NBCCR – run the NetBackup consistency check repair (NBCCR) utility that repairs NetBackup database inconsistencies.

SYNOPSIS

NBCCR [-sra *SRAFilename*] [-emmpwd *EMMpassword*] [-version] [-help] [-volumedatabasehost *volDB_host*] [safe_pool_name *safepoolname*] [-kbfree *freespace*] [-use_reg_cmd [32 | 64]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/support/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\support\

DESCRIPTION

The NBCCR command executes the NBCCR utility that is used to apply the repair actions that are related to tape. The repair actions are contained in a Suggested Repair Actions (SRA) file. This utility executes NetBackup commands to perform these repairs. Veritas Technical Support generates the SRA file based on an analysis of data that the NBCC command collects. The NBCCR command should be run only at the direction of Veritas Technical Support. It should be used only to apply repairs in an SRA file that Veritas Technical Support generates. The NBCCR command creates a history file containing the results of each repair action attempted.

The following items can cause inconsistencies: the improper use of command-line commands, attempts to restore corrupted data, or the improper decommission of a media server. A full file system can also cause inconsistencies.

For more about the NBCCR utility, see the *NetBackup Troubleshooting Guide*.

OPTIONS

-emmpwd *EMMpassword*

Specifies the name of the EMM password if different than the default password.

Note: Veritas recommends that you use the `-emmpwd` option to supply the password for the EMM database. NetBackup no longer uses a default password at NetBackup versions 7.7 and later. Failure to supply the proper password can result in failed repairs, which can make the inconsistencies harder to repair.

`-help`

Outputs the extended help information and exits.

`-kbfree` *freespace*

Specifies the amount of free file system space that is required to run NBCCR. Only whole numbers are allowed. The default value is located in the help output.

This value overrides the default free space value of 1024000 (1024*1024).

To skip all free file system space checking, set this value to zero (0) if you run in a non-English locale environment.

`-sra` *SRAfilename*

Specifies the suggested repair action (SRA) file name. The default name is the following: *master_name*`.NBCCA.SRA_`*timestamp*`.txt`. The timestamp format is *yyyymmdd_hhmmss*.

`-safe_pool_name` *safefilename*

Overrides the default safe pool name. The default is NBCC_SafePool)

`-version`

Prints the version of the NBCCR utility and exits.

`-volumedatabasehost` *volDB_host*

Only needed if the volume database host (or EMM host) is not the master server. If the volume database host is not the master, the volume database host needs to be specified here. If multiple masters use the same volume database host, it must be specified here. If there are multiple volume database hosts on one master, do the following: Ensure that all tapes that the SRA file references are for the same volume database host, which must be specified on the command line.

`-use_reg_cmd [32 | 64]`

Enables the use of the Reg.exe utility to query the Windows registry. The version of Reg.exe that supports the /reg:32 or the /reg:64 command line parameters must be installed so that this option works correctly.

This option operates only on Windows systems.

SEE ALSO

See NBCC on page 570.

See nbcplogs on page 611.

See nbsu on page 930.

nbcertcmd

nbcertcmd – request and manage the host ID-based security certificates and tokens that are used to authorize certificate requests. Enroll an external certificate with a NetBackup host.

SYNOPSIS

nbcertcmd -checkClockSkew [-server *master_server_name*]

nbcertcmd -cleanupCRLCache -expired | -issuerHash *SHA-1_hash_of_CRL_issuer_name*

nbcertcmd -cleanupToken [-server *master_server_name*]

nbcertcmd -createCertRequest -requestFile *request_file_name* [-server*master_server_name*]

nbcertcmd -createECACertEntry -host *host_name* | -hostId *host_ID* -subject *subject_name_of_the_certificate* [-server *master_server_name*]

nbcertcmd -createToken -name *token_name* [-reissue -host *host_name* | -hostId *host_id*] [-maxUses *number*] [-validFor *num*D*num*H*num*M] [-reason *description_for_auditing*] [-server *master_server_name*]

nbcertcmd -deleteAllCertificates

nbcertcmd -deleteCertificate -hostId *host_id* [-cluster]

nbcertcmd -deleteECACertEntry -subject *subject_name* [-server *master_server_name*]

nbcertcmd -deleteToken -name *token_name* [-reason *description_for_auditing*] [-server *master_server_name*]

nbcertcmd -deployCertificate -certificateFile *certificate_file_name*

nbcertcmd -displayCACertDetail [-server *master_server_name*] [-json | -json_compact]

nbcertcmd -displayToken -name *token_name* [-json | -json_compact] [-server *master_server_name*]

nbcertcmd -ecaHealthCheck [-trustStorePath *path_to_CA_certificate_file*] [-certPath *path_to_certificate_file*] [-privateKeyPath *path_to_certificate_key_file*] [-passphraseFile *path_to_passphrase_file*] [-crlCheckLevel LEAF | CHAIN | DISABLE]

[-crlPath *path_to_CRLs*] [-cluster] [-web] [-fmt details | failures_only] [-json | -json_compact] [-serviceUser]

nbcertcmd -enrollCertificate [-force] [-preCheck] [-cluster] [-server *master_server_name*] [-remoteHost *remote_host_name*]

nbcertcmd -getCACertificate [-file *hash_file_name*] [-cluster] [-server *master_server_name*] [-updateTrustVersion]

nbcertcmd -getCertificate [-token | -envtoken *environment_variable* | -file *authorization_token_file*] [-force] [-cluster] [-server *master_server_name*] [-json | -json_compact]

nbcertcmd -getCRL [-server *master_server_name*] [-cluster]

nbcertcmd -getExternalCertDetails -certPath *path_to_certificate_file* [-json | -json_compact]

nbcertcmd -getNBKeysize [-server *master_server_name*] [-json]

nbcertcmd -getSecConfig [-certDeployLevel] [-caUsage] [-server *master_server_name*]

nbcertcmd -hostSelfCheck [-cluster] [-server *master_server_name*]

nbcertcmd -listAllCertificates [-jks]

nbcertcmd -listAllDomainCertificates [-json | -json_compact] [-server *master_server_name*]

nbcertcmd -listCACertDetails [-json | -json_compact] [-cluster]

nbcertcmd -listCertDetails [-ECA | -NBCA] [-json | -json_compact] [-cluster]

nbcertcmd -listEnrollmentStatus [-remoteHost *remote_client_name*] [-cluster] [-json | -json_compact]

nbcertcmd -listToken [-all] [-json | -json_compact] [-server *master_server_name*]

nbcertcmd -reissueCertificates [-cluster] [-server *master_server_name*]

nbcertcmd -removeCACertificate -fingerPrint *certificate_fingerprint* [-cluster]

nbcertcmd -removeEnrollment [-cluster] [-server *master_server_name*] [-remoteHost *remote_client_name*]

nbcertcmd -renewCertificate [-hostnameCerts] [-host *host_name*] [-cluster] [-server *master_server_name*]

nbcertcmd -revokeCertificate -host *host_name* | -hostId *host_id* [-reasonCode *value*] [-server *master_server_name*]

nbcertcmd -setSecConfig -certDeployLevel *level* [-server *master_server_name*]

nbcertcmd -setWinCertPrivKeyPermissions -reason [-revoke] [-force]

nbcertcmd -signCertificate -token | -file *authorization_token_file*-requestFile *request_file_name* -certificateFile *certificate_file_name*

nbcertcmd -updateConf

nbcertcmd -updateCRLCache

nbcertcmd -rotatePassphraseKey [-cluster]

nbcertcmd -rotatePassphrase [-cluster] [-length *length*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbcertcmd command is used to request and manage host ID-based security certificates on each NetBackup host. A NetBackup host can be a master server, media server, or client. Use the command to enroll an external CA signed certificate with a NetBackup host.

This command is also used to create and manage the authorization tokens that may be required to request certificates for NetBackup hosts.

Additionally the command is used to set and retrieve the security configuration attributes.

The **Privilege details** table lists the operations that require administrator privileges and also the operations that do not require special privileges.

Table A-1 Privilege details

Commands that require NetBackup administrator privileges	`-cleanupToken`, `-createECACertEntry`, `-createToken`, `-deleteToken`, `-deleteECACertEntry`, `-displayToken`, `-listAllDomainCertificates`, `-listToken`, `-reissueCertificates`, `-revokeCertificate`, and `-setSecConfig` **Note:** These operations require a `bpnbat` web log-on (`bpnbat -login -logintype WEB`) using an account that has NetBackup administrator privileges.
Commands that require host administrator privileges	`-cleanupCRLCache`, `-createCertRequest`, `-deleteAllCertificates`, `-deleteCertificate`, `-deployCertificate`, `-displayCACertDetail`, `-ecaHealthCheck`, `-enrollCertificate`, `-getCACertificate`, `-getCertificate`, `-getCRL`, `-hostSelfCheck`, `-listAllCertificates`, `-listCertDetails`, `-listEnrollmentStatus`, `-removeCACertificate`, `-removeEnrollment`, `-setWinCertPrivKeyPermissions`, `-updateCRLCache`, `-renewCertificate`, and `-updateConf`
Commands that do not require special privileges	`-checkClockSkew`, `-getExternalCertDetails`, `-getNBKeysize`, `-getSecConfig`, `-listCACertDetails`, `-rotatePassphrase`, `-rotatePassphraseKey`, and `-signCertificate`.

For more information about host ID-based security certificates and authorization tokens, see the NetBackup Security and Encryption Guide.

The `nbcertcmd` supports the following operations:

-cleanupCRLCache	Cleans up the NetBackup Certificate Revocation List (CRL) cache. This command option is only applicable for external CA-signed certificates.
-cleanupToken	Deletes the tokens that have reached their maximum usage count or have expired. This command option is only applicable for NetBackup CA-signed certificates.

-createCertRequest	Generates a NetBackup security certificate signing request on the NetBackup host and saves it into the specified file. The command should be used on the NetBackup host when there is no connectivity with the master server. The command must be executed on the NetBackup host for which you want to request the certificate. Use the `-server` option to specify the master server name in the certificate signing request. This name is the master server from which the NetBackup host expects the certificate.
-createECACertEntry	Adds an entry for the host and the associated subject name of the certificate in the NetBackup database for secure communication with the master server. If you want to provide the subject name using the OpenSSL API, ensure that it is in the RFC 2253 format. This command option is only applicable for external CA-signed certificates.
-createToken	Creates a token for authorizing certificate requests. This command option is only applicable for NetBackup CA-signed certificates.
-checkClockSkew	Displays the time difference (in seconds) between the current host and the master server.
-deleteAllCertificates	Deletes all NetBackup certificates and keys that are available on the NetBackup host. This option is only applicable on media servers and clients. This command option is only applicable for NetBackup CA-signed certificates.
-deleteCertificate	Deletes the NetBackup certificate of the NetBackup host that is associated with the specified host ID and removes the specified host ID entries from the `CertMapInfo.json` file. This option is available on all NetBackup hosts. This command option is only applicable for NetBackup CA-signed certificates.
-deleteECACertEntry	Removes the association of the external certificate with the host. The certificate entry is deleted from the database. This command option is only applicable for external CA-signed certificates.

-deleteToken	Deletes the specified token. This command option is only applicable for NetBackup CA-signed certificates.
-deployCertificate	Reads the host security certificate from the specified certificate file and deploys it on the NetBackup host. The command must be executed on the NetBackup host on which the certificate signing request was generated. This command option is only applicable for NetBackup CA-signed certificates.
-displayCACertDetail	Displays the NetBackup CA certificate details from the specified master server. This command option is only applicable for NetBackup CA-signed certificates.
-displayToken	Displays the attributes and the value of a specified token. This command option is only applicable for NetBackup CA-signed certificates.
-ecaHealthCheck	Checks whether the details that you have provided for the external CA-signed certificate are valid. This command option is applicable only for external CA-signed certificates
-enrollCertificate	Enrolls an external CA signed certificate with the NetBackup domain. This certificate is used during host communication. This command option is only applicable for external CA-signed certificates.
-getCACertificate	Connects to the master server and gets the certificate of the NetBackup Certificate Authority (CA). It then displays the fingerprint of the certificate and adds it to the NetBackup trust store after confirmation from the user. This command option is only applicable for NetBackup CA-signed certificates.

-getCertificate

This option performs the following actions:

- Requests a NetBackup certificate for the NetBackup host from the master server.
- Adds the certificate to the NetBackup trust store.
- Fetches the latest NetBackup certificate revocation list (CRL) and security level from the master server.

This command option is only applicable for NetBackup CA-signed certificates.

-getCRL

Fetches the latest certificate revocation list from the NetBackup CA on the master server. You can use the `-server` option to specify an alternate master server. Use the `-cluster` option to fetch the latest CRL from the global certificate store.

This command option is only applicable for NetBackup CA-signed certificates.

-getExternalCertDetails

Lists the details of the specified external CA-signed certificate.

This command option is only applicable for external CA-signed certificates.

-getNBKeysize

Displays the key size for the new certificate key pair that NetBackup generates.

-getSecConfig

Retrieves the specified security configuration attribute.

-hostSelfCheck

Indicates if the host's certificate is revoked or not revoked. In case of NetBackup CA-signed certificates, to ensure that you have the latest CRL information, first run `nbcertcmd -getCRL`. In case of external CA-signed certificates, to ensure that you have the latest CRL information, first run `nbcertcmd -updateCRLCache`. Before running the `nbcertcmd -updateCRLCache`, ensure that the latest CRLs are available at the location that is defined in the `ECA_CRL_PATH` configuration option.

-listAllCertificates

Lists the details of all security certificates that are available on the NetBackup host.

-listAllDomainCertificates

Requests all of the NetBackup certificates for the domain from a NetBackup master server. By default, this operation uses the first server entry in the NetBackup configuration (`bp.conf`). You can use the `-server` option to specify an alternate master server.

This command option is only applicable for NetBackup CA-signed certificates.

-listCACertDetails

Lists the details of trusted CA certificates that are stored in the NetBackup trust store of the NetBackup host.

-listCertDetails

Lists the certificate details for each security certificate that is deployed on the NetBackup host.

-listEnrollmentStatus

Retrieves the enrollment status for the associated master servers from the local certificate store. The enrollment status of a master server can be one of the following:

- Enrolled
- Not enrolled
- To be updated

-listToken

Lists the tokens. The option does not display the token value.

This command option is only applicable for NetBackup CA-signed certificates.

-reissueCertificates

Generates a new key pair and reissues the host ID-based and host name-based certificates to the host. In a cluster, do the following to reissue certificates:

- Run the `nbcertcmd -reissueCertificates -cluster` command on the active node to update CA certificate in the global trust store and reissue the virtual identity certificate.
- Run the `nbcertcmd -reissueCertificates` command on each cluster node to reissue host ID-based and host name-based certificates.

-removeCACertificate

Removes the NetBackup CA certificate from the NetBackup trust store that is used for secure communications, whose fingerprint matches with the input fingerprint. Use the `-listCACertDetails` option to view fingerprint of existing CA certificates.

This command option is only applicable for NetBackup CA-signed certificates.

-removeEnrollment	Removes the external certificate details with respect to the specified master server from the local certificate store. The certificate is neither deleted from the system nor from the NetBackup database.
-renewCertificate	Renews an existing host ID-based certificate. Use the `-hostnameCerts` option to renew host name-based certificates. Use the `-host` option to change the primary name of the host. This command option is only applicable for NetBackup CA-signed certificates.
-revokeCertificate	Revokes a NetBackup certificate. The NetBackup host can no longer use the certificate to communicate with the master server. This command option is only applicable for NetBackup CA-signed certificates.
-rotatePassphrase	Used to rotate the passphrase that encrypts the host ID-based certificate's private key. Rotation replaces the old encryption passphrase with a new one and encrypts the private keys with the new passphrase. You must stop all the NetBackup services before you use this option. This option is available on all NetBackup hosts. Use the `-cluster` option in the case of a cluster to specify the operation occurs on the global certificate store. Use the `-length` option to specify the length of the passphrase. The minimum value for `-length` is 32 and the maximum is 1023 characters. The default value for `-length` is 64.
-rotatePassphraseKey	Used to rotate the passphrase key that encrypts the host ID-based certificate's passphrase. Rotation creates a new encryption key and encrypts the passphrase with the new key. This option is available on all NetBackup hosts. Use the `-cluster` option in the case of a cluster to specify the operation occurs on the global certificate store.
-setSecConfig	Sets the specified security configuration attribute. If multiperson authorization is enabled for security properties operation and this option is used with the `-certDeployLevel` option, a ticket is generated. This ticket, when approved, sets the specified security configuration attribute.

-setWinCertPrivKeyPermissions

Sets the permissions on the private key corresponding to the certificate in the Windows Certificate Store so that all the NetBackup services have read access to that private key. The command identifies the certificate by the `ECA_CERT_PATH` value in NetBackup configuration.

The host needs to have external CA certificate enrolled with at least one master server to use this option.

The command fails if `MANAGE_WIN_CERT_STORE_PRIVATE_KEY` value is `Disabled` in NetBackup configuration, or external CA signed certificate isn't enrolled with any master server. Use `-force` to override these restrictions.

The command accepts the `-reason`, `-revoke`, and `-force` options.

-signCertificate

Reads the certificate signing request from the specified request file and sends it to the NetBackupCA on the master server that is listed in the signing request. The signed certificate is stored in the specified certificate file. The command must be executed on the NetBackup host which has connectivity with the master server.

This command option is only applicable for NetBackup CA-signed certificates.

Note: Be sure to use the `-signCertificate` option on a host with the same or higher NetBackup version where the certificate signing request (CSR) was generated.

-updateConf

Updates the external certificate-specific configuration options once the `ecaHealthCheck` command is successfully run.

-updateCRLCache

Updates the NetBackup CRL cache with the CRL files that are present at `ECA_CRL_PATH`. The `ECA_CRL_PATH` setting is specified in the NetBackup configuration file.

The CRL file present at `ECA_CRL_PATH` is used if it is valid and more current then the cached CRL copy.

This command option is only applicable for external CA-signed certificates.

Note: Clustered NetBackup hosts have two certificate stores, a local certificate store and a global certificate store. The command operates on the local certificate store by default, unless the `-cluster` option is specified.

Note: Please be aware the `nbcertcmd` command does not support non-US ASCII (non-7 bit ASCII) characters for user-defined strings.

OPTIONS

`-all`

Displays all tokens, including the tokens that have reached their maximum usage count or have expired.

`-caUsage`

Specifies the certificate authorities (CA) - NetBackup CA, external CA, or both - that the NetBackup domain supports. The output of the command can be one of the following:

- `NBCA:ON ECA:OFF` - Indicates that the web server uses only the NetBackup certificate authority signed certificates.
- `NBCA:OFF ECA:ON` - Indicates that the web server uses only the external certificate authority signed certificates.
- `NBCA:ON ECA:ON` - Indicates that the web server uses both the NetBackup certificate authority-signed certificates as well as the external certificate authority signed certificates.

`-certDeployLevel` *level*

Specifies the NetBackup certificate's deployment level. The option is applicable for both the `-getSecConfig` and `-setSecConfig` commands. The `-setSecConfig` command requires that you specify a level. Certificate deployment levels for the `-setSecConfig` parameter are:

0 - Very High: Automatic certificate deployment is disabled.

1 - High: Certificates are automatically deployed to known hosts.

2 - Medium: Certificates are automatically deployed to all requesting hosts.

If multiperson authorization is enabled for security properties operation and this option is used with the `-setSecConfig` option, a ticket is generated. This ticket, when approved, sets the specified security configuration attribute.

If multifactor authentication is configured for your user account, NetBackup may prompt you to reauthenticate yourself before you perform the

`-settSecConfig -certDeployLevel` operation. Reauthenticate yourself by entering the one-time password that is displayed in the authenticator application on your smart device.

`-certPath`

Specifies the path to the certificate file.

`-crlCheck`

Specifies the revocation check level for external certificates of the host. You can specify the following values:

- `DISABLE` or `0`: Revocation check is disabled. Revocation status of the certificate is not validated against the CRL during host communication.
- `LEAF` or `1`: The revocation status of the leaf certificate is validated against the CRL. `LEAF` is the default value for this option.
- `CHAIN` or `2`: The revocation status of all certificates in the certificate chain are validated against the CRL.

`-crlPath`

Specifies the path to the directory where the certificate revocation lists (CRL) of the external CA are located.

`-ECA`

Lists the certificate details for each external certificate authority signed certificate that is deployed on the NetBackup host. If this option is not specified, the NetBackup certificate details are retrieved.

`-envtoken` *`environment_variable`*

Indicates the name of an environment variable that contains the authorization token to be used for the request.

`-file` *`file_name`*

Specifies the path of the file containing either the authorization token (on the first line) or the CA certificate hash.

`-fingerPrint` *`certificate_fingerprint`*

Specify the CA certificate fingerprint. You can specify SHA-1 or SHA-256 fingerprint.

`-fmt details | failures_only`

Provides details of the validation checks that are run for the external certificate-specific configuration options. The `details` option provides a report of all successful and all failed validation checks. The `failures_only` option provides a report of only the failed checks.

`-force`

If the option is used with the `-getCertificate` option, the certificate is overwritten, if it exists. If the option is used with the `-enrollCertificate` option, the given certificate is enrolled irrespective of the existing enrollment status. When used with `-setWinCertPrivKeyPermissions`, it ignores the ECA enrollment status and `MANAGE_WIN_CERT_STORE_PRIVATE_KEY` value in the NetBackup configuration and sets the permissions.

`-host` *`host_name`*

Specifies the host name.

`-hostId` *`host_id`*

Specifies the NetBackup host ID.

`-hostnameCerts`

Specifies that you want to renew host name-based certificates.

`-jks`

Displays the web server certificate information from Java keystore. This option is available only on the NetBackup master server.

`-json`

Generates output data in `json` format that spans multiple lines.

`-json_compact`

Generates output data in `json` format on a single line.

`-maxUses` *`number`*

Specifies the maximum usage count of the token. If this option is not specified, the default value is `1`. The maximum value for `maxUses` is `99999`.

`-name` *`token_name`*

Specifies the token name.

`-NBCA`

Lists the certificate details for each NetBackup certificate that is deployed on the NetBackup host.

`-passphrasePath`

Specifies the path to the passphrase file that stores the passphrase, which is used to decrypt the private key.

`-privateKeyPath`

Specifies the path to the private key file of the certificate.

`-preCheck`

Examines the external certificate and determines if it can be enrolled.

`-reason` *description_for_auditing*

Specifies the reason that is stored in the audit record for this operation.

`-reasonCode` *value*

Specifies a reason code for revocation of a certificate. The values that are shown are the only valid numbers for the `-reasonCode` *value*:

0 - Unspecified, 1 - Key Compromise, 2 - CA Compromise, 3 - Affiliation Changed, 4 - Superseded, 5 - Cessation of Operation

`-reissue`

Creates a token that can be used to reissue a certificate. Use this option with either the `-host` option or the `-hostID` option.

`-remoteHost`

When you use `-remoteHost` with the `-removeEnrollment` option, an external certificate is enrolled for the specified remote host with the master server that you provide with the `-server` option.

When you use `-remoteHost` with the `-listEnrollmentStatus` option, the `-remoteHost` option lists the enrollment status for the master servers that are associated with the specified remote host.

When you use `-remoteHost` with the `-removeEnrollment` option, the `-remoteHost` option removes the enrollment of the specified remote host that exists with the specified master server.

Ensure that the name of the server from where you run the `-remoteHost` option is listed in the `SERVER` configuration option of the remote host.

For example: If you want to enroll a certificate for `remoteHost1` from `Server1`, ensure the following in the configuration file on the `remoteHost1`: `SERVER = Server1`

`-requestFile` *file_name*

Specifies the path of the certificate request file.

`-server` *master_server_name*

Specifies an alternate master server. By default, this command uses the first server entry in the NetBackup configuration.

`-revoke`

Revokes the permissions to access the private key in Windows Certificate Store from NetBackup services. This option works only with the `-setWinCertPrivKeyPermissions` operation.

`-serviceUser` *user*

Use the `-ecaHealthCheck` option to run the checks for the specific service user. Do not use this option with the `-web` option.

For UNIX and Linux, *user* is the username that you defined. For Windows, *user* is `LocalService`.

`-subject`

Specifies the subject name of the external certificate. If you want to provide the subject name using the OpenSSL API, ensure that it is in the RFC 2253 format.

`-token`

Indicates that an authorization token is used for the request. Prompts the user to securely specify a token.

`-trustStorePath`

Specifies the path to the certificate authority bundle file.

`-updateTrustVersion`

Updates the NetBackup database with the host's trust version. For successful activation of the NetBackup CA migration, the host's trust version should match the master server's trust version. A trust version of a host is an automatically-generated alphanumeric value and it defines the host's CA setup. Each time the CA setup is changed, for example a CA is removed from the host's trust store, the trust version is updated.

A host's trust version can be different than the master server's trust version in the following scenarios:

- One or more CA certificates from the master server's trust store are not present in the host's trust store
- The host's trust version is not updated in the NetBackup database

`-validFor` *num*`D`*num*`H`*num*`M`

Specifies the validity of the token. Input format for this value should be for number of days, hours, and minutes. For example, `12D6H30M`, would have a validity of 12 days, 6 hours, and 30 minutes. You can choose to specify one or more values. If this option is not specified, the default value is 24 hours. Please note that if you want to set the validity of the token to 12 hours, you don't need to specify values for days or minutes. You can specify `12H`. The maximum validity period that you can specify is 999 days.

`-web`

Configures an external certificate for communication with the NetBackup web user interface.

EXAMPLES

Example 1: Create a token to request a certificate re-issue.

```
# nbcertcmd -createToken -name acme01_HR05 -reissue -validFor 10D
-host HRfileserver.acme.com -reason "issued token on request of Alice
through email dated 12/08/2016"

Token XXXXXXXXXXXXXXXX created successfully.
```

Example 2: Obtain a certificate from a specified master using a token

```
# nbcertcmd -getCertificate -token -server nbmaster01.acme.com

Authorization Token:
Host certificate received successfully from server nbmaster01.acme.com.
```

Example 3: Request and deploy a certificate on a NetBackup host that has no connectivity with the master server.

- Run the command that is shown on the NetBackup host that has no connectivity with the master server:

  ```
  # nbcertcmd -createCertRequest -requestFile /tmp/request_file_name
  -server master.servername
  Host certificate request generated successfully.
  ```

- Copy the `/tmp/request_file_name` to a NetBackup host that has connectivity with the master server and run the command that is shown on that NetBackup host:
  Be sure to use the `-signCertificate` option on a host with the same or higher NetBackup version where the certificate signing request (CSR) was generated.

  ```
  # nbcertcmd -signCertificate -file authorization_token_file
  -requestFile /tmp/request_file_name -certificateFile
  /tmp/signed_certificate

  Sending certificate request to server: master.servername

  Host certificate request signed successfully.
  ```

- Copy the `/tmp/signed_certificate` to the original NetBackup host where the request file (`/tmp/request_file_name`) was generated and run the command shown:

  ```
  # nbcertcmd -deployCertificate -certificateFile /tmp/signed_certificate
  Deploying certificate from master server: master.servername

  Host certificate deployed successfully
  ```

SEE ALSO

See bpnbat on page 245.

nbcertupdater

nbcertupdater – run the certificate update utility

SYNOPSIS

nbcertupdater -host *host_name* [-broker *broker_name*] [-port *broker_port*] [-v] [-d] [-nolog]

nbcertupdater -ofile *output_file* [-ifile *input_file*] [-numparallel *num_parallel_hosts*] [-numattempts *attempts_per_host*] [-broker *broker_name*] [-port *broker_port*] [-v] [-d] [-nolog]

nbcertupdater -listonly -ofile *output_file* [-v] [-d] [-nolog]

nbcertupdater -help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The certificate update utility (nbcertupdater) provides an automated mechanism to contact a set of NetBackup hosts that can run a setuptrust operation with a specified authentication broker. The utility can also query the NBU_Machines private domain of the local authentication broker to generate the following: the set of NetBackup hosts that you can contact for the setuptrust operation.

The utility can only be run as a local administrator on the master server. It runs in three modes:

- Process a single host. You specify a single host name on the command line. The utility contacts the host and runs setuptrust with the specified authentication broker.
- Process multiple hosts. You specify the host names in an input file. If an input file is unspecified, nbcertupdater automatically generates the list of hosts to contact from the NBU_Machines private domain of the local authentication broker. It spawns a child to process each host. The -numparallel option controls the number of hosts that are processed in parallel.

- Create the host list from the authentication broker. The utility creates the list from the NBU_Machines private domain of the local authentication broker and writes it to the output file. The hosts are not processed.

OPTIONS

`-b | -broker` *broker_name*

The broker with which trust should be set up. If a broker is not specified, trust is set up with the NetBackup master server.

`-d`

Enables debug mode. The utility prints debug messages on the console.

`-h | -host` *host_name*

Specifies the NetBackup host where the `setuptrust` operation is performed.

`-help`

Prints command usage information.

`-i | -ifile` *input_file*

Specifies the name of the input file that contains the names of NetBackup hosts to be processed. Each line in the input file maps to a host name (except for comment lines).

`-l | -listonly`

Generates the list of NetBackup hosts from the local authentication broker, but does not process them.

`-na | -numattempts` *attempts_per_host*

Specifies the number of attempts to process the host before the utility declares failure. The default is 1.

`-nolog`

Shuts off all logging for the utility operation.

`-np | -numparallel` *num_parallel_hosts*

Specifies the number of hosts to be processed in parallel. The default is 3.

`-o | -ofile` *output_file*

Specifies the name of the output file.

`-p | -port` *broker_port*

Specifies the port number of the selected broker. If this option is not specified, the default broker port is used to contact the broker.

`-v`

Enables verbose mode. The utility prints extra informational messages on the console.

OUTPUT MESSAGES

`HOST_NOT_FOUND`

The host name cannot be found.

`BPCD_CONN_FAIL`

Failed to connect to `bpcd` on host. The host may not have NetBackup client software installed on it.

```
# bpnbat -ShowBrokerCerts
```

`USER_INTERRUPT`

User requested termination of operation. This error is returned if the user presses Ctrl-C to terminate the program.

`SUCCESS`

The host processed successfully.

EXAMPLES

Example 1 - Update a NetBackup host where the authentication client libraries are installed on it.

```
# nbcertupdater -h huffman.abc.com
Logging to directory /openv/netbackup/logs/certupdater>
Processing host huffman.abc.com
Host processed successfully
```

Example 2 - Generate a list of computer names from the NBU_Machines private domain of the local authentication broker. This list is the same as the list that is displayed when you run the `bpnbat -ShowMachines` command.

```
# nbcertupdater -listonly -o outfile.txt
Logging to directory </usr/openv/netbackup/logs/certupdater>
Generating host list from the local AB
Writing result to file <outfile.txt>
```

Example 3 - Use an input file to specify the hosts to be updated. The first host is updated successfully. `bpcd` is not running on the second host.

```
# cat infile.txt
huffman.vxindia.com
atom.vxindia.com
```

```
# nbcertupdater -i infile.txt -o outfile.txt
Logging to directory </usr/openv/netbackup/logs/certupdater>
Reading host names from file infile.txt
Attempt 1: Processing 2 hosts
Processing host huffman.abc.com (1/2)
Processing host atom.abc.com (2/2)
Completed host huffman.abc.com (SUCCESS)
Completed host atom.abc.com (BPCD_CONN_FAIL)
Total hosts attempted: 2 (1 succeeded)
Writing result to file <outfile.txt>

# cat outfile.txt
#huffman.abc.com #SUCCESS@(02/17/10 16:58:19)
atom.abc.com #BPCD_CONN_FAIL@(02/17/10 16:58:19)
```

nbcldutil

`nbcldutil` – the cloud storage utility for performing various operations specific to cloud deployment.

SYNOPSIS

nbcldutil -appendcert -sourcecert *source_certificate_path_and_name*

nbcldutil -copycert -sourcecert *source_certificate_path_and_name* [-destcert *destination_certificate_path*]

nbcldutil -createbucket [-storage_server *servername*] [-cmscredname *cmscredname*] [-region *regionname*] [-j]

nbcldutil -get_supported_api_list

nbcldutil -validatecreds [-storage_server *servername*] [-cmscredname *cmscredname*] [-j]

nbcldutil -help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

DESCRIPTION

Use the `nbcldutil` command to validate user credentials and create buckets for Amazon S3 compatible cloud storage providers and Microsoft Azure.

Note: This utility only supports Red Hat Linux.

OPTIONS

-appendcert

This option appends certificate data in a `.pem` format to NetBackup cloud store CA certificate bundle. Use this option if your cloud vendor's CA certificate isn't present in the NetBackup cloud store CA bundle (`cacert.pem`) at the `db/cloud` location, or if it's expired. The data is appended to the certificate in the *install_path*`/var/global/wmc/cloud` directory on UNIX and the *install_path*`\netbackup\var\global\wmc\cloud` directory on Windows.

`-cmscredname`

The Credential Management System (CMS) credential name is the name that you give to your credentials. It can only contain alphanumeric characters, hyphens, colons, and underscores.

`-copycert`

This option copies the certificate to a specified destination.

`-createbucket`

Creates a bucket in the cloud storage provider. The `createbucket` option requires the storage server, CMS credentials, and region name options for Amazon S3 compatible cloud storage providers. For Microsoft Azure, the region name option is not supported. For NetBackup versions before 10.3, substitute user name for the CMS credentials.

`-destcert` *`destination_certificate_path`*

Use this option to copy the certificate to a specific path destination. By default, the certificate is copied to the *`install_path`*`/var/global/wmc/cloud` directory on UNIX and the *`install_path`*`\netbackup\var\global\wmc\cloud` directory on Windows.. This parameter is optional. If the source file extension is not `.pem` but it is a valid `.pem` format, the command copies the file to the destination with the `.pem` extension.

Be aware that you cannot use the `-destcert` option with the `-appendcert` option.

`-get_supported_api_list`

Displays a list of `nbcldutil` supported APIs.

`-help`

Displays help information for the command or option.

`-j`

Generates output data in the `json` format that spans multiple lines.

`-region`

For Amazon S3 compatible cloud storage region support, specifies the region in which to create the bucket. Use the Amazon suggested region values. If you do not add the region value, the default region is used.

`-sourcecert` *`source_certificate_path_and_name`*

The file name and path of the source certificate.

`-storage_server`

Specifies the cloud storage server for bucket creation or validation.

`-username`

Starting with NetBackup 10.3, the `cmscredname` option replaces the `username` option. Use the `cmscredname` option for all NetBackup 10.3 and later servers. The `username` option is deprecated, but still available for the convenience of users that have not upgraded to storing credentials using CMS.

Specifies the user name of a user that has administrator privileges.

For Recovery Vault Azure the cloud provider user name is the credential name you add from the credentials page from NetBackup web UI. The password for this user can be anything as the credentials are already provided in the NetBackup web UI.

`-validatecreds`

Validates the user credentials for the cloud storage provider. The `validatecreds` option requires the storage server and user name options. When you run the `nbcldutil` command with this option, a password prompt is displayed.

EXAMPLES

Example 1: Copy the certificate to a non-default location.

```
nbcldutil -copycert -sourcecert /root/cert/file.pem
-destcert /root/destpath/
```

Example 2: Append a certificate.

```
nbcldutil -appendcert -sourceCert /root/certpath/file.pem
```

Example 3: Create Bucket in Amazon S3

```
nbcldutil -createbucket -storage_server mystorage_server
-username myusername -bucket_name bucketname -region us-west-1
```

```
nbcldutil -createbucket -storage_server mystorage_server
-cmscredname myCMSname -bucket_name bucketname -region us-west-1
```

nbcmdrun

nbcmdrun – wrapper command that is used to run NetBackup commands with a non-root account

SYNOPSIS

nbcmdrun *command_name [arguments]*

nbcmdrun -listCommands

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbcmdrun command is a wrapper used to run NetBackup commands on a NetBackup host. The NetBackup host is a primary server, a media server, or a client.

You can run the commands based on your RBAC permissions. With the NetBackup Command-Line Administrator role, you can run most of the NetBackup commands with a non-root user account.

You must enter command name without any path or extension, followed by all required and any optional arguments. You must run the nbcmdrun from a directory to which you have read and write access.

You must enable the nbcmdrun and the NetBackup service user on each system. To enable these, place a 1 in the ENABLE_NBCMDRUN file. For UNIX and Linux, the file is located in /usr/openv/netbackup/var. For Windows, the file is in *install_path*\NetBackup\var. For more information about how to enable nbcmdrun and the NetBackup service user, see the *NetBackup Security and Encryption Guide*.

To use nbcmdrun, the NetBackup service user must be enabled on the host. For more information about how to enable nbcmdrun and the NetBackup service user, see the *NetBackup Security and Encryption Guide*.

The nbcmdrun command is not supported with NetBackup Access Control (NBAC) features.

The nbcmdrun logs are found at the location shown:

- UNIX: `/usr/openv/netbackup/logs/nbcmdrun`
- Windows: *`install_path`*`\NetBackup\logs\nbcmdrun`

The logs of any command `nbcmdrun` runs are found in their respective log directory.

For more information about the `nbcmdrun` functionality, see the *NetBackup Security and Encryption Guide*.

OPTIONS

`-listCommands`

Use this option to list all commands that the `nbcmdrun` command supports.

EXAMPLES

Example 1: Run the `mklogdir` command and create the `bpcd` directory with non-root user access using the `nbcmdrun` command.

```
nbcmdrun mklogdir -create bpcd
Creating [bpcd] with permissions [0700].
nbcmdrun: CMD EXIT STATUS = 0
```

Example 2: Run the `vxlogcfg` command with non-root user access using the `nbcmdun` command.

```
nbcmdrun vxlogcfg -l --prodid 51216 --orgid 140
Configuration settings for originator 140, of product 51216...
LogDirectory = /usr/openv/logs/
DebugLevel = 3
DiagnosticLevel = 3
DynaReloadInSec = 0
LogToStdout = False
LogToStderr = False
LogToOslog = False
RolloverMode = FileSize | LocalTime
LogRecycle = False
MaxLogFileSizeKB = 51200
RolloverPeriodInSeconds = 43200
RolloverAtLocalTime = 0:00
NumberOfLogFiles = 3
OIDNames = mmui
AppMsgLogging = ON
L10nLib = /usr/openv/lib/libvxexticu
L10nResource = mmui
```

```
L10nResourceDir = /usr/openv/resources
SyslogIdent = VRTS-NB
SyslogOpt = 0
SyslogFacility = LOG_LOCAL5
LogFilePermissions = 600
nbcmdrun: CMD EXIT STATUS = 0
```

nbcomponentupdate

`nbcomponentupdate` – update the JRE version

SYNOPSIS

```
nbcomponentupdate -product [NetBackup | RemoteJavaConsole] -component
value -path component_path | -revert [-logpath path] [-help | -?]
[-dryrun | -force] [-version value] [-skipmajorversioncheck]
```

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/goodies/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\goodies\

DESCRIPTION

This utility lets you upgrade the installed version of the JRE in Veritas NetBackup. This utility does not support JRE update for NetBackup Plug-in for VMware vCenter.

The NetBackup installed version of the JRE is the supported major version for that NetBackup release. Use this utility to update to a minor version of the supported major JRE version. Veritas recommends that you update to another major JRE version only if the JRE vendor declares an end-of-life for the installed JRE version.

Close the product, such as NetBackup, before you attempt to update the JRE. If the product is active when you attempt the update, the utility exits with an error message that requests you to close the product.

Caution: Do not stop the utility while the JRE update is in progress. This action can cause the product that uses the JRE, such as NetBackup, to become unstable.

If there are additional versions of the JRE installed on your system for different applications, the NetBackup JRE does not interfere with them. The NetBackup JRE does not provide integration with web browsers and does not allow Java Applets or Web Start to run. For that reason, the NetBackup JRE cannot be used in a browser-based attack that uses Java Applet or Web Start vulnerabilities.

More information about the `nbcomponentupdate` command is available.

https://www.veritas.com/support/en_US/article.000115043

OPTIONS

`-component` *value*

Updates the specified component. The only valid value for this option is `JRE`.

`-dryrun`

Runs a test to verify if the operation is allowed.

`-force`

Skips the interactive mode. If you use `-force` and the `-product` is `RemoteJavaConsole`, you must use the `-version` option.

`-help | -?`

Prints the help.

`-logpath` *path*

Specifies the location of the log files. By default, the logs are generated in the system temp folder. On a Windows computer, you can specify the *path*`%temp%nbcomponentupdate_`*date_time*`.log`. Please note that the behavior of the option depends on what is specified.

- If the path you specify is a folder or a drive, the log file is generated in the specified location. If you specify `-logpath` as `C:\logs`, the log file is `C:\logs\nbcomponentupdate_`*date_time*`.log`.
- If you have specified a file name for `-logpath` and the file does not exist in that location, a new file is created with the specified name. If you specify `C:\samplelogfile.log`, the logs are generated in the `C:\samplelogfile.log` file.
- If you have specified a file name in the log path and the file exists in that location, the logs are appended to that file. If you specify `-logpath` as `C:\samplelogfile.log`, the logs are appended to the `samplelogfile.log` file.

Note: Do not specify a network path such as an NFS or a CIFS share for the log path.

`-path` *component_path*

Specifies the path where the new version of JRE for the upgrade is located. The *component_path* is either the installed JRE location or the extracted JRE folder.

`-product [NetBackup | RemoteJavaConsole]`

Updates the JRE version of the specified product. This option is not case-sensitive. If the selected product is the NetBackup Remote Administration

Console, the command lists all installed Remote Administration Console versions. You are then prompted to select a supported version of Remote Administration Console you want to update.

`-revert`

Reverts the currently installed update of the JRE to the previously installed JRE version.

`-skipmajorversioncheck`

Allows the utility to perform a JRE update to any higher major or higher minor version.

`-version` *value*

The version of the Remote Java Console that you want to upgrade or revert. This option is only available if you specify `RemoteJavaConsole` for the `-product` option. This limitation is because only the Remote Java Console maintains multiple versions that you can upgrade or revert.

If you do not specify this option, the utility lists all the installed Remote Java Console version. The utility then prompts you to select a supported version of the console to upgrade or revert. If you use the `-force` option, you must specify the `-version` option.

EXAMPLES

Example 1: An interactive update for NetBackup

```
$ /usr/openv/netbackup/bin/goodies/nbcomponentupdate -product NetBackup -component jre
-path /downloadedJre/jre1.8.0_91/

Command line: /usr/openv/netbackup/bin/goodies/nbcomponentupdate -product NetBackup
-component jre -path /downloadedJre/jre1.8.0_91/

Java Runtime Envrionment(JRE) version installed with product 'Veritas NetBackup'
  : 1.8.0_31 (64bit)
Java Runtime Envrionment(JRE) version found at path '/downloadedJre/jre1.8.0_91'
  : 1.8.0_91 (64bit)

This utility will update the Java Runtime Envrionment(JRE) binaries present at '/usr/openv/
java/jre' path

This utility may start and stop all (or some) services depending upon the present state of
services.

Do you want to continue (Y[es]/N[o]): Yes
```

```
Performing upgrade steps ...

[1/4] Pre-installation step is in progress
[1/4] Pre-installation step is completed successfully

[2/4] Installation step is in progress
[2/4] Installation step is completed successfully

[3/4] Post-installation step is in progress
[3/4] Post-installation step is completed successfully

[4/4] Commit and Cleanup step is in progress
[4/4] Commit and Cleanup step is completed successfully


After upgrading, Java Runtime Envrionment(JRE) version installed with product 'Veritas
NetBackup'                                  : 1.8.0_91 (64bit)

Successfully upgraded Java Runtime Envrionment(JRE) for Veritas NetBackup.
The log file generated for this operation is /tmp/logs/nbcomponentupdate/
nbcomponentupdate_12-08-2016_16.15.13.log
```

Example 2: Non-interactive revert for NetBackup

```
# ./nbcomponentupdate -product NetBackup -component jre -revert -force
Command line: /usr/openv/netbackup/bin/goodies/nbcomponentupdate -product NetBackup
-component jre -revert -force

Java Runtime Envrionment(JRE) version installed with product 'Veritas NetBackup'
  : 1.8.0_91 (64bit)
After revert, Java Runtime Envrionment(JRE) version with product 'Veritas NetBackup'
  : 1.8.0_31 (64bit)

This utility will update the Java Runtime Envrionment(JRE) binaries present at '/usr/openv/
java/jre' path

This utility may start and stop all (or some) services depending upon the present state of
services.

Performing revert steps ...

[1/4] Pre-installation step is in progress
[1/4] Pre-installation step is completed successfully
```

```
[2/4] Installation step is in progress
[2/4] Installation step is completed successfully

[3/4] Post-installation step is in progress
[3/4] Post-installation step is completed successfully

[4/4] Commit and Cleanup step is in progress
[4/4] Commit and Cleanup step is completed successfully

After reverting, Java Runtime Envrionment(JRE) version installed with product 'Veritas
NetBackup' : 1.8.0_31 (64bit)

Successfully reverted Java Runtime Envrionment(JRE) for Veritas NetBackup.
The log file generated for this operation is /tmp/logs/nbcomponentupdate/
nbcomponentupdate_22-08-2016_13.07.42.log
```

Example 3: An interactive revert for Remote Java Console

```
D:\sandbox>nbcomponentupdate.exe -product remotejavaconsole -component jre -revert
-logpath D:\LogFolder
Command line: D:\sandbox\nbcomponentupdate.exe -product remotejavaconsole -component jre
-revert -logpath D:\LogFolder


Following NetBackup Remote Java Console instances found on the host are supported by the
utility:

1> NetBackup - Java (NB-Java) 7.7           JRE : 1.8.0_31 (64bit)

2> NetBackup - Java (NB-Java) 7.7.1         JRE : 1.8.0_31 (64bit)

3> NetBackup - Java (NB-Java) 7.7.2         JRE : 1.8.0_77 (64bit)

** NOTE **
Unsupported versions of Veritas NetBackup Remote Java Console found on the host:
NetBackup - Java (NB-Java) 7.6, NetBackup - Java (NB-Java) 7.5

Please enter choice [(1 - 3) or Q(uit) to exit]: 3

After revert, Java Runtime Envrionment(JRE) version with product 'Veritas NetBackup Remote
Java Console'         : 1.8.0_31 (64bit)

This utility will update the Java Runtime Envrionment(JRE) binaries present at 'D:\RJC772\
```

```
Java\jre' path

Do you want to continue (Y[es]/N[o]): y

Performing revert steps ...

[1/4] Pre-installation step is in progress
[1/4] Pre-installation step is completed successfully

[2/4] Installation step is in progress
[2/4] Installation step is completed successfully

[3/4] Post-installation step is in progress
[3/4] Post-installation step is completed successfully

[4/4] Commit and Cleanup step is in progress
[4/4] Commit and Cleanup step is completed successfully

After reverting, Java Runtime Envrionment(JRE) version installed with product 'Veritas
NetBackup Remote Java Console'             : 1.8.0_31 (64bit)

Successfully reverted Java Runtime Envrionment(JRE) for Veritas NetBackup Remote Java
Console.
The log file generated for this operation is D:\LogFolder\
nbcomponentupdate_22-08-2016_16.22.13.log
```

nbcplogs

nbcplogs – copy all NetBackup logs to a designated destination

SYNOPSIS

nbcplogs *destination* [-s *mm/dd/yyyy-hh:mm:ss* | *mm/dd-hh:mm*] [-e *mm/dd/yyyy-hh:mm:ss* | *mm/dd-hh:mm*] [-d *value*d | *value*h | *value*m] [--tmpdir=*pathname*] [--use-reg-cmd 32|64] [--list-products] [--list-subproducts *logproducts*] [--nbsu | --no-nbsu] [--help-long] [--write-config] [--compress-before-bundle][--filecopy][--fast]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/support/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\support\

DESCRIPTION

The nbcplogs command copies logs from various locations in the NetBackup system to a common area where you can more easily troubleshoot a problem. This utility lets you determine what logs are copied. To reduce the size of the copied logs, you can use the time frame option to specify a start time and an end time.

If you have a case ID provided by Technical Support in the form ########, rename the log files with the case ID number. Then manually upload the files to the Veritas Evidence server. More information is available:

http://www.veritas.com/docs/000097935

For more about nbcplogs, see the *NetBackup Troubleshooting Guide*.

OPTIONS

--compress-before-bundle

Compresses the log files, then bundles them and adds them to the tarball. Compressing the files first instead of after the files are copied reduces peak disk usage.

destination

Specifies the destination of the logs to be collected.

`-d | --duration` *`value`*`d | `*`value`*`h | `*`value`*`m`

Sets the duration of the log data to be collected. The time units of the duration can be in d[ays], h[ours], or m[in]. For example:

```
--duration 5h /tmp/logs
```

`--fast`

Fast search uses a binary search to strip out the lines that are outside the time frame of the file. This mechanism is useful when you copy large log files such as `bpdbm`. This option is rarely needed and should be used with caution.

`--filecopy`

File copy is the default condition. It copies the entire log file.

`--help-long`

Displays a complete set of options available for the `nbcplogs` command.

`-l | --logs`*`log_type`*`[.`*`sub`*`] [,...]`

Limits the log types that are collected to only those specified on the command line. The *sub* option lets you specify a sub-category of a log type. If no log types are specified, all log types are copied.

`--list-products`

Lists all the possible logs that can be reported on.

`--list-subproducts` *`log_product`*

Lists all the log subproducts for the specified log product.

`--nbsu | --no-nbsu`

Enables (`--nbsu`) or disables (`--no-nbsu`) running the `nbsu` utility as part of the `nbcplogs` command operation. The `nbsu` command utility gathers a wide range of diagnostic information that is helpful when it is used with the log data that is gathered.

The default condition is that `nbsu` runs and creates a support package to send to Technical Support.

`-s | --start` *`mm/dd/yyyy-hh:mm:ss | mm/dd-hh:mm`* `-e | --end` *`mm/dd/yyyy-hh:mm:ss | mm/dd-hh:mm`*

Sets the start time (-s) or the end time (-e) for the collection of logs.

The `-s` option specifies a start date and time for the logs. If no corresponding `-e` option is used, the utility collects all log data from the start time to the present.

The `-e` option specifies an end date and time for the logs. If no corresponding `-s` option is used, the utility collects all log data present in the log files up to the end date.

If no start time or end time is specified, the default time period is the last 24 hours.

`--tmpdir=`*pathname*

Specifies the staging directory the command uses when it bundles the logs into a tarball.

If `--tmpdir` is not specified, the default staging directory is used. That directory is:

Windows: `C:\temp`

UNIX or Linux: `/tmp`

`--use-reg-cmd [32|64]`

This option is required when you run the `nbcplogs` command on a non-English Windows server.

`--write-config`

Lets you to view or modify `nbcplogs` configuration values. This option creates a `nbcplogs` configuration file (`nbcplogs.conf`), which you can then edit.

EXAMPLES

Example 1 - Copy all `volmgr` logs between 1:00 and 2:00.

```
# nbcplogs --start 01:00 --end 02:00 --logs volmgr /tmp/logs
```

Example 2 - Copy the last 24 hours of `nbpem` logs and `bpdbm` logs, and run the `nbsu` utility:

```
# nbcplogs -l nbpem,bpdbm
```

Example 3 - Display the complete set of options available to use with the `nbcplogs` command:

```
# nbcplogs --help-long
```

Example 4 - Display the complete set of log subproducts available for the `nbcplogs` command:

```
# nbcplogs --list-subproducts vxul*  "vxul" subproducts:
*  vxul.111 = /usr/openv/logs/nbemm aliases: 111, nbemm, vxul.nbemm
*  vxul.116 = /usr/openv/logs/nbpem aliases: 116, nbpem, vxul.nbpem
*  vxul.117 = /usr/openv/logs/nbjm  aliases: 117, nbjm, vxul.nbjm
*  vxul.118 = /usr/openv/logs/nbrb  aliases: 118, nbrb, vxul.nbrb
*  vxul.119 = /usr/openv/logs/bmrd  aliases: 119, bmrd, vxul.bmrd...
```

nbcredkeyutil

`nbcredkeyutil` – refreshes the encryption key that NetBackup's credential management system uses.

SYNOPSIS

nbcredkeyutil -add | -list

nbcredkeyutil -help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `nbcredkeyutil` command is used to add new encryption keys and list the existing keys that NetBackup's credential management system uses.

OPTIONS

`-add`

Adds a new encryption key to NetBackup's credential management system, the new key will be used for future encryption work. The existing keys are maintained for decryption.

`-help`

Displays the `nbcredkeyutil` command syntax.

`-list`

Lists the encryption keys' tags that are found in NetBackup's credential management keystore.

nbdb_admin

nbdb_admin – start or stop individual databases and change default password

SYNOPSIS

nbdb_admin -dba *new_password* [-dbn NBDB | NBAZDB] [-backup *directory*]

nbdb_admin -start | stop [database_name]

nbdb_admin [-vxdbms_nb_data *directory*] [-vxdbms_nb_staging *directory*] [-vxdbms_nb_server *servername* | [EMMSERVER]

nbdb_admin -enable_request_logging [-duration *minutes*]

nbdb_admin -disable_request_logging

nbdb_admin -list

nbdb_admin -reorganize [*database_name*]

nbdb_admin -update_user_list

nbdb_admin -validate [*database_name*]

nbdb_admin -vacuum [*database_name*]

On UNIX systems, the directory path to this command is /usr/openv/db/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbdb_admin command can be used to start or stop the NetBackup database (NBDB), the NetBackup Authorization database (NBAZDB), or the Bare Metal Restore database (BMRDB).

The nbdb_admin command line utility can also be used to enable the customer to change the DBA and application passwords. The DBA and application passwords are encrypted and stored in the vxdbms.conf file. The permissions on the file enable the root user on UNIX or a Windows administrator to read or write it.

During installation, a randomly generated password is created for the NBDB, NBAZDB, and BMRDB databases for all DBA and application accounts. The same password is used for the NBDB and the BMRDB DBA and application accounts such as EMM_MAIN. A different randomly generated password is created for the NBAZDB database.

This command can enable and disable a request logging tool that is used to troubleshoot NetBackup database performance issues at the highest database logging level. Use request logging for a problem that has an active support case.

OPTIONS

`-dba` *new_password* [`-dbn NBDB | NBAZDB | BMRDB`] [`-backup` *directory*]

This option changes the existing password for NetBackup databases. The password must be an ASCII string. Non-ASCII characters are not allowed in the password string. What database passwords are changed depends on the use of the `-dbn` option.

If `-dbn` is not specified or if `-dbn NBDB` is specified, the command changes the password for the NBDB and the BMRDB databases for all DBA and application accounts.

If the `-dbn NBAZDB` option is specified, the command changes the existing password for the NBAZDB database. The NBAZDB database password is different than the password for the NBDB and the BMRDB databases and application accounts.

If the NBAZDB password is set to the old default password, it is reset to a randomly generated password at the next NetBackup upgrade. The randomly generated password is different than the randomly generated password for the NBDB and the BMRDB databases. If the NBAZDB password is the same as the NBDB password, the NBAZDB password is reset to a randomly generated password at the next NetBackup upgrade.

If the `-backup` option is used, the new password is saved in the specified directory with the file name `nbdbinfo.dat`. Otherwise, it is saved under the default location with the same file name.

Caution: A reset of any database password requires a restart of the NetBackup Web Management Console service.

`-disable_request_logging`

Deactivates request logging and removes any request log settings. This option requires that you restart the NetBackup Scale-Out Relational Database Manager service.

`-duration` *minutes*

Disable request logging after the specified time in minutes. Specify 0 to manually disable later.

`-enable_request_logging`

Activates request level logging for NBDB at the maximum level for troubleshooting. The overhead of request logging may affect performance and is not recommended for regular use. Request logging for NBDB may be useful only if the customer is experiencing NBDB performance issues and has an active support case.

`-list`

Lists all the database tablespaces and configuration files.

`-reorganize` *`database_name`*

Reorganizes the given database. If no database is specified, the default is to reorganize all databases.

`-start | -stop [database_name]`

Starts or stops the database that is identified in the *database_name* field. You can specify NetBackup database (NBDB), the NetBackup Authorization database (NBAZDB), or the Bare Metal Restore database (BMRDB). The *database_name* field is optional. The NBDB database is the default for this command.

Note: Before you take a database offline with the `-stop` option, stop all services that are running except the NetBackup Scale-Out Relational Database.

`-update_user_list`

Synchronizes all accounts in the file `userlist.txt` with the account and password in the NBDB database. Use this option if the account and password information in the pgbouncer's `userlist.txt` file is out of sync with the NetBackup database. If you continue to see connection issues, restart the NetBackup services.

`- vacuum` *`database_name`*

Performs a vacuum operation on the specified database. If no database is specified, the default is to perform the vacuum operation on all databases.

The vacuum operation reclaims the space that any dead tuples occupy and makes it available for re-use.

`-validate` *`database_name`*

Validates the indexes and keys on all of the tables in the specified database. If no database name is specified, the option validates all the databases. It scans each table and checks that each row exists in the appropriate indexes. The number of rows in the table must match the number of entries in the index.

The validation checks do not require that all NetBackup activity be suspended. However, the checks may report any transient errors that are a result of transactions that are in progress.

`-vxdbms_nb_data` *directory*

This command updates the VXDBMS_NB_DATA parameter that is stored in the bp.conf file on UNIX systems and in the registry on Windows systems. This parameter contains the main location of the NBDB and the BMRDB databases.

`-vxdbms_nb_server` *servername* | `EMMSERVER`

Changes the database server name to the given *servername* or `EMMSERVER` from `bp.conf` file.

`-vxdbms_nb_staging` *directory*

Changes the staging directory from the default to the specified *directory*. This option saves the information in the `vxdbms.conf` file.

SEE ALSO

See nbdb_backup on page 619.

See nbdb_move on page 621.

See nbdb_ping on page 623.

See nbdb_restore on page 624.

See nbdb_unload on page 626.

nbdb_backup

`nbdb_backup` – run the program that is used to make a backup of the databases in a directory

SYNOPSIS

nbdb_backup [-dbn *database_name*] [-online] *destination_directory*

On UNIX systems, the directory path to this command is /usr/openv/db/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `nbdb_backup` command enables the customer to make either an online backup or offline backup of the NetBackup databases to a file system directory. Use this command to perform maintenance operations and make a copy of a database.

OPTIONS

-dbn *database_name*

Sets the database that *database_name* identifies for backup. The possible databases are NBDB, NBAZDB, and BMRDB. The default is to back up all databases if they are installed on the server. If no database is specified with the `-dbn` option, then a backup with the filename `pgdatabase.sql` is created.

If the `-dbn` *database_name* option is used, then a backup is created with the filename *database_name*`.sql`. For example, `nbdb.sql`.

-online

Enables an online backup of the NetBackup databases. An online backup means that the database is up and in operation during the backup.

destination_directory

Identifies the directory where the backup is stored.

If the `-dbn` *database_name* option is used, then a backup is created with the file name *database_name*`.sql`. For example, `nbdb.sql`. The *destination_directory* must be empty or the backup fails.

SEE ALSO

See nbdb_move on page 621.

See nbdb_ping on page 623.

See nbdb_restore on page 624.

See nbdb_unload on page 626.

nbdb_move

`nbdb_move` – move location of all the NetBackup databases after installation

SYNOPSIS

nbdb_move -data *data_directory*

On UNIX systems, the directory path to this command is /usr/openv/db/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `nbdb_move` command moves the NetBackup databases from the default directory locations to the customer-specified directories. This command moves the databases to the specified directory location. By default, the databases are in the directories shown:

NBDB

- Linux: `/usr/openv/db/data/nbdb`
- Windows: *install_path*\NetBackupDB\data\nbdb

NBAZDB

- Linux: `/usr/openv/db/data/nbazdb`
- Windows: *install_path*\NetBackupDB\data\nbazdb

BMR

- Linux: `/usr/openv/db/data/bmrdb`
- Windows: *install_path*\NetBackupDB\data\bmrdb

This command moves all the directories and files that make up a database and renames the original directory with the `.moved` extension. For example, `/usr/openv/db/data/nbdb` is renamed to `/usr/openv/db/data/nbdb.moved`.

Caution: Veritas supports moving the NetBackup catalog to a non-default location on a Windows cluster after installation or upgrade. Before any upgrades, however, you must move the NetBackup catalog back to the default location for the upgrade to succeed. Do not attempt a NetBackup upgrade if the catalog is not in the default location. You primary server is rendered unusable if you fail to move the database back to the default location before upgrade.

OPTIONS

`-data` *`data_directory`*

Moves the NetBackup databases to the customer-specified directories that *data_directory* designates. The *data_directory* must be empty or the move fails.

SEE ALSO

See nbdb_backup on page 619.

See nbdb_ping on page 623.

See nbdb_restore on page 624.

See nbdb_unload on page 626.

nbdb_ping

`nbdb_ping` – display status of the NetBackup databases

SYNOPSIS

`nbdb_ping` `[-q] [-dbn` *`database_name`*`]`

`On UNIX systems, the directory path to this command is /usr/openv/db/bin/`

`On Windows systems, the directory path to this command is` *`install_path`*`\NetBackup\bin\`

DESCRIPTION

The `nbdb_ping` command is used to check and display the status of the NetBackup database (NBDB), the authorization database (NBAZDB), or the BMR database (BMRDB). Enter the command with no options to display the status of NBDB.

OPTIONS

`-dbn` *`database_name`*

Displays the status of the specified database. The possible databases are NBDB, NBAZDB, and BMRDB.

`-q`

Puts the command in Quiet Mode. It does not make any standard output.

SEE ALSO

See nbdb_backup on page 619.

See nbdb_move on page 621.

See nbdb_restore on page 624.

See nbdb_unload on page 626.

nbdb_restore

nbdb_restore – recover the database that is backed up to a directory using nbdb_backup

SYNOPSIS

nbdb_restore -recover *source_directory* [-dbn *database_name*]

nbdb_restore -recover -staging

On UNIX systems, the directory path to this command is /usr/openv/db/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbdb_restore command restores all NetBackup databases that you protect with the nbdb_backup command. The databases are recovered from the specified staging directory. The command always runs pgdatabase.sql to recover all NetBackup databases.

OPTIONS

-dbn *database_name*

Specifies the database name to recover. The possible databases are: NBDB, NBAZDB, or BMRDB.

If -dbn is used, the file name to restore from is *database_name*.sql. For example, NBDB.sql.

If -dbn is not used, NetBackup restores from the file pgdatabase.sql.

If you use the -staging option, do not specify the -dbn option. NetBackup always restores from the pgdatabase.sql file when you provide the -staging option.

-recover *source_directory*

The location of the backup. If you use the -staging option, do not specify the *source_directory*.

`-staging`

Restores the NetBackup databases from the staging directory. Do not specify the *source_directory* with the `-recover` option.

EXAMPLES

Example 1 - Restore and recover NBDB from the copy in the default staging directory.

Example 1 - Restore and recover NBDB from the `NBDB.sql` file that is present the `/usr/openv/db/staging/` directory

```
nbdb_restore -dbn NBDB -recover /usr/openv/db/staging/
```

Example 2 - Recovers all NetBackup databases.

```
nbdb_restore -recover -staging
```

SEE ALSO

See nbdb_backup on page 619.

See nbdb_move on page 621.

See nbdb_ping on page 623.

See nbdb_unload on page 626.

nbdb_unload

nbdb_unload – unload the NetBackup databases

SYNOPSIS

nbdb_unload [-dbn *database_name*] [-t *tablelist*] [-s] *destination directory*

nbdb_unload [-dbn *database_name*] -rebuild [-verbose]

On UNIX systems, the directory path to this command is /usr/openv/db/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbdb_unload command unloads the specified database. By default the NBDB database is unloaded. The other value for -dbn includes BMRDB (Bare Metal Restore database) or NBAZDB (the Authorization database).

Note: The Enterprise Media Manager (EMM) database is a component of the NBDB database.

The nbdb_unload command generates a single file with name database_name.sql that contains the schema and data. For the NBDB database, the schema and data are unloaded as a file that is named NBDB.sql in the named directory. For other databases, a similar file is created. For example, for BMRDB the file is BMRDB.sql. For NBAZDB the file is NBAZDB.sql.

OPTIONS

-dbn *database_name*

Specifies the database that is to be unloaded.

The values are NBDB, NBAZDB, and BMRDB. If -dbn is not provided, the default is NBDB.

-rebuild

Rebuilds the default NetBackup database (NBDB).

`-s`

Unloads the schema only - no data is unloaded.

`-t` *`tablelist`*

Specifies a comma-separated list of tables to unload instead of all the tables in the database. The tables must be in the format *schema_name.table_name*.

`-verbose`

Generates more detailed information for the output.

`destination directory`

Specifies the directory where the user wants the dump of the data and schema. The *destination_directory* must exist and any files of the same name are overwritten. On Linux, the database user must have access to the *destination_directory*.

EXAMPLES

Example 1 - Unload the NBDB database (including all of EMM), data and schema:

```
UNIX systems: # nbdb_unload /tmp/nbdb_dump

Windows systems: # nbdb_unload C:\temp\nbdb_dump
```

Example 2 - Unload only the NBDB schema:

```
UNIX systems: # nbdb_unload -s /tmp/nbdb_dump

Windows systems: # nbdb_unload -s C:\temp\nbdb_dump
```

Example 3 - Unload only the EMM_STU table (by using fully qualified table names):

```
UNIX systems: # nbdb_unload -t emm_main.emm_stu /tmp/stu

Windows systems: # nbdb_unload -t emm_main.emm_stu C:\temp\stu
```

Example 4 - Unload the BMR database:

```
UNIX systems: # nbdb_unload -dbn BMRDB /tmp/bmr_dump

Windows systems: # nbdb_unload -dbn BMRDB C:\temp\bmr_dump
```

SEE ALSO

See nbdb_backup on page 619.

See nbdb_move on page 621.

See nbdb_ping on page 623.

See nbdb_restore on page 624.

nbdb2adutl

nbdb2adutl – used to query or extract DB2 backup images from the NetBackup catalog

SYNOPSIS

nbdb2adutl query logs {db|database *db_name*} [inst *inst_name*] [partition *n*|all] [between *sn1* and *sn2*] [chain *n*|all] [browse_client *browse_client_name*]

nbdb2adutl extract logs {db|database *db_name*} [inst *inst_name*] [partition *n*|all] [between *sn1* and *sn2*] [chain *n*|all] [browse_client *browse_client_name*]

nbdb2adutl query {db|database *db_name*} [inst *inst_name*] [partition *n*|all] [full|tablespace] [nonincremental|incremental|delta] [taken at *timestamp*] [browse_client *browse_client_name*]

nbdb2adutl extract {db|database *db_name*} [inst *inst_name*] [partition *n*|all] [full|tablespace] [nonincremental|incremental|delta] taken at *timestamp* [browse_client *browse_client_name*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

Use the nbdb2adutl command to interact with the DB2 backup images found in the NetBackup catalog.

When you use the query option, the command queries the NetBackup catalog for DB2 backups. The inst option is only required when the instance name (DB2INSTANCE) is not found in the environment.

When you use the extract option, the command restores DB2 database backup images and archive logs from NetBackup to the user's current working directory. Existing database backup images and log files are not overwritten. For this reason, be careful when you use all with either partition or chain.

By default, the original user, or any user from the same group has access to the backup images. NetBackup image permissions are set at backup time using the

BKUP_IMAGE_PERM option. See the NetBackup for DB2 Administrator's Guide for more information.

Before you run the nbdb2adutl command, you must run the bpnbat -login -loginType WEB command. The bpnbat command authenticates your web services logon. The user that is specified when you run bpnbat -login -loginType WEB should be a member of an RBAC role with Assets, DB2, View, and Recover permissions.

You can use the filter types listed here for backup type or incremental type:

OPTIONS

between *sn1* and *sn2*

Identifies the range of archive log sequence numbers. The specified sequence numbers are inclusive in the range. If the option is omitted, all sequence numbers that meet the specified criteria are returned.

browse_client *client_name*

Identifies the name of the client where the backups were performed. Used for alternate client restores. Primary server must be configured for alternate client restore. That is altnames, etc. If not specified, the browse client is determined from the bp.conf.

chain *n* | all

Identifies the archive log chain number. Use all to indicate that you want all chain numbers included. The default value is 0.

db *database_name*

Name of the database.

delta

Include only the incremental delta backup images in the query or extract.

extract

Identifies that a restore operation is to be performed.

full

Include only the full database backup images in the query or extract.

incremental

Include only the incremental backup images in the query or extract.

inst *instance_name*

Name of the instance. The option is required if the name of the instance cannot be obtained from the DB2INSTANCE environment value.

`logs`

Identifies that the DB2 archive logs are the object.

`nonincremental`

Include only the non-incremental backup images in the query or extract.

`partition` *n* | `all`

Identifies the DB2 database partition. Use `all` to specify all partition numbers. The default is `0`.

`query`

Used to search the NetBackup catalog for DB2 archive log backups.

`tablespace`

Include only the tablespace backup images in the query or extract.

`taken at` *date-time*

Used to specify the timestamp of a backup image in query and extract operations. The timestamp is displayed after successful completion of a backup operation and is part of the path name for the backup image. The timestamp format is *yyyymmddhhmmss*. This parameter is required for the `extract` operation and optional for the `query` operation. If the parameter is not specified for a `query` operation, the output is not timestamp limited.

You can specify a partial timestamp. For example, if the backup images with timestamps `20241201130130` and `20241202130130` exist, if you specify `20241202` the operation uses the `20241202130130` image.

EXAMPLES

Example 1: Query all the logs for a database named `sample` where the `instance` is `prod`, the `partition` is `0`, and the `chain` is `0`.

```
nbdb2adutl query logs db sample inst prod
```

Example 2: Query log sequence numbers `5` to `10` for the `sample` database, where the `instance` is `prod`, the `partition` is `0` and the `chain` is `0`. Instance `prod` is found in the environment.

```
nbdb2adutl query logs db sample between 5 and 10
```

Example 3: Restore log sequence numbers `5` to `10` for the `sample` database, where the `instance` is `prod`, the `partition` is `0`, and the `chain` is `0`.

```
nbdb2adutl extract logs db sample inst prod between 5 and 10
```

Example 4: Alternate client restore log sequence number `5` to `10` for the `sample` database from the production server `prodbox.sample.com`, where `instance` is `prod`, the `partition` is `0`, and `chain` is `0`.

```
nbdb2adutl extract logs db sample inst prod between 5 and 10
browse_client prodbox.sample.com
```

Example 5: Query all the database backup images that were taken on March 25, 2024 for the sample database, the instance is `prod`, the partition is `0`.

```
nbdb2adutl query db sample inst prod taken at 20240325
```

Example 6: Restore all the database backup images that were taken at 1:45:03 on March 25, 2024 for the sample database, the instance is `prod`, the partition is `0`.

```
nbdb2adutl extract db sample inst prod taken at 20240325124503
```

SEE ALSO

See bplist on page 219.

See bpnbat on page 245.

nbdbms_start_server

`nbdbms_start_server` – start and stop database server

SYNOPSIS

nbdbms_start_server

nbdbms_start_server `-stop [-f]`

`The directory path to this command is /usr/openv/db/bin/`

DESCRIPTION

This command operates only on UNIX systems.

The NetBackup Scale-Out Relational Database runs as a daemon on UNIX that starts or stops by using a script. If you initiate the program without any argument, the server starts.

OPTIONS

`-stop`

Causes the server to shut down.

`-f`

Causes a forced shutdown of the server irrespective of active connections. This option is only applicable when used with the `-stop` option.

nbdbms_start_stop

`nbdbms_start_stop` – start and stop NetBackup database on the server

SYNOPSIS

`nbdbms_start_stop` `[start | stop]`

`The directory path to this command is /usr/openv/netbackup/bin/`

DESCRIPTION

This command operates only on UNIX systems.

The `nbdbms_start_stop` command starts and stops the NetBackup Scale-Out Relational Database Manager daemon.

OPTIONS

`stop`

Causes the server to shut down.

`start`

Starts the server.

nbdc

nbdc – add, modify, or list NetBackup data classifications

SYNOPSIS

nbdc -add -n *name* -r *rank* [-v] [-M *master_server*] [-d *description*]

nbdc -L | -l [-v] [-M *master_server*]

nbdc -modify -dc *class* [-v] [-M *master_server*] [-n *name*] [-d *description*] [-r *rank*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbdc command names data classifications and sets their rank. Data classifications are the labels that the user can attach to backup images. They allow NetBackup to treat different kinds of data differently. Only storage lifecycle policies can use data classifications.

The nbdc command can do one of the following:

- Add (-add) a new data classification. The new level requires a name and a rank, and optionally, a description and a master server name if multiple master servers are present.
- List (-L or -l) the data classifications.
- Modify (-modify) the name, rank, or description of a specified data classification.

OPTIONS

-d *description*

Specifies the new description for the designated data classification. This description is commentary only.

-dc *class*

Specifies the data classification ID (GUID) to be modified.

`-l`

Lists the data classifications. The output contains only information. The fields do not have names. A line appears for each level with the fields that are space delimited.

`-L`

Lists the data classifications. The field name identifies the output fields. A line is output for each level and is formatted to print within the field headings.

`-M` *`master_server`*

Specifies a master server. The default is the local server.

`-n` *`name`*

Identifies the new name for the specified data classification. Default names are Platinum, Gold, Silver, and Bronze.

`-r` *`rank`*

Identifies the new rank for the specified data classification ID. The rank is the method by which NetBackup determines the importance of a data classification in relation to other data classifications.

`-v`

Selects the verbose mode for logging.

EXAMPLES

Example 1 - List all data classifications. Only two levels (ranks) are shown.

```
# nbdc -L
             Rank: 4
             Name: Bronze
      Description: "lowest rank"
Classification ID: B1F664D41DD111B2ACFB99708C0940D1

             Rank: 1
             Name: Platinum
      Description: "highest rank"
Classification ID: B4C999D41DD111B2FFFB99704C6660D4
```

Example 2 - Change the description of Rank 4 to "really the lowest rank":

```
# nbdc -modify -sl B1F664D41DD111B2ACFB99708C0940D1 -d "really the
   lowest rank"
```

SEE ALSO

See nbstl on page 908.

See nbstlutil on page 917.

nbdecommission

nbdecommission – used to decommission an old media server, NDMP host, or replication host and migrate Cloud Catalyst to MSDP direct cloud tiering

SYNOPSIS

nbdecommission -oldserver *hostname*

[-list_ref | -newserver *hostname* [-bulk_media_move] [-file *op_dump_file*]]

[-machinetype [media | foreign_media | ndmp | replication_host]

[-M *master_server*] [-reason "*reason*"] [-v]

nbdecommission -migrate_cloudcatalyst [-oldserver *hostname*] [-oldstorageserver *storageserver*] [-oldstorageservertype *type*] [-cloudbucketname *bucket*] [-username *username*] [-password *password*] [-kmskeygroupname *key group name*] [-newdv *disk volume*] [-newdp *disk pool*] [-dryrun] [-start_with "*start with phrase from previous attempt*"]

nbdecommission -delete_cloudcatalyst -oldserver *hostname* -oldstorageserver *storageserver* -oldstorageservertype *type*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbdecommission utility is an interactive tool. It assists in disabling, removing, or identifying policies, storage units, backup images, storage lifecycle policies, and storage devices. These actions let you retire or replace media servers, NDMP hosts, or replication hosts.

If multiperson authorization is enabled for image expiration operations, unexpired images are present, then NetBackup recommends that you expire the images with the bpexpdate command and doesn't proceed further.

For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

If tapes are present that reference the media server and multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

The `-list_ref -oldserver` *`hostname`* option displays all that is associated with the old server, which allows users to break the associations on their own. This option does not decommission the server.

The `-oldserver` *`hostname`* `[-newserver` *`hostname`*`]` option provides detailed guidance to decommission the old server. You can run the command on the master server or any server that is not decommissioned. The decommissioning process is clean. It removes old media server or replication host entries in the EMM database which can slow down backup operations. The command does not assume that the old server is up and responsive. The optional `-newserver` lets you specify a replacement server for the old server. The `-newserver` option is not valid for the replication_host computer type.

The `nbdecommission -migrate_cloudcatalyst` option migrates an existing Cloud Catalyst server to MSDP direct cloud tiering. See the NetBackup Deduplication Guide for information about this option and its associated options.

Note: Replication hosts are unique in that they are not a host in the local NetBackup domain. Rather, a replication host is a storage server in the target or the source domain of a replication relationship. The `nbdecommission` utility guides the removal of the replication relationship(s) with the storage server in the local domain, not the actual storage server in the remote domain.

Warning: Be careful when you use the `nbdecommission` command. Because the command may expire images, data loss may occur. Therefore, you should understand completely what the command does before you use it. Veritas recommends that you first preview all of the references to a media server, NDMP host, or replication host before you decommission it.

OPTIONS

`-cloudbucketname` *`bucket`*

The bucket or container name that is used for the Cloud Catalyst storage in the cloud.

`-delete_cloudcatalyst`

Delete an old Cloud Catalyst storage server after migration. Normally the `nbdecommission -migrate_cloudcatalyst` command directly deletes the old Cloud Catalyst server. However, the new MSDP server may not have

permission to do so. In that case this command should be run on the master server as directed by the output of the `nbdecommission -migrate_cloudcatalyst` command.

`-dryrun`

Perform a migration trial run.

`-file` *`decom_ops.txt`*

Writes the command operations to the specified file. Replace *decom_ops.txt* with a name that signifies its purpose or contents. You can use the `-file` option to maintain a record of the command operations.

`-kmskeygroupname` *`key group name`*

KMS Key Group name that is used for the Cloud Catalyst server to be migrated.

`-list_ref -oldserver` *`hostname`*

Displays the items that are associated with the old server. Use this option to break the associations yourself or to view existing associations.

`-machinetype`

The type of the server that you want to decommission. List one of the following types: `media`, `foreign_media`, `ndmp`, or `replication_host`.

If not provided, `nbdecommission` automatically determines the type of server.

`-migrate_cloudcatalyst`

Migrate a Cloud Catalyst server to an MSDP direct cloud tiering server.

`-newdp` *`disk pool`*

New disk pool name to be used for the migrated MSDP direct cloud tiering server.

`-newdv` *`disk volume`*

New disk volume name to be used for the migrated MSDP direct cloud tiering server.

`-newserver` *`hostname`*

Specifies a new server to replace the old server that is to be decommissioned. If you specify a new server, it becomes the default media server or NDMP host for the replacement operations.

This option is not valid for the replication host machine type.

`-oldserver` *`hostname`*

Initiates detailed guidance in decommissioning the old server. The command can be run on the master server or any server that is not decommissioned. This option does not assume that the old server is up and responsive.

If used with the `-migrate_cloudcatalyst` option the value is the Cloud Catalyst server hostname that you want migrated from Cloud Catalyst to MSDP direct cloud tiering server. If you use this option with the `-delete_cloudcatalyst` option, the value is the Cloud Catalyst server hostname you want deleted.

`-oldstorageserver` *storageserver*

If used with the `-migrate_cloudcatalyst` option the value is the Cloud Catalyst storage server name that you want migrated from Cloud Catalyst to MSDP direct cloud tiering server. If this option is used with the `-delete_cloudcatalyst` option, the value is the old Cloud Catalyst storage server name to be deleted.

`-oldstorageservertype` *type*

If used with the `-migrate_cloudcatalyst` option the value is the storage server type of the Cloud Catalyst server that you want migrated from Cloud Catalyst to MSDP direct cloud tiering server. If this option is used with the `-delete_cloudcatalyst` option, the value is the storage server type of the Cloud Catalyst server to be deleted.

`-password` *password*

Credentials for the Cloud Catalyst storage in the cloud.

`-reason "`*string*`"`

Indicates the reason for performing this command action. The reason text string that you enter is captured and appears in the audit report. Enclose the string with double quotes ("...") and the string cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-start_with "`*start with phrase from previous attempt*`"`

Resume the migration after you fix the cause of a previously failed migration. Use only as directed by the output of a previously failed `nbdecommission -migrate_cloudcatalyst` command.

Enclose the string in double quotes ("..."). The string should match exactly the output of the previously failed `nbdecommission -migrate_cloudcatalyst` command.

`-username` *username*

Credentials for the Cloud Catalyst storage in the cloud.

nbdelete

nbdelete – remove deleted fragments from disk volumes

SYNOPSIS

nbdelete -allvolumes [-ost_worm_lock | -snapshots | tar] [-priority *number*]

nbdelete -list [-snapshots | tar] [{-dt *disk_type* -media_id *name*} | -backup_id *bid* [-copy_number *number*]]

nbdelete {-dt *disk_type* -media_id *name* | -backup_id *bid* [-copy_number *number*]} [-ost_worm_lock | -snapshots | -tar] [-media_server *name* -storage_server *name* -priority *number* -bpdm_media_server *name*]

nbdelete -deletion_stats [-U] [-snapshots] -stype *server_type* [-dp *disk_pool_name* [-dv *disk_volume_name*]]

nbdelete -deletion_stats [-U] [-tar] -media_id *name*

nbdelete -purge_snap_deletion_list -stype *server_type* -media_id *name* -dp *disk_pool_name* -dv *disk_volume_name* [-force]

nbdelete -purge_deletion_list {-media_id *name* | -backup_id *bid* [-copy_number *number*]} [-force]

nbdelete -list

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbdelete command removes all deleted fragments from the disk volumes that are specified on the command line. The -allvolumes option removes the fragments from all volumes that contain deleted fragments. The -dt, -media_id, -media_server, and -storage_server options specify an individual volume where deleted fragments should be removed.

The nbdelete command can also be used to refresh the write-once read-many (WORM) properties of copies by using the -ost_worm_lock option.

The nbdelete command can perform three operation types. These operations can be combined in a single execution of the command. The -tar option removes fragments from storage. The -snapshots options deletes snapshots. The -ost_worm_lock option finds the copies that require a retry or refresh of setting storage WORM attributes.

OPTIONS

-allvolumes

Queries the image list in the EMM database to obtain the list of volumes with deleted fragments. It removes the fragments from those volumes and deletes eligible imported snaps, unimported snaps, and NetBackup (tar) images in that order. -allvolumes calls bpdm on master server to delete imported snaps. It also queries the storage servers with unimported snapshots but does not direct bpdm to delete them.

If no operation mode parameters (-tar, -snapshots, or -ost_worm_lock) are specified, the default modes are -tar and -snapshots. You must explicitly specify the -ost_worm_lock parameter in order for WORM processing to take place.

-bpdm_media_server *name*

Starts up bpdm on the specified media server. Use if a media server has a much faster network connection to the disk volume's storage server for the delete operations.

-copy_number *cnum*

Limits the images to be processed to the specified copy number.

-deletion_stats

Displays information about disk fragments in the DeletedImageFragment table or snapshots in the DBM_DeletedSnapReplica table that are ready to be deleted.

Fragment or snapshot records are placed in these tables when their corresponding copies are expired from the NetBackup image catalog. This option queries nbemm to retrieve the number of deletable fragments and the total number KBytes that are waiting to be deleted.

-dp *disk_pool_name*

Specifies the disk pool name. When -dp is used with -stype but not -dv, then -bprecover returns stats for all images for the disk pool. Only applicable to operations that are related to snapshots.

-dt *disk_type*

Specifies the disk type where the deleted fragments should be removed. The following are the valid values for *disk_type*:

0 - All

1 - BasicDisk

6 - DiskPool

-dv *disk_volume_name*

Specifies the disk volume name. Only applicable to operations that are related to snapshots.

-force

Proceeds without asking for user verification.

Note: Before you run nbdelete with the -force option, ensure that all media servers and valid disks can communicate with the master server. If they are unable, the -force option removes the expired images from EMM but it orphans the image fragments on the disk. Once an expired image is removed from EMM, there is no further attempt to remove the image disk fragments.

-list

Lists imported and unimported snapshots or NetBackup (tar) images eligible for deletion. The list may be limited to the image with the specified backup ID and the specified copy number. You can also limit the list to images on a given media ID.

-media_server *name*

Specifies the name that represents the media server for the volume whose deleted fragments are to be removed.

-media_id

Specifies a 6-character media ID (that is, @aaaa0).

-ost_worm_lock

Finds copies which have a **Pending** WORM state. Copies in such a state indicate that some failure may have occurred while NetBackup tried to set the WORM attributes for that copy. If any copies that require attention are found in the catalog, requests are made to storage attempting to set the correct WORM attributes.

Note that this operation does not result in deletion of any fragments.

