NetBackup™ Self Service Configuration Guide

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VERITAS™

NetBackup™ Self Service Configuration Guide

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Contents

Chapter 1

Configuring a Self Service solution

This chapter includes the following topics:

About configuring a Self Service solution

NetBackup Self Service allows service providers to offer self-service backup and restore to multiple customers, in a secure, and partitioned manner. In an enterprise environment, business units and project teams can perform self-service backup and restore.

Self Service restore functionality is enabled but additionally you can choose to provide self-service scheduled policy editing and support for on-demand Backup Now functionality.

Caution: All configuration data that is entered in NetBackup Self Service is considered case sensitive. It must match the associated data that is held in NetBackup.

The Self Service solution supports an inventory of assets and their owners.

You can populate the inventory multiple ways:

- A source independent API
- The Self Service portal

- An import from vCloud Director
- An import of cloud assets from NetBackup

Self Service supports a number of NetBackup Policy types. You can either use Self Service to manage all of a tenant's backup needs. This option allows tenants to create their own backup policies. Or you can configure Self Service to only provide restore services based on manually maintained backup policies.

A record of registered assets and their protection types, such as Windows, UNIX, VMware, etc., is maintained within Self Service.

The tenant user manages computer protection status and utilization with a full set of dashboard features. The tenant user can create changes to protection and restore.

Self Service scheduled backup

Configuration of protection enables users to manage their backup schedules. This option provides an abstraction from NetBackup Policy configuration, offering a curated set of backup schedules from which the user can choose.

Configuration checklist

Table 1-1 shows the recommended sequence of steps for configuring Self Service for the first time.

Table 1-1 Configuration checklist

Where	Activity
Server	Install NetBackup Self Service Portal (see *NetBackup Self Service 10.0 Installation Guide*)
	Install NetBackup Self Service Adapter (see *NetBackup Self Service 10.0 Installation Guide*)
	Configure remote PowerShell for a Windows master server
	Configure SSH for a UNIX master server
Portal	Create at least one backup server
	Create at least one protection type (if needed)
NetBackup master server	Create Template Policies

Table 1-1 Configuration checklist *(continued)*

Where	Activity
Portal	Create a Tenant through the user interface
	Register at least one asset through the user interface, the API, NetBackup Import, or through vCloud Director import
	Test each main Self Service operation, where enabled and relevant: ■ Submit a Protect request, then unprotect the computer after protection. ■ Submit a Backup Now request. ■ Submit a Restore File request. ■ Submit a Restore VM request. ■ Submit a Restore Cloud Asset request.

Chapter 2

Configuring a NetBackup master server

This chapter includes the following topics:

About configuring the NetBackup master server

Self Service requires a minimum of NetBackup 8.0 with the latest service pack.

Each NetBackup master server the system needs to communicate with must be configured as a backup server. To manage backup servers, log on to the Self Service portal as an Admin user, and then go to the **Backup Servers** page using the left-hand navigation.

Enabling communication with a Windows NetBackup master server

NetBackup Self Service uses Windows PowerShell Remoting to communicate with a Windows NetBackup master server. Windows PowerShell must be installed on

the master server. Windows PowerShell is normally installed by default. Additionally, PowerShell Remoting must be enabled. More information is available.

http://technet.microsoft.com/library/hh847859.aspx

To enable communication with a Windows NetBackup master server

1. Log on to the NetBackup master server.
2. Launch a Windows PowerShell window as Administrator.
3. Run `Enable-PSRemoting -Force`.
4. Open Required Firewall ports.

   By Default PowerShell Remoting uses HTTP on Port 5985 or HTTPS on Port 5986.

More information is available.

http://technet.microsoft.com/en-us/magazine/ff700227.aspx

If communication with the master server from the Self Service Server is not with a trusted domain account, it may not be able to authenticate. To enable authentication you need to add the remote computer to the list of trusted hosts for the local computer in WinRM. To do so, type:

```
winrm set winrm/config/client '@{TrustedHosts="machine1,machine2"}'
```

Add extra computers as needed in the comma-separated list.

More information about testing the connection once you have created your first backup server is available.

See “Configuring backup servers” on page 19.