-priority *number*

Specifies a new priority for the job that overrides the default job priority.

-purge_deletion_list

Removes all entries from deletion lists for a disk volume without trying to contact storage or delete anything from storage. This function is useful if a storage server has been decommissioned but deletable image records are still in the NetBackup catalog.

-purge_snap_deletion_list

Removes all entries from snapshot deletion lists for a disk volume without trying to contact storage or delete anything from storage. This function is useful if a storage server has been decommissioned but deletable image records are still in the NetBackup catalog.

-snapshots

Deletes all eligible imported and unimported image snapshots. When -snapshots is used with -deletion_stats on the command line, nbdelete displays stats for deletable unimported snapshots.

-storage_server *name*

Specifies the name that represents the storage server of the volume whose deleted fragments are to be removed.

-stype *server_type*

Specifies a disk storage server type. If you do not use the -dp option with -stype, the command returns stats for all images of the storage server type. Only applicable to operations that are related to snapshots.

-tar

Deletes NetBackup (tar) images.

-U

User mode query, with text header for each result. Default is comma-separated values.

EXAMPLES

Example 1

```
# nbdelete -deletion_stats -U -stype AdvancedDisk -dp ad_dp -dv /dv1
Frags : 6
KB    : 2134
```

Example 2

```
# nbdelete -deletion_stats -U -media_id "@aaaa0"
Frags : 2
KB    : 64
```

Example 3: Only process WORM attributes for a specific copy.

```
#nbdelete -backup_id client_123456789 -copy_number 3 -ost_worm_lock
```

Example 4: Remove fragments from storage as needed; process WORM attributes as needed; and skips snapshots processing.

```
#nbdelete -allvolumes -tar -ost_worm_lock
```

nbdeployutil

`nbdeployutil` – deployment utility that gathers and analyzes master server information regarding clients and capacity

DESCRIPTION

All operations, options, prerequisites, examples, and related commands are identical to the `netbackup_deployment_insights` command. Please see the `netbackup_deployment_insights` for the specifics that are related to the `nbdeployutil` command. Use `netbackup_deployment_insights` instead of `nbdeployutil` in any operation.

SEE ALSO

See bpimagelist on page 176.

See netbackup_deployment_insights on page 937.

nbdevconfig

nbdevconfig – preview, import, create, or inventory disk pools

SYNOPSIS

nbdevconfig -adddv -stype *server_type* [-dp *disk_pool_name* [-dv *disk_volume_name*]] [-M *master_server*]

nbdevconfig -changedp [-noverbose] -stype *server_lifecycle_type* -dp *disk_pool_name* [-add_storage_servers *storage_server...*] | [-del_storage_servers *storage_server...*] [-hwm *high_watermark_percent*] [-lwm *low_watermark_percent*] [-max_io_streams *n*] [-comment *comment*] [-setattribute *attribute*] [-clearattribute *attribute*] [-M *master_server*] [-reason "*string*"]

nbdevconfig -changestate [-noverbose] -stype *server_type* -dp *disk_pool_name* [-dv *disk_volume_name*] -state [UP | DOWN | RESET] [-M *master_server*] [-reason "*string*"]

nbdevconfig -changests [-noverbose] -storage_server *storage_server* -stype *server_type* [-setattribute *attribute*] [-clearattribute *attribute*] [-reason "*string*"]

nbdevconfig -createdp [-noverbose] -dp *disk_pool_name* -stype *server_type* -storage_servers *storage_server...* [-hwm *high_watermark_percent*] [-lwm *low_watermark_percent*] [-max_io_streams *n*] [-comment *comment*] [-dvlist *filename*] [-M *master_server*] [-reason "*string*"]

nbdevconfig -createdv -stype *server_type* -dv *disk_volume_name* [-dp *disk_pool_name*] [-storage_server *storage_server_name*] [-config region:*region-url*] [-M *master_server*]

nbdevconfig -creatests [-noverbose] -storage_server *storage_server_name* -stype *server_type* -media_server *media_server* [-st *storage_type*] [-setattribute *attribute*] [-reason "*string*"]

nbdevconfig -deletedp [-noverbose] stype *service_type* -dp *disk_pool_name* [-M *master_server*] [-force_targetslp_removal] [-reason "*string*"]

nbdevconfig -deletedv [-noverbose] -dp *disk_pool_name* -stype *server_type* -dv *disk_volume_name* [-M *master_server*] [-reason "*string*"]

nbdevconfig -deletests [-noverbose] -storage_server *storage_server* -stype *server_type* [-reason "*string*"]

nbdevconfig -getconfig [-l | -U] stype *service_type* -storage_server *storage_server* [-configlist *filename*]

nbdevconfig -help *operation*

nbdevconfig -inventorydp [-preview | -noverbose] -stype *server_type* -dp *disk_pool_name* [-media_server *media_server*] [-M *master_server*]

nbdevconfig -mergedps [-noverbose] -stype *service_type* -primarydp *disk_pool_name_1* -secondarydp *disk_pool_name_2* [-M *master_server*] [-reason "*string*"]

nbdevconfig -previewdv -storage_server *storage_server* -stype *server_type* [-media_server *media_server*] [-dv *disk_volume_name*] [-dp *disk_pool_name*] [-dvlist *file_name*] [-M *master_server*] [-replication source | target | both] [[-include Primary | ReplicationSource | ReplicationTarget | Snapshot | Independent | Mirror]...] [[-exclude Primary | ReplicationSource | ReplicationTarget | Snapshot | Independent | Mirror]...]

nbdevconfig -setconfig -stype *service_type* -storage_server *storage_server* [-configlist *filename*] [-reason "*string*"]

nbdevconfig -updatedp [-noverbose] -stype *server_type* -dp *disk_pool_name* [-M *master_server*] [-reason "*string*"]

nbdevconfig -updatedv [-noverbose] -stype *server_type* [-dp *disk_pool_name*] -dv *disk_volume_name* [-media_server *media_server*] [-M *master_server*]

nbdevconfig -updatests [-noverbose] -storage_server *storage_server* -stype *server_type* -media_server *media_server* [-reason "*string*"]

nbdevconfig -setstsprefmedia [-noverbose] -storage_server *storage_server* -stype *server_type* -media_server *media_server* {{-capacity_polling_priority *priority* | -exclude_from_capacity_polling } | {-sts_operation EventPolling { -polling_priority *priority* | -exclude_from_polling}}}

nbdevconfig -deletestsprefmedia [-noverbose] -storage_server *storage_server* -stype *server_type* -media_server *media_server* -sts_operation *operation*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbdevconfig command performs the following operations:

- -adddv adds a new disk volume to an existing disk pool. The disk volume must have the same attributes and flags as the disk pool. For example, you cannot add a mirror volume to a non-mirror disk pool. You can add multiple volumes by using the nbdevquery -preview option to collect like volumes on a file (-dvlist) to be added to the disk pool.
- -changedp changes the indicated properties of the disk pool. Specify the disk pool name option (-dp) and the storage server type (-stype) to identify the disk pool uniquely.
- -changestate changes the state of the disk pool or disk volume. If -dv is specified, then -changestate changes the specified disk volume of the disk pool. Otherwise, it changes the state of the disk pool itself. The value for the state can be UP, DOWN, or RESET.
- -changests changes the storage server.
- -createdp creates a disk pool from the specified list of disk volumes. Additional properties like High Water Mark and comments can be specified. The disk pool name cannot exceed 256 characters.
- -createdv creates a disk volume that you can then specify (-dvlist option) when you create a disk pool. Most commonly, use this option for the AdvancedDisk volumes that NetBackup cannot discover (such as CIFS volumes, which are not visible to Windows services).
  For Azure and AWS that use NetBackup 10.3 and later, use the nbcldutil command to create cloud buckets on primary servers, media servers, or pre-NetBackup 10.3 media servers. If you use the -createdv option, you receive a message to use the nbcldutil command.
- -creatests creates a storage server. The storage server name cannot exceed 128 characters and cannot contain colon (:) characters.
- -deletedp deletes the specified disk pool from the NetBackup device database. Expire and delete all images before you run this option.

- `-deletedv` deletes the specified disk volume from the specified disk pool. No backup image fragments can exist on the volume. No backup jobs can be active on the volume. The disk volume and disk pool must be DOWN.
- `-deletests` deletes the specified storage server.
- `-deletestsprefmedia` deletes the media server from the preferred media servers list for capacity polling operation of a storage server. Valid operation values include: `CapacityPolling` and `EventPolling`.
- `-getconfig` retrieves the default configuration parameters for the disk pool attributes.
- `-help` *`operation`* specifies an operation (`-changestate`, `-deletedp`, ...) for which you want usage information.
- `-inventorydp` discovers new storage or changed storage in a disk pool and accepts these changes. Storage changes include new volumes, change of volume size, or new LUNs. Use the `-preview` option if you only want to view the details of the changes to the disk pool without accepting them.
- `-mergedps` merges the specified primary and secondary disk pools. Disk_pool_name_2 merges into "disk_pool_name_1" leaving only "disk_pool_name_1." Merge the specified primary and secondary disk pools.
- `-previewdv` previews inventory changes to be made, but does not perform the inventory update.
- `-setconfig` sets the configuration parameters for the disk pool.
- `-setstsprefmedia` updates capacity or OST event polling priority for a media server in a preferred list using option `-polling_priority`. This command adds the media server to preferred list and sets or updates its priority. The higher the value is the more the media server is preferred. This command uses the option `exclude_from_polling` to exclude the media server from the preferred list. Specify the `-sts_operation` as either `EventPolling` or `CapacityPolling`. The `CapacityPolling` specific options `-capacity_polling_priority` and `-exclude_from_capacity_polling` are retained for backward compatibility, but are deprecated.
- `-updatedp` updates the disk pool replication properties with fresh values from the storage server. If the storage administrator changes replication properties of disk volumes on the storage server, the following occurs: This command forces NetBackup to update the disk pool properties to reflect the storage configuration.
- `-updatedv` updates properties of one or more disk volumes in a pool.
- `-updatests` updates the properties of the specified storage server.

The `vmupdate` command detects whether new tapes have been added to or removed from a robotic library. In the same way, the inventory and the preview options of `nbdevconfig` detect if the storage administrator has changed the composition of the disk pool. An inventory detects if new volumes were added, existing volumes were resized (added more space), or volumes were removed. The inventory operation can also accept new space. (For example, it updates the NetBackup database with the existence of new disk volumes or configures new volumes from the new space.)

OPTIONS

The following is a description of each of the `nbdevconfig` options:

`-capacity_polling_priority` *priority*

This option is deprecated. Veritas recommends that you use the `-sts_operation CapacityPolling -polling_priority` *priority* option instead.

Sets the priority for a media server in the preferred list. If the media server is part of the exclude list, this option removes it from the exclude list and includes the media server in the preferred list. If multiple Disk-Active media servers have the same priority, preference is given to the media server with the latest NetBackup version.

`-clearattribute` *attribute*

Removes an attribute from the specified storage server or the specified disk pool for restore or duplication operations. It is used with the `-changests` and `-changedp` options. You can specify more than one `-clearattribute` attribute on the command line. Refer to the `-setattribute` description for a list of attributes used by `-ch angests` and a list used by `-changedp`.

`-comment` *comment*

Adds a comment for the disk pool. Quotation marks (" ") are required if the comment contains any spaces.

`-config region:`*region-url*

For Amazon cloud storage region support, specifies the region in which to create the bucket. Following are few examples. For complete list refer to the Amazon documentation:

`ap-northeast-1`	Asia Pacific (Tokyo)
`ap-southeast-1`	Asia Pacific (Singapore)
`ap-southeast-2`	Asia Pacific (Sydney)

`eu-west-1`	European Union (Ireland)
`sa-east-1`	South America (Sao Paulo)
`us-west-1`	US West (Northern California)
`us-west-2`	US West (Oregon)

If the *`region-url`* string does not exactly match the notation, the bucket is created in the US Standard region. If this option is omitted, the bucket is created in the US Standard region.

Note: For Amazon virtual private cloud (VPC), this option is mandatory except for US-Standard region. If this option is omitted, bucket is not created and you will encounter an error.

`-configlist` *`filename`*

Captures the configuration parameter information and sends it to the specified file or to the appropriate disk pool.

`-del_storage_servers` *`storage_server...`*

Deletes the specified storage servers.

`-dp` *`disk_pool_name`*

Specifies the name of the disk pool that `nbdevconfig` previews, inventories, or creates. The disk pool name cannot exceed 256 characters.

`-dv` *`disk_volume_name`*

The name of the disk volume.

For cloud storage, the characters that each vendor allows may vary. Also, the terminology for volumes may differ (for example, Amazon uses *buckets* to describe volumes). Consult your cloud vendor documentation for naming conventions.

`-dvlist` *`filename`*

The file name that contains a list of the disk volumes. Specify one volume only for cloud disk pools and media server deduplication pools.

`-exclude [Snapshot | Primary | Independent | ReplicationSource | ReplicationTarget | Mirror]`

Limits the command output to the disk volumes that are not capable of the specified target retention type (snapshot, primary, independent, mirror, replication source, or replication target).

To exclude more than one flag, list the `-exclude` option more than once (for example, `-exclude primary -exclude ReplicationTarget`).

`-exclude_from_capacity_polling`

This option is deprecated. Veritas recommends that you use the `-sts_operation CapacityPolling -exclude_from_polling` option instead.

Excludes the media server from preferred list and resets the capacity polling priority to 0. If the media server is part of include list, this option removes it from include list.

`-exclude_from_polling`

Use `-exclude_from_polling` to exclude the media server from the preferred list and reset the capacity polling priority to 0. This action excludes the media server from use with the specified `-sts_operation`. You must use this option with the `-sts_operation` option. If the media server is part of the include list, this option removes it from the include list.

Storage server job availability and auto-image replication imports are negatively affected if the only disk-active media server in the environment is set to `-exclude_from_polling`.

`-force_targetslp_removal`

Forces the deletion of a disk pool that has an associated AIR target lifecycle policy when deletion of that disk pool results in an error. This option can be used only with the `-deletedp` operation.

`-hwm` *`high_watermark_percent`*

The percentage of used capacity at which the storage (disk volume) is considered full. No new jobs can be assigned to the volume, and staging expiration operations can be triggered.

`-include [Snapshot | Primary | Independent | ReplicationSource | ReplicationTarget | Mirror]`

Limits the command output to the disk volumes that are capable of the specified target retention type (snapshot, primary, independent, mirror, replication source, or replication target).

To include more than one flag, list the modifier more than once (for example, `-include Snapshot -include ReplicationTarget`).

`-l`

Sets the list type to the short output. It produces parsable, raw output with all fields on one line with no headers. The first field indicates the version of the output as an aid to the script operation.

-lwm *low_watermark_percent*

The percentage of used capacity to which staging and expiration operations drain each volume in the disk pool upon reaching the high water mark.

-M *master_server*

The name of the master server.

-max_io_streams *n*

Limits the number of jobs that are allowed for each volume in the disk pool to the specified number *n*. This number is the sum of the jobs that read backup images and the jobs that write backup images. When the limit is reached, NetBackup chooses another available volume for write operations. If none is available, NetBackup queues jobs until a volume becomes available. Factors that affect the optimal number of streams include disk speed, CPU speed, and the amount of memory.

This parameter is not supported for BasicDisk. NetBackup does not limit the number of streams for BasicDisk storage units.

-media_server *media_server*

The media server that executes the operation.

-noverbose

Suppresses all stdout messages, including successful confirmation output such as "Disk pool *disk_pool_name* was successfully inventoried."

-polling_priority *priority*

Use -polling_priority to set the priority for a media server in the preferred list. Media servers with higher -polling_priority values are more preferred. If the media server is part of the exclude list, this option removes it from the exclude list and includes the media server in the preferred list. You must use this option with the -sts_operation option.

If multiple Disk-Active media servers have the same priority, preference is given to the media server with the latest NetBackup version. Without the use of this option, all storage server credentialed media servers have a -polling_priority of zero. Use the -exclude_from_polling option to completely prohibit a media server from being selected to poll.

-reason "*string*"

Indicates the reason for performing this command action. The reason text string that you enter is captured and appears in the audit report. Enclose the string with double quotes ("...") and the string cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-setattribute` *attribute*

Applies an attribute to the storage server or data pool for the read side of restore or duplication operations. It is used with the `-changests` and `-changedp` options. The attributes help you manage the restore traffic and duplication traffic. You can specify more than one `-setattribute` *attribute* on the command line.

The following attributes are used with storage servers:

```
OpenStorage               : managed as OpenStorage storage server
DiskGroups                : aware of disk pools /
ActiveDiskGroups          : allow active management of disk groups
ActiveServers             : allow active management of storage srvrs
RovingVolumes             : active mount/unmounts for disk volumes
CopyExtents               : allow optimized duplication
AdminUp/Down              : administrative state is UP/DOWN
InternalUp/Down           : internal state is UP/DOWN
SpanImages                : allow images to span disk volumes
BasicStaging              : allow basic image staging
LifeCycle                 : allow image life cycle management
CapacityMgmt              : allow capacity management
FragmentImages            : allow image fragmentation
CatalogBackup             : allow catalog backups
Cpr                       : allow checkpoint / restart
RandomWrites              : allow random write access
FT-Transfer               : allow access through FT channel
PrefRestore               : preferred use for restores
ReqRestore                : required use for restores
ReqDuplicate              : required use for duplications
CapacityManagedRetention  : allow capacity managed retention
CapacityManagedJobQueuing : allow capacity managed job queuing
OptimizedImage            : allow virtual image construction
MetaData                  : describe client data during backup
QueueOnDown               : queue jobs when server status is down
```

The following attributes are used with data pools:

```
Visible                   : visible and managed through UI
OpenStorage               : managed as OpenStorage disk pool
RovingVolumes             : active mount/unmounts for disk volumes
SingleStorageServer       : limited to single storage server
CopyExtents               : allow optimized duplication
AdminUp/Down              : administrative state is UP/DOWN
InternalUp/Down           : internal state is UP/DOWN
SpanImages                : allow images to span disk volumes
```

```
BasicStaging              : allow basic image staging
LifeCycle                 : allow image life cycle management
CapacityMgmt              : allow capacity management
FragmentImages            : allow image fragmentation
CatalogBackup             : allow catalog backups
Cpr                       : allow checkpoint / restart
RandomWrites              : allow random write access
FT-Transfer               : allow access through FT channel
CapacityManagedRetention  : allow capacity managed retention
CapacityManagedJobQueuing : allow capacity managed job queuing
OptimizedImage            : allow virtual image construction
MetaData                  : describe client data during backup
Snapshot                  : disk pool holds Snapshots
Primary                   : disk pool is capable of Snapshots from
                            sources mounted on a client
ReplicationSource         : disk pool can be a source for Image or
                            Snapshot replication
ReplicationTarget         : disk pool can be a target for Image or
                            Snapshot replication
Mirror                    : this replication target disk pool can use
                            a mirrored replication method
Independent               : this replication target can use a non-
                            mirrored replication method
```

The following are additional descriptions of attributes related to restore and duplication operations:

- `PrefRestore`. The storage server is preferred for the read side of restore operations. More than one storage server can have the `PrefRestore` attribute.
  The storage servers and data pools that are marked as `PrefRestore` are considered for use first. If none are available, any unmarked storage server is considered for use.
  Normal NetBackup load balancing occurs among all storage servers marked PrefRestore.
- `ReqRestore`. The storage server is required for the read side of restore operations. More than one storage server can have the `ReqRestore` attribute. If a `ReqRestore` server is not available, NetBackup considers PrefRestore servers for use. If none are available, jobs queue until a `ReqRestore` or `PrefRestore` is available.
  If you configure `ReqRestore` servers but not `PrefRestore` servers, unmarked storage servers are never considered for restore jobs. Jobs are queued

until a `ReqRestore` storage server is available to execute the job. Normal NetBackup rules for job retry apply.
Normal NetBackup load balancing occurs for all storage servers marked `ReqRestore`. Load balancing does not occur between the `ReqRestore` and `PrefRestore` storage servers.

- `ReqDuplicate`. The storage server is required for the read side of duplication operations. More than one storage server can have the `ReqDuplicate` attribute. If any storage server is marked as `ReqDuplicate`, only the storage servers that are marked as `ReqRestore` are considered for use. If a `ReqRestore` server is unavailable, jobs queue until a `ReqRestore` server is available to execute the job. Normal NetBackup rules for job retry apply. `ReqDuplicate` also applies to storage server allocation for synthetic backup operations.

`-st` *storage_type*

The type of storage being used:

1 -- Formatted disk (default) OR 2 -- Raw disk

4 -- Direct attached OR 8 -- Network attached (default)

The two values are added together. For example a *storage_type* of 10 indicates a raw disk (2) that is network attached (8).

`-state UP | DOWN | RESET`

Selects the state of the disk pool or disk volume. Specify UP to up the disk pool or disk volume and DOWN to down the disk pool or disk volume.

The RESET option does the following:

- Sets the internal state to UP (both disk volume and disk pool)
- Sets committed_space to ZERO (disk volume only)
- Sets the precommitted space to ZERO (disk volume only)

`-storage_server` *storage_server*

A single storage server. Interpretation differs depending upon one of the following options that are used with it:

- `previewdv: -storage_server` restricts the output to arrays that are connected to the specified servers. All of the hosts must be connected to all storage (LUNs) within the disk volume.
- `creatests: -storage_server` identifies the host name of the storage server. The storage server name cannot exceed 128 characters and cannot contain colon (`:`) characters.

- `setconfig: -storage_server` identifies the storage server that contains the disk pool whose configuration parameters you have set. The storage server name cannot exceed 128 characters.

`-storage_servers` *`storage_servers...`*

The list of storage server names for creating a disk pool. Separate the items in this list with spaces, not commas.

`-sts_operation` *`operation`*

Specifies the storage server operation for which usable media server is specified. The `-deleteprefmedia` and `-setstsprefmedia` options use the `-sts_operation` option. Valid operation values include: `CapacityPolling` or `EventPolling`.

If `CapacityPolling` is specified, that indicates the preferred media server can only be specified for disk volume capacity polling. When `CapacityPolling` is specified, the behavior of disk volume capacity polling is updated to use the non-excluded disk-active media servers with the higher preference values.

If `EventPolling` is specified, the behavior of auto-import replication import event polling is updated to use the non-excluded disk-active media servers with the higher preference values.

Use `-polling_priority` to set the priority for a media server in the preferred list. See the `-polling_priority` option for additional details.

Use `-exclude_from_polling` to exclude the media server from preferred list. See the `-exclude_from_polling` option for additional details.

`-stype` *`server_type`*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.

- `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
- `_cryptc`: Compress and encrypt the data before writing to cloud storage.

- Replication Director OpenStorage partners. Possible values are Network_NTAP, Network_NTAP_CDOT, or EMC_Celerra.

The storage server type is case sensitive.

`-U`

Lists the configuration attributes in a user-readable, formatted listing with one attribute per line and more attributes than a listing in raw output mode (-l). See Example 1.

EXAMPLES

Example 1 - Delete a disk pool. First expire all images on the disk group.

```
# nbdevconfig -deletedp -dp Disk-Pool-2
Disk pool Disk-Pool-2 has been deleted successfully
```

Example 2 - Mark a **Media Server Deduplication Pool** as DOWN.

```
# nbdevconfig -changestate -stype PureDisk -dp diskpool_alpha
-state DOWN
```

Example 3 - Mark a disk volume as UP.

```
# nbdevconfig -changestate -stype AdvancedDisk -dp diskpool_alpha -dv
alpha_vol1 -state UP
```

Example 4 - Inventory a disk group.

```
# nbdevconfig -inventorydp -preview -stype AdvancedDisk -dp
Disk-Pool-2
Old Raw Size (GB): 97.85
New Raw Size (GB): 103.45

Old Formatted Size (GB): 97.80
New Formatted Size (GB): 103.40

Old Host List: willow,Pear,dunamo
New Host List: Dellco,carrot,Pear,dynamo

Affected Storage Units
```

```
------------------------------
SSO-STU-7 - willow [...] would be removed from media server list
SSO-STU-9 - willow [...] would be removed from media server list,  \
switched to "any available" media server list.

Affected Storage Units
------------------------------
SSO-STU-7 -willow [...] was removed from media server list
SSO-STU-9 -willow [...] was removed from media server list,        \
switched to "any available" media server list.
```

SEE ALSO

See nbcldutil on page 599.

See nbdevquery on page 662.

See vmupdate on page 1055.

nbdevquery

nbdevquery – display NetBackup disk media status

SYNOPSIS

nbdevquery -listconfig [-l | -U] -stype *server_type* -storage_server *storage_server* [-EMM *emm_server*]

nbdevquery -listdp | -listmounts [-l | -U | -D] [-stype *server_type*] [-dp *disk_pool_name*] [-M *master_server*] [-EMM *emm_server*]

nbdevquery -listdv [-l | -U | -D] -stype *server_type* [-dp *disk_pool_name* [-dvlist *file*]] [-M *master_server*] [-EMM *emm_server*]

nbdevquery -listglobals

nbdevquery -listmediaid *id* [*id*...] [[-l | -U] [-EMM *emm_server*]

nbdevquery -listmounts [-l | -U] [-stype *server_type*] [-dp *disk_pool_name*] [-M *master_server*] [-EMM *emm_server*]

nbdevquery -listreptargets -stunit *label*[-U] [[-include Primary | ReplicationSource | Mirror]...] [[-exclude Primary | ReplicationSource | Mirror]...]

nbdevquery -liststs [-l | -U] [-stype *server_type*] [-storage_server *storage_server*] [-EMM *emm_server*]

nbdevquery -liststsprefmedia [-l | -U] -storage_server *storage_server* -stype *server_type* -sts_operation *sts_operation*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbdevquery command line utility is the disk equivalent of bpmedialist for tape. The following are the operations that nbdevquery performs:

- -listdp lists all disk pools in the system.
- -liststs lists all storage servers in the system.

- `-listdv` displays status for disk volumes of imported disk pools. It includes such things as whether the volume is online or offline and the number of current readers (or writers) to the volume.
  When you use the `-listdv` command with the `-D` option, `nbdevquery` returns a large set of data including the following values that NetBackup uses to determine the available free space within the disk pool:
  `total_capacity : xxxxxxx`-- The total size of the disk as derived from the file system.
  `free_space : xxxxxxx`-- The amount of free space on the disk as derived from the file system.
  `potential_free_space : xxxxxxx`-- The total size of all fragments on the disk that have been duplicated as part of a storage lifecycle policy and are eligible for expiration. The `potential_free_space` value is computed after duplication and expiration sessions. This information is applicable only when capacity managed retention is used for a storage destination.
  `committed_space : xxxxxxx`-- The amount of data that NetBackup estimates as being written to the disk, based on all in-progress backups.
  `precommitted_space : xxxxxxx`-- A helper value for committed_space. This value is decreased as a backup job proceeds and the total_capacity and free_space information is updated.
  NetBackup uses free_space, potential_free_space, and committed_space to determine how much space is available on a disk. It uses the following formula:
  available space = free_space + potential_free_space - committed_space
- `-listmediaid` lists all disk volumes that have been given a disk media ID.
- `-listmounts` lists the disk mount points for the disk pool.
- `-listconfig` lists storage server configuration details.
- `-listglobals` lists all global disk attributes.
- `-listreptargets` lists valid replication target storage units or groups for a specified source storage unit or storage unit group. You can list the set of storage units to configure as targets for storage lifecycle policy replication operations.
- `-liststsprefmedia` lists the preferred media servers that are used for storage server operation. When you use the option with the `-U` option, it also lists the priority of the media server. Additionally, it indicates if media server belongs to the include list or the exclude list. Valid operation values include: `CapacityPolling` and `EventPolling`.

OPTIONS

`-D`

Sets the list type to dump debug data. This option dumps information without further processing. The output format and displayed fields are subject to change without notification.

`-dp` *disk_pool_name*

Specifies the name of the disk pool to be queried. This pool is the data storage area for this storage unit.

`-dv` *disk_volume*

Displays the status for only the specified disk volume. For BasicDisk, the input value is the path. In all other cases, the input value is the volume name.

`-dvlist` *filename*

Specifies the file that contains the volume information.

`-include | -exclude [ Primary | ReplicationSource | Mirror ]...`

Includes or filters out targets if multiple choices exist.

`-l`

Sets the list type to short output. This option produces parsable output with all fields on one line, no headers. The first field indicates the version of the output as an aid to the script operation. Date and time values appear in UNIX long format; status values appear in integer form.

`-listconfig`

Lists the storage server configuration details.

`-listdp`

Lists all imported disk pools in the NetBackup database. For an OpenStorage disk, `-listdp` lists all the disk pools that have been configured.

Note: The following properties do not apply to cloud storage disk pools: `Raw Size`, `Usable Size`, `High Watermark`, and `Low Watermark`.

You can view the disk pool properties by using the `-U` option of the `listdp` command.

`-listdv`

Lists the status for all disk volumes of imported disk pools and returns a list of all disk volumes in the NetBackup database. See Example 3.

`-listglobals`

Lists all NetBackup Disk Service Manager global disk attributes. If SPR is enabled, the SCSI Persistent Reservation setting is set to one (1). If LUN masking is enabled, the output shows zero (0) rather than 1.

`-listmediaid` *id...*

Lists all disk volumes that have been given the specified disk media IDs.

`-listmounts`

Lists the disk mount points for the disk pool.

`-listreptargets`

Lists valid replication target storage units or groups for a source storage unit or storage unit group.

`-liststs`

Lists all servers that host storage. These include Veritas provided storage such as **Media Server Deduplication Pool**, third-party appliances, and cloud storage.

`-storage_server` *storage_server*

The host name of the storage server. The name was given to the storage server when it was created.

`-sts_operation` *operation*

Specifies the storage server operation for which usable media server list is fetched. If `CapacityPolling` is specified, that indicates the preferred media server can only be specified for disk volume capacity polling.

`-stype` *server_type*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.

- `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
- `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case sensitive.

`-U`

Lists the configuration information about the specified disk pool, storage server, or disk storage (see Example 1). Some of the items cannot be changed.

EXAMPLES

Example 1 - List in user format the configuration information about all servers that host storage in the system.

```
# nbdevquery -liststs -U

Storage Server      : host01.domain.com
Storage Server Type : PureDisk
Storage Type        : Formatted Disk, Network Attached
State               : UP
Flag                : OpenStorage
Flag                : CopyExtents
Flag                : AdminUp
Flag                : InternalUp
Flag                : LifeCycle
Flag                : CapacityMgmt
Flag                : FragmentImages
Flag                : Cpr
Flag                : FT-Transfer
Flag                : OptimizedImage
Flag                : InstantAccess
Flag                : WORM
Capacity Poll Host  : host01.domain.com
Event Poll Host     : host01.domain.com

Storage Server      : server02.domain.com
Storage Server Type : AdvancedDisk
Storage Type        : Formatted Disk, Direct Attached
State               : UP
Flag                : OpenStorage
Flag                : AdminUp
Flag                : InternalUp
```

```
Flag                : SpanImages
Flag                : LifeCycle
Flag                : CapacityMgmt
Flag                : FragmentImages
Flag                : Cpr
Flag                : RandomWrites
Flag                : FT-Transfer
Flag                : CapacityManagedRetention
Flag                : CapacityManagedJobQueuing
Capacity Poll Host  : server02.domain.com
Event Poll Host     : NONE
```

Example 2 - View all disk pool information for `djs_bp` in user format. Volume SnapVaultB is a valid source volume for replication because it is a replication source and it has a target parameter, `ntapdfm:SnapMirrorA1`.

```
nbdevquery -listdp -stype DjsArray -U
Disk Pool Name      : djs_bp
Disk Type           : DjsArray
Disk Volume Name    : SnapVaultB
Disk Media ID       : @aaaa
Total Capacity (GB) : 68.21
Free Space (GB)     : 55.93
Use%                : 88
Status              : UP
Flag                : ReadOnWrite
Flag                : AdminUp
Flag                : InternalUp
Flag                : ReplicationSource
Flag                : ReplicationTarget
Flag                : Primary
Flag                : Snapshot
Flag                : WORMCapable
Num Repl Sources    : 1
Num Repl Targets    : 1
Replication Source  : ntapdfm:@aaaa@:PrimarySnapshot
Replication Target  : ntapdfm:SnapMirrorA1
```

Example 3 - Do a disk drive dump of the disk pool `sim_dp1` that PureDisk uses.

```
# nbdevquery -listdp -dp sim_dp1 -stype PureDisk -D
Disk Drive Dump
  name                : <sim_dg1>
  id                  : <sim_dg1>
```

```
  server_type         : <PureDisk>
  master_server       : <daloa.example.com>
  access_media_server : <>
  disk_storage_type   : 6
  total_capacity      : 1286602752
  used_space          : 0
  sts_state           : 0
  availability        : 2
  connectivity        : 0
  high_watermark      : 98
  low_watermark       : 80
  num_diskvolumes     : 3
  num_disks           : 0

  num_stservers       : 2
  system_tag          : <Imported from STS>
  user_tag            : <>
Storage Server [0]
  name : <daloa.example.com>
  id                  : <>
  server_type         : <PureDisk>
  storage_type        : 6
  access_media_serv.: <>
Storage Server [1]
  name              : <blackjack.example.com>
  id                : <>
  server_type       : <PureDisk>
  storage_type      : 6
  access_media_serv.: <>
```

SEE ALSO

See nbemmcmd on page 678.

See nbdevconfig on page 648.

nbdiscover

`nbdiscover` – test query rules for automatic selection of VMware virtual machines for backup

SYNOPSIS

nbdiscover -noxmloutput *path* | -policy *policy_name* [-sched *policy_schedule_type*] [-includedonly | -excludedonly] [-noreason] [-escapechar *x*] [-quotechar *x*]

nbdiscover -noxmloutput *query* [-includedonly | -excludedonly] [-noreason] [-escapechar *x*] [-quotechar *x*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `nbdiscover` command is similar to the Test Query button in the VMware policy. It returns the virtual machines that NetBackup selects based on the specified query rules. You can specify the name of a policy that contains the query, or the query itself. The `-noxmloutput` option is required for user-friendly output (the default XML output is not supported for general use).

The `nbdiscover` command must be run on either the discovery host or the backup host.

For more information on how to create and test rules from the policy's Query Builder, see the NetBackup for VMware Administrator's Guide.

OPTIONS

`-escapechar x`

Specifies the ASCII decimal value of an alternate escape character to be used in the `nbdiscover` output when you use the `-noxmloutput` option. The default escape character is a backslash (\) or -escapechar 92.

`-excludedonlyx`

Returns only excluded virtual machines that do not match the rules in the query.

`-includedonly`*x*

Returns only included virtual machines virtual machines that match the rules in the query.

`-noreason`

Omits from the results any explanation as to why a virtual machine was excluded by the query or failed the query. A virtual machine fails the query if the query cannot exclude the virtual machine and the virtual machine cannot be selected for backup.

`-noxmloutput`

Displays one virtual machine per line. In the output, a plus sign (+) in the first column indicates that the virtual machine matches the rules in the query. A minus sign (-) indicates that the virtual machine does not match the rules in the query.

`-policy` *`policy_name`*

Specifies a policy that contains a query. `nbdiscover` filters the virtual machines based on that query and on other policy attributes, such as Primary VM identifier (for example, VM host name or VM display name).

`query`

Specifies a query without a policy. You must compose the query manually and enclose it in double quotes. For example:

```
"vmware:/?filter=Displayname Contains 'vm1'"
```

`-quotechar` *`x`*

Specifies the ASCII decimal value of an alternate quote character to be used in the `nbdiscover` output when you use the -noxmloutput option. The default quote character is a double quote (“) or -quotechar 34.

`-sched` *`policy_schedule_type`*

Specifies the schedule type of the policy when you use the `-policy` *`policy_name`* option.

EXAMPLES

Example 1 - List the virtual machines that either match or do not match the query in the policy pol1. Do not list explanations for the virtual machines that failed the query or that the query excluded.

```
# nbdiscover -noxmloutput -policy pol1 -noreason
+ "grayvm3"
+ "grayvm5"
+ "grayvm7"
```

```
- "vladvm1"
- "vladvm2"
- "bodvm23"
- "bittle4"
```

Example 2 - List the virtual machines that have display names that contain “vm”. Do not list virtual machines that do not have “vm” in the display names:

```
# nbdiscover -noxmloutput -includedonly "vmware:/?filter=Displayname  /
Contains 'vm'"
grayvm3
grayvm5
grayvm7
vladvm1
vladvm2
bodvm23
```

Example 3 - List the virtual machines by whether they are turned on.

```
# nbdiscover -noxmloutput "vmware:/?filter=Powerstate Equal poweredOn"
+ "grayvm3"
+ "grayvm5"
+ "grayvm7"
- "vladvm1" "VM excluded by discovery filter, display name=[vladvm1],
             server=esx1.acme.com]."
+ "vladvm2"
+ "bodvm23"
+ "bittle4"
```

Example 4 - List the virtual machines by whether they are turned on and have "7" in their display name. Do not list explanations for the virtual machines that failed the query or that the query excluded.

```
# nbdiscover -noxmloutput "vmware:/?filter=Powerstate Equal poweredOn  /
AND Displayname Contains '7'" -noreason
- "grayvm3"
- "grayvm5"
+ "grayvm7"
- "vladvm1"
- "vladvm2"
- "bodvm23"
- "bittle4"
```

Example 5 - Search all VM backups that have "test" in their vCloud vApp name. This example uses a query to search virtual machines in vCloud Director. `nbdiscover` must be run on the master server.

```
# nbdiscover -noxmloutput "vmsearch:/;reqType=search?filter= vCDvApp
Contains 'test'"
+ "demovm%20(8c879791-2917-4428-8213-bea7ec727717)"
+ "small_vm%20(61e85579-7246-411f-b2f9-9fb570546755)"
+ "small_vm_percent_%25%20(61e85579-7246-411f-b2f9-9fb570546755)"
```

Example 6 - Show the hierarchy of the vCloud environment that was backed up. The output of this command is in XML. This example uses a query to search virtual machines in vCloud Director. `nbdiscover` must be run on the master server.

```
# nbdiscover "vmsearch:/;reqType=browse;viewType=vcloud"
     <?xml version="1.0" encoding="utf-8"?>
     <Start Iteration="vmsearch:/;reqType=browse;viewType=vcloud">
     <VCDSERVER>
          <NBU>
          <NAME>hypervm1.acme.com</NAME>
          </NBU>
          <VCDORG>
               <NBU>
               <NAME>Test_vCloud</NAME>
               </NBU>
               <VCDORGVDC>
                    <NBU>
                    <NAME>TestOrg</NAME>
                    </NBU>
                    <VCDVAPP>
                         <NBU>
                         <NAME>TestvApp</NAME>
                         </NBU>
                    </VCDVAPP>
               </VCDORGVDC>
          </VCDORG>
     <VCDSERVER>
     <StatusMsg NBUStatus="0" Severity="0"></StatusMsg>
     </Start>
```

nbdna

nbdna – run the utility that analyzes the NetBackup domain and its configuration

SYNOPSIS

nbdna [-phase=<0|1|2>] [-verbose] [-sfo] [-server | -lookup] [-odir=*override_output_directory*] [-tmp=*override_tmp_directory*] [-dump] [-f=*hostfile* [-listonly [-discover]]] [-version] [-imfile=*bpimmagelist.out*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/support/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\support\

DESCRIPTION

The NetBackup Domain Network Analyzer (nbdna) command utility analyzes the NetBackup domain and its configuration for network issues, performance, and behavior. It addresses the host name lookup and connectivity between NetBackup hosts and their role within the NetBackup domain.

nbdna does the following:

- Discovers and maps the NetBackup domain
- Extracts the host name memberships by querying the configuration
- Evaluates the host name lookup and the socket connectivity to these host names to validate their network relationship status according to their domain configuration

nbdna can be run on a NetBackup master server, media server, or client. It creates and identifies a compress archive that contains all generated reports. You can return the compress archive to Veritas upon request.

You must have administrator privileges to run this command.

Note: In the NBAC environment, authenticate before you execute the nbdna command.

OPTIONS

`-discover`

Performs host discovery on the NetBackup environment for the hosts in the host list that the `-f` option specifies.

Note: This option does not discover any other hosts in the NetBackup environment, but limits its discovery to only the hosts in the host list that `-f` specifies.

`-discover` must be used with the `-f` option and the `-listonly` option.

`-dump`

Does not run the test, but dumps server, client, and lookup test list to the specified file.

`-f=`*`hostlist`*

Reads the host names from the specified ASCII text file and adds them to the test lists. The format of the text file is the following:

```
SERVER hostname
CLIENT hostname-b
LOOKUP hostname-c
```

Lines that begin with SERVER are imported to the server test list.

Lines that begin with CLIENT are imported to the client test list.

Lines that begin with LOOKUP are imported to the lookup-only test list.

`-imfile=`*`bpimmage.out`*

Reads the host names from a file that contains the output from either the `bpimagelist -l` command or the `bpimmedia -l` command.

`-listonly`

Runs the network tests only for the hosts in the host list that the `-f` option specifies. It does not search the NetBackup environment for other host names.

Note: This option does not discover the location of these hosts, nor does it analyze the NetBackup configuration for other hosts. To discover the listed hosts, include the `-discover` option.

`-lookup`

Runs the name lookup test only. This option cannot be run with the `-server` option.

`-odir=`*`override_output_directory`*

Overrides the output directory with the specified directory.

The default directory is the following:

- For UNIX:
  `/usr/openv/netbackup/bin/support/output/nbdna/`*`YYYYMMDD.HHMMSS`*`/`
- For Windows:
  `install_path``\NetBackup\bin\support\output\nbdna\`*`YYYYMMDD.HHMMSS`*

If the NetBackup path cannot be found, the default is changed to the same directory as the `nbdna` binary.

`-phase=`*`pn`*

Specifies the number (*pn*) of the test phase to be run.

The possible values of *pn* are the following:

- 0 - Phase 0 runs the name lookup test and the socket connection test. Phase 0 is the default mode.
- 1 - Phase 1 tests include phase 0 tests plus the basic NetBackup service test for the SERVER list.
- 2 - Phase 2 tests include phase 0 tests plus the basic NetBackup service test for the SERVER list and the CLIENT list.

`-server`

Runs the server test only. This option cannot be run with the `-lookup` option.

`-sfo`

Produces script friendly reports.

`-tmp=`*`override_tmp_directory`*

Overrides the temporary directory. The default condition is the system `temp` directory.

`-verbose`

Displays progress to the standard out (on-screen). The same information is captured to the progress-trace log regardless of this switch. You do not need to capture verbose output to a file.

`-version`

Displays the version information then exits the utility.

FILES

`nbdna` creates up to five files:

```
ANONYMOUS.NBDNA.YYYYMMDD.HHMMSS.dna
hostname.NBDNA.YYYYMMDD.HHMMSS.zip archive file
hostname.NBDNA.failure-report.YYYYMMDD.HHMMSS.txt
hostname.NBDNA.failure-report.YYYYMMDD.HHMMSS.html
hostname.NBDNA.failure-errorlog.YYYYMMDD.HHMMSS.log.
```

The last three files that are listed are generated only if there are errors.

EXAMPLES

Example 1 - In this UNIX example, `nbdna` runs with report files written to an alternate directory:

```
# nbdna -odir=/user/home/winter/
```

Example 2 - Run `nbdna` with verbose output. It imports a host name list file (`hostnames.txt`) and evaluates only those hosts:

```
# nbdna -verbose -f=hostnames.txt -listonly
```

The host name file format is as follows:

```
SERVER dellpe2400
CLIENT 10.12.249.20
LOOKUP 10.82.108.136
```

SEE ALSO

See nbsu on page 930.

See nbcplogs on page 611.

nbemm

nbemm – run the NetBackup EMM daemon to manage volumes, volume pools, barcode rules, and devices

SYNOPSIS

nbemm [-console] [-terminate]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The Enterprise Media Manager daemon or service manages volumes, volume pools, barcode rules, and devices. This daemon performs media, drive, drive path, and storage unit selection.

Note: The nbemm daemon or service must be active to change the volume configuration, device configuration, storage unit configuration, and for any tape mount activity.

To start nbemm, enter nbemm.

To stop nbemm, enter nbemm -terminate.

OPTIONS

-console
: This option enables you to start NetBackup in console mode.

-terminate
: This option enables you to stop the nbemm binary.

SEE ALSO

See nbemmcmd on page 678.

nbemmcmd

nbemmcmd – update and view information in the EMM database

SYNOPSIS

nbemmcmd [-addhost] [-changesetting] [-deletehost] [-errorsdb] [-getemmserver] [-help] [-listhosts] [-listmedia] [-listsettings] [-machinealias] [-renamehost] [-resethost] [-servercontrol] [-setemmserver] [-updatehost]

nbemmcmd -addhost [-activenodename *string*] [-brief] [-clustername *string*] [-displayname *string*] [-machinedescription *string*] -machinename *string* -machinetype *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp* [-masterserver *string*] [-netbackupversion *level*[*.major_level*[*minor_level*]]] [-operatingsystem *hpux* | *linux* | *rs6000* | *solaris* | *windows*] [-scanability *unsigned_integer*]

nbemmcmd -changesetting -machinename *string* [-ALLOW_MULTIPLE_RETENTIONS_PER_MEDIA 0|1|no|yes] [-AUDIT_ RETENTION_PERIOD *number_of_days*] [-COMMON_SERVER_FOR_DUP default | preferred | required] [-DISABLE_AUTOMATIC_HOST_NAME_ADD 0|1|no|yes] [-DISABLE_BACKUPS_SPANNING_DISK 0|1|no|yes] [-DISABLE_DISK_STU_JOB_THROTTLING 0|1|no|yes] [-DISABLE_STANDALONE_DRIVE_EXTENSIONS 0|1|no|yes] [-DISALLOW_NONNDMP_ON_NDMP_DRIVE 0|1|no|yes] [-DO_NOT_EJECT_STANDALONE 0|1|no|yes] [-DONT_USE_SLAVE 0|1|no|yes] [-DRIVE_ERROR_THRESHOLD *unsigned_integer*] [-DRIVE_NAME_SEED 0|1|no|yes] [-emmname *string*] [-emmport *unsigned_integer*] [-MAX_REALLOC_TRIES *unsigned_integer*] [-MEDIA_ERROR_THRESHOLD *unsigned_integer*] [-MEDIA_REQUEST_DELAY *unsigned_integer*] [-MPMS_DISABLE_EVENTS 0|1|no|yes] [-MPMS_DISABLE_RANK *unsigned_integer*] [-MUST_USE_LOCAL_DRIVE 0|1|no|yes] [-NBUFS_DESTINATION_DSU *string*] [-NBUFS_DUP_TSU_TO_DSU 0|1|no|yes] [-NBUFS_RETENTION_LEVEL *unsigned_integer*] [-NON_ROBOTIC_MEDIA_ID_PREFIX *string*] [-PREFER_NDMP_PATH_FOR_RESTORE 0|1|no|yes] [-PREFER_SPAN_TO_SCRATCH 0|1|no|yes] [-RETURN_UNASSIGNED_MEDIA_TO_SCRATCH_POOL 0|1|no|yes] [-SCSI_PROTECTION NONE | SPR | SR] [-SHAREDISK_MOUNT_POINT *string*] [-TIME_WINDOW *unsigned_integer*] [-UNRESTRICTED_SHARING 0|1|no|yes] [-USE_POTENTIAL_FREESPACE_FOR_ALLOCATION 0|1|no|yes] [-VALIDATE_HOST_NAME 0|1|no|yes] [-VAULT_CLEAR_MEDIA_DESC 0|1|no|yes]

nbemmcmd -deletealldevices [-allrecords] | [-machinename *string*] | [-machinetype *api* | *app_cluster* | *appliance* | *client* | *cluster* | *disk_array* | *foreign_media* | *master* | *media* | *nbwss_endpoint* | *ndmp* | *remote_master* | *replication_host* | *virtual_machine*] [-emmname *string*] [-emmport *unsigned_integer*]

nbemmcmd -deletehost [-brief] -machinename *string* -machinetype api | *app_cluster* | *cluster* | *master* | *media* | *ndmp* | *master* | *media* | *ndmp-mediaid string*

nbemmcmd -errorsdb [-brief] [-prune [-days *no_of_days*] [-hours *no_of_hours*] [-minutes *no_of_minutes*]]

nbemmcmd -getemmserver [-masterserver *string*] [-timeout *unsigned_integer*]

nbemmcmd -listhosts [-brief] [-verbose] [-parsable] [-list_snap_vault_filers -machinename *string*] [-list_snap_vault_media_servers -masterserver *string*] [-list_sts_hosts -machinename *string*] [-list_sts_media_servers -masterserver *string*] [-list_app_clusters -masterserver *string*] [-servers_in_emm_cluster -clustername *string*] [-servers_in_app_cluster -clustername *string*] [-nbservers [-masterserver *string*]] [-display_server -machinename *string* -machinetype *string*] [-netbackupversion level[.major_level[minor_level]]]

nbemmcmd -listmedia [-allrecords] [-mediaid *string*] [-mediatype *unsigned_integer*] [-poolname *string*] [-robotnumber *unsigned integer*] [-vaultcontainer *string*]

nbemmcmd -listsettings -machinename *string* [-brief] [-emmname *string*] [-emmport *unsigned_integer*]

nbemmcmd -machinealias [-addalias -alias *string* -machinename *string*] [-deletealias -alias *string*] [-deleteallaliases -machinename *string*] [-getaliases -machinename *string*] -machinetype *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp*

nbemmcmd -releasecache -machinename *string* [-brief] [-emmname *string*] [-emmport *unsigned_integer*]

nbemmcmd -renamehost [-brief] -machinename *string* -machinetype *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp* -newmachinename *string*

nbemmcmd -resethost -machinename *string*

nbemmcmd -servercontrol [-brief] [-resume] [-suspend]

nbemmcmd -setemmserver [-brief] -emmservername *string* [-masterserver *string*] -newemmservername *string* [-timeout *unsigned_integer*]

nbemmcmd -updatehost [-activenodename *string*] [-add_server_to_app_cluster] [-brief] [-clustername *string*] [-delete_server_from_app_cluster] [-displayname string] [-machinedescription *string*] -machinename *string* [-machinestateop *clr_admin_pause* | *clr_admin_pause_and_set_active* | *clr_disk_active* | *clr_ltid_restart* | *clr_master_server_connectivity* | *clr_tape_active* | *reset_all* | *set_admin_pause* | *set_disk_active* | *set_master_server_connectivity* | *set_tape_active*] [-machinetype *pi* | *app_cluster* | *cluster* | *master* | *media* | *ndmp*] [-masterserver *string*] [-netbackupversion level[.major_level[minor_level]]] [-operatingsystem *hpux* | *linux* | *rs6000* | *solaris* | *windows*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbemmcmd command enables users to update a limited set of EMM database information. In addition, this command enables you to manage host entries, configuration options, and other miscellaneous items in the EMM database.

OPTIONS

The following commands contain a variety of options that enable you to manage the EMM database. The names of the options are purposely long to provide the user with a better understanding of how the options are to be used. Because of the option name length, you need only type the first letter or letters of the command that make it a unique option. For example, to use the -changesetting option, type -c because no other command option starts with the letter c.

-addhost

This option adds the specified host to the EMM database. The following entries can be adjusted by using this command option:

-activenodename *string*

Identifies the active node in a cluster.

`-brief`

Makes the output of the command less verbose.

`-clustername` *string*

Identifies the cluster to which this computer belongs.

`-displayname` *string*

Sets the display name of the computer.

`-machinedescription` *string*

Describes the computer or system being used.

`-machinename` *string*

Specifies the name of the computer to be updated.

`-machinetype` *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp*

Defines how the computer is used.

`-masterserver` *string*

Defines the host master server in a particular domain.

`-netbackupversion` *level*[.*major_level*[*minor_level*]]

Specifies the version that the added host is running. The *level* variable has a range of 0-99. The *major_level* and *minor_level* variables are optional single-digit fields. No spaces are allowed between the *major_level* and *minor_level* variables.

For example, enter the following information to specify NetBackup 7.0:

```
-netbackupversion 7.0 or -netbackupversion 7
```

`-operatingsystem` *hpux* | *linux* | *rs6000* | *solaris* | *windows*

Adds a host with a designated operating system.

`-scanability` *unsigned_integer*

This option applies only to NetBackup Enterprise Servers that use the Shared Storage Option (SSO) feature.

A scan ability factor can range from zero to 9, with a default value of 5. This factor allows the assignment of scan hosts to be prioritized if a drive's scan host changes. Scan hosts with higher scan ability factors are chosen first.

Caution: A drive is unavailable for use until a scan host can be assigned to it. If all hosts that register for a particular drive use `scan_factor = 0`, the drive is unusable. The drive remains unusable until a host with a non-zero `scan_factor` registers for the drive. If all hosts with a non-zero scan_factor have the drive DOWN, then again the drive becomes unavailable.

The decision to use a scan_factor of zero for a server reduces the level of resiliency in your SSO configuration. Be aware of the servers that can be a scan host for a drive. If a drive loses a scan host, it makes the drive unavailable to any server.

`-changesetting -machinename` *`string`*

Changes the configuration setting for a specified host and adds the settings that did not previously exist.

To change these configuration options, use `-changesetting` with the option name and the enable designator (1 or yes) or the disable designator (0 or no). For example, the following command disables the ability of EMM to add a host name automatically:

```
# nbemmcmd -changesetting -DISABLE_AUTOMATIC_HOST_NAME_ADD no
```

`-ALLOW_MULTIPLE_RETENTIONS_PER_MEDIA 0 | 1 | no | yes`

Allows NetBackup to mix retention levels on media. The default condition is that each volume can contain backups of only a single retention level.

`-AUDIT_RETENTION_PERIOD` *`number_of_days`*

The `-AUDIT_RETENTION_PERIOD` option is deprecated. Use the commands that are shown to set or get the retention period for the audit records:

`nbseccmd -setsecurityconfig -auditretentionperiod` *`number_of_days`* or `nbseccmd -getsecurityconfig -auditretentionperiod`

`-COMMON_SERVER_FOR_DUP default | preferred | required`

Determines how NetBackup finds the desired media server(s) to duplicate the data.

The media server that is used to read the image is the 'read media server'. The media server that is used to write the image is the 'write media server'. By default, when the source image is on a tape device, the read media server is the one that writes the backup image. Also, when the source image is on a disk pool with multiple media servers, any of those media servers can be the read media server. The choice for the write media

server is limited to those that have access to the storage unit or storage unit group specified as the destination of the duplication operation.

The following are the possible settings of this option:

- Default. NetBackup does not perform an exhaustive search for possible common servers (same read and write media server). If the common media servers are busy or unavailable, NetBackup uses a different write media server than the read media server. Use this option when you don't want an exhaustive search to affect the performance of the Resource Broker. This scenario can occur when a large job queue with duplication jobs waits for resources to become available.
- Preferred. Look for a common media server to use. If one or more common media servers are found, but their resources (for example, DSUs or tape drives) are busy, do the following: Run the duplication job anyway by using two separate media servers (sending images over the network).
- Required. NetBackup makes an exhaustive search to find a common server. If the common media servers are busy, NetBackup queues the resource request and waits for the resources to become available. NetBackup runs the job with two separate media servers, sending the images over the network, if the following is true: No common servers are in the NetBackup domain, or if a common server exists but is down.

`-DISABLE_AUTOMATIC_HOST_NAME_ADD 0|1|no|yes`

Disables the ability of EMM to add a host name automatically if it appears to be valid. An example of an invalid host name is a name that duplicates another host.

`-DISABLE_BACKUPS_SPANNING_DISK 0|1|no|yes`

Disables the ability of a backup operation to disk to continue when a file system full condition occurs on a disk storage unit volume. It disables by using image fragments on multiple storage unit volumes.

`-DISABLE_DISK_STU_JOB_THROTTLING 0|1|no|yes`

Disables the disk storage unit job throttle action that occurs when disk storage units approach their high-water mark. Disk storage unit throttling limits the number of jobs that are started simultaneously to approach the high-water mark more accurately. Default: Throttle disk storage units that approach their high-water mark.

`-DISABLE_STANDALONE_DRIVE_EXTENSIONS 0|1|no|yes`

Disables the non-robotic drive operations. During a backup, NetBackup does not automatically try to use whatever labeled or unlabeled media it

finds in a non-robotic drive. Default condition is that standalone drive extensions are enabled.

`-DISALLOW_NONNDMP_ON_NDMP_DRIVE 0|1|no|yes`

The MDS logic on the EMM server reads this option. NetBackup tries to use an available drive that is based on the type of request as follows:

For a non-NDMP request of any kind, NetBackup tries to find an available non-NDMP drive. If a non-NDMP drive is not available and an NDMP drive is available, the slower NDMP drive is used. Non-NDMP requests include all type of requests apart from storage unit-related requests (backups and write side of duplicates) and NDMP image restores.

`-DO_NOT_EJECT_STANDALONE 0|1|no|yes`

If this entry is enabled, tapes in standalone drives are not ejected when a backup has completed on that host. (Tapes are ejected if end-of-media is reached during a backup.) Use when you want to keep a standalone drive ready after successful backups are performed.

`-DONT_USE_SLAVE 0|1|no|yes`

Deselects the use of drive name rules to assign names to drives automatically.

`-DRIVE_ERROR_THRESHOLD` *`unsigned_integer`*

Changes the threshold or number of drive errors that can occur before NetBackup changes the drive state to DOWN. Default: 2.

`-DRIVE_NAME_SEED 0|1|no|yes`

Selects the use of drive name rules to assign names to drives automatically.

`-emmname` *`string`*

Specifies the name of the EMM database server. This server contains the database that stores the media information and device configuration information.

`-emmport` *`unsigned_integer`*

Specifies the EMM port.

`-machinename` *`string`*

Names the computer whose settings are changed.

`-MAX_REALLOC_TRIES` *`unsigned_integer`*

Specifies the maximum number of tries that NetBackup attempts to reallocate the media for future backups.

`-MEDIA_ERROR_THRESHOLD` *unsigned_integer*

Changes the threshold or number of media errors that can occur before the media is frozen. Default: 2.

`-MEDIA_REQUEST_DELAY` *unsigned_integer*

Specifies the number of seconds that NetBackup waits for a drive to become ready. Applies only to non-robotic drives. Default: 0 seconds. For example, assume that the delay is 150 seconds:

MEDIA_REQUEST_DELAY = 150

Add this information to the `bp.conf` file on NetBackup servers or enter a value for Media Request Delay in the Media host properties.

`-MPMS_DISABLE_EVENTS 0|1|no|yes, -MPMS_DISABLE_RANK 0|1|no|yes, -MUST_USE_LOCAL_DRIVE 0|1|no|yes`

If the client is also a master server and this option is active, backups for this client must occur on a local drive. If the client is not a master server, this entry has no effect.

Add this option to the `bp.conf` file on master servers. Or check the Must Use Local Drive setting in the General Server host properties dialog box.

`-NBUFS_DESTINATION_DSU` *string*`, -NBUFS_DUP_TSU_TO_DSU 0|1|no|yes, -NBUFS_RETENTION_LEVEL` *unsigned_integer*`, -NON_ROBOTIC_MEDIA_ID_PREFIX` *string*

Specifies the media ID prefix that is used for creating non-robotic media. It applies to the host that the `-machinename` option specifies. The media ID prefix is an alphanumeric string of characters from one to three characters in length.

`-PREFER_NDMP_PATH_FOR_RESTORE 0|1|no|yes (default value is 1 or no)`

Used to specify how NetBackup selects drives for NDMP restores. By default, NetBackup selects drives in the order shown:

- NetBackup looks for an NDMP tape server that is local to the NDMP file system set to receive the restore data.
- NetBackup looks for any NDMP tape server, including those that are not local to the restore client.
- NetBackup looks for any NetBackup media server to act as an NDMP tape server.

If you specify `-PREFER_NDMP_PATH_FOR_RESTORE 0` or `-PREFER_NDMP_PATH_FOR_RESTORE yes`, the order NetBackup uses is:

- NetBackup looks for an NDMP tape server that is local to the NDMP file system set to receive the restore data.
- NetBackup looks for any NetBackup media server to act as an NDMP tape server.
- NetBackup looks for any NDMP tape server, including those that are not local to the restore client.

`-PREFER_SPAN_TO_SCRATCH 0|1|no|yes (default is 1 or yes)`

Specifies how NetBackup should select additional media when tape media operations span multiple media. When this parameter is set to the default setting, `yes`, NetBackup selects new media from the scratch pool during tape jobs instead of partially full media. When this parameter is set to `no`, NetBackup attempts to select partially full media to complete the specified operation. The `no` setting lets NetBackup fully use the maximum number of partially full media setting. Set the maximum number of partially full media option with the `vmpool -create` or the `vmpool -update` command.

`-RETURN_UNASSIGNED_MEDIA_TO_SCRATCH_POOL 0|1|no|yes`

This EMM global option applies to every host that uses the EMM server. It is not a host option.

YES: The Media Manager automatically returns the expired and unassigned media that originated in the scratch volume pool to the scratch volume pool.

NO: Disables the automatic behavior of returning media to the scratch pool. Use one of the Media Manager administration interfaces to move media.

`-SCSI_PROTECTION NONE | SPR | SR`

Allows the exclusive access protection for tape drives. With access protection, other host bus adaptors cannot issue commands to control the drives during the reservation. The three possible settings for this option are:

NONE - No protection

SPR - SCSI persistent reserve

SR - SPC-2 SCSI reserve (default condition)

`-TIME_WINDOW` *`unsigned_integer`*

Enables you to set a value that is equal to the amount of time in which errors can be tracked. You can use this value with an error threshold (for example, media_error_threshold) to monitor the number of media errors that occur within the time window. The default setting is 12 hours.

-UNRESTRICTED_SHARING 0|1|no|yes

Enables the unrestricted media sharing for all media servers.

USE_POTENTIAL_FREESPACE_FOR_ALLOCATION 0|1|no|yes

Allows the memory allocation of the available free space. The High Water Mark normally triggers image cleanup on BasicDisk storage units and disk pools. When the **High water mark** is reached in a storage lifecycle policy, it can prevent the use of any more memory space.

For example, the **High water mark** is 90%, but the potential free space is 50%. When the free space that is left on disk is only available past the **High water mark**, the backup fails. Turn on this parameter (1) to allow the use of the 40% free space between the potential free space and the **High water mark**.

The default setting is no (0).

-VALIDATE_HOST_NAME 0|1|no|yes

Enables the host name character validation according to NetBackup standard. If this option is disabled, you can use a name like "_host1", which does not follow the standard.

-VAULT_CLEAR_MEDIA_DESC 0|1|no|yes

This option is an EMM global option that applies to every host that uses the EMM server. It is not a host option. When NetBackup media is returned from the off-site vault during a typical tape rotation, it is expired and is ready for reuse by new backups. To avoid confusion, it may be helpful to clear the old media description information when an expired tape is returned to the robot. If this entry is specified, the media description field is cleared when other Vault information is cleared from the Media Manager volume database.

-deletealldevices

Deletes all tape devices.

-allrecords

Deletes all tape devices across all computers. You cannot use this option with the -machinename option.

-emmname *string*

Name of the EMM server.

-emmport *unsigned_integer*

Port number for the EMM server

-machinename *string*

Deletes all tape devices that are attached to the specified media server. You cannot use this option with the -allrecords option.

-machinetype *api* | *app_cluster* | *appliance* | *client* | *cluster* | *disk_array* | *foreign_media* | *master* | *media* | *nbwss_endpoint* | *ndmp* | *remote_master* | *replication_host* | *virtual_machine*

Specifies the type of the computer name. You cannot use this option with the -allrecords option.

-deletehost

Deletes an EMM computer record by using the required computer name and computer type.

-brief

Generates a less verbose output of the command.

-machinename *string*

Removes the specified host from the EMM database.

-Machinetype *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp*

Identifies by type the computer to be removed.

-errorsdb

-brief

Generates a less verbose output of the command.

-prune [-days *no_of_days*] [-hours *no_of_hours*] [-minutes *no_of_minutes*]

Removes the entries from the error database. The optional days, hours, and minutes arguments determine which database entries to delete. It removes any entries older than the specified time.

-getemmserver

Displays the information on all the hosts in a particular EMM domain. Use this command to ensure a level of consistency in a newly installed domain or modified domain.

-brief

Generates a less verbose output of the command.

-masterserver *string*

Specifies a name of a master server for an EMM domain. If you omit this option when you use this command, the current computer is assumed.

-timeout *unsigned integer*

Specifies a temporary timeout value in seconds to be used during the duration of this command.

-help

Displays usage information for the specified command by entering the following:

```
nbemmcmd -help command
```

-listhosts

This option dumps the table structure for each known host.

-display_server -machinename *string* -machinetype *string*

Displays only the specified computer by the computer name and computer type.

-list_app_clusters -masterserver *string*

Lists all of the application clusters of the specified master server.

-list_snap_vault_filers -machinename *string*

Lists all of the SnapVault filers of the specified computer name See the -machinename option description that follows.

-list_snap_vault_media_servers -masterserver *string*

Lists all of the SnapVault media servers of the specified master server.

-list_sts_hosts -machinename *string*

Lists all OpenStorage hosts connected to the specified computer name.

-list_sts_media_servers -masterserver *string*

Lists all OpenStorage media servers that are connected to the specified master server.

-machinename *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp*

Defines the type of computer to list.

-nbservers -masterserver *string*

Displays only the media servers and master servers. The default for -listhosts is to display all servers.

-netbackupversion *level*[*.major_level*[*minor_level*]]

Specifies the computer version. The level variable has a range of 0-99. The *major_level* and *minor_level* variables are optional single-digit fields. There should be no spaces between *major_level* and *minor_level*.

For example, enter the following information to specify NetBackup 7.0:

```
-netbackupversion 7.0 or -netbackupversion 7
```

-servers_in_emm_cluster -clustername *string*

Lists all servers in the specified cluster.

-server_in_app_cluster -clustername *string*

Lists all of the application cluster servers of the specified cluster.

`-brief`

Makes the output of the command less verbose.

`-parsable`

Makes the output of the command parsable.

`-verbose`

Controls how host information is displayed. Multiple lines of output are printed, one for each parameter of a host.

`-listmedia`

`-allrecords`

Displays all media records.

`-mediaid` *`string`*

Specifies the media ID of the EMM media record.

`-mediatype` *`unsigned integer`*

Queries the volumes by media type.

Valid media types for NetBackup Enterprise Server are:

`4mm, 8mm, 8mm2, 8mm3, dlt, dlt2, dlt3, dtf, hcart, hcart2, hcart3, qcart, 4mm_clean, 8mm_clean, 8mm2_clean, 8mm3_clean, dlt_clean, dlt2_clean, dlt3_clean, dtf_clean, hcart_clean, hcart2_clean, hcart3_clean.`

Valid media types for a NetBackup server are:

`4mm, 8mm, dlt, hcart, qcart, 4mm_clean, 8mm_clean, dlt_clean, hcart_clean.`

`-poolname` *`string`*

Queries the volumes by pool number, an index into the volume pool. Use `vmpool -listall` to determine the index for a given pool name.

`-robotnumber` *`unsigned_integer`*

Queries the volumes by robot number. A robot number is a unique, logical identification number for the robot where the volume is located.

`-vaultcontainer` *`string`*

Lists the volumes that are stored in the container. The *string* variable is the *vault_container_id*, a string of up to 29 alphanumeric characters.

`-listsettings`

`-machinename` *`string`*

Specifies which computer to list settings for.

-brief

Generates a less verbose output of the command.

-emmname *string*

Specifies the host name of the pertinent EMM server. If -emmname is not specified, the default name is located in the bp.conffile.

-emmport *unsigned_integer*

Specifies the port number of the EMM server to where calls are made. If -emmport is not specified, the default port is specified in the bp.conf file.

-machinealias

The following parameters are used to maintain the alias list for a particular computer. Use them to view current aliases, add new aliases, or delete current aliases for an identified computer.

-addalias -alias *alias* -machinename *name* -machinetype *type*

Adds an alias name to a computer. Identify the computer name that is to receive the alias as well as the computer type.

For example, to create a media server with the alias name blue, use the following command:

```
machinealias -machinename 10.10.10.1 -machinetype media
-addalias -alias blue
```

-deletealias -alias *name* -machinetype *type*

Deletes an alias name from the database. This operation requires that you identify the alias to be deleted by using the -alias *string* command and computer type with this option.

-deleteallaliases -alias *name* -machinetype *type*

Deletes all aliases for a particular computer. To perform this operation you must identify the computer name and the computer type.

-getaliases

Retrieves all aliases for a particular computer. To perform this operation you must identify the computer name and the computer type.

-alias *string*

Specifies the string that identifies the alias name of a computer.

-machinename *string*

Specifies the name of a computer.

-Machinetype *api* | *app_cluster* | *cluster* | *master* | *media* | *ndmp*

Defines what the computer is used as.

-releasecache

Release cache memory that the EMM server has used.

-brief

Generates a less verbose output of the command.

-emmname *string*

Specifies the host name of the pertinent EMM server. If -emmname is not specified, the default name is located in the bp.conffile.

-emmport *unsigned_integer*

Specifies the port number of the EMM server to where calls are made. If -emmport is not specified, the default port is specified in the bp.conf file.

-renamehost

This command, with the required computer name and new computer name options, renames the current computer name to a new computer name.

-machinename *string*

Defines the current computer name.

-newmachinename *string*

Defines the new computer name.

-resethost

Use this command to reset the **Host Properties** for an updated host. The **Host Properties** section displays the additional information that the host web service collects.

Run this command if you have downgraded the NetBackup version on a computer or removed a host from your NetBackup environment. You only need to run this command if you downgrade to NetBackup 8.0 or earlier. You may need to restart the NetBackup Administration Console for the changes to take effect.

Before you run the nbemmcmd -resethost command, you must run the bpnbat -login -loginType WEB command. This command authenticates your web services login. After you successfully run the bpnbat command, run the nbemmcmd -resethost command.

-machinename *string*

Defines the name of the computer that was downgraded or removed from the NetBackup environment.

-servercontrol

This command suspends and resumes control of a specified server. You can perform database maintenance without the corruption of existing data because a job began to run during this time.

`-resume`

Resumes the control of a specified server.

`-suspend`

Suspends the control of a specified server.

`-setemmserver`

This command changes the EMM server name for certain hosts in the domain whose name matches the old EMM server name. This command has the following options:

`-emmservername` *string*

Specifies the EMM server name to be changed.

`-newemmservername` *string*

Specifies the new, or replacement, value for the EMM server.

`-masterserver` *string*

Specifies a name of a master server for an EMM domain. If you omit this option when you use this command, the current computer is assumed.

`-timeout` *unsigned integer*

Specifies a temporary timeout value in seconds to use for the duration of this command.

`-updatehost -machinename string`

This command, when used with the following options, enables you to change a computer record that was specified by using the required `-machinename` option.

`-add_server_to_app_cluster`

This option designates that the computer should be added to the application cluster that is specified in the `-clustername` option.

`-activenodename` *string*

Identifies the active node in a cluster.

`-clustername` *string*

Identifies a cluster to which this computer belongs.

`-delete_server_from_app_cluster`

Designates that the computer should be removed from the application cluster that is specified in the `-clustername` option.

`-displayname` *string*

Displays the assigned name of a computer that is equivalent to the numbered identifier for that computer.

-machinename *string*

Specifies the computer name to update.

-machinestateop *clr_admin_pause* | *clr_admin_pause_and_set_active* | *clr_disk_active* | clr_ltid_restart | *clr_master_server_connectivity* | *clr_tape_active* | *reset_all* | *set_admin_pause* | *set_disk_active* | *set_master_server_connectivity* | *set_tape_active*

Sets or clears the specified computer state.

-Machinetype *api* | *app_cluster* |*cluster* | *master* | *media* | *ndmp*

Defines what the computer is used as.

-masterserver *string*

Defines the host's master server in the domain.

-netbackupversion *level*[*.major_level*[*minor_level*]]

Adds a host and specifies the version it is running. The *level* variable as a range of 0-99. The *major_level* and *minor_level* variables are optional single-digit fields. There should be no spaces between the *major_level* and *minor_level* variables.

For example, enter the following to specify NetBackup 7.0:
-netbackupversion *7.0*

-operatingsystem *hpux* | *linux* | rs6000 | *solaris* | *windows*

This option enables you to update the operating system of the computer.

EXAMPLES

Example 1 - Display the information on all the hosts in a particular EMM domain.

```
# nbemmcmd -getemmserver
These hosts were found in this domain: throttle, upwords
Checking with host: throttle...
Checking with host: upwords...
Server Type   Host Version              Host Name         EMM Server
MEDIA         UNKNOWN RELEASE (0)       throttle          throttle
MASTER        7.6                       upwords           upwords

One or more hosts had mismatched EMM Servers.
Run-time failure: The consistency check either failed or was
incomplete. Command did not complete successfully.
```

Example 2 - Change the EMM server name for certain hosts in the domain whose name matches the old EMM server name.

```
# nbemmcmd -setemmserver -emmservername throttle -newemm upwords
These hosts were found in this domain: throttle, upwords
Checking with host: throttle...
Checking with host: upwords...
Server Type    Host Version             Host Name         EMM Server
MEDIA          UNKNOWN RELEASE (0)      throttle          throttle
EMM server name was changed.
MASTER         7.6                      upwords           upwords
One media hosts had EMM Server name changed. Command was completed
successfully.
```

nbepicfile

nbepicfile – used to list and restore the backups that are created using the Epic-Large-File policy on Red Hat Linux and AIX

SYNOPSIS

nbepicfile --type list --path_name *pathname* [-S *servername*]

nbepicfile --type list --path_name *pathname* [--list_by_time *YYYY-MM-DD hh:mm:ss YYYY-MM-DD hh:mm:ss*] [-S *servername*]

nbepicfile--type list --path_name pathname [--alter_client *clientname*] [-S *servername*]

nbepicfile --type restore --path_name *pathname* --num_streams *streamsnum* [-S *servername*]

nbepicfile --type restore --backup_id *backupid* --num_streams *streamsnum* [-S *servername*]

nbepicfile --type restore --path_name *pathname1* --path_name *pathname2* --num_streams *streamnum* [-S *servername*]

nbepicfile --type restore --path_name *pathname* --num_streams *streamnum* [--alter_path_name *newlocation*] [-S *servername*]

nbepicfile --type restore --path_name *pathname* --num_streams *streamnum* [--alter_client *clientname*] [-S *servername*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin

DESCRIPTION

Use the nbepicfile command to list and restore the backups that are created using the Epic-Large-File policy. This command only supports Red Hat Linux and AIX. Run this command on the client to restore the backups.

OPTIONS

--alter_client

Lists or restores the backups from a different client.

If you used the FQDN to install the NetBackup client, and you use short name in the policy client configuration, you must use `--alter_client` to list and to restore the backups.

For example, `abcde02vm123.domain.com` was used to install the NetBackup client, and `abcde02vm123` is used in the policy configuration. Run the commands that are shown to list and to restore the backups:

```
nbepicfile --type list --path_name /epic_db --alter_client
abcde02vm123
```

```
nbepicfile --type restore --path_name /epic_db --alter_client
abcde02vm123 --num_streams 10
```

`--alter_path_name`

Restores the backups to a different location.

`--backup_id`

Restores the backups with the specified backup ID.

`--copy_num`

Restores the backups with the specified copy number.

`--cross_check`

Confirms the data integration for the current backups. This operation may take a long time to complete.

`--help`

Displays the help information for the command or option.

`-k`

For a restore, this option keeps the files if the local files exist.

`--list_by_time`

Lists the backups within the specified time range.

`--num_streams`

Restores the backups with the number of parallel streams specified.

`--path_name`

Lists or restores the backup with the specified path name. The path name is the backup selection when backup is performed.

`-S`

Primary server name to connect.

`--type`

Specifies the type of the operation, either list or restore.

EXAMPLES

Example 1: List the backups for the current client with path.

```
nbepicfile --type list --path_name /
```

Example 2: List the backups for the current client with path within the specified period.

```
nbepicfile --type list --path_name / --list_by_time 2024-01-17
01:58:52 2024-01-17 02:28:28
```

Example 3: List the backups for another client.

```
nbepicfile --type list --path_name / --alter_client clientname
```

Example 4: Restore the latest backup from the specified path with the number of streams.

```
nbepicfile --type restore --path_name /root/epic_script/epic
--num_streams 5
```

Example 5: Restore the backup from a backup ID.

```
nbepicfile --type restore --backup_id rmnbjgcl02vm169_1705478332
--num_streams 5
```

Example 6: Restore the backup from multiple backup selections or backup IDs.

```
nbepicfile --type restore --path_name /root/epic_script/epic
--path_name /root/epic_script/script --backup_id
rmnbjgcl02vm169_1705478332 --num_streams 5
```

Example 7: Restore the backups to a different location.

```
nbepicfile --type restore --path_name /root/epic_script/epic
--alter_path_name /test_epic --num_streams 5
```

Example 8: Restore the backups for another client.

```
nbepicfile --type restore --path_name /root/epic_script/epic
--num_streams 5 --alter_client clientname
```

nbfindfile

nbfindfile – search files or folders based on simple search criteria

SYNOPSIS

nbfindfile -c *client_name*[,...] -p *search_pattern*[-s *mm/dd/yyyy*[*hh:mm:ss*] | -s_ut *unix_time*] [-e *mm/dd/yyyy* [*hh:mm:ss*] | -e_ut *unix_time*] [-backupid *backup_id*] [-policy *policy_name*] [-keyword "*keyword_phrase*"] [-extn *file_extn*[,...]] [-st *sched_type*] [-pt *policy_type*] [-kb_min *min_size_kb*] [-kb_max *max_size_kb*] [-mtime_min *mm/dd/yyyy* [*hh:mm:ss*]] [-mtime_max *mm/dd/yyyy* [*hh:mm:ss*]] [-atime_min *mm/dd/yyyy* [*hh:mm:ss*]] [-atime_max *mm/dd/yyyy* [*hh:mm:ss*]] [-ctime_min *mm/dd/yyyy* [*hh:mm:ss*]] [-ctime_max *mm/dd/yyyy* [*hh:mm:ss*]] [-only_dirs | -only_files] [-max_results *number*] [-case_sen] [-l [-ctime | -atime] | -raw] [-help | -h]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbfindfile command lets you search files or folders based on simple search criteria like file name and path including wildcard and backup date range. Users can specify a set of clients, possibly belonging to different master servers, for which backups are to be searched. You can specify advanced search criteria including policy type, schedule type, policy name, policy associated keywords, file extensions, file modification date range, and file size.

OPTIONS

-atime

Displays the last access time of objects in place of the last modification time. Requires the -l option.

-atime_max *mm/dd/yyyy* [*hh:mm:ss*]

Specifies the maximum last access time of objects to be returned. The default is infinite.

`-atime_min` *mm/dd/yyyy* [*hh:mm:ss*]

Specifies the minimum last access time of objects to be returned. The default is 01/01/1970 00:00:00.

`-backupid` *backup_id*

The backup ID of the backup image that should be searched.

`-c` *client_name*[,...]

Specifies the names of the NetBackup clients whose backups need to be searched. The client names must be specified as they appear in the NetBackup configuration. Multiple clients can be specified as a list that is separated by commas.

`-case_sen`

Performs case sensitive matching.

`-ctime`

Displays the last change time of objects in place of the last modification time. Requires the `-l` option.

`-ctime_max` *mm/dd/yyyy* [*hh:mm:ss*]

Specifies the maximum last change time of objects to be returned. The default is infinite.

`-ctime_min` *mm/dd/yyyy* [*hh:mm:ss*]

Specifies the minimum last change time of objects to be returned. The default is 01/01/1970 00:00:00.

`-e` *mm/dd/yyyy* [*hh:mm:ss*] | `-e_ut` *unix_time*

Specifies the end date for the search. Backups that occurred at or before the specified date and time are searched. The default is the current date and time.

`-extn` *file_extn*[,...]

Returns only the files with the specified extensions. For example, `-extn txt,do*,jp?`.

`-h | -help`

Displays usage information.

`-kb_max` *max_size_kb*

Specifies the maximum size in kilobytes (1024 bytes) of files to be returned. The default is infinite.

`-kb_min` *min_size_kb*

Specifies the minimum size in kilobytes (1024 bytes) of files to be returned. The default is 0 (zero).

`-keyword "`*`keyword_phrase`*`"`

Searches only the backup images that contain a matching keyword phrase are searched. The keyword phrase can contain wildcards (*, ?) and square bracket expressions. Examples are `[Kk]ey*`, `[a-z]e?`, and `[!K]ey`.

`-l`

Displays output in long list format. The last modification time of objects is shown by default.

`-max_results` *`number`*

Specifies the maximum number of results to be displayed. The default is infinite.

`-mtime_max` *`mm/dd/yyyy`* `[`*`hh:mm:ss`*`]`

Specifies the maximum last modification time of objects to be returned. The default is infinite.

`-mtime_min` *`mm/dd/yyyy`* `[`*`hh:mm:ss`*`]`

Specifies the minimum last modification time of objects to be returned. The default is 01/01/1970 00:00:00.

`-only_dirs | -only_files`

Specifies the type of objects to be returned.

`-p` *`search_pattern`*

Specifies the search pattern. File and directory entries matching this pattern are displayed.

`-policy` *`policy_name`*

Searches only the backup images that are created using the specified policy.

`-pt` *`policy_type`*

Searches only the backups with the specified policy type. Valid values for *policy_type*: Any, Standard, FlashBackup, MS-Windows, NDMP, FlashBackup-Windows.

`-r`

Displays raw output.

`-s` *`mm/dd/yyyy`* `[`*`hh:mm:ss`*`] | -s_ut` *`unix_time`*

Specifies the start date for the search. Backups that occurred at or after the specified date and time are searched. The default is 30 days before the end date.

`-st` *`sched_type`*

Specifies a schedule type for the image selection. The default is any schedule type. Valid values, in either uppercase or lowercase, are as follows:

- ANY

- FULL (full backup)
- INCR (differential-incremental backup)
- CINC (cumulative-incremental backup)
- UBAK (user backup)
- UARC (user archive)
- SCHED
- USER (user backup and user archive)
- NOT_ARCHIVE (all backups except user archive)

nbfirescan

`nbfirescan` – scan for SCSI disk devices and print out report

SYNOPSIS

`nbfirescan`

`On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/`

`On Windows systems, the directory path to this command is` *`install_path`*`\Common Files\Symantec Shared\VxFI\4\Bin\`

DESCRIPTION

The Frozen Image Rescan (`nbfirescan`) utility scans for SCSI disk devices and prints what it finds. It is available on all media servers and is used to triage import problems.

Before you run the command, add the NetBackup `bin` directory in the `PATH` statement. For example, `setx path "%path%;C:\Program Files\Veritas\NetBackup\bin"` for Windows or `export PATH=$PATH:/usr/openv/netbackup/bin` for UNIX or Linux.

Only authorized users can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

EXAMPLES

The following applies to Windows systems only; it is a sample output from the local host SCSI bus scan:

```
C:\Program Files\Common Files\Veritas\VxFI\4\Bin>nbfirescan.exe

nbfirescan v4.4.1 - Copyright (c) 2005-2010 Veritas Technologies LLC.
Rescanning
devices.....................................Complete.
Device count: 48
DevicePath           Vendor   Product ID        EnclosureId
DeviceId                                       [Ctl,Bus,Tgt,Lun]
------------------------------------------------------
```

```
\\.\PHYSICALDRIVE0   SEAGATE  ST336607LW        -
\\.\PHYSICALDRIVE1   SEAGATE  ST336607LW        -
\\.\PHYSICALDRIVE2   COMPAQ   HSV111 (C)COMPAQ  5000-1FE1-5004-5660
6005-08B4-0010-120F-0000-7000-0956-0000         [00,04,00,01]
\\.\PHYSICALDRIVE3   COMPAQ   HSV111 (C)COMPAQ  5000-1FE1-5004-5660
6005-08B4-0010-4E39-0000-4000-0010-0000         [00,04,00,02]
```

nbfp

`nbfp` – resets the file permissions of the NetBackup installation directory to the default values

SYNOPSIS

For UNIX

nbfp --upgrade

For Windows

nbfp -silent

nbfp -restore [*file*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/goodies/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\goodies\

DESCRIPTION

The `nbfp` command resets the file permissions of the NetBackup installation directory to the default values.

On NetBackup clustered master server, make sure that you run this command on all nodes of cluster to reset of permissions on all nodes. On the active node, make sure that shared disk is online before you run `nbfp`.

OPTIONS

-restore [*file*]

Restores the permissions of the NetBackup installation directory as specified in the file. The specified file must be one of the backup files that is saved in the *install_path*\NetBackup\var\nbfp directory. This option only applies to Windows platforms.

If the file is not specified, the permissions are restored based on the latest backup file in the *install_path*\NetBackup\var\nbfp directory.

-silent

Skips the user confirmation. This option only applies to Windows platforms.

`--upgrade`

Changes the permissions of files and VxUL logs to the more restrictive settings.

nbftadm

`nbftadm` – start menu interface for managing the Fibre Transport (FT)

SYNOPSIS

`nbftadm`

`On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/`

DESCRIPTION

This command operates only on UNIX systems.

`nbftadm` has a menu interface that an administrator can use to configure and manage the fiber transport between NetBackup media servers and SAN clients. `nbftadm` requires administrator privileges. This interface can be used from any character-based terminal (or terminal emulation window) for which the administrator has a `termcap` or a `terminfo` definition.

See the *NetBackup Administrator's Guide* and the `nbftadm` online Help for detailed operating instructions.

FILES

```
/usr/openv/netbackup/help/nbftadm/*
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/bin/initbprd
/usr/openv/netbackup/bp.conf
```

SEE ALSO

See bprd on page 381.

nbftconfig

nbftconfig – configure the attributes that are associated with Fibre Transport (FT) servers and SAN clients

SYNOPSIS

nbftconfig [-addclient] [-deleteclient] [-changeclient] [-rescanclient] [rescanallclients] [-listclients] [-addserver] [-deleteserver] [-changeserver] [-listservers] [-listactive] [-setconfig] [-getconfig] [-verbose] [-help]

nbftconfig -[ac]addclient -C *client_name* [-M *master_server*] [-ftpref preferred | always | never] [-ftwait *minutes*] [-ftrwait *minutes*]

nbftconfig -[dc]deleteclient -C *client_name*

nbftconfig -[cc]changeclient -C *client_name* {-ftpref preferred | always | never] [-ftwait *minutes*] [-ftrwait *minutes*] | -np *number_of_ports*}

nbftconfig -[rc]rescanclient *client_name*

nbftconfig -[ra]rescanallclients

nbftconfig -[lc]listclients [-verbose] [-C *client_name* | -Me *media_server* | -M *master_server*]

nbftconfig -[ds]deleteserver *media_server*

nbftconfig -[cs]changeserver -Me *media_server* [-l *connection_limit*] [-state active | disabled]

nbftconfig -[ls]listservers [-Me *media_server* | -M *master_server*] [-verbose]

nbftconfig -[la]listactive [-C *client_name* | -Me *media_server*] [-verbose]

nbftconfig -[lt]listtargets [-Me *media_server*] [-verbose]

nbftconfig -setconfig [-M *master_server*] {-ftpref preferred | always | never [-ftwait *minutes*] [-ftrwait *minutes*] | -np *number_of_ports* [-ncp *number_of_clients_per_target_port*]}

nbftconfig -getconfig [-M *master_server*] [-verbose]

nbftconfig -*option* -help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

nbftconfig is a NetBackup utility that modifies the attributes that are associated with the Fibre Transport (FT) server. It also creates the SAN client entities in the EMM database.

nbftconfig performs the following operations:

- Add a new SAN client and its attributes to the EMM database.
- Modify an existing SAN client record.
- Delete a SAN client.
- Add a new FT server.
- Modify the attributes of an existing FT server record.
- List SAN clients that are defined within the database.
- List FT servers that are defined within the database.
- List by all active Fibre Channel connections.
- List the target port configuration information for FT media servers.

OPTIONS

-addclient

Adds the specified SAN client to the EMM database. SAN clients are normally automatically discovered when the SAN client code is installed on the client. However, if the notification from the client to the EMM server is lost, use this command to manually add the client. The following attributes can be set by using this command option:

-C *client_name*

Specifies the name of the SAN client that is to be added to the database.

-M *master_server*

Specifies the master server that is associated with the designated client. If this option is omitted, the local client's master server is used.

`-ftpref preferred | always | fail | never`

Determines if the Fibre Channel connections to the media server are preferred (default condition), must always be used, or should never be used. If preferences are not provided, master server defaults are used. This value is set by default according to the global defined for the EMM server. The following describes the possible `-ftpref` values:

- Preferred. Use an FT device if one is available within the configured wait period in minutes. If an FT device is not available after the wait period elapses, NetBackup uses a LAN connection for the operation. If you select this option, also specify the wait period for backups and for restores.
- Always. NetBackup always uses an FT device for backups and restores of SAN clients, and waits until an FT device is available before it begins the operation.
- Fail. NetBackup fails the job if an FT device is not up and online. If the FT devices are online but busy, NetBackup waits until a device is available and assigns the next job to the device. An FT device may not exist because none is active, none have been configured, or the SAN Client license expired.
- Never. NetBackup never uses an FT pipe for backups and restores of SAN clients and uses a LAN connection for the backups and restores. If you specify Never for the master server, Fibre Transport is disabled in the NetBackup environment, and you can configure FT usage on a per-client basis. If you specify Never for a media server, Fibre Transport is disabled for the media server. If you specify Never for a SAN client, Fibre Transport is disabled for the client.

`-ftrwait` *minutes*

Defines the number of minutes that a restore job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is only valid when the `ftpref` type is set to `preferred`.

`-ftwait` *minutes*

Defines the number of minutes that a backup job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is valid only when the `ftpref` type is set to `preferred`.

`-np` *number_of_ports*

Defines the maximum number of client ports that can be simultaneously used on a single media server. If the maximum number of client ports is set to 0, then all ports are used. The default number of client ports is 2.

`-deleteclient`

Deletes the specified client from the EMM database. The following attribute may be included with this option.

`-C` *client_name*

Specifies the name of the SAN client that is to be deleted from the database.

`-changeclient`

Changes the options that are associated with a specific SAN. The following attributes can be set by using this command option:

`-C` *client_name*

Specifies the name of the SAN client that is to be added to the database.

`-ftpref preferred | always | never`

Determines if the Fibre Channel connections to the media server are preferred, must always be used, or should never be used. If preferences are not provided, master server defaults are used. This value is set by default according to the global defined for the EMM server.

`-ftwait` *minutes*

Defines the number of minutes that a backup job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is valid only when the `ftpref` type is set to `preferred`.

`-ftrwait` *minutes*

Defines the number of minutes that a restore job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is only valid when the `ftpref` type is set to `preferred`.

`-rescanallclients`

Scans all clients for new FT devices, up to five clients at a time.

`-rescanclient`

Scans the specified client for new FT devices. The following attribute can be set by using this command option:

client_name

Specifies the name of the SAN client to scan.

`-listclients`

Displays the list of SAN clients and attributes that are associated with the clients. By default all SAN clients are listed with a subset of attributes. The information output by the `listclients` operation depends on whether all clients are listed or the attributes associated with a specific SAN client.

The following attributes can be set by using this command option:

`-C` *`client_name`*

Specifies the name of the SAN client whose information you want listed. If this attribute is omitted, `listclients` lists the information for all clients that are attached to the designated media server or master server.

`-Me` *`media_server`*

Specifies the name of the FT server for whose attached clients you want the information listed.

`-M` *`master_server`*

Specifies the master server that is associated with the FT servers. If this option is omitted, all FT servers are returned.

`-verbose`

The output can be displayed in verbose mode and non-verbose mode (by default). When all clients are listed (including all clients by master or media server), the information appears for multi-client, verbose mode output.

The following information appears in verbose mode for the client record:

SAN client name

Version — Client NetBackup software version

State - SAN client state

Master server name

Number of FT servers to which the SAN client can connect

Usage preferences (see `addclient`)

Usage preference wait period (See `addclient`)

If a specific SAN client is included in the `listclients` command, then the information is displayed for that client (single client output):

The following information appears in verbose mode for the client device records:

SAN client device state

Media server name

Media server state

Media server HBA port number on which a device was discovered

Media server HBA port mode

LUN — The LUN that is associated with the HBA Port

The default condition is non-verbose mode output. The output information is the same as for verbose mode in space-separated text format. Client records start with the letter "c" and device records start with the letter "d".

`-deleteserver`

Deletes the specified client from the EMM database. The following attribute can be set by using this command option:

`-Me`*`media_server`*

Specifies the name of the FT server to be deleted.

`-changeserver`

Changes the attributes that are associated with an FT server. The following attributes can be set by using this command option:

`-Me` *`media_server`*

Specifies the name of the FT server to be changed.

`-M` *`master_server`*

Specifies the master server that is associated with the designated media server.

`-l` *`connection_limit`*

Specifies the maximum number of connections that the FT server supports. This number is the total for the server and not per LUN or HBA. If this option is omitted, the FT server's default connection limit is used.

`-state [active | disabled]`

Identifies the assigned state of the FT server. The possible values are Active and Disabled.

`-listservers`

This operation is used to display the list of FT servers and attributes that are associated with the servers. By default all FT servers are listed:

The following options are associated with the `listservers` command:

`-Me` *`media_server`*

Specifies the name of the media server whose attached FT servers are to be listed.

`-M` *`master_server`*

Specifies the name of the master server whose attached FT servers are to be listed.

`-verbose`

Specifies a detailed output for the server information.

The output can be displayed in verbose mode and non-verbose mode (by default). When all clients are listed (including all clients by master or media server), the information appears for multi-client, verbose mode output.

The following output information appears in verbose mode for the server record:

SAN client name

FT Server name

Version — Server NetBackup software version

State -FT Server state

Connection limit

If a specific SAN client is included in the `listclients` command, then the information is displayed for that client (single client output):

The following output information appears in verbose mode for the client device records:

FT Server HBA port

FT Server HBA port mode

FT Server device state

Associated LUN

FT Connections — number of active FT Connections on the specific HBA/LUN

The default condition is non-verbose mode output. The output information is the same as for verbose mode in space-separated text format. Media server records start with the letter "d" and device records start with the letter "d". Each HBA port number on each server gets a separate line entry in the output.

`-listtargets`

This operation is used to display the list of specifics on all the target ports on FT media servers. By default all FT servers are listed.

The following options are associated with the `listtargets` command:

`-Me` *`media_server`*

Specifies the name of the media server whose target port configurations are to be listed. If no media server is specified, the target port information is listed for all FT media servers.

`-verbose`

Specifies a detailed output for the server information.

The output can be displayed in verbose mode and non-verbose mode (by default). When all clients are listed, the information appears for multi-client, verbose mode output. The default condition is non-verbose mode output. The output information is the same as for verbose mode in space-separated text format.

EXAMPLE 2 shows the use of the `nbftconfig -listtargets -verbose` command and the output data categories.

`-getconfig`

Retrieves the default configuration parameters for the FT server and SAN client attributes.

The following options are associated with the `-getconfig` command:

`-M` *master_server*

Specifies the master server that is associated with the FT server. If this option is omitted, the master server of the local machine is used.

`-verbose`

Specifies a detailed output for the configuration information.

`-setconfig`

Sets the configuration parameters for the FT server and SAN client attributes. These attributes can be set by using this command option:

`-ftpref preferred | always | never`

Determines if the Fibre Channel connections to the media server are preferred, must always be used, or should never be used. This value is set by default according to the global defined for the EMM server.

Usage of `-ftpref` and `-np` or `-ncp` is mutually exclusive.

`-ftwait` *minutes*

Defines the number of minutes that a backup job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is required only when the `ftpref` type is set to `preferred`.

`-ftrwait` *minutes*

Defines the number of minutes that a restore job should wait for an available Fibre Channel connection before it uses a standard network connection. This option is required only when the `ftpref` type is set to `preferred`.

-ncp *number_of_clients_per_target_port*

Specifies the maximum number of clients per target port that are allowed on any FT media server.

-np *number_of_ports*

Specifies the number of initiator ports on a client that can be used with one FT media server.

-listactive

Lists the active FT connections. At a minimum, the following information should be obtainable from this command for each FT connection:

SAN Client Name

Client HBA Number

FT Server Name

Server HBA number

FT Channel - Number of the FT Channel

LUN

Direction

Job Number

The following options are associated with the `listactive` command:

-C *client_name*

Specifies the name of the SAN client whose active FT connections you want listed. If this attribute and the media server attribute are omitted, `-listactive` lists the information for the local machine's master server.

-Me *media_server*

Specifies the name of the FT server from whose attached clients you want the FT connections listed.

-verbose

Specifies a detailed output for the FT connection information.

EXAMPLES

Example 1 - List FT configuration values for master server `wendigo` in verbose mode. These values are set in the `nbftconfig -getconfig` command.

```
# nbftconfig -getconfig -verbose
Master Server      : wendigo.example.com
Client Ports/Server: 2
```

```
Clients/Target port: 2
FT Preference      : preferred
Backup Wait Time   : 15
Restore Wait Time  : 5
```

Example 2 - Show how the `-listtargets` option lists the configuration specifics for all the target ports on FT media server `wendigo` in verbose mode.

```
# nbftconfig -listtargets -verbose
FT Server Name : wendigo.example.com
FT Server HBA Port : 1
FT Server Port WWN : 21:00:00:E0:8B:8F:CC:79
FT Server Port Mode : PTP
FT Server Port Model : QLA234x Series FC Hba
FT Server Port Vendor: Qlogic
FT Server Device State : active
Associated LUN : 0
Active Connections on LUN: 0
FT Server Device State : active
Associated LUN : 1
Active Connections on LUN: 0
FT Server HBA Port : 0
FT Server Port WWN : 21:01:00:E0:8B:AF:CC:79
FT Server Port Mode : DISCONNECTED
FT Server Port Model : QLA234x Series FC Hba
FT Server Port Vendor: Qlogic
FT Server Device State : active
Associated LUN : 0
Active Connections on LUN: 0
FT Server Device State : active
Associated LUN : 1
Active Connections on LUN: 0
```

nbgetconfig

nbgetconfig – helper program to obtain configuration information

SYNOPSIS

nbgetconfig -M *host* [-x | -X | -d | -D] [*config_item* ...]

nbgetconfig [-u | -h] [-x | -X | -d | -D] [*config_item* ...]

nbgetconfig -private_exld_list

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbgetconfig command is available for all NetBackup host platforms. It displays the configuration information of a specified host in various formats.

You must have administrator privileges to run this command.

OPTIONS

-D | -d

The -D option returns a listing of configuration entry names, the existing configuration values in brackets, and the default configuration values in parentheses. This operation can be performed locally or remotely. The remote machine with an identical version of netbackup is installed. The -D and -d options may be combined with the -M, -h, and -u options.

The following is part of a listing that the -D option returns:

```
...
REQUEST_DELIVERY_TIMEOUT        [300]                   (300)
DISABLE_SCSI_RESERVE            [NO]                    (NO)
Time_Overlap                    [60]                    (60)
Buffer_Size                     [16]                    (16)
Use_Archive_Bit                 [YES]                   (YES)
Perform_Default_Search          [YES]                   (YES)
```

```
Accumulate_Files                [NO]                    (NO)
...
```

The -d option functions like the -D, except -d displays only the entries changed from the configuration defaults. The following is an example display:

```
..
PEM_VERBOSE                     [-1]                    (0)
JM_VERBOSE                      [-1]                    (0)
RB_VERBOSE                      [-1]                    (0)
CONNECT_OPTIONS                 [**configured**]        ()
Exclude                         [**configured**]        ()
Browser                         [teburi.min.vrts.com]   ()
AUTHENTICATION_DOMAIN           [**not configured**]    ()
VXSS_NETWORK                    [**not configured**]    ()
PREFERRED_NETWORK               [**not configured**]    ()
...
```

More information on many of the configuration items are described in the NetBackup Administrator's Guide, Volume I.

-H *config_item*

Displays the valid configuration items.

-h

Displays the default local host configuration.

-M *host*

Specifies the NetBackup host or client whose configuration appears.

-private_exld_list

Lists all the directories and files that are excluded by default from a backup.

-u

Displays the current user configuration.

-X

Lists all configuration items by default. The -x and -X options may be combined with the -M, -h, and -u options. The -x and -X options have no effect if one or more configuration items are specified on the command line.

If *config_item* is specified, it appears on the specified configuration items.

-x

Excludes the items not explicitly listed in the configuration.

EXAMPLES

Example 1 - Retrieve the list of directories and files that are excluded by default from a backup.

```
#nbgetconfig -private_exld_list

Total Number of Entries in Exclude List : 24
/usr/openv/var/global/vxss/
/usr/openv/var/global/wsl/credentials/
/usr/openv/var/session/
/usr/openv/var/vxss/at/
/usr/openv/var/vxss/credentials/
/usr/openv/var/vxss/crl/
/usr/openv/var/websvccreds/
/usr/openv/var/global/wmc/cloud/*.pem
/usr/openv/var/global/webrootcert.pem
/usr/openv/var/global/.yekcnedwssap
/usr/openv/var/global/jkskey
/usr/openv/var/keyfile.dat
/opt/VRTSnbu/var/global/vxss/
/opt/VRTSnbu/var/global/wsl/credentials/
/opt/VRTSnbu/var/session/
/opt/VRTSnbu/var/vxss/at/
/opt/VRTSnbu/var/vxss/credentials/
/opt/VRTSnbu/var/vxss/crl/
/opt/VRTSnbu/var/websvccreds/
/opt/VRTSnbu/var/global/wmc/cloud/*.pem
/opt/VRTSnbu/var/global/webrootcert.pem
/opt/VRTSnbu/var/global/.yekcnedwssap
/opt/VRTSnbu/var/global/jkskey
/opt/VRTSnbu/var/keyfile.dat
```

SEE ALSO

See nbsetconfig on page 874.

See bpgetconfig on page 162.

See bpsetconfig on page 420.

nbhba

nbhba – run the utility to modify an HBA cards device ID

SYNOPSIS

nbhba -modify -wwn *string* [-wwn *wwn_string* ...] -mode target | initiator

nbhba -l | -L

The directory path to this command is /usr/openv/netbackup/bin/admincmd/

DESCRIPTION

This command operates only on UNIX systems.

nbhba enables an administrator to set the mode of the HBA cards in the system. The HBA cards can respond as either target mode or initiator mode devices. To change the mode of the HBA card for use with the SAN Client, change the device ID of the QLogic card. The device ID changes from its standard designation to a special designation that allows only the target mode driver to be loaded.

OPTIONS

-l, -L

-l lists the drivers of all HBA cards that are installed in the system. -L also lists information about the cards. The following information appears for each HBA port:

- Linux systems only: The first line of data lists the number of ports recognized, the number of target mode ports, and the driver mode (e.g., nbhba installed).
- HBA index - a relative number of the HBA card in the system. This number is valid until the system restarts.
- Device ID - the device ID as read from the card.
- World Wide Name - the world-wide name that is read from the card.
- Model Name - the physical slot in which the card is installed in the system.
- Port - the port on the HBA card. Possible values are 0 or 1.

- Mode - the mode of the card, target, or initiator.

`-modify`

Modifies the mode of the HBA card. Specify the HBA card to be changed through the World Wide Name (wwn).

The mode of the card can be target or initiator. Target mode is used as the terminus for a SAN Client. Initiator mode connects the media server disk resources. Optionally, the administrator can input the specific QLogic device ID for either the target mode or initiator mode driver.

`-wwn` *`string`*

Specifies the World Wide Name of the HBA card. These required selection criteria are used to specify which card and port to mark.

`-mode target | initiator`

Sets the mode of the specified HBA card. Target mode uses the HBA as the target for a SAN Client. Do not set an existing card to initiator mode unless it had been previously set to target mode.

EXAMPLES

Example 1 - Set the HBA port with worldwide name "123456789ABCDEF0" to target mode:

```
# nbhba -modify -wwn 123456789ABCDEF0 -mode target
```

Example 2 - List information on all HBA cards that are installed on a Linux system (see the first line of the output). Note that Card #2 uses both ports.

```
nbhba -L
4 ports recognized; 3 target mode ports; mode : driver in nbhba mode

Card #1
 HBA Index #1
  Device ID = 2312
  World Wide Name = 21:00:00:E0:8B:8F:E6:45
  Model Name = "QLA2340 "
  Port = 0
  Mode = initiator (designated for other use)(100)

Card #2
 HBA Index #2
  Device ID = 2312
  World Wide Name = 21:00:00:E0:8B:9A:22:3D
  Model Name = "QLA2342 "
```

```
  Port = 0
  Mode = target (designated for FT Server)(8101)  HBA Index #3
  Device ID = 2312
  World Wide Name = 21:01:00:E0:8B:BA:22:3D
  Model Name = "QLA2342 "
  Port = 1
  Mode = target (designated for FT Server)(8101)

Card #3
 HBA Index #4
  Device ID = 2422
  World Wide Name = 21:00:00:E0:8B:9B:28:89
  Model Name = "QLA2460 "
  Port = 0
  Mode = target (designated for FT Server)(8133)
```

Example 3 - This example is the short list type (-l) counterpart of Example 2 (long list type -L). It lists only the drivers of all the HBA cards that are installed on the system. Note that the first line of the output (`4 ports recognized...`) displays only on a Linux system.

```
# nbhba -l
4 ports recognized; 3 target mode ports; mode : driver in nbhba mode

1 2312 21:00:00:E0:8B:8F:E6:45 "QLA2340 " 0 0 100
2 2312 21:00:00:E0:8B:9A:22:3D "QLA2342 " 0 1 8101
3 2312 21:01:00:E0:8B:BA:22:3D "QLA2342 " 1 1 8101
4 2422 21:00:00:E0:8B:9B:28:89 "QLA2460 " 0 1 8133
```

nbholdutil

nbholdutil – run the utility that places and removes holds on backup images

SYNOPSIS

nbholdutil -create -holdname *hold_name* [-reason "string"] -filepath *filepath* | -backupid *backup_ID* -primarycopy | -allcopy

nbholdutil -add -holdid *hold_id* | -holdname *hold_name* [-reason "string"] -filepath *filepath* | -backupid *backup_ID* -primarycopy | -allcopy

nbholdutil -list [-holdid *hold_id*] | [-holdname *hold_name*] | [-backupid *backup_ID* -primarycopy | -allcopy] [-U [-include_extended_info]]

nbholdutil -list -holdname *hold_name* -U -include_extended_info > bid.txt

nbholdutil -delete -holdid *hold_id*] | -holdname *hold_name* [-force] [-reason "string"]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbholdutil utility places holds on backup images. The holds provide a mechanism to override existing retention levels. These holds ensure that backup images and associated media are retained until the holds are released.

nbholdutil performs the following operations:

- -create creates a hold on one or more holds for backup images.
- -add adds one or more images to an existing hold.
- -list outputs a list of all holds. This operation also creates the backup ID (BID) file.
- -delete deletes one or more holds.

Only authorized users can run this command.

This command requires `bpnbat -login` when multiperson authorization is enabled for the remove image hold operation. A ticket is generated which, when approved, deletes the respective hold. You can only perform this operation with the `-holdname` option. You cannot use the `-holdid` option. For NetBackup versions 10.3 or earlier, when multiperson authorization is enabled, you cannot perform this operation with this command. Refer to the documentation for NetBackup status code 9382.

OPTIONS

`-allcopy`
: Includes all copies of the specified backup image.

`-backupid` *`backup_ID`*
: Specifies the backup ID of the backup image.

`-filepath` *`filepath`* `| -primarycopy | -allcopy`
: Specifies the file path to the backup image.

`-force`
: Bypasses a prompt to confirm the release of the hold. This option is useful in a script because it allows the release operations to continue without waiting for a response to the prompt.

`-holdname` *`hold_name`*
: Specifies a unique name for the hold.

`-include_extended_info > bid.txt`
: Provides more details regarding the images on hold and creates a backup (BID) in which to store the information.

`-primarycopy`
: Includes only the primary copy of the specified backup image.

`-reason "`*`string`*`"`
: Indicates the reason for performing this command action. The reason text string that you enter is captured and appears in the audit report. Enclose the string with double quotes ("...") and the string cannot exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

`-U`
: Reports in user format which includes additional user information.

EXAMPLES

Example 1 - Create a hold that is called `legal_case1`. The backup image ID is `win81.sky.com_1307425938`. The `-allcopy` option indicates that the hold includes

all copies of the selected backup image. If this option is not included, this operation holds only the primary copy of the selected backup image.

```
# nbholdutil -create -holdname legal_case1 -backupid
win81.sky.com_1307425938 -allcopy
```

nbhostidentity

`nbhostidentity` – imports the NetBackup master server identity after a disaster.

SYNOPSIS

nbhostidentity -import -infile *file_path* [-altdir *directory_path* [-noacls]] [-mapuser *domain1**user1*:*domain2**user2* [,*domain3**user3*:*domain4**user4*] [-dryrun]

nbhostidentity -testpassphrase -infile *file_path*

nbhostidentity [-import | -testpassphrase] -help

nbhostidentity -info [-infile *file_path*] -query *string* [-json]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `nbhostidentity` command is used to import the master server identity after a disaster. You need to provide the file path and the file name of the disaster recovery package for the master server identity you want to restore.

Disaster recovery packages store the master server identity and are created during catalog backups. NetBackup requires the disaster recovery package to restore the master server identity after a disaster.

Note: Do not run the `nbhostidentity` command if you selected the disaster recovery mode during installation. In this scenario, the master server identity is automatically imported during the installation.

Run the `nbhostidentity` command on the master server after you install NetBackup to manually import the master server identity after a disaster.

The warning message that is shown is displayed when you run the command:

```
If new certificates are deployed on the media servers or clients
after NetBackup master server installation, certificates on those
hosts should be redeployed. To identify the hosts that need
```

```
certificate redeployment, go to NetBackup Administration Console >
Host Properties > Clients.

This process requires you to restart the NetBackup services.

Are you sure you want to proceed (y/n)?
```

Read the warning message carefully and then specify the option.

Press **N** to terminate the command execution. Press **Y** to run the `nbhostidentity` command and restart the NetBackup services.

After you enter **Y**, you must provide the appropriate passphrase to decrypt the specified disaster recovery package. The host identity import operation fails if the passphrase does not match the one that you have set earlier.

Note: Ensure that the passphrase is same as what you set at the time of the catalog backup. The passphrase must be the same as the one that is associated with the specified disaster recovery package.

OPTIONS

`-altdir` *directory_path*

The `-altdir` parameter specifies the alternate directory location where you want to restore the disaster recovery package.

`-dryrun`

Performs a dry run to test the disaster recovery package and its contents. This option is not supported with the `-altdir` and `-noacls` options. The option runs the following checks:

- Passphrase check
- Host name check
- User existence check
- FIPS mode check

`-import`

Specifies the path name and the file name of the disaster recovery package for the master server identity you want to restore.

The disaster recovery packages are stored in the same location as the disaster recovery files. This location is specified during the catalog backup policy configuration. The disaster recovery package name is same as disaster recovery file name. The extension for the disaster recovery package is `.drpkg`. You must use the `inifile` parameter with the `-import` option.

To run the `nbhostidentity -import` command, you must be an authorized user with system administrator or superuser privileges.

`-import -help`

Displays the command usage statement for the `-import` option.

`-infile` *`file_path`*

The path name and the file name for the disaster recovery package you want to validate or import. This parameter is required for the `-import` and the `-testpassphrase` option. If you want to use a network share, you must specify a path to a subfolder on that share.

`-info`

Provides information about the disaster recovery package and its contents.

`-mapuser`

Maps the users or groups that are referenced in the disaster recovery package to the existing users or groups on the system. You can map more than one user or group.

This option must not be used along with the `-noacls` option.

`-noacls`

Lets you restore files without setting the Access Control List (ACL). This option is available only in case of the disaster recovery package restore to an alternate path.

`-query` *`string`*

Retrieves the data that is queried. Replace string with one of the values shown:

- `files -infile` *`file_path`*

  Retrieves the identity files that are stored in the disaster recovery package.

- `nonexistingusers | neu`

  Retrieves the identity files with the users from the host that does not currently exist.

- `nonexistingusers | neu -infile` *`file_path`*

  Retrieves the users or groups that are referenced in the disaster recovery package, but do not exist on the system.

`-testpassphrase`

Used to confirm that the passphrase for a disaster recovery package is correct. You must be an authorized user with system administrator or superuser privileges to run the `nbhostidentity -testpassphrase` command.

Use of this option begins an interactive session where you are prompted to enter the passphrase for the specified disaster recovery package. The

`nbhostidentity` command confirms the passphrase that is entered matches the one associated with the disaster recovery package. You must use the `inifile` parameter with the `-testpassphrase` option.

`-testpassphrase -help`
Displays the command usage statement for the `-testpassphrase` option.

`-help`
Displays the command usage statement for the `nbhostidentity` command.

EXAMPLES

Example of the `nbhostidentity` command to recovery a master server identity.

```
# nbhostidentity -import -infile /dr/nbu_dr_file/
cat_backup_1438271286_INCR.drpkg
```

Example of the `-testpassphrase` option with an invalid passphrase.

```
# ./nbhostidentity -testpassphrase -infile /test2.drpkg
Specify the passphrase that is associated with the disaster recovery
package.
Passphrase:
The specified passphrase is not valid for the disaster recovery
package - /test2.drpkg.
nbhostidentity command failed.
```

Example of the `-testpassphrase` option with a valid passphrase.

```
# ./nbhostidentity -testpassphrase -infile /test2.drpkg
Specify the passphrase that is associated with the disaster recovery
package.
Passphrase:
The specified passphrase is valid for the disaster recovery
package - /test2.drpkg.
Command is successfully carried out.
```

SEE ALSO

See nbseccmd on page 856.

nbhostmgmt

nbhostmgmt – used to manage host ID to host name mappings

SYNOPSIS

nbhostmgmt -add -hostid *hostid* | -host *host* -mappingname *mappingname* [-isshared] [-reason *reason*] [-server *master_server*]

nbhostmgmt -addhost -host *host* [-reason *reason*] [-server *master_server*]

nbhostmgmt -allowautoreissuecert -hostid *hostid* | -host *host* -autoreissue 0|1 [-reason *reason*] [-server *master_server*]

nbhostmgmt -delete -hostid *hostid* | -host *host* -mappingname *mappingname* [-reason *reason*] [-server *master_server*]

nbhostmgmt -list [-short | -json | -json_compact] [-hostid *hostid* | -host *host* | -approved | -pending | -conflict] [-server *master_server*]

nbhostmgmt -addcomment -hostid *hostid* | -host *host* -comment *comment* [-server *master_server*]

nbhostmgmt -deletecomment -hostid *hostid* | -host *host* [-server *master_server*]

nbhostmgmt -updatehost -hostid *hostid* | -host *host* -newhostname *newhostname* [-reason *reason*] [-server *master_server*]

nbhostmgmt -help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbhostmgmt command is used to manage the host ID to host names or IP addresses mappings. You can identify a host with alternate names. Use this command to map these alternate names to the respective host IDs. Use the command to add, delete, and list the mappings. Only the root user can run this command.

Before you run the `nbhostmgmt` command, you must run the `bpnbat -login -loginType WEB` command. The `bpnbat` command authenticates your web services logon.

OPTIONS

`-add | -a`

Use this option to add and approve the host ID to host name or IP address mapping for the specified host.

Note: Use `-add` without the `-isshared` option to add the first share. Add all additional shares with the `-isshared` option.

`-addcomment | -ac`

Use this option to add a comment for the primary host. You can view the comment using the `nbhostmgmt -list` option. The added comment is only associated with the primary host and not with the alternate mapped host name. You cannot edit comments. You can only overwrite or delete the existing comment.

`-ah | -addhost`

Use this option to add a host in the host database.

The option lets you add the host entry so that the NetBackup administrator can set the `autoreissue` parameter. The `autoreissue` parameter lets you deploy certificate on the host without requiring a reissue token. During a Bare Metal Restore in an Auto Image Replication (AIR) setup, a host entry must be added in the host database of the target domain.

Veritas does not recommend manually adding a host except for specific scenarios like a Bare Metal Restore AIR setup.

`-aa | -allowautoreissuecert`

Use this option to set the `autoreissue` parameter for the specified host or host ID. The `autoreissue` parameter lets you deploy certificate on the host without requiring a reissue token. The `autoreissue` parameter is only associated with the primary host name and not with the alternate mapped name.

`-approved |-ap`

Use this option to list the mapped host names or IP addresses that are approved.

`-comment | -c`

Use this option to specify the content of the comment you want added to the primary host. You must specify either the host or the host ID to add a comment.

If the comment contains a space, you must enclose the comment in double quotation marks ("..."). The `comment` field is limited to 2048 characters.

`-conflict | -cf`

Use this option to list the mapped host names or IP addresses whose entries conflict with other mappings.

`-delete | -d`

Use this option to remove host ID to host name or IP address mapping.

`-deletecomment | -dc`

Use this option to remove a comment for the specified host or host ID. This option removes the comment that is associated with the primary host.

If you attempt to delete a non-existent comment for a host with the `nbhostmgmt-deletecomment` option, the `nbauditreport` displays a corresponding entry for a successful update.

`-help | -h`

Displays the command-line usage message.

`-host | -n`

Specifies the primary host name or alternate mapped host name or IP address. For the `add` and the `delete` operation, ensure that the alternate mapped host name or IP address is associated with a single host ID.

`-hostid | -i`

Specifies the NetBackup host ID.

`-isshared | -is`

Indicates that you want to add the mapping name as shared.

Note: Use `-add` without the `-isshared` option to add the first share. Add all additional shares with the `-isshared` option.

`-json | -j`

This option generates the data in `json` format and spans multiple lines.

`-json_compact | -jc`

This option generates the data in `json` format on a single line

`-list | -li`

Use this option to list mapped host names or IP addresses based on different filters. You can list based on approved, pending for approval, and conflicting names or addresses.

`-mappingname | -hm`

Specifies the host name or the IP address you want to add or delete.

`-newhostname | -nh`

Specifies the new primary host name for the host to be updated.

`-pending | -p`

Use this option to list the mapped host names or IP addresses pending approval.

`-reason | -r`

Use this option to specify the reason for the command action. The string that you enter is captured and appears in the audit report. Enclose this string with double quotes (`"..."`). The reason field is limited to 512 characters. It cannot begin with a dash character (-) and it cannot contain the single quotation mark (`'`) character.

`-server | -s`

Indicates the name of NetBackup Master server with which communication needs to be established. The default value for the `-server` option is the first server name listed in the `bp.conf` file.

`-short | -l`

Use this option to list the host ID and mapped host names only.

`-updatehost | -uh`

Use this option to update the primary host name of a host.

EXAMPLES

Example 1: Add a host ID to host name mapping.

```
#nbhostmgmt -add -hostid 0a0aa0a0-0000-0aa0-aa00-000a0a00a0a0
-mappingname testhost1
testhost1 is successfully mapped to
0a0aa0a0-0000-0aa0-aa00-000a0a00a0a0.
```

Example 2: Add a host ID to host name mapping with the host name.

```
#nbhostmgmt -add -host testhost1 -mappingname testhost2
testhost2 is successfully mapped to
0a0aa0a0-0000-0aa0-aa00-000a0a00a0a0.
```

Example 3: Approve a pending mapping. This example shows the approval of the mapping of testhost3 for mapped host name host3.

```
#nbhostmgmt -add -host host3 -mappingname testhost3
testhost3 is successfully updated.
```

Example 4: Delete a host ID from the host name mapping with a host ID.

```
#nbhostmgmt -delete -hostid 0a0aa0a0-0000-0aa0-aa00-000a0a00a0a0
-mappingname testhost1
Mapping between testhost1 and 0a0aa0a0-0000-0aa0-aa00-000a0a00a0a0
 is removed.
```

Example 5: Delete a host ID from the host name mapping with a host.

```
#nbhostmgmt -delete -host fs001 -mappingname testhost4
Mapping between testhost4 and 0a0aa0a0-0000-0aa0-aa00-000a0a00a0a0
 is removed.
```

Example 6: Delete a host ID from the host name mapping with a host from the specified master server.

```
#nbhostmgt -delete -server nbmaster01 -host fs001 -mappingname
 testhost3
Mapping between testhost3 and 0a0aa0a0-0000-0aa0-aa00-000a0a00a0a0
 is removed.
```

SEE ALSO

See bpnbat on page 245.

nbhypervtool

nbhypervtool – NetBackup tool for Hyper-V

SYNOPSIS

```
nbhypervtool [listNbuCheckpoints | deleteNbuCheckpoints] [-vmname
VM_display_name | -vmguid VM_guid] [-server Hyper-V_server_name] [-d
| -debug] [-version] [-h | -help]
```

```
On Windows systems, the directory path to this command is
install_path\NetBackup\bin\
```

DESCRIPTION

The nbhypervtool utility removes orphaned NetBackup WMI checkpoints (snapshots) of a Hyper-V virtual machine on Windows 2016 or later.

This command operates only on Windows systems.

Note: For NetBackup 8.0: If a virtual machine checkpoint exists that NetBackup created for a previous WMI backup, NetBackup aborts the next WMI backup job for that virtual machine.

Note: This command does not apply to VSS snapshots.

OPTIONS

-d, -debug
: Enables debug logging.

deleteNbuCheckpoints
: Deletes the existing NetBackup WMI checkpoints of the virtual machine.

-h, -help
: Displays the available options for nbhypervtool.

listNbuCheckpoints
: Lists the existing NetBackup WMI checkpoints of the virtual machine.

-server *Hyper-V_server_name*
: The name of the Hyper-V server. The default is the local host.

`-version`

Displays the `nbhypervtool` version and exits.

`-vmguid` *`VM_guid`*

The globally unique identifier (GUID) of the virtual machine.

`-vmname` *`VM_display_name`*

The display name of the virtual machine.

EXAMPLES

Example 1 - List the existing NetBackup WMI checkpoints for a virtual machine by its display name:

```
nbhypervtool.exe listNbuCheckpoints -vmname VM1
```

Example 2 - List the existing NetBackup WMI checkpoints for a virtual machine by its GUID:

```
nbhypervtool.exe listNbuCheckpoints -vmguid
4c080c63-72b4-462b-b4b3-372e0f4cab04
```

Example 3 - Delete NetBackup WMI checkpoints for a virtual machine by its display name:

```
nbhypervtool.exe deleteNbuCheckpoints -vmname VM1
```

Example 4 - Delete NetBackup WMI checkpoints for a virtual machine by its GUID:

```
nbhypervtool.exe deleteNbuCheckpoints -vmguid
4c080c63-72b4-462b-b4b3-372e0f4cab04
```

nbidpcmd

nbidpcmd – configure an identity provider (IDP), SAML certificate, and keystore on the NetBackup master server to use with the Single Sign-On (SSO) method.

SYNOPSIS

For IDP configuration and NetBackup CA SAML keystore configuration, use the following command:

nbidpcmd -ac -n *IDP configuration name* -mxp *IDP XML metadata file* [-t SAML2] [-e true | false] [-u *IDP user field*] [-g *IDP user group field*] [-M *master_server*] [-cCert] [-f]

For IDP configuration and ECA SAML keystore configuration, either of the commands shown can be used:

Use NetBackup ECA configured keystore for SAML keystore configuration:

nbidpcmd -ac -n *IDP configuration name* -mxp *IDP XML metadata file* [-t SAML2] [-e true | false] [-u *IDP user field*] [-g *IDP user group field*] [-M *master_server*] -cECACert -uECA [-f]

Use ECA certificate chain and private key provided by user for SAML keystore configuration:

nbidpcmd -ac -n *IDP configuration name* -mxp *IDP XML metadata file* [-t SAML2] [-e true | false] [-u *IDP user field*] [-g *IDP user group field*] [-M *master_server*] -cECACert -certPEM *Certificate Chain File* -privKeyPath *Private Key File* [-ksPassPath *Keystore Passkey File*] [-f]

nbidpcmd -cCert [-f]

nbidpcmd -cECACert -uECA *use existing ECA configuration* [-f *force_option*] [-M *master_server*]

nbidpcmd -cECACert -certPEM *Certificate Chain File* -privKeyPath *Private Key File* -ksPassPath *Keystore Passkey File* [-f *force_option*] [-M *master_server*]

nbidpcmd -dc -n *IDP configuration name* [-M *master_server*]

nbidpcmd -dCert

nbidpcmd -dECACert

nbidpcmd -rCert

nbidpcmd -sc -n *IDP configuration name* [-M *master_server*]

nbidpcmd -scl [-M *master_server*]

nbidpcmd -uc -n *IDP configuration name* {-mxp *IDP XML metadata file*| -e true | false} [-M *master_server*]

nbidpcmd -v [-M *master_server*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbidpcmd command can add, modify, list, and delete the configuration for identity providers on the NetBackup master server. Additionally, use the command to add, update, renew, and delete NetBackup CA and ECA SAML certificate and keystore.

OPTIONS

-ac
: Adds a configuration for an identity provider. Use the -e option to enable an IDP configuration.

-cCert
: Configures SAML certificates and keystore.

-cECACert
: Configures SAML external CA keystore.

-certPEM *Certificate Chain File*
: Specifies certificate chain file path. The file must be in PEM format and must be accessible to the master server that performs the configuration.

-dc
: Deletes the configuration of the identity provider with the specified ID.

-dCert
: Remove the SAML certificate and keystore.

-dECACert
: Remove the SAML external CA configured keystore.

`-e true | false`

Enables or disables the identity provider configuration. An IDP must be available and enabled otherwise users cannot sign in with the Single Sign-On (SSO) option.

- `true` = Enable
- `false` = Disable

`-f`

Specifies whether to overwrite the existing SAML keystore.

`-ksPassPath` *`Keystore Passkey File`*

Specifies the password file path for the keystore. The file must be accessible to the master server that performs the configuration.

`-M` *`master_server`*

The master server to which you want to add or modify the identity provider configuration. The default is the NetBackup server master where you run the command.

`-mxp` *`IDP XML metadata file`*

The metadata file that contains configuration details for the identity provider, in Base64-encoded format.

`-n` *`IDP configuration name`*

The unique name of the identity provider.

`-privKeyPath` *`Private Key File`*

Specifies the private key file path for the certificate. The file must be in PEM format and must be accessible to the master server that performs the configuration.

`-rCert`

Renews the SAML certificate and key-pair and updates the SAML keystore with the renewed key-pair certificate.

`-sc`

Display the details for the configured identity provider with the specified ID. If the ID is not provided the details of all the configured identity providers are listed. Or, use `-scl` to display a specific identity provider.

`-scl`

Display the details for all the configured identity providers. Use `-sc -n` to display a specific identity provider.

`-t SAML2`

Indicates the type of protocol that the identity provider supports. The following types are supported: `SAML2`.

`-u` *`IDP user field`*`, -g` *`IDP user group field`*

Retrieves the fields from the SAML assertion that are the primary keys for the user and the user group. You can specify these fields together or individually.

If these fields are not provided, the default values are `userPrincipalName` and `memberOf`.

The *`IDP user field`* and the *`IDP user group field`* are the IDP SAML attribute names mapped to the `userPrincipalName` and the `memberOf` attributes of the AD or LDAP.

The values entered for the `-u` *`IDP user field`* and `-g` *`IDP user group field`* are case sensitive and must exactly match the corresponding mapped SAML attributes on the IDP Host.

Ensure that the SAML attribute names are defined in the format of `username@domainname` and `(CN=group name, DC=domainname)` respectively.

`-uc`

Updates the details for the configured identity provider with the specified ID. In addition to the `-n` option, you must use the `-mxp` or the `-e` option, or both options.

`-uECA`

Specifies whether to configure external CA-signed SAML keystore from the existing external CA certificate that is configured in NetBackup.

`-v`

Shows the version of the `nbidpcmd` utility.

nbimageshare

`nbimageshare` – use this command to import the VM images and recover the VMs from one NetBackup domain to the Amazon Web Service or Microsoft Azure.

SYNOPSIS

nbimageshare -login *username password*

nbimageshare -listimage *LSU_name MSDP_image_sharing_server_name* [--page-offset *page_offset* --page-limit *page_limit*]

nbimageshare -singleimport *client_name policy_name backupID LSU_name MSDP_image_sharing_server_name*

nbimageshare -batchimport *image_list_file_path LSU_name MSDP_image_sharing_server_name*

nbimageshare -recovervm *client_name policy_name backupID LSU_name MSDP_image_sharing_server_name*

nbimageshare --check-dr-in-cloud *LSU_name MSDP_image_sharing_server_name*

nbimageshare --list-vm-id *LSU_name MSDP_image_sharing_server_name* [--backup-id *backupID*] [--lsu-name [*LSU_name*]]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

This command is not available on Windows systems.

DESCRIPTION

The `nbimageshare` command is part of the automated disaster recovery solution that lets you import and restore backups images and turn on the VM images instantly.

OPTIONS

`-backup_id`

The backup ID of the image you want NetBackup to restore.

`-batchimport` *`image_list_file_path LSU_name MSDP_image_sharing_server_name`*

Import information about more than one backup images to NetBackup. A new import job is created for every 100 images.

`--check-dr-in-cloud`

Used to determine if the disaster recovery in the cloud was successful.

`-listimage` *`LSU_name MSDP_image_sharing_server_name`*

List the images from the Amazon Web Service (AWS) S3 bucket.

`-list-vm-id`

Used to list the VM IDs.

`-login` *`user_name password`*

Enter the NetBackup logon credentials.

`-lsu_name`

The name of the storage unit that is attached to the non all-in-one MSDP image sharing server.

`--page-limit`

Specifies how many records to fetch per page. The minimum is 1 and the maximum is 100. The default value is 10.

`--page-offset`

Indicates where to start fetching data or how many records to skip, defining the initial position within the list.

`-recovervm` *`client_name policy_name backupID LSU_name MSDP_image_sharing_server_name`*

Recover the virtual machine to an Amazon Machine Image (AMI) in AWS or Microsoft Azure.

`-singleimport` *`client_name policy_name backupID LSU_name MSDP_image_sharing_server_name`*

Import a single backup image information to NetBackup.

nbinstallcmd

nbinstallcmd – used to create deployment jobs

SYNOPSIS

nbinstallcmd -policy *policy_name* -schedule *schedule* [-master_server *hostname*] [{-hosts *hostname1,hostname2,...* | -host_filelist *path*}]

nbinstallcmd -operation_type {precheck | stage | install} -package *package_name* [-master_server *hostname*] [-media_server *hostname*] {-hosts *hostname1,hostname2,...* | -host_filelist *path*} [-limit_jobs *max_concurrent_jobs*] -use_existing_certs [-components javagui_jre=(include|exclude|match)]

nbinstallcmd -operation_type {precheck | stage | install} -package *package_name* [-master_server *hostname*] [-media_server *hostname*] {-hosts *hostname1,hostname2,...* | -host_filelist *path*} [-limit_jobs *max_concurrent_jobs*] -unix_eca_cert_path *path* -unix_eca_crl_check_level {use_cdp | use_path | disabled} -unix_eca_trust_store_path *path* -unix_eca_private_key_path *path* [-unix_eca_key_passphrasefile *path*] [-unix_eca_crl_path *path*] [-components javagui_jre=(include|exclude|match)]

nbinstallcmd -operation_type {precheck | stage | install} -package *package_name* [-master_server *hostname*] [-media_server *hostname*] {-hosts *hostname1,hostname2,...* | -host_filelist *path*} [-limit_jobs *max_concurrent_jobs*] -win_eca_cert_store *path* -win_eca_crl_check_level {use_cdp | use_path | disabled} [-win_eca_crl_path *path*] [-components javagui_jre=(include|exclude|match)]

nbinstallcmd -operation_type {precheck | stage | install} -package *package_name* [-master_server *hostname*] [-media_server *hostname*] {-hosts *hostname1,hostname2,...* | -host_filelist *path*} [-limit_jobs *max_concurrent_jobs*] -win_eca_cert_path *path* -win_eca_crl_check_level {use_cdp | use_path | disabled} -win_eca_trust_store_path *path* -win_eca_private_key_path *path* [-win_eca_crl_path *path*] [-win_eca_key_passphrasefile *path*] [-components javagui_jre=(include|exclude|match)]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

Use the nbinstallcmd command to create VxUpdate jobs. VxUpdate supports updates for clients and media servers. If you launch the job from a master server, it may target any client or any media server the master server knows. If you launch the job from a client or a media server, only that client or media server is targeted.

Use the -policy and -schedule options to base a job off an existing deployment policy. If the -hosts or -host_filelist switches are used with -policy, the job is limited to a subset of the target hosts configured in the deployment policy. If -hosts and -host_filelist are not used, the job is executed against all target hosts configured in the deployment policy.

Use the -operation_type and -package options to launch a job without a deployment policy. This form of the command requires you to provide information regarding security configuration. The command requires you specify how VxUpdate handles security:

- Configure external security certificates for UNIX and Linux hosts during the upgrade using a file-based certificate.
- Configure external security certificates for Windows hosts during the upgrade using a certificate from a certificate store.
- Configure external security certificates for Windows hosts during the upgrade using a file-based certificate.
- Do not modify the security, as it is configured correctly.

See the *NetBackup Installation Guide* and the *NetBackup Security and Encryption Guide* for more details on these security options.

Logs for the nbinstallcmd command are located in the legacy logging directory. For UNIX and Linux, the logs are found in /usr/openv/netbackup/logs. On Windows, the logs are in *install_path*\NetBackup\logs.

Note: Please use shell-specific annotations if any of the file paths in the arguments contain spaces or special characters that must be escaped.

OPTIONS

`-components javagui_jre=(include | exclude | match)`

Use this option to specify if the Java GUI and JRE should be present on the target systems after the deployment job runs.

A value of `include` indicates that you want these components to be installed or upgraded on the target systems.

A value of `exclude` indicates that you do not want the components on the target systems. Any preexisting Java GUI and JRE components are removed.

A value of `match` indicates that you want to preserve the current state of the Java GUI and JRE components. The components are upgraded if they are present on the pre-upgraded system. The components are not installed if they are not present on the pre-upgraded system.

`-hosts [`*`host1,host2,...`*`]`

A comma-separated list of host names with no spaces between the entries. You cannot use this option with `-host_filelist`. If `-policy` is specified, the hosts that are listed must be included in the policy. If `-policy` is not specified and the command is executed on the master server, hosts specified must be known to the master server. If `-policy` is not specified and the command is executed on the target host, this value must match the name of the target host. You cannot specify a mixture of clients and media servers in a single job. All hosts that are listed in a job must either be all clients or all media servers.

`-host_filelist [`*`path`*`]`

Path to a file with the host names specified on individual lines. You cannot use this option with `-hosts`. If `-policy` is specified, the hosts that are specified must be included in the policy. If `-policy` is not specified and the command is executed on the master server, the hosts that are specified must be known to the master server. If `-policy` is not specified and the command is executed on the target host, this value must match the name of the target host. You cannot specify a mixture of clients and media servers in a single job. All hosts that are listed in the file must either be all clients or all media servers.

`-limit_jobs [`*`max_concurrent_jobs`*`]`

The maximum number of concurrent jobs allowed. This option applies only when `-policy` is not specified. If unspecified, the default value is unlimited.

`-master_server` *`hostname`*

The host name of the master server where the VxUpdate repository exists. This option is not required.

`-media_server` *hostname*

The host name of the staging server with which the client communicates. This server must be a media server. This option applies only when `-policy` is not specified. If unspecified, the master server acts as the staging server. When a media server is used for staging, the packages are cached to it so that it can serve these packages in VxUpdate operations. This option helps optimize the efficiency of the NetBackup master server.

`-operation_type {precheck | stage | install}`

The type of deployment operation to launch. Required if `-policy` is not specified. Valid options are:

- `precheck`: Performs the various precheck operations, including confirming there is sufficient space on the host for the update.
- `stage`: Moves the update package to the host, but does not install it. Also performs the `precheck` operation.
- `install`: Installs the specified package. Also performs the `precheck` and the `stage` operations. If you already performed the `stage` operation, the install command does not move the package again.

`-package` *item*

The name of the package you want installed. Required if `-policy` is not specified. The package must be present in the repository. Use the `nbrepo` command to view and manage packages.

`-policy` *policy_name*

The name of an existing deployment policy. This option is required if `-operation_type` isn't specified.

`-schedule` *schedule_name*

The deployment policy's schedule to execute. Required if `-policy` is specified.

`-unix_eca_cert_path` *path*

Use this option to specify the path to the certificate file for UNIX and Linux hosts. This option applies when:

- `-policy` and `-use_existing_certs` are not specified.
- The master server supports external security certificates.
- The target hosts do not yet have external security certificates configured.
- You want the configuration to occur during the upgrade.

`-unix_eca_crl_check_level {use_cdp | use_path | disabled}`

Specifies how you want to handle the Certificate Revocation List on UNIX and Linux hosts. Specify `use_cdp` to use the CRL defined in the certificate. Specify

`use_path` to specify the path to the CRL. Specify `disabled` to not use a CRL. Applies when:

- `-policy` and `-use_existing_certs` are not specified.
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-unix_eca_crl_path` *path*

Use this option to specify the path to the external certificate authority file for UNIX and Linux hosts. This option is required if you use `-unix_eca_crl_check_level use_path`. If you attempt to use this option without `-unix_eca_crl_check_level use_path`, the job fails.

- `-policy` and `-use_existing_certs` are not specified.
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-unix_eca_key_passphrasefile` *path*

Use this option to provide the path to the passphrase file on UNIX and Linux hosts. This option is not required. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-unix_eca_private_key_path` *path*

Use this option to specify the path to the private key file and the private key file name on UNIX and Linux hosts. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-unix_eca_trust_store_path` *path*

Use this option to specify the path to the trust store file on UNIX and Linux hosts. This option applies when:

- `-policy` and `-use_existing_certs` are not specified

- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-use_existing_certs`

Specify this option when you want the job to use the existing security certificates. This option only applies when `-policy` is not specified. You cannot use this option with any `*eca*` option. Specify this option if:

- The target hosts have existing external certificates.
- The target hosts have existing NetBackup security certificates you want to continue to use.

`-win_eca_cert_path` *path*

Use this option to specify the path to the certificate file for Windows hosts. You cannot use this option with `-win_eca_cert_store_path`. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-win_eca_cert_store` *path*

Use this option to specify the path to the Windows certificate store. You cannot use this option with `-win_eca_cert_path`, `-win_eca_key_passphrasepath`, `-win_eca_private_key_path`, and `-win_eca_trust_store_path`. You must enter the certificate location as *Certificate_Store_Name**Issuer_Distinguished_Name**Subject_Distinguished_Name*. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-win_eca_crl_check_level {use_cdp | use_path | disabled}`

Specifies how you want to handle the Certificate Revocation List on Windows hosts. Specify `use_cdp` to use the CRL defined in the certificate. Specify `use_path` to specify the path to the CRL. Specify `disabled` to not use a CRL. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-win_eca_crl_path` *path*

Use this option to specify the path to the external certificate authority file for Windows hosts. This option is required if you use `-windows_eca_crl_check_level use_path`. If you attempt to use this option without `-windows_eca_crl_check_level use_path`, the job fails.

`-win_eca_key_passphrasefile` *path*

Use this option to provide the path to the passphrase file on Windows hosts. This option is not required. You cannot use this option with `-win_eca_cert_store`. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-win_eca_private_key_path` *path*

Use this option to specify the path to the private key file and the private key file name on Windows hosts. You cannot use this option with `-win_eca_cert_store`. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

`-win_eca_trust_store_path` *path*

This option lets you specify the path to the trust store and the trust store file name on Windows hosts. You cannot use this option with `-win_eca_cert_store`. This option applies when:

- `-policy` and `-use_existing_certs` are not specified
- The master server supports external security certificates.
- Your target hosts do not yet have external security certificates configured.
- You want that configuration to occur during the upgrade.

EXAMPLES

Example 1: Initiate a precheck operation for all hosts that are configured in the specified policy.

```
nbinstallcmd -policy policy-deployment20 -schedule sched-precheck
-master_server master.domain.com
```

Example 2: From the master server, initiate a staging job that is not based on a deployment policy. The job should: stage the NetBackup 8.2 client, target several hosts, use a separate media server as the staging server, and not include any security certificate configuration.

```
nbinstallcmd -operation_type stage -package nbclient_8.2 -master_server
master.domain.com -media_server media_staging.domain.com -hosts
client01.domain.com,client02.domain.com -use_existing_certs
```

Example 3: From the target host, initiate an install operation that is not based on a deployment policy. The operation upgrades the host to NetBackup 8.3 with instructions to configure external security certificates as part of the upgrade.

```
nbinstallcmd -operation_type install -package nbserver_8.3
-master_server master.domain.com -hosts media01.domain.com
-unix_eca_cert_path /usr/home/cert.pem -unix_eca_trust_store_path
/usr/home/cacert.pem -unix_eca_private_key_path
/usr/home/private_key.pem -unix_eca_key_passphrasefile
/usr/home/passphrase_file -unix_eca_crl_check_level use_path
-unix_eca_crl_path /usr/home/crl_dir
```

Example 4: From the target host, initiate an install operation not based on a deployment policy. The operation upgrades the host to NetBackup 8.3 using a separate media server as the staging server. It also includes instructions to configure external security certificates originating from a certificate store.

```
nbinstallcmd -operation_type install -package nbclient_8.3
-master_server master.domain.com -media_server media_staging.domain.com
-hosts client01.domain.com -win_eca_cert_store
MyCertStore\MyIssuer\MyClient -win_eca_crl_check_level use_cdp
```

Example 5: From the master server, initiate an install operation not based on a deployment policy. The operation applies a NetBackup 8.2 Windows EEB and targets several hosts. The job uses the master server as the staging server and does not include any security certificate configuration.

```
nbinstallcmd -operation_type install -package nbeeb_1234567.1_8.2
-master_server master.domain.com -host_filelist path_to_file.txt
-use_existing_certs
```

SEE ALSO

See nbrepo on page 833.

nbjm

nbjm – run NetBackup Job Manager to submit jobs and acquire resources to start jobs

SYNOPSIS

nbjm [-console] [-terminate]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The NetBackup Job Manager binary (nbjm) service starts when NetBackup is started, and it remains active. The primary function of this binary is to accept the jobs that nbpem submitted, acquire the resources to run them, and then start the job. This service then waits for the completion of a job and sends a signal to nbpem when a job completes. This service also handles all IRM communications to bpjobd for Activity Monitor information, external resource requests, and it writes to the progress log.

OPTIONS

-console
: This option enables you to start NetBackup in console mode.

-terminate
: This option accepts an option parameter, which is the number of seconds to wait for jobs to finish before it terminates. The default is 60 seconds. If you enter a value of 0, nbjm waits until all jobs complete before it terminates. If a limit is placed on the termination, after that limit is reached, nbjm terminates without waiting for the completion of jobs.

SEE ALSO

See nbpem on page 800.

See nbrb on page 823.

nbkmiputil

`nbkmiputil` – executes the various external KMS server operations.

SYNOPSIS

nbkmiputil -getKey -kmsServer *kms_server_name* -port *kms_server_port* -trustStorePath *CA_certificate_file_path* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* -keyId *key_ID* [-kadLength *KAD_length*] | -nbKeyGroup *key_group_name* [-kadLength *KAD_length*] | -kad *key_associated_data* [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-getDetails] [-connectTimeout *time_in_seconds*] [-requestTimeout *time_in_seconds*] [-kmipVersion *version*] [-jsonCompact]

nbkmiputil -listKeyIDs -kmsServer *kms_server_name* -port *kms_server_port* -trustStorePath *CA_certificate_file_path* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* [-nbKeyGroup *key_group_name*] [-activeKey] [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-getDetails] [-connectTimeout *time_in_seconds*] [-requestTimeout *time_in_seconds*] [-kmipVersion *version*] [-maxItems *number*] [-offset *number*] [-jsonCompact]

nbkmiputil -setAttribute -kmsServer *kms_server_name* -port *kms_server_port* -trustStorePath *CA_certificate_file_path* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* -keyId *key_ID* -attributeName *attribute_name* -attributeValue *attribute_value* [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-connectTimeout *time_in_seconds*] [-requestTimeout *time_in_seconds*] [-kmipVersion *version*] [-jsonCompact]

nbkmiputil -validate -kmsServer *kms_server_name* -port *kms_server_port* -trustStorePath *CA_certificate_file_path* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-connectTimeout *time_in_seconds*] [-requestTimeout *time_in_seconds*] [-kmipVersion *version*] [-jsonCompact]

nbkmiputil -ekmsCheckCompat | -ecc -kmsServer *kms_server_name* -port *kms_server_port* -trustStorePath *CA_certificate_file_path* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-kmipVersion *version*] [-jsonCompact] [-extended] [-verbose]

nbkmiputil -setState -kmsServer *kms_server_name* -port *kms_server_port* -trustStorePath *CA_certificate_file_path* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* -keyId *key_ID* -stateType 1 | 2 | 3 | 4 [-revocationReason 1 | 2 | 3 | 4 | 5 | 6 | 7] [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-connectTimeout *time_in_seconds*] [-requestTimeout *seconds*] [-kmipVersion *version*] [-jsonCompact]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/goodies/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\goodies\

DESCRIPTION

The nbkmiputil runs the various external KMS server operations like retrieving keys, listing key IDs, setting key attributes, setting key states, and validating KMS servers.

The command supports the following operations:

-ekmsCheckCompat or -ecc	Use -ekmsCheckCompat or -ecc to determine if NetBackup is compatible with the specified external KMS server. You can also use this option to determine if the following KMIP operations are supported on the external KMS server: Create keys and retrieve keys by key group and key ID.
-getKey	Fetches the NetBackup keys from the external KMS server.
-listKeyIDs	Lists NetBackup key IDs that are present in the external KMS server as per the specified options.
-setAttribute	Sets the custom attribute for the given key in the external KMS server. Supported attribute names are x-application, x-keygroup, and x-comment.
-setState	Sets the state for the given key in the external KMS server.

`-validate` Validates the related functionality with the external KMS server. The functionality that is validated includes:

- Connecting to the external KMS server.
- Listing NetBackup key IDs present in the external KMS server.
- Fetch the key for any active NetBackup key ID.
- Fetch and set the attributes on any NetBackup key ID.

OPTIONS

`-activeKey`

Specifies whether to list only active NetBackup keys.

`-attributeName`

Specifies the custom attribute name to be set. Supported attribute names are `x-application`, `x-keygroup`, and `x-comment`.

`-attributeValue`

Specifies the custom attribute value to be set. Supported attribute value for attribute `x-application : NetBackup`.

`-certPath`

Specifies the path of the PEM-encoded certificate that is to be used for authentication with the external KMS server.

`-connectTimeout`

Specifies the time-out value to connect to the external KMS server in seconds. The default value is 120 seconds.

`-crlCheckLevel`

Specifies the CRL check level. The possible values are: `LEAF`, `CHAIN`, and `DISABLE`. The default value is `LEAF`.

- `LEAF` - Revocation status of peer's leaf certificate is checked.
- `CHAIN` - Revocation status of full chain of peer certificate is checked.
- `DISABLE` - Revocation status of peer certificate is not checked.

`-extended`

Performs operations such as locate keys, get attributes, and set attributes in addition to creating and retrieving keys by key group and key ID.

`-getDetails`

Displays the additional key attributes details for the NetBackup keys.

`-jsonCompact`

Specifies whether to display the output in JSON compact form.

`-kad`

Specifies the key associated data (KAD) of the NetBackup key to be fetched from the external KMS server.

`-kadLength`

Specifies the length up to which KAD of a NetBackup key is to be generated.

`-keyId`

If `-keyId` is used with the `-getKey` option, it specifies the key ID of the NetBackup key to be fetched from the external KMS server. If it is used with the `-setAttribute` option, it specifies the key ID of the key for which a custom attribute is to be set.

`-kmsServer`

Specifies the external KMS server name with which you want to connect.

`-kmipVersion` *version*

Specifies the KMIP version to be used. Supported KMIP versions: 1.0, 1.1, 1.2, 1.3, 1.4, and 2.0.

`-maxItems`

Specifies the maximum number of key IDs to be listed.

`-nbKeyGroup`

If it is used with the `-getKey` option, it specifies the key group name whose active and latest key is to be fetched from the external KMS server. If it is used with the `-listKeyIDs` option, it specifies the key group name for which keys are to be listed.

`-offset`

Specifies the offset number of the key ID from where the list of key IDs starts. The default value is 0.

`-passphrasePath`

Specifies the path of the file containing the passphrase that is required to access the keystore for authentication with the external KMS server.

`-port`

The port number in use by the external KMS server.

`-privateKeyPath`

Specifies the path of the private key that is to be used for authentication with the external KMS server.

`-requestTimeout`

Specifies the time-out value for the given request to external KMS server in seconds. Default value is 300 seconds.

`-revocationReason 1 | 2 | 3| 4 | 5 | 6 | 7`

Supported key revocation reasons:

For `-stateType DEACTIVATED`:

- `1 | UNSPECIFIED`: The reason for key revocation is not specified.
- `2 | AFFILIATION_CHANGED`: The key owner's affiliation with the organization has changed.
- `3 | SUPERSEDED`: The current key needs to be replaced with the newly issued key.
- `4 | CESSATION_OF_OPERATION`: The key is no longer required because the associated operation or the service is discontinued.
- `5 | PRIVILEGE_WITHDRAWN`: The privileges with the given key are withdrawn.

For `-stateType COMPROMISED`:

- `6 | KEY_COMPROMISE`: The key is compromised.
- `7 | CA_COMPROMISE`: The certificate authority (CA) that issued the certificate to the external KMS server is compromised.

`-stateType 1 | 2 | 3 | 4`

Supported state types:

- `1 | ACTIVE`: You can use this key for cryptographic purpose.
- `2 | DEACTIVATED`: You should only use this key to process cryptographic information.
- `3 | COMPROMISED`: You should only use this key to process cryptographic information in a trusted client using managed keys that are compromised.
- `4 | DESTROYED`: You should not use this key to process cryptographic information.

`-trustStorePath`

Specifies the path of the PEM-encoded CA certificate that is to be used for authentication with the external KMS server.

`-verbose`

Specifies whether to display a detailed output in a JSON form.

EXAMPLES

Example 1: Set custom attributes for the external KMS.

```
nbkmiputil -setAttribute -kmsServer example.veritas.com -port 5696
-certPath /usr/cert.pem -privateKeyPath /usr/key.pem -trustStorePath
```

```
/usr/ca.pem -keyId EFF18E49-DBBF-4F84-BF94-13F4A6B6E32B
-attributeName x-keygroup -attributeValue msdp
```

nbkmscmd

nbkmscmd – configures the key management service (KMS) in NetBackup.

SYNOPSIS

nbkmscmd -configureCredential -credName *credential_name* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* -trustStorePath *CA_certificate_file_path* [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-server *master_server_name*] [-description *description*] [-force]

To configure NetBackup KMS (NBKMS):

nbkmscmd -configureKMS -name *configuration_name* -type NBKMS -hmkId *host_master_key_ID_to_identify_HMK_passphrase* -kpkId *key_protection_key_ID_to_identify_KPK_passphrase* [-useRandomPassphrase 0 | 1] [-enabledForBackup 0 | 1] [-priority *priority_of_KMS_server*] [-server *master_server_name*] [-description *description*]

To configure external KMS:

nbkmscmd -configureKMS -name *configuration_name* -type KMIP -port *port_to_connect_to_external_KMS_server* -kmsServerName *network_name_of_external_KMS_server* -credId *credential_ID* | -credName *credential_name* [-enabledForBackup 0 | 1] [-priority *priority_of_KMS_server*] [-server *master_server_name*] [-description *description*]

nbkmscmd -createKey -name *configuration_name* -keyName *name_of_the_key_to _be_created* -keyGroupName *key_group_name* [-algorithm *key_algorithm*] [-comment *comment_about_the_key*] [-keyPassphraseFilePath *file_path_of_the_key_passphrase*] [-reason *reason*][-server *master_server_name*]

nbkmscmd -deleteCredential -credName *credential_name* | -credId *credential_ID* [-force] [-server *master_server_name*]

nbkmscmd -deleteKMSConfig -name *configuration_name* [-server *master_server_name*] [-reason *reason_for_deleting*] [-force]

nbkmscmd -discoverNBKMS

nbkmscmd -listCredential [-credName *credential_name* | -credId *credential_ID*] [-server *master_server_name*] [-jsonCompact] [-jsonRaw]

[-pageLimit *number_of_records_to_be_listed after_offset*] [-pageOffset *record_number*]

nbkmscmd -listKeys -name *configuration_name* [-keyGroupName *key_group_name*] [-server *master_server_name*] [-jsonCompact] [-jsonRaw] [-pageLimit *number_of_records_to_be_listed_after_offset*] [-pageOffset *record_number*]

nbkmscmd -listKMSConfig [-name *configuration_name*] [-server *master_server_name*] [-jsonCompact] [-jsonRaw] [-pageLimit *number_of_records_to_be_listed_after_offset*] [-pageOffset *record_number*]

nbkmscmd -precheckKMSConfig -port *port_to_connect_to_external_KMS_server* -kmsServerName *network_name_of_external_KMS_server* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* -trustStorePath *CA_certificate_file_path* [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-credId *credential_ID* | -credName *credential_name*] [-server *master_server_name*] [-jsonRaw]

nbkmscmd -updateCredential -credId *credential_ID* | -credName *credential_name* -certPath *certificate_file_path* -privateKeyPath *private_key_file_path* -trustStorePath *CA_certificate_file_path* [-passphrasePath *private_key_passphrase_file_path*] [-crlCheckLevel LEAF | CHAIN | DISABLE] [-server *master_server_name*] [-description *description*] [-force]

To update NetBackup KMS (NBKMS) configuration:

nbkmscmd -updateKMSConfig -name *configuration_name* [-server *master_server_name*] [-priority *priority_of_KMS_server*] [-enabledForBackup 0 | 1] [-status 0|1] [-description *description*]

To update external KMS configuration:

nbkmscmd -updateKMSConfig -name *configuration_name* [-server *master_server_name*] [-priority *priority_of_KMS_server*] [-port *port_to_connect_to_external_KMS_server*] [-kmsServerName *network_name_of_external_KMS_server*] [-credId *credential_ID* | -credName *credential_name*] [-enabledForBackup 0 | 1] [-description *description*]

nbkmscmd -validateKMSConfig -name *configuration_name* [-server *master_server_name*] [-jsonRaw]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbkmscmd command is used to configure Key Management Service (KMS). You can also create KMS credentials and KMS keys. All of these commands require NetBackup administrator privileges to run. Additionally, these operations require a bpnbat web log-on (bpnbat -login -loginType WEB) using an account that has NetBackup administrator privileges.

The nbkmscmd supports the following operations:

-configureCredential
: Adds the KMS configuration credential in the NetBackup database. The credential ID and its credential name are added in the database. These credentials are used to connect to external KMS.

-configureKMS
: Adds an entry for the KMS configuration in the NetBackup database.

  When multiperson authorization is enabled for the key management operation, when the generated ticket is approved, KMS is configured. When multiperson authorization is enabled, you cannot perform this operation with this command in versions of NetBackup earlier than 10.5.

-createKey
: Creates an active NetBackup key in the KMS server that is associated with the provided configuration name. To create key, KMS server should allow NetBackup to create key and to set NetBackup attributes on that key.

  For NetBackup KMS (NBKMS), If the specified key-group name does not exist then the key-group is created with specified algorithm.

  When multiperson authorization is enabled for the key management operation, when the generated ticket is approved, the key is created. When multiperson authorization is enabled, you cannot perform this operation with this command in versions of NetBackup earlier than 10.5.

`-deleteCredential` Deletes the specified KMS configuration credential from the NetBackup database.

When multiperson authorization is enabled for the key management operation, when the generated ticket is approved, the specified credential is deleted. When multiperson authorization is enabled, you cannot perform this operation with this command in versions of NetBackup earlier than 10.5.

`-deleteKMSConfig` Deletes the KMS configuration entry from the NetBackup database.

When multiperson authorization is enabled for the key management operation, when the generated ticket is approved, the KMS configuration is deleted. When multiperson authorization is enabled, you cannot perform this operation with this command in versions of NetBackup earlier than 10.5.

`-discoverNBKMS` Discovers whether the NetBackup KMS (NBKMS) is configured and running and adds it to NetBackup database.

`-listCredential` Lists the details of the specified KMS configuration credential in JSON format. If the credential name or ID is not specified, credential details for all KMS configurations are listed.

`-listKeys` Lists the NetBackup keys from the specified KMS configuration in JSON format.

`-listKMSConfig` Lists the details of the specified KMS configuration in JSON format. If the configuration name is not provided, this operation lists the configuration details of all KMS.

`-precheckKMSConfig` Performs a dry run of KMS configuration operations to validate the required connections and setup.

`-updateCredential` Updates the specified KMS configuration credential.

When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the specified credential is updated. When multiperson authorization is enabled, you cannot perform this operation with this command in versions of NetBackup earlier than 10.5.

`-updateKMSConfig` Updates the specified KMS configuration in the NetBackup database.

When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the KMS configuration is updated. When multiperson authorization is enabled, you cannot perform this operation with this command in versions of NetBackup earlier than 10.5.

`-validateKMSConfig` Validates the functionality with the specified KMS configuration and ensures that backup and restore functionality works.

OPTIONS

`-algorithm` *algorithm*

Specifies the encryption algorithm for the key created.

`-certPath` *certificate_file_path*

Specifies the path of the certificate that is used to connect to the remote server.

`-comment` *comment*

Specifies a comment about the key.

`-credId` *credential_ID*

Specifies the credential ID of the KMS configuration.

`-credName` *credential_name*

Specifies the credential name of the KMS configuration.

`-crlCheckLevel LEAF | CHAIN | DISABLE`

Specifies the revocation check level for certificates of the external KMS server. The default value is `LEAF`.

Accepted values for CRL check level are:

`DISABLE`: Revocation check is disabled. The revocation status of the certificate is not validated against the CRL during host communication.

`LEAF`: The revocation status of the leaf certificate is validated against the CRL.

`CHAIN`: The revocation status of all the certificates from the certificate chain are validated against the CRL.

`-description` *description*

Used to provide further information about the current operation.

`-enabledForBackup 0 | 1`

Specifies whether keys from this KMS should be used for backup or not. The default value is 1.

Provide 0 if the keys from this KMS should not be used for backup.

`-force`

Suppresses the confirmation prompts and performs the specified operation.

`-hmkId` *host_master_key_ID_to_identify_HMK_passphrase*

Specifies the host master key (HMK) ID to identify HMK passphrase. This option is only applicable if the KMS type is `NBKMS`.

`-jsonCompact`

Generates output data in a compacted JSON format.

`-jsonRaw`

Displays the JSON response of the web server.

`-keyGroupName` *key_group_name*

Specifies the name of the key group that is used to retrieve or set keys.

`-keyName` *key_name*

Specifies the name of the key.

`-keyPassphraseFilePath` *file_path_of_the_key_passphrase*

Specifies the file path that has the passphrase that is used to create the key. Not all KMS types support key passphrase.

`-kmsServerName` *network_name_of_external_KMS_server*

Specifies the network name for the KMS server. If there are multiple network names for the KMS server, separate the names with a comma (`,`). This option is only applicable if the KMS type is `KMIP`.

`-kpkId` *key_protection_key_ID_to_identify_KPK_passphrase*

Specifies the key protection key (KPK) ID to identify KPK passphrase. This option is only applicable if KMS type is `NBKMS`.

`-name` *configuration_name*

Specifies a unique name for the KMS configuration.

`-pageLimit` *number_of_records_to_be_listed after_offset*

Specifies the number of records to be listed after the offset. Valid values for `-pageLimit` are 1 to 100. The default value is 100.

`-pageOffset` *record_number*

Specifies the record number from where the records start listing. The default value is `0`.

`-passphrasePath` *private_key_passphrase_file_path*

Specifies the file path of the passphrase that is used to encrypt the certificate private key.

`-port` *port_to_connect_to_external_KMS_server*

Specifies the port number to be used to connect to external KMS server. This option is only applicable if KMS type is `KMIP`.

`-priority` *priority_of_KMS_server*

Specifies the KMS server to be used when NetBackup checks for keys during encryption or decryption. By default, the KMS server priority is set to 0. A KMS

server with the highest value gets the first priority to be used during encryption or decryption.

`-privateKeyPath` *private_key_file_path*

Specifies the file path for the certificate private key.

`-reason` *reason*

Specifies the reason to perform the current operation.

`-server` *master_server_name*

Specifies an alternate master server. By default, this command uses the first server entry in the NetBackup configuration file.

`-status 0|1`

Specifies if NetBackup operations should use the specified KMS server. The value `1` indicates to use the KMS server for NetBackup operations. Use `0` if you do not want to use the KMS server for NetBackup operations. The default value is `1`.

`-trustStorePath` *CA_certificate_file_path*

Specifies the file path for the CA certificate that is used to verify the remote server.

`-type NBKMS | KMIP`

Specifies the KMS type. `NBKMS` and `KMIP` are the valid KMS types.

`-useRandomPassphrase 0|1`

Specifies whether random passphrases should be used or not. The default value is 0. Provide 1 if random passphrases should be used for KMS configuration.

EXAMPLES

Example 1: Configure credential for External KMS

```
nbkmscmd -configureCredential -credName ExtKMS_Credential
-certPath /EKMS_creds/cert_chain.pem -privateKeyPath
/EKMS_creds/key.pem -trustStorePath /EKMS_creds/cacerts.pem
-description "Configuring credential for external KMS"
```

Example 2: Configure external KMS.

```
nbkmscmd -configureKMS -name ExtKMS -type KMIP
-kmsServerName extkms.veritas.com -port 5696
-credName ExtKMS_Credential -priority 1 -description
"Configuring external KMS with configutation name ExtKMS"
```

nbkmsutil

nbkmsutil – run the NetBackup Key Management Service utility

SYNOPSIS

nbkmsutil [-createkey] [-createkg] [-deletekey] [-deletekg] [-export] [-gethmkid] [-getkpkid] [-import] [-ksstats] [-listkeys] [-listkgs] [-modifyhmk] [-modifykey] [-modifykg] [-modifykpk] [-quiescedb] [-recoverkey] [-unquiescedb]

nbkmsutil -createkey [-nopphrase] -kgname *key_group_name* -keyname *key_name* [-activate] [-desc *description*]

nbkmsutil -createkg -kgname *key_group_name* [-cipher *type*] [-desc *description*]

nbkmsutil -deletekey -keyname *key_name* -kgname *key_group_name*

nbkmsutil -deletekg -kgname *key_group_name*

nbkmsutil -export -path *secure_key_container* [-key_groups *key_group_name_1 ...* | -key_file *key_file_name*]

nbkmsutil -gethmkid

nbkmsutil -getkpkid

nbkmsutil -import -path *secure_key_container* [-preserve_kgname] [-desc *description*] [-preview]

nbkmsutil -ksstats [-noverbose]

nbkmsutil -listkeys -kgname *key_group_name* [-keyname *key_name* | -activekey] [-verbose]

nbkmsutil -listkgs [-kgname *key_group_name* | -cipher *type* | -emptykgs | -noactive] [-verbose]

nbkmsutil -modifyhmk [-nopphrase]

nbkmsutil -modifykey -keyname *key_name* -kgname *key_group_name* [-state *new_state* | -activate] [-name *new_keyname*] [-desc *new_description*]

nbkmsutil -modifykg -kgname *key_group_name* [-name *new_key_group_name*] [-desc *new_description*]

nbkmsutil -modifykpk [-nopphrase]

nbkmsutil -quiescedb

nbkmsutil -recoverkey -keyname *key_name* -kgname*key_group_name* -tag *key_tag* [-desc *description*]

nbkmsutil -unquiescedb

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbkmsutil command performs the following operations:

-createkey

Create a new key. The default state of the new key is Prelive.

This command requires a bpnbat -login -loginType WEB logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the key is created. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

-createkg

Create a new key group. The default cipher of the new key group is AES_256.

This command requires a bpnbat -login -loginType WEB logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the key group is created. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

-deletekey

Delete a key. Only keys in Prelive and Terminated states can be deleted.

This command requires a bpnbat -login -loginType WEB logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the key is deleted. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

`-deletekg`

Delete an empty key group.

This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the key group is deleted. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

To force the delete of a key group that is not empty, use the `-force` option.

```
# nbkmsutil -deletekg -kgname key_group_name
-force
```

`-export`

Exports keys and keys groups across domains

This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, keys are exported. The `-path` option is not supported with multiperson authorization. You must go to the ticket details and copy and save the response to import the keys. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

`-gethmkid`

Return the current HMK ID.

`-getkpkid`

Returns the current KPK ID.

`-import`

Imports keys and keys groups across domains

This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, imports the keys. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

To preview the results of the import option, use -preview.

nbkmsutil -import -path *secure_key_container* -preview

`-ksstats`

Returns the keystore statistics. The statistics consist of the number of key groups, the total number of keys, and the outstanding quiesce calls.

`-listkeys`

Get the details of keys.

`-listkgs`

Get the details of the key groups. If no option is specified, retrieve the details of all the key groups.

`-modifyhmk`

Modify the host master key (HMK). HMK is used to encrypt the keystore. To modify the HMK, provide an optional seed (passphrase) and an HMK ID which can remind the user of the specified passphrase. The passphrase and the HMK ID are both read interactively.

This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the HMK passphrase is updated. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

`-modifykey`

Modify key attributes.

This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the key is updated. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

`-modifykg`

Modify key group attributes.

This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the key group is updated. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.

`-modifykpk`	Modify the key protection key (KPK). KPK is used to encrypt KMS keys. KPK is per keystore. To modify the KPK, provide an optional seed (passphrase) and a KPK ID which can remind the user of the specified passphrase. The passphrase and the KPK ID are both read interactively. This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the KPK passphrase is updated. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.
`-quiescedb`	Sends a quiesce request to KMS. If the command succeeds, the current outstanding quiesce count is returned (as multiple backup jobs might quiesce the KMS DB to back it up)
`-recoverkey`	Restore could fail if a key used in encrypting the backup data is lost. Such Keys can be recovered (re-created) with the knowledge of the original Key's attributes (tag and passphrase). This command requires a `bpnbat -login -loginType WEB` logon. When multiperson authorization is enabled for the key management operation, a ticket is generated which, when approved, the key is recovered. For versions of NetBackup earlier than 10.5, when multiperson authorization is enabled, you cannot perform this operation with this command.
`-unquiescedb`	Sends an unquiesce request to KMS. If the command succeeds, the current outstanding quiesce count is returned. A count of zero (0) means that the KMS database is completely unquiesced.

OPTIONS

The `nbkmsutil` command uses the following options:

`-activate`

Sets the state of the specified key to active. The default state is prelive.

`-activekey`

Retrieves the details of a specific key group's active key.

`-cipher`

The type of cipher that the key group supports. All keys that belong to a key group support the same cipher type. Supported cipher types are BLOW, AES_128, AES_192, and AES_256 (default cipher).

`-emptykgs`

Retrieves the details of all the key groups with zero keys in it.

`-keyname`

key_name specifies the name of a key. This name should be unique within a key group. The key group name and key name uniquely identify a key in the keystore.

`-kgname`

key_group_name specifies the name of a key group. Within a keystore, the key group name uniquely identifies the key group.

`-name`

Specifies the new name of the key group when used with -modifykg or the new name of the key when used with -modifykey. The new key group name must not conflict with other names in the keystore.

`-noactive`

Retrieves the details of all the key groups in which there are no active keys.

`-nopphrase`

Disables the utility function that prompts you for a pass phrase. Instead, the utility creates the key. The default condition is the use of the pass phrase to create a key with a seed. A lengthy seed and a strong seed results in a strong key.

`-noverbose`

Disables verbosity. The default condition is verbosity, which prints the details in readable format.

`-state`

new_state specifies the new state of the Key. Possible states are Prelive, Active, Inactive, Deprecated, and Terminated.

Key states can be changed only in the following ways:

- Prelive to Active
- Transition between Active and Inactive
- Transition between Inactive and Deprecated
- Transition between Deprecated and Terminated

`-tag`

key_tag specifies a random unique identifier that is created for the key record that the utility creates. The `listkey` option can display this tag. If you need to recover (recreate) the key record, you need to use the original tag value, hence the –tag option for these recovery options.

nblogparser

nblogparser – parse the NetBackup logs

SYNOPSIS

nblogparser [-logbase *log_base_dir*] -logloc *log_location* | -logdir *log_dir* [-appname *app1,app2,...,appN*] [-p *pid*] [-t *tid*] [-ctx | -X *context_str*] [-function *function_name*] [-v *verbosity*] [-b *YYYY/MM/DD hh:mm:ss*] [-e *YYYY/MM/DD hh:mm:ss*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin

DESCRIPTION

The nblogparser command lets you parse the NetBackup logs.

OPTIONS

nbmariadb

nbmariadb – protects MariaDB instances and databases

SYNOPSIS

nbmariadb -o backup -S *primary_server_name* -P *policy_name* -s *schedule_name* -l *MariaDB_library_path* -z *LVM_snapshot_size* [-b *Backup_Type*] [-portnum *database_server_port*] [-u *database_server_user*] [-instance *database_instance_name*]

nbmariadb -o restore -S *primary_server_name* -t *target_directory* -portnum *database_server_port* [-id *db_backup_id*] [-C *client_name*]

nbmariadb -o query -S *primary_server_name* [-P *policy_name*] [-C *client_name*] [-instance *database_instance_name*]

nbmariadb -o delete -S *primary_server_name* -id *db_backup_id*

nbmariadb -o help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin

On Windows systems, the directory path to this command is *install_path*NetBackup\bin

DESCRIPTION

Use the nbmariadb command to perform backup, restore, query, and delete operations to protect MariaDB instances and databases. For more information about MariaDB instances and databases, see the *NetBackup for MariaDB Administrator's Guide*.

OPTIONS

-b Used to specify the backup type for the backup operation. Acceptable values are:

- LVM (logical volume manager) to use the LVM snapshot method.
- NONLVM (Non-logical volume manager) to use non-logical volume manager methods such as mysqldump or mariabackup.

-C Use this option to specify the NetBackup client name.

`-id`

This option specifies the database backup image name.

`-instance`

Used to list of all the database instance names.

`-l` The library path for MariaDB database.

`-o` Used to indicate what operation to perform. Possible values are:

- `backup`: Used to initiate a backup the MariaDB from the NetBackup client using the NetBackup DataStore policy name (`-P`) and the schedule type (`-s`) specified.

  Additionally, Windows backups require the primary server name (`-S`). Linux backups require the library path (`-l`) and the snapshot size (`-z`) parameters.
- `restore`: Used to restore the MariaDB backup file using target directory (`-t`), primary server (`-S`), and database port number (`-portnum`) parameters.
- `query`: Used to query primary server (-S) to determine what MariaDB backups are available.
- `delete`: Deletes the backup information from the NetBackup catalog files but retains the backup on the storage media.
- `help`: Display the help that is associated with this command.

`-P` The NetBackup DataStore policy name.

`-portnum`

Specifies the port number that is associated with the MariaDB instance for backup.

`-s` The NetBackup schedule name.

`-S` Specifies the name of the NetBackup primary server.

`-t` Use this option to specify the target restore directory.

`-u` Specifies the name of database server user NetBackup uses to perform the specified operation.

`-z` Used to specify the snapshot size of LVM backup type.

nbmysql

nbmysql – performs backup, query, restore, and delete operations for NetBackup MySQL clients.

SYNOPSIS

nbmysql -o backup -S *primary_server_name* -P *policy_name* -s *schedule_name* -l *mysql_library_path* -z *lvm_snapshot_size* [-C *client_server_name*] [-b *backup_type*] [-d *backup_directory_path*] [-dbname *database_name*] [-p *mysql_server_port*] [-u *mysql_server_user*] [-H *mysql_server_host*] [-instance *mysql_instance_name*] [-pgid *provider_generated_id*]

nbmysql -o query -S *primary_server_name* [-u *mysql_server_user*] [-P *policy_name*] [-C *client_server_name*] [-instance *mysql_instance_name*]

nbmysql -o restore -S *primary_server_name* -p *mysql_server_port* -t *target_restore_directory* [-u *mysql_server_user*] [-C *client_server_name*] [-H *mysql_server_host*] [-i *backup_image_id*]

nbmysql -o delete -S *primary_server_name* -i *backup_image_id*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin

DESCRIPTION

Use the nbmysql command to backup, restore, query, and delete NetBackup MySQL client backups from the NetBackup client. The delete option removes the backup information from the NetBackup catalog files but retains the backups in the storage media.

OPTIONS

-b *backup_type*

Specifies the backup type to use for the backup operation. By default, the snapshot backup type is selected. Accepted values for -b are:

- `mysqldump`: The MySQL utility performs the logical backup of the instance and databases. NetBackup performs streaming backups when the `mysqldump` type is specified. These backups change to non-streaming backups when the `-d` option is specified. This option is available for both UNIX and Windows systems.
- `vss`: Snapshot backup type for Windows clients only.
- `lvm`: Snapshot backup type for UNIX clients only.

`-C` *`client_server_name`*

Specifies the NetBackup client name. When you use this option with the `-o query` option, the operation retrieves and lists all backups from the specified NetBackup client.

`-d` *`backup_directory_path`*

Used to configure the backup directory path when you specify the `-b mysqldump` option. By specifying the `-d` option, the `-b mysqldump` backups are changed to non-streaming backups. Consistent backup files are generated in the backup directory path and are cleaned after the backup. Ensure that the directory path is empty. Any information in the specified directory is deleted.

`-dbname` *`database_name`*

Use this option with the `-b mysqldump` to specify the name of the database you want backed up. This option backs up an individual database.

`-H` *`mysql_server_host`*

Specifies the MySQL server host. The default value is `localhost`.

`-i` *`backup_image_id`*

Specifies the backup image ID. When you use this option with the `-o delete` operation, it specifies the backup image ID that is deleted from the NetBackup catalog. The backup image is not deleted.

`-instance` *`mysql_instance_name`*

Used to specify the MySQL server instance name. When you use this option with the `-o query` option, it retrieves and lists all backups of the specified instance name.

`-l` *`mysql_library_path`*

Specifies the MySQL library directory. This option is only available for UNIX clients.

`-o` *`operation_type`*

Specify the operation you want to perform. Valid operation types are:

- `backup`: Used to backup MySQL instances and databases.

- `query`: Used to query the NetBackup catalog for MySQL backups.
- `restore`: Used to restore MySQL instances and database backups.
- `delete`: Used to delete catalog information of MySQL backups.

`-P` *`policy_name`*

Used to specify the NetBackup DataStore policy name. When you use this option with the `-o query` option, the command retrieves and lists all backups with the specified policy name.

`-p` *`mysql_server_port`*

Specifies the MySQL instance port number that NetBackup uses for backup and restore operations. By default, the port number is `3306`.

`-pgid` *`provider_generated_id`*

Configures the NetBackup provider-generated ID for the backup.

For a MySQL instance, the format of the `-pgid` must be in the form shown: `MYSQL_INSTANCE_`*`client_server_name_port`*.

For an individual MySQL database backup, the format of the `-pgid` must be in the form shown: `MYSQL_DATABASE_`*`database_name_client_server_name_port`*.

Follow this format to list the recovery points of backups in the NetBackup web UI.

`-S` *`primary_server_name`*

Specifies the NetBackup primary server name.

`-s` *`schedule_name`*

Specifies the schedule name that you have configured for the DataStore policy.

`-t` *`target_restore_directory`*

Configures the target directory where the backups are restored.

`-u` *`mysql_server_user`*

Specifies the name of the MySQL server user. The default user is `root`. When you use this option with the `-o query` option, this option retrieves and lists all backups for the specified user.

For UNIX computers, this parameter is an optional parameter for backup, restore, and query operations. The parameter is not available for the delete operation. For Windows computers, this parameter is optional for backup. The parameter is not available for restore, query, and delete operations.

`-z` *`lvm_snapshot_size`*

Configures the LVM snapshot size. This option is only available for UNIX clients.

EXAMPLES

Example 1: Perform a `mysqldump` non-streaming backup.

```
# nbmysql -o backup -S Primary_Server1 -P Policy1 -s Schedule1 -l
/path/to/pgsql/lib -C Client_Server1 -b mysqldump -d /backup/dir/path
-p 3306 -u root -H localhost -instance mysql-linux-3306 -pgid
MYSQL_INSTANCE_Client_Server1_3306
```

Example 2: Perform a streaming backup of an individual database.

```
# nbmysql -o backup -S Primary_Server1 -P Policy1 -s Schedule1 -l
/path/to/pgsql/lib -C Client_Server1 -b mysqldump -dbname Database_Name1
-p 3306 -u root -H localhost -instance mysql-linux-3306 -pgid
MYSQL_DATABASE_Database_Name1_Client_Server1_3306
```

Example 3: Perform a UNIX restore.

```
# nbmysql -o restore -S Primary_Server1 -p 3306 -t
/target/restore/directory -u root -C Client_Server1 -H localhost
-i 1768656897
```

Example 4: Perform a query for Windows.

```
nbmysql -o query -S Primary_Server1 -P Policy_Name1 -C
Client_Server1 -instance mysql-linux-3306
```

SEE ALSO

See nbpgsql on page 815.

See nbsqlite on page 906.

See nbmariadb on page 806.

nbmlb

nbmlb – migrates the sign-in banner for the NetBackup Administration Console to the NetBackup Web UI.

SYNOPSIS

nbmlb -migrate *file* [-force]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbmlb command migrates the contents of the sign-in banner file for the NetBackup Administration Console to the database. Then the same sign-in banner is used in the NetBackup Web UI.

OPTIONS

-force

Forces an update even when the sign-in banner exists in the NetBackup Web UI. This option is not required.

-migrate *file*

Where *file* is the location of the sign-in banner file. On UNIX the location is /usr/openv/var/LoginBanner.conf. On Windows the location is *install_path*\NetBackup\var\LoginBanner.conf.

nboraadm

nboraadm – set up instances and instance groups as part of an Oracle backup policy

SYNOPSIS

nboraadm [-S *master_server*] -list_rac_dbs [{-rac_dbid *dbid* -rac_db_unique_name *name*}] [-rac_type *type*] [-scan_name *name*] [-service_name *name*] [-port *number*] [-active | -inactive] [-registered | -unregistered]

nboraadm [-S *master_server*] -list_rac_instances [*instance_name*] [{-rac_dbid *dbid* -rac_db_unique_name *name*}] [-host *name*] [-backup_host *name*] [-os Unix | Windows] [-active | -inactive] [-registered | -unregistered]

nboraadm [-S *master_server*] -add_rac_db -rac_dbid *dbid* -rac_db_unique_name *name* -rac_type *type* -scan_name *name* -service_name *name* -port *number* [-load_balanced_node_count *number*]

nboraadm [-S *master_server*] -add_rac_instance *instance_name* -rac_dbid *dbid* -rac_db_unique_name *name* -host *name* -oracle_home *oracle_home* [-backup_priority *priority*] [-backup_host *name*]

nboraadm [-S *master_server*] -delete_rac_db -rac_db_unique_name *name* [-rac_dbid *dbid*] [-scan_name *name*]

nboraadm [-S *master_server*] -delete_rac_instance *instance_name* [-host *name*] [-backup_host *name*] [-rac_dbid *dbid*] [-rac_db_unique_name *name*] [-oracle_home *oracle_home*]

nboraadm [-S *master_server*] -modify_rac_db -rac_dbid *dbid* -rac_db_unique_name *name* [-new_scan_name *name*] [-rac_type *type*] [-load_balanced_node_count *number*] [-port *number*] [-scan_name *name*] [-service_name *name*] {[-oracle_auth *user* [-oracle_TNS *tns*] | -disable_oracle_auth] | [-wallet_path *path* [-wallet_rman_TNS *tns* | -disable_rman_catalog] | -disable_wallet_auth]} [-rman_catalog_user *name* [-rman_catalog_TNS *tns*] | -disable_rman_catalog] [-active | -inactive] [-force] [-no_warnings]

nboraadm [-S *master_server*] -register_rac_db -rac_db_unique_name *name* [-scan_name *name*] [-rac_dbid *dbid*] {-oracle_auth *user* | -wallet_path *path* [-wallet_rman_TNS *tns*]} [-rman_catalog_user *name* [-rman_catalog_TNS *tns*]] [-add_rac_dbid *dbid*] [-force] [-no_warnings]

nboraadm [-S *master_server*] -modify_rac_instance *instance_name* -rac_dbid *dbid* -rac_db_unique_name *name* [-new_instance *instance_name*] [-host *name*] [-backup_host *name* | -disable_backup_host] [-oracle_home *oracle_home*] [-backup_priority *priority*] [-active | -inactive] [-force] [-no_warnings]

nboraadm [-S *master_server*] -list_instance_aliases [*instance_name*] [-host *name*] [-oracle_home *oracle_home*]

nboraadm [-S *master_server*] -add_instance_alias *instance_name* -alias *alias_name* [-host *name*] [-oracle_home *oracle_home*]

nboraadm [-S *master_server*] -delete_instance_alias *instance_name* -alias *alias_name* [-host *name*] [-oracle_home *oracle_home*]

nboraadm [-S *master_server*] -list_instances [*instance_name*] [-instance_group *name*] [-host *name*] [-os Unix | Windows] [-active | -inactive] [-registered | -unregistered]

nboraadm [-S *master_server*] -add_instance *instance_name* -host *name* -oracle_home *oracle_home* [-tns_admin *tns_admin*] {[-instance_group *name*] | [-os_user *name* [-os_domain *name*]] | [-oracle_auth *user* [-oracle_TNS *tns*]] | [-wallet_path *path* -wallet_TNS *tns* [-wallet_rman_TNS *tns*]]} [-rman_catalog_user *name* [-rman_catalog_TNS *tns*]]] [-force]

nboraadm [-S *master_server*] -register_instance *instance_name* [-host *name*] [-oracle_home *oracle_home*] {-instance_group *name* | -os_user *name* [-os_domain *name*] | -oracle_auth *user* [-oracle_TNS *tns*] | -wallet_path *path* -wallet_TNS *tns* [-wallet_rman_TNS *tns*]} [-rman_catalog_user *name* [-rman_catalog_TNS *tns*]] [-no_warnings] [-force]

nboraadm [-S *master_server*] -delete_instance *instance_name* [-host *name*] [-oracle_home *oracle_home*] [-no_warnings]

nboraadm [-S *master_server*] -modify_instance *instance_name* [-new_instance *instance_name*] [-host *name*] [-new_host *name*] [-oracle_home *oracle_home*] [-new_oracle_home *oracle_home*] [-tns_admin *tns_admin*] [-instance_group *name*] [-os_user *name* [-os_domain *name*] | -disable_os_user] [-oracle_auth *user* [-oracle_TNS *tns*] | -disable_oracle_auth] [-wallet_path *path* -wallet_TNS *tns* [-wallet_rman_TNS *tns* | -disable_rman_catalog] | -disable_wallet_auth] [-rman_catalog_user *name* [-rman_catalog_TNS *tns*] | -disable_rman_catalog] [-active | -inactive] [-force] [-no_warnings]

nboraadm [-S *master_server*] -remove_from_instance_group *instance_name* [-instance_group *name*] [-host *name*] [-oracle_home *oracle_home*] [-no_warnings]

nboraadm [-S *master_server*] -list_instance_groups [*instance_group_name*]

nboraadm [-S *master_server*] -add_instance_group *instance_group_name* {{-unix_os_user *name* AND/OR -windows_os_user *name* -os_domain *name*} | [-oracle_auth *user* [-oracle_TNS *tns*]] | [-wallet_path *path* -wallet_TNS *tns* [-wallet_rman_TNS *tns*]]} [-rman_catalog_user *name* [-rman_catalog_TNS *tns*]]

nboraadm [-S *master_server*] -delete_instance_group *instance_group_name*

nboraadm [-S *master_server*] -modify_instance_group *instance_group_name* [-new_instance_group *instance_group_name*] {[[-unix_os_user *name*] [-windows_os_user *name* -os_domain *name*] | -disable_os_user] [-oracle_auth *user* [-oracle_TNS *tns*] | -disable_oracle_auth] | [-wallet_path *path* -wallet_TNS *tns* [-wallet_rman_TNS *tns* | -disable_rman_catalog] | -disable_wallet_auth]} [-rman_catalog_user *name* [-rman_catalog_TNS *tns*] | -disable_rman_catalog] [-validate]

nboraadm [-S *master_server*] -auto_registration *instance_group_name* [-unix_tns_admin *tns_admin*] [-windows_tns_admin *tns_admin*]

nboraadm [-S *master_server*] -disable_auto_registration

nboraadm [-S *master_server*] -list_dbas

nboraadm [-S *master_server*] -add_dba *client_nameuser_name*

nboraadm [-S *master_server*] -delete_dba *client_nameuser_name*

nboraadm [-S *master_server*] -immediate -policy *policy* [-schedule *schedule*] {-instance *instance* | {-rac_dbid *dbid* -rac_db_unique_name *name*}} [-w[hh:mm:ss]]

nboraadm [-S *master_server*] -list_jobs [*count*] [-utc]

nboraadm [-S *master_server*] -list_job_details -jobid *jobid* [-utc]

nboraadm [-S master_server] -add_data_guard -dbid *dbid* -db_name *name*

nboraadm [-S master_server] -delete_data_guard -dbid *dbid* -db_name *name*

nboraadm [-S master_server] -add_rac_to_data_guard *db_unique_name* -dbid *dbid* -db_name *name*

nboraadm [-S master_server] -remove_rac_from_data_guard *db_unique_name* -dbid *dbid*

nboraadm [-S master_server] -add_instance_to_data_guard *instance_name* -dbid *dbid* -db_name *name* [-host *name*][-oracle_home *oracle_home*]

nboraadm [-S master_server] -remove_instance_from_data_guard *instance_name* [-host *name*][-oracle_home *oracle_home*]

nboraadm [-S master_server] -list_data_guard_instances [-dbid *dbid* -db_name *name*]

nboraadm [-S master_server] -list_data_guard_rac_databases [-dbid *dbid* -db_name *name*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nboraadm command can add, modify, list, and remove RAC databases, instances, and instance groups as part of an Oracle backup policy. If you modify an instance that is not local to the host where you ran nboraadm, a prompt asks you if you want to change the instance. The nboraadm command performs the following operations:

- -list_instances lists all Oracle instances in the repository.
- -add_instance adds an instance to the repository.
- -register_instance registers credentials for an instance or an instance group.
- -delete_instance deletes an instance.
- -modify_instance changes the attributes of the specified instance.
- -list_instance_groups lists all Oracle instance groups that have been created.
- -add_instance_group adds an instance group to the repository.
- -delete_instance_group deletes an instance group from the repository.
- -modify_instance_group changes the attributes of the specified instance group.
- -auto_registration automatically registers newly discovered instances into the specified instance group name.

- `-disable_auto_registration` disables automatic registration of newly discovered instances.
- `-list_dbas` displays a list of all DBAs able to use `nboraadm` on a specified client.
- `-add_dba` allows the NetBackup Administrator to give a database administrator (DBA) the ability to use the `nboraadm` command on a specific client.
- `-delete_dba` removes the ability of the specified DBA to use `nboraadm`on the specified client.
- `-list_jobs` displays job information for the Oracle jobs that contain RMAN output.
- `-list_job_details` displays the RMAN output for a specified job.
- `-list_rac_dbs` lists all the databases that NetBackup can identify as Oracle RAC.
- `-add_rac_db` lets you manually add an Oracle RAC database to NetBackup.
- `-register_rac_db` lets you register the Oracle RAC credentials with NetBackup.
- `-modify_rac_db` modifies an existing Oracle RAC database in NetBackup.
- `-delete_rac_db` lets you delete the Oracle RAC database and any associated instances from NetBackup.
- `-list_rac_instances` lists all the instances that NetBackup can identify as Oracle RAC.
- `-add_rac_instance` lets you manually add an Oracle RAC instance to NetBackup. You cannot add instance without a database.
- `-modify_rac_instance` modifies an existing Oracle RAC instance in NetBackup.
- `-delete_rac_instance` lets you delete an Oracle RAC instance from NetBackup.
- `-list_instance_aliases` lists all the aliases that are associated with the Oracle instance.
- `-add_instance_alias` adds an alias that is associated with the Oracle instance.
- `-delete_instance_alias` deletes an alias that is associated with the Oracle instance.
- `-add_data_guard` adds an Oracle Data Guard to the repository.
- `-delete_data_guard` removes an Oracle Data Guard from the repository.
- `-add_rac_to_data_guard` adds the specified RAC database to the Data Guard configuration.

- `-remove_rac_from_data_guard` removes the specified RAC database to the Data Guard configuration.
- `-add_instance_to_data_guard` adds the specified instance to the Data Guard configuration.
- `-remove_instance_from_data_guard` removes the specified instance to the Data Guard configuration.
- `-list_data_guard_instances` lists all the instances that are associated with a Data Guard configuration.
- `-list_data_guard_rac_databases` lists all the RAC databases that are associated with a Data Guard configuration.

OPTIONS

`-active | -inactive`

When used with the `-list_instances` operation, you can narrow the list to only the active instances or the inactive instances. The default condition is to list all instances.

When used with the `-modify_instance` operation, you can change the status of an instance from active to inactive or vice versa.

When used with `-modify_rac_instance`, this option adds or removes the instance from the pool of available nodes for backup. When the option is used with `-modify_rac_db`, you can change the status of a database from active to inactive or vice versa.

`-add_rac_dbid` *id*

Used to add an Oracle RAC database ID. Used only with `-register_rac_db` when the database ID is not discovered.

`-alias` *name*

Used with `-add_instance_alias` or `-delete_instance_alias` to add or delete an alias that is associated with the database instance.

`-backup_host` *name*

Used to specify an alternate network host for transport of backup data. This option only applies to `-add_rac_instance` and `-modify_rac_instance`.

`-dbid`

Specifies the database id.

`-db_name`

Specifies the database name.

`-disable_backup_host`

Disables the use of a backup host name. This option only applies to `-modify_rac_instance`.

`-backup_priority` *`number`*

An integer that defines the order in which to use RAC instances for protection. Valid values are any integer. If two instances of a RAC share the same priority, instances are selected in alphabetical order. As NetBackup tests the credentials for the highest priority instance, if the instance is unavailable, NetBackup does not test credentials on any other instances. Use `-force` to skip validation.

`-`*`client_name user_name`*

Specifies a client name and the user name of a database administrator (DBA) to enable or disable the use the `nboraadm` command. These options are used only with the `-add_dba`operation and the `-delete_dba` operation.

`-disable_oracle_auth`

Disables the use of Oracle authentication.

`-disable_os_user`

Disables the use of operating system authentication.

`-disable_rman_catalog`

Disables the use of Oracle RMAN Recovery Catalog Credentials as well as Wallet RMAN recovery catalog credentials.

`-disable_wallet_auth`

Disables the use of Wallet authentication.

`-force`

Forces the instance or RAC database to be added to the repository despite a validation failure. Unregistered instances or RAC databases cannot be protected using a NetBackup for Oracle policy.

`-host` *`name`*

Specifies the name of the host where the Oracle database resides

`-immediate`

Allows the Oracle DBA to start an immediate backup from the Oracle client. The Oracle DBA can start the backup instead of waiting for the backup to be initiated based on the NetBackup schedule. When `-immediate` is used, the `-policy` option is required. Additional, you must specify either the `-instance` option or the `-rac_dbid` and `-rac_db_unique_name` options. The Oracle DBA can use this option for the immediate backup of a RAC database.

-instance_group *name*

Specifies that you want the new or the changed instance to be part of the instance group with the specified name.

-*instance_name*

Names the instance that is created or changed.

-list_job_details -jobid *jobid* [-utc]

Displays the RMAN output that is contained in the LOG messages from Job Details for the specified Oracle job that the parameter -jobid defines. Use the nboraadm -list_jobs command to determine the specified jobid you want RMAN details about. The optional -utc parameter displays each Job Details message timestamp in UTC format instead of the default UNIX time format.

-list_jobs [*count*] [-utc]

Displays the Oracle jobs that contain RMAN output where the count parameter specifies the number of the most recent Oracle jobs to list. Displays the following job information for each Oracle job in JSON format: Jobid, JobType, Status, State, Policy, ScheduleType, Schedule, Started, and Ended. The valid range of values for the count parameter is 1 to 1024. If the optional count parameter is not specified the default is 128. The optional -utc parameter displays all Job Details message timestamps (i.e. Started and Ended fields) in UTC format instead of the default UNIX time format.

-load_balanced_node_count *number*

An integer that defines the maximum number of nodes NetBackup uses for backup. Backups proceed with a lower number, if the number of nodes that is specified is not available. If you specify 0 (zero) NetBackup uses all the available nodes.

-new_scan_name *name*

Used to change the SCAN (single client access name) name of the Oracle RAC database. Used with the -modify_rac_db option.

-no_warnings

NetBackup warns the user if you change an instance that is not local to the host where you ran the command. NetBackup prompts to ask if you want to change the instance. Use this option to prevent the display of this warning.

-oracle_auth *user* [-oracle_TNS *tns*]

Specifies the user name and the Net Service Name (TNS alias) of the Oracle authentication credentials.

-oracle_home *oracle_home*

Specifies the file path of the Oracle home directory where the instance resides.

`-os Unix | Windows`

Specifies if the operating system type for the instance is UNIX or Windows.

`-os_user` *name* `[-os_domain` *name*`]`

Specifies the user name and the domain of the operating system credentials.

`-port` *number*

The grid service listener port. The behavior of this option varies based on the operation specified.

`-rac_db_unique_name` *name*

The unique database name for the Oracle RAC database. Once this name is discovered or manually added, it cannot be changed. The behavior of this option varies based on the operation specified.

`-rac_dbid` *id*

The database ID for the Oracle RAC database. You cannot change the database ID once it is added. The behavior of this option varies based on the operation specified.

`-rac_type` *values*

The type of Oracle RAC database communicating with NetBackup. Accepted values are `RAC` and `RACOneNode`.

`-registered | -unregistered`

Specifies all instances that are registered and all instances that are not registered due to incorrect credentials.

`-rman_catalog_user` *name* `[-rman_catalog_TNS` *tns*`]`

Specifies the user name and the Net Service Name (TNS alias) of the Oracle RMAN Recovery Catalog credentials.

`-S` *master_server*

Specifies the master server that contains the instance to be added or changed.

`-scan_name` *name*

The database `SCAN` name for the Oracle RAC database. The behavior of this option varies based on the operation specified.

`-service_name` *name*

The service name for the Oracle RAC database. The behavior of this option varies based on the operation specified.

`-unix_os_user` *name* `-windows_os_user` *name*

Specifies the user name for UNIX and/or Windows OS credentials for an instance group.

`-unix_tns_admin` *`tns_admin`* `and -windows_tns_admin` *`tns_admin`*

Used to override default UNIX `TNS_ADMIN` or Windows `TNS_ADMIN` path.

`-wallet_path`

Specifies the path to the Oracle wallet that contains the credentials for use with the instance or RAC database.

`-wallet_tns`

Specifies the wallet connect descriptor to use to look up the credentials within the Oracle wallet. You cannot use this option with a RAC database

`-wallet_rman_TNS`

Specifies the RMAN Net Service Name of the Oracle RMAN recovery catalog credentials that are stored in the Oracle wallet. This option is used with both instances and RAC databases.

nborair

nborair – Manage Oracle Copilot images and instant recovery point operations.

SYNOPSIS

nborair -list_images [-client *name*] [-server *master*] [-s *mm/dd/yyyy [hh:mm:ss]*] [-e *mm/dd/yyyy [hh:mm:ss]*]

nborair -list_images -X [-client *name*] [-server *master*] [-s *unixtime*] [-e *unixtime*]

nborair -list_files -backupid *backup_id* [-server *master*] [-verbose]

nborair -create_recovery_point -backupid *backup_id* -dest_client *name* [-export_options *options*] [-server *master*] [-verbose]

nborair -list_recovery_points -appliance *appliance_name* [-server *master*]

nborair -delete_recovery_point -appliance *appliance_name* -export_path *export_path* [-server *master*]

nborair -validate -backupid *backup_id* -mount_path *mount_path* [-verbose] [-server *master*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nborair command can determine if an image is available for Oracle Copilot instant recovery. The command lists files from a backup ID, creates and deletes recovery points, lists recovery points from an appliance, and validates a snapshot for use. Some of the nborair options can only be run from the master server. The nborair command performs the following operations:

- -list_images lists backup images compatible with Oracle Copilot instant recovery. This option can be run from the master server or the client.

- `-list_files` lists the backup files information, from a given backup ID, for use with Oracle Copilot instant recovery. This option can be run from the master server or the client.
- `-create_recovery_point` creates a recovery point on a NetBackup appliance for instant recovery. This option can only be run from the master server.
- `-list_recovery_points` lists the recovery points available on the NetBackup appliance. This option can only be run from the master server.
- `-delete_recovery_point` deletes the recovery point on the requested NetBackup appliance. This option can only be run from the master server.
- `-validate` validates the snapshot for use with the recovery point that is created. This option can be run from the master server or the client.

Note: The environment variable ORACLE_HOME is required to be set when the `-validate` operation is used in a Windows environment.

OPTIONS

`-appliance` *`appliance_name`*

The NetBackup appliance where the instant recovery point is located.

`-backupid` *`backup_id`*

The backup image that is used in instant recovery point operations.

`-client` *`name`*

Specifies a client name to use for Oracle Copilot instant recovery. By default, `nborair` searches for all clients where the command was run.

`-dest_client` *`name`*

The client the instant recovery point is exported to.

`-e` *`mm/dd/yyyy [hh:mm:ss]`* or *`unixtime`*

The end date that is used to filter backup images. Use `mm/dd/yyyy [hh:mm:ss]` or pass *unixtime* with the `-X` parameter.

`-export_options` *`options`*

Allows the user to set the NFS export options of the newly created instant recovery point. It takes as arguments a comma separated list of options.

See the *NetBackup Appliance Administrator's Guide* for the list of NFS export options.

`-export_path` *`export_path`*

The export path for the instant recovery point.

`-mount_path mount_path`

The mount path of the instant recovery point on the destination client.

`-s` *`mm/dd/yyyy [hh:mm:ss]`* `or` *`unixtime`*

The start date that is used to filter backup images. Use `mm/dd/yyyy [hh:mm:ss]` or pass *unixtime* with the `-X` parameter.

`-server` *`master_server`*

Master server to use.

`-verbose`

Provides more information about the associated operation.

`-X`

Interpret the `-s` and `-e` parameters as UNIX time.

nboracmd

nboracmd – utility for configuring NetBackup Oracle assets

SYNOPSIS

nboracmd list databases [-S *primary_server*] [-format {csv, json}][-limit *limit*] [-filter *filter*] [-sort *sort*]

nboracmd list pdbs [-S *primary_server*] [-format {csv, json}] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nboracmd list instances [-S *primary_server*] [-format {csv, json}] [-limit *limit*] [-filter *filter*] [-sort *sort*] [-show_connect_descriptor]

nboracmd list credentials [-S *primary_server*] [-format {csv, json}] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nboracmd list jobs [-S *primary_server*] [-format {csv, json}] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nboracmd list rman_catalogs [-S *primary_server*] [-format {csv, json}] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nboracmd list job_details -job_id *job_id* [-S *primary_server*] [-format {csv, json}]

nboracmd modify database [-S *primary_server*] [-wallet_path *wallet_path*] [-tns_name *tns_name*] [-type SINGLE_INSTANCE | RAC | RAC_ONE_NODE] [-port *port*] [-service_name *service_name*] [-scan_name *scan_name*] [-state ACTIVE | INACTIVE] [-load_balanced_node_count *load_balanced_node_count*] [-rman_catalog *rman_catalog*] ASSET_ID

nboracmd modify instance [-S *primary_server*] [-backup_client_name *backup_client_name*] [-oracle_home *oracle_home*] [-base_home *base_home*] [-base_config *base_config*] [-override_tns_admin *tns*] [-state ACTIVE | INACTIVE] ASSET_ID

nboracmd backup -policy *policy* [-S *primary_server*] [-schedule *schedule*] ASSET_ID

nboracmd manage credentials -name *credential_name* [-S *primary_server*] [-force] ASSET_ID

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `nboracmd` command can list, modify, and backup Oracle assets. The `nboracmd` command performs the following operations:

- `list databases` lists Oracle database assets.
- `list pdbs` lists Oracle pdb assets.
- `list instances` lists oracle instance assets.
- `list credentials` lists NetBackup CMS Oracle credentials.
- `list jobs` lists NetBackup Oracle jobs.
- `list rman_catalogs` lists Oracle RMAN catalog assets.
- `list job_details` lists Oracle job details.
- `modify database` modifies an Oracle database asset with the given asset ID.
- `modify instance` modifies an Oracle instance asset with the given asset ID.
- `backup` runs an immediate backup with the provided policy and asset ID.
- `manage credentials` associates the given credential with an asset.

OPTIONS

`ASSET_ID`
: A positional argument that must be specified at the end of the command. The asset ID of the asset to be backed up, modified, or managed.

`-backup_client_name` *name*
: The backup client name to be used with the given asset ID.

`-base_config` *path*
: The base config path to be set on the asset with the given asset ID.

`-base_home` *home*
: The base home path to be set on the asset with the given asset ID.

`-filter` *filter*
: Filters the data in the list. The *filter* value must be in OData format. Can only be used with `-format json`.

`-force`

Used with manage credentials to associate a credential with an asset without validating the credential.

`-format {csv | json}`

Specifies the format to be used for the output. Defaults to `csv`.

`-help`

Prints the usage of a given action.

`-job_id ID`

The ID of the job to print details of.

`-limit` *`limit`*

The maximum items to return as a list. The maximum is 100.

`-load_balanced_node_count` *`number`*

An integer that defines the maximum number of nodes NetBackup uses for backup. Backups proceed with a lower number, if the number of nodes that is specified is not available. If you specify `0` (zero) NetBackup uses all the available nodes.

`-name` *`name`*

The name of the CMS credentials to associate with a given asset.

`-oracle_home` *`oracle_home`*

Specifies the file path of the Oracle home directory where the instance resides.

`-override_tns_admin` *`tns_admin`*

Used to override default `TNS_ADMIN` path.

`-policy` *`name`*

The policy name the backup request uses.

`-port` *`port`*

The port to be assigned to the database asset.

`-rman_catalog` *`ID`*

The asset ID of an RMAN catalog to be associated with a given database.

`-S` *`primary_server`*

Specifies the primary server that contains the asset to be listed or modified.

`-scan_name` *`name`*

Specifies the new `SCAN` name to be associated with the given database asset.

`-schedule` *`schedule`*

Specifies the schedule to be used when backing up an asset. If not specified, it defaults to a full schedule.

`-service_name` *name*

Specifies the new service name to be associated with the given database asset.

`-show_connect_descriptor`

Optional flag with `list instances` to include the connect descriptor for the RAC instances.

`-sort` *sort*

Sorts the data in the list. The sort value must be in OData format. Can only be used with `-format json`.

`-state ACTIVE | INACTIVE`

Specifies the new state to be assigned to the given instance or database asset.

`-tns_name` *name*

Specifies the new TNS name to be assigned to the given database asset.

`-type SINGLE_INSTANCE | RAC | RAC_ONE_NODE`

Specifies the new database type to be assigned to the given database asset.

`-wallet_path path`

Specifies the new wallet path to be assigned to the given database asset.

EXAMPLES

Example 1: List the databases, filtering on the database name.

```
nboracmd list databases -format json -filter
"commonAssetAttributes/displayName eq 'orcl'"
```

Example 2: List the RMAN catalogs, sorting on the first discovered time.

```
nboracmd list rman_catalogs -format json -sort
"commonAssetAttributes.detection.firstDiscoveredTime"
```

Example 3: Modify the database to `ACTIVE` and set the `load_balanced_node_count` to `1`.

```
nboracmd modify database -state ACTIVE -load_balanced_node_count 1
b8402e70e3f788a43e643142cc27854f75c8e3d357dc
```

Example 4: Modify an instance's backup client name and state.

```
nboracmd modify instance -backup_client_name backup.client.name.com
-state ACTIVE 2efa9157344448d40d001870e3ff75c8e3d357dc
```

Example 5: Run an immediate backup of a database.

```
nboracmd backup -policy oracle -schedule inc
b8402e70e3f788a43e643142cc27854f75c8e3d357dc
```

Example 6: Manage an asset's credentials without validating.

```
nboracmd manage credentials -name oracle_creds -force
b8402e70e3f788a43e643142cc27854f75c8e3d357dc
```

nbpem

nbpem – run NetBackup Policy Execution Manager to schedule and submit the jobs that are due

SYNOPSIS

nbpem [-console] [-terminate]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The NetBackup Policy Execution Manager (nbpem) is a service that starts when NetBackup is started and remains active until NetBackup stops.

The nbpem command does the following:

- Determines which jobs are due based on defined policies and the previous backup images.
- creates Policy/Client tasks and determines when jobs are due to run.
- If a policy is modified or if an image expires, it is notified and the appropriate Policy/Client tasks are updated.
- Determines a policy's priority that is based on how overdue the job is.
- Ensures that the policies are scheduled within the windows in which they are supposed to run.
- Cancels the policies that are queued, late, or outside the parameters of the scheduled window.
- Handles any policy changes and then updates the policies that are due to run.
- Initiates more attempts if a particular job stops part way through the backup.

OPTIONS

-console

Enables you to start NetBackup in console mode.

`-terminate`

Enables you to stop the NetBackup policy execution manager.

SEE ALSO

See nbjm on page 753.

See nbrb on page 823.

See nbpemreq on page 802.

nbpemreq

nbpemreq – run NetBackup Policy Execution Manager (PEM) Requisition to schedule the jobs that are due and capture PEM information

SYNOPSIS

nbpemreq -due -date *mm/dd/yyyy hh:mm:ss* [-unixtime] [-legacy] [-client_filter *client*...] [-policy_filter *policy*...]

nbpemreq -due -dateu *unixtime* [-unixtime] [-legacy] [-client_filter *client*...] [-policy_filter *policy*...]

nbpemreq -jobs [screen] [-depth *value*] [all | *job_id*...]

nbpemreq -M *servername*...

nbpemreq -persisted [screen] [-depth *value*]

nbpemreq -policies [screen] [-depth *value*] [*policy*...]

nbpemreq -predict -date *mm/dd/yyyy hh:mm:ss* [-unixtime] [-legacy] [-client_filter *client*...] [-policy_filter *policy*...]

nbpemreq -predict -dateu *unixtime* [-unixtime] [-legacy] [-client_filter *client*...] [-policy_filter *policy*...]

nbpemreq -predict_all -date *mm/dd/yyyy hh:mm:ss* [-legacy] [-client_filter *client*...] [-policy_filter *policy*...]

nbpemreq -predict_all -dateu *unixtime* [-legacy] [-client_filter *client*...] [-policy_filter *policy*...]

nbpemreq -resume_scheduling

nbpemreq -subsystems [screen] [list | all | *subsystem_id*...]

nbpemreq -suspend_scheduling

nbpemreq -updatepolicies

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The NetBackup Policy Execution Manager Requisition (`nbpemreq`) determines which jobs are due in the near future. It also reads in all entered policy updates that are in a pending state. Finally, `nbpemreq` gathers the pertinent `nbpem` information that is placed in the `nbpem` log file and optionally displayed to `stdout`.

This command can also instruct `nbpem` to process policy updates immediately.

When the `nbpemreq` command runs, `nbpem` is affected, which slows down policy processing. Because the `nbpemreq` output may change from release to release, Veritas does not recommend using `nbpemreq` in scripts.

OPERATIONS

`-due`

Provides data about the clients or policies that are scheduled to run by the time specified. The data that is displayed is based on the current time and a future date. Time is indicated by*mm/dd/yyyy hh:mm:ss* or by a UNIX timestamp.

`-jobs`

Provides `nbpem` information about the state of current jobs and jobs that have run in the previous 30 minutes. `nbpem` manages all running jobs and keeps history on each job for 30 minutes after the job completes.

`-M` *`servername...`*

Allows `nbpemreq` to be executed on one or more master servers. The command is executed on each master sequentially in the order that is listed on the command line. When `-M` is not specified, the default value is the local host.

`-persisted`

Provides internal information about the contents of the `nbpem` persistence database file, which contains information about the jobs that are currently running. If `nbpem` is interrupted, NetBackup knows which jobs to run when `nbpem` restarts.

`-policies`

Provides `nbpem` internal data about the specified policies that includes static data from the policy definition and dynamic information about job scheduling.

`-predict | -predict_all`

Helps determine when a policy is to be run. The displayed information is based on the current time and a future date. Time is indicated by *mm/dd/yyyy hh:mm:ss* or by a UNIX timestamp.

This option also helps determine why a policy has not run. The difference between the options is the output format and the amount of data presented. It shows the backups that are eligible to run, but it does not indicate which jobs are to run at a specific time. It checks for an open window for the backup, but does not reflect any of the exclude dates that might be set for the schedule.

`-resume_scheduling`

Resumes the `nbpemreq` the scheduling activity that a `-suspend_scheduling` option has interrupted.

`-subsystems`

Provides `nbpem` internal information about the internal subsystem operations. The amount of information that is presented for each subsystem depends on the specified depth. Each subsystem contains varying layers of information.

`-suspend_scheduling`

Suspends the `nbpemreq` scheduling activity. You can use this option to suspend scheduled backups.

`-updatepolicies`

Instructs `nbpem` to reread the existing policy configuration. Normally, `nbpem` checks for changes based on the policy update interval that is part of the Global Attributes host properties. The default is 10 minutes. After you run this command, the prompt is simply returned.

OPTIONS

`all | job_id...`

Lists all jobs or the job that *job_id* specifies.

`-client_filter client...`

Filters on the name of a specific client or clients.

`depth [ list | all | subsystem_id...]`

Specifies the level of detail to be produced for the various output options. Depth is an integer value starting at zero (least amount of output) and goes up (more output). The maximum depth value and the specific content of each depth level varies from output option to output option. The information differs from the information that is presented by using the *-subsystems* option.

`-depth value`

Displays all 36 subsystems, or the specified subsystems. Separate the subsystems with spaces, not commas. For example:

```
# nbpemreq depth 3 8 12
```

`-policy_filter` *`policy`*`...`

Filters on the name of a specific policy or policies.

`screen`

Sends the output to `stdout`. Command output is always directed to the log files even if the `screen` option is not used. A maximum of 1 MB of data can be written to `stdout`.

`-unixtime`

Specifies the number of seconds elapsed since midnight Coordinated Universal Time (UTC) of January 1, 1970, not counting leap seconds.

SEE ALSO

See nbpem on page 800.

nbmariadb

nbmariadb – protects MariaDB instances and databases

SYNOPSIS

nbmariadb -o backup -S *primary_server_name* -P *policy_name* -s *schedule_name* -l *MariaDB_library_path* -z *LVM_snapshot_size* [-b *Backup_Type*] [-portnum *database_server_port*] [-u *database_server_user*] [-instance *database_instance_name*]

nbmariadb -o restore -S *primary_server_name* -t *target_directory* -portnum *database_server_port* [-id *db_backup_id*] [-C *client_name*]

nbmariadb -o query -S *primary_server_name* [-P *policy_name*] [-C *client_name*] [-instance *database_instance_name*]

nbmariadb -o delete -S *primary_server_name* -id *db_backup_id*

nbmariadb -o help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin

On Windows systems, the directory path to this command is *install_path*NetBackup\bin

DESCRIPTION

Use the nbmariadb command to perform backup, restore, query, and delete operations to protect MariaDB instances and databases. For more information about MariaDB instances and databases, see the *NetBackup for MariaDB Administrator's Guide*.

OPTIONS

-b Used to specify the backup type for the backup operation. Acceptable values are:

- LVM (logical volume manager) to use the LVM snapshot method.
- NONLVM (Non-logical volume manager) to use non-logical volume manager methods such as mysqldump or mariabackup.

-C Use this option to specify the NetBackup client name.

`-id`

This option specifies the database backup image name.

`-instance`

Used to list of all the database instance names.

`-l` The library path for MariaDB database.

`-o` Used to indicate what operation to perform. Possible values are:

- `backup`: Used to initiate a backup the MariaDB from the NetBackup client using the NetBackup DataStore policy name (`-P`) and the schedule type (`-s`) specified.

  Additionally, Windows backups require the primary server name (`-S`). Linux backups require the library path (`-l`) and the snapshot size (`-z`) parameters.
- `restore`: Used to restore the MariaDB backup file using target directory (`-t`), primary server (`-S`), and database port number (`-portnum`) parameters.
- `query`: Used to query primary server (-S) to determine what MariaDB backups are available.
- `delete`: Deletes the backup information from the NetBackup catalog files but retains the backup on the storage media.
- `help`: Display the help that is associated with this command.

`-P` The NetBackup DataStore policy name.

`-portnum`

Specifies the port number that is associated with the MariaDB instance for backup.

`-s` The NetBackup schedule name.

`-S` Specifies the name of the NetBackup primary server.

`-t` Use this option to specify the target restore directory.

`-u` Specifies the name of database server user NetBackup uses to perform the specified operation.

`-z` Used to specify the snapshot size of LVM backup type.

nbmlb

nbmlb – migrates the sign-in banner for the NetBackup Administration Console to the NetBackup Web UI.

SYNOPSIS

nbmlb -migrate *file* [-force]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbmlb command migrates the contents of the sign-in banner file for the NetBackup Administration Console to the database. Then the same sign-in banner is used in the NetBackup Web UI.

OPTIONS

-force

Forces an update even when the sign-in banner exists in the NetBackup Web UI. This option is not required.

-migrate *file*

Where *file* is the location of the sign-in banner file. On UNIX the location is /usr/openv/var/LoginBanner.conf. On Windows the location is *install_path*\NetBackup\var\LoginBanner.conf.

nbperfchk

nbperfchk – measures a disk array's or a network's read and write speeds

SYNOPSIS

nbperfchk -i *option* -o *option* [-s *filesize*] [-syncend] [-bs *buffersize*] [-directio] [-n *number_of_buffers*] [-nr] [-q] [-rc] [-ri *interval*] [-rp] [-v]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/support/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\support\

DESCRIPTION

The nbperfchk command measures the read speed and write speed of a disk array. You can use this command to test the read speed and the write speed of the disks that host deduplicated data. For example, you can measure the speeds of the disks that host deduplicated data.

The nbperfchk command measures the read speed and write speed of either a disk array or a network. You can use this command to test the read speed and the write speed of the disks that host deduplicated data. For example, you can measure the speeds of the disks that host deduplicated data.

In a NetBackup Media Server Deduplication Pool (MSDP), use this command to measure the speed of the disks that are attached to the media server. The media server can be running any operating system that Veritas supports for media servers and MSDPs.

Note: Veritas recommends that you work with a Veritas technical support staff member when you run this command and interpret its results. Veritas recommends a minimum disk performance level of 130 MB/sec for deduplicated read and write operations.

The nbperfchk utility enables you to write a test file to a disk, read back that test file, and observe the read speeds attained during the read operation. You can use the results from nbperfchk to make sure that the ReadBufferSize parameter is set appropriately in your backup environment. The ReadBufferSize parameter

resides in the `[CRDataStore]` section of the `contentrouter.cfg` file. You can use this command as follows:

- Use the following command to write data to the disks:
  `nbperfchk -i inputpath -o outputpath -s filesize -syncend`
- Use the following command to read data from the disks:
  `nbperfchk -i inputpath -o outputpath -bs buffersize`
- Use the following commands to test network between computers A and B:
- A: `nbperfchk -i zero: -o tcp::port`
  B: `nbperfchk -i tcp:computer_A_ip_address:port -o null:`

For additional details on the use of the `nbperfchk` command, see:

http://veritas.com/docs/100038623

OPTIONS

`-bs buffersize`

For *buffersize*, specify the read buffer size to use when `nbperfchk` runs. For example, `64k` or `128k`.

`-directio`

Use this option to minimize input and output cache effects with the file specified. In general, this option degrades performance, but helps when applications perform their own caching. File input and output are done directly to and from the user-space buffers.

`-i inputpath`

The `-i` option lets you provide input to the `nbperfchk` command. You can provide one of the input options shown:

- File: `-i inputpath`
  For *inputpath*, specify the full path to an input file. The `nbperfchk` command reads this file and generates information about the read speed when this file is read to disk.
- Network: `-i tcp:ip:port`
  You can omit the IP information to indicate the use of a local IP address. Use the format `tcp::port` to omit the IP address.
- Generate data: `-i data_format:`
  This input generates: all zero data (`-i zero:`), random data (`-i random:`), or sequence data (`-i seq:`). Be aware the trailing colon (`:`) is required.

`-n`

Specifies the number of buffers. The minimum value is 1 and the maximum value is 255. By default, this option is set to 255.

Use this option if the command fails due to insufficient memory. Reduce the number of buffers with this option to reduce the memory usage of the command.

`-nr`

This option suppresses the test details and shows only the final report when the command exits.

`-o` *`outputpath`*

The `-o` option lets you specify output options for the `nbperfchk` command. You can provide one of the output options shown:

- File: `-o` *`filename`*

  For *filename*, specify the full path to an output file. The `nbperfchk` command writes this file and generates information about the write speed when this file is written to disk.

- Network: `-o tcp:`*`ip`*`:`*`port`*

  You can omit the IP information to indicate the use of a local IP address. Use the format `tcp::`*`port`* to omit the IP address.

- Null data: `-o null:`

  To discard all the output, use `-o null:`

`-q`

Use this option to disable all log displays. When you use TCP for network testing, if you are not concerned about the server or the client situation and don't want the information continuously displayed, use this option. This option suppresses all logging information, including the final report.

`-rc`

If you specify this option, the report is displayed in compact mode with no line feeds.

`-ri`

The report interval for the command. The value is shown in seconds. The minimum value is 1 and the maximum value is 300. The default is 3.

`-rp`

This option is the report probe option. It displays the buffers status in the report test details. When conducting TCP testing, use this option to view the buffer status of the server and the client. Use this information to determine if the issue is a server or a client issue.

`-s filesize`

For *filesize*, specify a file size that is equal to or larger than the combined memory size of your computer plus the amount in the disk array. A file of this size ensures that the data is written to disk and not to a buffer.

`-syncend`

The `syncend` parameter flushes the buffer and writes all data to disk.

`-v`

Use this option to confirm the data the client receives is correct. This option is helpful to determine if there is any packet loss in the transfer process. Use this option with the `-i` option. If you do not use the `-i` option, the verification fails.

PROCEDURES

To analyze nbperfchk results and adjust the ReadBufferSize parameter setting

1. Log on as the root user (UNIX) or the administrator (Windows) on the computer that hosts the content router.

   In NetBackup environments, log on to the media server.

2. Change to a test directory.

3. Type the `nbperfchk` command in the following format to write a large test file to the content router:

   ```
   nbperfchk -i inputpath -o outputpath -s filesize -syncend
   ```

   For example, the following command writes a 64-GB data file that contains all zeros to the `e` drive:

   ```
   nbperfchk -i zero: -o e:\data1 -s 64g -syncend
   ```

4. Type the `nbperfchk` command in the following format to read the test file and observe the read speeds in the `nbperfchk` output:

   ```
   nbperfchk -i inputpath -o NULL -bs buffersize
   ```

   Example 1. To observe several read speeds with several buffer sizes, type the following series of commands:

   ```
   nbperfchk -i e:\data1 -bs 64k -o NULL
   nbperfchk -i e:\data1 -bs 128k -o NULL
   nbperfchk -i e:\data1 -bs 256k -o NULL
   ```

   Example 2. The following `nbperfchk` command reads back the data in file `data1` and uses a buffer size of 1024 KB:

```
C:\Users\administrator.mymediaserver\Desktop>nbperfchk -i e:\data1 -bs 1024k -o NULL
     195 MB @   65.3 MB/sec,      194 MB @   64.9 MB/sec
     295 MB @   49.4 MB/sec,      100 MB @   33.5 MB/sec
     403 MB @   44.8 MB/sec,      108 MB @   35.8 MB/sec
     505 MB @   42.1 MB/sec,      102 MB @   34.1 MB/sec
     599 MB @   40.0 MB/sec,       94 MB @   31.3 MB/sec
     705 MB @   39.2 MB/sec,      106 MB @   35.5 MB/sec
     821 MB @   39.2 MB/sec,      116 MB @   38.8 MB/sec
     943 MB @   39.4 MB/sec,      122 MB @   40.8 MB/sec
    1024 MB @   40.1 MB/sec
```

Observe the following when you analyze the data:

- The left two columns show the amount of data read and the average read speed.
  For the bolded information in the example shown, the amount of data read is `403 MB`. The average read speed is `44.8 MB/sec`.
- The right two columns show the average read speed in the last 3 seconds of each read.
  For the bolded information in the example shown, the average amount of data that was read in the last three seconds is `108 MB`. The average read speed for the last three seconds is `35.8 MB/sec`.
  Unless these numbers vary drastically from read to read, you can disregard the right two columns.
- The final line shows the overall read speed.
  In the example shown, final line is the `1024 MB @ 40.1 MB/sec` information. In this example, the overall read speed for this test is `40.1 MB/sec`.

This line is the most important line in the output because it shows you how fast the total read occurred with the buffer size you specified.

5 Analyze your read speeds and adjust the `ReadBufferSize` parameter if necessary.

Your operating system, your disk speeds, and the `ReadBufferSize` parameter setting all affect restore and rehydration performance.

Veritas recommends that you type several `nbperfchk` commands and increase the size of the argument to the `-bs` parameter each time. Example 1 in step 4 shows this method. If you can enter ever-increasing arguments to the `-bs` parameter, you can probably increase the size of the `ReadBufferSize` parameter in the `[CRDataStore]` section of the `contentrouter.cfg` file.

By default, `ReadBufferSize=65536`, which is 64K. Veritas testing shows that `ReadBufferSize=1048576`, which is 1024 X 1024, or 1M, offers good performance on most Windows systems. On most UNIX systems, Veritas testing shows that `ReadBufferSize=65536` (the default) offers good performance.

For information about how to edit NetBackup configuration files, see the NetBackup documentation.

nbpgsql

nbpgsql – used to perform backup, query, restore, and delete operations on NetBackup PostgreSQL clients

SYNOPSIS

nbpgsql -o backup -S *primary_server_name* -P *policy_name* -s *schedule_name* -l *postgresql_library_path* -z *lvm_snapshot_size* [-C *client_server_name*] [-portnum *postgresql_server_port*] [-u *postgresql_server_user*] [-instance *postgresql_instance_name*] [-pgid *provider_generated_id*]

nbpgsql -o backup -S *primary_server_name* -P *policy_name* -s *schedule_name* -l *postgresql_library_path* -z *lvm_snapshot_size* [-C *client_server_name*] [-b *backup_type*] [-d *backup_directory_path*] [-dbname *database_name*] [-delwal *delete_wal_logs*] [-g *pg_basebackup_compression_level*] [-portnum *postgresql_server_port*] [-u *postgresql_server_user*] [-instance *postgresql_instance_name*] [-pgid *provider_generated_id*]

nbpgsql -o restore -S *primary_server_name* -P *policy_name* -t *target_restore_directory* [-u *postgresql_server_user*] [-C *client_server_name*] [-id *backup_image_id*] [-pitr *point-in_time_recovery_time*]

nbpgsql -o query -S *primary_server_name* [-u *postgresql_server_user*] [-P *policy_name*] [-C *client_server_name*] [-instance *postgresql_instance_name*]

nbpgsql -o delete -S *primary_server_name* -id *backup_image_id*

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin

DESCRIPTION

This command invokes backup, query, restore, and delete operations for NetBackup PostgreSQL clients. The delete operation removes the backup information from the NetBackup catalog, but retains the backup on the storage media.

OPTIONS

`-b backup_type`

Specifies the backup type to use for the backup operation. By default, the snapshot backup type is selected. Accepted values for `-b` are:

- `pg_basebackup`: The PostgreSQL utility performs the backup of the instance. Veritas recommends this option in the case of a non-LVM deployment. NetBackup performs streaming backups when the `pg_basebackup` type is specified. These backups change to non-streaming backups when the `-d` option is specified. This option is available for both UNIX and Windows systems.
- `pg_dumpall`: The PostgreSQL utility performs the logical backup of the instance. Veritas recommends this option in the case of non-LVM deployment. NetBackup performs streaming backups when the `pg_dumpall` type is specified. These backups change to non-streaming backups when the `-d` option is specified. This option is available for both UNIX and Windows systems.
- `pg_dump`: The PostgreSQL utility performs the logical backup of an individual database. NetBackup performs streaming backups when the `pg_dump` type is specified. These backups change to non-streaming backups when the `-d` option is specified. This option is available for both UNIX and Windows systems.
- `vss`: Snapshot backup type for Windows clients only.
- `lvm`: Snapshot backup type for UNIX clients only.

`-C client_server_name`

Specifies the NetBackup client name. When you use this option with the `-o query` option, the operation retrieves and lists all backups from the specified NetBackup client.

`-d backup_directory_path`

Used to configure the backup directory path when the `-b` option is `pg_basebackup`, `pg_dumpall`, or `pg_dump`. When you specify the `-d` option, backups of `pg_basebackup`, `pg_dumpall`, or `pg_dump` change to non-streaming backups. Consistent backup files are generated in the backup directory path and are cleaned after the backup. Ensure that the directory path is empty. Any information in the specified directory is deleted.

`-dbname database_name`

Use this option with the `-b pg_dump` to specify the name of the database you want backed up. This option backs up an individual database.

`-delwal` *value*

This parameter is used to delete the WAL files during a backup. Accepted values are `0` or `1`. Use `1` to enable the deletion of the WAL files and `0` to disable the deletion of WAL files.

`-g` *postgresql_compression_level*

Configures the compression level when you use the `-b pg_basebackup` backup operation. The range of accepted values is between `1` and `9` with one being the lowest and nine being the highest compression ratio.

`-id` *backup_image_id*

Specifies the backup image ID. When you use this option with the `-o delete` operation, it specifies the backup image ID that is deleted from the NetBackup catalog. The backup image is not deleted.

When you use the `-id` parameter with the `-o restore` operation to restore an incremental backup, the files are restored from the previous full backup until the backup whose backup image ID is provided.

You cannot use the `-id` and the `-pitr` options together.

When neither the `-id` nor the `-pitr` parameter is provided, the client time is considered as the point-in-time recovery time.

`-instance` *postgresql_instance_name*

Used to specify the PostgreSQL server instance name. When you use this option with the `-o query` option, it retrieves and lists all backups of the specified instance name.

`-l` *postgresql_library_path*

Specifies the PostgreSQL library directory. This option is only available for UNIX clients.

`-o` *operation_type*

Specify the operation you want to perform. Valid operation types are:

- `backup`: Used to backup PostgreSQL instances and databases.
- `query`: Used to query the NetBackup catalog for PostgreSQL backups.
- `restore`: Used to restore PostgreSQL instances and database backups.
- `delete`: Used to delete catalog information of PostgreSQL backups.

`-P` *policy_name*

Used to specify the NetBackup DataStore policy name. When you use this option with the `-o query` option, the command retrieves and lists all backups with the specified policy name.

-pgid *provider_generated_id*

Configures the NetBackup provider-generated ID for the backup.

For a PostgreSQL instance, the format of the -pgid must be in the form shown:
POSTGRESQL_INSTANCE_*client_server_name_port*.

For an individual PostgreSQL database backup, the format of the -pgid must be in the form shown:
POSTGRESQL_DATABASE_*database_name_client_server_name_port*

Follow this format to list the recovery points of backups in the NetBackup web UI.

-pitr "*YYYY-MM-DD hh:mm:ss*"

Configures the point-in-time recovery time. This value represents the point in time up to which the recovery is performed.

You cannot use the -id and -pitr parameters together.

When the parameter -pitr is used and the time specified matches the time of a backup image, the -id and -pitr functions similarly. But when the time is between a backup and an incremental backup, then files are restored from the previous full backup until that incremental backup. If no incremental backup has been performed after the time provided, then backup files are restored to the last backup.

When neither the -id nor -pitr parameters are not provided, then the time is considered as the point-in-time recovery time.

-portnum *postgresql_server_port*

Specifies the PostgreSQL instance port number that NetBackup uses for backup and restore operations. By default, the port number is 5432.

-S *primary_server_name*

Specifies the NetBackup primary server name.

-s *schedule_name*

Specifies the schedule name that you have configured for the DataStore policy.

-t *target_restore_directory*

Configures the target directory where the backups are restored.

-u *postgresql_server_user*

Specifies the name of the PostgreSQL server user. The default user is postgres. When you use this option with the -o query option, this option retrieves and lists all backups for the specified user.

For UNIX computers, this parameter is an optional parameter for backup, restore, and query operations. The parameter is not available for the delete

operation. For Windows computers, this parameter is optional for backup. The parameter is not available for restore, query, and delete operations.

`-z lvm_snapshot_size`

Configures the LVM snapshot size. This option is only available for UNIX clients.

EXAMPLES

Example 1: Perform a streaming `pg_basebackup` backup.

```
# nbpgsql -o backup -S Primary_Server1 -P Policy1 -s Schedule1 -l
/path/to/pgsql/lib -C Client_Server1 -b pg_basebackup -g 5 -portnum
5432 -u postgres -instance postgres-linux-5432 -pgid
POSTGRESQL_INSTANCE_Client_Server1_5432
```

Example 2: Perform a non-streaming and compressed `pg_basebackup` backup.

```
# nbpgsql -o backup -S Primary_Server1 -P Policy1 -s Schedule1 -l
/path/to/pgsql/lib -C Client_Server1 -b pg_basebackup -d
/backup/dir/path -g 5 -portnum 5432 -u postgres -instance
postgres-linux-5432 -pgid POSTGRESQL_INSTANCE_Client_Server1_5432
```

Example 3: Perform a restore with the `-pitr` parameter on UNIX.

```
# nbpgsql -o restore -S Primary_Server1 -P Policy1 -t
/target/restore/directory -u postgres -C Client_Server1 -pitr
“2023-12-18 11:43:15”
```

Example 4: Perform a query on Windows.

```
nbpgsql -o query -S Primary_Server1 -P Policy1 -C Client_Server1
-instance postgres-linux-5432
```

SEE ALSO

See nbmysql on page 777.

See nbsqlite on page 906.

See nbmariadb on page 806.

nbplupgrade

nbplupgrade – upgrade policy type from FlashBackup-Windows to VMware or Hyper-V

SYNOPSIS

nbplupgrade [*policy_name* | -allpolicies] [-vm_force] [-vm_report] [-verbose] [-help]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbplupgrade utility (CLI) upgrades FlashBackup-Windows policies that were created for VMware or Hyper-V backup. To successfully convert a policy, note the following requirements:

- The current policy must not specify a NetBackup pre-7.5 media server or pre-7.5 VMware backup host.
- The current policy must not specify any option that requires VMware VCB.

To convert the policy even when the above requirements are not satisfied, use the -vm_force option. This option may require further editing of the converted policy. During conversion, the nbplupgrade utility converts the policy type from FlashBackup-Windows to VMware or Hyper-V as appropriate. It also converts the snapshot method to the new VMware or Hyper-V type as required by the new policy. It retains all other attributes from the original policy and converts them as needed to the new 7.5 policy layout.

This upgrade is necessary only if you want the policy to use the new VMware or Hyper-V features in NetBackup 7.5.

OPTIONS

-allpolicies

Upgrades all FlashBackup-Windows policies that were created for VMware or Hyper-V backup.

`-help`

Lists usage information on the `nbplupgrade` command.

`policy_name`

Performs the upgrade only on the specified policy.

`-verbose`

Helps you track the progress of the utility script.

`-vm_force`

Before the conversion, the utility checks for incompatibilities such as a policy that is tied to an old media server or an old client. If an incompatibility exists, the utility issues a warning and exits or moves to the next policy if `-allpolicies` is selected. However, when the -vm_force option is specified, the policy converts despite the compatibility check failure. Use this option with care, because it can cause backup failures for the migrated policy.

`-vm_report`

Performs the compatibility checks and reports the results. Note that it does not perform the actual policy conversion. This option is designed to be used only as a migration dry run before you attempt the actual conversion.

`-vm_force` and `-vm_report` cannot be used together in the same command.

EXAMPLES

Example 1 - Perform compatibility checks on the `mypolicy` policy and report the results. This action is only a dry run of an actual conversion to be run later.

```
# nbplupgrade mypolicy -vm_report
```

Example 2 - Perform compatibility checks on all the FlashBackup-Windows policies and report the results. This action is only a dry run of an actual conversion to be run later.

```
# nbplupgrade -allpolicies -vm_report
```

Example 3 - Upgrade the policy named `mypolicy`.

```
# nbplupgrade mypolicy
```

Example 4 - Upgrade all the FlashBackup-Windows policies that were created for VMware or Hyper-V backup.

```
# nbplupgrade -allpolicies
```

Example 5 - Upgrade the policy named `mypolicy` even if the compatibility check fails.

```
# nbplupgrade mypolicy -vm_force
```

Example 6 - Upgrade all the FlashBackup-Windows policies that were created for VMware or Hyper-V backup.even if the compatibility check fails.

```
# nbplupgrade -allpolicies -vm_force
```

nbrb

`nbrb` – run NetBackup Resource Broker

SYNOPSIS

nbrb [-console] [-terminate]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The NetBackup Resource Broker binary (`nbrb`) is a service that starts when NetBackup starts and remains active. This service makes the allocations for such things as storage units, tape drives, and client reservations. This service works closely with the EMM to obtain physical and logical the resources that a job requires to run. Physical resources can be storage units, tape drives, and media IDs. Logical resources can be named resources, max jobs per client, max jobs per policy, and multiplexed groups as resources that `nbjm` uses.

OPTIONS

`-console`
: Enables you to start NetBackup in console mode.

`-terminate`
: Enables you to stop the `nbrb`.

SEE ALSO

See nbjm on page 753.

See nbpem on page 800.

nbrbutil

nbrbutil – configures the NetBackup Resource Broker (nbrb)

SYNOPSIS

nbrbutil [-cancel *GUID*] [-changePriority *requestID*] [-changePriorityClass *requestID*] [-changesettings *name=value* [,*name=value*],...] [-deleteSetting *settingname*] [-disablePerfMon] [-dump] [-dumptables -f *filename*] [-enablePerfMon] [-listActiveJobs] [-listActiveDriveJobs] [-listActiveMediaJobs] [-listActivePoolJobs] [-listActiveStuJobs] [-listOrphanedDrives] [-listOrphanedMedia] [-listOrphanedPipes] [-listOrphanedStus] [-listSettings] [-release *GUID*] [-resetAll] [-releaseAllocHolds] [-releaseDrive *drive*] [-releaseMDS *ID*] [-releaseMedia *mediaID*] [-releaseOrphanedDrive *drivekey*] [-releaseOrphanedMedia *mediakey*] [-releaseOrphanedPipes] [-releaseOrphanedStu *name*] [-resetMediaServer *mediaserver*] [-reportInconsistentAllocations] [-resume] [-setDriveGroupUnjoinable] [-setMediaGroupUnjoinable] [-suspend] [-syncAllocations]

nbrbutil –listPipes [-verbose] [-jobid *jobid*][-pipe *pipeid*][-pipeState PIPE_AVAILABLE | PIPE_UNALLOCATED | PIPE_CLIENT_ORHPANED | PIPE_SERVER_ORPHANED | PIPE_ORPHANED | PIPE_ACTIVE | PIPE_SHUTDOWN_REQUEST | PIPE_SHUTDOWN_READ | PIPE_SHUTDOWN_WRITE]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The NetBackup Resource Broker utility sets up the following Resource Broker functionality:

- List the allocations that the Resource Broker has handed out.
- Release an allocation.
- View the list of orphaned resources.
- Display the jobs that use a particular resource (drive, media, storage unit)

- Cancel a request that has not been allocated.
- Set the Resource Broker tuning parameters.
- Suspend and resume the process.
- List all Fibre Transport pipes.

OPTIONS

`-cancel` *GUID*

Cancels the allocation request within the given identifier.

`-changePriority` *requestID* `-priority` *priority*

Changes the request priority.

`-changePriorityClass` *requestID* `-priorityClass` *priorityClass*

Changes the request priority class.

`-changesettings` *name=value* `[,`*name=value*`]...`

Adds or changes the `nbrb` configuration settings.

The following describes all the `-changesettings` parameters:

- RB_DO_INTERMITTENT_UNLOADS - When this parameter is set to true (default), `nbrb` initiates unloads of the drives that have exceeded the media unload delay. Drives become available more quickly to jobs that require different media servers or different media than the job that last used the drive. However, the loaded media or drive pair may not be available for jobs with less priority in the prioritized evaluation queue that can use the drive or media without unload.
- RB_ENABLE_OPTIMIZATION - When this parameter is set to true, it serves as a performance tuning parameter for the Intelligent Resource Manager. This entry instructs NBRB to cache states of resource requests.
- RB_RESPECT_REQUEST_PRIORITY - Possible values for this parameter are true or false.
  When RB_RESPECT_REQUEST_PRIORITY is set to false (default), `nbrb` continues to evaluate jobs in the prioritized job queue. As a result, a job is likely to reuse a drive more quickly after the drive has been released. However, some lower priority jobs may receive drives before higher priority jobs.
  When the parameter is set to true, `nbrb` restarts its evaluation queue at the top of the prioritized job queue after resources have been released.
- RB_BREAK_EVAL_ON_DEMAND - When a high priority request appears, `nbrb` immediately interrupts the evaluation cycle. The request can be a tape

span request, a subsequent request for a synthetic or a duplication job, or a read request for an optimized duplication. If required, nbrb releases and unloads drives before the evaluation cycle begins again.
If the RB_BREAK_EVAL_ON_DEMAND parameter is set to true (default), interruptions of high priority jobs are not allowed and the evaluation cycle continues.

- RB_MAX_HIGH_PRIORITY_QUEUE_SIZE - Spanning requests and additional resources for an active duplication job are put in a special queue for priority processing. The RB_MAX_HIGH_PRIORITY_QUEUE_SIZE parameter sets the maximum number of requests that NetBackup allows in that queue. (Default: 100 requests.)
- RB_RELEASE_PERIOD - This parameter indicates the interval that NetBackup waits before it releases a resource. (Default: 180 seconds.)
- RB_CLEANUP_OBSOLETE_DBINFO - This parameter indicates the number of seconds that can elapse between the cleanup of obsolete information in the nbrb database. (Default: 60 seconds.)
- RB_MPX_GROUP_UNLOAD_DELAY - This parameter indicates the number of seconds that nbrb waits for a new job to appear before a tape is unloaded. (Default: 10 seconds.)
  This setting can help avoid unnecessary reloading of tapes and applies to all backup jobs. During user backups, nbrb uses the maximum value of RB_MPX_GROUP_UNLOAD_DELAY and the Media mount timeout host property setting when nbrb unmounts the tape.
- RB_RETRY_DELAY_AFTER_EMM_ERR - This parameter indicates how long NetBackup waits after an EMM error before it tries again. The error must be one where a retry is possible. For example, if a media server is down. (Default: 60 seconds.)
- RB_REEVAL_PENDING - This parameter indicates the number of seconds that can elapse between evaluations of the pending request queue. For example, a pending request queue can include, jobs awaiting resources. (Default: 60 seconds.)
- RB_REEVAL_PERIOD - This parameter indicates the time between evaluations if an outstanding request is not satisfied, and if no other requests or resources have been released. (Default: Five minutes must pass before the initial request is reevaluated.)

`-deleteSetting` *settingname*

Deletes the nbrb configuration setting identified by the *settingname* value.

`-disablePerfMon`

Disables the Performance Monitoring.

`-dump`

Dumps all `nbrb` allocation and request lists.

`-dumptables -f` *`filename`*

Enables the Resource Broker (`nbrb`) to log its internal state in the specified file name.

`-enablePerfMon`

Enables the Performance Monitoring.

`-jobid` *`jobid`*

Restricts the output listing of Fibre Transport pipes to only those used for the specified *jobid*.

`-listActiveJobs`

Lists all the active jobs.

`-listActiveDriveJobs`

Lists all the active jobs for a drive.

`-listActiveMediaJobs`

Lists all the active jobs for a media ID (disk or tape).

`-listActivePoolJobs`

Lists all the active jobs for a volume pool.

`-listActiveStuJobs`

Lists all the active jobs for a storage unit or a storage unit group.

`-listOrphanedDrives`

Lists the drives that are reserved in EMM but have no corresponding allocation in the Resource Broker.

`-listOrphanedMedia`

Lists the media that is reserved in EMM but has no corresponding allocation in the Resource Broker.

`-listOrphanedPipes`

Lists the orphaned Fibre Transport pipes.

`-listOrphanedStus`

Lists the storage units that are reserved in EMM but have no corresponding allocation in the Resource Broker.

`-listPipes`

Lists the information about Fibre Transport pipes.

`-listSettings`

Lists the NBRB configuration settings.

`-pipe` *pipeID*

Restricts the output of Fibre Transport pipes to only those with the matching *pipeID* value.

`-pipeState` *state*

Restricts the output listing of Fibre Transport pipes to only the pipes in specified state.

`-release` *GUID*

Releases the allocation with the given identifier.

`-resetAll`

Resets all `nbrb` allocations, requests, and persisted states.

`-releaseAllocHolds`

Releases allocation holds caused by allocation errors for drives and media.

`-releaseDrive` *drive*

Releases all allocations for the specified drive.

`-releaseMDS` *ID*

Releases the EMM and the MDS allocations that are allocated by the MDS with the specified identifier.

`-releaseMedia` *mediaID*

Releases all allocations for the specified volume.

`-releaseOrphanedDrive` *drivekey*

Releases drives that are reserved in EMM but have no corresponding allocation in the Resource Broker.

`-releaseOrphanedMedia` *mediakey*

Releases media that are reserved in EMM but have no corresponding allocation in the Resource Broker.

`-releaseOrphanedPipes`

Releases the orphaned Fibre Transport pipes.

`-releaseOrphanedStu` *name*

Releases the storage units that are reserved in EMM but have no corresponding allocation in the Resource Broker.

`-resetMediaServer` *mediaserver*

Resets all `nbrb` EMM and MDS allocations that are related to `ltid` on the media server.

`-reportInconsistentAllocations`
: Reports inconsistent allocation between the Resource Broker and MDS.

`-resume`
: Resumes the Resource Broker (`nbrb`) processing.

`-setDriveGroupUnjoinable`
: Disables the future job from joining the group for this drive.

`-setMediaGroupUnjoinable`
: Disables the future job from joining the group for this media.

`-suspend`
: Suspends the Resource Broker (`nbrb`) processing.

`-syncAllocations`
: Syncs up any allocation difference between the Resource Broker and MDS.

`-verbose`
: Provides a more detailed information for Fibre Transport pipes.

SEE ALSO

See nbjm on page 753.

See nbpem on page 800.

nbreplicate

nbreplicate – initiate replication on a storage device

SYNOPSIS

nbreplicate -backupid *backup_id* -Bidfile *file_name* -cn *copy_number* -rcn *replicate_copy_number* -slp_name *policy_name* [-altreadhost *hostname*] [-priority *number*] [-v] [-target_sts *target_sts*] [-target_user *target_sts_username*] [-target_pwd *target_sts_password*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbreplicate command allows a copy of a backup to be replicated to a NetBackup storage device in another domain. To duplicate an image in the same NetBackup domain, please see bpduplicate.

The nbreplicate command creates a copy of a specified backup based on the configuration on the supported replication targets of the storage server. This command is part of the automated Storage Lifecycle Policy (SLP) process of Remote Master Replication operations.

This command is not intended to circumvent normal NBSTSERV processing for Storage Lifecycle Policy controlled images. This command exists to redo previously successful replications. It is distinctly different from bpduplicate.

This command can be run only on the master server.

OPTIONS

-altreadhost *hostname*

Specify an alternate host from which to read the media. The default condition is that bpreplicate reads the source media from the host that performed the backup.

`-backupid` *backup_id*

Specifies the backup ID of a single backup to replicate or for which you can change the primary copy.

`-Bidfile` *file_name*

file_name specifies a file that contains a list of backup IDs to be duplicated. List one backup ID per line in the file. If this parameter is specified, other selection criteria are ignored.

Also, *file_name* is removed during the execution of that command line interface (CLI) because the NetBackup GUIs commonly use this parameter. They expect the command-line interface to remove the temporary file that was used for the `-Bidfile` option upon completion. Direct command-line interface users can also use the option; however, it removes the file.

`-cn` *copy_number*

Determines the copy number to duplicate. Valid values are 1 through 10. The default is 1.

`-primary` means to search or duplicate the primary copy.

`-priority` *number*

Sets a backup policy to run at a lesser or a higher priority than disk staging duplication.

`-target_pwd` *target_sts_password*

Specifies the target storage server password if credentials are required to access the device.

`-target_sts` *target_sts*

Specifies the target storage server to receive a copy of the replicated backup.

`-target_user` *target_sts_username*

Specifies the target storage server user name if credentials are required to access the device.

`-rcn` *replicate_copy_number*

Specifies the copy number of the replication copy. The copy number is the operation index value of the storage lifecycle policy replication operation plus 100.

`-primary` means to search or duplicate the primary copy.

`-slp_name` *policy_name*

Specifies the SLP name of the duplicated file.

`-v`

Selects the verbose mode. When you specify the debug logs or progress logs, it includes more information.

EXAMPLE

Re-replicate an image according to the SLP parameters of an image that was previously successfully replicated, but needs to be replicated again due to disaster recovery.

```
# nbreplicate -backupid bu789 -rcn 102 -cn 1 -priority 0 -slp_name slp1
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\db\images\*
install_path\NetBackup\logs\admin\*
```

SEE ALSO

See bpduplicate on page 123.

nbrepo

`nbrepo` – used to manage the NetBackup package repository.

SYNOPSIS

nbrepo -a *package_path*

nbrepo -d *package_identifier*

nbrepo -l

nbrepo -p *package_identifier*

nbrepo -h

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `nbrepo` command is used to manage packages in the NetBackup repository. You can add new packages or delete existing packages from the repository. You can also list all the packages that currently exist in the repository. You can use this command to retrieve the package metadata.

OPTIONS

`-a | -add` *package_path*

Add packages to the repository. The package identifier the repository generates is returned.

`-d | -delete` *package_identifier*

Delete packages from the repository. Specify the package identifier for the command to delete.

`-h | -help`

Show the command usage statement.

`-l | -list`

Returns a list of all packages which have been added to the repository.

`-p | -pkgDetails` *package_identifier*

Returns the package metadata for the specified package.

EXAMPLES

Example 1: Adding a package to the NetBackup repository.

```
nbrepo -add C:\temp\vxupdate_nbclient_8.1.2_windows_x64.sja

Successfully added deployment package ID: 6 to
the repository.
```

Example 2: Use the `nbrepo` command to determine the **`Installables`** field for use in the `nbinstallcmd -package` command. Note the `File Name` field is truncated in the `nbrepo -l` output. Bold is added for clarity.

```
nbrepo -l
ID Type          Version OS           File Name
-- ------------- ------- ------------ ----------------------------
1  server+client 8.2     redhat_x64   vxupdate_nb_8.2_redhat_x64.sja
6  client eeb    8.2     redhat_x64   nbeeb.client_3977539.1_8.2_re
7  server eeb    8.2     redhat_x64   nbeeb.server_3977539.1_8.2_re
8  eeb           8.2     windows_x64  nbeeb_3977539.1_8.2_windows_x
9  client        8.2     suse_ppc64le vxupdate_nbclient_8.2_suse_pp

nbrepo -p 1
                  Package ID: 1
           Package File Name: vxupdate_nb_8.2_redhat_x64.sja
                Package Type: server+client
            Operating System: redhat_x64
             Release Version: 8.2
                Installables: nbclient_8.2
                              nbserver_8.2
                Package Size: 1.26 GB
     Created Date/Time (UTC): 2019-05-15 09:04:28
```

SEE ALSO

See nbinstallcmd on page 744.

nbrestorevm

nbrestorevm – restore VMware or Hyper-V virtual machines

SYNOPSIS

For VSphere Restore:

nbrestorevm -vmw -C *vm_client* [-S *master_server*] [-O] [-R *rename_file*] [-L *progress_log* [-en]] [-k "keyword phrase"] [-s *mm/dd/yyyy* [*hh:mm:ss*]] [-e *mm/dd/yyyy* [*hh:mm:ss*]] [-w [*hh:mm:ss*]] [-vmtm *vm_transport_mode*] [-vmserver *vm_server*] [-vmproxy *vm_proxy*] [-vmpo] [-vmtd] [-vmfd] [-vmbz] [-vmvmxd] [-vmkeephv] [-vmid] [-vmInstanceId] [-vmsn] [-vmrb] [-vcd] [-vcdred] [-vcdovw] [-vcdrte] [-vcdtemplate] [-vcdlfree] [-vcdremv] [-vmst] [-copy *copy_number*] [-vmssp]

For VMware Selective VMDK Restore:

nbrestorevm -vmw -C *vm_client* -S *master_server* -s *mm/dd/yyyyhh:mm:ss* -e *mm/dd/yyyyhh:mm:ss* | -backupid *value* -restorespecout *filename*

nbrestorevm [-validate] -restorespec *filename*

nbrestorevm -restorespec *filename* [-L *progress_log*] [-w [*hh:mm:ss*]]

For Hyper-V VM Restore:

nbrestorevm {-vmhv | -vmhvnew | -vmhvstage | -vmncf} -C *vm_client* [-S master_server] [-O] [-R *rename_file*] [-L *progress_log* [-en]] [-k "keyword phrase"] [-s *mm/dd/yyyy* [*hh:mm:ss*]] [-e *mm/dd/yyyy* [*hh:mm:ss*]] [-w [*hh:mm:ss*]] [-vmtm *vm_transport_mode*] [-vmserver *vm_server*]

For BMR VM Conversion:

nbrestorevm -bmr -vmw -C *vm_client* [-S *master_server*] [-O] -vmserver *vm_server* -vmproxy *vm_proxy* -veconfig *config_filepath* [-config *bmr_config_name*] [-vmpo] [-vmsn] [-systemOnly]

For VMware Instant Recovery:

nbrestorevm -vmw -ir_activate -C *vm_client* -temp_location *temp_location_for_writes* [-S *master_server*] [-vmpo] [-vmInstanceId] [-vmsn] [-vmkeephv] [-vmid] [-vmnewdiskuuid] [-vmserver *vm_server*] [-vmproxy *vm_proxy*] [-s *mm/dd/yyyy* [*hh:mm:ss*]] [-e *mm/dd/yyyy* [*hh:mm:ss*]] [-R *rename_file*] [-disk_media_server *media_server*] [-vmst]

nbrestorevm -ir_listvm

nbrestorevm -ir_deactivate *ir_identifier* [-force]

nbrestorevm -ir_done *ir_identifier*

nbrestorevm -ir_reactivate *ir_identifier* [-force]

nbrestorevm -ir_reactivate_all *ir_identifier* -vmhost *vm_host* -media_server *media_server_activate_vm* [-force]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbrestorevm command restores VMware virtual machines (-vmw option) or Hyper-V virtual machines (-vmhv option). You can run nbrestorevm on a client to restore VMs only if you specify the client as a peer of the master server for the purpose of specific VM restoration. This restriction also applies to media servers if the media server is installed on different machine than the master server.

This command covers a wide range of functionality:

- The -vmw option restores a VMware virtual machine.
- The -vmhv, -vmhvnew, -vmhvstage, and -vmncf options restore a Hyper-V virtual machine.
- The -bmr -vmw option creates a VMware virtual machine from a client backup.
- The -restorespec option restores one or more virtual machine disks into a new VM.
- The -ir_activate option starts the instant recovery of a specified virtual machine. A set of related instant recovery options (-ir_listvm, -ir_deactivate, -ir_done, -ir_reactivate, and -ir_reactivate_all) perform other functions on the instant recovery of a virtual machine.

You can run this command on the master server and on all clients.

OPTIONS

Several of the options are common to all restores (VSphere, Hyper-V, BMR VM conversion, and IR) and others are specific to a subset of these restores. All options

that begin "-ir" are Instant Recovery only (for example, `-ir_list`). Options that begin "-vcd" are VSphere only (for example, `-vcdred`). Other options that apply to only a subset of functions, are noted in the option description.

`-backupid` *value*

The ID of the backup image to use to create the parameters file to restore a VMware virtual machine disk or disks, in *clientname_backuptime* format. The *backuptime* is the decimal number of seconds since January 1, 1970.

Use this option with the `-restorespecout` option. Do not combine it with the `-s` or `-e` option.

`-bmr`

Contacts the BMR server to carry out tasks related to virtual machine creation from client backup.

`-C` *vm_client*

The name of the virtual machine as identified in the backup. For example, if the policy backed up the virtual machine by its host name, specify that host name.

To restore to a different location, use the `-vmserver` and `-R` options.

`-config` *bmr_config_name*

Specifies the BMR configuration name. The default name is `current`. Applies only to the BMR VM conversion.

`-copy` *copy_number*

Specifies the copy number to restore from for a vSphere Restore operation. This option allows a restore from a copy other than the primary copy. For example, `-copy 3` restores copy 3 of the backup image.

This option is only supported for a full backup of a VMware virtual machine. If the specified copy number does not exist, the primary copy is used.

`-disk_media_server` *media_server*

Specifies which media server performs the Instant Recovery.

This option is useful if NetBackup storage is configured over several media servers, such as for load balancing. Without the `-disk_media_server` option, the Instant Recovery job may select any of the available media servers to do the restore. If only one of the media servers is configured for Instant Recovery, specify that server with the `-disk_media_server` option.

`-force`

Suppresses the confirmation prompts.

`-ir_activate`

Starts the Instant Recovery of the specified virtual machine. For VMware, the command mounts the backup image as an NFS datastore. The virtual machine is instantly recovered when the virtual machine data is accessible on the VM host.

`-ir_deactivate` *`ir_identifier`* `[-force]`

Deletes the specified restored virtual machine from the ESX host and releases the NetBackup media server resources. The `-force` option suppresses the confirmation prompts.

`-ir_done` *`ir_identifier`*

Completes the virtual machine instant recovery job after the data is migrated. It removes the NetBackup storage and releases the media server resources. The NetBackup storage is the datastore that is mounted on the ESX host.

`-ir_listvm`

Lists details about the virtual machines that are activated by instant recovery.

`-ir_reactivate` *`ir_identifier`* `[-force]`

Reactivates a restored virtual machine by remounting the NetBackup NFS datastore. It also registers the restored virtual machines on the ESX host from the temporary datastore on the ESX host.

`ir_identifier` is the virtual machine's numeric identifier from the `-ir_listvm` output.

The `-force` option suppresses the confirmation prompts.

`-ir_reactivate_all`

Restarts an interrupted instant recovery job for all virtual machines on the ESX host and NetBackup media server combination.

`-L` *`progress_log`*

Specifies the name of an existing file in which to write progress information. This option applies to vSphere restore and Hyper-V restore.

Only default paths are allowed for this option and Veritas recommends to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration. The following are the default paths:

UNIX systems: `/usr/openv/netbackup/logs/user_ops/proglog`

Windows systems: *`install_path`*`\NetBackup\logs\user_ops\proglog`

For more information on how to add a custom path, see the “BPCD_ALLOWED_PATH option for NetBackup servers and clients” topic in the NetBackup Administrator's Guide, Volume I.

`-media_server` *media_server_activate_vm*

Specifies the media server on which the NFS datastores that contain the backup images were mounted when you reactivate virtual machines. This option is used only with the `-ir_reactivate_all` function.

`-O`

Overwrites the VMs and associated resources if they already exist with the same name. The resources are entities such as virtual machine disk format files (VMDKs) that explicitly belong to the existing VM. If `-O` is specified, the VMware server is requested to remove the VM before the VM is restored. If not specified, the restore may fail. This option is used with the VClient restore, the Hyper-V restore, and the BMR VM conversion.

`-R` *rename_file*

Specifies an absolute directory path to a rename file, which is used to restore a VMware virtual machine. The rename file indicates that the restore is to be redirected to an alternate location and specifies details about the alternate client location. For VMware, the rename file can include any of the following entries:

```
change /first_vmdk_path to /new_first_vmdk_path
change /second_vmdk_path to /new_second_vmdk_path
...
change /n'th_vmdk_path to /new_nth_vmdk_path
change vmname to NEW_VM_NAME
change esxhost to NEW_ESX_HOST
change datacenter to NEW_DATACENTER
change folder to NEW_FOLDER
change resourcepool to NEW_RESOURCEPOOL
change datastore to NEW_DATASTORE
change network to NEW_NETWORK
change organization to NEW_ORGANIZATION
change orgvdc to NEW_ORGVDC
change vcdserver to NEW_VCDSERVER
change vcdvapp to NEW_VCDVAPP
change vcdvapptemplate to NEW_VCDVAPPTEMPLATE
change vcdvmname to NEW_VCDVMNAME
change vcdcatalog to NEW_VCDCATALOG
change storagepolicy[/first_vmdk_path] to NEW_STORAGEPOLICY
change storagepolicy[/second_vmdk_path] to NEW_STORAGEPOLICY
...
change storagepolicy[/n'th_vmdk_path] to NEW_STORAGEPOLICY
change storagepolicy to NEW_STORAGEPOLICY
change vmhome_storagepolicy to NEW_STORAGEPOLICY
```

Instant Recovery uses the following subset of this list:

```
change vmname to NEW_VM_NAME
change esxhost to NEW_ESX_HOST
change resourcepool to NEW_RESOURCEPOOL
change network to NEW_NETWORK
```

The following are notes regarding these entries:

- Enter the change line exactly as it appears in this list, except for the variable at the end (shown in all caps).
- Each `change` line must end with a carriage return. If the *rename_file* contains only one entry, make sure that the end of the line contains a carriage return.
- If the rename file has no contents, the restore uses default values from the backup image.
- Use `change datastore to NEW_DATASTORE` to identify the target datastore when you restore from backups that are not made with Replication Director.
- Use `change storagepolicy to NEW_STORAGEPOLICY` without square brackets to apply the new storage policy to the entire VM or to apply the new storage policy to the unspecified disks/VM home.
- The rename file must be in UTF-8 character encoding.

With NetBackup 7.7.2 and later, only default paths are allowed for this option and Veritas recommends to use the default paths. If you cannot use the NetBackup default path in your setup, you should add custom paths to the NetBackup configuration.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-restorespec` *`filename`*

Creates a new virtual machine and restores the NetBackup client and disks that you specify in the *`filename`* to the new VM. A special case that is called **In-place Disk Restore** replaces all disks of an existing VM with the data in its backup. RDM and independent disks are not replaced or deleted. For In-place Disk Restore, the disks are restored to the same disk controller configuration that is acquired at the time of backup. The *`filename`* is a text file that uses the JavaScript Object Notation (JSON) format.

The text file must be in UTF-8 character encoding.

You can use the `-restorespecout` option to create the JSON-formatted text file. You can edit the text file so that it contains only the virtual machine disks that you want to restore.

The following is an example of the restore parameters that the `-restorespec` option requires:

```
{
  "ClientType": "VMware",
  "ClientName": "VM-client-name",
  "RestoreType": "SelectiveDiskRestore",
  "BackupImageSelection": {
    "MasterServer": "Master-server-name",
    "StartDate": "mm/dd/yy hh:mm:ss",
    "EndDate": "mm/dd/yy hh:mm:ss",
    "BackupId": "clientname_timestamp"
  },
  "VMwareRestoreParameters": {
    "vCenterServer": "vCenter-name-for-restore",
    "VMwareRecoveryHost": "Recovery-host-name",
    "DefaultDiskProvisioning": "thin",
    "TransportMode": "san:hotadd:nbd",
    "VMwareVirtualMachineDestination": {
      "VMName": "Restore-vm-name",
      "AttachDisksToExistingVM": "No",
      "PowerOn": "No",
      "Datacenter": "Path-of-Datacenter-for-destination-vm",
      "ESX": "Hostname-of-the-ESX-host",
      "Folder": "Path-to-destination-VM-folder",
      "ResourcePool/Vapp": "Path-of-vApp-or-resource-pool-destination",
      "VmxDatastore": ""
    },
    "VMwareVirtualDiskDestination": [
      {
         "VirtualDisk" : "/DS1/BackedupVM/BackedupVM.vmdk",
         "OverwriteExistingDisk": "No",
         "Datastore": "[Datastore-name]",
         "Path": "”,
         "Provisioning": "thin"
         "Controller": "scsi0-0"           },
      {
         "VirtualDisk": "/DS2/BackedupVM/BackedupVM_1.vmdk",
         "OverwriteExistingDisk": "No",
         "Datastore": "",
         "Path": "[datastore_name] MyVm/MyVM_1.vmdk”,
         "Provisioning": "eagerzeroed"
         "Controller": "scsi0-1"           }
```

```
    ]
    "VMwareAdvancedRestoreOptions": {
      "DeleteRestoredVMOnError": "No",
      "VMShutdownWaitSeconds": 900
    }
  }
}
```

The following is an example of the restore parameters that the `-restorespec` option requires for **In-place Disk Restore**:

```
{
  "BackupImageSelection": {
    "StartDate": "05/03/20 21:50:34",
    "BackupId": "bptesx60l-19vm1.rmnus.sen.symantec.com_1588560634",
    "EndDate": "05/03/20 21:50:34",
    "MasterServer": "bptms-lnr73-0029"
  },
  "ClientName": "bptesx60l-19vm1.rmnus.sen.symantec.com",
  "VMwareRestoreParameters": {
    "vmdk_compression": "none",
    "VMwareAdvancedRestoreOptions": {
      "VMShutdownWaitSeconds": 900,
      "DeleteRestoredVMOnError": "No"
    },
    "VMwareRecoveryHost": "bptms-lnr73-0029",
    "VMwareVirtualMachineDestination": {
      "ResourcePool/Vapp": "/New Datacenter/host/Test01/Resources",
      "VmxDatastore": "datastore1",
      "Datacenter": "/New Datacenter",
      "AttachDisksToExistingVM": "DeleteAllDisksAndReplace",
      "ESX": "bptesx60l-19.rmnus.sen.symantec.com",
      "VMName": "bptesx60l-19vm1",
      "Folder": "/New Datacenter/vm/",
      "PowerOn": "Yes"
    },
    "DefaultDiskProvisioning": "unknown",
    "TransportMode": "nbdssl",
    "VMwareVirtualDiskDestination": [],
    "vCenterServer": "bptesx60l-19vc"
  },
  "ClientType": "VMware",
  "RestoreType": "SelectiveDiskRestore"
}
```

The following itemized lists describe the five sections of the *filename*. The optional sections or optional fields that you do not want to use must be omitted from the *filename*.

First section (required): The opening section of the *filename* provides the required information about the client that contains the disks that you want to restore.

- ClientType. The client type as configured in the backup policy. Required.
  For Vmware virtual machine disk restore, use VMware
- ClientName. The client name as configured in the backup policy. Required.
- RestoreType. The type of restore. Required.
  For Vmware virtual machine disk restore, use SelectiveDiskRestore.

Second section (optional): The BackupImageSelection section of the *filename* specifies the information required to identify the backup image to restore. If this section is not specified, NetBackup restores from the most recent backup. The following are the fields that describe the BackupImageSelection:

- MasterServer. The fully-qualified domain name of the NetBackup master server to use to query the VM details. Optional.
  If not specified, the master server that is specified in the NetBackup configuration is used.
- StartDate. The start date to look for backup images, in *mm/dd/yy hh:mm:ss* format. If more than one backup image exits in the date range, NetBackup selects the most recent backup. Optional.
  If not specified, the start date is 6 months earlier than the current date.
- EndDate. The end date to look for backup images, in *mm/dd/yy hh:mm:ss* format. If more than one backup image exits in the date range, NetBackup selects the most recent backup. Optional.
  If not specified, NetBackup uses the current date.
- BackupId. The ID of the backup image to use for the restore, in *clientname_backuptime* format. The *backuptime* is the decimal number of seconds since January 1, 1970. Optional.
  If not specified, NetBackup uses the most recent backup image. If you specify a StartDate, EndDate, and a valid BackupId, NetBackup restores from the BackupId image.

Third section (required): The VMwareRestoreParameters section of the *filename* specifies the VMware attributes of the virtual disk to be restored. All of the fields in this section are optional; however, the section is required because

it also contains two required subsections. The following are the fields that describe the `VMwareRestoreParameters`:

- `vCenterServer`. The host name of the destination vCenter for the restore, in the same format as specified in the **NetBackup Virtual Server** credentials. Optional.
  To restore to a standalone ESXi hypervisor when the backup was through a vCenter, the value of this field must be `None`.
- `VMwareRecoveryHost`. The host that performs the restore. Optional.
  If not specified, NetBackup uses the backup host value from the backup image.
- `DefaultDiskProvisioning`. The default disk provisioning for all of the disks to be created in the restore VM: `thin`, `thick`, `eagerzeroed`, or `unknown`. Optional.
  For each disk, you can override this default by specifying a different `Provisioning` value in the `VMwareVirtualDiskDestination` section of the *`filename`*.
  If neither `DefaultDiskProvisioning` or `Provisioning` are specified, NetBackup uses the provisioning as specified in the backup.
- `TransportMode`. The transport mode combination to use for the restore as specified in lowercase, colon separated values: `hotadd:nbd:nbdssl:san`. The order of the specification is significant; NetBackup attempts each method in turn until the restore succeeds. If all methods fail, the restore fails. Optional.
  If not specified, NetBackup uses the transport mode combination that was used for the backup.

Fourth section (required): The `VMwareVirtualMachineDestination` section of the *`filename`* specifies the destination parameters for the restore. This section is subordinate to the `VMwareRestoreParameters` section. It contains the following fields:

- `VMName`. The unique display name of the new virtual machine for the restored disk or disks. The `nbrestorevm` command adds a timestamp to the name of the original VM client when it populates this field. The timestamp is the decimal number of seconds since January 1, 1970. Required.
  NetBackup restores the virtual machine disks to a new VM. Therefore, if this name conflicts with an existing display name, the restore fails.
- `AttachDisksToExistingVM`. Determines whether to restore the selected VMDKs to: an existing VM, a new VM, or replace all the VMDKs on an existing VM as follows:

- If the value is `Yes`, the VM specified in the `VMName` field must exist in the target vCenter or ESX server. If it does not exist, the restore fails with status code 2820.
- If the value is `No`, the VM specified in the `VMName` field must not exit in the target vCenter or ESX server. If it exists, the restore fails with status code 2820.
- If the value is `DeleteAllDisksAndReplace`, the VM specified in the `VMName` field must exist in the target vCenter or ESX server. If it does not exist, the restore fails with a NetBackup Status Code 2820.

The default value is `No`.

- `PowerOn`. Whether to turn on the target VM after the restore, as follows:
  - If the value is `Yes`, the target VM is powered ON at the end of a successful restore.
  - If the value is `No`, the target VM is not turned on after the restore.

  If the restore is to an existing VM, the VM is turned off before the virtual disks are attached to it during the restore.
  The default value is `No`.
- `Datacenter`. The name of the VMware **Datacenter** for the virtual disk, in pathname format. Optional.
  To restore to a standalone ESXi hypervisor when the backup was through a vCenter, the value of this field must be `None`.
  If not specified, NetBackup uses the value from the backup.
- `ESX`. The name of the ESX host to which NetBackup should restore the virtual disk. Optional.
  If not specified, NetBackup uses the value from the backup.
- `Folder`. The pathname of the VM folder to which NetBackup should restore the virtual disk. Optional.
  To restore to a standalone ESXi hypervisor when the backup was through a vCenter, the value of this field must be `None`.
  If not specified, NetBackup uses the value from the backup.
- `ResourcePool/Vapp`. The pathname of the resource pool to which NetBackup should restore the virtual disk. If the restore is to a vApp, specify the path of the vApp. Optional.
  If not specified, NetBackup uses the value from the backup.
- `VmxDatastore`. The name of the `Datastore` to which NetBackup should restore the `.vmx` configuration file and other VM configuration files. This Datastore is also used to create the configuration files for the temporary

VM created during restore. You may enclose the name in square brackets but do not have to. Optional.

If not specified, NetBackup uses the value from the backup.

- `DefaultDiskDatastore`. The datastore name to which NetBackup should restore all the virtual disks for **In-Place Disk Restore**. Optional. If not specified, NetBackup uses the value from the backup. This option is only valid for **In-place Disk Restore**. If this option is specified for other type of selective disk restore, it is ignored.

Fifth section (required, except when the `VMwareVirtualDestinationAttachDisksToExistingVM` parameter is `DeleteAllDisksAndReplace`. If this option is specified for **In-place Disk Restore**, the restore validation fails.): The `VMwareVirtualDiskDestination` section of the *`filename`* is an array that specifies the disks to restore and the restore parameters for those disks. This section is subordinate to the `VMwareRestoreParameters` section. It can contain one or more sets of the following fields, one set per virtual machine disk. A comma must separate fields in a set, and a comma must separate sets.

- `VirtualDisk`. The full pathname of the virtual disk to restore. This path must match exactly the path of the `.vmdk` file when it was backed up. Required.
- `OverwriteExistingDisk`. Whether to overwrite the existing virtual disk or disks on the target VM, as follows:
  - If the value is `Yes`, overwrite the original virtual disk and retain the disk UUID.
  - If the value is `No`, restore the virtual disk to the target VM as a new disk. VMware assigns a new UUID to the disk.

  The default value is `No`.
- `Datastore`. The name of the `Datastore` that is the destination for the restore. You may enclose the name in square brackets but do not have to. (VMware generates the `Datastore` pathname using the naming conventions for the VM.) Optional.

  For a restore of virtual disks to a datastore cluster, specify the name of the datastore cluster in this field.

  If not specified, NetBackup uses the value that is specified in the `Path` field. If neither `Datastore` or `Path` are specified, NetBackup uses the `Datastore` from the backup image.
- `Path`. The full pathname to the restore destination for the virtual disk, in the following format:

`[datastore_name] MyVM/MyVM.vmdk`

Optional.

If you specify a `Path` and it is not available or a disk already exists at that path, the restore fails. If neither `Datastore` or `Path` are specified, NetBackup uses the `Datastore` from the backup image.

- `Provisioning`. The disk provisioning for this specific disk: `thin`, `thick`, `eagerzeroed`, or `unknown`. Optional.

  If not specified, the NetBackup uses the `DefaultDiskProvisioning` value.

- `Controller`

  The virtual disk controller to which the disk is attached in the original VM. Optional

  This field is informational only to help you determine which virtual disk or disks to restore. The value is not used during a restore.

Sixth section (optional). The `VMwareAdvancedRestoreOptions` section of the file specifies parameters to restore to an existing VM. This section is subordinate to the `VMwareRestoreParameters` section.

- `DeleteRestoredVMOnError`. Whether to delete the temporary VM if the disk attach operation fails, as follows:
  - If the value is `Yes`, delete the temporary VM.
  - If the value is `No`, do not delete the temporary VM. If the disks are not successfully attached to the target VM, you can access the data on the temporary VM.

  The default value is `No`. Optional.

- `VMShutdownWaitSeconds`. For restores to an existing VM, the restore process shuts down the target virtual machine before it attaches the disk or disks. The duration of the shutdown operation depends on the VMware workload. Use this parameter to specify how long the restore process should wait for shutdown before giving up on restore.

  The default value is `900` seconds (15 minutes). Optional.

`-restorespecout` *filename*

Specifies the pathname of the file in which `nbrestorevm` writes the parameters of the individual virtual machine disk or disks that you want to restore. By default, `nbrestorevm` creates the file in the current working directory. To specify the backup image from which to obtain the parameters, use the `-backupid` option or the `-s` and `-e` options. If you specify the `-s` and `-e` options, NetBackup uses the most recent backup in that date range.

Edit the file so that it contains the appropriate information. Ensure that the `VMName` field contains the name for the new VM. Ensure that the `VMwareVirtualDiskDestination` section of the file contains only the virtual machine disk or disks that you want to restore. Use the edited file as the input file for the `-restorespec` option, which restores the virtual machine disk or disks that are identified in the file.

By default, `nbrestorevm` creates the file in the current working directory. To create the file in a different directory, specify a pathname for the *`filename`*. That path must be in the NetBackup allowed list of paths.

For more information on how to add a custom path, see the "BPCD_ALLOWED_PATH option for NetBackup servers and clients" topic in the NetBackup Administrator's Guide, Volume I.

`-S` *`master_server`*

Specifies a different master server to restore a virtual machine from a backup that was made by that master.

`-s` *`mm/dd/yyyy`* `[`*`hh:mm:ss`*`]` `-e` *`mm/dd/yyyy`* `[`*`hh:mm:ss`*`]`

Limits the selectable backup images to those with timestamps that fall within the specified period. NetBackup selects the latest suitable backup image within the range. Specifies the start date (-s) and end date (-e) for the listing. The start date and end date signify the time range to search for a valid backup image. The latest valid backup image within the specified time range is used to perform restores. These options are used with all functions except the BMR VM conversion.

`-temp_location` *`temp_location`*

Specifies a temporary datastore on the VM host server where all writes occur until the virtual machine is restored. All writes occur on this datastore until Storage vMotion is complete or until you are finished with the virtual machine (such as for troubleshooting). This datastore must exist before you run `nbrestorevm`. This option can be used only with `-ir_activate`. This option is used only with Instant Recovery.

`-validate -restorespec` *`filename`*

Validates the virtual machine disk restore parameters in the *`filename`*. The `-restorespec` option is required, and it must follow the `-validate` option.

For a description of the *`filename`*, see the `-restorespec` option description.

`-vcd`

Restores a vCloud virtual machine. This option is required when you restore to the original location or to an alternate location in vCloud.

`-vcdlfree`

Restores a vCloud virtual machine by using the datastore with the largest available space. This option applies only to the restore operations that are not directed to the original location.

`-vcdovw`

Overwrites the existing vCloud vApp.

`-vcdred`

Redirects the vCloud restore.

`-vcdremv`

Removes the vApp if you use the -vcdtemplate option to save the vApp as a template.

`-vcdrte`

Restores a vCloud virtual machine to an existing vCloud vApp. This option is required when you restore to an existing vApp including an original location restore.

`-vcdtemplate`

Restores a vCloud virtual machine as a template.

`-veconfig` *`ve_config_filepath`*

Full (absolute) file path that contains the virtual environment details in `param=value` format. A `veconfig` file typically contains the following entries:

```
esxhost="bmresx.xyz.com"
name="Test_NBRestoreVM"
network="VM Network"
nbrestorediskformat="ThinVdisk"
toolsIsoPath="C:\B2V\windows_esx5.iso"
datacenter="/Test/XyzDatacenter"
folder="/Test/XyzDatacenter/vm"
resourcepool="/Test/XyzDatacenter/host/bmresx.xyz.com/Resources/
resourcepoolname"
harddisk=0:"B2V_4TB"
harddisk=1:"storage1 (2)"
harddisk=2:"storage2 (1)"
```

The following are notes regarding these entries:

- The `folder`, `resourcepool`, and `diskformat` fields are optional.
- The VM conversion on a standalone `esx` server uses the following values:

  ```
  datacenter="ha-datacenter"
  resourcepool="/ha-datacenter/host/esx_host_name/Resources"
  ```

- To create all VMDKs corresponding to disks on the same datastore, define the datastore name by using the entry `datastore="`*`datastoreName`*`"`.
- To create VMDKs on different datastores, populate the `veconfig` file as shown in the sample file above (`harddisk=0`...).

`-vmbz`

Disk format of the restored disk will be 'eager zero'

`-vmfd`

Restores the VMDK files as flat disks.

`-vmhost` *`vm_host`*

Specifies the VM host on which the virtual machines were mounted when you reactivate virtual machines.

`-vmhv`

Restores a Hyper-V virtual machine at the original location.

`-vmhvnew`

Restores a Hyper-V virtual machine to a new location.

`-vmhvstage`

Restores Hyper-V virtual machine files to a staging location.

`-vmid`

Restores the BIOS UUID of the virtual machine instead of creating a new one.

For VMware: Restores the BIOS UUID of the virtual machine instead of creating a new one.

For Hyper-V: Restores the GUID of the virtual machine instead of creating a new one.

Note: For Hyper-V, when you restore to the original location or to a staging location, the virtual machine's original GUID is restored. This behavior is true even if the `vmid` option is omitted.

`-vmInstanceId`

Retains the Instance UUID of the original virtual machine (note that the Instance UUID is a vCenter specific unique identifier of a virtual machine). The virtual machine is restored with the same Instance UUID that it had when it was backed up.

If the restore of the virtual machine is to a standalone ESXi host, this option is ignored.

If a virtual machine with the same Instance UUID exists at the target restore location, NetBackup assigns a new UUID to the virtual machine.

`-vmkeephv`

Retains the hardware version upon recovery. This option applies only to VMware VM recovery.

`-vmnewdiskuuid`

Generate new virtual machine disk UUIDs during an instant recovery. Use this option with the `-ir_activate` option.

The VMs that activate with this option do not retain the new vmdk UUID during a subsequent `-ir_reactivate` operation. In such a scenario, the VMDKs revert to their UUIDs at the time of the backup.

`-vmncf`

Specifies that you do not want to restore the common files when you restore the Hyper-V virtual machine.

`-vmpo`

Automatically powers up the virtual machine after the restore operation.

`-vmproxy` *`VMware_access_host`*

Specifies the VMware access host. It overrides the default VMProxy used for backing up the virtual machines.

Storage lifecycle policies (SLPs) can use Auto Image Replication to replicate a virtual machine backup image to another NetBackup domain. To restore the virtual machine from the replicated image, you must include the `-vmproxy` option. Use the `-vmproxy` option to specify the backup host (access host) that is in the domain where the virtual machine was replicated.

`-vmrb`

Removes any mounted removable devices such as cd-rom or dvd-rom images.

`-vmserver` *`VMServer`*

Specifies a different target location for the restore operation (for example, ESX server or vCenter). It overrides the default VM server used for backing up the virtual machines. To restore to the same vCenter where the virtual machine originally resided, omit this option.

`-vmsn`

Strips the network interface of the virtual machine.

`-vmst`

Strips the VMware tags from the restore.

`-vmssp`

Strips the VM's storage policies from the restore.

`-vmtd`

Disk format of the restored disk will be 'thin'.

`-vmtm` *`vm_transport_mode`*

Specifies the VMware transport mode. An example of the format of *vm_transport_mode* is `san:hotadd:nbd:nbdssl`.

`-vmvmxd`

Allows the VMware VMDK files to be restored to the same datastore where the VMX file is specified. A rename file that assigns a different `vmdk` file path overrides this option.

`-vmw`

Restores a VMware virtual machine.

`-w [`*`hh:mm:ss`*`]`

Causes NetBackup to wait for a completion status from the server before it returns you to the system prompt.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *`install_path`*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the *NetBackup Administrator's Guide, Volume II*.

You can optionally specify a wait time in hours, minutes, and seconds. The maximum wait time you can specify is 23:59:59. If the wait time expires before the restore is complete, the command exits with a timeout status. The restore, however, still completes on the server.

If you specify 0 or do not specify a time, the wait time is indefinite for the completion status.

EXAMPLES

VSphere Examples

Example 1 - Restore the specified virtual machine from its latest backup image. If a VM with the same name already exists, this command fails.

```
# nbrestorevm -vmw -C client1
```

To overwrite an existing VM with its latest backup image, execute the following command:

```
# nbrestorevm -vmw -C client1 -O -S master_server
```

Example 2 - Restore a VM to an alternate location that *rename_file* specifies. The latest available backup image is selected from the range between start_time and end_time. The VM is powered on after the restore operation and is overwritten at the alternate location if it already exists.

```
# nbrestorevm -vmw -S server1 -C client1 -R rename_file -s start_time
-e end_time -vmpo -O
```

Example 3 - Restore a virtual machine to the original vApp in vCloud Director.

```
# nbrestorevm -vmw -S server1 -vcd -C vm_client -vmserver vm_server
-vmproxy vm_proxy -vcdrte
```

To restore multiple virtual machines into the original vApp, run this `nbrestorevm` command for each virtual machine.

Example 4 - Restore multiple virtual machines into a vApp template

Run the command in Example 3 to restore each of the virtual machines into a non-template vApp, but do not restore the last virtual machine.

To restore the last virtual machine and copy all the restored virtual machines into a vApp template, run the following command:

```
# nbrestorevm -vmw -S server1 -vcd -C vm_client -vmserver vm_server
-vmproxy vm_proxy -R rename_file -vcdtemplate -vcdremv -vcdlfree
```

`-R rename_file` is the full path to a text file that contains the following entry ending in a carriage return:

```
change vcdvapp to vApp_template_file
```

The `-vcdremv` option removes the non-template vApp into which you restored the virtual machines. The `-vcdlfree` option selects the datastore that has the largest available space. The `nbrestorevm` command in this example (with the rename file) creates a vApp template and copies the restored virtual machines into that template. No further virtual machines can be added to the template.

Example 5 - Restore a VM to an alternate location that *rename_file* specifies. The latest available backup image is selected from the range between *start_time* and*end_time*. The operation powers on the VM after the restore operation and overwrites the VM at the alternate location if it already exists.

```
nbrestorevm -vmhvnew -S srvr1 -C client1 -R rename_file -s start_time
-e end_time -O
```

Example 6 - Restore VM files from the latest backup to the staging location.

```
# nbrestorevm -vmhvstage -C vm_client -R rename_file
```

BMR Example

Example 7 - Perform a BMR VM conversion of a client configuration to a VM server and power on the converted VM:

```
# nbrestorevm -bmr -vmw -C client1 -vmserver VmServer1
-vmproxy d86-12.xyz.com -veconfig C:\B2V\veconfig.txt -O -vmpo
```

Instant Recovery Examples

Example 8 - Perform a set of `nbrestorevm` commands in a typical sequence of Instant Recovery operations.

Initiate Instant Recovery by activating the virtual machine. Required parameters are shown. Other optional parameters are shown in Synopsis.

VMware example:

```
# nbrestorevm -vmw -ir_activate -C client1 -temp_location temploc1
```

List details about the activated virtual machine.

```
# nbrestorevm -ir_listvm
```

Deactivate or delete virtual machine whose `ir_identifier` is `26`.

```
# nbrestorevm -ir_deactivate 26
```

Complete the VM instant recovery job for `ir_identifier` 14 after the data is migrated.

```
# nbrestorevm -ir_done 14
```

Reactivate VM with `ir_identifier` 11 or reactivate all virtual machines that are interrupted during recovery.

```
# nbrestorevm -ir_reactivate 11 -force
```

or

```
# nbrestorevm -ir_reactivate_all -vmhost host1 -media_server msvm2 -force
```

SEE ALSO

See bprestore on page 386.

nbseccmd

nbseccmd – run the NetBackup Security Configuration service utility

SYNOPSIS

nbseccmd -disableMPA

nbseccmd -drpkgpassphrase

nbseccmd -getNBKeysize [-server *master_server_name*] [-json]

nbseccmd -getpassphraseconstraints [-workflow | -w *NetBackup workflow type*] [-json]

nbseccmd -getsecurityconfig [[-autoaddhostmapping] | [-insecurecommunication] | [-dteglobalmode] | [-dtemediamode -mediaserver *media_server_name*] | [-externalcertidentity] | [-auditretentionperiod]] [-masterserver *master_server_name*]

nbseccmd -nbcaList [-state *value*] [-json]

nbseccmd -nbcaMigrate -initiateMigration | -i -keysize *key_value* -activateNewCA | -a -completeMigration | -c -decommissionCA | -d -fingerprint *certificate_fingerprint* -summary | -s -hostsPendingTrustPropagation | -pt -syncMigrationDB | -S -hostsPendingRenewal | -pr [-reason *description_for_auditing*] [-json] [-force] [-quiet]

nbseccmd -resetMFA -userinfo *domainType:domainName:userName*

nbseccmd -setpassphraseconstraints [-workflow | -w *NetBackup workflow type*] [-lowercase | -l *minimum required lowercase characters*] [-uppercase | -u *minimum required uppercase characters*] [-specialcharacter | -s *minimum required special characters*] [-digit | -d *minimum required digits*] [-minlength | -ml *minimum required passphrase length*]

nbseccmd -setsecurityconfig [[[-autoaddhostmapping | -insecurecommunication] off|on] | [-dteglobalmode 0|1|2] | [-dtemediamode off|on -mediaserver *media_server_name*}] | [-externalcertidentity dn|cn] | [-auditretentionperiod *number_of_days*]] [-masterserver *master_server_name*]

nbseccmd -setuptrustedmaster -add | -update | -remove -masterserver *master_server_name* -remotemasterserver *remote_master_server* [-domainname *domain_name*] [-username *username*] -fpfile *filename*

nbseccmd -setuptrustedmaster –add | -update | -remove -info *answer_file*

nbseccmd -help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

Use the nbseccmd command to establish trust relationships among various primary servers or to change the security configuration of the source primary server.

You must have root or administrator permissions to use this command if NetBackup Access Control (NBAC) is enabled.

Note: If the source or the target primary server version is NetBackup 8.0 or earlier, please refer to the *NetBackup Commands Guide* for 8.0 or earlier. The command underwent a number of changes for NetBackup 8.1.

OPTIONS

-activatenewca | -a

Use this option to activate the new NetBackup CA that can start issuing NetBackup certificates going forward.

-auditretentionperiod *number_of_days*

Specifies the number of days to retain user actions for the audit report. If no retention period is indicated, the default audit retention period is 90 days. A value of 0 (zero) indicates that the records are never purged. The value for the auditretentionperiod option must be either 0 or more than 27.

If multiperson authorization is enabled for security properties operation, a ticket is generated. This ticket, when approved, sets the specified audit retention period.

`-autoaddhostmapping [on|off]`

Use this option to manage the addition of host ID to the host name or the IP addresses that the master server automatically detects.

Hosts may have multiple host names or IP addresses associated with them. For successful communication among hosts, all relevant host names and IP addresses must be mapped to the respective host IDs. During communication, NetBackup may detect new host names or IP addresses with respect to a host ID.

When you use the `-getsecurityconfig`, the option takes no parameters, and reports the current setting for the `-autoaddhostmapping` value.

When you used the `-setsecurityconfig` option, this option enables or disables automatic host mapping. Use the `on` parameter to automatically map the host ID to the host name or the IP addresses detected. Disable this action with the `off` parameter.

If multiperson authorization is enabled for security properties operation and this option is used with the `-setsecurityconfig` option, a ticket is generated. This ticket, when approved, sets the specified security configuration attribute.

`-completeMigration | -c`

Use this option to complete the NetBackup CA migration process that cleans up the migration status on the master server.

`-decommissionCA | -d`

Use this option to decommission the NetBackup CA with the given fingerprint.

`-digit | -d`

Specifies the minimum number of digits that are supposed to be in the passphrase.

`-disableMPA`

Use this option to disable multi-person authorization for all operations.

`-domainname` *`domain_name`*

Specifies the domain to which the user that is specified in `-username` belongs. You are prompted to enter a password to validate the credentials of the remote master server host.

The `-domainname` option is mandatory for a target master server that uses NetBackup certificates.

`-drpkgpassphrase`

The `-drpkgpassphrase` option is used to specify the passphrase that is used to encrypt disaster recovery packages. If a passphrase already exists, it is overwritten.

Note: You must set the passphrase for successful catalog backups. Failure to set the passphrase results in failed catalog backups.

The disaster recovery package stores the identity of the NetBackup master server and is created during each catalog backup.

These packages are encrypted with the passphrase that you specify here. You must provide this passphrase when you reinstall NetBackup on the master server after a disaster.

Before using this command, you must run the `bpnbat` command to log on:

```
bpnbat -login -loginType WEB
```

When you set the passphrase, please note:

- If you have not set the passphrase constraints using the `-setpassphraseconstraints` option, the passphrase must contain a minimum of eight characters and a maximum of 1024 characters. If the passphrase constraints are set, ensure that all those constraints are met.
- The existing passphrase and the new passphrase must be different.
- You must be an authorized user with administrator or root privileges to run the `nbseccmd -drpkgpassphrase` command.
- Only the characters that are listed are supported for the passphrase:
  - White spaces
  - Uppercase and lowercase characters (A to Z, a to z)
  - Numbers (0 to 9)
  - The special characters shown: ~ ! @ # $ % ^ & * ( ) _ + - = ` { } [ ] | : ; ' " , . / ? < >

Caution: If you enter an unsupported character, you may face issues during disaster recovery package restore. The passphrase may not be validated and you may not be able to restore the disaster recovery package.

`-dteglobalmode 0|1|2`

Specifies the data-in-transit encryption mode that is to be set at the global level. The `-dteglobalmode` option can have the following values:

- `0` or `PREFERRED_OFF`: Specifies that the data-in-transit encryption is disabled in the NetBackup domain. Change the NetBackup client setting to override this value.

- `1` or `PREFERRED_ON`: Specifies that the data-in-transit encryption is enabled only for NetBackup 9.1 and later clients. Change the NetBackup client setting to override this value.
- `2` or `ENFORCED`: Specifies that the data-in-transit encryption is enforced if the NetBackup client setting is either `Automatic` or `On`. With this option selected, jobs fail for the NetBackup clients that have the data-in-transit encryption set to `Off` and for the hosts earlier than 9.1. By default, data-in-transit encryption for NetBackup 9.1 clients is set to `Off`. For NetBackup 10.0 and later clients data-in-transit encryption is set to `Automatic`.

If multiperson authorization is enabled for security properties operation and this option is used with the `-setsecurityconfig` option, a ticket is generated. This ticket, when approved, sets the specified security configuration attribute.

If multifactor authentication is configured for your user account, NetBackup may prompt you to reauthenticate yourself before you perform the `-setsecurityconfig` operation with the `-dteglobalmode` option. Reauthenticate yourself by entering the one-time password that is displayed in the authenticator application on your smart device.

`-dtemediamode off|on -mediaserver` *`media_server_name`*

Use this option to disable DTE for a particular media server that is involved in a data transfer job. You can change or view the DTE media server settings with the `nbseccmd` command on the primary server.

`-externalcertidentity dn|cn`

Use this option to change the unique certificate identification attribute for external CA-signed certificate. If the option is set to `dn`, the complete distinguished name of the certificate is treated as a unique attribute. If the option is set to `cn`, only the common name of the certificate is treated as a unique identification attribute.

If multiperson authorization is enabled for security properties operation and this option is used with the `-setsecurityconfig` option, a ticket is generated. This ticket, when approved, sets the specified security configuration attribute.

`-fingerprint` *`certificate_fingerprint`*

Specifies the fingerprint of the NetBackup CA that needs to be decommissioned. Use this option with `-decommissionCA`. The fingerprint can be of SHA-1 or SHA-256 algorithm.

`-fpfile` *filename*

This option accepts the root certificate fingerprint information that is required for validating the root certificate of the remote master server. You can store the fingerprint details in a text file.

`-force`

Suppresses the confirmation prompts. The `-force` option skips the check for the hosts awaiting trust propagation or certificate renewal. The `-force` option activates the new CA and completes the migration. Use this option with `-completeMigration` and `-activatenewCA`.

`-getNBKeysize` *master_server_name*

Retrieves the key size for the NetBackup CA for the given master server.

`-getpassphraseconstraints` *workflow*

Retrieves the passphrase constraints for a specific workflow. Lists the passphrase constraints for all workflows if the workflow is not specified.

`-getsecurityconfig -autoaddhostmapping | -insecurecommunication | externalcertidentity | -auditretentionperiod`

Use this option to get the security configuration information for NetBackup. When you use the `-autoaddhostmapping` option, you get the value for the `-autoaddhostmapping` option. When you use the `-insecurecommunication` option, you get the value for the `-insecurecommunication` option. When you use the `-externalcertidentity` option, you get the value for the `-externalcertidentity` option. When you use the `-auditretentionperiod` option, you get the value for `-auditretentionperiod` option.

`-hostsPendingRenewal | -pr`

Use this option to retrieve the list of hosts that require certificate renewal.

`-hostspendingtrustpropagation | -pt`

Use this option to retrieve the list of hosts that do not have the required CA certificates in their trust stores.

`-info` *answerfile*

The `-info` option accepts the information that is required for setting up a trusted master server. The information is stored in an answer file, which is a text file. It contains the following entries:

```
masterserver:
remotemasterserver:
trusttype:
domainname:
username:
password:
```

```
token:
fpfile:
```

The `password` is optional in the answer file. If you do not provide a password, you are prompted for the password when you run the command.

Note: The `trusttype` value is valid only for master servers at version 8.0 and earlier. Possible values for `trusttype` are `mutualtrust`, `remoteonly`, and `localonly`. The `trusttype` of `localonly` does not require a domain name or user credentials.

The entries in your answer file must match the format that is shown in the example.

```
Example sample file:

masterserver:testmaster1
remotemasterserver:testmaster2
trusttype:mutualtrust
domainname:testdomain
username:Administrator
password:abc123
```

`-initiateMigration | -i`

Use this option to initiate the NetBackup certificate authority (CA) migration. It sets up a new CA for NetBackup with the specified certificate key size. The new CA runs in a stand-by mode until the CA is activated or the migration status moves to `ACTIVATED`.

This operation does not change the root CA.

Before initiating the CA migration, confirm that you do not have media servers with NetBackup versions 8.1.2.1 or earlier that are configured as cloud storage servers. Backups on these media servers fail.

`-insecurecommunication [on | off]`

Use this option to manage insecure communication within your NetBackup environment. The `on` parameter enables insecure communication with all NetBackup hosts that are present in the NetBackup environment. Disable insecure communication with the `off` parameter.

Veritas implemented new security features in 8.1 which are not present in NetBackup 8.0 and earlier. NetBackup communicates with 8.0 and earlier hosts insecurely. For increased security, upgrade all your hosts to the current version

of NetBackup, and then use this option with the `on` parameter. This action ensures that only secure communication is possible between NetBackup hosts.

If multiperson authorization is enabled for security properties operation and this option is used with the `-setsecurityconfig` option, a ticket is generated. This ticket, when approved, sets the specified security configuration attribute.

`-json`

Prints the data in JSON format on a single line.

`-keysize` *`key_value`*

Use this option with the `-initiateMigration` option to specify the certificate key size for a new NetBackup CA that you want to set up. The key size must be one of the sizes shown: 2048, 4096, or 8192.

Caution: You should carefully choose the key size for your environment. Choosing a large key size may reduce performance. You should consider all factors to determine the correct key size for your environment.

`-lowercase | -l`

Specifies the minimum number of lowercase characters that are supposed to be in the passphrase.

`-masterserver` *`master_server_name`*

Specifies the name of the master server that the user has logged into. Auto Image Replication uses this name for the current master server or the source master server.

`-minlength | -ml`

Specifies the minimum required length of the passphrase.

`-nbcamigrate`

Migrates the existing NetBackup CA to a new one.

`-nbcaList`

Use this option to list the NetBackup CAs in your NetBackup domain.

`-resetMFA`

Reset multifactor authentication (MFA) of a specific NetBackup user. After the reset, the user can reconfigure multifactor authentication, if required. Only privileged users such as root or administrator can reset multifactor authentication for other NetBackup users.

`-quiet`

Suppresses the prompt message to proceed further. You can use this option with the `-initiateMigration` option.

`-reason` *description_for_auditing*

Specifies the reason that is stored in the audit record for this operation.

`-remotemasterserver` *remote_master_server*

Specifies the name of the remote master server with whom the trust is to be established. Auto Image Replication uses this name for the target master server.

`-remoteonly | -localonly | -mutualtrust`

Specifies the way that a trust must be established. Either the local master (source) trusts the remote master (target) or vice versa. If neither of these options is specified, a two-way trust (`-mutualtrust`) is established.

`-setpassphraseconstraints`

Sets the passphrase constraints for a specific NetBackup workflow. For example disaster recovery (DR) package.

`-setsecurityconfig -autoaddhostmapping | -insecurecommunication | externalcertidentity | -auditretentionperiod` *number_of_days*

Use this option to set the security configuration information for NetBackup. When you use the `-autoaddhostmapping` option, you set the behavior for the addition of host names and IP addresses. When you use the `-insecurecommunication` option, you set the behavior for secure communication. When you use the `-externalcertidentity` option, you set the behavior for unique external certificate identification attribute. When you use the `-auditretentionperiod` *number_of_days* option, you specify how long audit records are retained for the audit report.

If multiperson authorization is enabled for security properties operation and `-setsecurityconfig` option is used with any of the above four options, a ticket is generated. This ticket, when approved, sets the specified security configuration attribute.

If multifactor authentication is configured for your user account, NetBackup may prompt you to reauthenticate yourself before you perform the `-setsecurityconfig` operation with any of the previous four options. Reauthenticate yourself by entering the one-time password that is displayed in the authenticator application on your smart device.

`-setuptrustedmaster -add | -update | -remove`

Add, update, or remove inter-domain trust across master servers. To update a trust relationship, run the `-update` option on both the source and the target server. Both servers must be on version 8.1. or later. You must use the `-update` option if after you establish a trust, you upgrade the source or the target master server to version 8.1 or later. To remove a trusted master server, the domain, user name, and password are not required.

You can update the trust with external certificate to the trust with NetBackup certificate and vice versa.

You must run the `bpnbat` command to remove a trusted master before you can use the `-setuptrustedmaster` option. Log on locally on the master server you want to remove and use the `bpnbat` command as shown: `bpnbat -login -loginType WEB`

The user that is specified during the `bpnbat -login -loginType WEB` operation should have permissions equivalent to the **Default Security Administrator** role in NetBackup RBAC.

To remove the trust that is added using an external certificate, you do not need to run the `bpnbat -login` command.

If your user account is configured for multifactor authentication on the target host, append the appropriate one-time password to the password.

`specialcharacter | -s`

Specifies the minimum number of special characters that are supposed to be in the passphrase.

`-state` *value*

Use this option with the `-nbcaList` option to retrieve NetBackup CAs of a particular state, for example: `ACTIVE`, `ABANDONED`, or `DECOMMISSIONED`. Use comma-separated states to filter the result with more than one state.

`-summary`

Retrieves the NetBackup CA migration information. It shows the current NetBackup CA migration status and the fingerprint of the current certificate-issuing NetBackup CA.

`-syncMigrationDB | -S`

Updates the CA migration database with the current NetBackup CA certificate details.

`-uppercase | -u`

Specifies the minimum number of uppercase characters that are supposed to be in the passphrase.

`-userinfo` *domainType:domainName:userName*

Information of the user for whom you want to reset multifactor authentication. Specify domain type (such as NT, VX, or UNIXPWD), domain name, and username. If the domain type is `unixpwd`, the domain name can be blank (`unixpwd::username`). In case of other domain types, the domain name must be provided.

`-username` *username*

Specifies the logon user name of the remote master server host. This option is used with the `-domainname` option. You are prompted to enter a password to validate the credentials of the remote master server host. If you specify only the domain name, you are prompted to enter the Authorization Token of the remote master server.

The `-username` option is mandatory for the target master server that uses NetBackup certificate.

`-workflow | -w`

Specifies the NetBackup workflow for which you want to set a passphrase. For example to set a passphrase for DR package, the value of the `-workflow` option should be set to `DR_PKG`.

EXAMPLES

Example 1 - Set up a trusted master server using user credentials.

```
nbseccmd -setuptrustedmaster -add -masterserver testmaster1
-remotemasterserver testmaster2 -domainname testdomain -username
Administrator
Password:******

The SHA1 fingerprint of root certificate is
C7:87:7F:9D:13:B4:67:F6:D9:65:F4:95:EC:DC:D4:50:8C:20:18:BF.

Are you sure you want to continue using this certificate ? (y/n): y

The validation of root certificate fingerprint is successful.
CA certificate stored successfully from server testmaster2.
testdomain.com.
Host certificate received successfully from server testmaster2.
testdomain.com.
Trusted master operation successful.
```

Example 2 – Set up a trusted master server using authentication token.

```
nbseccmd -setuptrustedmaster -add -masterserver testmaster1
-remotemasterserver testmaster2 -domainname testdomain
Authorization Token:*****
The SHA1 fingerprint of root certificate is
C7:87:7F:9D:13:B4:67:F6:D9:65:F4:95:EC:DC:D4:50:8C:20:18:BF.
Are you sure you want to continue using this certificate ? (y/n): y
The validation of root certificate fingerprint is successful.
```

```
CA certificate stored successfully from server testmaster2.
testdomain.com.
Host certificate received successfully from server testmaster2.
testdomain.com.
Trusted master operation successful.
```

Example 3 - Set up a trusted master server using `-fpfile`.

```
nbseccmd -setuptrustedmaster -add -masterserver testmaster1
-remotemasterserver testmaster2 -domainname testdomain -username
Administrator
-fpfile C:\fp_file

Password:******

The validation of root certificate fingerprint is successful.
CA certificate stored successfully from server testmaster2.
testdomain.com.
Host certificate received successfully from server testmaster2.
testdomain.com.
Trusted master operation successful.
```

Example 4 - Set up a trusted master server using an answer file.

```
nbseccmd -setuptrustedmaster -add -info C:\nbseccmd_answerfile.txt

The validation of root certificate fingerprint is successful.
CA certificate stored successfully from server testmaster2.
testdomain.com.
Host certificate received successfully from server testmaster2.
testdomain.com.
Trusted master operation successful.
```

Example 5 - Update trust after you upgrade both the source and the master server to version 8.1 and later.

```
-setuptrustedmaster -update -masterserver testmaster1 -remotemasterserver
testmaster2
Authorization Token:
Authenticity of root certificate cannot be established.
The SHA1 fingerprint of root certificate is finger_print_details
Are you sure you want to continue using this certificate ? (y/n): y
The validation of root certificate fingerprint is successful.
CA certificate stored successfully from server testmaster2.
```

```
Host certificate received successfully from server testmaster2.
Trusted master operation successful
```

Example 6 - Remove a trusted master server.

```
-setuptrustedmaster -remove -masterserver testmaster2 -remotemasterserver
testmaster1

Certificate revoke request processed successfully.
Trusted master operation successful
```

nbserviceusercmd

nbserviceusercmd – used to change the service user, and grant or revoke access to NetBackup Services on the NetBackup installation directory, depending on the operating system

SYNOPSIS

UNIX synopsis

nbserviceusercmd --changeUser

Windows synopsis

nbserviceusercmd -addAcl | -removeAcl -all | -catalog | -cluster -reason *audit_reason* [-skip_catalog] [-force]

nbserviceusercmd -addAcl|-removeAcl *path1 path2...* -reason *reason*

nbserviceusercmd -changeUser LocalSystem | LocalService | *DOMAIN**Administrator_user* [-force]

nbserviceusercmd -checkStatus

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/goodies/

On Windows systems, the directory path to this command is *install_path*\bin\goodies\

DESCRIPTION

On UNIX, you can only use the nbserviceusercmd command to change the service user.

On Windows, use the nbserviceusercmd command to grant or revoke access to the NetBackup services on the NetBackup installation directory as well as to change the service user.

Be aware that the nbserviceusercmd command is not supported on Flex Appliance, NetBackup Flex Scale, and NetBackup on any Kubernetes Service platform. The Kubernetes Service platforms include Azure Kubernetes Service (AKS), Amazon Elastic Kubernetes Service (EKS), etc.

Note: You must stop all the NetBackup services or daemons before you change the service user.

Before you change the service user with the `-changeUser` option on a Windows primary server, you must first run `nbserviceusercmd -addAcl -catalog -reason audit_reason`.

This requirement is to make sure that permissions on image catalog are updated before you change the user. This operation may take significant time to complete based on the size of the image catalog.

Run the `-addAcl -catalog` option before you stop the services.

REQUIREMENTS

Before you change the service user, the NetBackup services or daemons must be offline.

To change the service user

1. (Conditional) On a clustered server, confirm that the cluster resources are offline. For more information, refer to the NetBackup Clustered Primary Server Administrator's Guide.
2. Stop all NetBackup services or daemons.
3. Change the service user with the `changeUser` option.
4. (Conditional) On a clustered server, run the command on all nodes in the cluster after you change the service user on the active node.

After you change the service user, confirm the disaster recovery (DR) path that is specified in the catalog policy has the required permissions.

To update the disaster recovery path permissions

1. (Conditional) On a clustered server, confirm that the cluster resources are online. For more information, refer to the NetBackup Clustered Primary Server Administrator's Guide.
2. Start the NetBackup services or daemons.
3. (Conditional) On UNIX, grant the required access to the service user on the DR path.
4. (Conditional) On Windows, run the command that is shown on all servers:

   `nbserviceusercmd -addAcl DR_path -reason audit_reason`
5. Veritas recommends that you take an immediate catalog backup.

For NetBackup Access Control (NBAC) users: If NBAC is configured on the host and you changed the service user to a non-root or `LocalService` user, you must update the Global Security Administrator group.

To update Global Security Administrator group

1. Confirm that all NetBackup services are up and running.
2. Run the command that is shown to add the current service user to the Security Administrators group:

   ```
   vssaz addazgrpmember --azgrpname "Security Administrators"
   --prplinfo ATP,atdomain,new service user
   ```

   For more information about how to add the user principle in Global Security Administrator group, refer to the NetBackup Security and Encryption Guide.

OPTIONS

`-addAcl`

(Windows only) Grants access to NetBackup services on the NetBackup installation directory.

`-all`

(Windows only) Specifies that the operation is to be performed on all files and folders in the NetBackup installation directory. In a clustered environment, the image catalog database and the cluster-specific files are included in these files and folders.

This option skips the image catalog database if `CATALOG_PERMISSIONS_UPDATED` is set to `TRUE` in the NetBackup configuration.

`-catalog`

(Windows only) Specifies that the operation is to be performed only on the image catalog database. This option cannot be used with the `-skip_catalog` option.

This option skips the image catalog database if `CATALOG_PERMISSIONS_UPDATED` is set to `TRUE` in the NetBackup configuration.

`--changeUser`

(UNIX only) Use this option to change the service user of a UNIX computer. This option changes the service user for non-privileged NetBackup daemons so that they can start in service user context. You must stop all NetBackup daemons to run this option. The option supports both root and non-root service user types. Use this option to change users as shown:

- Root to non-root

- Non-root to root
- Non-root to non-root

Give the user name only when prompted and not as argument-value. You are limited to three attempts and then you must run the command again. Only the root user can run this option.

Note: Veritas recommends that the service user is an account with limited privileges. Veritas recommends that you do not use the root user or an `nbwebsvc` user as service user. The service user must be part of the `nbwebgrp` group on the NetBackup primary server.

`-changeUser`

(Windows only) Use this option to change the service user. The command supports the service user types shown:

- `LocalSystem`
  Changes the service user to `NT AUTHORITY\SYSTEM`.
- `LocalService`
  Changes the service user to `NT AUTHORITY\LocalService`.
- *`Domain\Administrator_user`*
  Prompts for the password of the specified administrator user and grants the required privileges to the user.

`-checkStatus`

(Windows only) Use this option to verify the status of the permissions update on the image catalog on the NetBackup primary server.

`-cluster`

(Windows only) Specifies that the operation is to be performed only on cluster-specific files.

This option skips the image catalog database if `CATALOG_PERMISSIONS_UPDATED` is set to `TRUE` in the NetBackup configuration.

`-force`

(Windows only) Use this option to forcefully grant, revoke, or update permission on the image catalog or to redo the permissions update. This option may take significant time for large catalog image databases. This option cannot be used with the `-skip_catalog` option.

For example: If the old service user is `NT AUTHORITY\LocalService` and you want to change the service user back to `NT AUTHORITY\LocalService` use the `-force` to again grant or revoke access to the NetBackup services forcefully.

`-reason`

(Windows only) Specifies the reason of the operation. It is stored in the audit record.

`-removeAcl`

(Windows only) Revokes access to NetBackup services on the NetBackup installation directory.

`-skip_catalog`

(Windows only) Specifies that the operation is not to be performed on the image catalog database.

You cannot use this option with the `-catalog` or the `-force` options.

nbsetconfig

`nbsetconfig` – update a NetBackup configuration

SYNOPSIS

nbsetconfig [-h *host*] [-u *user*] [*filename*,...] [-r "*reason*"]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `nbsetconfig` command is used to update a configuration. This command is available for all NetBackup platforms.

You must have administrator privileges to run this command.

OPTIONS

filename,...
: Specifies the file or files where the updates are listed. If not specified, the standard input is read.

-h *host*
: Specifies the host name of the server or client whose configuration you update.

-r "*reason*"
: Indicates the reason why you choose this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("..."). The string must not exceed 512 characters. It cannot begin with a dash character (-) nor contain a single quotation mark (').

-u *user*
: Specifies the user whose configuration you update.

EXAMPLE

Set the NetBackup configuration on the system to the designated servers. The master server is `yellow.colors.org` and the media server is `orange.colors.org`.

```
# nbsetconfig
SERVER = yellow.colors.org
SERVER = orange.colors.org
```

To escape on UNIX, press:

```
Ctl+D
```

To escape on Windows, press:

```
Ctl+Z
```

SEE ALSO

See nbgetconfig on page 718.

See bpgetconfig on page 162.

See bpsetconfig on page 420.

nbshvault

`nbshvault` – performs the data vaulting operations according to the Sheltered Harbor specification

SYNOPSIS

nbshvault -h | --help

nbshvault -b [*filename*] | -b *filename* [--force] | -b [*filename*] [--config-dir *config-dir-path*] [--force]

nbshvault -r [*filename*] | -r [*filename*] [--config-dir *config-dir-path*]

nbshvault --report | --report -n | --report -n *number*[--config-dir *config-dir-path*]

nbshvault --show-config -i *institution ID* [--config-dir *config-dir-path*]

nbshvault –register -i *institution ID* -reg-key *registration ID* [--config-dir *config-dir-path*]

nbshvault --attest [-k *keyword*] -i *institution ID* [--config-dir *config-dir-path*]

nbshvault --configure [*filename*] [--config-dir *config-dir-path*]

nbshvault --generate-template -path *path*

nbshvault --export-key -i *institution ID* -path *path* [--config-dir *config-dir-path*]

nbshvault --import-key -i *institution ID* -key-file *filename* [--config-dir *config-dir-path*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

Use the `nbshvault` command to perform NetBackup Sheltered Harbor solution data vaulting operations. Possible data vaulting operations include configuration,

registration, backup, and restore operations. You can perform these operations in either interactive mode or non-interactive mode.

In interactive mode, you must specify the inputs manually on console. The data vaulting operations are performed using an interactive CLI process.

In non-interactive mode, the inputs are given in a JSON file. The JSON file name is passed as an argument to command line. The data vaulting operation goes into interactive mode if you do not specify the JSON file name in the command.

OPTIONS

`--attest`

Use this option to attest the backup message with the provided institution ID or the keyword. If the institution ID or the keyword is not provided, attestation is done for the latest backup. If you have provided the `config-dir` option during configuration, use the `config-dir` option also to attest the backup message.

`-b | --backup`

Reads the configuration that is provided in the given backup JSON file and backs up the data as per the Sheltered Harbor compliance specifications. If the file name is not provided, you must provide the inputs when prompted by the interactive CLI process. If you provided the `config-dir` option during configuration, you must use the `config-dir` option also to back up the data. Use the force option to continue the backup even if attestation for last backup failed.

`--config-dir` *`config-dir-path`*

Use this option to provide a custom configuration directory to store the solution configuration.

`--configure`

Use this option to add the configurations that are related to NetBackup, Vault, and KMS from the specified file. If the file name is not provided, you must provide the inputs as prompted by the interactive CLI process. You can also use the `config-dir` option at the time of configuration to specify the custom path for configuration files.

`--export-key`

Use this option to copy the attestation message signing key from the NetBackup path to the specified path. If the institution ID and path are not provided you must provide the inputs as prompted by the interactive CLI process. If you provided the `config-dir` option during configuration, use the `config-dir` option to copy the signing key of the attestation message from the custom path to the specified path.

`--force`

Use this option to continue the backup even if attestation for the last backup failed.

`--generate-template`

Generates the JSON templates for the configure, backup, and restore options. The JSON templates are created at the specified `-path` location.

`-h | --help`

Displays the usage of the utility.

`-i` *`institution ID`*

Institution ID of a given financial institution for which you want to configure the solution.

`--import-key`

Use this option to copy the attestation message signing key from the specified path to the NetBackup path. If the institution ID and key file are not provided, you must provide the inputs as prompted by the interactive CLI process. If you provided the `config-dir` option during the configuration use the `config-dir` option to copy the signing key of the attestation message from the specified path to the custom path.

`-k` *`keyword`*

The keyword phrase that was used during the backup for the solution. It is seen in the report option.

`-n` *`number`*

The number of records that are present in the report option.

`-path` *`path`*

The path where the attestation message signing key is exported.

`-reg-key` *`registration ID`*

The registration ID that Sheltered Harbor has provided to each financial institution.

`-r | --restore`

Reads the configuration that is provided in the given restore JSON file and performs data restoration as per the Sheltered Harbor compliance specifications. If the file name is not provided, you must provide the inputs as prompted by the interactive CLI process. If you have provided the `config-dir` option during configuration, you must use the `config-dir` option also to restore the data.

`--register`

Use this option to register the institution with Sheltered Harbor using the institution ID and the registration ID provided by Sheltered Harbor. If the

institution ID and registration ID are not provided, you must provide the inputs as prompted by the interactive CLI process. If you have provided the `config-dir` option during configuration, you must use the `config-dir` option also to register the institution with Sheltered Harbor.

`--report`

Displays the latest given number of records for backup or restore operation in report. Default number is 10. If you have provided the `config-dir` option during the configuration, you must use `config-dir` to display the latest given number of records for backup or restore operation.

`--show-config`

Use this option to view the configuration of given institution ID in Sheltered Harbor solution. If you have provided the `config-dir` option during configuration, you must use the `config-dir` option also to view the configuration for a given institution ID.

EXAMPLES

Example 1: Perform the backup operation.

```
nbshvault -b
This command backs up the data as per the Sheltered Harbor compliance
specifications. Do you want to continue? [y,n] (y)
Enter the institution ID provided by the Sheltered Harbor:
Enter the input storage path:
Enter the transfer storage path:
```

Example 1: Perform the restore operation.

```
nbshvault -r
This command performs data restoration as per the Sheltered Harbor
compliance specifications. Do you want to continue? [y,n] (y)
Enter the institution ID provided by the Sheltered Harbor:
Enter the recovery storage path:
Enter the restored data storage path:
```

nbsmartdiag

nbsmartdiag – detects performance issues for registered NetBackup processes and collects appropriate troubleshooting information.

SYNOPSIS

nbsmartdiag -install

nbsmartdiag -uninstall

nbsmartdiag -start

nbsmartdiag -terminate

nbsmartdiag -version

nbsmartdiag -help

nbsmartdiag -list_config

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbsmartdiag utility detects performance issues such as CPU utilization, memory usage, and deadlocks for the registered NetBackup processes. When nbsmartdiag detects these issues, it begins to collect the appropriate evidence for further troubleshooting without any user intervention.

This utility is designed to collect evidence to assist with troubleshooting. Veritas recommends that you stop the utility once the evidence is collected.

The nbsmartdiag utility runs as Local System or root.

The behavior of the utility is defined by modifying bp.conf or registry values. The bp.conf file values are set on the master server with the bpsetconfig command or the nbsetconfg command on client.

After the configuration is complete, start the service with the nbsmartdiag -start command. On Windows you can also start the utility from Service Control Manager.

The evidence is gathered in the nbsmartdiag folder at the location that is specified in the NBSD_EVIDENCE_PATH value. For each instance of the process, there is a

subfolder inside the process name folder. Under that process ID folder, the evidence is collected for each occurrence of an event.

Java processes have a common run-time name. To monitor the NetBackup Administrative Console use `adminconsole`. For NetBackup Web Management Service use `nbwmc` in the process names.

Table A-2 bp.conf values and Windows registry key names

Value	Details
`NBSD_POLL_INTERVAL`	■ Description Interval in seconds after which the service checks the process. ■ Registry key type `DWORD` ■ Default value 600
`NBSD_DUMP_COUNT`	■ Description Number of dumps to take once threshold is detected. ■ Registry key type `DWORD` ■ Default value 3 Valid range for this value is 0 to 10. Any invalid input results in this value being reset to the default.
`NBSD_MONITOR_CPU`	■ Description Process to be monitored for CPU usage threshold in percentage. Format is *`ProcessName`*`:`*`cpu_in_percent`*. Do not specify the percent sign. ■ Registry key type `REG_SZ` ■ Default value PROC_NAME1:CPU_percent, PROC_NAME2:CPU_percent, PROC_NAME3:CPU_percent
`NBSD_MONITOR_MEMORY`	■ Description Process to be monitored for Memory usage threshold. Format is *ProceessName*:*MemSize*. Do not enclose the value in quotation marks. ■ Registry key type `REG_SZ` ■ Default value PROC_NAME1:MEM_SIZE1, PROC_NAME2:MEM_SIZE2, PROC_NAME3:MEM_SIZE3

Table A-2 bp.conf values and Windows registry key names *(continued)*

Value	Details
NBSD_MEMORY_UNIT	■ Description This value determines the units the utility uses for memory calculations. If the unit is PERCENT then the memory threshold calculations are done as the percent of memory the process uses out of the total system memory. If the unit is ABSOLUTE then the absolute value in megabytes is used for threshold calculations. Do not enclose the value in quotation marks. ■ Registry key type REG_SZ ■ Default value ABSOLUTE
NBSD_MONITOR_DEADLOCK	■ Description Process to be monitored for Deadlock. If CPU and Memory usage are constant for a long interval, Veritas assumes that it is a deadlock. The default value is 60 minutes. Do not enclose the value in quotation marks. ■ Registry key type REG_SZ ■ Default value PROC_NAME1, PROC_NAME2, PROC_NAME3
NBSD_DEADLOCK_INTERVAL	■ Description The interval, in minutes, after which the process is considered inactive. ■ Registry key type DWORD ■ Default value 60
NBSD_ALWAYS_DUMP	■ Description Capture the process dump without taking into account the average of last 5 readings. When this parameter is set to 1, the utility captures the process dump every time the threshold is reached. ■ Registry key type DWORD ■ Default value 0 Valid values are either 0 or 1.

Table A-2 bp.conf values and Windows registry key names *(continued)*

Value	Details
NBSD_CAPTURE_PROCESS_DUMP	■ Description Set this value to 1 to capture the Process Dump when the threshold is reached. ■ Registry key type DWORD ■ Default value 0 Valid values are either 0 or 1.
NBSD_INCREASE_LOG_LEVEL	■ Description Increase the logging for the process automatically. Changes to this value result in changes in the nblog.conf file. This value is for the VxUL processes. This value does not change the log level for legacy processes as it leads to large log files. ■ Registry key type DWORD ■ Default value 0 Valid values are either 0 or 1.
NBSD_CAPTURE_NETWORK_STAT	■ Description Set the value as 1 to monitor network connections at the time of event. ■ Registry key type DWORD ■ Default value 1 Valid values are either 0 or 1.
NBSD_CAPTURE_DISK_IO	■ Description Set this value to 1 to capture system disk IO stats at the point of event. ■ Registry key type DWORD ■ Default value 1 Valid values are either 0 or 1.

Table A-2 bp.conf values and Windows registry key names *(continued)*

Value	Details
NBSD_NUMBER_OF_READINGS	■ Description This setting defines the number of readings to capture in case of the threshold event. ■ Registry key type DWORD ■ Default value 50
NBSD_READING_INTERVAL	■ Description Specifies the interval when the reading should be taken. ■ Registry key type DWORD ■ Default value 5
NBSD_PURGE_OLD_EVIDENCE	■ Description Purges the old evidence logs present in the directory that is given in the NBSD_EVIDENCE_PATH value. Be sure to make copies of the evidence otherwise the information is lost. ■ Registry key type DWORD ■ Default value 0 Valid values are either 0 or 1.
NBSD_CAPTURE_WITHOUT_THRESHOLD	■ Description When this option is set, nbsmartdiag captures the evidence even if the threshold had not reached for the registered process. This flag overrides all the threshold values. ■ Registry key type DWORD ■ Default value 0 Valid values are either 0 or 1.

Table A-2 bp.conf values and Windows registry key names *(continued)*

Value	Details
NBSD_JDK_HOME	■ Description Path to JDK Home folder. This option is required to execute JSTACK on Java processes. Do not enclose the value in quotation marks. ■ Registry key type REG_SZ ■ Default value None
NBSD_EVIDENCE_PATH	■ Description Path to evidence collection folder. This value is a required value. Ensure that the folder has sufficient space to gather logs. Do not enclose the value in quotation marks. ■ Registry key type REG_SZ ■ Default value None. This value is mandatory for the service to launch.
NBSD_VERBOSE	■ Description Enable verbose logs for the NetBackup Performance Smart Diagnosis (NBSD). ■ Registry key type DWORD ■ Default value 0 Valid values are either 0 or 1.
NBSD_AUTO_MONITOR	■ Description Enables monitoring of all the NetBackup processes on the NetBackup host with default CPU and Memory threshold values. The default CPU threshold is 90 percent and default memory threshold are 60%. To change default threshold values refer to the NBSD_AUTOMONITOR_CPU_THRESHOLD and NBSD_AUTOMONITOR_MEMORY_THRESHOLD configuration parameters. NBSD_CAPTURE_WITHOUT_THRESHOLD parameter is ignored when NBSD_AUTO_MONITOR is set to 1. ■ Registry key type REG_DWORD ■ Default value 0

Table A-2 bp.conf values and Windows registry key names *(continued)*

Value	Details
NBSD_AUTOMONITOR_CPU_THRESHOLD	■ Description Enables monitoring of all the NetBackup processes in the NetBackup host with default CPU and Memory threshold values. The value is in percentage and can have values in between 1 and 100. ■ Registry key type REG_DWORD ■ Default value 90
NBSD_AUTOMONITOR_MEMORY_THRESHOLD	■ Description Defines the memory threshold value that is used for monitoring all the NetBackup processes. The value denotes the memory usage percentage of the total memory process. This value is considered for threshold decision making. The value is in percentage and can have values between 1 and 100. ■ Registry key type REG_DWORD ■ Default value 60

Table A-2 bp.conf values and Windows registry key names *(continued)*

Value	Details
NBSD_MONITOR_POLICY_NAME	■ Description Policies to monitor the CPU, memory, and deadlock thresholds. The process that is launched after the policy execution is automatically added for monitoring with default threshold values. This parameter is only applicable for primary server. The value for this parameter is a comma-separated list of polices to monitor. Do not enclose the value in quotation marks. NBSD_MONITOR_POLICY_NAME=*Policy1*, *Policy2*, *Policy3* The default CPU threshold is 90 percent and default memory threshold are 60%. To change default threshold values refer to the NBSD_AUTOMONITOR_CPU_THRESHOLD and NBSD_AUTOMONITOR_MEMORY_THRESHOLD configuration parameters. Only the clients that are listed in the policy are considered for monitoring. The only processes that are monitored are the ones that are started on those clients after the policy starts. Clients that are discovered when the policy runs are not considered for monitoring. The NBSD_CAPTURE_WITHOUT_THRESHOLD parameter is ignored when NBSD_MONITOR_POLICY_NAME is set. ■ Registry key type REG_SZ ■ Default value No default value
NBSD_MONITOR_SYSTEM_FOR_HOURS	■ Description Defines the time in hours after which the nbsmartdiag process automatically stops. By default, the service runs for 7 days (168 hrs) and then stops itself. The value 0 means that the process runs forever. ■ Registry key type REG_DWORD ■ Default value 168

Table A-2 bp.conf values and Windows registry key names *(continued)*

Value	Details
NBSD_EVIDENCE_SIZE_LIMIT	■ Description Defines the size limit in GB in the evidence folder. The value of 0 means no limitation on size. If the size before the evidence that is captured is less than the set size, the evidence is captured and not stopped in between even if the size exceeds. The next evidence is not captured. ■ Registry key type REG_DWORD ■ Default value 0
NBSD_PUSH_MONITOR_DATA_TO_REMOTE	■ Description Allows nbsmartdiag to push the list of identified processes with the default threshold values during the policy execution to the respective clients or media servers. This option is effective when a user specifies the policy name in the NBSD_MONITOR_POLICY_NAME value. This option is disabled by default. ■ Registry key type REG_DWORD ■ Default value 0

REQUIREMENTS

This utility only works for Windows, RHEL, and SUSE operating systems.

For Linux, the commands that are shown must be present on the computer to gather all supporting evidence: `gcore`, `gstack`, `iostat`, `mpstat`, `netstat`, `pmap`, `top`, and `vmstat`

For Windows, you must install the utility on Windows Server 2012 R2 or later. The utility uses process snapshot APIs which were introduced in Windows Server 2012 R2. Attempts to install the utility on older versions of Windows result in failure.

You must manually start the `nbsmartdiag` service. The `bpup`, `bp.start_all`, and `netbackup start`, commands do not start the service. This behavior is by design.

Note: Cyrillic characters in the evidence path are not supported.

OPTIONS

`-help`
Displays the help output for the `nbsmartdiag` utility.

`-install`
Installs the `nbsmartdiag` utility.

`-list_config`
Displays the configuration details with the default and current value of `nbsmartdiag` utility.

`-start`
Starts the `nbsmartdiag` utility.

`-terminate`
Stops the `nbsmartdiag` utility.

`-uninstall`
Uninstalls the `nbsmartdiag` utility.

`-version`
Displays the version information for the `nbsmartdiag` utility.

SEE ALSO

See bpsetconfig on page 420.

See nbsetconfig on page 874.

nbsnapimport

nbsnapimport – import a snapshot copy on a storage server

SYNOPSIS

nbsnapimport -backupid *backup_id* -cn *copy_number* -fim *fim_name* -stunit *storage_unit* [-mounthost *mount_host*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbsnapimport command imports a snapshot copy in NetBackup so that it can be used to browse, restore, or create a NetBackup (tar) copy.

This command can be run only on the master server.

OPTIONS

-backupid *backup_id*

Specifies the backup ID of a single backup image.

-cn *copy_number*

Determines the copy number to import. Valid values are 1 through 10. The default is 1.

-fim *fim_name*

Specifies the snapshot method to use to create the image. Select the method by using the type of data and hardware that the client uses.

For details on snapshot methods, refer to the *NetBackup Snapshot Client Administrator's Guide*.

The available options depend on the snapshot method. For a list of snapshot methods and their options, refer to the *opt_params* area of each snapshot method (FIM) listed in the vfm.conf file.

-mounthost *mount_host*

Specifies the mount host where the snapshot copy will be imported.

`-stunit` *storage_unit*

Specifies the storage unit.

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\db\images\*
install_path\NetBackup\logs\admin\*
```

nbsnapreplicate

nbsnapreplicate – initiate snapshot replication on a storage server

SYNOPSIS

nbsnapreplicate -backupid *backup_id* | -Bidfile *filepath* -cn *copy_number* -rcn *replicate_copy_number* -slpname *policy_name* -stunit *storage_unit* [-mediaServer *media_server*] [-priority *number*] [-v]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbsnapreplicate command allows a copy of a backup to be created.

This command can be run only on the master server.

Use nbsnapreplicate to create up to 10 copies of unexpired backups.

OPTIONS

-backupid *backup_id*

Specifies the backup ID of a single backup to replicate.

-Bidfile *file_name*

file_name specifies a file that contains a list of backup IDs to be replicated. List one backup ID per line in the file. If this parameter is specified, other selection criteria are ignored.

Also, *file_name* is removed during the execution of that command line interface (CLI), because the NetBackup GUIs commonly use this parameter. They expect the CLI to remove the temporary file that was used for the -Bidfile option upon completion. Direct CLI users can also use the option; however, it removes the file.

-cn *copy_number*

Determines the copy number to replicate. Valid values are 1 through 10. The default is 1.

`-mediaServer` *`media_server`*

Specifies the media server.

`-priority` *`number`*

Sets a backup policy to run at a lesser or a higher priority than disk staging duplication.

`-rcn` *`replicate_copy_number`*

Specifies the copy number of the snapshot replication. The copy number is the operation index value of the storage lifecycle policy replication operation plus 100.

`-slp_name` *`policy_name`*

Specifies the storage lifecycle policy name of the duplicated file.

`-stunit` *`storage_unit`*

Specifies the storage unit.

`-v`

Selects the verbose mode. When you specify the debug logs or progress logs, the output includes more information.

EXAMPLES

Example 1 - List backups with a copy number of 1. They were backed up by the policy that is named `stdpol`, and created between July 1, 2009, and August 1, 2009.

```
# nbsnapreplicate -cn 1
```

Example 2 - Create a duplicate copy of the backup IDs in file name `plum`. It duplicates copy 1 to copy 5 on storage unit Tape_stu of pool Pool1.

```
# nbsnapreplicate -Bidfile plum dstunit Tape_stu -dp Pool1 -cn 1 -dcn 5
```

FILES

UNIX systems:

```
/usr/openv/netbackup/logs/admin/*
/usr/openv/netbackup/db/images/*
```

Windows systems:

```
install_path\NetBackup\db\images\*
install_path\NetBackup\logs\admin\*
```

nbsqladm

nbsqladm – configure SQL Server instances for a SQL Server Intelligent backup policy

SYNOPSIS

nbsqladm [-S *master_server*] -list_instances [*instance_name*] [-host *name*] [-active | -inactive] [-registered | -unregistered]

nbsqladm [-S *master_server*] -add_instance *instance_name* -host *name* [-instance_group *name* | -local_credentials | -user *name* -domain *name*] [-force]

nbsqladm [-S *master_server*] -register_instance *instance_name* [-host *name*] [-instance_group *name* | -local_credentials | -user *name* -domain *name*] [-force]

nbsqladm [-S *master_server*] -delete_instance *instance_name* [-host *name*]

nbsqladm [-S *master_server*] -modify_instance *instance_name* -host *name* [-instance_group *name* | -local_credentials | -user *name* -domain *name*] [-active | -inactive] [-force]

nbsqladm [-S *master_server*] -remove_from_instance_group *instance_name* [-instance_group *name*] [-host *name*]

nbsqladm [-S *master_server*] -initiate_availability_group_browse *instance_name* -host *name*

nbsqladm [-S *master_server*] -initiate_discovery

nbsqladm [-S *master_server*] -list_instance_groups [*instance_group_name*]

nbsqladm [-S *master_server*] -add_instance_group *instance_group_name* [-local_credentials | -user *name* -domain *name*]

nbsqladm [-S *master_server*] -delete_instance_group *name*

nbsqladm [-S *master_server*] -modify_instance_group *name* [-new_instance_group *name*] [[-local_credentials | -user *name* -domain *name*] [-validate]]

nbsqladm [-S *master_server*] -list_availability_groups [-ag_name *name*] [-cluster *cluster_name*] [-ag_id *availability_group_ID*]

nbsqladm [-S *master_server*] -add_availability_group -ag_name *name* {-cluster *cluster_name* | -ag_id *availability_group_ID*} [-instance *instance_name* -host *name*]

nbsqladm [-S *master_server*] -delete_availability_group -ag_name *name* {-cluster *cluster_name* | -ag_id *availability_group_ID*}

nbsqladm [-S *master_server*] -list_replicas -ag_name *name* {-cluster *cluster_name* | -ag_id *availability_group_ID*}

nbsqladm [-S *master_server*] -add_replica -ag_name *name* {-cluster *cluster_name* | -ag_id *availability_group_ID*} -instance *instance_name* -host *name* [-force]

nbsqladm [-S *master_server*] -delete_replica -ag_name *name* {-cluster *cluster_name* | -ag_id *availability_group_ID*} -instance *instance_name* -host *name*

nbsqladm [-S *master_server*] -list_dbas

nbsqladm [-S *master_server*] -add_dba *host_nameuser_name*

nbsqladm [-S *master_server*] -delete_dba *host_nameuser_name*

nbsqladm [-S *master_server*] -auto_registration *instance_group_name*

nbsqladm [-S *master_server*] -disable_auto_registration

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbsqladm command configures SQL Server instances, instance groups, and availability groups for use with a SQL Server Intelligent Policy. Supported availability groups include basic, advanced, and read-scale. You can also use this command on the master server to authorize DBAs to use the nbsqladm on a specific host.

You can disable or enable the nbsqladm command with the ENABLE_NBSQLADM option in the bp.conf file or in the registry. This command is enabled by default. To disable the command, use ENABLE_NBSQLADM=0.

OPTIONS

`-add_availability_group -ag_name` *`name`* {`-cluster` *`cluster_name`* | `-ag_id` *`availability_group_ID`*} `-instance` *`instance_name`* `-host` *`name`*

Add an availability group to the NetBackup catalog. You can add only the availability group and at a later point add the instances. This way you can build the availability group topology more quickly. For advanced and basic availability groups provide the `-cluster` *`cluster_name`*, which is the name of the Windows Server Failover Clustering (WSFC) cluster. For read-scale availability groups provide the `-ag_id` *`availability_group_ID`*.

To add the full AG topology including the instances, use the `-instance` *`instance_name`* `-host` *`name`* option.

`-add_dba` *`host_name user_name`*

Authorizes the specified DBA (*`user_name`*) to use the `nbsqladm` command on a specific host (*`host_name`*). Can only be used on the master server.

If you have multiple NICs, provide the private interface name of the SQL Server host.

For a SQL Server cluster, authorize the DBA for each node in the cluster. (Do not authorize a DBA using the virtual name of the SQL Server cluster.) For the `-host` *`name`* provide one of the node names in the SQL Server cluster.

For a SQL Server cluster with multiple NICs, authorize the DBA using the private interface name for each of the nodes in the SQL Server cluster.

`-add_instance` *`instance_name`* `-host` *`name`* `[-instance_group name | -local_credentials | -user name -domain name] [-force]`

Add an instance to the NetBackup catalog. After you add an availability group instance, use the `-add_replica` option.

`-add_instance_group` *`instance_group_name`* `[-local_credentials | -user name -domain name]`

Add an instance group to the NetBackup catalog. You can add credentials to the instance group with the `-local_credentials` or the `-user` *`name`* `-domain` *`name`* option.

`-auto_registration` *`instance_group_name`*

Enables the automatic registration for the named instance group. Newly discovered instances are automatically registered with the group credentials and added to the instance group. If you want any instances that were previously discovered to be included in the instance group, you must add those instances manually. Only one instance group can be enabled for automatic registration.

`-add_replica -ag_name` *`name`* {`-cluster` *`cluster_name`* | `-ag_id` *`availability_group_ID`*} `-instance` *`instance_name`* `-host` *`name`* [`-force`]

Add a replica of an availability group to the NetBackup catalog. Use this option after you add the availability group instance. For advanced and basic availability groups provide the `-cluster` *`cluster_name`*, which is the name of the Windows Server Failover Clustering (WSFC) cluster. For read-scale availability groups provide the `-ag_id` *`availability_group_ID`*.

`-delete_dba` *`host_name user_name`*

Removes the authorization to use the `nbsqladm` command for the specified host (*`host_name`*) and DBA (*`user_name`*). Can only be used on the master server.

If you have multiple NICs, provide the private interface name of the SQL Server host.

For a SQL Server cluster, remove authorization for the DBA for each node in the cluster. (You cannot remove authorization for a DBA using the virtual name of the SQL Server cluster.) For the `-host_name` provide one of the node names in the SQL Server cluster.

For a SQL Server cluster with multiple NICs, remove authorization using the private interface name for each of the nodes in the SQL Server cluster.

`-delete_availability_group -ag_name` *`name`* {`-cluster` *`cluster_name`* | `-ag_id` *`availability_group_ID`*}

Delete an availability group from the NetBackup catalog. For advanced and basic availability groups provide the `-cluster` *`cluster_name`*, which is the name of the Windows Server Failover Clustering (WSFC) cluster. For read-scale availability groups provide the `-ag_id` *`availability_group_ID`*.

`-delete_instance` *`instance_name`* [`-host` *`name`*]

Delete an instance from the NetBackup catalog.

`-delete_instance_group` *`name`*

Delete an instance group.

`-delete_replica -ag_name` *`name`* {`-cluster` *`cluster_name`* | `-ag_id` *`availability_group_ID`*}

Delete a replica of an availability group from the NetBackup catalog. For advanced and basic availability groups provide the `-cluster` *`cluster_name`*, which is the name of the Windows Server Failover Clustering (WSFC) cluster. For read-scale availability groups provide the `-ag_id` *`availability_group_ID`*.

`-disable_auto_registration`

Disables the automatic registration so that newly discovered instances are not automatically registered and added to an instance group.

`-force`

Forces NetBackup to register the instance or the replica instance and skip the validation of the instance credentials. NetBackup for SQL Server cannot protect any instances that are not registered or that have invalid credentials.

`-host` *`name`*

Specifies the name of the host where the SQL Server database resides.

If you have multiple NICs, provide the private interface name of the SQL Server host. For a SQL Server cluster, for the host name provide the virtual name of the SQL Server cluster. For a SQL Server cluster with multiple NICs, provide the private virtual name of the SQL Server cluster.

`-instance` *`instance_name`*

Specifies the name of the SQL Server instance.

`-instance_group` *`name`*

Specifies the name of the instance group to which you want to add or remove an instance.

Or indicates that the instance group you want to use to register an instance. Alternatively, you can register an instance with instance group credentials or specific credentials. Also see the `-local_credentials` and `-user` *`name`* `-domain` *`name`* options.

The credentials must have certain security privileges. See the NetBackup for SQL Server Administrator's Guide.

`-initiate_availability_group_browse` *`instance_name`* `-host` *`name`*

Initiates discovery of a read-scale availability group. Any availability groups associated with the *instance_name* and host are discovered.

`-initiate_discovery`

Start the discovery process to discover any SQL Server instances that were added to your environment since the last discovery.

`-list_availability_groups [-ag_name` *`name`*`] [-cluster` *`cluster_name`*`] [-ag_id` *`availability_group_ID`*`]`

List the SQL Server availability groups in the NetBackup catalog. To list an availability group with a specific name, use `-ag_name` *`name`*. To list an advanced or a basic availability group that is part of a specific Windows Server Failover Clustering (WSFC) cluster, use `-cluster` *`cluster_name`*. To list read-scale availability groups, use the `-ag_id` *`availability_group_ID`*.

`-list_dbas`

Display a list of all database administrators (DBAs) able to use `nbsqladm`. Can only be used on the master server.

`-list_instances [instance_name] [-host name] [-active | -inactive] [-registered | -unregistered]`

List all SQL Server instances in the NetBackup catalog.

Use `instance_name` or `-host name` to list a specific instance. Use `-registered` or `-unregistered` to list the registered or unregistered SQL Server instances. The options `-active` and `-inactive` to display the instances that are active for NetBackup (available for backup) and the inactive instances.

`-list_instance_groups [instance_group_name]`

List the SQL Server instance groups that exist. Use `instance_group_name` to list a specific instance group.

`-list_replicas -ag_name name {-cluster cluster_name | -ag_id availability_group_ID}`

List all availability group replicas in the NetBackup catalog. The `-ag_name name` option indicates the availability group. To list replicas in an advanced or a basic availability group that is part of a specific Windows Server Failover Clustering (WSFC) cluster, use `-cluster cluster_name`. For read-scale availability groups, use `-ag_id availability_group_ID`.

`-local_credentials`

Indicates that you want to register an instance with the credentials that were used to install NetBackup. Alternatively, you can register an instance with instance group credentials or specific credentials. See the `-instance_group name` and `-user name -domain name` options.

The credentials must have certain security privileges. See the NetBackup for SQL Server Administrator's Guide.

When it is used with the `-validate` option to modify an instance group you can also validate the credentials for each instance in the group.

`-modify_instance instance_name -host name [-instance_group name | -local_credentials | -user name -domain name] [-active | -inactive] [-force]`

Change the attributes of the specified instance.

Use `-active` to make an instance that you deactivated in NetBackup available for backup. Or you can make an instance inactive in NetBackup with `-inactive`. For example, if the instance is under maintenance.

The options `-new_instance` and `-new_host` are deprecated. To change an instance or a host name, delete the instance and use the `-add_instance` option to add the instance again.

`-modify_instance_group [-new_instance_group name] [[-local_credentials | -user name -domain name] [-validate]]`

Change the attributes of the specified instance group.

`-new_instance_group name` changes the name of the instance group. Use `-local_credentials` or `-user name -domain name` to add or change the credentials for the instance group. The `-validate` option validates the group credentials for each instance in the instance group. This option is used with `-local_credentials` or `-user name -domain name`.

`-register_instance instance_name [-instance_group name | -local_credentials | -user name -domain name] [-force]`

Register credentials for an instance. See the description for `-instance_group name`, `-local_credentials`, and `-user name -domain name`.

For a SQL Server cluster or multiple NICs, before you register an instance ensure that the instance was added with the correct host name. If you have multiple NICs, the host name is the private interface name of the SQL Server host. A SQL Server cluster requires only one entry in instance management; the host name is the virtual name of the SQL Server cluster. For a SQL Server cluster with multiple NICs, the host name is the private virtual name of the SQL Server cluster.

`-remove_from_instance_group instance_name [-instance_group name] [-host name]`

Remove an instance from an instance group.

`-S master_server`

Specifies the master server for the instance or the instance group that you want to add, change, or delete. Or use to indicate the master server on which you want to perform a specific command.

`-user name -domain name`

Indicates that you want to register an instance with the specific credentials that you provide. Alternatively, you can register an instance with instance group credentials or local credentials. See the `-instance_group name` and `-local_credentials` options.

The credentials must have certain security privileges. See the NetBackup for SQL Server Administrator's Guide.

When it is used with the `-validate` option to modify an instance group you can also validate the credentials for each instance in the group.

EXAMPLES

Example 1 - Add local credentials to the instance group `marketing` without validating the credentials.

```
nbsqladm -modify_instance_group marketing -local_credentials
```

Example 2 - Add credentials for the user `adminuser` in the domain `corp` to the instance group `marketing`. Also validate the credentials for each instance in the group.

```
nbsqladm -modify_instance_group marketing -user adminuser -domain
corp -validate
```

nbsqlcmd

nbsqlcmd – Configuration utility for Microsoft SQL Server assets

SYNOPSIS

nbsqlcmd list instances -format json [-S *primary_server*] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nbsqlcmd list instances [-format csv] [-S *primary_server*] [-limit *limit*] [-name *instance_name*] [-hostname *hostname*] [-active | -inactive] [-registered | -unregistered]

nbsqlcmd list databases [-S *primary_server*] [-format csv|json] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nbsqlcmd list availability_groups -format json [-S *primary_server*] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nbsqlcmd list availability_groups [-format csv] [-S *primary_server*] [-limit *limit*] [-name *name*] [-cluster_name *cluster_name*] [-ag_id *availability_group_id*]

nbsqlcmd list credentials [-S *primary_server*] [-format csv|json] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nbsqlcmd list replicas -ag_id *ag_id* [-S *primary_server*] [-format csv|json] [-limit *limit*] [-filter *filter*] [-sort *sort*]

nbsqlcmd add instance -name *instance_name* -hostname *hostname* [-S *primary_server*]

nbsqlcmd add replica -instance_id *instance_asset_id* -ag_id *ag_asset_id* [-S *primary_server*]

nbsqlcmd add availability_group -name *ag_name* { -cluster_name *cluster_name* | -guid *ag_guid* } [-S *primary_server*]

nbsqlcmd delete availability_group [-S *primary_server*] ASSET_ID

nbsqlcmd delete database [-S *primary_server*] ASSET_ID

nbsqlcmd delete instance [-S *primary_server*] ASSET_ID

nbsqlcmd delete replica [-S *primary_server*] ASSET_ID

nbsqlcmd discover availability_groups -instance_id *instance_id* [-S *primary_server*]

nbsqlcmd discover databases -instance_id *instance_id* [-S *primary_server*]

nbsqlcmd discover instances -hostname *hostname* [-S *primary_server*]

nbsqlcmd manage credentials -name *credential_name* [-S *primary_server*] ASSET_ID

nbsqlcmd modify instance [-state ACTIVE | INACTIVE] [-S *primary_server*] ASSET_ID

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The nbsqlcmd command can add, list, modify, and delete SQL Server assets.

With the nbsqlcmd command, you can add a SQL Server instance asset or a SQL Server Availability Group asset. The command can associate an existing SQL Server instance asset with an Availability Group asset. The command lets you modify a given SQL Server instance asset with the given asset ID. You can use the command to discover instances on a specified host.

You can use the command to discover Availability Groups that are associated with a given SQL Server instance asset. You can also use the command to discover the databases that are associated with a given SQL Server instance asset.

The command lets you list SQL Server database and instance assets. You can also list SQL Server availability groups and SQL Server Availability Group replicas.

In addition to using nbsqlcmd to list NetBackup CMS SQL Server credentials you can also manage your credentials, and associate a given credential with an asset.

You can use the command to delete a SQL Server Availability Group asset, a SQL Server instance asset, or a SQL Server replica asset.

Before you run the nbsqlcmd command, you must run the bpnbat -login -loginType WEB command. The bpnbat command authenticates your web services logon. The user that is specified when you run bpnbat -login -loginType WEB should be a member of an RBAC role with Assets, SQL Server, View, and Recover permissions.

OPTIONS

`-active`

Filters the list of instances to only those that are active. Can only be used with `-format csv`.

`-ag_id` *`ag_id`*

The asset ID of an Availability group. Used as a filter for the list commands and input for the `add replica` command.

`-ASSET_ID`

A positional argument that must be specified at the end of the command. The asset ID of the asset to be modified, deleted, or managed.

`-cluster_name` *`cluster_name`*

The cluster name of an Availability Group. Used to filter on a specific cluster with the list command. Can only be used with `-format csv`. Used in `add availability_group` to set the cluster that is associated with the availability group.

`-filter` *`filter`*

Filters the data in the list. The filter value must be in OData format. Can only be used with `-format json`.

`-format csv|json`

Specifies the format to be used for the output. The default value is `csv`.

`-guid` *`guid`*

The GUID of the Availability Group being added as an asset.

`-help`

Prints the usage of the `nbsqlcmd` command.

`-hostname` *`hostname`*

The host name of an asset. When this option is used in the list command, it can only be used with `-format csv`.When the option is used with the discover instance command, it is the SQL server host name on which the instances reside.

`-inactive`

Filters the assets in list to only the assets that are inactive. Can only be used with `-format csv`.

`-instance_id` *`instance_id`*

The asset ID of an Instance.

`-limit` *`limit`*

The max number of items to be listed. Max of 100.

`-name` *name*

The display name of an asset. When the option is used with `add credentials`, this option is the name of the CMS named credential.

`-registered`

Filters the list of assets to only the assets that are registered. Can only be used with `-format csv`.

`-S` *primary_server*

Specifies the primary server that contains the asset to be listed or modified.

`-sort` *sort*

Sorts the data in the list. The sort value must be in OData format. Can only be used with `-format json`.

`-state ACTIVE|INACTIVE`

Specifies the new state to be assigned to the given instance asset.

`-unregistered`

Filters the list of assets to only the assets that are not registered. Can only be used with `-format csv`.

EXAMPLES

Example 1: List the instances and filter them based on the instance name.

```
nbsqlcmd list instances -format json -filter "commonAssetAttributes/
displayName eq 'MSSQLSERVER'"
```

SEE ALSO

See bplist on page 219.

See bpnbat on page 245.

nbsqlite

nbsqlite – protects the SQLite environment

SYNOPSIS

nbsqlite -o backup -S *primary_server_name* -P *policy_name* -s *schedule_name* -d *sqlite_database_path* -z *LVM_snapshot_size* [-l *backup_location*]

nbsqlite -o restore -S *primary_server_name* -t *target_directory* [-id *db_backup_id*] [-C *client_name*]

nbsqlite -o query -S *primary_server_name* [-P *policy_name*] [-C *client_name*]

nbsqlite -o delete -S *primary_server_name* -id *db_backup_id*

nbsqlite -o help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin

DESCRIPTION

Use the nbsqlite command to run backup, restore, query, and delete operations to protect the SQLite environment. For more information about SQLite instances and databases, see *NetBackup for SQLite Administrator's Guide*.

OPTIONS

-C The NetBackup client name.

-d Used to specify the SQLite database path.

-id
Specifies the database backup image name.

-l Specifies the staging location for the backup.

-o Possible values are:

- `backup`: Used to start the backup of the SQLite database or instance from the NetBackup client (`-C`) using the NetBackup DataStore policy name (`-P`) and schedule (`-s`).
  Additionally, Windows requires the primary server name (`-S`) and the database path (`-d`). Linux requires the snapshot size (`-z`).
- `restore`: Used to restore the SQLite database or instance using the target restore directory (`-t`) and primary server (`-P`).
- `query`: Used to query the primary server (`-S`) for information about SQLite database or instance backups.
- `delete`: Used to delete the backup information from the NetBackup catalog but retain the backup on the storage media.
- `help`: Display the help that is associated with this command.

`-P` Specifies the NetBackup DataStore policy name.

`-s` Use this option to indicate the NetBackup schedule name.

`-S` Specifies the name of the NetBackup primary server.

`-t` Use this option to indicate the name of the target restore directory.

`-z` Specifies the snapshot size of LVM backup type.

nbstl

nbstl – add, delete, modify, or list NetBackup storage lifecycle policies

SYNOPSIS

nbstl*storage_lifecycle_name* [-add | -modify | -modify_current | -modify_version] [-dc *class*] [-dp *duplication_priority*] [-version *version_number*]

[-uf *used_for1* [,*used_for2*,..*used_forn*]]

[-source *source1*[,*source2*,..*sourcen*]]

[-residence *storage_unit1* | __NA__[,*storage_unit2* | __NA__,..*storage_unitn* | __NA__]]

[-pool *volume_pool1* | __NA__[,*volume_pool2* | __NA__,..*volume_pooln* | __NA__]]

[-server_group *host1* | *ANY* | *NONE* | __NA__[,*host2* | *ANY* | *NONE* | __NA__,..*hostn* | *ANY* | *NONE* | __NA__]]

[-managed *m1*[,*m2*,..*mn*]] [-rl *retention_level1* | __NA__ [,*retention_level2* | __NA__,..*retention_leveln* | __NA__]] [-as *alt_read_server1* | __NA__ [,*alt_read_server2* | __NA__,..*alt_read_servern* | __NA__]]

[-mpx T | F [,T | F,..,T | F]] [-target_master *target_master_server1* | __NA__ [,*target_master_server2* | __NA__,..*target_master_servern* | __NA__]][-target_importslp *target_importslp1* | __NA__ [,*target_importslp2* | __NA__,..*target_importslpn* | __NA__]] [-defop T | F [,T | F,..,T | F]] [-v] [-M *master_server*] [-destpri *priority1* [,*priority2*,..*priorityn*]] [-window *window_1* [,*window_2*,..*window_n*]] [-wcopt *option_set1* [,*option_set2*,..*option_setn*]

nbstl*storage_lifecycle_name* -delete [-v] [-M *master_server*]

nbstl [*storage_lifecycle_name*] -L | -l | -b | U | -json | -json_compact | -conflicts [-v] [-M *master_server*] [-all_versions] [-version *version_number*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbstl command can do the following:

- -add adds a new storage lifecycle.
- -delete deletes an existing storage lifecycle.
- -modify modifies an existing storage lifecycle.
- -L or -l lists long or short information about one or all storage lifecycles. -b lists only the storage lifecycle policy names themselves.
  The nbstl command creates, modifies, or deletes all of the destinations at the same time and does not support adding or modifying single destinations. To change properties of one destination, all of the existing destinations must be accounted for as well as the destination to be updated.
  Many of the options that need to be entered for a destination may not be applicable (NA). In that case, enter the value as __NA__ (double underscores before and after NA). The following options accept __NA__ as a value:
  - -residence
  - -pool
  - -server_group
  - -as (alternate read server)
  - -target_master
  - -target_importslp

Note: Successful attempts to create, modify, or delete a storage lifecycle policy are audited and logged when they are initiated through the nbstl command, a NetBackup graphical user interface, or an API.

OPTIONS

-all_versions

Displays all versions of the specified storage lifecycle policy or all storage lifecycle policies if *storage_lifecycle_name* is not specified.

`-b`

Displays the name of the specified storage lifecycle policy or all storage lifecycle policies if *storage_lifecycle_name* is not specified. Use this option with the `-all_versions` option to display the name and version of all the storage lifecycle policies.

`-conflicts`

Shows how changes to this SLP as described by the other `nbstl` options can affect the policies that are associated with this SLP. `nbstl` submits the SLP changes for validation. It compares the proposed content of the SLP with all the policies that use the SLP and displays any errors on `stdout`. No changes are committed at this time. If no errors are found, the user can then resubmit the changes without the `-conflicts` option to commit the changes.

`-dc` *`class`*

Specifies the numeric data classification that is associated with this service.

`-delete`

Deletes the specified storage lifecycle policy.

`-defop T | F [,T | F,..,T | F]`

Sets the deferred operation flag for duplication copies.

- F or f - Do not defer the creation of additional image copies.
- T or t - Defer the creation of additional image copies until the source copy is about to expire. The duplication job begins about four hours before the source is to expire. This default time can be changed by changing the **Deferred duplication offset** parameter in the SLP Parameters host properties.

`-dp` *`duplication_priority`*

Specifies the duplication job priority that is associated with this Storage service.

`storage_lifecycle_name`

Identifies the name of the storage lifecycle policy to be created, modified, deleted, or displayed.

`-json`

Generates data in `json` format and spans multiple lines.

`-json_compact`

Generates data in `json` format on a single line.

`-l`

Displays the condensed output of the specified storage lifecycle policy, or all storage lifecycle policies if *storage_lifecycle_name* is not specified. The output contains only data for the storage lifecycle. It does not identify the name.

-L

Displays the long output of the specified storage lifecycle, or all storage lifecycles if *storage_lifecycle_name* is not specified. It identifies the output by name.

-M *master_server*

Specifies the NetBackup master server. The default is the local server.

-modify

Modifies the specified storage lifecycle policy. This option creates a new version of the storage lifecycle policy. You can modify information such as pool volume or retention level.

-modify_current

Modifies the current version of the storage lifecycle policy instead of creating a new policy. This option cannot be used with the –dc, -uf, -source, or –managed options.

-modify_version

Modifies the selected version (*nn*) of the storage lifecycle policy instead of creating a new policy. This option cannot be used with the –dc, -uf, -source, or –managed options.

-v

Selects the verbose mode for logging.

-version *nn*

Displays only the specified version number (*nn*) of the storage lifecycle policy or all storage lifecycle policies if *storage_lifecycle_name* is not specified.

The following destination options must all specify the same number of parameters, one for each destination of the Storage service. The resulting number of destinations equals the number of parameters. The parameters are separated by commas with no blank spaces between them.

-destpri *priority1 [,priority2,...priorityn]]*

Specifies the job priority for each storage lifecycle policy destination index. This option can be used only for import destinations. All other destinations must be set to 0.

-managed *m,...*

Specifies the managed retention type for each destination. The possible values are the following:

- 0 - fixed
- 1 - capacity managed

- 2 - Expire after copy. After all operations complete that use this copy as a source, the copy expires. These include operations such as duplication, replication, backup from snapshot, and index from snapshot.
- 3 - remote (imported) expiration date.
- 4 - maximum snapshot rotation.
- 5 - mirror copy

For example, `-managed 4` means that the retention type is maximum snapshot rotation.

`-mpx T | F [,T | F,..,T | F]`

Sets the preserve multiplexing flag for duplication copies. This option is not allowed for backup or snapshot copies. Settings in the policy host and storage unit properties determine the multiplexed state of the backup copies. The flag is only relevant for tape copies. The option is `-mpx` followed by a set of commas that are separated by the following values:

- F or f - Do not preserve multiplexing for the copy.
- T or t - Preserve multiplexing for the copy, if possible.
- __NA__ - Not applicable

`-pool` *volume_pool1* `|` `__NA__[,`*volume_pool2* `|` `__NA__,..`*volume_pooln* `|` `__NA__]`

Specifies the volume pool for each destination. Volume pools do not apply to disk copies.

`-residence` *storage_unit1* `|` `__NA__[,`*storage_unit2* `|` `__NA__,..`*storage_unitn* `|` `__NA__]`

The storage unit that is to be used for each destination. Storage units do not apply to snapshot destinations (`-uf` option set to 2) or duplication to remote master (`-uf` option set to 3).

`-rl` *retention_level1* `[,`*retention_level*`,...`*retention_level*`]`

The retention level (0-100) applied to each destination. If you run this command on a pre-NetBackup 8.0 media server, the output only displays the retention levels between 0 and 24.

Note: Retention level 25 has a value of expire immediately. You cannot edit this value.

`-server_group` *host1* | *ANY* | *NONE* | __NA__[,*host2* | *ANY* | *NONE* | __NA__,..*hostn* | *ANY* | *NONE* | __NA__]

Specifies the server group. Use `*ANY*` when you can use any media sharing server group. Use `*NONE*` when no sharing group is allowed.

`-as` *alt_read_server1* | __NA__ [,*alt_read_server2* | __NA__,..*alt_read_servern* | __NA__]

The alternate read server for each destination. Alternate read servers apply only to duplication destinations.

`-source` *source1[,source2,...sourcen]*

Configures a hierarchy of duplications for the -add and -modify operations of storage lifecycle.

Accepted values for `-source` are the following:

- Backup and snapshot destinations - value must be 0. Backup and snapshot copies do not require a source.
- Duplication destinations - the serial number of the destination from the list of destinations to be used as the source copy. (A snapshot copy cannot be used as the source for a duplication.) Duplication destinations that do not use any specific source (that is, they use the primary copy as the source), must be set to 0.

`-U`

Outputs data about the specified storage lifecycle(s) in user display format.

`-uf` *used_for1* [*used_for2*,...*used_forn*]

Specifies when each destination is used. Use one of the following values:

- 0 - backup
- 1 - duplication
- 2 - snapshot
- 3 - replication to remote master (requires a `-residence` value of __NA__)
- 4 - import
- 5 - backup from snapshot
- 6 - index from snapshot
- 7 - replication

For example, `-uf 2` is for snapshot operation.

`-wcopt` *option1* [,*option2*,...*optionn*]

Specifies how to treat images that cannot be suspended. If a window closes and the jobs for an SLP have not completed, NetBackup attempts to suspend the images that are in progress. When the window reopens, NetBackup resumes those jobs at the point they were when suspended.

If the images cannot be suspended, the *option* determines how the images are processed:

- SFN - Finish processing the active images. The window closes, but NetBackup continues to process the active images until they are finished. NetBackup does not begin to process any other images until the window reopens.
- SHN - Cancel the processing of the active images. The window closes and NetBackup immediately stops processing the active images. When the window reopens, NetBackup begins to process the images where it left off.

`-window` *window_1* [,*window_2*,..*window_n*]

Specifies a time window for a specific destination. If the user runs the `bpschedule` command to create a new duplication window, then a subsequent `nbstl` command can create a lifecycle with a backup and duplication destination. And duplication from this policy would run only from 6 AM and last for 4 hours (which means all job should be done by 10AM).

EXAMPLES

Example 1 - List the long output of information on lifecycle1:

```
# nbstl lifecycle1 -L
                              Name: lifecycle1
               Data Classification: Gold
          Duplication job priority: 0
                             State: active
Destination 1              Use for: backup
                      Storage Unit: adv_dsu1
                       Volume Pool: (none specified)
                      Server Group: (none specified)
                    Retention Type: Fixed
                   Retention Level: 1 (2 hours)
             Alternate Read Server: (none specified)
             Preserve Multiplexing: false
                             State: inactive
                            Source: (client)
```

The storage unit named adv_dsu1 is inactive. Values for "State" in the -L display are either active or inactive.

Example 2 - Create a lifecycle named HDLifecyle1. This lifecycle has a data classification of Gold. It contains the following four destinations:

- A backup destination (-uf value is 0) with storage unit AdvDisk1 which does not require any source (-source value is 0).
- A backup destination using storage unit DataDomain1.
- A duplication destination (-uf value is 1) with storage unit DataDomain2 that uses destination at serial number 1 (i.e. the backup destination with storage unit DataDomain1) as a source (-source value is 1).
- A duplication destination with storage unit cooperstown-tape1 that uses the destination at serial number 2 (i.e. the duplication destination with storage unit DataDomain2) as the source (-source value is 2).

```
# nbstl HDLifecycle1 -add -dc Gold -uf 0,0,1,1,1 -residence AdvDisk1,
DadaDomain1,DataDomain2,cooperstown-tape1 -source 0,0,1,2
```

Example 3 - Create a lifecycle that does snapshot with backup to disk and then duplication to tape. The disk storage unit is DskSTU and the tape storage unit is TpSTU.

```
# nbstl LCPolicy -add -dc Gold -uf 0,1,2 -residence DskStU,TpSTU,__NA__
-pool NetBackup,DLP_Pool1,__NA__ -managed 0,0,0 -rl 6,12,1
```

Data retention is defined as follows:

- Snapshot images are retained for one week.
- Backup images on disk are retained for six (6) months.
- Tape images are retained for five (5) years.
- The user has defined retention level 12 to be five (5) years.

Example 4 - Change the retention level for existing version 4 of the lifecycle:

```
# nbstl LCPolicy -modify_version -version 4 -rl 4,6,7,7
```

The storage lifecycle policy must have four destinations previously defined.

Example 5 - List the condensed contents of version 2 of LCPolicy:

```
# nbstl LCPolicy -l -version 2
```

Example 6 - Change the fields in the current version of the storage lifecycle policy SLP8:

```
# nbstl SLP8 -modify_current -pool Pool1,Pool2,Pool3 -as __NA__,
AltReadServer2,__NA__ -mpx F,F,T
```

Example 7 - Create a new duplication window. Then a subsequent `nbstl` command can create a lifecycle with a backup and duplication destination (0,1). A previous `bpplsched` command set the duplication window for this policy to run from 6:00 a.m. to 10:00 a.m. (4 hours).

```
# nbstl morning_dup_slp -add -dc Gold -dp 999 -uf 0,1 -source 0,1
-residence DISK1,TAPE1
```

SEE ALSO

See nbdc on page 635.

See nbstlutil on page 917.

nbstlutil

nbstlutil – run the NetBackup storage lifecycle policies utility

SYNOPSIS

nbstlutil active [-lifecycle *name*] [-destination *name*] [-before *mm/dd/yyyy hh:mm:ss* | -after *mm/dd/yyyy hh:mm:ss*]

nbstlutil inactive -lifecycle *name* | -destination *name* [-reactivation_time *mm/dd/yyyy hh:mm:ss* | -duration *hours*] [-before *mm/dd/yyyy hh:mm:ss* | -after *mm/dd/yyyy hh:mm:ss*]

nbstlutil inactive -lifecycle *name* -destination *name* [-reactivation_time *mm/dd/yyyy hh:mm:ss* | -duration *hours*] [-before *mm/dd/yyyy hh:mm:ss* | -after *mm/dd/yyyy hh:mm:ss*]

nbstlutil list_import_conf [-l|-U|-b|-json| -json_compact] [-lifecycle *name*] [-all_pending_images] [destination *name*] [-target_domain *name*]

nbstlutil cancel [-lifecycle *name* | -destination *name*] [-version *number*] [-before *mm/dd/yyyy hh:mm:ss* | -after *mm/dd/yyyy hh:mm:ss*] [-nowarn] [-force]

nbstlutil active | inactive | cancel -backupid *id_value*

nbstlutil diskspaceinfo [-stype *server_type*]

nbstlutil list [-l | -U | -b] [-rt I | IC | ICF | ICFS] [-lifecycle *name* [-version *number*] [-destination *name*] | -lifecycle_only | -backupid *value* | -jobid *value*] [-client *name*] [-mediaid *value*] [-mediaserver *name*] [-storageserver *name*] [-image_state *value*] | -copy_state *value* | -frag_state *value* | -image_incomplete | -image_inactive | -copy_incomplete | -copy_inactive] [-copy_type *value*] [-policy *name*] [-before *mm/dd/yyyy hh:mm:ss* | -after *mm/dd/yyyy hh:mm:ss*]

nbstlutil pendimplist

nbstlutil redo -backupid *value* -slpindex *value*

nbstlutil repllist [-l] [-U] [-sincetime *timeval*]

nbstlutil report [-lifecycle *name* [-version *number*]] [-client *name*] [-mediaid *value*] [-mediaserver *name*] [-storageserver *name*]

nbstlutil stlilist [-l] [-U] [[[-lifecycle *name*] [-destination *name*]] | -backupid *value*] [-client *name*] [-mediaid *value*] [-mediaserver *name*] [-image_state *value* | -image_incomplete | -image_inactive] [-copy_type *value*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbstlutil command provides a way for users to intervene in storage lifecycle policy (SLP) operations. The following are the utility functions:

Note: Veritas does not recommend that users modify or delete automanaged policies.

If the user modifies the SLP, they must make sure that the SLP continues to meet the service level objective as defined by the protection plan.

If the user deletes the SLP, they must make sure that the asset is added to another protection plan that meets the service level objective.

Note: Activating and suspending an SLP using the nbstlutil command are not audited. These operations are audited only when they are initiated from a NetBackup graphical user interface or API.

---

active

Activates processing of the secondary operations that have been suspended within a storage lifecycle policy. Operations that qualify as secondary are duplication, replication, and import from snapshot. Existing images and newly created images are activated. The -lifecycle, -version, -destination, -before, -after, and -backupid options identify the secondary operations.

- If neither the -lifecycle option nor the -destination is specified, nbstlutil resumes the processing of all secondary operations for all storage lifecycle policies.
- If only a storage lifecycle policy (-lifecycle) is specified, nbstlutil resumes the processing of all secondary operations for that storage lifecycle policy only.

- If only a destination is specified, `nbstlutil` resumes the processing of all secondary operations that use the specified destination for all storage lifecycle policies.

You suspend secondary operations when you run the `nbstlutil inactive` command.

`cancel`

Permanently cancels storage lifecycle policy processing according to how the `-lifecycle`, `-before`, `-after`, and `-destination` options are used:

- If the `-lifecycle` option and the `-destination` option are both used, `nbstlutil` permanently cancels processing for the existing images that the options identify.
- If neither of the options is used, `nbstlutil` permanently cancels all pending copies for all existing images that the storage lifecycle policies manage.
- If only a storage lifecycle policy (`-lifecycle`) is specified, `nbstlutil` permanently cancels all pending copies of the existing images that it manages.
- If only a destination is specified, `nbstlutil` permanently cancels all pending copies that are bound for that destination, for all storage lifecycle policies.

Any new images that are created after this command are processed normally. If all pending copies of an image are canceled, that image is marked as complete. The destination name is the name of a storage unit or a storage unit group that is used in a storage lifecycle policy.

If `-force` is not specified and there are images about to be expired, an interactive warning message is displayed.

`diskspaceinfo`

Reports on the space that is used by all disk volumes or only the disk volumes that the specified type uses.

`inactive`

Suspends processing of secondary operations within a storage lifecycle policy, but retains the image information so that processing can resume later. Secondary operations are duplication, replication, and import from snapshot. Existing images and newly created images are suspended. The `-lifecycle`, `-before`, `-after`, and `-destination` options identify the secondary operations.

- If the `-lifecycle` option and the `-destination` option are both used, `nbstlutil` suspends processing for the existing images that the storage lifecycle policy and destination options identify.

- If only a storage lifecycle policy (`-lifecycle`) is specified, `nbstlutil` suspends all secondary operations for that storage lifecycle policy.
- If only a destination is specified, `nbstlutil` suspends all secondary operations that use the specified destination for all storage lifecycle policies.

The `inactive` option uses an accompanying `reactivation` option that lets you select when the inactive secondary operations can resume processing.

`list`

Shows the contents of an image list. It lists the images that reference an SLP. You can specify the SLP name to filter the image list. This option is primarily a debugging tool, but support may use the information to troubleshoot problems.

`list_import_conf`

Lists the images that have been replicated to a target domain but the corresponding import confirmation message has not been received. By default, only those images waiting for confirmation longer than the configured threshold are listed. If the `-all_pending_images` option is selected, all waiting images are listed regardless of waiting time.

`pendimplist`

Lists all images in the pending import state. These are the replication events that are received but not yet imported successfully. Because the image import function does not import images with a backup time in the future, these images remain pending until the backup time has passed.

`redo`

Repeats an SLP operation on an image. If a non-NetBackup action loses, damages, or destroys an image copy, `redo` lets you recreate the copy. If the original source copy is no longer available, the redo fails.

`report`

Shows a rollup of incomplete copies of lifecycle-managed images.

`repllist`

Shows the status for completed replication copies.

`stlilist`

Shows the status for all copies of lifecycle-managed images.

OPTIONS

`-after` *mm/dd/yyyy hh:mm:ss*

Restricts the SLP secondary operation to only those backups that are started after the specified date-time.

`-all_pending_images`

All waiting images are listed regardless of waiting time.

`-b`

Lists only the backup IDs.

`-backupid` *value*

Specifies the backup ID whose images are to be processed.

`-before` *mm/dd/yyyy hh:mm:ss*

Restricts the SLP secondary operation to only those backups that are started before the specified date-time.

`-client` *name*

Restricts the listing of images for storage lifecycle operations to only those on the client that are specified with the *name* value.

`-copy_inactive` *value*

Selects the images for which one or more copies are marked as inactive in the NetBackup database. This option is used primarily for debugging.

`-copy_incomplete` *value*

Selects the images for which one or more copies are not marked as duplication complete in the NetBackup database. This option is used for debugging.

`-copy_state` *value*

Selects the images with the specified copy state in the NetBackup database. This option is used primarily for debugging. Valid values for copy state are as follows:

- 1 - NOT_STARTED
- 2 - IN_PROCESS
- 3 - COMPLETE
- 9 - NOT_STARTED | INACTIVE
- 10 - IN_PROCESS | INACTIVE

`-copy_type` *value*

Selects a copy type filter for the list commands (`list` and `stlilist`). Valid values are the following:

- 0 - Backup
- 1 - Duplication
- 2 - Snapshot
- 3 - Duplication to remote master (replica)

- 4 - Import

`-destination` *name*

Selects the images that are scheduled to be duplicated to the storage unit or storage unit group that are specified with the *name* value.

`-duration` *hours*

Sets the amount of time in hours after the lifecycle images are inactivated before reactivation begins. The number of hours must be in whole integers (1,2,...). This option is used only with the `inactive` option.

`-force`

Skip the interactive warning message when there are images about to be expired in the cancel request.

`-frag_state` *value*

Selects the images with the specified fragment state in the NetBackup database. This option is used for debugging. Valid values for `frag` state are as follows:

- 1 - ACTIVE
- 2 - TO_BE_DELETED
- 3 - ELIGIBLE_FOR_EXPIRATION

`-image_inactive` *value*

Selects the images that are marked as inactive in the NetBackup database. This option is used for debugging.

`-image_incomplete` *value*

Selects the images that are not marked as lifecycle complete in the NetBackup database. This option is used for debugging.

`-image_state` *value*

Selects the images with the specified image state in the NetBackup database. This option is used primarily for debugging. The valid values for image state are as follows:

- 1 - NOT_STARTED
- 2 - IN_PROCESS
- 3 - COMPLETE
- 9 - NOT_STARTED | INACTIVE
- 10 - IN_PROCESS | INACTIVE

`-jobid` *value*

Restricts the output listing of images for storage lifecycle operations to only those that the specified job ID *value* has created. `-jobid` can be used only with the `list` option.

`-json`

Produces output in expanded readable JSON format.

`-json_compact`

Produces output in compressed JSON format.

`-l`

Produces a condensed parsable output of the listing.

`-lifecycle` *name*

Selects only the lifecycle-managed image list.

`-mediaid` *value*

Restricts the listing of images for storage lifecycle operations to only those on the media ID that *value* specifies.

`-mediaserver` *name*

Restricts the listing of images for storage lifecycle operations to only those on the media that *name* specifies.

`-nowarn`

Skips the interactive warning message.

`-policy` *name*

Restricts the processing of images to those that the specified backup policy (*name*) has created. `-policy` can be used only with the `list` option.

`-reactivation_time` *mm/dd/yyyy hh:mm:ss*

Sets the time in *mm/dd/yyyy hh:mm:ss* format when you want the copies or SLPs that you are inactivating to be reactivated. The `inactive` option can use this option or the `-duration` option to reactivate inactivated copies or SLPs.

`-rt I | IC | ICF | ICFS`

Selects the record types to be listed. The possible values are:

- I - list only image records.
- IC - list image and copy records.
- ICF - list image, copy, and fragment records.
- ICFS - list image, copy, fragment, and snapshot records.

`-sincetime` *`timeval`*

Shows the status of completed replication copies from the specified *timeval* to the present. This option is used with the `repllist` function.

`-slpindex` *`value`*

Specifies the SLP operation to be repeated. `-slpindex` can be used only with the `redo` operation.

`-storageserver` *`name`*

Restricts the listing of images for storage lifecycle operations to only those on the storage server that *name* specifies.

`-stype` *`server_type`*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.
  - `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
  - `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case-sensitive.

`-target_domain` *`name`*

Selects for output only those records that pertain to the named target domain.

`-U`

Produces the user-readable output of the listing.

`-version` *`number`*

Restricts the list output to only the images that are controlled by the specified SLP version. It must be used with the `-lifecycle` option.

EXAMPLES

Example 1 - Displays the information about a lifecycle in-process image.

```
# nbstlutil -list -backupid dollhouse_1287744229 -U
Image:
 Master Server            : dollhouse
 Backup ID                : dollhouse_1287744229
 Client                   : dollhouse
 Backup Time              : 1287744229 (Fri Aug 24 16:13:49 2012)
 Policy                   : pol-slp-2bkup-70-level
 Client Type              : 13
 Schedule Type            : 0
 Storage Lifecycle Policy : slp-pol-2backup-70-level
 Storage Lifecycle State  : 2 (IN-PROCESS)
 Time In Process          : 1287744327 (Fri Aug 24 16:15:27 2012)
 Data Classification ID   : 85AA96DF9781453289A41745DD240A48 (Platinum)
 Version Number           : 0
 OriginMasterServer       : (none specified)
 OriginMasterServerID     : 00000000-0000-0000-0000-000000000000
 Import From Replica Time : 0 (Thu Jan 01 05:30:00 1970)
 Required Expiration Date : 0 (Thu Jan 01 05:30:00 1970)
 Created Date Time        : 1287744297 (Fri Aug 24 16:14:57 2012)

 Copy:
   Master Server       : dollhouse
   Backup ID           : dollhouse_1287744229
   Copy Number         : 1
   Copy Type           : 0
   Expire Time         : 1288953829 (Fri Nov 02 16:13:49 2012)
   Expire LC Time      : 1288953829 (Fri Nov 02 16:13:49 2012)
   Try To Keep Time    : 1288953829 (Fri Nov 02 16:13:49 2012)
   Residence           : PDDE-Stu
   Copy State          : 2 (IN-PROCESS)
   Job ID              : 0
   Retention Type      : 0 (FIXED)
   MPX State           : 0 (FALSE)
   Source              : 0
   Destination ID      : *NONE*
   Last Retry Time     : 0

   Fragment:
     Master Server     : dollhouse
     Backup ID         : dollhouse_1287744229
```

```
Copy Number       : 1
Fragment Number   : 1
Resume Count      : 0
Media ID          : @aaaad
Media Server      : dollhouse
Storage Server    : (none specified)
Media Type        : 0 (DISK)
Media Sub-Type    : 6 (STSDYNAMIC)
Fragment State    : 1 (ACTIVE)
Fragment Size     : 5120
Delete Header     : 1
Fragment ID       : @aaaad
```

The output displays "(none specified)" for blank fields.

Example 2 - Display the contents of an image list in condensed parsable format.

```
# nbstlutil list -l
V7.0 I abc.example.com abc_1225727 abc 1225727 Pol_SLPTest1 0 0 SLP_Test1 2      \
1225727 *NULL*
V7.0 C abc.example.com abc_1225727 1   2147483 1225735 AdvDisk1 3 0 0 0 0
V7.0 F abc.example.com abc_1225727 1   1 0 @ab abc.example.com *NULL* 0 6 1  \
32768 1 @ab
V7.0 C abc.example.com abc_1225727 2   2147483 1225735 AdvDisk2 3 0 0 0 0
```

Example 3 - Display the information for an incomplete lifecycle image in user-readable output.

```
# nbstlutil stlilist -U
Image abc_1225727928 for Lifecycle SLP_Test1 is IN_PROCESS
  Copy to abc-tape1 is IN_PROCESS
  Copy to AdvDisk3 is NOT_STARTED
```

nbstop

`nbstop` – stops the NetBackup services on the client where the command was run.

SYNOPSIS

nbstop [-k | -kill [-3 | -third_party] [-q | -quiet]]

nbstop -l | -list [-3 | -third_party]

nbstop -h | -help

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The `nbstop` command shuts down the NetBackup services on the client where the command was run.

OPTIONS

`-3 | -third_party`
: Expands the scope of processes which are eligible for termination to include any process which might interfere with the NetBackup upgrade process. This scope includes any processes using or holding NetBackup libraries and files. On UNIX systems, the scope also includes any processes using or holding folders.

`-h | -help`
: Show usage statement.

`-k | -kill`
: Stops the NetBackup client processes. If you omit this option, you receive a confirmation request before the command continues.

`-l | -list`
: List the active processes that would be stopped as a result of this command.

`-q | -quiet`
: Suppress all output. The information is still logged.

EXAMPLES

Example 1 - Prompts the user to confirm the stop of all NetBackup processes. User opts to stop all processes.

```
nbstop

NetBackup software will be shut down. This may cause backups to fail.
Do you wish to proceed? (y/n) y
Gathering process information.
Initiating Orderly shutdown, 4 processes active
Requesting termination of /usr/openv/netbackup/bin/nbdisco.
Requesting termination of /usr/openv/netbackup/bin/bpcd.
Requesting termination of /usr/openv/netbackup/bin/vnetd.
Signaling process /usr/openv/netbackup/bin/bpclntcmd
All NetBackup specified processes terminated normally.
```

Example 2- Prompts the user to confirm the stop of all NetBackup processes. User opts to exit stop process.

```
nbstop

NetBackup software will be shut down. This may cause backups to fail.
Do you wish to proceed? (y/n) n
Shutdown aborted.
```

Example 3 - Kills all NetBackup and third-party processes without user input.

```
nbstop -kill -third_party

Gathering process information.
Initiating Orderly shutdown, 5 processes active
Requesting termination of /usr/openv/netbackup/bin/nbdisco.
Requesting termination of /usr/openv/netbackup/bin/bpcd.
Requesting termination of /usr/openv/netbackup/bin/vnetd.
Signaling process /usr/openv/netbackup/bin/bpclntcmd
All NetBackup specified processes terminated normally.

There are 1 3rd party processes active.
nbstop_target_loadfile /usr/QE/nbstop_target_loadfile 18411    Third Party
Terminating third party process, nbstop_target_loadfile pid-18411
Signaling process /usr/QE/nbstop_target_loadfile
```

Example 4 - List all active NetBackup processes that would be stopped as a result of this command.

```
nbstop -list

Name      Path                                Pid    Category
--------- ----------------------------------- ------ -----------
vnetd     /usr/openv/netbackup/bin/vnetd     18676  NetBackup
bpcd      /usr/openv/netbackup/bin/bpcd      18681  NetBackup
bpclntcmd /usr/openv/netbackup/bin/bpclntcmd 18698  NetBackup
nbdisco   /usr/openv/netbackup/bin/nbdisco   18715  NetBackup
```

nbsu

`nbsu` – used to gather diagnostic information about the system on which the utility is run

SYNOPSIS

nbsu [-d *collector*] [-g *collector_group*] [-h] [-s *collector*] [-l] [-nozip] [-r *NetBackup_role*] [-altdir *path*] [-sa]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/support/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\support\

DESCRIPTION

The `nbsu` utility is a Veritas utility used to gather diagnostic information about the system on which the utility is run. By default, `nbsu` gathers appropriate diagnostic information based on the operating system and NetBackup environment.

The `nbsu` command always runs with a role. By default, when the user does not specify the role, the command determines the role and runs with that role. To skip the role determination process, specify the role with the `-r` option.

Starting with NetBackup 8.1.1 the command now generates the `stderr.txt` file. This file is a summary of all the commands that failed with a non-zero exit status.

If there are no command line options specified, `nbsu` selects and runs all appropriate diagnostics and gathers all available information. You can run `nbsu -help` to view the usage.

By default, the `nbsu` command creates the output as a compressed file in the same directory where the `nbsu` executable is located. The format of the command output is:

NBSU_*hostname_role_mmddyyyy_timestamp.extension*

Example:

- UNIX/Linux: `NBSU_mylinuxvm_master_11072017_152100.tgz`
- Windows: `NBSU_mywindowsvm_master_11072017_152100.cab`

OPTIONS

`-altdir` *path*

Specify an alternate directory to contain the final generated output.

`-d` *collector*

Run only the specified collector or group. Specify in a comma-separated list. Veritas does not recommend using the `-d` and `-s` options together.

Use the command that is shown to collect operating system, NET, and NetBackup installation log diagnostics:

```
nbsu -d DEV,OS,NET,NBU_install_log
```

This command is the same as running the previous version of `nbsu` with the `-no_nbu` option and gathering any installation logs that exist. This option is useful for new client installation issues.

`-g` *collector_group*

Only collect information from the specified group. You can use the `-d` option to achieve the same result. If you also use the `-s` option, the `-g` option is preferred.

Groups include:

- `OS`: Operating system
- `NET`: Network configuration
- `NBU`: NetBackup
- `MM`: Media manager
- `DEV`: Operating system device information

Use the command that is shown to collect only the media manager group diagnostics:

```
nbsu -g MM
```

To collect all operating system group diagnostics and except for the `OS_set` diagnostic, use the command shown:

```
nbsu -g OS -s OS_net
```

`-h` Display the help information.

`-l` List the various collectors. This option does not collect any data. It merely lists all the available collectors.

```
nbsu -l
```

```
NBU_adv_disk
NBU_all_log_entries
NBU_altnames
.
.
.
OS_config
OS_process_list
```

`-nozip`

Do not compress the NBSU output.

`-r` *`NetBackup_role`*

Specify the NetBackup role for which you want to collect data. Specify multiple roles in a comma-separated list. Avoid using the `-r` option with the `-d` option. Accepted values for *`NetBackup_role`* are:

- `ma`: NetBackup master server
- `me`: NetBackup media server
- `cl`: NetBackup client server
- `nbosvm`: NetBackup for Openstack VM

Use the command that is shown to specify the role NetBackup client:

```
nbsu -r cl
```

`-s` *`collector`*

Skip a particular collector. Specify multiple collectors to skip in a comma separated list.

`-sa`

Add an extra test to collect the last 30 days of data on Linux servers.

EXAMPLES

Example: Sample output from the `nbsu` command:

```
NetBackup Install path: C:\Program Files\Veritas\
mywindowsvm is a master server
Collecting NBU_adv_disk info
Collecting NBU_all_log_entries info
Collecting NBU_altnames info
Collecting NBU_auth_methods_names info
Collecting NBU_available_media info
Collecting NBU_backup_status info
```

```
Collecting NBU_bpclient info
.
.
.
Collecting OS_filesystem info
Collecting OS_process_list info
Collecting OS_set info
CAB file created successfully.
Final NBSU output located at NBSU_mywindowsvm_master_01172018_085005.cab
The execution time : 662.53431
```

SEE ALSO

See nbcplogs on page 611.

See nbdna on page 673.

nbsvrgrp

nbsvrgrp – manage server groups

SYNOPSIS

nbsvrgrp -add -grpname *name* [*-M master_name*] -server s1:t1:s2:t2:s3:t3...sN:tN -grptype MediaSharing | NOM | AltServerRestore | BackupHostPool [-grpstate ACTIVE | INACTIVE] -description *text*

nbsvrgrp -update -grpname *name* [*-M master_name*] [-addsvr s1:t1:s2:t2:s3:t3...sN:tN] [-remsvr s1:t1:s2:t2:s3:t3...sN:tN] [-grptype MediaSharing | NOM | AltServerRestore] [-grpstate ACTIVE | INACTIVE] [-description *text*]

nbsvrgrp -delete -grpname *name* [*-M master_name*]

nbsvrgrp -list [*-M master_name*] [-grptype MediaSharing | NOM | AltServerRestore] [-grpname *name*] [-grpstate ACTIVE | INACTIVE] [-summary | -verbose | -noverbose]

nbsvrgrp -list_machine_membership [*-M master_name*] -m *machine_name* [-t *machine_type*] [-summary | -verbose | -noverbose]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The nbsvrgrp command adds, changes, deletes, or lists server groups.

Any authorized user can run nbsvrgrp.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

-add

Adds a new server group.

`-addsvr s1:t1:s2:t2:s3:t3...sN:tN`

Specifies a list of server or server-type pairs to be added to a server group. Examples of server types are *master*, *media*, and *ndmp*.

`-change`

Changes an existing server group.

`-delete`

Deletes a server group. This operation fails if it is a Media Sharing Group and media is assigned to the group.

`-description` *text*

Describes the server group. Use double quote marks if the description contains any spaces.

`-grpname` *name*

Specifies the human readable name that is given to a server group. This name is case sensitive. It may only contain the characters a-z, A-Z, 0-9, plus(+), minus(-), underscore(_), and period(.).

`-grptype` *type*

Specifies the group type that is used to designate the purpose of a server group. The current list of group types is `MediaSharing`, `NOM`, `AltServerRead`, and `BackupHostPool`.

`-grpstate ACTIVE | INACTIVE`

Sets or changes the state of a server group. Allowable states are *ACTIVE* and *INACTIVE*.

`-list [-summary | -verbose | -noverbose]`

Lists the information about all server groups. The `-summary` option specifies a brief format for the server group information. The `-verbose` option specifies a detailed format for the server group information. The `-noverbose` option specifies a parsable format for the server group information.

`-list_machine_membership [-summary | -verbose | -noverbose]`

Lists the server groups in which a named machine has membership. The `-summary` option specifies a brief format for the server group information. The `-verbose` option specifies a detailed format for the server group information. The `-noverbose` option specifies a parsable format for the server group information.

`-m` *machine_name*

Machine name to use with the `-list_machine_membership` option.

`-remsvr s1:t1:s2:t2:s3:t3...sN:tN`

Specifies a list of server or server-type pairs to be removed from a server group. Examples of server types are *master*, *media*, and *ndmp*.

`-server s1:t1:s2:t2:s3:t3...sN:tN`

Specifies a list of server (s1, s2,...) and server type (t1, t2,...) pairs to be configured in the server group. Examples of server types are *master*, *media*, and *ndmp*.

`-t` *machine_type*

The machine type that corresponds to the machine that is named in the `-m` option. Examples include *master*, *media server*, and *ndmp*.

NOTES

`nbsvrgrp` provides only limited validation of the option parameters.

EXAMPLES

Example 1 - Add a new media sharing server group that is called *MyServerGroup*, with media servers *larry* and *moe*, and `ndmp` filer *myfiler*:

```
# nbsvrgrp -add -grpname MyServerGroup -server
larry:media:moe:media:myfiler:ndmp -grptype MediaSharing -grpstate
ACTIVE -description "my description with spaces"
```

Example 2 - List all server groups that are configured:

```
# nbsvrgrp -list -summary
```

netbackup_deployment_insights

`netbackup_deployment_insights` – usage tool that gathers, analyzes, and reports master server information regarding clients and capacity

SYNOPSIS

netbackup_deployment_insights --debug-inputs *dir1* [*dir2dir3*]

netbackup_deployment_insights --gather [--bpimagelist=*options*] <--capacity ¦ --traditional> [--hoursago=*number*] [--log=*filename*] [--master=*hostname*] [--nolog] [--output=*directory*] [--runtimestats] [-start *date* [-end *date*]] [--client-timeout *seconds*] [--exclude-clients *client1*[,*client2*,...]] [--exclude-clientlist *path*] [--exclude-all-clients] [--credential-file *filename*] [--apikey-file *filename*]

netbackup_deployment_insights --report <--capacity ¦ --traditional> [--day-boundary=*time*] [*dir1 dir2 dir#* | --dirsfile=*filename* | --parentdir=*directory*] [--log=*filename*] [--nolog] [--overlap-details] [--runtimestats]

netbackup_deployment_insights --retry *dir1* [*dir2dir#*]

netbackup_deployment_insights --version

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

With NetBackup 9.1, `nbdeployutil` is renamed to `netbackup_deployment_insights`. Veritas recommends that you use the `netbackup_deployment_insights` command when you manually generate the license reports. You can continue to use the `nbdeployutil` command with the same options.

The `netbackup_deployment_insights` tool gathers and analyzes deployment information from the master server. The tool performs a deployment analysis according to one of two NetBackup licensing models, either Traditional Licensing or Capacity Licensing. A Traditional Licensing deployment analysis counts the

number of clients and servers then compares this information against licensed options. Capacity Licensing deployment analysis calculates how much source data is protected.

The command is run in two steps. `netbackup_deployment_insights` gathers the data in the first step and analyzes the data in the second step.

The `netbackup_deployment_insights` command supports incremental reporting. With this feature, `netbackup_deployment_insights` runs based on a specified frequency to incrementally gather data and generate capacity-based licensing reports. For more information on how to enable and use this feature, see the NetBackup Administrator's Guide Volume II.

The tool generates a log file named `nbdeployutil-gather-`*`timestamp`*`.log` during the gathering operation. The tool generates a log file named `nbdeployutil-report-`*`timestamp`*`.log` during the analysis and the report generating operation. By default the log files are created in the directory where the gathered data resides.

For more information on Traditional and Capacity based licensing, see the NetBackup Administrator's Guide Volume II.

OPERATIONS

`--apikey-file` *`filename`*

Use this option to specify path to a file containing the NetBackup API keys. The format of the file is as shown:

`NetBackup primary server hostname : APIKey`

There can be multiple NetBackup primary server host name entries. Place each primary server and its corresponding API key file on a new line. The `netbackup_deployment_insights` command uses the API key that corresponds to the NetBackup primary server host that it connects to.

`NetBackup primary server hostname 1 : APIKey 1`
`NetBackup primary server hostname 2 : APIKey 2`
`NetBackup primary server hostname n : APIKey n`

Veritas recommends that you use API keys to authenticate the user to the NetBackup Web Management service. If multifactor authentication is configured, you must use API keys. For multiple NetBackup domains, ensure that you provide API keys for all the primary servers.

`--client-timeout` *`seconds`*

This option enforces a time-out for `bptestbpcd` within `nbdeployutil` independent of the NetBackup configuration.

This option is only applicable if the `--gather` option is specified. The option not applicable if `--capacity` is specified.

`--debug-inputs`

Converts the files that are used to generate the report into human-readable format. These new files are easier to read than the raw output. You can only specify the directories that contain basic ASCII characters. Directories with extended ASCII characters are not permitted.

`--exclude-all-clients`

This option lets you exclude all clients from `bptestbpcd` connections. The specified clients show up in the report as unconnectable.

This option is only applicable if the `--gather` option is specified. The option not applicable if `--capacity` is specified.

`--exclude-clientlist` *path*

Use this option to specify a file that contains a list of clients to exclude from `bptestbpcd` connections. List each client name on a separate line within the file. The specified clients show up in the report as unconnectable.

This option is only applicable if the `--gather` option is specified. The option not applicable if `--capacity` is specified.

`--exclude-clients` *client1*`[,`*client2*`,...]`

This option lets you exclude any of the specified clients from `bptestbpcd` connections. The specified clients show up in the report as unconnectable.

This option is only applicable if the `--gather` option is specified. The option not applicable if `--capacity` is specified.

`--gather`

Collects the data for analysis with the `report` option. You must use either the `capacity` or the `traditional` parameter when using the `--gather` operation. Only data for the specified license model (`capacity` or `traditional`) is collected.

When you run the `netbackup_deployment_insights --gather` command in capacity or traditional licensing, you are prompted for additional information. You must enter the credential information that is shown for authentication of the NetBackup web management service:

- **Domain Type**: Enter a domain type value from `NIS`, `NISPLUS`, `WINDOWS`, `vx`, `unixpwd`, `ldap`. This value is case-sensitive.
- **Domain Name**: Name of the domain that the master server host belongs to. If the master server does not belong to any domain, enter the name of the master server.

- **User name**: Name of the user that has administrator privileges.
- **Password**: The password of the same user that has administrator privileges. When you enter the password, characters are intentionally not displayed in the command line.

In a multi-master server scenario, you must enter the credentials for all the master servers that are mentioned with the `gather` command.

`--report`

Produces a license report based on the data that is collected with the `gather` option. Specify the directory or list of directories for the tool to use for the report. You must use either the `capacity` or the `traditional` parameter when using the `--report` operation.

`--retry`

Reruns the gather operation and attempts to reconnect to hosts which failed during gather process as determined by the information in the gather directory. This action is helpful with the traditional licensing model when multiple hosts are reported as unreachable.

`--version`

Returns the version of the command. This option is used to identify the latest NetBackup product version the command is designed to run against. The version string also indicates special versions of the tool, such as engineering binaries. This option is useful if tool was manually copied to a pre-7.1 master server.

OPTIONS

`--bpimagelist`

Use to pass specific options to `bpimagelist` command during the `gather` part of the process.

`--capacity`

Specifies the license model when used with `gather` or `report`. Use `capacity` to report on deployment according to NetBackup's per terabyte capacity licensing model.

`--credential-file` *`filename`*

Used to specify the file that NetBackup reads for the credentials for user authentication. Use of this option allows NetBackup to read this information without the need to prompt the user for it. You can also specify credentials for multiple primary servers in the file.

The credential file must have the information shown in the order specified. Each item is on its own line. Repeat this order without empty lines for each additional primary server.

```
Primary server name
Domain type
Domain name
Username
Password
```

`--day-boundary`

Moves the start of the report window for creating reports. The default report window starts at midnight and runs to 11:59:59 P.M. Specify the *time* value as *hh:mm* in 24-hour notation, where 6:00 A.M. is `06:00` and 6:00 P.M. is `18:00`.

`--dirsfile`

A file containing a list of directories which the `report` parameter uses to generate a report. This parameter is an alternative to listing all the files after the `report` parameter. You can also use the `parentdir` parameter to list a parent directory for the `report` parameter to use.

`--end`

Specifies the end date for a restricted date range of the collection period. This option is used only with the `start` option. The format for this parameter is `"MM/DD/YYYY hh:mm:ss"`. Specify the time value *hh:mm:ss* in 24-hour notation, where 6:00 A.M. is `06:00:00` and 6:00 P.M. is `18:00:00`. Double quotation marks must surround the date time value.

`--hoursago`

Changes the default value for the image gather time interval. The value is specified in hours. The default value is 2160 hours (90 days).

`--log`

Forces the log output to go to a specific log file. By default, the log output is written to a log file within the directory where the gathered data and report is stored.

`--master`

Gathers capacity licensing data for the specified master server. This option is only used with `--gather`. For the local host to gather data from a remote server, the host name must appear in the server list of the remote server.

This option only supports remotely gathered capacity licensing information. Remotely gathered traditional licensing data is not supported.

`--nolog`

Disable the creation of the debug log file.

`--output`

Saves the results in the indicated output directory. You can only specify the directories that contain basic ASCII characters. Directories with extended ASCII characters are not permitted. If the operation is a `gather`, the output directory holds gathered data. For `report` operations, the report and log file are put in the output directory instead of co-located with the gathered data in the specified input directory. If the output option is not specified, the output is placed in the following directory:

- UNIX: `/usr/openv/var/global/reports/`*`YYYYMMDD_hhmmss_masterserver`*
- Windows: *`install_path`*`\NetBackup\var\global\reports\`*`YYYYMMDD_hhmmss_masterserver`*

`--overlap-details`

Displays the duplicate backup selections in the **Duplicate Selections** column of the capacity licensing report. This option can only be used for ASCII or English-only characters in the backup selection data.

`--parentdir`

Specifies the top level in a directory tree containing many directories with the gathered licensing data that the `report` parameter should use to generate a report. You can also use the `dirsfile` parameter to specify a file that contains a list of directories.

`--runtimestats`

Displays the run time statistics for the tool. The statistics include memory and CPU usage.

Example UNIX output:

```
stats  mem 40.1 M, cpu 27.0% after splitting t/fixture/
nbdeployutil_sidon/bpimagelist_sidon.out
stats  mem 40.1 M, cpu 28.0% after parsing records from t/fixture/
nbdeployutil_sidon/tmp/policy_db_arc_tab_2gig_nt_client_totem7.out
stats  mem 40.6 M, cpu 50.0% after calculating for UNKNOWN-1 in
t/fixture/nbdeployutil_sidon/ stats  mem 40.6 M, cpu 51.0% after
main report loop took 1 sec
```

`--start`

Specifies the start date for a restricted date range for the collection period. The format for this parameter is `"MM/DD/YYYY hh:mm:ss"`. Specify the time value

hh:mm:ss in 24-hour notation, where 6:00 A.M. is `06:00:00` and 6:00 P.M. is `18:00:00`. Be aware the double quotation marks around the date time value are required.

`--traditional`

Used with `gather` or `report` to specify the license model. Use `--traditional` to report on deployment according to NetBackup traditional per server licensing model. The default value is 2160 hours (90 days).

`--verbose`

Outputs detailed progress information of the tool to the screen, which has no effect on the information in the debug log file. The contents of the log file are always verbose.

PREREQUISITES

The following are the prerequisites for the `netbackup_deployment_insights` tool:

- The master server daemons or services must run in the environment to gather the data.
- Confirm that sufficient disk space exists on the master server that runs the gather command. Gathering capacity licensing data collects `bpimagelist` output for the previous 90 days. The size of the output is a function of the number of images in the catalog for that period. The default time period can be moved or shrunk. Shorter time range analysis causes less accurate or incomplete figures.
- Microsoft Excel is required to view the report. The software does not have to be installed on the master server.

EXAMPLES

Example 1 - Collect data for a capacity licensing report. The directory paths are for a UNIX system, but this example applies to a Windows system as well.

```
# ./netbackup_deployment_insights --gather --capacity
NetBackup Deployment Insights, version 9.0.1
Gathering license deployment information...
  Discovered master server punnbuucsm5b38-vm80

Enter credentials for Master Server(s):

Master Server:punnbuucsm5b38-vm80
Domain Type (NIS, NISPLUS, WINDOWS, vx, unixpwd, ldap):unixpwd
Domain Name  :punnbuucsm5b38-vm80
User Name    :root
```

```
Password     :

Data gather is in progress. This process might take some time.
  Output for punnbuucsm5b38-vm80 at: /usr/openv/var/global/reports/
20210309_101511_punnbuucsm5b38-vm80
Gather DONE
Execution time: 25 secs
To create a report for this master server, run the following:
  netbackup_deployment_insights --report --capacity /usr/openv/var/global/
reports/20210309_101511_punnbuucsm5b38-vm80
#
```

Example 2 - Generate a capacity licensing report with the data from example 1. The directory paths are for a UNIX system, but this example applies to a Windows system as well.

```
# ./netbackup_deployment_insights --report --capacity /usr/openv/var/
global/reports/20210309_101511_punnbuucsm5b38-vm80
NetBackup Deployment Insights, version 9.0.1
Analyzing license deployment ...
  Report created at: /usr/openv/var/global/reports/
20210309_101511_punnbuucsm5b38-vm80/report-capacity-punnbuucsm5b38-
vm80-20210309_101705.xls
Analysis DONE
Execution time: 0 sec
#
```

Example 3 - Collect data for a traditional licensing report. The directory paths are for a UNIX system, but this example applies to a Windows system as well.

```
# ./netbackup_deployment_insights --gather --traditional
NetBackup Deployment Insights, version 9.0.1
Gathering license deployment information...
  Discovered master server punnbuucsm5b38-vm80
  Output for punnbuucsm5b38-vm80 at: /usr/openv/var/global/reports/
20210309_101809_punnbuucsm5b38-vm80
Gather DONE
Execution time: 9 secs
To create a report for this master server, run the following:
  netbackup_deployment_insights --report --traditional /usr/openv/var/
global/reports/20210309_101809_punnbuucsm5b38-vm80
#
```

Example 4 - Generate a traditional licensing report with the data from example 3. The directory paths are for a UNIX system, but this example applies to a Windows system as well.

```
# ./netbackup_deployment_insights --report --traditional /usr/openv/var/
global/reports/20210309_101809_punnbuucsm5b38-vm80
NetBackup Deployment Insights, version 9.0.1
Analyzing license deployment ...
  Report created at: /usr/openv/var/global/reports/
20210309_101809_punnbuucsm5b38-vm80/report-traditional-punnbuucsm5b38-
vm80-20210309_101945.xls
Analysis DONE
Execution time: 1 sec
#
```

Example 5 - Collect the data with capacity licensing as specified in the credential file that has multiple primary server credentials.

```
#./netbackup_deployment_insights --gather --capacity
--master=nb-host1,nb-host2 --credential-file
/usr/openv/var/global/cred-file
```

The `cred-file` file contains the information shown:

```
nb-host1
unixpwd
testdomain1
user1
testpass1
nb-host2
unixpwd
testdomain2
user2
testpass2
```

SEE ALSO

See bpimagelist on page 176.

See nbdeployutil on page 647.

resilient_clients

`resilient_clients` – run utility that enables resiliency in clients to WAN latency and the interruptions that cause communication failures

SYNOPSIS

resilient_clients on | off *client1* [*client2* ...]

resilient_clients status [*client1* ...]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `resilient_clients` utility enhances the communication between the client in a remote office and the NetBackup server in a central office. Clients are made resilient to wide area network (WAN) high latency and the interruptions that can cause operations to fail.

You must have administrator privileges to run this command.

OPTIONS

on | off *client1* [*client2* ...]

Turns resiliency on and off for the specified client or clients.

status [*client1* ...]

Displays the resiliency setting (on or off) of the specified client or clients. If no clients are listed, it displays the status of all clients of this master server.

restoretrace

`restoretrace` – consolidate debug logs for a restore job

SYNOPSIS

restoretrace [-master_server *name*] [-job_id *number*] [-client_name *name*] [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy...*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `restoretrace` utility consolidates the debug logs for the specified restore jobs. It copies to standard output the debug log lines relevant to the specified restore jobs. The messages sort by time. The utility tries to compensate for time zone changes and clock drift between remote servers and clients. The output is formatted to easily sort or group by timestamp, program name, server, or function for the following: `bprd` on the master server, `bpbrm` and `bptm-bpdm` on the media server, and `tar` on the client. For best results, set the verbose logging level to 5. Enable debug logging for `bpdbm` on the master server and for `bpcd` on all servers and clients in addition to already identified processes.

You must have administrator privileges to run this command.

OPTIONS

`-master_server` *name*
: Name of the master server. Default is the local host name.

`-job_id` *number*
: Job ID number of the restore job to analyze.

`-client_name` *name*
: Client name of the jobs to analyze.

`-start_time` *hh:mm:ss*
: Earliest timestamp to start analyzing the logs.

`-end_time` *`hh:mm:ss`*

Latest timestamp to finish analyzing the logs.

`mmddyy` `[`*`mmddyy...`*`]`

One or more day stamps that identify the log file names (`log.mmddyy` for UNIX, and `mmddyy.log` for Windows) that `restoretrace` analyzes.

NOTES

Media Manager logs are not analyzed.

EXAMPLES

Example 1 - Consolidate debug logs of all the restore jobs for the client *peony* on `071502`. Use the `start_time` and `end_time` parameters to limit the window for the jobs that are evaluated.

UNIX systems:

```
/usr/openv/netbackup/bin/admincmd/restoretrace -job_id 234
081302 log.234
```

Windows systems:

```
C:\Program Files\Veritas\NetBackup\bin\admincmd\restoretrace
client peony install_path C:\Program Files\Veritas 071502
log.peony
```

stopltid

`stopltid` – stop the Media Manager device daemon

SYNOPSIS

`stopltid`

`The directory path to this command is /usr/openv/volmgr/bin/`

DESCRIPTION

This command operates only on UNIX systems.

The `stopltid` command stops `ltid`, `avrd`, and the robotic daemons.

The `ltid` command starts the Media Manager device daemon (`ltid`) and Automatic Volume Recognition daemon (`avrd`). These daemons manage Media Manager devices. With both daemons started, an operator can initiate the operator display, observe the drive status, and control the assignment of requests to standalone drives. `ltid` can be placed in a system initialization script.

The Media Manager volume daemon, `vmd`, also starts with the `ltid` command. `ltid` also starts the appropriate robotic daemons, if robotic devices were defined in Media Manager.

You must have administrator privileges to run this command.

ERRORS

Error messages are logged by using `syslogd`.

SEE ALSO

rc(8), syslogd (UNIX commands)

See ltid on page 544.

See tpconfig on page 964.

See tpunmount on page 990.

tldd

tldd – Tape library DLT (TLD) daemon (process) or control daemon (process).

SYNOPSIS

tldd [-v]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

tldd and tldcd interface with Media Manager to mount and unmount volumes in a tape library DLT (TLD) robot.

ltid is the Media Manager device daemon on UNIX systems and the NetBackup Device Manager service on Windows systems. tldd directly interfaces with ltid. tldd runs on each host with a drive connection and sends mount and unmount requests to the control daemon (tldcd). tldcd communicates directly with the robotics through a SCSI interface.

The following items apply only to NetBackup Enterprise Server:

- TLD robotic control software permits drives in the same robot to be configured on different hosts. tldcd may be running on a different host than tldd, depending on where the interface connection resides (see EXAMPLES). When the connection is established (the path for robotics can be opened), tldd puts the TLD robot in the UP state. It then can mount and unmount volumes. If the robotics are inaccessible, tldd changes the robot to the DOWN state. In this state, tldd is still running and returns the robot to the UP state if tldcd is able to make a connection.
- If drives are on different NetBackup hosts, enter the robotic information in the Media and Device Management of the Administration Console on all computers. The robot number must be the same on all computers.

On UNIX systems, tldd and tldcd automatically start and stop when ltid is started and stopped. To stop or start tldd independently of ltid, use /usr/openv/volmgr/bin/vmps or your server's ps command to identify the tldd process ID. Then enter the following commands:

```
kill tldd_pid
/usr/openv/volmgr/bin/tldd [-v] &
```

The control daemon, `tldcd`, is on the host that has the robotic control. `tldd` on that host automatically starts it (see EXAMPLES).

On Windows systems, `tldd` and `tldcd` are started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, `tldcd`, is on the host that has the robotic control. `tldd` starts it automatically on that host (see EXAMPLES). `tldcd` stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems) or `ltid`, define the following information: the media ID and slot number for volumes in a robot in the EMM database.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` for information on setting the frequency to clean the drive automatically.

The drives are logically numbered 1 through *n*, where *n* is the number of drives in the robotic library. Use one or more of the following to determine the correct robot drive numbers:

- The Device Configuration Wizard (if the robotic library and drives support serialization).
- The robotic library vendor's documentation on how to index drives.
- The robotic test utility, or experiment by mounting media and watch the operator display.

On UNIX systems, the Internet service port number for `tldcd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services.

On Windows systems, the Internet service port number for `tldcd` must be in `%SystemRoot%\system32\drivers\etc\services`.

The default service port number is 13711.

You must have administrator privileges to run this command.

OPTIONS

The following option operates only on UNIX systems.

`-v` Logs debug information by using `syslogd`. If you start `ltid` with `-v`, `tldd` and `tldcd` are also started with `-v`.

ERRORS

Media Manager logs any tape library DLT and robotic errors to the Windows application event log. Log entries are also made when the state changes between UP and DOWN.

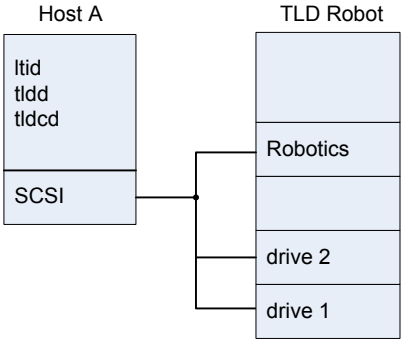
`tldd` and `tldcd` log an error message if another copy of the daemon is in operation.

Media Manager logs any tape library DLT and robotic errors to `syslogd`. Log entries are also made when the state changes between UP and DOWN.

EXAMPLES

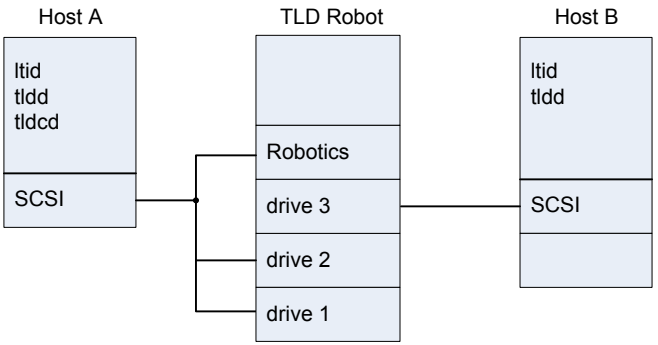
Example 1 - In the following diagram, the two drives and the robotics connect to Host A. `ltid` initiates `tldd`, which in turn initiates `tldcd`.

Figure A-1 Use of tldd with single host and TLD robot



Example 2 - This example applies only to NetBackup Enterprise Server. In the following diagram, each host connects to one drive and the robotics connect to host A. `ltid` on each computer initiates `tldd`. The `tldd` on host A also initiates `tldcd`, since that is where the robotic control is defined. Requests to mount tapes from host B go to `tldd` on host B, which sends the robotic command to `tldcd` on host A.

Figure A-2 Use of tldd with two hosts connected to TLD robot



SEE ALSO

See tldcd on page 954.

See tpclean on page 961.

See tpconfig on page 964.

See ltid on page 544.

syslogd

tldcd

tldcd – Tape library DLT (TLD) control daemon (process)

SYNOPSIS

tldcd [-v] [-t]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

tldd and tldcd interface with Media Manager to mount and unmount volumes in a tape library DLT (TLD) robot.

ltid is the Media Manager device daemon on UNIX systems and the NetBackup Device Manager service on Windows systems. tldd directly interfaces with ltid. tldd runs on each host with a drive connection and sends mount and unmount requests to the control daemon (tldcd). tldcd communicates directly with the robotics through a SCSI interface.

The following items apply only to NetBackup Enterprise Server:

- TLD robotic control software permits drives in the same robot to be configured on different hosts. tldcd may be running on a different host than tldd, depending on where the interface connection resides (see EXAMPLES). When the connection is established (the path for robotics can be opened), tldd puts the TLD robot in the UP state. It then can mount and unmount volumes. If the robotics are inaccessible, tldd changes the robot to the DOWN state. In this state, tldd is still running and returns the robot to the UP state if tldcd is able to make a connection.
- If drives are on different NetBackup hosts, enter the robotic information in the Media and Device Management of the Administration Console on all computers. The robot number must be the same on all computers.

On UNIX systems, tldd and tldcd automatically start and stop when ltid is started and stopped. To stop or start tldd independently of ltid, use /usr/openv/volmgr/bin/vmps or your server's ps command to identify the tldd process ID. Then enter the following commands:

```
kill tldd_pid
/usr/openv/volmgr/bin/tldd [-v] &
```

The control daemon, `tldcd`, is on the host that has the robotic control. `tldd` on that host automatically starts it (see EXAMPLES).

On Windows systems, `tldd` and `tldcd` are started when the NetBackup Device Manager service is started. They are stopped when this service is stopped. The control process, `tldcd`, is on the host that has the robotic control. `tldd` starts it automatically on that host (see EXAMPLES). `tldcd` stops when you stop the NetBackup Device Manager service.

Before you access any volumes through the NetBackup Device Manager service (Windows systems) or `ltid`, define the following information: the media ID and slot number for volumes in a robot in the EMM database.

If a cleaning volume is used, it must be defined in the volume configuration. See `tpclean` for information on setting the frequency to clean the drive automatically.

The drives are logically numbered 1 through *n*, where *n* is the number of drives in the robotic library. Use one or more of the following to determine the correct robot drive numbers:

- The Device Configuration Wizard (if the robotic library and drives support serialization).
- The robotic library vendor's documentation on how to index drives.
- The robotic test utility, or experiment by mounting media and watch the operator display.

On UNIX systems, the Internet service port number for `tldcd` must be in `/etc/services`. If you use NIS (Network Information Service), place the entry in this host's `/etc/services` file in the master NIS server database for services.

On Windows systems, the Internet service port number for `tldcd` must be in `%SystemRoot%\system32\drivers\etc\services`.

The default service port number is 13711.

You must have administrator privileges to run this command.

OPTIONS

The following options operate only on UNIX systems.

`-v` Logs debug information by using `syslogd`. If you start `ltid` with `-v`, `tldd` and `tldcd` are also started with `-v`.

`-t` Terminates `tldcd`.

ERRORS

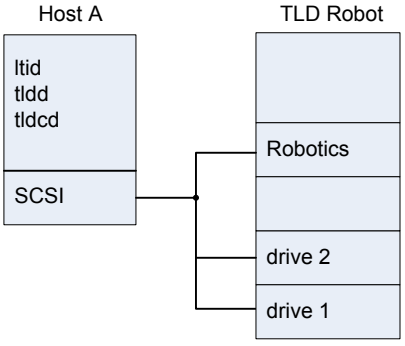
`tldd` and `tldcd` log an error message if another copy of the daemon is in operation.

Media Manager logs any tape library DLT and robotic errors to `syslogd` on UNIX systems, or to the Windows application event log on Windows systems. Log entries are also made when the state changes between UP and DOWN.

EXAMPLES

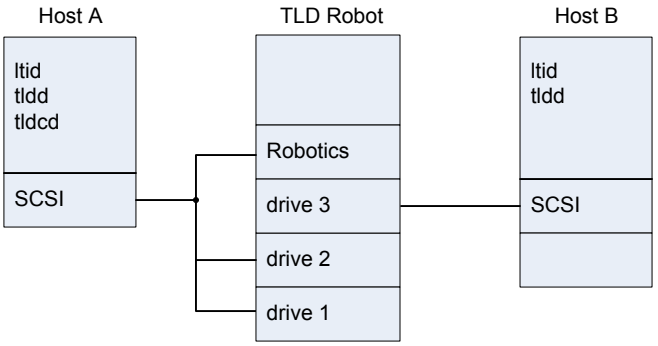
Example 1 - In the following diagram, the two drives and the robotics connect to Host A. `ltid` initiates `tldd`, which in turn initiates `tldcd`.

Figure A-3 Use of `tldcd` with single host and TLD robot



Example 2 - This example applies only to NetBackup Enterprise Server. In the following diagram, each host connects to one drive and the robotics connect to host A. `ltid` on each computer initiates `tldd`. The `tldd` on host A also initiates `tldcd`, since that is where the robotic control is defined. Requests to mount tapes from host B go to `tldd` on host B, which sends the robotic command to `tldcd` on host A.

Figure A-4 Use of `tldcd` with two hosts connected to TLD robot



SEE ALSO

See tldd on page 950.

See tpclean on page 961.

See tpconfig on page 964.

See ltid on page 544.

syslogd (UNIX command)

tpautoconf

`tpautoconf` – discover and configure devices

SYNOPSIS

tpautoconf -get_gdbhost

tpautoconf -set_gdbhost *host_name*

tpautoconf -verify *ndmp_host_name*

tpautoconf -probe *ndmp_host_name*

tpautoconf -report_disc

tpautoconf -replace_drive *drive_name* -path *drive_path*

tpautoconf -replace_robot *robot_number* -path *robot_path*

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

The Device Configuration Wizard normally uses `tpautoconf` to discover devices. This wizard calls `tpautoconf` with a different set of options.

The `get` and the `set` options are useful in special situations. For example, use them to specify a different host as the Enterprise Media Manager (EMM) server. The EMM server name is automatically defined when NetBackup is installed.

For more about how to manage the EMM server, see "About the Enterprise Media Manager" in the *NetBackup Administrator's Guide, Volume I*.

Use `-report_disc`, `-replace_drive`, and `-replace_robot` to reconfigure the devices in the EMM database to reflect a serial number change that a configured device replacement caused. After hardware replacement, the correction process requires that at least one system is available through the operating system. You may need to re-map, rediscover, and restart the system.

After you configure the server or servers, use the `-report_disc` option to scan the current hardware and compare it with the configured hardware. A list of discrepancies appears and shows the replaced hardware and the new hardware.

Note: Not all servers have access to robotic hardware. Even though no access is expected, these robots are listed as missing.

The final step to add replacement hardware is to configure the hardware on all servers by their operating systems. Then run the Device Configuration Wizard to configure the new path information.

You must have administrator privileges to run this command.

OPTIONS

Note: Only limited validation of the option parameters is done.

`-get_gdbhost`

Returns the name of the EMM server host.

`-set_gdbhost host_name`

Sets the name of the EMMSERVER entry in bp.conf.

`-probe` *`ndmp_host_name`*

Lists all devices that are attached to the NDMP host.

`-report_disc`

Enables the device data to be queried from the EMM server to enable a "diff" to be run on these data records against those scanned. You can run this command on reconfigured servers to produce a list of new and missing hardware. This command scans for new hardware and produces a report that shows the new and the replaced hardware.

`-replace_drive` *`drive_name`* `-path` *`drive_path`*, `-replace_robot` *`robot_number`* `-path` *`robot_path`*

The EMM database is used to query or to update robot drives and robot records.

Note: On Windows systems, *drive_path* is a non-NDMP Windows device path for drives and *robot_path* is a non-NDMP Windows device path for robots. Use the path in the {p,b,t,l} format (where p -port, b -bus, t -target, and l -lun). This information is located in the registry.

`-verify` *`ndmp_host_name`*

Verifies the server name of the NDMP host.

EXAMPLES

Example 1 - Return the name of the host where the Enterprise Media Manager database is stored:

```
# tpautoconf -get_gdbhost
```

Example 2 - Set the Enterprise Media Manager Server to be the host `server2`:

```
# tpautoconf -set_gdbhost server2
```

Example 3 - Show the `-report_disc` command reports discrepancies between detected devices and the EMM database. Included is an example of how to use the `-replace_drive` *`drive_name`* `-path` *`drive_path`* command.

```
# tpautoconf -report_disc
====================== New Device (Tape) ======================
 Inquiry = "QUANTUM DLT8000         0250"
 Serial Number = PXB08P3242
 Drive Path = /dev/rmt/119cbn
 Found as TLD(6), Drive = 1
===================== Missing Device (Drive) ====================
 Drive Name = QUANTUMDLT800014
 Drive Path = /dev/rmt/9cbn
 Inquiry = "QUANTUM DLT8000         0250"
 Serial Number = PXB08P1345
 TLD(6) definition Drive = 1
 Hosts configured for this device:
  Host = plum
  Host = avocado
# tpautoconf -replace_drive QUANTUMDLT800014 -path /dev/rmt/119cbn
Found a matching device in EMM DB, QUANTUMDLT800014 on host plum
  update on host plum completed
Found a matching device in EMM DB, QUANTUMDLT800014 on host avocado
  update on host avocado completed
```

SEE ALSO

See tpconfig on page 964.

tpclean

`tpclean` – manage the cleaning of the tape drive

SYNOPSIS

tpclean -L | -C *drive_name* [-priority *number*] | -M *drive_name* | -F *drive_name cleaning_frequency*

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

`tpclean` enables you to monitor Media Manager tape drive usage and optionally configure tape drives to be cleaned automatically. (This function does not apply to drives in ACS robots or QIC drives.)

Media Manager tracks the total amount of time that volumes have been mounted in the drives. You can use `tpclean` to specify a cleaning frequency (in hours) for a drive.

The drive is cleaned if the following conditions are true:

- The mount time exceeds the cleaning frequency.
- A TapeAlert "CLEAN NOW" or "CLEAN PERIODIC" flag has been raised.
- The drive is in a robot.
- The Media Manager volume configuration shows a cleaning tape in the robot.

The Comment field in the `tpclean -L` output contains the message, NEEDS CLEANING, if the following are true:

- The mount time exceeds the cleaning frequency.
- The drive is a standalone drive or does not have a defined cleaning tape.

Manually clean the drive and reset the mount time by using the `-M` option.

For the `-C`, `-M`, and `-F` options to operate, the following must occur: `ltid` must be running on UNIX systems, or the NetBackup Device Manager service must be running on Windows systems.

For more about TapeAlert and other drive-cleaning topics, see the *NetBackup Administrator's Guide, Volume II*.

In a NetBackup Enterprise Server, a frequency-based cleaning is not supported for shared drives.

You must have administrator privileges to run this command.

OPTIONS

`-C drive_name`

Initiates the cleaning of a drive in a robot. The drive must be defined in a robot and a defined cleaning tape in the Media Manager volume configuration. The mount time is reset to zero. The drive name is the name that was assigned to the drive when it was added to the configuration.

`-L`

Prints the cleaning statistics. (On UNIX systems, it prints to `stdout`.)

`-priority number`

Specifies a new priority for the job at which `tpclean` gets a media-drive pair of resources. The new priority overrides the default job priority.

`-M drive_name`

Indicates that the drive was manually cleaned. The mount time is reset to zero. The drive name is the name that was assigned to the drive when it was added to the device configuration.

`-F drive_name cleaning_frequency`

Sets the cleaning frequency for the specified drive to *cleaning_frequency* hours. The drive name is the name that was assigned to the drive when it was added. The value of *cleaning_frequency* must be between zero (0) hours and 10,000 hours.

NOTES

`tpconfig` -d, `tpconfig` -l, and `vmoprcmd` may truncate long drive names. Use `tpconfig` -dl to obtain the full drive name.

`tpclean` truncates drive names to 22 characters.

EXAMPLES

Example 1 - Display cleaning statistics. An asterisk next to the drive type indicates that the device is defined as robotic.

```
# tpclean -L
Drive Name   Type   Mount Time  Frequency   Last Cleaned   Comment
**********   ****   **********  **********  ************   *******
dlt_drv6     dlt         3.0          0            N/A
```

Example 2 - Set the cleaning frequency for the drive named `dlt_drv6` to 25 hours. The drive is flagged as having a need to be cleaned after 25 hours of mount time has occurred.

```
# tpclean -F dlt_drv6 25
```

Example 3 - Reset the mount time for the drive named `rob_A_drv1` to zero. You normally use this command after you manually clean the drive.

```
# tpclean -M rob_A_drv1
```

Example 4 - Initiate the cleaning of drive `rob_A_drv1`. This example assumes that the drive is a robotic drive with a cleaning tape defined. The mount time is reset to zero.

You can use the `-C` option to force the cleaning of a drive before you reach *cleaning_frequency*. Normally, robotic drives are cleaned automatically when their mount time exceeds the cleaning frequency.

```
# tpclean -C rob_A_drv1
```

Note: To use a cleaning tape, the Cleanings Remaining for that tape must be greater than zero. (This value appears in the volume list of the Media node in the NetBackup Administration Console or from the `vmquery` command.) This cleaning count refers to how many more times the cleaning tape can be used. You can change this count by using the Media node or the `vmchange` command.

SEE ALSO

See ltid on page 544.

See tpconfig on page 964.

tpconfig

tpconfig – run tape configuration utility

SYNOPSIS

UNIX systems: **tpconfig** [-noverify]

tpconfig -d | -dl | -l

UNIX systems: **tpconfig** -add -drive -type *drvtype* -path *drivepath* [-nh *ndmp_hostname*] [-asciiname *asciidrivename*] [-index *drvindex*]] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus UP | DOWN | DISABLED] [-scsi_protection [SPR | SR | NONE] [-robot *robnum* -robtype *robtype*] [-noverify] [-robdrnum *robdrvnum* | -VendorDrvName *venddrvname* | -ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*] [000-preview]

Windows systems: **tpconfig** -add -drive -type *drvtype* -port *port* -bus *bus* -target *target* -lun *lun* [-asciiname *asciidrivename*] [-index *drvindex*]] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus [UP | DOWN | DISABLED]] [-scsi_protection [SPR | SR | NONE]] [-robot *robnum* -robtype *robtype*] [-noverify] [-robdrnum *robdrvnum* | -VendorDrvName *vendor_drive_name*] [-ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*] [preview]

UNIX systems: **tpconfig** -update -drive *drvindex* [-type *drvtype*] [-path *drivepath*] [-nh *ndmp_hostname*] [-noverify] [-newasciiname *asciidrivename*]] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus [UP|DOWN|DISABLED]] [-robot *robnum* -robtype *robtype*] [-robdrnum *robdrvnum* | -VendorDrvName *venddrvname* | -ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*]

Windows systems: **tpconfig** -update -drive *drvindex* [-type *drvtype*] [-port *port* -bus *bus* -target *target* -lun *lun*] [-nh *ndmp_hostname* -path *drivepath*] [-noverify] [-newasciiname *asciidrivename*]] [-shared [yes|no]] [-cleanfreq *hours*] [-comment *comment*] [-drstatus [UP|DOWN|DISABLED]] [-robot *robnum* -robtype *robtype*] [-robdrnum *robdrvnum* | -VendorDrvName *vendor_drive_name*] [-ACS *acsnum* -LSM *lsmnum* -PANEL *panelnum* -DRIVE *drivenum*]

tpconfig -delete -drive *drvindex*

tpconfig -multiple_delete -drive *drvindex1*:...:*drvindexN*

tpconfig -add -disk_array *array_hostname* -disk_user_id *user_ID* -arraytype_name "*name:displayname*" -requiredport *IP_port_number* [-password *password* [-key *encryption_key*]]

tpconfig -update -disk_array *array_hostname* -disk_user_id *user_ID* -requiredport *IP_port_number* [-arraytype_name "*name:displayname*"] [-password *password* [-key *encryption_key*]]

tpconfig -delete -disk_array *array_hostname* -disk_user_id *user_ID* [-arraytype_name "*name:displayname*"]

tpconfig -ddiskarrays

tpconfig -list_array_types [*media_server*]

UNIX systems: **tpconfig** -add -robot *robnum* -robtype *robtype* -robpath *devfile* [-nh *ndmp_hostname*]

Windows systems: **tpconfig** -add -robot *robnum* -robtype *robtype* -port *port* -bus *bus* -target *target* -lun *lun*

Windows systems: **tpconfig** -add -robot *robnum* -robtype *robtype* [-nh *ndmp_hostname*] -robpath *changername* [-bus *bus* -target *target* -lun *lun*]

tpconfig -add -robot *robnum* -robtype *robtype* -cntlhost *cntlhost*

UNIX systems: **tpconfig** -update -robot *robnum* [-robtype *robtype*] [-robpath *devfile*] [-cntlhost *cntlhost*]

Windows systems: **tpconfig** -update -robot *robnum* [-robtype *robtype*] [-port *port* -bus *bus* -target *target* -lun *lun* | -cntlhost *cntlhost*]

tpconfig -update -robot *robnum* [-robtype *robtype*] [-robpath *devfile*] [-nh *ndmp_hostname*] [-bus *bus*] [-target *target*] [-lun *lun*]

tpconfig -update -robot *robnum* [-robtype *robtype*]

tpconfig -delete -robot *robnum*

tpconfig -multiple_delete -robot *robnum1*:...:*robnumN*

tpconfig -add -drpath -path *drivepath* [-nh *ndmp_hostname*] -asciiname *asciidrivename* [-drstatus [UP|DOWN|DISABLED]] [-noverify]

UNIX systems: **tpconfig** -update -drpath -old_path *drivepath* -path *drivepath* [-nh *ndmp_hostname*] -asciiname *asciidrivename* [-drstatus [UP|DOWN|DISABLED]] [-scsi_protection SPR|SR|DEFAULT] [-noverify]

Windows systems: **tpconfig** -update -drpath -old_port *port* -old_bus *bus* -old_target *target* -old_lun *lun* -port *port* -bus *bus* -target *target* -lun *lun* -asciiname *asciidrvname* [-drstatus [UP|DOWN|DISABLED]] [-noverify]

UNIX systems: **tpconfig** -delete -drpath -path *drivepath* -asciiname *asciidrivename* [-nh *ndmp_hostname*]

Windows systems: **tpconfig** -delete -drpath -port *port* -bus *bus* -target *target* -lun *lun* | -path *drivepath* [-nh *ndmp_hostname*] -asciiname *asciidrvname*

tpconfig -dnh

tpconfig -dnh -all_hosts

tpconfig -ddnh

tpconfig -add -nh *ndmp_hostname*

tpconfig -add -nh *ndmp_hostname* -user_id | -filer_user_id *user ID* [-password *password* [-key *encryption_key*]] -snap_vault_filer

tpconfig -update -nh *ndmp_hostname* -user_id | -filer_user_id *user ID* [[-password *password* [-key *encryption_key*]]

tpconfig -delete -nh *ndmp_hostname* -user_id | -filer_user_id *user ID*

tpconfig -multiple_delete -nh *ndmp_hostname_1*: ... :*ndmp_hostname_N*

tpconfig -add -default_user_id *user ID* [-password *password* [-key *encryption_key*]]

tpconfig -update -default_user_id *user ID* [-password *password* [-key *encryption_key*]]

tpconfig -delete -default_user_id

tpconfig -add | -update -disk_array *disk_array_host_name* -disk_user_id *user_ID* -arraytype *disk_array_type* -requiredport *IP_port_number* [-password *password* [-key *encryption_key*]]

tpconfig -delete -disk_array *disk_array_host_name* -disk_user_id *user_ID* [-arraytype *disk_array_type*]

tpconfig -ddiskarrays

tpconfig -add | -update -virtual_machine *virtual_machine_name* -vm_user_id *user_id* -vm_type *virtual_machine_type* -requiredport *IP_port_number* [-password *password* [-key *encryption_key*]]

tpconfig -delete -virtual_machine *virtual_machine_name* -vm_user_id *user_id* [-vm_type *virtual_machine_type*]

tpconfig -dvirtualmachines

tpconfig -add -storage_server *server_name* -stype *server_type* -sts_user_id *user_ID* [-password *password*] [-st *storage_type*]

tpconfig -update -storage_server *server_name* -stype *server_type* -sts_user_id *user_ID* [-password *password*]

tpconfig -delete -storage_server *server_name* -stype *server_type* -sts_user_id *user_ID*

tpconfig -dsh [-stype *server_type*]

tpconfig -dsh -all_hosts

tpconfig -dev_ping [-drive -path *drivepath* | -robpath *robotpath*] [-nh *ndmp_hostname*]

Windows systems: **tpconfig** -dev_ping [-drive] -port *port* -bus *bus* -target *target* -lun *lun*

tpconfig -emm_dev_list [-noverbose]

tpconfig -add -application_server *application_server_name* [-application_server_user_id *user_ID*] -application_type *application_type* -requiredport *IP_port_number* [-password *password* [-key *encryption_key*]] [-host_user_id *host user ID*] [-host_password *hostpassword*] [-host_RSA_key *host RSA key*]

tpconfig -update -application_server *application_server_name* [-application_server_user_id *user_ID*] -application_type *application_type* -requiredport *IP_port_number* [-password *password* [-key *encryption_key*]] [-host_user_id *host user ID*] [-host_password *hostpassword*] [-host_RSA_key *host RSA key*]

tpconfig -delete -application_server *application_server_name* [-application_server_user_id *user_ID*] -application_type *application_type* -requiredport *IP_port_number* [-password *password* [-key *encryption_key*]]

tpconfig -dappservers

tpconfig -add_plugin -snapshot_manager *server_name* -plugin_id *netbackup_plugin_ID* -plugin_type *snapshot_manager_plugin_type*

tpconfig -modify_plugin -snapshot_manager *server_name* -plugin_id *netbackup_plugin_ID* -plugin_type *snapshot_manager_plugin_type*

tpconfig -list_plugins --snapshot_manager *server_name*

tpconfig -list_supported_plugins

tpconfig -discover_plugin -snapshot_manager *snapshot_manager_name* -plugin_id *netbackup_plugin_ID*

tpconfig -add -snapshot_manager *snapshot_manager_name* -snapshot_manager_user_id *user_ID* -manage_workload *manage_workload* [-requiredport *IP_port_number*] [-security_token *security_token*]

tpconfig –update –snapshot_manager *snapshot_manager_name* -snapshot_manager_user_id *snapshot_manager_user_id* -manage_workload *manage_workload* [-requiredport *IP_port_number*] [-security_token *security_token*]

tpconfig -snapshot_manager *snapshot_manager_name* [-delete_media_server *media_server*]

tpconfig -list_supported_cloud_providers

tpconfig {-dsnapshotmanagers | -dmediaservers} [-snapshot_manager *snapshot_manager_name*

tpconfig -dsnapshotmanagers [-manage_workload *manage_workload*]

tpconfig -reset_password -snapshot_manager *snapshot_manager_name* -snapshot_manager_user_id *user_ID*

tpconfig -refresh [-snapshot_manager *snapshot_manager_name*]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

`tpconfig` configures robots, drives, drive arrays, drive paths, and hosts for use with NetBackup.

On UNIX systems, `tpconfig [-noverify]` starts the media management and device management utility. This menu-based utility creates and modifies devices in the EMM database. The EMM database identifies the robotics and drives that are under control of `ltid` (the Media Manager device daemon). `ltid` uses this

database to correlate drives in the operator's drive status display to the device files in the `/dev` directory.

For example, assume that you want to configure a drive that the system recognizes as an H-Cart type drive. Look in the `/dev` directory and locate the no rewind on close device path for an H-Cart type drive. Then specify this device path for the drive. `tpconfig` then records the device path in the appropriate device database.

After you use `tpconfig` to change your device configuration, use `stopltid` to stop the `ltid` and `avrd` daemons (if they are running). Then use the `ltid` command to start the daemons again. See `ltid` for more information.

On Windows systems, when your device configuration changes are complete, stop and restart the NetBackup Device Manager service.

You must have administrator privileges to run this utility.

OPTIONS

The following four options apply only to NetBackup Enterprise Server. They specify the configuration for ACS (Automated Cartridge System) robots.

`-ACS` *acsnum*, `-LSM` *lsmnum*, `-PANEL` *panelnum*, `-DRIVE` *drivenum*

acsnum specifies the number for the robotic library as configured on the ACS library software host.

lsmnum specifies the Library Storage Module that has this drive.

panelnum specifies the robot panel where this drive is located.

drivenum specifies the number of this drive.

`-add`

Adds a drive, a robot, a virtual machine, an application server, or Snapshot Manager, depending on the accompanying options.

`-add_media_server` *media_server*

Add the media servers you want to associate with the Snapshot Manager for protecting cloud workloads. To associate multiple media servers, you must run the command multiple times. The media server must be on version 8.1.2 or later. If you do not associate a media server, the NetBackup master server is used.

`-all_hosts`

Displays all hosts that have credentials on a media server.

`-add_plugin`

Adds a Snapshot Manager plug-in to the Snapshot Manager that is configured with NetBackup.

`-application_server` *application_server_name*

Specifies the host name of the application server.

`-application_server_user_id` *user_ID*

Specifies the user name that is required to log into the application server.

`-application_type` *application_type*

Specifies the type of the application server. You can also use values as specified by the third-party plug-in vendor. The example values for the *application_type* are:

- hadoop
- hbase
- mongodb

`-arraytype_name "`*name:displayname*`"`

Specifies the type of the disk array for which to add, update, or delete credentials.

The double quote marks (") are required only if *name* or *displayname* includes one or more spaces.

The disk array vendor provides the values for *name:displayname*. The *name* portion is a unique string used internally by NetBackup. The *displayname* portion is a more human-readable string that is used in NetBackup Administration Console displays and menus.

The values depend on the disk array vendor and the provider type that are used for the array, as follows:

- For an array-specific provider, the format is as follows:

  `vendorID_productID:displayname`

  By default, NetBackup includes several array-specific providers, including (but not limited to) the following:

  - `HP_HSV:HP EVA`
  - `EMC_CLARIION:EMC CLARiiON`
  - `EMC_SYMMETRIX:EMC Symmetrix`
  - `IBM_TOTALSTORAGE:IBM System Storage`
  - `NETAPP_LUN:NetApp`

- For the generic array provider, the format is as follows:

  `OPENARRAY::vendorID_productID:displayname`

  For example, `OPENARRAY::HITACHI_HDS:Hitachi HDS DF Series`.

To determine valid disk array type names, use the `-list_array_types` option.

Requires a Flexible Disk or Snapshot Client license.

`-asciiname` *asciidrivename*

Specifies a name for the drive. This name identifies the drive to Media Manager. If you do not specify a drive name, Media Manager generates a name. If you add or update shared drives (Shared Storage Option), make this name as descriptive as possible.

`-bus` *bus*

Specifies the SCSI bus number to which the robot or drive connects.

See the *NetBackup Device Configuration Guide*.

`-cleanfreq` *hours*

Specifies the number of hours between drive cleanings. When you add a drive, NetBackup starts to record the amount of time that volumes are mounted in that drive.

If the drive is in a robot and a cleaning volume is defined in the robot, the cleaning occurs in the following situation: The accumulated mount time exceeds the time that you specify for the cleaning frequency. NetBackup resets the mount time when the drive is cleaned.

If the drive is standalone or a cleaning tape is not defined, the following message appears in the `tpclean -L` output comment field: NEEDS CLEANING. To clean the drive, use the `tpclean` command.

A frequency-based cleaning is not needed if TapeAlert is used.

`-snapshot_manager` *server_name*

Specifies the host name of the Snapshot Manager.

`-snapshot_manager_user_id` *user_id*

Configures the user name and password for the Snapshot Manager. Use this option with the `-add`, `-update`, or `-delete` command to specify the user name and password of the Snapshot Manager.

`-cntlhost` *cntlhost*

This option is only applicable for NetBackup Enterprise Server.

For a robot whose robotic control is on another host, this option specifies the host that controls the robotic library.

This option applies only for the TLD robots that can have the robotic control on another host. It also applies to ACS robots.

For an ACS robot, specify the host name where the ACS library software is installed.

`-comment` *comment*

Adds a comment about the drive. This field is useful for storing SCSI inquiry data so you can easily check the drive type and firmware level.

`-d`

Lists the current configuration information. On UNIX systems, the listing is sent to *stdout*. This option may truncate drive names to 22 characters.

`-dappservers`

Displays all configured application servers. For example, hadoop server or hbase server.

`-dsnapshotmanagers`

Lists all the Snapshot Managers you have configured NetBackup.

`-ddiskarrays`

Displays all configured disk arrays.

`-ddnh`

Displays the default credentials on the media server.

`-default_user_id` *user_ID*

Configures a user name and password for all media servers and NDMP host combinations under a given master server. You add a user name and password only once per filer. Use this option with the `-add`, `-update`, or `-delete` command to specify the user name and password.

`-delete`

Deletes a drive, robot, or host credentials, depending on the accompanying options.

`-delete_media_server` *media_server*

Delete a media server that is associated with a Snapshot Manager.

`-dev_ping`

Retrieves the device information from a device.

`-discover_plugin`

Initiates discovery of the specified plug-in on the Snapshot Manager that is configured with NetBackup.

`-disk_array` *array_hostname*

Specifies the host name of the disk array. You can only use this option if the NetBackup Snapshot Client license is installed.

`-disk_user_id` *user_ID*

Specifies the user name that NetBackup must use to communicate with a disk array. You can only use this option if the NetBackup Snapshot Client license is installed.

`-dl`

Lists the current configuration information in long format. On UNIX systems, the listing is sent to `stdout`. Lists the full drive name.

`-dmediaservers [-snapshot_manager` *snapshot_manager_name*`]`

Displays all the media servers that are configured with a Snapshot Manager. If you do not provide the Snapshot Manager name, all the media servers that are configured with all the Snapshot Managers are displayed.

`-dnh`

Displays the credentials on the NDMP host that is on the media server.

`-drive`

Use this option with the `-add` option to specify that the action is for a drive.

`-drive` *drvindex*

Specifies the drive index. Use this option with the `-update`, `-delete`, or the `-multiple_delete` command that specifies the action for a drive.

`-drpath`

The drive path that is added, updated, or deleted.

`-drstatus UP|DOWN|DISABLED`

Sets the initial status of the tape drive to the UP, DOWN, or DISABLED state. Discovered drive paths are enabled (UP) by default. An administrator or operator can disable or configure the drive path up/down. The user can also perform this action with options in the Device Management window.

A drive status of DISABLED means NetBackup stores the path but never to use it. In addition, if subsequent discoveries of this drive path occur, NetBackup does not configure it for use.

`-dsh`

Displays the OpenStorage credentials for the specified server type (`-stype`*server_type*) or for all media servers (`-all_hosts`).

`-dvirtualmachines`

Displays all configured virtual computers.

`-emm_dev_list [-noverbose]`

Lists the complete tape device configuration as seen by the EMM database. This information includes all media servers, master server, NDMP hosts, and their credentials.

`-filer_user_id` *user ID*

Configures a user name and password for all media servers that are connected to a filer. You add a user name and password only once per filer. Use this option with the `-add`, `-update`, or `-delete` command to specify the user name and password.

`-host_user_id` *host user ID*

Enter the host's user ID for SSH implementation. Use this option only with relevant BigData workloads. For example, MongoDB needs this option, but these are not required for Hadoop.

`-host_password` *hostpassword*

Enter the host's user password for SSH implementation. Use this option only with relevant BigData workloads. For example, MongoDB needs this option, but these are not required for Hadoop.

`-host_RSA_key` *host RSA key*

Enter the RSA key fingerprint for SSH implementation. Use this option only with relevant BigData workloads. For example, MongoDB needs this option, but these are not required for Hadoop.

`-index` *drvindex*

Specifies a drive index, a unique number that is used to identify the drive. When you add a drive, you are not required to supply a drive index, since Media Manager uses the next available drive index. Each drive on a particular host must have a unique index number.

`-key` *encryption_key*

Creates an encrypted key so that encrypted credentials can be safely sent over the network. You should provide the obfuscated password for the `-key` option.

`-l`

Lists the current device configuration (to `stdout`). On Windows systems, `-l` displays the Windows device paths in the {p,b,t,l} encoded form: p is the port, b is the bus, t is the target, and l is the LUN.

`-list_array_types` [*media_server*]

Lists the disk array types for which you can add and manage credentials.

To restrict the output to the disk array types that are valid for a specific media server, specify that media server.

The command output is in a *name:displayname* format for each array type.

The disk array vendor provides the values for *name:displayname*. The *name* portion is a unique string used internally by NetBackup. The *displayname*

portion is a more human-readable string that is used in NetBackup Administration Console displays and menus.

The values depend on the disk array vendor and the provider type that are used for the array, as follows:

- For an array-specific provider, the format is as follows:
  `vendorID_productID:displayname`

  By default, NetBackup includes several array-specific providers, including (but not limited to) the following:

  - `HP_HSV:HP EVA`
  - `EMC_CLARIION:EMC CLARiiON`
  - `EMC_SYMMETRIX:EMC Symmetrix`
  - `IBM_TOTALSTORAGE:IBM System Storage`
  - `NETAPP_LUN:NetApp`

- For the generic array provider, the format is as follows:
  `OPENARRAY::vendorID_productID:displayname`
  For example, `OPENARRAY::HITACHI_HDS:Hitachi HDS DF Series`.

`-list_supported_cloud_providers`

Lists the integer that is associated with each cloud provider.

`-list_supported_plugins`

Lists all the supported Snapshot Manager plug-ins for the Snapshot Manager that is configured with NetBackup.

`-list_plugins`

List all the configured plug-ins with Snapshot Manager.

`-lun` *lun*

Specifies the logical unit number (or SCSI ID) to which the robot or drive connects.

For more about device paths, see the *NetBackup Device Configuration Guide*.

`-manage_workload`

Specifies if the Snapshot Manager is used for on-premises storage array management or in-cloud workloads. This option is required when you register a Snapshot Manager.

- `ONPREM` specifies that the Snapshot Manager is used for on-premises storage array management.
- `CLOUD` specifies that the Snapshot Manager is used for cloud management.

`-modify_plugin`

Modifies the credentials of a Snapshot Manager plug-in that is added to the Snapshot Manager that is configured with NetBackup.

`-multiple_delete`

Deletes multiple drives or robots, depending on the accompanying options.

`-newasciiname` *`asciidrivename`*

Specifies a new name for the drive.

`-nh` *`ndmp_hostname`* | *`puredisk_hostname`*

Specifies the host name of the NDMP server.

`-noverify`

Drive paths are not verified. Normally, `tpconfig` verifies that the no rewind on close drive path has the correct minor number bits that relate to the following: No rewind, variable, Berkeley-style, and so on. This option may be helpful if you use non-standard platform device files, so make sure that your device files are correct.

`-old_bus` *`bus`*

This option is used on Windows systems. It specifies the SCSI bus number that a user may want to add, upgrade, or delete.

`-old_lun` *`lun`*

This option is used on Windows systems. It specifies the logical unit number (or SCSI ID) to which the robot or drive connects. You can find this information in the registry. Use this command to add, upgrade, or delete an existing logical unit number.

`-old_path` *`drivepath`*

When this option is used with the `-update` command, you can change the path to one that already exists in the database. If the path does not exist, an error occurs.

`-old_port` *`port`*

This option is used on Windows systems. It specifies an existing SCSI port number that a user may want to add, upgrade, or delete.

`-old_target` *`target`*

This option is used on Windows systems. It specifies an existing target number (or SCSI ID) to which the robot or drive connects. Use this command to add, upgrade, or delete an existing target.

`-password` *password*

Sets the password to log on to the NDMP, **Media Server Deduplication Pool**, OpenStorage, virtual machine host, or an application server. The password length should not exceed 100 characters.

`-path` *drivepath*

Specifies the drive's device path on the media server or on the NDMP filer.

On Windows systems, the drive_path variable is a non-NDMP Windows device path for drives. Use it in the {p,b,t,l} format: p is the port, b is the bus, t is the target, and l is the LUN. This information is located in the registry.

`-plugin_id` *netbackup_plugin_ID*

Specify a plug-in ID for NetBackup to associate with the cloud plug-in. The plug-in ID must be unique. The ID can contain only the letters and symbols shown:

- `A-Z, a-z`
- `0-9`
- `+, .,_,-`

`-plugin_type` *snapshot_manager_plugin_type*

Specify the Snapshot Manager plug-in type. You can use the `tpconfig -list_supported_plugins` command to get a list of all the Snapshot Manager supported plug-ins.

`-port` *port*

Specifies the SCSI port number to which the robot or drive connects. You can find this information in the registry.

`-refresh`

Refreshes the Snapshot Manager.

`-requiredport` *IP_port_number*

Specifies the IP port number on which the disk array, a virtual machine, or an application server accepts a connection from NetBackup. The default port number for a Nutanix Acropolis Cluster is 9440. The default port number for Hadoop is HDFS NameNode HTTP UI. The provision to change this port number is available only through the command line interface. If you have configured the host-related parameters for a BigData workload, you must specify all the parameters if you want to update the required port.

`-reset_password`

Resets the Snapshot Manager password.

`-robdrnum` *robdrvnum*

Specifies the physical location (within the robot) of the drive. If you assign the wrong number, NetBackup does not detect it. An error eventually occurs because the robotic control tries to mount media on the wrong drive.

You can usually determine the physical location by checking the connectors to the drives or the vendor documentation.

`-robot` *robnum*

A unique number that identifies the robot to NetBackup. You assign the robot number with the `add` option.

Robot numbers must be unique for all robots, regardless of the robot type or the host that controls them.

On NetBackup Enterprise Server, robot numbers must be unique for all robots that share the same EMM server (and use the same EMM database). This requirement applies regardless of the robot type or the host that controls them. For example, the same EMM server but different hosts control two TLD robots. If so, the robot numbers must be different.

`-robpath` *devfile*

Specifies the robot's device path on the media server or on the NDMP filer.

On Windows systems, the drive_path variable is a non-NDMP Windows device path for drives. Use it in the {p,b,t,l} format: p is the port, b is the bus, t is the target, and l is the LUN. This information is located in the registry.

`-robtype` *robtype*

Specifies the type of robot that you plan to configure and can be any of the types that NetBackup supports. Check the Support website to determine the robot type to specify for a particular model of robotic library.

Robot type can be any of the following for NetBackup Enterprise Server:

`acs` for Automated Cartridge System or `tld` for tape library DLT.

Robot type can be any of the following for NetBackup server:

tld for tape library DLT

`-scsi_protection SPR | SR | NONE`

Specifies the access protection that NetBackup uses for SCSI tape drives.

SPR - SCSI Persistent Reserve In / Persistent Reserve Out

SR - SCSI Reserve/Release

NONE - No SCSI access protection

The default condition is SCSI Reserve/Release (SR).

`-security_token`

Specifies either a standard or a reissue token.

This parameter is mandatory when the `manage_workload` option is `CLOUD`. When you add a Snapshot Manager with NetBackup security level as `VERY HIGH`, the value of `security_token` parameter must be standard token. When you update a Snapshot Manager, the value of `security_token` parameter must be reissue token of the Snapshot Manager host.

`-shared yes|no`

Indicates that you want to add or update shared drives.

`-snap_vault_filer`

The `-snap_vault_filer` flag is used with the NetApp P3 feature. Set this flag when the user name and password for that filer are stored. If not set, the user interfaces do not allow the user to add volumes on this filer. If you stash the user name and password without this flag, do the following: Decide if you want its functionality, do a `tpconfig -delete` operation, and then re-add it with the flag. This flag is used with the NetApp P3 feature when used in the following context:

```
tpconfig -add -user_id root -nh mmnetapp2-target target
-snap_vault_filer
```

`-st` *`storage_type`*

Specifies a numeric value that identifies the storage server properties. The storage vendor provides this value. Whether the disk is formatted and how it is attached are mutually exclusive and complementary.

The following are the possible values of *storage_type*:

- Formatted disk = 1
- Raw disk = 2
- Direct attached = 4
- Network attached = 8

The *storage_type* value is the sum of whether the disk is formatted or raw (1 or 2) and how the disk is attached (4 or 8). The default value is 9 (a network attached, formatted disk).

`-storage_server` *`server_name`*

Specifies the host name of the storage server.

`-sts_user_id` *`user_id`*

Specifies the user name that is needed to log into the storage server. If the storage server does not require logon credentials, enter dummy credentials.

You must remember these credentials. You need these credentials during disaster recovery of the storage server.

`-stype` *server_type*

Specifies a string that identifies the storage server type. The *server_type* value can originate from one of the following sources:

- Veritas provided storage. Possible values are `AdvancedDisk` and `PureDisk`.
- Third-party disk appliances. The vendor supplies the *server_type* string.
- Cloud storage. Use the `csconfig cldprovider -l` command to determine the possible `stype` values. The cloud `stype` values reflect the cloud storage provider. Cloud storage `stype` values can also incorporate a suffix (for example, `amazon_crypt`). Possible suffixes are:
  - `_raw`: The NetBackup backup image is sent to the cloud in raw format. Use this option if you do not want to compress or encrypt data before sending to cloud storage.
  - `_rawc`: Compresses the data before it is written to the cloud storage.
  - `_crypt`: Encrypt the data using AES-256 encryption before writing the data to cloud storage. You must have KMS configured in NetBackup to use this option.
  - `_cryptc`: Compress and encrypt the data before writing to cloud storage.

The storage server type is case-sensitive.

`-target` *target*

Specifies the target number (or SCSI ID) to which the robot or drive connects.

You can find this information in the registry (Windows systems) or the *NetBackup Device Configuration Guide*.

`-type` *drvtype*

Specifies the type of drive that you configure.

- Drive type can be any of the following for NetBackup Enterprise Server: `dlt` for DLT tape drive, `dlt2` for DLT tape drive 2, `dlt3` for DLT tape drive 3, `hcart` for Half-inch cartridge drive, `hcart2` for Half-inch cartridge drive 2, `hcart3` for half-inch cartridge drive 3.
- Drive type can be any of the following for NetBackup server: `dlt` for DLT tape drive, `hcart` for Half-inch cartridge drive.

`-update`

Changes the configuration information for a drive, robot, or Snapshot Manager.

`-user_id` *user_ID*

Specifies the user ID of a particular NDMP host on a media server for which you add credentials.

Note: A media server is allowed only one user ID per NDMP host name. If you try to add a second user ID for a single NDMP host name fails.

`-virtual_machine` *virtual_machine_name*

Specifies the host name of the virtual machine whose credentials are to be added, updated, or deleted. You can only use this option if the NetBackup Snapshot Client license is installed.

`-vm_type` *virtual_machine_type*

Specifies the type of virtual machine. The following are possible values:

1 - VMware VirtualCenter Servers

2 - VMware ESX Servers

3 - VMware Converter Servers

You can only use this option if the NetBackup Snapshot Client license is installed.

`-vm_user_id` *user_id*

Specifies the user name that NetBackup must use to communicate with a virtual machine's disk array. You can only use this option if the NetBackup Snapshot Client license is installed.

You must have administrator privileges to run this command.

NOTES

`tpconfig -d` may truncate drive names to 22 characters, and `tpconfig -l` may truncate drive names to 32 characters. To list the full drive name, use `tpconfig -dl`.

The delete multiple NDMP host credentials applies only to credentials that are specific to this host and the specified filer. In other words, it has no default or no filer credentials.

EXAMPLES

In the following examples, the command that is entered is shown on multiple lines because of page limitations. The actual command is entered on one line.

Example 1 - Robotic control on the local Windows server

The following example adds a robot that connects directly to a Windows host, and also adds drives to that robot.

The following procedure applies only to NetBackup server:

- Add the robot by using the following command:

```
# tpconfig -add -robot 7 -robtype tld -port 0 -bus 0 -target 2 lun 0
```

- If there are drives in the robot that have not been configured, add them.
  The following command configures the drive with the system name of Tape0 under control of the robot that is configured in step 1. (The server has attached and recognized `Tape0`.)

```
# tpconfig -add -drive -type dlt -port 1 -bus 2 -target 3  /
-lun 4 -comment "DEC  DLT2000 8414" -index 0 -drstatus up  /
-robot 7 -robtype tld -robdrnum 1 -asciiname DLT2000_D1
```

  The command in this example uses the comment field. This field is useful for storing the drive's SCSI inquiry data so that drive type and firmware level can be easily checked.

- If the robot contains any drives that are currently configured as standalone drives, update the drive configuration to place them under robotic control.
  The following commands update the configuration for drives 1 and 2:

```
# tpconfig -update -drive 1 -type dlt -robot 7 -robtype tld
-robdrnum 1
# tpconfig -update -drive 2 -type dlt -robot 7 -robtype tld
-robdrnum 2
```

Note: Assign the correct robot drive number to the drives. If robot drive numbers are incorrect, tape mounts or backups may fail.

Example 2 - Robotic control on the remote host

This example applies only to NetBackup Enterprise Server:

It assumes that one or more tape drives that are in the robot, connect to the Windows host where you currently manage devices.

The following is a sequence of `tpconfig` operations that adds a robot that connects to another host:

- Add the robot by executing the following command:

```
# tpconfig -add -robot 9 -robtype tld -cntlhost perch
```

Ensure that the robot number matches the one on the control host.

- If the robot contains any drives that are currently configured as standalone, update the drive configuration to place them under robotic control.
  The following commands update the configuration for drives 1 and 2:

```
# tpconfig -update -drive 1 -type dlt -robot 9 -robtype tld -robdrnum 1
# tpconfig -update -drive 2 -type dlt -robot 9 -robtype tld -robdrnum 2
```

Note: Assigned the correct robot drive number. If robot drive numbers are incorrect, tape mounts or backups may fail.

- If there are drives in the robot that have not been configured, add them now.
  The following command configures the drive with the system name of Tape0 under control of the robot that is configured in step 1. (The Windows server has attached and recognized Tape0.)

```
# tpconfig -add -drive -type dlt -port 1 -bus 2 -target 3 -lun 4
-comment 'DEC   DLT2000 8414' -index 3 -drstatus up -robot 9
-robtype tld -robdrnum 3 -asciiname DLT2000_D3
```

Example 3 - Configuring new standalone drives

The following is an example of how to add a standalone drive after the drive is installed:

```
# tpconfig -add -drive -type dlt -port 1 -bus 2 -target 3 -lun 4
-comment 'DEC   DLT2000 8414' -index 6 -asciiname DLT2000_standalone
```

Example 4 - Demonstrate how Windows displays device paths

This example demonstrates how to how the `-l` option displays the Windows device paths in the p, b, t, l format.

```
C:\Program Files\VERITAS\Volmgr\bin>tpconfig -l

Device Robot Drive       Robot                    Drive                Device
Type     Num Index  Type DrNum Status  Comment    Name                 Path
robot      0     -    TLD     -       -  -          -                    {3,1,0,1}
robot      1     -    TLD     -       -  -          -                    {3,1,0,3}
robot      2     -    TLD     -       -  -          -                    {3,1,2,0}
drive      -     0    pcd     -  DISABL  -          SONY.SDX-400V.000    {1,0,0,0}
drive      -     1 hcart2     2      UP  -          IBM.ULTRIUM-TD2.001  {3,1,0,2}
drive      -     1 hcart2     2      UP  -          IBM.ULTRIUM-TD2.001  {3,1,1,2}
drive      -     2 hcart2     1      UP  -          IBM.ULTRIUM-TD2.002  {3,1,0,5}
```

```
drive      -    2 hcart2    1      UP  -          IBM.ULTRIUM-TD2.002  {3,1,1,5}
drive      -    3  hcart    1    DOWN  -          IBM.ULTRIUM-TD1.003  {3,1,0,6}
drive      -    3  hcart    1      UP  -          IBM.ULTRIUM-TD1.003  {3,1,1,6}
drive      -    4  hcart    2      UP  -          IBM.ULTRIUM-TD1.004  {3,1,0,7}
drive      -    4  hcart    2      UP  -          IBM.ULTRIUM-TD1.004  {3,1,1,7}
drive      -    5 hcart2    2      UP  -          IBM.ULTRIUM-TD2.005  {3,1,2,1}
drive      -    6 hcart2    1      UP  -          IBM.ULTRIUM-TD2.006  {3,1,2,2}
```

Example 5 - Add a Snapshot Manager in NetBackup

```
tpconfig -add -snapshot_manager testserver.test.com
-snapshot_manager_user_id User1 -manage_workload ONPREM -requiredport
1024

Enter the Snapshot Manager host's password for User Id User 1:

Please re-enter the Snapshot Manager host's password to confirm it:
```

Example 6 - Add a Snapshot Manager plugin in NetBackup

```
tpconfig -add_plugin -snapshot_manager testserver.test.com
-plugin_id ITAzure -plugin_type azure

Enter Tenant ID: test

Enter Client ID: test

Enter Secret Key:

Enter confirm Secret Key:
```

SEE ALSO

See ltid on page 544.

tpext

tpext – update EMM database device mappings and external attribute files

SYNOPSIS

tpext -loadEMM

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

The tpext command updates the EMM database with new versions of the device mappings and external attribute files.

/usr/openv/volmgr/bin/tpext -loadEMM

EXAMPLE

Before you repopulate this data, make sure that you have the most current support for new devices. New devices are added approximately every two months.

- Obtain the external_types.txt mapping file from contact Technical support.
- On the EMM server or the master server, place external_types.txt in the following directory to replace the current external_types.txt file:

  UNIX systems: /usr/openv/var/global

  Windows systems: *install_path*\var\global

- Repopulate the EMM data by running the tpext utility:

  UNIX systems: /usr/openv/volmgr/bin/tpext -loadEMM

  Windows systems: *install_path*\Volmgr\bin\tpext -loadEMM

During regular installation, tpext is run automatically.

Caution: If you use the `create_nbdb` command to create a database manually, you must also run the `tpext` utility. `tpext` loads EMM data into the database.

tpreq

tpreq – request a tape volume for mounting and assign a file name to the drive

SYNOPSIS

tpreq -m *media_id* [-a *accessmode*] [-d *density*] [-p *poolname*] [-priority *number*] [-f] *filename*

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

This command initiates a mount request for a tape volume on a removable media device. The information that you specify with this command identifies and registers the specified file as a logical identifier for the mount request with Media Manager. It also manages access to the volume.

Media Manager automatically mounts the media if it is in a robotic drive. Otherwise, an operator mount request appears in the Device Monitor window. tpreq does not complete normally in the case of a mount request for a robotic drive, if operator intervention is required. These requests also appear in the Device Monitor window.

When the operation is complete, use tpunmount to unmount the volume and remove the file name from the directory in which the file was created.

On UNIX systems, tpreq calls the script drive_mount_notify immediately after the media is successfully placed in a pre-selected drive. This script allows user special handling to occur now. Control is then returned to tpreq to resume processing. The script is only called from the tpreq command for the drives that are in robots and is not valid for standalone drives. This script resides in the /usr/openv/volmgr/bin/goodies directory. To use this script, activate it and copy it into the /usr/openv/volmgr/bin directory; usage information is documented within the script.

You must have administrator privileges to run this command.

OPTIONS

`-m` *media_id*

Specifies the media ID of the volume to be mounted. You can enter the ID in upper or lowercase; Media Manager converts it to uppercase.

`-a` *accessmode*

Specifies the access mode of the volume. Valid access modes are `w` and `r`. If the access mode is `w` (write), the media must be mounted with write enabled. The default is `r` (read), which means the media may be write protected.

`-d` *density*

Specifies the density of the drive. This option determines the type of drive on which the tape volume is mounted. The default density is `dlt`.

Valid densities for NetBackup Enterprise Server follow:

dlt for DLT cartridge, dlt2 for DLT cartridge 2, dlt3 for DLT cartridge 3, `hcart` for 1/2-inch cartridge, hcart2 for 1/2 Inch cartridge 2, hcart3 for 1/2 Inch cartridge 3.

The following applies only to NetBackup Enterprise Server:

The half-inch cartridge densities (`hcart`, hcart2, and hcart3) can be used to distinguish between any supported half-inch drive types. However, tape requests can only be assigned to drives of the associated media type. For example, it assigns a tape request with density hcart2 that specifies a media ID with media type HCART2 to an hcart2 drive. Likewise, it assigns a tape request with density hcart that specifies a media ID with media type HCART to an hcart drive. The same rules apply to the DLT densities (dlt, dlt2, and dlt3).

Valid densities for NetBackup server follow:

dlt for DLT cartridge, `hcart` for 1/2 Inch cartridge.

The mount request must be performed on a drive type that satisfies the density.

`-p` *poolname*

Specifies the volume pool where the volume resides. *poolname* is case-sensitive. The default is None.

`-priority` *number*

Specifies a new priority for the job that overrides the default job priority.

`-f` *filename*

Specifies the file to be associated with the volume. The file name represents a symbolic link to the drive where the volume is mounted.

The file name can be a single name or a complete path. If you specify only a file name, the file is created in the current working directory. If you specify a

path, the file is created in the directory that is named in the path. *filename* cannot be an existing file.

If the `tpreq` command is successful, Media Manager creates a file with the name that you specified. This file contains the name of the tape device where the media is mounted. Do not delete this file. Use the `tpunmount` command to remove it.

The specification of `-f` before *filename* is optional.

EXAMPLE

Create file `tape1` in the current working directory that links the file to the drive that contains the volume whose media ID is JLR01. The access mode for the tape file is set to write, and a 1/2-inch cartridge drive is assigned.

```
# tpreq -f tape1 -m jlr01 -a w -d hcart
```

SEE ALSO

See tpunmount on page 990.

tpunmount

tpunmount – remove a tape volume from a drive and a tape file from the directory

SYNOPSIS

tpunmount [-f] *filename* [-force]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

tpunmount removes a tape file from the directory and physically removes the tape volume from the drive (if the media was mounted).

On UNIX systems, when tpunmount is executed for drives, a call is made to execute the drive_unmount_notify script. This script allows user special-handling to occur. Control is then returned to tpunmount to resume processing. The script resides in the /usr/openv/volmgr/bin/goodies directory. To use this script, activate it and copy it into the /usr/openv/volmgr/bin directory. The script is called from the tpreq command for only the drives that are in robots. The script is not valid for standalone drives or NDMP drives.

Standalone drives are not unloaded when the DO_NOT_EJECT_STANDALONE option is specified (and the -force option is not specified). This option is now stored in EMM.

The tape file and the device must be closed before you can use tpunmount.

You must have administrator privileges to run this command.

OPTIONS

-f *filename*

Specifies the file that is associated with the media. You must specify a file name. The specification of -f before *filename* is optional.

-force

Ejects the volume from a standalone drive, even if DO_NOT_EJECT_STANDALONE is specified in the EMM database.

EXAMPLE

The following command unmounts the tape volume that is associated with file `tape1` and removes the file from the current directory:

```
# tpunmount tape1
```

SEE ALSO

See tpreq on page 987.

verifytrace

`verifytrace` – trace debug logs for verify jobs

SYNOPSIS

verifytrace [-master_server *name*] -job_id *number* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy* _]

verifytrace [-master_server *name*] -backup_id *id* [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy* _]

verifytrace [-master_server *name*] [-policy_name *name*] [-client_name *name*] [-start_time *hh:mm:ss*] [-end_time *hh:mm:ss*] *mmddyy* [*mmddyy* _]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/admincmd/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\admincmd\

DESCRIPTION

The `verifytrace` command consolidates the debug log messages for the specified verify jobs and writes them to standard output. The messages sort by time. `verifytrace` tries to compensate for time zone changes and clock drift between remote servers and clients.

At a minimum, you must enable debug logging for the following:

- UNIX systems: The `/usr/openv/netbackup/admin` directory on the master server
- Windows systems: The *install_path*\NetBackup\bin\admincmd directory on the master server
- The `bpbrm`, `bptm/bpdm`, and `tar` commands on the media server

For best results, set the verbose logging level to 5. Enable debug logging for `bpdbm` on the master server and `bpcd` on all servers and clients in addition to already identified processes.

If you specify either `-job_id` or `-backup_id`, `verifytrace` uses this option as the sole criteria to select the verify jobs it traces. You cannot use the options `-policy_name` or `-client_name` with `-job_id` or `-backup_id`. If you do not specify `-job_id` or `-backup_id`, `verifytrace` selects all the verify jobs that match the

specified selection criteria. If none of the following options is specified, `verifytrace` traces all the jobs that ran on the days that the day stamps (*mmddyy*) specify: `-job_id`, `-backup_id`, `-policy_name`, or `-client_name`. If `-start_time/-end_time` options are used, the debug logs on the specified time interval are examined.

If `verifytrace` is started with `-backup_id` *`id`*, it looks for a verify job that `bpverify` started with `-backup_id` *`id`* where the backup IDs (*id*) match.

If `verifytrace` is started with `-policy_name` *`name`*, it looks for a verify job that `bpverify` started with `-policy_name` *`name`* where the policy names (*name*) match.

If `verifytrace` is started with `-client_name` *`name`*, it looks for a verify job that `bpverify` started with `-client_name` *`name`* where the client names (*name*) match.

`verifytrace` writes error messages to standard error.

You must have administrator privileges to run this command.

OPTIONS

`-master_server`
: Name of the master server. Default is the local host name.

`-job_id`
: Job ID number of the verify job to analyze. Default is any job ID.

`-backup_id`
: Backup ID number of the backup image that the verify job verified to analyze. Default is any backup ID.

`-policy_name`
: Policy name of the verify jobs to analyze. Default is any policy.

`-client_name`
: Client name of the verify jobs to analyze. Default is any client.

`-start_time`
: Earliest timestamp to start analyzing the logs. Default is 00:00:00

`-end_time`
: Latest timestamp to finish analyzing the logs. Default is 23:59:59.

`mmddyy`
: One or more "day stamps". This option identifies the log file names (log.mmddyy for UNIX, mmddyy.log for Windows) that are analyzed.

OUTPUT FORMAT

The format of an output line is: *daystamp.millisecs.program.sequence machine log_line*

`daystamp`
The day of the log is created in *yyyymmdd* format.

`millisecs`
The number of milliseconds since midnight on the local computer.

`program`
The name of program (ADMIN, BPBRM, BPCD, etc.) being logged.

`sequence`
Line number within the debug log file.

`machine`
The name of the NetBackup server or client.

`log_line`
The line that appears in the debug log file.

EXAMPLES

Example 1 - Analyze the log of verify job with job ID 2 that ran on August 6, 2011.

```
# verifytrace -job_id 2 080611
```

Example 2 - Analyzes the verify jobs log that verify backup images with backup ID *pride_1028666945*, which ran on *20th August 2011*. This command only analyzes those verify jobs that ran with option -backupid *pride_1028666945*.

```
# verifytrace -backup_id pride_1028666945 082011
```

Example 3 - Analyzes the verify jobs log that ran on policy *Pride-Std* and client *pride* on August 16, 2011 and August 23, 2011. This command only analyzes those verify jobs that ran with options -policy *Pride-Std* and -client *pride*.

```
# verifytrace -policy_name Pride-Std -client_name pride 081611 082311
```

Example 4 - Analyzes the verify jobs log that ran on August 5, 2011 and August 17, 2011.

```
# verifytrace 080511 081711
```

vltadm

`vltadm` – start the NetBackup Vault menu interface for administrators

SYNOPSIS

vltadm [-version]

The directory path to this command is /usr/openv/netbackup/bin/

DESCRIPTION

This command operates only on UNIX systems.

`vltadm` is a menu interface utility that an administrator can use to configure NetBackup Vault. You must have administrator privileges. This command can be used from any character-based terminal (or terminal emulation window) for which the administrator has a `termcap` or `terminfo` definition.

See the *NetBackup Vault Administrator's Guide* and the `vltadm` online Help for detailed operating instructions.

OPTIONS

`-version`

Display the `vltadm` version and exit.

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called extended exit status codes. For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, EXIT status = *exit status*

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the NetBackup Troubleshooter Wizard.

FILES

/usr/openv/netbackup/help/vltadm/*
/usr/openv/netbackup/db/vault/vault.xml
/tmp/bp_robots
/tmp/bp_vaults

```
/tmp/bp_profiles
/tmp/bp_duplicates
/tmp/_tmp
```

vltcontainers

vltcontainers – move volumes logically into containers

SYNOPSIS

vltcontainers -run [-rn *robot_number*]

vltcontainers -run -usingbarcodes [-rn *robot_number*]

vltcontainers -run -vltcid *container_id* -vault *vault_name* -sessionid *session_id*

vltcontainers -run -vltcid *container_id* -f *file_name* [-rn *robot_number*] [-usingbarcodes]

vltcontainers -view [-vltcid *container_id*]

vltcontainers -change -vltcid *container_id* -rd *return_date*

vltcontainers -delete -vltcid *container_id*

vltcontainers -version

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

vltcontainers logically adds to containers the media that was ejected from one or more vault sessions. It can view, set, or change the return date of containers that go off-site or are already at the off-site vault. vltcontainers can also delete a container from the NetBackup and Media Manager catalogs.

You can add media IDs to containers as follows:

- Use the keyboard to enter the container and the media IDs.
- Use a keyboard interface barcode reader to scan the container IDs and media IDs. Keyboard interface readers are also known as keyboard wedge readers because they connect (or wedge) between the keyboard and the keyboard port on your computer.

- Use an input file that contains the media IDs or numeric equivalents of barcodes of all the media that are added to one container. To add media to more than one container, enter the IDs by using the keyboard or a keyboard interface barcode reader. Or, run the `vltcontainers` command again and specify different container and file name options.
- Add all the media that a specific session ejects to one container. To add media from a single eject session into more than one container, enter IDs using the keyboard or a keyboard interface barcode reader.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *`install_path`*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

Run the `vltcontainers` command from a NetBackup master server that is licensed for Vault.

If the following directory with public-write access exists, `vltcontainers` writes to its daily debug log file (`log.DDMMYY` where *DDMMYY* is current date):

UNIX systems: `usr/openv/netbackup/logs/vault`

Windows systems: *`install_path`*`\netbackup\logs\vault`

Public-write access is required because not all executable files that write to this file can run as administrator or root user.

OPTIONS

`-change`

Changes the default return date for the container. The default return date of a container is the date of the volume in the container that is returned the latest. It requires the `-vltcid` *`container_id`* option.

`-delete`

Deletes the container record from the NetBackup and Media Manager catalogs. You can delete a container only if it contains no media.

`-f` *`file_name`*

Specifies the file from which to read media IDs. All the listed media in the file are added to the container that the `-vltcid` option specifies. The file can be a list of media IDs (one per line). Or it can be the numeric equivalents of barcodes (one per line) scanned into a file by a barcode reader.

`-rd` *`return_date`*

Specifies the return date for the container.

The return date format depends on the locale setting.

`-rn` *`robot_number`*

Specifies the robot, which is used to determine the EMM Server from which the `vltcontainers` command should obtain media information. If `-rn` *`robot_number`* is not used, the master server is considered as the EMM server. The only media that can be added to containers is the media in the database on the EMM server.

`-run`

Logically adds media to the container. If you specify no other options, you must enter the container IDs and the media IDs by using the keyboard. To use a barcode reader to scan the container and the media IDs, specify the `-usingbarcodes` option. To add the media that a specific session ejects, use the `-vault` *`vault_name`* and `-sessionid` *`session_id`* options. To add the media that is specified in a file, use the `-f` *`file_name`* option. To specify an EMM server other than the master server, use the `-rn` *`robot_number`* option.

`-sessionid` *`session_id`*

The ID of a vault session. All media that the specified session ejects are added to the container that the `-vltcid` option specifies.

`-usingbarcodes`

Specifies a keyboard interface barcode reader that scans container IDs and media IDs, or the barcode numbers that are used in the file that `-f` *`file_name`* specifies. Keyboard interface barcode readers (also called keyboard wedge barcode readers) connect between the keyboard and the keyboard port on your computer.

`-vault` *`vault_name`*

The name of the vault to which the profile that ejected the media belongs. You also must specify the ID of the session (`-sessionid`) that ejected the media to be added to the container.

`-version`

Displays the `vltcontainers` version and exit.

`-view [-vltcid` *`container_id`*`]`

Shows the return date that is assigned to all containers. Use the `-vltcid` *`container_id`* option and argument to show the return date of a specific container.

`-vltcid` *`container_id`*

Specifies the container ID. Container ID can be a string of up to 29 alphanumeric characters (no spaces). The `-rd` *`return_date`* option and argument are required to change a container return date.

EXAMPLES

Example 1 - Use the following command to:

- Add the volumes that are ejected from robot number 0 to containers.
- Use a barcode reader to scan the container ID and media ID.

```
# vltcontainers -run -usingbarcodes -rn 0
```

Example 2 - View the return date of container ABC123:

```
# vltcontainers -view -vltcid ABC123
```

Example 3 - Change the return date of container ABC123 to December 07, 2012:

```
# vltcontainers -change -vltcid ABC123 -rd 12/07/2012
```

Example 4 - Delete container ABC123 from the NetBackup and Media Manager catalogs, use the following command:

```
# vltcontainers -delete -vltcid ABC123
```

Example 5 - Add all media that was ejected to container ABC123 by session 4 of vault MyVault_Cntr, use the following command:

```
# vltcontainers -run -vltcid ABC123 -vault MyVault_Cntr -sessionid 4
```

Example 6 - Add the media that is listed in the `medialist` file that is ejected from robot number 0 to container ABC123:

UNIX systems:

```
# vltcontainers -run -vltcid ABC123 -f
/home/jack/medialist -rn 0
```

Windows systems:

```
# vltcontainers -run -vltcid ABC123 -f
C:\home\jack\medialist -rn 0
```

Example 7 - Use the following command to:

- Add media to container ABC123 that was ejected from a robot that is attached to the master server

- Read the barcodes for that media from the `medialist` file

```
UNIX systems: # vltcontainers -run -vltcid ABC123 -f
/home/jack/medialist -usingbarcodes

Windows systems: # vltcontainers -run -vltcid ABC123 -f
C:\home\jack\medialist -usingbarcodes
```

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called extended exit status codes. For such a case, the exit status that returned to the system is 252. The actual exit status is written to `stderr` in the format EXIT status = *exit status*

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

UNIX systems:

```
/usr/openv/netbackup/vault/sessions/cntrDB
/usr/openv/netbackup/db/vault/vault.xml
/usr/openv/netbackup/logs/vault
```

Windows systems:

```
install_path\NetBackup\vault\sessions\cntrDB
install_path\NetBackup\db\vault\vault.xml
install_path\NetBackup\logs\vault
```

SEE ALSO

See vltoffsitemedia on page 1008.

See vltopmenu on page 1012.

vlteject

`vlteject` – eject media and generate reports for previously run sessions

SYNOPSIS

vlteject

vlteject -eject [-profile *profile_name*] [-robot *robot_name*] [-vault *vault_name* [-sessionid *id*]] [-auto y|n] [-eject_delay *seconds*]

vlteject -report [-profile *profile_name*] [-robot *robot_name*] [-vault *vault_name* [-sessionid *id*]] [-legacy]

vlteject -eject -report [-profile *profile_name*] [-robot *robot_name*] [-vault *vault_name* [-sessionid *id*]] [-auto y|n] [-eject_delay *seconds*] [-version] [-legacy]

vlteject -preview [-vault *vault_name* [-profile *profile_name*]] [-profile *robot_no* / *vault_name* / *profile_name*] [-robot *robot_name*][-sessionid *id*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

`vlteject` ejects media and generates the corresponding reports (as configured in the profiles) for vault sessions for which media have not yet been ejected. `vlteject` can process the pending ejects and reports for all sessions, for a specific robot, for a specific vault, or for a specific profile. To process all pending ejects and reports, do not use the `-profile`, `-robot`, or `-vault` option.

`vlteject` operates only on sessions for which the session directory still exists. After that directory is cleaned up (removed by NetBackup), `vlteject` can no longer eject or report for that session.

Whether `vlteject` can run interactively or not depends on how it is called. Run interactively when you plan to eject more media than that amount that fits in the media access port.

Do not modify your vault configuration while `vlteject` is running.

`vlteject` can be run in any of the following ways:

- Directly from the command line
- By using the NetBackup policy schedule. The policy must be of type Vault, and the policy's file list must consist of a `vlteject` command.
- By using `vltopmenu` to run an eject operation or a consolidated eject or consolidated report operation

If the following directory exists and has public write access, `vlteject` writes to its daily debug log file:

UNIX systems: `usr/openv/netbackup/logs/vault`

Windows systems: *`install_path`*`\netbackup\logs\vault`

The daily debug log file is `log.DDMMYY`; the *DDMMYY* is the current date.

Public-write access is required because not all executable files that write to this file can run as administrator or root user. The host property "Keep vault logs for n days" determines how long the vault session directories are retained.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

`-auto y|n`

Specifies automatic (`y`) or interactive mode (`n`). In automatic mode (y), `vlteject` runs without input from the user and does not display output. In interactive mode (default), `vlteject` runs interactively. It accepts input and displays output.

`-eject`

Ejects the media for the indicated sessions. `-eject` is optional if eject was completed and you only want to generate reports.

`-eject_delay` *`seconds`*

The number of seconds to delay before the media is ejected. This option is useful if an operation such as backing up or duplication recently occurred on the affected media. The default is 0. The maximum is 3600 (1 hour).

`-legacy`

Generates the reports by using the old-style consolidation. Valid only with the `-report` option.

`-preview`

Lists the sessions and the media that are ejected for the sessions. Does not eject the media.

`-profile` *robot _no / vault_name / profile_name*

Identifies a robot number, vault name, and profile name from which to eject media and generate reports. All three options must be used with `-profile`. To process all pending ejects and reports, use `-profile` with *profile_name* only.

`-report`

Generates the reports for the indicated sessions. If the corresponding eject process has completed, it generates and distributes any pending reports from the selected sessions. The reports are not generated again if `vlteject` is run again. If the eject has not completed, the subset of reports that does not depend on completion of eject are generated. These reports are generated again if `vlteject` -report is run again after eject has completed.

`-robot` *robot_no*

Specifies the robot number that identifies the robot which you want to eject media and generate reports. All vaults in the robot should use the same off-site volume group. To process all pending ejects and reports, do not use the `-profile`, `-robot`, or `-vault` option.

`-sessionid` *id*

The numeric session ID. If `-profile`, `-robot`, or `-vault` is specified, but `-session` *id* is not specified, `vlteject` operates on all sessions for the specified profile, robot, or vault.

`-vault` *vault_name*

The vault for which to eject media and generate reports. To process all pending ejects and reports; do not use the `-profile`, `-robot`, or `-vault` option.

`-version`

Displays the `vlteject` version and exit.

EXAMPLES

Example 1 - Eject media and generate reports for all robots that have sessions for which media have not yet been ejected:

```
# vlteject -eject -report
```

Example 2 - Eject all media that have not yet been ejected for all sessions for the `CustomerDB` vault and generate corresponding reports:

```
# vlteject -vault CustomerDB -eject -report
```

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called extended exit status codes. For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, EXIT status = *exit status*

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the NetBackup *Troubleshooting Wizard*.

FILES

UNIX systems:

```
/usr/openv/netbackup/db/vault/vault.xml
/usr/openv/netbackup/logs/vault/log.mmddyy
/usr/openv/netbackup/vault/sessions/vlt_name/sidxxx/detail.log
/usr/openv/netbackup/vault/sessions/vlt_name/sidxxx/summary.log
/usr/openv/netbackup/vault/sessions/vlt_name/sidxxx/vlteject_status
/usr/openv/netbackup/vault/sessions/vlteject.mstr
/usr/openv/netbackup/bp.conf
```

Windows systems:

```
install_path\NetBackup\db\vault\vault.xml
install_path\NetBackup\logs\bpbrmvlt\mmddyy.log
install_path\NetBackup\logs\vault\mmddyy.log
install_path\NetBackup\vault\sessions\vlt_name\sidxxx\detail.log
install_path\NetBackup\vault\sessions\vlt_name\sidxxx\summary.log
install_path\NetBackup\vault\sessions\vlt_name\sidxxx\vlteject.status
install_path\NetBackup\vault\sessions\vlteject.mstr
install_path\NetBackup\bp.conf
```

SEE ALSO

See vltopmenu on page 1012.

vltinject

`vltinject` – inject volumes into a robot for a specified vault configuration

SYNOPSIS

vltinject*profile*|*robot/vault/profile* [-version]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

`vltinject` injects volumes into a robot and updates the Enterprise Media Manager Database. It runs `vmupdate` and assigns it the robot number, robot type, and robotic volume group from the vault configuration that matches the specified profile.

If the following directory exists and has public write access, `vltinject` writes to the daily debug log file:

UNIX systems: `usr/openv/netbackup/logs/vault`

Windows systems: *install_path*\netbackup\logs\vault

The daily debug log file is `log.DDMMYY`; the *DDMMYY* is the current date.

You then can use this file for troubleshooting. Public-write access is needed because not all executables that write to this file can run as administrator or root.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

profile|*robot/vault/profile*

The name of a profile or a robot number, vault, and profile that are nested within the vault configuration file. If *profile* is used without *robot* and *vault*, the profile must be unique. `vltinject` executes `vmupdate` with the robot number, robot type, and robotic volume group from this profile's configuration.

`-version`

Display the `vltinject` version and exit.

EXAMPLES

Example 1 - Inject the volumes that the Payroll profile has vaulted and that were returned from the off-site vault, enter the following:

```
# vltinject Payroll
```

Example 2 - Inject the volumes that the Weekly profile (in the Finance vault) vaulted and that the off-site vault has returned. The user enters the following:

```
# vltinject 8/Finance/Weekly
```

RETURN VALUES

0 - The EMM database was successfully updated.

Non-zero - A problem was encountered updating the EMM database.

Vault may exit with a status code greater than 255. Such status codes are called extended exit status codes. For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, EXIT status = *exit status*.

FILES

UNIX systems:

`/usr/openv/netbackup/logs/vault/log.`*`mmddyy`*

Windows systems:

`install_path``\NetBackup\logs\vault\`*`mmddyy`*`.log`

vltoffsitemedia

`vltoffsitemedia` – list off-site parameter values for a group of media, or change the off-site parameter value for a single media

SYNOPSIS

vltoffsitemedia -list [-W] [-vault *vault_name*] [-voldbhost *host_name*]

vltoffsitemedia -change -m *media_id* [-voldbhost *host_name*] [-d *media_description*] [-vltname *vault_name*] [-vltsent *date*][-vltreturn *date*] [-vltslot *slot_no*] [-vltcid *container_id*] [-vltsession *session_id*]

vltoffsitemedia -version

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

`vltoffsitemedia` allows the user to change the vault-specific parameters of a given media. This command lets the user change one or more parameters by using a single command. It lets the user view the various vault parameters of all media for a particular EMM server or vault.

If you create the following directory with public-write access, `vltoffsitemedia` creates a daily debug log in this directory:

UNIX: `/usr/openv/netbackup/logs/vault`

Windows: `install_path\netbackup\logs\vault`

The log is called `log.DDMMYY` (where *DDMMYY* is the current date). You then can use this file that for troubleshooting.

Public-write access is needed because not all executables that write to this file can run as root.

OPTIONS

`-change`

Changes the attributes of the specified volume.

`-d` *media_description*

Specifies the description for the volume.

To configure NetBackup so that the media description field is cleared automatically when volumes are returned to the robot, set the VAULT_CLEAR_MEDIA_DESC parameter in EMM.

`-list`

Lists the off-site parameters for the media in the local EMM database. To restrict the list to a specific vault for the local EMM database, include the -vault option with the command. To list the off-site parameters for media for a specific EMM database, include the -voldbhost option with the command.

`-m media_id`

Media ID of the volume whose vault parameters are to be changed.

`-vault` *vault_name*

Specifies the name of the vault for which all media IDs and their vault-specific parameters are listed.

`-version`

Displays the `vltoffsitemedia` version and exit.

`-vltcid` *container_id*

Specifies the container in which a volume is stored. *container_id* (a string of up to 29 alphanumeric characters (no spaces) specifies the new container for the volume. You must specify an existing container ID. You cannot assign media from one EMM server to a container that has media from a different EMM server. Use the `-m` option to specify the media ID of the volume.

`-vltname` *vault_name*

Specifies the name of the logical vault that is configured for the robot that ejected the volume.

`-vltreturn` *date*

Specifies the date and time the media was requested for return from the vault vendor. For Catalog Backup volumes, this date is the date that the media is requested for return from the vault vendor.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such

as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

`-vltsent` *date*

Specifies the date and time the media was sent to the off-site vault.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

mm/dd/yyyy [*hh*[:*mm*[:*ss*]]]

`-vltsession session_id`

Specifies the identifier of the Vault session that ejected this media.

`-vltslot slot_no`

Specifies the vault vendor's slot number for the slot that this volume occupies.

`-voldbhost host_name`

Specifies the name of the EMM server.

`-W`

Specifies the parsable output format for the media off-site parameters. For containers, the output includes the length of the container description, the container description, and the container ID. The output header line is a space that is separated line of column labels; the output data lines are space-separated fields.

EXAMPLES

Example 1 - Change the vault name and the vault sent dates of the media with the ID BYQ.

```
vltoffsitemedia -change -m BYQ -vltname THISTLE -vltsent 08/01/2012
12:22:00
```

Example 2 - Change the vault slot number to 100 for a media with ID 000012.

```
vltoffsitemedia -change -m 000012 -vltslot 100
```

Example 3 - Clear out the vault-specific fields for a media.

```
vltoffsitemedia -change -m 000012 -vltname "" -vltsession 0 -vltslot
0 -vltsent 0 -vltreturn 0
```

or:

```
vltoffsitemedia -change -m 000012 -vltname - -vltsession 0 -vltslot
0 -vltsent 00/00/00 -vltreturn 00/00/00
```

Example 4 - Clear the container ID and media description of volume ABC123.

```
vltoffsitemedia -change -m ABC123 -vltcid - -d ""
```

or:

```
vltoffsitemedia -change -m ABC123 -vltcid "" -d ""
```

The `vltoffsitemedia` command uses the Media Manager commands to query or update the EMM database.

If the `vltoffsitemedia` command fails, look at the debug log on the following directory for detailed information about the actual Media Manager command that failed:

UNIX systems: `usr/openv/netbackup/logs/vault`

Windows systems: *`install_path`*`\netbackup\logs\vault`

For more information on the status codes that Media Manager commands return, see the NetBackup Status Codes Reference Guide.

RETURN VALUES

Vault may exit with a status code greater than 255. Such status codes are called "extended exit status codes." For such a case, the exit status that is returned to the system is 252. The actual exit status is written to `stderr` in the format, EXIT status = *exit status*

The extended exit status values are documented in the *NetBackup Status Codes Reference Guide* and in the NetBackup Troubleshooter Wizard.

vltopmenu

`vltopmenu` – start NetBackup Vault menu interface for operators

SYNOPSIS

vltopmenu [-version]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

Allows the user to activate a menu screen that contains the various options that an Operator of the NetBackup Vault feature can use. It lets the user eject or inject media, print various reports individually or collectively. It also consolidates all reports and ejects for all sessions that have not ejected media yet. This interface can be used from any character-based terminal (or terminal emulation window) for which the user has a `termcap` or a `terminfo` definition.

See the *NetBackup Operator's Guide* for detailed operating instructions.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

-version

Displays the `vltopmenu` version and exit.

RETURN VALUES

Vault may exit with an extended exit status code (greater than 255). For such a case, the exit status is returned to the system is 252. The actual exit status is written to `stderr` in the format, EXIT status = *exit status*

The extended exit status values are documented in the *NetBackup Troubleshooting Guide* and in the *NetBackup Troubleshooting Wizard*.

FILES

UNIX systems:

/usr/openv/netbackup/vault/sessions/vlteject.mstr
/usr/openv/netbackup/vault/sessions/vlteject_status.log.*timestamp*
/usr/openv/netbackup/vault/sessions/*/sid*/detail.log

Windows systems:

install_path\NetBackup\vault\sessions\vlteject.mstr
install_path\NetBackup\vault\sessions\vlteject_status.log.*ti*
mestamp
install_path\NetBackup\vault\sessions*\sid*\detail.log

vltrun

`vltrun` – Run a NetBackup Vault session

SYNOPSIS

vltrun -haltdups -vjobs *vault_jobid* [*profile* | *robot/vault/profile*] [-preview] [-verbose | -v] [-version]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

`vltrun` drives a NetBackup Vault session by issuing a sequence of calls to the vault engine. Optionally, the session can include callouts to user-provided notify scripts.

OPTIONS

profile | *robot/vault/profile*

Specifies the name of a profile or a nested robot number, vault, and profile in the vault parameter file. If *profile* is used without *robot* and *vault*, the profile must be unique within the vault parameter file. This option is required.

-vjob *vault_jobid*

Specifies the job ID of an active vault job that is currently duplicated.

-haltdups

Terminates all associated, active vault duplication jobs.

-preview

Generates the preview list of images to be vaulted in a vault session. The results go to the file `preview.list` in the session directory.

-verbose | -v

Reports verbosely on the session in the vault debug log.

-version

Displays the `vltrun` version and exit.

USAGE

The `vltrun` session follows this sequence:

- Run the `vlt_start_notify` script.
- Inventory media.
- Initialize Media Manager database for the vault media that is returned to the robot.
- Generate the list of preview images to be vaulted.
- Duplicate images.
- Inventory Media Manager database (first time).
- Assign media for the NetBackup catalog backup.
- Inventory Media Manager database (second time).
- Inventory images.
- Suspend media.
- Run the `vlt_end_notify` script.
- Re-inventory images.
- Assign slot IDs.
- Back up the NetBackup catalog.
- Inventory the Media Manager database (third and final time).
- Run the `vlt_ejectlist_notify` script.
- Generate the eject list.
- Run the `vlt_starteject_notify` script.
- Eject and report.
- Run the `vlt_end_notify` script.

`vltrun` can be run in any of the following ways:

- Directly from the command line.
- By NetBackup policy scheduling. In this case, the policy must consist of type Vault, and the policy's file list must consist of a `vltrun` command.
- By running the command `Start Session` for a profile in the Vault interface or `vltadm`

`vltrun` uses the option *`profile|robot/vault/profile`* to run a vault session. You can use the *profile* form of the option if there is no other profile with the same

name in your vault configuration. In this case, the profile name is sufficient to uniquely identify the configuration information.

If there is more than one profile with the same name, then use the *robot/vault/profile* form to uniquely identify the configuration.

Do not modify your vault configuration while a vault session is running.

When the session starts, it creates a directory to hold the files that `vltrun` and the vault engine create during the session.

The vault session uses the following directory:

UNIX systems:

`/usr/openv/netbackup/vault/sessions/`*`vault_name`*`/sidxxx`

Windows systems:

`install_path``\NetBackup\vault\sessions\`*`vault_name`*`\sidxxx`

The *xxx* variable is an integer uniquely assigned to this session. For each vault name, session identifiers are sequentially assigned, starting with 1.

If you have configured an email address in your vault properties, then email is sent to this address at the end of the session. The email reports the results. By default, email is sent to root.

`vltrun` produces an overview of the session, called `summary.log`, in the session directory.

Control the vault process at several points in the session by installing notify scripts in the directory for NetBackup binaries, `/usr/openv/netbackup/bin`. Refer to the NetBackup Vault Administrator's Guide for more information on notify scripts.

You can monitor the progress of your `vltrun` session in the NetBackup Activity Monitor.

The Operation field on the main Activity Monitor window shows the progress of your vault session by using the following statuses:

- Choosing Images.
- Duplicating Images.
- Choosing Media.
- Catalog Backup.
- Eject and Report.
- Done.

If you create the following directory with public-write access, `vltrun` creates a daily debug log on this directory:

UNIX systems:

`usr/openv/netbackup/logs/vault`

Windows systems:

`install_path``\netbackup\logs\vault`

The log is called `log.DDMMYY` (where *DDMMYY* is the current date). You can then use this file for troubleshooting.

Public-write access is needed because not all executables that write to this file run as administrator or root.

You can adjust the level of logging information that is provided in this log file by adjusting the following: the vault logging level parameter on the Logging page of the master server's properties through Host Properties on the NetBackup Administration Console.

You can terminate active vault duplication jobs by using the `vltrun -haltdups` command. Initiate a `-haltdups` script that sends a SIGUSR2 signal to the main vault job (currently at the duplication step). It then automatically propagates the signal to all of the vault duplication instances without waiting for any current duplication job instance to finish. After this step completes, the main vault job proceeds with the remaining steps.

After the SIGUSR2 signal is received, the job details of the following message of the terminated vault duplication job appears: termination requested by administrator (150).

You must have administrator privileges to run this command.

EXAMPLES

Example 1 - Vault the profile my_profile.

```
# vltrun my_profile
```

Example 2 - Vault the images for robot 0, vault Financials, and profile Weekly.

```
# vltrun 0/Financials/Weekly
```

Example 3 - Terminate an active vault duplication job with the ID of 1.

```
# vltrun -haltdups -vjob 1
```

RETURN VALUES

On UNIX systems, vault may exit with a status code greater than 255. For these extended exit status codes, the status that is returned to the system is 252. The actual exit status is written to `stderr` in the format: EXIT status = *exit status*.

FILES

UNIX systems:

`/usr/openv/netbackup/vault`
`/usr/openv/netbackup/bp.conf`
`/usr/openv/netbackup/logs/bpcd/log.`*`mmddyy`*
`/usr/openv/netbackup/logs/vault/log.`*`mmddyy`*
`/usr/openv/netbackup/db/vault/vault.xml`
`/usr/openv/netbackup/vault/sessions/`*`vault_name`*`/sid`*`xxx`*
`/usr/openv/netbackup/vault/sessions/`*`vault_name`*`/sid`*`xxx`*`/summary.log`
`/usr/openv/netbackup/vault/sessions/`*`vault_name`*`/sid`*`xxx`*`/detail.log`

Windows systems:

`install_path``\NetBackup\vault`
`install_path``\NetBackup\bp.conf`
`install_path``\NetBackup\logs\bpbrmvlt\mmddyy.log`
`install_path``\NetBackup\logs\bpcd\mmddyy.log`
`install_path``\NetBackup\logs\vault\mmddyy.log`
`install_path``\NetBackup\db\vault\vault.xml`
`install_path``\NetBackup\vault\sessions\`*`vault_name`*`\sid`*`xxx`*
`install_path``\NetBackup\vault\sessions\`*`vault_name`*`\sid`*`xxx`*`\summary.log`
`install_path``\NetBackup\vault\sessions\`*`vault_name`*`\sid`*`xxx`*`\detail.log`

SEE ALSO

See vltadm on page 995.

See vlteject on page 1002.

See vltinject on page 1006.

See vltoffsitemedia on page 1008.

See vltopmenu on page 1012.

vmadd

vmadd – add volumes to EMM database

SYNOPSIS

vmadd -m *media_id* -mt *media_type* [-h *EMM_server* | *volume_database_host*] [-verbose] [-b *barcode*] [-rt *robot_type*] [-rn *robot_number*] [-rh *robot_host*] [-rc1 *rob_slot*] [-rc2 *rob_side*] [-p *pool_number*] [-mm *max_mounts* | -n *cleanings*] [-d "*media_description*"]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Add volumes to the Enterprise Media Manager (EMM) database.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

-m *media_id*

Specifies the media ID of the volume to add. The media ID can be a maximum of 6 ASCII characters. The actual character input is restricted to alpha numerics and '.', '+', '_', and '-' if they are not the first character.

The following applies only to NetBackup Enterprise Server:

-mt *media_type*

Specifies the media type of the volume to add.

Valid media types for NetBackup Enterprise Server are as follows:

dlt, dlt2, dlt3, hcart, hcart2, hcart3, dlt_clean, dlt2_clean, dlt3_clean, hcart_clean, hcart2_clean, hcart3_clean

Valid media types for NetBackup server are as follows:

dlt, hcart, dlt_clean, hcart_clean

`-h` *EMM_server | volume_database_host*

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default.

`-verbose`

Selects the verbose mode.

`-b` *barcode*

Specifies the barcode that is attached to the volume.

`-rt` *robot_type*

Specifies the robot type of the robot where the volume is located.

Valid robot types for NetBackup Enterprise Server are as follows:

none, acs, tld.

Valid robot types for NetBackup server are as follows:

none, tld.

`-rn` *robot_number*

Unique, logical identification number for the `robot` where the volume is located.

`-rh` *robot_host*

Name of the host that controls the robot, where the volume is located.

`-rc1` *rob_slot*

Robot coordinate 1 is the slot number in the robot where the volume is located.

The following applies only to NetBackup Enterprise Server:

Do not enter slot information for Media Manager API robot types. The robot software tracks the slot locations for these robots.

`-p` *pool_number*

Index of the volume pool that contains this volume. You can use `vmpool -listall` to determine the index for a given pool name.

`-mm` *max_mounts*

Maximum number of mounts that are allowed for this volume. Only used for non-cleaning media. When this limit is exceeded, the volume can be mounted for read operations only.

`-n` *cleanings*

The number of cleanings that remain for this volume. Only used for cleaning media.

`-d "media_description"`

Media description of the volume. The double quote marks are required if the description contains any spaces.

EXAMPLES

Example 1 - Add volume AJU244 in the NetBackup volume pool to the EMM database on the host that is named llama. The volume has the barcode AJU244 and is in slot 2 of TLD robot 1. For write operations, the volume may be mounted a maximum of 1000 times.

The following point applies only to NetBackup server:

Only one host (the master) exists, so the -h option is not needed.

Note: This command is usually entered on only one line.

```
# vmadd -m AJU244 -mt dlt -h llama -b AJU244 -rt tld -rn 1 -rh llama
 -rc1 2 -p 1 -mm 1000 -d "vmadd example"
```

NOTES

Only limited validation of the option parameters is done.

SEE ALSO

See vmchange on page 1022.

See vmdelete on page 1033.

See vmpool on page 1044.

See vmquery on page 1047.

vmchange

vmchange – change media information in EMM database

SYNOPSIS

vmchange [-h *EMM_server* | *volume_database_host*] -vg_res -rt *robot_type* -rn *robot_number* -rh *robot_control_host* -v *volume_group*

vmchange [-h *EMM_server* | *volume_database_host*] -res -m *media_id* -mt *media_type* -rt *robot_type* -rn *robot_number* -rh *robot_control_host* -v *volume_group* -rc1 *rob_slot*

vmchange [-h *EMM_server* | *volume_database_host*] -exp *date* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -barcode *barcode* -m *media_id* [-rt *robot_type*]

vmchange [-h *EMM_server* | *volume_database_host*] -m *media_id* -vltcid *vault_container_id*

vmchange [-h *EMM_server* | *volume_database_host*] -barcode *barcode* -vltcid *vault_container_id*

vmchange [-h *EMM_server* | *volume_database_host*] -d "*media_description*" -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -p *pool_number* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -maxmounts *max_mounts* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -clean *cleanings left* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -n *num_mounts* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -new_mt *media_type* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -new_rt *robot_type* -m *media_id* -rn *robot_number*

vmchange [-h *EMM_server* | *volume_database_host*] -new_v *volume_group* [-m *media_id* |{-b *barcode* -mt *media_type* -rt *robot_type*}]

vmchange [-h *EMM_server* | *volume_database_host*] -vltname *vault_name* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -vltsent *date* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -vltreturn *date* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -vltslot *vault_slot* -m *media_id*

vmchange [-h *EMM_server* | *volume_database_host*] -vltsession *vault_session_id* -m *media_id*

vmchange -api_eject -map *map_id:mapid:...:mapid* | *any* -w [-h *EMM_server* | *volume_database_host*] -res -ml *media_id:media_id: ...:media_id* -rt *robot_type* -rn *robot_number* -rh *robot_control_host* [-v *volume_group*]

vmchange -multi_eject -w [-h *EMM_server* | *volume_database_host*] -res -ml *media_id:media_id: ...:media_id* -rt *robot_type* -verbose -rn *robot_number* -rh *robot_control_host*

vmchange -multi_inject -w [-h *EMM_server* | *volume_database_host*] -res -rt *robot_type* -verbose -rn *robot_number* -rh *robot_control_host*

vmchange [-h *EMM_server* | *volume_database_host*] -res -robot_info -verbose -rn *robot_number* -rt *robot_type* -rh *robot_control_host*

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Change volume information in the Enterprise Media Manager database.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

`-h` *EMM_server* | *volume_database_host*

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default.

`-vg_res`

Change volume group residence.

`-rt` *robot_type*

Specifies the robot type of the robot where the volume is located.

Valid robot types for NetBackup Enterprise Server follow:

none, acs, tld

Valid robot types for NetBackup Server follow:

none, tld

`-rn` *robot_number*

Unique, logical identification number for the robot where the volume is located.

`-rh` *robot_control_host*

Name of the host that controls the robot, where the volume is located.

`-v` *volume_group*

A volume group is a logical grouping that identifies a set of volumes that reside at the same physical location.

`-res`

Changes the volume's residence.

`-m` *media_id*

Specifies the media ID of the volume to change.

`-mt` *media_type*

Specifies the media type of the volume to change.

Valid media types for NetBackup Enterprise Server follow:

dlt, dlt2, dlt3, hcart, hcart2, hcart3, dlt_clean, dlt2_clean, dlt3_clean, hcart_clean, hcart2_clean, hcart3_clean

Valid media types for NetBackup Server follow:

dlt, hcart, dlt_clean, hcart_clean

`-rc1 rob_slot`

Robot coordinate 1 is the robot slot number where the volume is located.

The following applies only to NetBackup Enterprise Server:

Do not enter slot information for API robot types. The robot software tracks the slot locations for these robots.

`-exp date`

Expiration date for this volume.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

`-barcode barcode`

Specifies the barcode that is attached to the volume.

`-d "media_description"`

Media description for the volume. The double quote marks are required if the description contains any spaces.

`-p pool_number`

Index of the volume pool that contains this volume. You can get the pool index using `vmpool -listall`.

`-maxmounts max_mounts`

Maximum number of mounts that are allowed for this volume. Only used for non-cleaning media.

`-n num_mounts`

For non-cleaning media, *num_mounts* is the number of times this volume has been mounted.

`-clean cleanings_left`

For cleaning media, *cleanings_left* is the number of cleanings that remain for this cleaning tape.

`-new_mt media_type`

Specifies the media type of the volume to change. See the `-mt` option for a list of media types.

`-new_rt robot_type`

Specifies the robot type. See the `-rt` option for a list of robot types.

`-new_v` *volume_group*

A volume group is a logical grouping that identifies a set of volumes that reside at the same physical location.

`-b` *barcode*

Specifies the barcode that is attached to the volume.

`-vltcid` *vault_container_id*

Changes the container in which a volume is stored. *vault_container_id* (a string of up to 29 alphanumeric characters) specifies the new container for the volume. Use the `-m` or `-barcode` option to specify the volume.

`-vltname` *vault_name*

Specifies the name of the logical vault that is configured for the robot that ejected the volume.

`-vltsent` *date*

Specifies the date the volume was sent off site.

The format of *date* depends on the user's locale setting. For the C locale, the date syntax is as follows:

mm/dd/yyyy [*hh*[:*mm*[:*ss*]]]

`-vltreturn` *date*

Specifies the date the volume was requested for return from the vault vendor. For catalog backup volumes, this date is the date that the volume is requested for return from the vault vendor.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

`-vltslot` *vault_slot*

Specifies the vault vendor's slot number for the slot that this volume occupies.

`-vltsession` *vault_session_id*

Specifies the ID of the vault session that ejected this media.

`-api_eject`

Eject ACS volumes from the specified robot. The ejection timeout period is one week.

-map *map_id:mapid: ...:mapid | any*

For ACS robots, this option can specify multiple media access ports (MAPs) to use for eject operations. The *map_id* (also known as the CAP ID) can be `all` or `ALL`, which specifies all MAPs in the robot. Or it can be a colon-separated list of MAP IDs in the format of ACS,LSM,CAP. When the `-map` option is used, media are ejected to the MAPs that are specified by using a nearest MAP algorithm. The algorithm assumes that the LSMs are connected in a line.

-w

Wait flag. This flag must be used with the eject, multiple eject, and multiple inject commands.

-verbose

Selects the verbose mode.

-ml *media_id:media_id: ...:media_id*

Specifies a list of media to be ejected from the robot.

-multi_eject

Uses the robotic library's media access port to eject multiple volumes. This option is only valid for TLD robot types. The ejection timeout period is 30 minutes.

-multi_inject

Uses the robotic library's media access port to inject multiple volumes. This option is only valid for TLD robot types. The user must run the `vmupdate` command after this operation to update the EMM database.

CAUTIONS

Some robotic libraries implement different functionality for their media access ports. For example, some libraries have the front-panel inject and the eject features that conflict with NetBackup's use of the media access port. (For example, Spectra Logic Bullfrog.) Other libraries require front-panel interaction when you use the media access port (for example, Spectra Logic Gator).

The media is returned to (injected into) the robot in the following situation: you use an eject option and the media is not removed and a timeout condition occurs. If this action occurs, inventory the robot and then eject the media that was returned to the robot.

Make sure that you read the operator manual for your robotic library to gain an understanding of its media access port functionality. Libraries such as those that are noted may not be fully compatible with NetBackup inject and eject features if not properly handled. Other libraries may not be compatible at all. In addition, NetBackup performs limited validation of these option parameters.

EXAMPLES

Example 1 - Change the expiration date of volume AJS100:

```
# vmchange -exp 12/31/12 23:59:59 -m AJS100
```

Example 2 - Change the pool (which contains volume AJS999) to pool 1 (the NetBackup pool):

```
# vmchange -p 1 -m AJS999
```

Example 3 - Eject volumes `abc123` and `abc124` from ACS robot number 700. The residences for these two volumes are changed to standalone.

```
# vmchange -res -api_eject -w -ml abc123:abc124 -rt acs -rn 700 -rh
verbena -map 0,0,0
```

Example 4 - Change the container ID of volume ABC123:

```
# vmchange -vltcid Container001 -m ABC123
```

SEE ALSO

See vmadd on page 1019.

See vmdelete on page 1033.

See vmpool on page 1044.

See vmquery on page 1047.

vmcheckxxx

vmcheckxxx – report the media contents of a robotic library

SYNOPSIS

vmcheckxxx -rt *robot_type* -rn *robot_number* [-rh *robot_host*] [-h *EMM_server* | *volume_database_host*] [[-if *inventory_filter_value*] [-if *inventory_filter_value*] ...] [-full] [-list]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Report the media contents of a robotic library and optionally compare its contents with the volume configuration.

If no options are specified, the media contents of the robot and the volume configuration are listed along with a list of any mismatches detected.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

-rt *robot_type*

Specifies the robot type of the robot to inventory.

Valid robot types for NetBackup Enterprise Server follow:

none, acs, tld.

Valid robot types for NetBackup server follow:

none, tld.

-rn *robot_number*

Unique, logical identification number of the robot to inventory.

`-rh` *robot_host*

Name of the host that controls the robot. If no host is specified, the host where you execute this command is assumed.

`-h` *EMM_server* | *volume_database_host*

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about the volumes in a robot. If no host is specified, the configured EMM server is used by default.

`-if` *inventory_filter_value*

This option is only applicable for NetBackup Enterprise Server.

Specifies the inventory filter values. Multiple `-if` options may be specified. The inventory filter value is an ACS scratch pool ID.

The `-if` and `-full` options cannot be specified together.

`-full`

Specifies the full inventory. The `-full` and `-if` options cannot be specified together.

`-list`

Lists the robot contents.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

Example: List the media contents of TLD robot 1 and the volume configuration for that robot on the host named server2. It also lists any mismatches that are detected:

```
# vmcheckxxx -rt tld -rn 1 -rh server2
```

SEE ALSO

See vmupdate on page 1055.

vmd

vmd – run EMM daemon

SYNOPSIS

vmd [-v]

The directory path to this command is /usr/openv/volmgr/bin/

DESCRIPTION

This command operates only on UNIX systems.

ltid does not require volumes to be defined in the EMM database before it is used.

The following paragraph applies only to NetBackup Enterprise Server:

The automatic mount of volumes in robotic devices does not take place until the following actions occur: the volumes are defined and their slot information (for non-API robots) is entered in the EMM database.

A direct interface to the EMM database is provided to facilitate EMM database administrative activities easily. Graphical, menu-driven, and command-line Media Manager utilities are provided.

vmd is also used for remote Media Manager device management and for managing the volume pool, barcode rules, and device databases.

The Internet service port number for vmd must be in /etc/services. If you use NIS (Network Information Service), place the entry that is in this host's /etc/services file in the master NIS server database for services. The default service port number is 13701.

The following paragraphs apply only to NetBackup Enterprise Server.

OPTIONS

-v Logs detailed the debug information if you create the debug/daemon directory (see ERRORS). Specify this option only if problems occur or if requested by Veritas support.

ERRORS

vmd logs an error message using syslogd if there is a copy of vmd in operation.

vmd logs an error message using syslogd if the port that it binds to is in use. If this message appears, you may need to override the services file by using the mechanism that is described under DESCRIPTION.

To run vmd in debug mode do the following:

- Before you start vmd, create the following directory:

  ```
  /usr/openv/volmgr/debug/daemon
  ```

  If vmd is running, stop, and restart it after creating the directory.

- Start vmd in verbose mode as follows or put a VERBOSE entry in vm.conf.

  ```
  /usr/openv/volmgr/bin/vmd -v
  ```

- Check the log message in /usr/openv/volmgr/debug/daemon.

If problems persist, you can obtain more debug information on the requestor by creating the following directory: /usr/openv/volmgr/debug/reqlib.

One log per day is created in each debug directory. These logs continue to build until the debug directory is moved or removed, unless you specify a DAYS_TO_KEEP_LOGS entry in vm.conf. Do not remove the debug directory while vmd is running. Only run vmd in debug mode when necessary.

FILES

```
/usr/openv/volmgr/debug/daemon/*
/usr/openv/volmgr/debug/reqlib/*
```

EMM database

SEE ALSO

See ltid on page 544.

See vmadd on page 1019.

See vmchange on page 1022.

See vmdelete on page 1033.

See vmquery on page 1047.

vmdelete

vmdelete – delete volumes from EMM database

SYNOPSIS

vmdelete [-h *EMM_server* | *volume_database_host*] [-m *media_id* | -v *volume_group*]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Delete volumes from the Enterprise Media Manager database.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

-h *EMM_server* | *volume_database_host*

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default.

-m *media_id*

Specifies the media ID of the volume to delete from the volume database.

-v *volume_group*

Specifies the volume group to delete. All volumes in this group are deleted from the volume database.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

Example 1 - Delete a single volume:

```
# vmdelete -m AJS144
```

Example 2 - Delete all volumes with the volume group name of DELETE_ME:

```
# vmdelete -v DELETE_ME
```

SEE ALSO

See vmadd on page 1019.

See vmchange on page 1022.

See vmquery on page 1047.

vmoprcmd

vmoprcmd – perform operator functions on drives

SYNOPSIS

vmoprcmd -devmon [pr | ds | hs] [-h *device_host*] *default_operation*

vmoprcmd -dp [pr | ds | ad] [-h *device_host*]

vmoprcmd -down | -up | -upopr | -reset *drive_index* [-h *device_host*]

vmoprcmd -downbyname | -upbyname | -upoprbyname | -path *drive_path*] [-nh *ndmp_hostname*] [-h *device_host*]

vmoprcmd -resetbyname *drive_name* [-h *device_host*]

vmoprcmd -assign *drive_index mount_request_id* [-h *device_host*]

vmoprcmd -assignbyname *drive_name mount_request_id* [-h *device_host*]

vmoprcmd -deny | -resubmit *mount_request_index* [-h *device_host*]

vmoprcmd -comment *drive_index* ["*comment*"] [-h *device_host*]

vmoprcmd -commentbyname *drive_name* ["*comment*"] [-h *device_host*]

vmoprcmd -crawlreleasebyname *drive_name* [-h *EMM_Server*]

vmoprcmd [-activate_host | -deactivate_host] [-h *device_host*]

vmoprcmd -hoststatus [-h *device_host*]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

This command lets you perform operator functions on drives. The -h option is not required, but you must choose only one of the following other options.

Non NDMP Windows device paths appear as {p,b,t,l}: where p is the port, b is the bus, t is the target, and l is the LUN. When vmoprcmd is run by using the -path argument, specify the path in the {p,b,t,l} format.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

`-assign` *drive_index mount_request_id*

Assign a drive to a mount request.

`-assignbyname` *drive_name mount_request_id*

This option is similar to the `-assign` option, except the drive name specifies the drive instead of the drive index.

The following point applies only to NetBackup server:

The device host is the host where Media Manager is installed.

`-comment` *drive_index* ["*comment*"]

Add a comment for the drive. The quotes are required if your comment contains any spaces. If you do not specify *comment*, any existing comments for the drive are deleted.

`-commentbyname` *drive_name* ["*comment*"]

This option is similar to the `-comment` option, except the drive name specified the drive instead of drive index.

`-crawlreleasebyname` *drive_name*

This option is only applicable for NetBackup Enterprise Server.

This option forces all hosts (that are registered to use the drive) to issue a SCSI release command to the drive. Issue this option on the host that is the SSO device allocator (DA host) or use the -h option to specify the DA host.

Caution: Use this option after a PEND status has been seen in Device Monitor. Do not use this option during backups.

`-down | -up | -upopr | -reset` *drive_index*

`-down` Sets the drive to the DOWN state, if it is not assigned.

`-up` Sets the drive to the UP position in Automatic Volume Recognition (AVR) mode. This mode is the normal mode for all drives.

`-upopr` Sets the drive to the UP position in Operator (OPR) mode. This mode is normally used only for security reasons. For a drive in a robot, OPR and AVR are treated identically while the robot daemon or process is running.

`-reset` Resets the specified drive. Also, it unloads the drive (if not assigned in the EMM database). You can use the unload capability to unload the media that is stuck in the drive.

`-downbyname | -upbyname | -upoprbyname | -resetbyname` *`drive_name`*

These options are similar to `-down`, `-up`, `-upopr`, and `-reset` respectively, except the drive name specifies the drive instead of the drive index.

`-deny | -resubmit` *`mount_request_id`*

`-deny` Denying a mount request returns an error message to the user.

`-resubmit` Resubmit a mount request. If a pending action message involves a robot, you must correct the problem and resubmit the request that caused the message.

`-dp [pr | ds | ad]`

If none of the following optional display parameters are specified, all information is displayed.

`pr` - Displays any pending requests.

`ds` - Displays the status of drives under control of Media Manager.

`ad` - Displays additional status of drives under control of Media Manager.

`-devmon [pr | ds | hs]` *`default_operation`*

The `-devmon` command lists all of the drive paths that are configured for a given drive name. If none of the following optional display parameters are specified, all information is displayed. Full device pathnames are displayed.

`pr` Displays any pending requests.

`ds` Displays the status of drives under control of Media Manager.

`hs` Displays additional status of drives under control of Media Manager.

`-h` *`EMM_Server | device host`*

Name of the Enterprise Media Manager database host where the drives are attached and configured. If no host option is specified, the device host where you run the command is default.

The *device host* is the host where the device is attached and configured.

`-hoststatus`

Displays the current status of the host. The following states can appear:

DEACTIVATED - This state prevents any new jobs from starting on this host.

ACTIVE - The media server is available to run any jobs.

ACTIVE-DISK - The media server is available to run jobs for disk storage units only.

ACTIVE-TAPE - The media server is available to run jobs for tape storage units only.

OFFLINE - The media server is not available to run jobs for either tape storage units or disk storage units. This state occurs because the media server is not active for tape or disk, or because the master server cannot communicate with the media server.

`-nh` *`ndmp_hostname`*

Specifies the host name of the NDMP server.

`-activate_host`

Makes the host available to run jobs.

`-deactivate_host`

Makes the host unavailable to run jobs.

`-path` *`drivepath`*

Specifies the system name for the drive. For example, /dev/rmt/0cbn.

`-setpath` *`drivepath drive_name ndmp_hostname`*

Specifies the system name and the drive name of the NDMP host.

NOTES

Only limited validation of the option parameters is done.

`tpconfig -d`, `tpconfig -l`, and `vmoprcmd` may truncate long drive names. Use `tpconfig -dl` to obtain the full drive name.

`vmoprcmd` may truncate drive names to 20 characters.

EXAMPLES

Example 1 - Set the drive, with a drive index of 0, to UP mode:

```
# vmoprcmd -up 0
```

Example 2 - Display the drive status of all drives:

```
# vmoprcmd -d ds
```

Example 3 - Display pending requests and the drive status of all drives on the device host named crab:

```
# vmoprcmd -h crab
```

Example 4 - Demonstrate how non-NDMP Windows device paths appear.

```
# vmoprcmd

                          HOST STATUS
Host Name                                  Version   Host Status
========================================  =======   ===========
hamex                                      600000      ACTIVE

                         PENDING REQUESTS
                             <NONE>
                           DRIVE STATUS

Drive Name           Label   Ready  RecMID  ExtMID  Wr.Enbl. Type
    Host                    DrivePath                        Status
=====================================================================
IBM.ULTRIUM-TD2.001    No      No                      No     hcart2
    hamex                   {3,1,0,2}                        TLD
    hamex                   {3,1,1,2}                        TLD

IBM.ULTRIUM-TD1.004    No      No                      No     hcart
    hamex                   {3,1,0,7}                        TLD
    hamex                   {3,1,1,7}                        TLD

IBM.ULTRIUM-TD2.005    Yes     Yes    J945L2           Yes    hcart2
    hamex                   {3,1,2,1}                        TLD

IBM.ULTRIUM-TD2.006    No      No                      No     hcart2
    hamex                   {3,1,2,2}                        TLD

# vmoprcmd -downbyname IBM.ULTRIUM-TD1.004 -path {3,1,0,7}
```

vmphyinv

vmphyinv – inventory media contents of a robotic library or standalone drive and update the volume database

SYNOPSIS

vmphyinv -rn robot_number] [-rh robot_control_host] [-h device_host][-pn pool_name] [-v volume_group] [-rc1 robot_coord1 -number number] [-drv_cnt count] [-non_interactive] [-mount_timeout timeout] [-priority *number*] [-verbose]

vmphyinv -rn robot_number] [-rh robot_control_host] [-h device_host] -ml media_id:media_id:...:media_id [-drv_cnt count] [-non_interactive] [-mount_timeout timeout] [-priority *number*] [-verbose]

vmphyinv -rn robot_number] [-rh robot_control_host] [-h device_host] [{ { [-slot_range from to] [-slot_list s1:s2:...:sN] } -d density } { { [-slot_range from to] [-slot_list s1:s2:...:sN] } -d density }] [-drv_cnt count] [-non_interactive] [-mount_timeout timeout] [-priority *number*] [-verbose]

vmphyinv {-u drive_number | -n drive_name} [-h device_host] [-non_interactive] [-mount_timeout timeout] [-verbose]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Physically inventory the media contents of a robotic library or standalone drive and update the EMM database. Based on information in the tape header, vmphyinv mounts each media that the search criterion specifies, reads the tape header, and updates the EMM database.

For more information about this command, refer to the NetBackup Administrator's Guide, Volume I.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

`-rn robot_number`

Specifies the Media Manager robot number whose media is inventoried. `robot_number` should correspond to a robot with already configured drives. `vmphyinv` inventories each of the media. It has the robot_number in the volume database of robot_number.

`-rh robot_host`

Specified the name of the host that controls the robot. If no host is specified, the host where this command is executed is assumed.

`-h device_host`

Specifies the device host name. This option is used to obtain the Enterprise Media Manager Server name. If not specified, the current host is used to obtain the EMM server name.

`-pn pool_name`

Specifies the case-sensitive pool name of the volumes, which corresponds to the robot that the -rn option specifies, which need to be inventoried. Valid only when the -rn option is specified.

`-priority` *number*

Specifies a new priority for the inventory job that overrides the default job priority.

`-v volume_group`

Specifies the volume group of the volumes, that correspond to the robot that the -rn option specifies, which need to be inventoried. Valid only when the -rn option is specified.

`-rc1 robot_coord1`

Specifies the starting slot of the media that needs to be inventoried. Valid only when the -rn option is specified.

`-number number`

Specifies the number of slots that start from robot_coord1 that need to be inventoried. Valid only when -rn and -rc1 are also specified.

`-ml media_id1:media_id2: ... :media_id`

Specifies a list of media, which need to be inventoried. Valid only when -rn option is specified. If the media ID that is specified does not belong to the specified robot, the media is skipped.

`-slot_range from to`

Specifies a range of slots that need to be inventoried. If one or more slots are empty, those slots are skipped.

`-slot_list s1:s2:...sN`

Specifies a list of slots that need to be inventoried. If one or more slots are empty, those slots are skipped.

`-d density`

Specifies the density of the media. The user must specify the media density and inventory the media by slot range or slot list.

`-u drive_number`

Specifies the drive index that needs to be inventoried. The drive must contain media and be ready. The number for the drive can be obtained from the Media and Device Management of the Administration Console.

`-n drive_name`

Specifies the drive name that needs to be inventoried. The drive must contain media and be ready. The name for the drive can be obtained from the Media and Device Management of the Administration Console.

`-non_interactive`

As the default, `vmphyinv` displays a list of recommendations and asks for confirmation before it modifies the volume database and EMM database (if required). If this option is specified, the changes are applied without any confirmation.

`-mount_timeout timeout`

Specifies the mount timeout in seconds. If the media cannot be mounted within the specified time, the mount request is canceled. The default value is 15 minutes.

`-drv_cnt count`

Specifies the maximum number of drives that can be used simultaneously by `vmphyinv`. The total number of configured drives and this value determine the actual number of drives `vmphyinv` uses. The number of drives that `vmphyinv` uses is the minimum of the specified drive count and the total number of configured drives. The default is to use all the drives.

`-verbose`

Selects the verbose mode. When you specify this option, more information appears. For example, this information consists of the following: The number of available drives, what is found on each tape, and catalog identification if the media is a catalog.

EXAMPLES

Example 1 - Update the EMM database of robot 1 connected to host shark:

```
# vmphyinv -rn 1 -rh shark
```

Example 2 - Update the EMM database of robot 7 connected to host whale. Only the media that belongs to the pool name "some_pool" is inventoried:

```
# vmphyinv -rn 7 -rh whale -pn some_pool
```

Example 3 - Update the EMM database of robot 3 connected to host dolphin. Only the media A00001, A00002, A00003 is inventoried.

```
# vmphyinv -rn 3 -rh dolphin -ml A00001:A00002:A00003
```

Example 4 - Update the EMM database of robot 2 of type TLD that is connected to host phantom. It only inventories the media in slots 3 to 8.

```
# vmphyinv -rn 2 -rh phantom -slot_range 3 8 -d dlt
```

Example 5 - Update the EMM database of standalone drive (drive index 3) attached to host `tigerfish`:

```
# vmphyinv -u 0 -h tigerfish
```

SEE ALSO

See vmupdate on page 1055.

See vmcheckxxx on page 1029.

See vmoprcmd on page 1035.

vmpool

`vmpool` – manage volume pools

SYNOPSIS

vmpool [-h *EMM_server* | *volume_database_host*] -list_all [-b|-bx] | -list_scratch | -list_catalog_backup | -create -pn *pool_name* -description *description* [-mpf *mpf_max*] | -update -pn *pool_name* [-description *description*] [-reason "*string*"] [-mpf *mpf_max*] | -delete *pool_name* | -set_scratch *pool_name* | -unset_scratch *pool_name* | -set_catalog_backup *pool_name* | -unset_catalog_backup *pool_name*

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Use this command to add, change, delete, or list volume pools.

The -h option is not required, but you must choose one and only one of the other seven options (for example, -list_scratch).

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

-h *EMM_server* | *volume_database_host*

This option applies only to the NetBackup Enterprise Server.

Specifies the name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default.

-list_all [-b | -bx]

Lists the information about all volume pools. Use the -b or -bx option to specify a brief format for volume pool information.

`-list_scratch`

Lists all configured scratch pools and the pool index number.

`-list_catalog_backup`

Lists the volume pool to be used for catalog backup.

`-create -pn` *`pool_name`* `-description` *`description`* `-mpf` *`mpf_max`*

Adds a new volume pool. Optionally limits the number of partially full media to be used in this pool by using `-mpf`. The default value is zero (0), which indicates that the number of partially full media is unlimited.

The `-description` option describes the volume pool. Double quote marks are required if the description contains any spaces.

`-update -pn` *`pool_name`* `[-description` *`description`*`] [-mpf` *`mpf_max`*`]`

Changes an existing volume pool. Optionally limits the number of partially full media to be used in this pool by using `-mpf`. The default value is zero (0), which indicates that the number of partially full media is unlimited.

The `-description` option describes the volume pool. Double quote marks are required if the description contains any spaces.

`-delete` *`pool_name`*

Deletes a volume pool.

`-reason "`*`string`*`"`

Indicates the reason why you perform this command action. The reason text string that you enter is captured and appears in the audit report. Enclose this string with double quotes ("...") and do not exceed 512 characters. The string cannot begin with a dash character (-) nor contain a single quotation mark (').

`-set_scratch` *`pool_name`*

If *pool_name* is a previously defined volume pool, *pool_name* becomes the scratch pool, and its description is not changed. The NetBackup, Datastore, Catalog Backup, and None volume pools cannot be changed to scratch pools.

If *pool_name* is a new volume pool, a new pool is created with "Scratch Pool" as the description.

Only one scratch pool at a time can be defined.

`-unset_scratch` *`pool_name`*

Undefines *pool_name* as the scratch pool and defines it as a regular volume pool. The pool can be deleted by using `vmpool -delete` *`pool_name`*.

`-set_catalog_backup` *`pool_name`*

Specifies the volume pool to back up the NetBackup catalog. You can also create a dedicated catalog backup pool to be used for catalog policies. A dedicated catalog volume pool reduces the number of needed tapes during

catalog restores since catalog backup media are not mixed with other backup media.

`-unset_catalog_backup` *`pool_name`*

Defines a volume pool that you do not want to use to back up the NetBackup catalog.

NOTES

Only limited validation of the option parameters is done.

A pool cannot be both a scratch pool and Catalog Backup pool.

The -add and -change options have been deprecated. They can still be used, but do not set the `mpf` value.

EXAMPLES

Example 1 - Add a new pool named `MyPool` on the host that is named llama. It has the default host, user ID, and group ID permissions:

```
vmpool -create -pn MyPool -description "description with spaces"
-mpf 17
```

Example 2 - List all pools that are configured on the host where the command is executed:

```
vmpool -list_all -b
```

vmquery

vmquery – query EMM database, or assign and unassign volumes

SYNOPSIS

vmquery [-h *EMM_server* | *volume_database_host*, ... -h *EMM_server* | -h *volume_database_host*, ... -h *volume_database_host*] [-vltcid *vault_container_id*] [-b | -w | -W | l] -a | -m *media_id* | -v *volume_group* | -rn *robot_number* | -rt *robot_type* | -mt *media_type* | -p *pool_number* | -pn *pool_name* | -res *robot_type robot_number robot_control_host robot_coord1 robot_coord2* | -assignbyid *media_id media_type pool_number stat asg_time* | -deassignbyid *media_id pool_number stat*

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Query the EMM database for volume information. The -h, -b, -W, and -w options are not required, but you must choose one and only one of the other (twelve) options.

The -b or -w option can be used with any of the other 11 options, but the -b or -w options cannot be specified together.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

-h *EMM_Server* | *volume_database_host*

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about volumes. If no host is specified, the configured EMM server is used by default.

`-b`

Specifies the brief output format for volume information. This option can be used with any of the other 11 options.

`-w`

Specifies the wide output format for volume information. This option includes any additional information that the `-b` option does not show and can be used with any of the other 11 options.

`-a`

Shows all volumes.

`-m` *media_id*

Queries the volumes by media ID. The media ID is a maximum of 6 ASCII characters.

`-v` *volume_group*

Queries the volumes by volume group. A volume group is a logical grouping that identifies a set of volumes that reside at the same physical location.

`-rn` *robot_number*

Queries the volumes by robot number. A robot number is a unique, logical identification number for the robot where the volume is located.

`-rt` *robot_type*

Queries the volumes by the type of robot where the volume is located.

Valid robot types for NetBackup Enterprise Server follow:

none, acs, tld.

Valid robot types for NetBackup Server follow:

none, tld.

`-mt` *media_type*

Queries the volumes by media type.

Valid media types for NetBackup Enterprise Server follow:

dlt, dlt2, dlt3, hcart, hcart2, hcart3, dlt_clean, dlt2_clean, dlt3_clean, hcart_clean, hcart2_clean, hcart3_clean.

Valid media types for NetBackup Server follow:

dlt, hcart, dlt_clean, hcart_clean.

`-p` *pool_number*

Queries the volumes by pool number. Pool number is an index into the volume pool. You can use `vmpool -listall` to determine the index for a given pool name.

-pn *pool_name*

Queries the volumes by pool name.

-res *robot_type robot_number robot_host rob_slot*

Queries the volumes by residence.

robot_host

Specifies the host that controls the robot where the volume is located.

rob_slot

Specifies the slot number in the robot (robot coordinate 1) where the volume resides.

-assignbyid *media_id media_type pool_number stat asg_time*

Assigns the volume by media ID, pool, and status. This option can only assign non-NetBackup media. Non-NetBackup media include the media that the following use: Veritas Storage Migrator, Veritas Data Lifecycle Manager, or by the users that work outside of the NetBackup policy framework (for example, those using `tpreq` directly).

The -assignbyid option cannot be used with media of status (*stat*) 0 (regular NetBackup tapes) or 1 (NetBackup catalog tapes).

stat

Status applies only to volumes that are assigned to NetBackup or Storage Migrator. Possible `stat` values are:

0 - the volume is assigned to NetBackup regular backups.

1 - Volume is assigned to NetBackup catalog backups.

2 - Volume is assigned to Storage Migrator.

asg_time

This option applies only to volumes that are assigned to NetBackup or Storage Migrator.

Specifies the time when the volume was assigned. It is the number of seconds since 00:00:00 UTC, January 1, 1970. *asg_time* was originally created by using the time() call.

-deassignbyid *media_id pool_number stat*

Unassigns the volume by media ID, pool, and status. This option can only deassign non-NetBackup media. Non-NetBackup media includes the media that the following use: Veritas Storage Migrator, Veritas Data Lifecycle Manager, or the users that work outside of the NetBackup policy framework (for example, those using `tpreq` directly). To deassign NetBackup tapes, use the `bpexpdate` command.

The -deassignbyid option cannot be used with media of status (*stat*) 0 (regular NetBackup tapes) or 1 (NetBackup catalog tapes).

`-vltcid` *`vault_container_id`*

Lists the volumes that are stored in the container. The *vault_container_id* variable can be a string of up to 29 alphanumeric characters.

`-W`

Specifies the parsable output format for volume information.

The output data lines are space separated fields except in the following conditions:

- The MediaID field is padded to six characters by adding spaces to the end of the string.
- The MediaType field is padded to eight characters by adding spaces to the end of the string.
- The MediaDescription field may contain spaces within the field.
- For Vault containers, the output includes the length of the container description (DescriptionLength), the container description, and the container ID. The output header line is a space-separated line of column labels.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

Example 1 - List all volume information, in brief format from the EMM database on the host that is named llama:

```
# vmquery -h llama -b -a
```

Example 2 - Assign volume A23456, which is in pool 1 (NetBackup). It sets the status to 0 and the assign time to 08/14/23 15:50:22:

```
# vmquery -assignbyid A23456 hcart 1 0 1692028222
```

Example 3 - Unassign volume A23456, which is in pool 2 (Storage Migrator), with a status of 0:

```
# vmquery -deassignbyid A23456 0
```

SEE ALSO

See vmadd on page 1019.

See vmchange on page 1022.

See vmdelete on page 1033.

See vmpool on page 1044.

vmrule

`vmrule` – manage barcode rules

SYNOPSIS

vmrule [-h *EMM_server* | *volume_database_host*] -listall [-b] | -add *barcode_tag media_type pool_name max_mounts "description"* | -change *barcode_tag media_type pool_name max_mounts "description"* | -delete *barcode_tag*

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Use `vmrule` to add, change, delete, or list barcode rules. The `-h` option is not required, but you must choose one and only one of the other four options.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

`-h` *EMM_server* | *volume_database_host*

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about the volumes in a robot. If no host is specified, the configured EMM server is used by default.

`-listall [-b]`

Lists the information about all barcode rules. You can use the `-b` option to specify a brief format for the barcode rule information that is displayed.

The following describes the fields that are included in the output of a `vmrule -list_all [-b]` command:

- Field 1 = Barcode tag of the media

- Field 2 = Media type
- Field 3 = Volume pool for the media
- Field 4 = max mounts / cleanings. The maximum mounts or cleanings for the media.
- Field 5 = Rule description

`-add` *`barcode_tag media_type pool_name max_mounts "description"`*

Adds a new barcode rule.

`-change` *`barcode_tag media_type pool_name max_mounts "description"`*

Changes a barcode rule.

`-delete` *`barcode_tag`*

Deletes a barcode rule.

`barcode_tag`

Specifies the barcode prefix that activates the barcode rule.

`media_type`

Specifies the media type of the volume, a barcode rule attribute. This option affects whether the rule is used. It also affects the media type for the volumes that are added by using a robot inventory update.

Valid media types for NetBackup Enterprise Server follow:

dlt, dlt2, dlt3, hcart, hcart2, hcart3, dlt_clean, dlt2_clean, dlt3_clean, hcart_clean, hcart2_clean, hcart3_clean.

Valid media types for NetBackup Server follow:

dlt, hcart, dlt_clean, hcart_clean.

`pool_name`

Specifies the pool to which the volumes are added.

`max_mounts`

Specifies the maximum number of mounts that are allowed for this volume (when the volume is added). This option is used only for non-cleaning media. When this limit is exceeded, the volume can only be mounted for read operations.

Note: Numbers larger than 99999 are stored in the database, but `vmrule` displays the *max_mounts* as 0 if the value is larger than 99999. A value of zero means that the number of mounts is unlimited.

"description"

Description of the barcode rule. The double quote marks are required if the description contains any spaces.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

Example 1 - Create a rule that defines any tape with a barcode that starts with ABC is a DLT tape in the NetBackup pool. The tape can be mounted up to 100 times for writes and is given a description.

```
vmrule -add ABC dlt NetBackup 100 "DLT cleaning tape"
```

Example 2 - List all barcode rule information.

```
# vmrule -list_all [-b]
ABC,DLT,NetBackup,100,DataStore DLT Rule
EFG,DLT,DataStore,0,DataStore DLT Rule
```

The barcode tags are ABC and EFG. The media type is DLT. The volume pools are NetBackup and DataStore. The max mounts or cleanings are 100 and 0. The rule description is DataStore DLT rule.

SEE ALSO

See vmupdate on page 1055.

vmupdate

`vmupdate` – inventory media contents of a robotic library and update the EMM database

SYNOPSIS

vmupdate -rt *robot_type* -rn *robot_number* [-rh *robot_host*] [-h *EMM_Server* | *volume_database_host*] [[-if *inventory_filter_value*] [-if *inventory_filter_value*] ...] [-full] [-recommend] [-interactive] [-involgrp *volume_group*] [-outvolgrp *volume_group*] [-mt *media_type*] [-p *pool_name*] [-use_barcode_rules] [-use_seed] [-mp *media_id_prefix*] [-empty_map]

On UNIX systems, the directory path to this command is /usr/openv/volmgr/bin/

On Windows systems, the directory path to this command is *install_path*\Volmgr\bin\

DESCRIPTION

Inventory the media contents of a robotic library and update the Enterprise Media Manager database. If no options are specified, the volume configuration is updated to match the robot contents.

Any authorized user can run this command.

For more information about NetBackup authorization, refer to the NetBackup Security and Encryption Guide.

OPTIONS

`-empty_map`

Specifies that volumes in the media access port (map) are moved into the robot before the robot inventory is started. This option is only valid for TLD robot types.

`-full`

Specifies full the inventory. The `-full` and `-if` options cannot be specified together.

`-h` *EMM_server* | *volume_database_host*

This option is only applicable for NetBackup Enterprise Server.

The name of the Enterprise Media Manager database host that contains information about the volumes in a robot. If no host is specified, the configured EMM server is used by default.

`-if` *inventory_filter_value*

This option is only applicable for NetBackup Enterprise Server.

Specifies the inventory filter values. Multiple `-if` options may be specified. The inventory filter value is an ACS scratch pool ID.

The `-if` and `-full` options cannot be specified together.

`-interactive`

Prompts you before it updates the volume configuration.

`-involgrp` *volume_group*

Specifies the volume group for the media that is moved into the robot.

`-mp` *media_id_prefix*

Specifies the prefix that is used as a seed to generate new media IDs for media with no bar codes. This prefix should be between 1 and 5 characters in length and contain only valid media ID characters (alpha-num, "+", "_", ".", and "-" if it is not the first character).

`-mt` *media_type*

Specifies the media type of the volume.

Valid media types for NetBackup Enterprise Server follow:

dlt, dlt2, dlt3, hcart, hcart2, hcart3, dlt_clean, dlt2_clean, dlt3_clean, hcart_clean, hcart2_clean, hcart3_clean.

Valid media types for NetBackup server follow:

dlt, hcart, dlt_clean, hcart_clean.

`-outvolgrp` *volume_group*

Specifies the volume group for the media that is moved out of the robot.

`-p` *pool_name*

Specifies the name of the volume pool to which new media are assigned.

`-recommend`

Lists the changes that are required to update the volume configuration.

`-rh` *robot_host*

Name of the host that controls the robot. If no host is specified, the host where you execute this command is assumed.

`-rn robot_number`
Unique, logical identification number for the robot to inventory.

`-rt robot_type`
Specifies the robot type of the robot to inventory.

Valid robot types for NetBackup Enterprise Server follow:

none, acs, tld.

Valid robot types for NetBackup server follow:

none, tld.

`-use_barcode_rules`
Specifies that barcode rules are used for assigning attributes to new media.

`-use_seed`
Specifies the automatic generation of media IDs for media with no barcodes.

NOTES

Only limited validation of the option parameters is done.

EXAMPLES

Example 1 - Update the volume configuration on the EMM server named *mymaster* to match the contents of TLD robot 7 connected to the host *macris*:

```
# vmupdate -rt tld -rn 7 -rh macris -h mymaster
```

SEE ALSO

See vmcheckxxx on page 1029.

vnetd

vnetd – The NetBackup communication daemon

SYNOPSIS

vnetd -standalone | -terminate [-debug] [-max_time *seconds*] [-portnum *number*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

vnetd is the NetBackup network communications service (daemon) used to create firewall-friendly socket connections. It allows all socket communication to take place while it connects to a single port. Start vnetd as a continuously running service (daemon). Note that inetd no longer launches vnetd.

When you install NetBackup on a client, the installation process typically adds entries for vnetd to the following:

- UNIX client: /etc/services
- Windows client: %SystemRoot%\system32\drivers\etc\services

OPTIONS

The following options are available for vnetd:

-debug
: Prevents vnetd from forking and does not disconnect it from standard input, output, and error.

-max_time
: Specifies the maximum time in seconds that vnetd should wait for a protocol to complete.

-portnum
: Specifies the port number where vnetd listens for requests. The default is the vnetd entry in: /etc/services.

`-standalone`

Instructs `vnetd` to run continuously. `-standalone` is the default condition for NetBackup startup.

`-terminate`

Stop the running `vnetd` service.

SEE ALSO

See bpcd on page 73.

vssat

vssat – configure authentication service (AT) and its options.

SYNOPSIS

vssat addldapdomain -d *DomainName* -s *server_URL* -u *user_base_DN* -g *group_base_DN* -m *admin_user_DN* [-w *admin_user_password*] [-f *trusted_CA_file_name*] [-tp *TLS_protocol_version_to_be_disabled*] [-cs *cipher_suite_list*] [-t rfc2307 | msad | {-c *user_object_class* -a *user_attribute* -q *user_GID_attribute* -un *user_display_name_attribute* -ui *user_ID_attribute* -ud *user_description_attribute* -x *group_object_class* -y *group_attribute* -z *group_GID_attribute* -gn *group_display_name_attribute* -gi *group_ID_attribute* -gd *group_description_attribute* [-k *DN* | *UID*]]} [-F]

vssat listldapdomains [-F]

vssat removeldapdomain -d *DomainName* [-F]

vssat validategroup --groupname *name* --domain *type:name* --broker *host*:1556:nbatd [-F]

vssat validateprpl --prplname *prpl_name* --domain *type:name* --broker *host*:1556:nbatd [-F]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/sec/at/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\sec\at\bin\

DESCRIPTION

Use the vssat addldapdomain command to add an LDAP domain to the authentication broker. You must have administrator privileges to run the vssat command. You must determine the information that is shown to add an LDAP domain:

- The type of LDAP directory in use.
  The type of LDAP directory dictates the type of scheme to use. Some of the possible types of LDAP directory types are: Microsoft Active Directory, OpenLDAP, iPlanet, and so on.

- The URL to the LDAP directory.
  For example, `ldap:// my_ldap_host.mydomain.myenterprise.com:389` or `ldaps:// my_ssl_ldap_host.mydomain.myenterperise.com`. Be aware that an LDAP URL must start with `ldap://` for non-SSL, or `ldaps://` for SSL-enabled LDAP directory.
- The distinguished name (DN) of the `users` container.
  Normally, the `users` container is in one of the naming contexts. For most LDAP directories, you can use the `ldapsearch` utility, provided by the directory vendor, to find out the naming contexts. For example:
  `ldapsearch --group_object_class -h my_host --server_url base --auth_type "" namingContexts`
  For Microsoft Active Directory, the users container resembles this example:
  `cn=users,dc=`*`domain_name`*`,dc=`*`enterprise_name`*`,dc=com`
- The distinguished name (DN) of the `groups` container.
  Normally, the `groups` container is in one of the naming contexts. For most LDAP directories, you can use the `ldapsearch` utility, provided by the directory vendor, to find out the naming contexts. For example:
  `ldapsearch --group_object_class -h my_host --server_url base --auth_type "" namingContexts`
  For Microsoft Active Directory, the `groups` container looks like this example:
  `cn=users,dc=`*`domain_name`*`,dc=`*`enterprise_name`*`,dc=com`
- The schema to facilitate users and groups.
  If the enterprise has migrated their NIS data to the LDAP directory according to Request For Comments 2307, it must use the RFC 2307 schema. RFC 2307 uses the `posixAccount` object class to facilitate user objects. It uses the `posixGroup` object class to facilitate group objects. If the enterprise uses Microsoft Active Directory, it must use the Microsoft Active Directory schema. In this schema, the `user` object class facilitates both `user` objects and `group` objects.
  If the enterprise uses neither RFC 2307 nor Microsoft Active Directory, you must determine the items shown:
  - The LDAP object class to facilitate user objects.
  - The LDAP object class to facilitate group objects.
  - The user attribute in the user object class to facilitate user name or ID.
    Veritas uses the rules that are shown to construct the DN to the user entry: *user_attribute=user_name,user_container_DN*. For example, if the user attribute is configured to `cn` and users container DN is configured to `dc=mydomain,dc=myenterprise,dc=com` and the user name for the

authenticate call is `jdoe`, the LDAP DN for `jdoe` is: `cn=jdoe,dc=mydomain,dc=myenterprise,dc=com`

- The group identifier (GID) attribute in the user object class to identify the groups to which the given user belongs.

- The group attribute in the group object class to facilitate group name. Veritas uses the rules that are shown to construct the DN to the group entry: *group_attribute=group_name*,*group_container_DN* For example, if the group attribute is configured to `cn` and groups container DN is configured to `dc=mydomain,dc=myenterprise, dc=com` and the group name is `adm`, the LDAP DN for `adm` is: `cn=adm,dc=mydomain,dc=myenterprise,dc=com`.
- The group ID attribute in the group object class to facilitate group ID for the given group.

You are not required to restart the broker after you add the LDAP domain.

Use the `vssat listldapdomains` command to list all the LDAP domains in the authentication broker. This command needs no additional parameters. An example of this command is shown in the examples section.

Use the `vssat removeldapdomain` to remove an LDAP domain from the authentication broker.

Use the `vssat validategroup` command to check the existence of a user group in domain provided.

Use the `vssat validateprpl` command to check the existence of a user in domain provided.

Note: You can only run the `vssat` command on the active node of a cluster.

OPTIONS

`-a, --user_attribute` *`user_attribute`*

Specify the user attribute within the user object class using the syntax that is shown: *user_attribute=prplname*,*user_base_DN*. The LDAP DN for `jdoe` is: `cn=jdoe,dc=mydomain,dc=myenterprise,dc=com` where:

- The *user_attribute* is `cn`.
- The *prplname* is `jdoe`.
- The *user_base_DN* is `dc=mydomain,dc=myenterprise,dc=com`.

Do not use this option if you use the `-t` option.

`--broker host:1556:nbatd`

The host and the port of the broker.

`-c, --user_object_class user_object_class`

Specify the LDAP object class of the user object, which is `posixAccount`. If `schema_type` is defined, `user_object_class` should not be used. If `schema_type` is not defined, `user_object_class` should be used.

`-cs, -cipher_suite_list`

A colon-separated list of TLS cipher suites. You must use this parameter when the LDAP server URL starts with `ldaps://`. The default list is:

```
ECDHE-RSA-AES256-GCM-SHA384:DHE-RSA-AES256-GCM-SHA384:ECDHE-RSA-
AES256-SHA384:ECDHE-RSA-AES256-SHA:DHE-RSA-AES256-SHA
```

`-d, --domain DomainName`

A symbolic name that uniquely identifies an LDAP domain.

`--domain type:name`

The name of the domain that holds the group or the principal that you want to validate. Use the domain type `ldap` wherever required.

`-F, --enable_fips`

Runs the command in the FIPS mode. By default, the FIPS mode is disabled.

`-f, --server_trusted_ca_file trusted_CA_file_name`

The complete path to the file that contains the trusted CA certificates in PEM format. You must use this parameter when the LDAP server URL starts with `ldaps://` and the certificate authority that signed the LDAP server security certificate is other than the following:

- CyberTrust
- digicert
- GeoTrust
- Certification Services Division
- VeriSign Trust Network
- RSA Security Inc.
- GlobalSign
- Symantec Corporation

`-g, --group_base_dn group_base_DN`

The LDAP-distinguished name for the group container. For example, `ou=group,dc=mydomain,dc=myenterprise,dc=com`.

`-gd, --group_description_attr` *group_description_attribute*

Attribute name that defines the group's description in directory service.

`-gi, --group_id_attr` *group_ID_attribute*

Attribute name that defines the group's unique identifier in directory service.

`-gn, --group_dispname_attr` *group_display_name_attribute*

Attribute name that defines the group's display name in directory service.

`--groupname` *name*

The name of the group that you want to validate.

`-k, --group_gid_attribute_type` *DN* | *UID*

Specify the storage type of group GID attribute.

`-m, --admin_user` *admin_user_DN*

This option is a string that contains the DN of the administrative user or any user that has search permission to the user container, or user subtree as specified by `UserBaseDN`. If the user container is searchable by anyone including an anonymous user, you can configure this option as an empty string. For example, `--admin_user=`. This configuration allows anyone to search the user container.

`--prplname` *prpl_name*

The name of the principal that you want to validate.

`-q, --user_gid_attribute` *user_GID_attribute*

Specify the attribute within the user object class to retrieve the groups the user belongs to. Do not use this option if you use the `-t` option.

`-s, -server_url` *server_URL*

The URL of the LDAP directory server for the given domain. The LDAP server URL must start with either `ldap://` or `ldaps://`. Starting with `ldaps://` indicates that the given LDAP server requires SSL connection. For example `ldaps://my-server.myorg.com:636`.

`-t, --schema_type` *schema_type*

Specify which type of LDAP schema to use. If you use the -t option, you must omit the following options: `-a`, `-i`, and `-o`. These values are set automatically based upon the schema type chosen. If you do not use `-t`, neither the `rfc2307` nor the `msad` parameters are set automatically. You must provide the values yourself. Two default schema types are supported:

- **rfc2307**: The schema that is specified in RFC 2307. With RFC2307, use the schema that is shown:
  - User Object Class: `posixAccount`

- User Search Attribute: `uid`
- User unique ID attribute: `uidNumber`
- User display name attribute: `cn`
- User description attribute: `description`
- User GID Attribute: `gidNumber`
- Group Object Class: `posixGroup`
- Group Search Attribute: `cn`
- Group unique ID attribute: `gidNumber`
- Group display name attribute: `cn`
- Group description attribute: `description`
- Group GID Attribute: `memberUid`

- **msad**: Microsoft Active Directory schema. With Microsoft Active Directory, use the schema that is shown:
  - User Object Class: `user`
  - User Search Attribute: `sAMAccountName`
  - User unique ID attribute: `objectSid`
  - User display name attribute: `displayName`
  - User description attribute: `description`
  - User GID Attribute: `memberOf`
  - Group Object Class: `group`
  - Group Search Attribute: `sAMAccountName`
  - Group unique ID attribute: `objectSid`
  - Group display name attribute: `displayName`
  - Group description attribute: `description`
  - Group GID Attribute: `cn`

`-tp, -disable_tls_protocol`

Disables the specified and all the earlier versions of the TLS protocol.

You must use this parameter when the LDAP server URL starts with `ldaps://`. Supported values are `SSLv2`, `SSLv3`, `TLSv1`, and `TLSv1.1`. The default value is `TLSv1.1`.

`-u, --user_base_dn` *`user_base_DN`*

The LDAP-distinguished name for the user container. For example, `ou=user,dc=mydomain,dc=myenterprise,dc=com`.

`-ud, --user_description_attr` *`user_description_attribute`*

Attribute name that defines the user's description in directory service.

`-ui, --user_id_attr` *`user_ID_attribute`*

Attribute name that defines the user's unique identifier in directory service.

`-un, --user_dispname_attr` *`user_display_name_attribute`*

Attribute name that defines the user's display name in directory service.

`-w, --admin_user_password` *`admin_user_password`*

This attribute is a string that contains the bind password of the user that is specified in the `-m` option. If `-m` is an empty string, this option must also be an empty string. For example, `--admin_user_password=`. The password is passed in plain text but it is stored in encrypted form. If you have not provided the password for the `-w` option, NetBackup prompts for the password.

`-x, --group_object_class` *`group_object_class`*

Specify the LDAP object class for the group object which is `posixGroup`. Do not use this option if you use the `-t` option.

`-y, --group_attribute` *`group_attribute`*

Specify the group attribute within the group object class, using the syntax that is shown: *group_attribute=group*,*group_base_DN*. For example, the LDAP DN for `adm` is `cn=adm,dc=mydomain,dc=myenterprise,dc=com` where:

- The *group_attribute* is `cn`.
- The *group* is `adm`.
- The *group_base_DN* is `dc=mydomain,dc=myenterprise,dc=com`.
  Do not use this option if you use the `-t` option.

`-z, --group_gid_attribute` *`group_GID_attribute`*

Specify the attribute within the group object class to retrieve the group. Do not use this option if you use the `-t` option.

EXAMPLES

Example 1: Use of the `vssat` command to list the LDAP domains in the authentication broker.

```
vssat listldapdomains
```

```
Listldapdomains
----------------------
----------------------
Found: 1
Domain Name: VSS
Server URL: ldap://your_ldap_server.com
SSL Enabled: No
User Base DN: distinguish name of your user container
User Object Class: posixAccount
User Attribute: uid
User GID Attribute: gidNumber
Group Base DN: distinguish name of your group container
Group Object Class: posixGroup
Group Attribute: cn
Group GID Attribute: gidNumber
```

Example 2: Stores the AT configuration parameters in a configuration file.

```
vssat addldapdomain --domainname MYADDOMAIN --server_url ldap://
my_ad_host.mydomain.myenterprise.com --user_base_dn cn=users,dc=mydomain,
dc=myenterprise,dc=com --group_base_dn dc=users,dc=mydomain,dc=myenterprise,
dc=com --schema_type msad --admin_user cn=Administrator,cn=users,dc=
mydomain,dc=myenterprise,dc=com
```

vwcp_manage

vwcp_manage – install or uninstall the NetBackup plug-in for VMware vSphere Web Client

SYNOPSIS

vwcp_manage [**--register** -v *vCenter_server* -u *vCenter_username* -p *passfile* [-o *port*]] [--acceptVCenterCertificates | -t *thumbprints*]

vwcp_manage [**--upgrade** -v vCenter_server -u vCenter_username -p passfile [-o port]] [--acceptVCenterCertificates | -t *thumbprints*]

vwcp_manage [**--validate** -v *vCenter_server* -u *vCenter_username* -p *passfile* [-o *port*]] [--acceptVCenterCertificates | -t *thumbprints*]

vwcp_manage [**--unregister** -v *vCenter_server* -u *vCenter_username* -p *passfile* [-o *port*]] [--acceptVCenterCertificates | -t *thumbprints*]

vwcp_manage [**--unregisterLocal** -v *vCenter_server* -u *vCenter_username* -p *passfile* [-o *port*]] [--acceptVCenterCertificates | -t *thumbprints*]

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/goodies/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\goodies\

DESCRIPTION

Use the vwcp_manage command to install or uninstall the NetBackup plug-in for VMware vSphere Web Client.

You can also use this command to uninstall the NetBackup plug-in that was registered before NetBackup 10.0.

Note: On a NetBackup 8.1 or later master server, you can enter vwcp_manage without options to launch the plug-in installation screens. On the NetBackup appliance, you must log on to the appliance as a NetBackupCLI user. Then you enter vwcp_manage with its options, to specify the action, vCenter server, and so forth (see **OPTIONS**).

For further information on installing the plug-in, see the *NetBackup Plug-in for VMware vSphere Web Client Guide*.

OPTIONS

`--acceptVCenterCertificates`

Use this option if you want to accept all the certificates that NetBackup receives from the vCenter server.

If you have enabled the `VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED` configuration option and have specified either `--acceptVCenterCertificates` or `--thumbprints` option, the vCenter server certificate validation takes place using the command-line interface.

If you have enabled the `VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED` configuration option, but have not specified either `--acceptVCenterCertificates` or `--thumbprints` option, the NetBackup plug-in for vSphere Client console is launched. You can use this console for vCenter server certificate validation.

`-h, --help`

Displays the help message.

`-o` *port* `--port=`*port*

The vCenter port. The default is 443.

`-p` *passfile* `passfile=`*passfile*

The *passfile* is the path to a text file that contains only the vCenter password.

The password file should not have world readable or writable permissions. After the operation is completed, for security reasons you should delete the password file.

`--register`

Registers and installs the plug-in.

`-t` *thumbprint* `--thumbprints=`*thumbprint*

Specify the thumbprint of the vCenter server certificate. For multiple certificates, separate each certificate with a comma. For example: `-t "84:C0:35:1D:14:B5:6D:9B:01:85:A9:16:DA:32:8C:AA:0D:82:F4:77, 37:3F:B2:D3:0E:04:64:DC:D8:6B:B4:77:FF:BB:DE:E5:D1:43:C5:43"`

If the specified thumbprint matches the vCenter server certificate thumbprint, the associated certificate is used for host communication.

If you have enabled the `VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED` configuration option and have used either `--acceptVCenterCertificates` or `--thumbprints` option, the vCenter server certificate validation takes place using the command-line interface.

If you have enabled the `VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED` configuration option, but have not specified `--acceptVCenterCertificates` and `--thumbprints` options, the NetBackup plug-in for vSphere Client console is launched. You can use this console for vCenter server certificate validation.

Be aware that vCenter server 6.7 supports SHA1 encryption while vCenter server 7.0 supports both SHA1 and SHA256 encryption.

`-u` *username*, `--username=`*username*

The vCenter user name.

`--unregister`

Unregisters and uninstalls the plug-in.

`-unregisterlocal`

Unregisters and uninstalls the plug-in, which was registered before NetBackup 10.0.

`--upgrade`

Use this option to upgrade the plug-in.

`-v` *vCenter_server*, `--vcenter=`*vCenter_server*

The vCenter server where the plug-in is to be installed.

`--validate`

Verifies the connection to the vCenter server and validates the vCenter credentials.

EXAMPLES

Example 1: Install the NetBackup vSphere Web Client plug-in on a vCenter server.

```
vwcp_manage --register -v vcenter.example.com -u admin_01
-p /home/nbusers/passfile.txt
```

Example 2: Uninstall the NetBackup vSphere Web Client plug-in from a vCenter server.

```
vwcp_manage --unregister -v vcenter.example.com -u admin_01
-p /home/nbusers/passfile.txt
```

Example 3: Uninstall the NetBackup vSphere Web Client plug-in from a vCenter server that was registered before NetBackup 10.0.

```
vwcp_manage --UnregisterLocal -v example.veritas.com -u
user-admin@vsphere.local -p C:\Users\labuser\Desktop\passfile.t
```

vxlogcfg

`vxlogcfg` – modify unified logging configuration settings

SYNOPSIS

vxlogcfg -a -p *ProductID* -c *ConfigPath* -n *Names* [-q]

vxlogcfg -a -p *ProductID* -o *OriginatorID* -s *keyname=value* [-q]

vxlogcfg -a -p *ProductID* -g *LogSet* -s *keyname=value* [-q]

vxlogcfg -d -p *ProductID*

vxlogcfg -l [-p *ProductID* [-o *OriginatorID*]] [-q]

vxlogcfg -l [-p *ProductID* [-g *LogSet*]] [-q]

vxlogcfg -r -p *ProductID* [-o *OriginatorID*] [-s *keyname*] [-q]

vxlogcfg -r -p *ProductID* [-g *LogSet*] [-s *keyname*] [-q]

vxlogcfg -v

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

Use the `vxlogcfg` command to change the logging settings for NetBackup unified logging. It registers and unregisters the product log configurations during installation and uninstallation.

Unified logging uses a standardized naming format for log files, as follows:

productID-originatorID-hostID-date-rotation.log

For more information about the unified logging naming format, and the logging originator IDs, refer to the NetBackup Logging Reference Guide.

OPTIONS

Specify the product log configuration to register or unregister. Use fully-qualified path names for all directory paths. If a directory name contains spaces, use quotes around the path name for that directory (for example, "the Program Files" directory).

`-a, --add`

Registers or creates the product log configuration settings. Any existing log settings are overwritten. Do not use this option to add a product to the list of those that use unified logging. Instead, use it only to modify existing unified logging settings. See examples.

`-c, --config` *`ConfigPath`*

Provides the absolute path from which the product log configuration settings should be read.

On UNIX systems, use the absolute path to the product log configuration file (for example, `/opt/vrts/ProductA/log.conf`.)

On Windows systems, use the path to the product log registry settings (for example, `\\SOFTWARE\VERITAS\PRODUCTA\`)

`-d, --delete`

Unregisters and removes the product log configuration settings from the main logging configuration file, if there are no originator IDs configured for the product. The corresponding product log configuration file is also deleted.

`-g, --logset` *`LogSet`*

Creates or modifies log configuration settings for the specified `LogSet`. `LogSet` is supplied as the text string "Default" or the text string "ALL." If the `LogSet` is "Default," then the -s configuration settings are the default settings. If the `LogSet` is "ALL, then the -s configuration settings are given to all the originators of a given product ID.

`-l, --list`

Lists one of the following:

- All of the configured products.
- All of the originator IDs and `LogSet`
- All of the configuration settings that are defined for a product ID and originator ID pair, or a product ID and `LogSet`

`-n, --names` *`Name`*

Specifies abbreviated or short names for the product. Separate multiple names with a comma.

`-o, --orgid` *`OrgID`*

Creates or modifies log configuration settings for the specified originator ID. The Originator ID can be supplied as a valid originator ID (a number), or, the text string "Default," or the text string "ALL." If the Originator ID is "Default," then the -s configuration settings are the default settings. If the Originator ID is "ALL, then the -s configuration settings are given to all the originators of a given product ID.

`-p, --prodid` *`ProductID`*

Creates or modifies the log configuration settings for a *productID*.

`-q, --quiet`

Prevents the display of error or informational messages (Quiet Mode).

`-r, --remove`

Unregisters and removes the log configuration settings for the specified OID and product from the product logging configuration file. Individual settings can be removed with the "-s, --setting *keyname=value*" option.

Caution: Always use the -r option with the -o option. Otherwise, all of the existing NetBackup log settings are removed and no further logging is performed for all of NetBackup.

`-s, --setting` *`keyname=value`*

Sets the individual configuration settings when used with `-a` (add option). *keyname* is the configuration setting's name and *value* is the value for that setting. You can use multiple -s *keyname=value* arguments on the command line.

`-s, --setting` *`keyname`*

Removes a configuration setting when it is used with the `-r` option. Use only one keyname with the `-r` option. To remove multiple settings, provide multiple `-s` options. See the Keynames and Values section for particular keynames.

`-v, --version`

Displays the version information for this command.

KEYNAMES AND VALUES

Following are the keynames and values that can be specified on the -s option. For NetBackup, the `vxlogcfg` command places these keynames and values in the `/usr/openv/netbackup/nblog.conf` file on UNIX and in *`install_path`*`\NetBackup\nblog.conf` on Windows. For PBX, these are placed

in `/etc/vx/VxICS/icsul.conf` on UNIX and in the registry entry `SOFTWARE\Veritas\VxICS\logcfg` on Windows.

Keynames and the values for UNIX and Windows

`LogDirectory`

Provides an absolute path or relative path to a directory. No default value. If you specify a relative path for an originator ID, the path is relative to the product ID log directory that is specified by Default.LogDirectory in the log configuration file.

Caution: When you use the `LogDirectory` keyname to redirect unified logs to an alternate directory, stop and restart the NetBackup services. This action makes redirection take effect.

`DebugLevel`

Sets the verbosity level for the debug log messages. (Debug logs are intended for Veritas engineers.) Valid values are 0 through 6.

`DiagnosticLevel`

Sets the verbosity level for the diagnostic log messages. (Diagnostic logs are intended for NetBackup administrators and users.) Valid values are 0 through 6. Zero (0) means no debug messages.

`DynaReloadInSec`

Dynamically reloads debug and diagnostic settings. Integers 0-60 reload after 60 seconds. Integers greater than 60 reload at the specified number of seconds.

`LogToStdout`

Sends all log messages to standard output (by default the terminal) and to the log file. Valid values are true and false (default value).

`LogToStderr`

Sends the application log messages to `Stderr` (by default the terminal) and to the log file. Valid values are true and false (default value).

`LogToOslog`

Sends the application log messages to the operating system log (`syslog` on UNIX and the event logs on Windows). Valid values are true and false (default value).

`RolloverMode`

Specifies when log files are rolled over. If you roll over a log file, it closes the current log file and opens a new one. The purpose is to keep log file size low and allow older log files to be deleted or archived. Valid values are `FileSize`, LocalTime, Periodic, `FileSize` | LocalTime, `FileSize` | Periodic and None.

`FileSize` indicates that the rollover occurs when the log reaches the size that the `MaxLogFileSizeKB` sets. `FileSize` is the default value.

`LocalTime` indicates the log file should be rolled over one time per day at a specified time by `RolloverAtLocalTime`.

`Periodic` indicates the log file should be rolled over after the number of specified seconds by `RolloverAtLocalTime`.

`FileSize` | `LocalTime` indicates that the log files are logged over when `FileSize` or LocalTime is reached, whichever occurs first.

`FileSize` | `Periodic` indicates that the log files are logged over when `FileSize` or Periodic is reached, whichever occurs first.

None indicates that log files are not rolled over.

`MaxLogFileSizeKB`

Specifies the maximum size that is allowed for the log file (in kilobytes) before rollover occurs, if the `RolloverMode` is set to `FileSize`. Valid values are 1 through 4294967295. The default value is 51200 (51.2 MB).

`RolloverPeriodInSeconds`

Specifies a period of time in seconds after which the log file is rolled over, if the `RolloverMode` is set to Periodic. Valid values are 1 through 2147483648. The default value is 43200 (12 hours).

`RolloverAtLocalTime`

Specifies the time of day at which the log file is rolled over, if the `RolloverMode` is set to LocalTime. Valid values are 00:00 through 23:59. The default value is 00:00 (Midnight local time).

`NumberOfLogFiles`

Specifies the maximum number of files to retain in the log directory for each unified logging originator. Valid values are 1 through 4294967295.

The `vxlogmgr --auto` command uses `NumberOfLogFiles` to determine how many log files to delete or move that starts with the oldest files. For example, a log directory contains seven files that a particular originator created. `NumberOfLogFiles` is set to 5. The `vxlogmgr --auto --del` command deletes the two oldest files that the originator created.

`LogRecycle`

Valid values are true, false. The default value is false. If true, the number of log files does not exceed the `NumberOfLogFiles`.

`OIDNames`

Specifies one or more alternate names for the unified logging originator that the -o option specifies. These names can be used in place of Originator IDs when you perform searches by using the `vxlogview` command. Each name can be up to 80 characters in length. Multiple names can be specified, separated by a space.

`L10nLib`

Specifies the absolute path and file name of the external localization library. This option is for Veritas internal use only. Use of this option can disable unified logging.

`L10nResource`

Specifies the name of a localization resource that is associated with a unified logging product or originator. This option is for Veritas internal use only. Use of this option can disable unified logging.

`L10nResourceDir`

This setting specifies the name of a localization resource directory that is associated with a unified logging product or originator. This option is for Veritas internal use only. Use of this option can disable unified logging.

The following four keynames operate only on UNIX systems.

`LogFilePermissions`

An octal number that specifies the UNIX file permissions that are assigned to log the files that the originator created, which the -o option specified. In most cases, this option is not needed.

`SyslogIdent`

Specifies a string that is attached to the beginning of every syslog message when `LogToOslog` is set to true. `SyslogIdent` can be any string up to 80 characters long. In most cases, this option is not needed.

`SyslogOpt`

Specifies the syslog option value that is passed to the syslog openlog function. Log messages are directed to the UNIX syslog when `LogToOslog` is enabled. Valid values are 0 through 4294967295. In most cases, this option is not needed.

`SyslogFacility`

Specifies the syslog facility value that is associated with log messages directed to the syslog. Log messages are directed to the syslog when `LogToSyslog` is enabled. In most cases, this option is not needed.

Valid values are: LOG_KERN, LOG_USER, LOG_MAIL, LOG_DAEMON, LOG_AUTH, LOG_LPR, LOG_NEWS, LOG_UUCP, LOG_CRON,

LOG_LOCAL0, LOG_LOCAL1, LOG_LOCAL2, LOG_LOCAL3, LOG_LOCAL4, LOG_LOCAL5, LOG_LOCAL6, LOG_LOCAL7. The default is LOG_USER.

The following three keynames operate only on Windows systems.

`NtEventLogCategory`

Specifies the category number that are associated with log messages that are directed to the Windows event log if `LogToOslog` is enabled. In most cases, there should be no need to use this option.

`LogFileSDDL`

Specifies the Windows Security Descriptor Definition Language (SDDL) string. This string sets the Access Control List (ACL) for the log files that the originator created, which the -o option specified. In most cases, there should be no need to use this option.

`NtEventLogSourceName`

Specifies the Windows Event log that log messages are directed to if the `LogToOslog` option is enabled on Windows. This option is for internal use only. Use of this option can disable unified logging.

EXAMPLES

Example 1 - Set the LogDirectory for NetBackup and originator ID 111 on UNIX:

```
# vxlogcfg -a --prodid 51216 --orgid 111 -s
LogDirectory=/usr/openv/logs
```

Example 2 - Set the DebugLevel and DiagnosticLevel for all unified logging originators in NetBackup:

```
# vxlogcfg -a --prodid 51216 -o ALL -s DebugLevel=3 -s
DiagnosticLevel=3
```

Example 3 - Set the default RolloverMode for product ID 1:

```
# vxlogcfg -a --prodid 1 -o Default -s RolloverMode=FileSize
```

Example 4 - Display configuration settings for originator 2 for product ID 1.

```
# vxlogcfg -l --prodid 1 --orgid 2
```

Example 5 - List all the originators that are configured for product ID 1.

```
# vxlogcfg -l --prodid 1
```

Example 6 - List all configured products.

```
# vxlogcfg -l
```

FILES

UNIX systems:

```
/usr/openv/netbackup/nblog.conf
/etc/vx/VxICS/icsul.conf
```

SEE ALSO

See vxlogmgr on page 1079.

See vxlogview on page 1084.

vxlogmgr

vxlogmgr – manages the log files generated by the products that support Unified Logging

SYNOPSIS

vxlogmgr { -c | -m } -f *AbsoluteDir* [-a]

vxlogmgr { -d | -F } [-a]

vxlogmgr {-c | -m | -A *filename*} -f *AbsoluteDir* [-p *ProductID*] [-o *OriginatorID*] [-n *Days*] [-t *Time*] [-b *StartDate*] [-g *LogSet*] [-e *EndDate*] [-q] [-z]

vxlogmgr {-c | -m | -A *filename*} -f *AbsoluteDir* -w *QueryString* [-q] [-z]

vxlogmgr {-d | -F | -s} [-p *ProductID*] [-o *OriginatorID*] [-n *Days*] [-t *Time*] [-b *StartDate*] [-g *LogSet*] [-e *EndDate*] [-q] [-z]

vxlogmgr {-d | -F | -s} -w *QueryString* [-q] [-z]

vxlogmgr -v

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The vxlogmgr utility manages the log files that the unified logging-enabled applications generate. Log file management includes actions such as deleting or moving the log files that are based on log management configuration settings.

Unified logging uses a standardized naming format for log files, as follows:

productID-originatorID-hostID-date-rotation.log

For more information about the unified logging naming format, and the logging originator IDs, refer to the NetBackup Logging Reference Guide.

OPTIONS

Specify the log management action to perform.

`-A, --arch FileName`

Creates an archive named FileName for the specified set of conditions. The compressed zip file requires WinZip and wzzip on Windows to produce a zip file. On UNIX, a tar utility and GnuZip are required to produce a tar.gzip file.

`-a, --auto`

Retrieves the log files that are based on individual configuration settings for NumberOfLogFiles. The actions are taken based on the given action type (such as move, copy, or delete). When the `-a` option is specified, the other options cannot be used.

`-b, --stdate 'StartDate'`

Manages the log files that are created at the specified start date.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

It is surrounded by single quotes in UNIX and double quotes in Windows. For example:

UNIX: --stdate '1/1/2013 12:00:00 AM'

Windows: --stdate "1/1/2013 12:00:00 AM"

`-c, --cp`

Copies log files from the folder that is configured by the product to the specified folder.

`-d, --del`

Deletes the log files from the folder that the product configures.

`-e, --endate 'EndDate'`

Manages the log files that are created up to the specified *EndDate*.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

This option must be surrounded by single quotes in UNIX and double quotes in Windows.

UNIX: --endate '1/1/2013 12:00:00 PM'

Windows: --stdate "1/1/2013 12:00:00 AM"

`-f, --dir` *`AbsoluteDir`*

Specifies the absolute name of the directory into which the log files are to be copied.

On UNIX systems, this directory must be on the same device as the `opt/openv/netbackup/logs` directory, because the logs are hard linked rather than copied.

This option is valid only with the `-c` option.

`-F, --flush`

Deletes all log files for the host that originates this command except the most current log file. If the host that runs this command uses a shared directory, all log files for all hosts that use the same directory are removed. Only the most current file is preserved for the host that originated the flush command.

`-m, --mv`

Moves log files from the folder that the product that is configured to the specified folder.

`-n --days` *`NumberOfDays`*

Manages the log files that are created in last *NumberOfDays* days for the specified action.

`-o, --origid` *`OriginatorID`*

Manages the log files that are identified by a given originator ID (*OriginatorID*).

`-p, --prodid` *`ProductID`*

Manages the log files that are identified by a given product ID (*ProductID*) for the specified action. Instead of an identifier, the user can provide the product name.

`-q, --quiet`

Prevents messages from being displayed (Quiet Mode).

`-s, --vw`

Views the log files for a given query.

`-t, --tail` *`hh:mm:ss`*

Manages the log files for the last *hh:mm:ss* hours.

`-v, --version`

Displays the version information for this command.

`-w, --where` *`QueryString`*

Retrieves a subset of logs that is based on a query string or condition (*QueryString*).

`-z, --displaytimezone`

Displays the time zone information along with the log file display.

EXIT STATUS

The following exit values are returned:

0 Successful completion.

-1 An error occurred.

QUERY STRINGS

A query string is a text expression, similar to a database WHERE clause, that is used to retrieve log entries from the unified logging system. The expression is a combination of relational operators, constant integers, constant strings, and names of log fields that evaluate to a single value. Logical operators, such as AND and OR, are used to group expressions.

Supported relation operators include:

< Less than

> Greater than

<= Less than and equal to

>= Greater than and equal to

= Equal to

!= Not equal to

Supported logical operators include && (logical AND) and || (logical OR).

Predefined log fields include:

PRODID Product identifier (integer or string)

ORGID Originator identifier (integer or string)

STDATE Locale-specific start date (long integer or string [such as ‘mm/dd/yy’])

ENDATE Locale-specific end date (long integer or string [such as ‘mm/dd/yy’])

PREVTIME Previous time (string [hh:mm:ss])

EXAMPLES

Example 1 - Automatically move the older log files that NetBackup created to the folder `/tmp/nblogs`. The `--auto` option depends on the configuration setting NumberOfLogFiles.

```
# vxlogmgr -m --auto --dir /tmp/nblogs
```

Example 2 - Delete the last 15 days of NetBackup log files:

```
# vxlogmgr -d --prodid NB -n 15
```

Example 3- Copy the log files created from date 01/22/12 by NetBackup:

```
# vxlogmgr -c --where "(prodid = NB) && (stdate >= '01/22/12')"
```

UNIX systems:

```
--dir /usr/openv/logs
```

Windows systems:

```
--dir c:\temp\logfiles
```

Example 4 - Copy the log files that are created between 10/10/11 and 10/28/11 inclusive by product ID 100:

```
# vxlogmgr -c --where "(PRODID == 100) && ((STDATE >= '10/10/11')
```

UNIX systems:

```
&& (ENDATE <= '10/28/11'))" --dir
/usr/openv/logs
```

Windows systems:

```
&& (ENDATE <= '10/28/11'))" --dir c:\temp\logfiles
```

SEE ALSO

See vxlogcfg on page 1071.

See vxlogview on page 1084.

vxlogview

vxlogview – display logs generated by the unified logging component

SYNOPSIS

vxlogview[-A] [-b *StartDate*] [-e *EndDate*] [-D] [-G *Directory*] [-g *LogSet*] [-I] [-i *FileID*] [-K *HostName*] [-L *SeverityLevel*] [-m *Entity*] [-N *LevelMsgTypes*] [-n *NumberofDays*] [-o *OriginatorID*] [-P *ProcessID*] [-p *ProductID*] [-r *Result*] [-s *Subject*] [-T *ThreadID*] [-t *hh:mm:ss*] [-X *ContextToken*] [-y]

vxlogview -a [-p *ProductID*] {[-d *DisplayOption*,...] [-R *ResourceDirectory*] [-z *TimeZone*] [-l *Locale*]}

vxlogview -q *QueryName* -f *FileName* {[-d *DisplayOption*,...][-R *ResourceDirectory*] [-z *TimeZone*] [-l *Locale*]}

vxlogview -p *ProductID* -g *LogSet* | -i *FileID* {[-d *DisplayOption*,...] [-R *ResourceDirectory*] [-z *TimeZone*] [-l *Locale*]}

vxlogview -p *ProductID* -w *queryString* {[-d *DisplayOption*,...] [-R *ResourceDirectory*] [-z *TimeZone*] [-l *Locale*]}

vxlogview -v

On UNIX systems, the directory path to this command is /usr/openv/netbackup/bin/

On Windows systems, the directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

The vxlogview utility lets you view the logs that unified logging generates. Search criteria can be specified by using command-line options to view specific logs.

Only the following types of users can access the logs: root and service users in Linux systems, and administrative users in Windows systems.

Unified logging uses a standardized naming format for log files, as follows:

productID-originatorID-hostID-date-rotation.log

For more information about the unified logging name format and the logging originator IDs, refer to the NetBackup Logging Reference Guide.

OPTIONS

Specify the logs you want to view.

`-A, --audit`
Displays the audit messages.

`-a, --all`
Displays all log messages from log files that multiple Veritas products generate.

`-b, --stdate` *`StartDate`*
Displays the messages that are logged at the given start date and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *`install_path`*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

Surround the date by single quotes in UNIX and double quotes in Windows. For example:

```
-b '1/1/2013 12:00:00 AM'
```

If `-b` is not specified, messages are displayed from the beginning of the log file to the given end time (see the `-e` option).

`-D, --debug`
Displays debug log messages.

`-d, --display` *`DisplayOption,...`*
Displays the specified message fields. Separate multiple *DisplayOptions* with commas.

DisplayOption may be one or more of the following:

D - Display date

T - Display timestamp

m - Display message type

p - Display process ID

t - Display thread ID

P - Display product ID

O - Display originator ID

c - Display context token

s - Display application log entry severity

U - Display timestamp in *YYYY-MM-DDThh:mm:ss.mmm+xx:yy* format

H – Display hostname

u - Display application or diagnostic Unique Message ID

x - Display actual log message text

w - Display who logged the diagnostic or the debug message

i - Display short name for a product

o - Display short name for an originator

all - Display all fields of the log record

If `-d` is not specified, the following fields are displayed by default.

- Date

- Time

- Who (for diagnostic and debug messages only)

- Severity (application messages only)

- UMI (application and diagnostic messages only)

- message text

`-e, --endate` *EndDate*

Displays the messages that are logged up to a given end day and time.

The required date and time values format in NetBackup commands varies according to your locale. The `/usr/openv/msg/.conf` file (UNIX) and the *install_path*`\VERITAS\msg\LC.CONF` file (Windows) contain information such as the date-time formats for each supported locale. The files contain specific instructions on how to add or modify the list of supported locales and formats.

See the "About specifying the locale of the NetBackup installation" topic in the NetBackup Administrator's Guide, Volume II for more information.

Surround the date with single quotes in UNIX and double quotes in Windows. For example:

```
--endate '1/1/2013 12:00:00 PM'
```

If the -e option is unspecified, `vxlogview` displays messages from the given start date-time (see the -b option) to the end of the log file.

`-f, --filename` *`FileName`*

Specifies the path name and file name of a file that contains one or more queries. Use with the -q option.

`-G, --logdir` *`Directory`*

Displays logs from the specified directory instead of a configured log directory. An absolute path must be specified for the directory.

`-g, --logset` *`LogSet`*

Displays log configuration settings for the specified LogSet.

`-I, --diag`

Displays diagnostic log messages.

`-i, --fileid` *`FileID`*

Displays the messages that a given file ID or shared originator ID logged. It searches only the log files that the specified process has created. By limiting the log files that it has to search, `vxlogview` returns a result faster. By comparison, the `vxlogview -o` option searches all unified log files for messages that the specified process logs.

`-K, --hostname` *`HostName`*

Displays the messages that the specified host name logged.

`-L, --app -C | -E | -F | -M | -W`

Displays the application log messages. The following parameters can be used with -L to specify the severity level:

-C, --crit : A critical error has occurred which may impact the availability of the application.

-E, --err : An error has occurred that does not affect the entire application.

-F, --info : An informational message.

-M, --emerg : An emergency condition exists that may result in an operating system failure or shutdown.

-W, --warning : A warning is issued for a problem that has been detected.

`-l, --locale` *`Locale`*

Displays the messages in the specified locale. The default is English. The messages are displayed in the current system locale if this option is not given.

`-m, --who` *`Entity`*

Displays the messages that are logged by the given entity method name or function name.

`-N, --level` *`Level`* `-D | -I`

Displays debug messages (-D) or diagnostic log messages (-I) for a given level (*Level*).

`-n, --days` *`NumberOfDays`*

Displays the messages that are logged for the last *NumberOfDays* days.

`-o, --orgid` *`OriginatorID`*

Displays the messages that the specified originator ID has logged. You can use the ID number or the short name for the originator. For example, the Policy Execution Manager can be specified by `nbpem` or by 116, its originator ID number.

`-P, --pid` *`ProcessID`*

Displays the messages that the specified process ID has logged.

`-p, --prodid` *`ProductID`*

Displays the messages that the product (identified by a given product ID) logged. Instead of an identifier, the user can provide the abbreviated name of product. The NetBackup product ID is 51216, and the PBX product ID is 50936.

`-R, --resdir` *`ResourceDirectory`*

Uses the resources from the specified directory instead of a configured localization resource directory.

`-r, --result` *`Result`*

Displays the audit messages that have the specified result. *Result* can be either 0 or 1.

`-S, --tailloop`

Continuously displays the new messages that a given product ID and file ID pair log. The product ID (`-p`*`ProductID`*) and file ID (`-i`*`FileID`*) must accompany the `tailloop` option (`-S`) on the command line. The file ID can be a shared originator ID or an originator ID that is not shared with any other ID. `tailloop` starts by displaying to the console the last 10 messages that have been logged. It then displays any new log messages. Use `Ctrl-C` at any time to stop the loop.

`-s, --subject` *`Subject`*

Displays the audit messages that have the specified *Subject*.

`-T, --tid` *`ThreadID`*

Displays the messages that the specified thread ID has logged.

`-t, --tail` *`hh:mm:ss`*

Displays the messages for the last *hh:mm:ss* time period.

`-v, --version`

Displays the version information for this command.

`-w, --where` *QueryString*

Specifies a WHERE clause to use when you query the log messages such that a subset of messages can be displayed. For more detail on *QueryString*, refer to the *NetBackup Logging Reference Guide*.

`-X, --ctx` *ContextToken*

Displays the messages that belong to the given context instance. Context tokens identify context instances. If the context token is specified as "all," it displays all of the context names and associated tokens.

`-y, --displayhost`

Displays the host name with each displayed log message. Use this option if the log files come from different hosts and you want to display which message came from which host.

`-z, --timezone` *GMT+hh:ss* | *GMT-hh:ss*

Displays the messages with time adjusted as per the given timezone.

EXIT STATUS

The following exit values are returned:

0 -- Successful completion.

-1 -- An error occurred.

QUERY STRINGS

A query string is a text expression, similar to a database WHERE clause, that is used to retrieve log entries from the Unified Logging system. The expression is a combination of relational operators, constant integers, constant strings, and names of log fields that evaluate to a single value. Logical operators, such as AND and OR, are used to group expressions.

Supported relational operators include: < (less than), > (greater than) <= (less than or equal to, >= (greater than and equal to), = (equal to), and != (not equal to).

Supported logical operators include && (logical AND) and || (logical OR).

Predefined log fields can be in all uppercase or all lowercase (for example: PID | pid). These fields consist of the following:

`CTXTOK` -- Context token (string)

`ENDATE` -- Locale-specific end date (long integer or string)

`FILEID` -- Shared originator ID (integer)

`HOSTNAME` -- Name of source host (string with quotes)

`LEVEL` -- Debug and diagnostic level. Default is to display all (integer 0-6)

`MSGTYPE` -- The following message types are supported:

```
DEBUG | debug
DIAG | diag
APP | app
AUDIT | audit
```

ORGID -- Originator identifier (integer or string)

PID -- Process Identifier (integer)

PREVTIME -- Previous time (string *hh:mm:ss*)

PRODID -- Product identifier (integer or string)

RETURNVAL -- The audit message outcome field (0 or 1)

SEV -- Severity level. The following severity types are supported:

```
INFO | info
WARNING | warning
ERR | err
CRIT | crit
EMERG | emerg
```

STDATE -- Locale-specific start date (long integer or string)

SUBJECT -- Audit message subject field (string)

TID -- Thread ID (integer)

WHO -- Who logged the message (string)

EXAMPLES

The following examples are valid for UNIX, which uses single quotes to enclose option arguments. In Windows, use double quotes.

Example 1 - Display the log messages for all the installed products:

```
# vxlogview -a
```

Example 2 - Display the log messages for PBX (product ID 50936). You must be an authorized user with administrator (root) privileges. It displays only the date, time, message type, and message text:

```
# vxlogview --prodid 50936 --display D,T,m,x
```

Example 3 - Display the log messages for NetBackup that were logged between the dates 11/18/10 and 11/21/10:

```
# vxlogview --where "(prodid = 'NB') && (stdate >= '11/18/10 0:0:0
AM' && endate <= '11/21/10 10:12:00 AM')"
```

Example 4 - Display the log messages that were created on or after the date and time 1/03/13, 11:00:00 a.m.:

```
# vxlogview -b '1/03/13 11:00:00 AM'
```

Example 5 - Display the log messages that were logged within the last hour:

```
# vxlogview --tail 1:00:00
```

Example 6 - Display the audit log messages that have a result of 0:

```
# vxlogview --audit -r 0
```

Example 7 - Display the context log messages for the "job_context" instance:

```
# vxlogview --ctx 'jobid=4'
```

SEE ALSO

See vxlogcfg on page 1071.

See vxlogmgr on page 1079.

W2KOption

`W2KOption` – run the utility program that modifies normal backup and restore behavior on Windows systems

SYNOPSIS

W2KOption -backup -display [-server *server_name*] -system_state *value* | -kms_activated_server *value* | -snapshotprovidertype *value* | -ignore_unresolved_volumes *volume*[:*volume*...]

W2KOption -display

W2KOption -restore -display [-server *server_name*] same_hardware *value* | -mounted_devices *value* | -sysvol *value* | -hard_links *value* | -active_directory *value* | -system_state *value*

The directory path to this command is *install_path*\NetBackup\bin\

DESCRIPTION

This command operates only on Windows systems.

The `W2KOption` utility lets you modify normal backup and restore behavior.

OPTIONS

`-ad, active_directory` *value*

Controls how the Active Directory is restored. By default, Active Directory are restored in an authoritative manner. If you want to perform an Active Directory restore in a catchup manner, use this utility to change the behavior from authoritative to catchup.

- 1 - Run an authoritative restore, which replaces all existing Active Directory objects.
- 4 - Run a non-authoritative (catchup) restore. The restore merges with changes on other controllers in the domain.

`-b, -backup`

Lets you modify values for one or more of the backup options. The backup options are system_state, kms_activated_server, snapshotprovidertype, and ignore_unresolved_volumes.

`-d, -display`

Displays the program usage and shows how the options operate.

`-hl, -hard_links 0 | 1`

Controls how hard links are restored. By default, if the file is not present on the system, NetBackup tries to restore the file after the current restore completes. This action is called a secondary restore. You can change the behavior to shut off the secondary restore.

- 0 - Do not perform the secondary restore.
- 1 - Perform the secondary restore.

`-iuv, -ignore_unresolved_volumes` *`volume`*`[:`*`volume`*`...]`

Deletes the log files from the folder that the product configures.

`-kas, -kms_activated_server 0 | 1`

Specifies if NetBackup treats the computer as a Key Management Service (KMS) activated host during backups.

- 0 - Do not treat the host as a KMS activated server.
- 1 - Treat the host as a KMS activated server.

`-md, -mounted_devices 0 | 1`

Determines if the mounted devices registry key is restored.

- 0 - Restore the mounted device configuration.
- 1 - Do not restore the mounted device configuration.

`-r, -restore` *`options`*

Lets you modify values for one or more of the restore options. The restore options are –same_hardware, -mounted_devices, -sysvol, -hard_links, -active_directory, and –system_state.

`-sh, -same_hardware 0 | 1`

Determines how to restore the registry system hive. A normal restore operation does not restore all the registry items. However, when you restore to the same hardware, you can safely restore all these items.

- 0 - Assume different hardware. Do not restore all the registry items.
- 1 - Assume the same hardware. Restore all the registry items.

`-s, -server` *`server_name`*

Displays or sets the options on a computer other than the local computer. The default is the local computer.

`-spt, -snapshotprovidertype 0 | 1 | 2 | 3`

Selects the snapshot provider type.

- 0 - Automatic provider selection
- 1 - Use the system provider
- 2 - Use a software provider
- 3 - Use a hardware provider

`-ss, -system_state 0`

Changes the backup method from the legacy system state method back to the normal VSS system state method. Selecting the legacy system state method is not allowed.

- 0 - Disallow legacy system state restore.

`-sv, -sysvol 2 | 4`

Determines how the Active Directory SYSVOL is restored. By default, NetBackup restores as if the SYSVOL being restored is the primary version. You can change this setting from the primary version to the non-authoritative version.

- 2 - Non-authoritative version.
- 4 - Primary version.

EXAMPLES

Example 1 - Ignore volumes H, K, and I during backup.

```
W2KOption -backup -ignore_unresolved_volumes H:K:I:
```

Example 2 - Treat the host as a KMS activated server.

```
W2KOption -backup -kms_activated_server 1
```