Enabling communication with a UNIX NetBackup master server

NetBackup Self Service uses Secure Shell (SSH) to communicate with a UNIX NetBackup master server. The configuration of SSH is outside the scope of this guide. NetBackup Self Service, however, requires the credentials to communicate with the SSH server on the master server.

- By default SSH uses Port 22.
  To specify a different port, set the server name to *server_name*:*port_number*.
  For example, `MyServer:23`.
- The user account that NetBackup Self Service uses to logon to SSH on the master server needs `sudo` configuration:

- The user account should not use `requiretty`.
- The user account should not require a `sudo` password.
- With `sudo`, the user account should run all commands in `/usr/openv/netbackup/bin` and `/usr/openv/netbackup/bin/admincmd`.

User authentication modes that are supported include:

- Password
  NetBackup Self Service passes the user name and password at logon.
- Public key
  The public key of the user is stored in the `authorized_keys` for the user on the master server. The private key of the user is stored in OpenSSH format in the NetBackup Self Service portal.
- Keyboard-interactive
  NetBackup Self Service sends the password for the user to a keyboard-interactive ssh session. The password is sent in response to a configurable password prompt. The default password prompt is **Password:**.

To configure NetBackup Self Service and the NetBackup master server for public key authentication

1. Create a Public Private key pair using a key generator like `PuTTYgen`.
2. Log on to the master server as the required master server user
3. Add the public key to the user's `authorized_keys` file in the master server's operating system format.
4. Convert the Private key into OpenSSH format encrypted with a passphrase

```
-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: DES-EDE3-CBC,997295A8E365412F

SIKdyjX4UoDm03kprqfkCGQYc/thmNIlWYztEomjyRaMyEYlh0ZIC9Kx7XnMNnSk
...
MUxIcZW8d8fF3P4s+OLidxG03H6C/AsGLzJtpecjPQA=
-----END RSA PRIVATE KEY-----
```

5. When you create the backup server in NetBackup Self Service:
   - Choose **Public Key** for the Authentication.
   - Enter the user account to connect to the master server in **User Account**.
   - Paste the encrypted OpenSSH format private key in **OpenSSH Private Key**.

- Enter the passphrase in **Password** and **Confirm Password**.

More information about testing the connection once you have created your first backup server is available.

See "Configuring backup servers" on page 19.

Enabling communication with a NetBackup appliance

A connection to an appliance is configured similarly to a UNIX master server, but configuration of keys is not available. Use a previously created user name and password to make the connection.

Log on to shell menu on the appliance and create a new user:

Main_Menu > Manage > NetBackupCLI > Create *UserName*

See *Creating NetBackup administrator user accounts* in the *NetBackup Appliance Administrator's Guide* for further details.

Enabling communication with a NetBackup master server using the REST API

NetBackup Self Service can use the NetBackup REST API for some communication with the master server. Your NetBackup server must be version 8.1.2 or higher.

Basic Setup

To enable communication using the REST API

1. Log on to NetBackup Self Service as an administrator and navigate to the **Backup Servers** page. Select the appropriate backup server.
2. Fill in the details in the **REST API Connection** section.

   A background task automatically examines the connectivity with the backup server.
3. Once the job has completed, click the status icon to open connectivity summary screen
4. Review that the REST API has been contacted successfully.

Credentials

By default NetBackup Self Service uses the same credentials to access the REST API as it uses to access the CLI. If you want to use a different account and RBAC

security, the account requires a role with at least **View Protection Plans**, **Manage Protection Plans**, **View Assets**, **Manage Assets**, **Recover/Restore**, and **View Jobs**. It also requires an object group with access to all Assets, and all Protection plans.

Certificates

Communication with the NetBackup REST API is over HTTPS. HTTPS requires a trust relationship to exist between the client and the server. In this instance the client is the NetBackup Self Service web server or Task engine server, and the server is the NetBackup master server. The trust relationship is established using a certificate.

You have three options for the certificate:

1. The master server uses a certificate that is issued from a trusted certificate authority.

   The NetBackup Self Service web server has the trust of the https connection and no other actions are necessary.

2. The master server certificate is either from a private certificate authority, or a self-signed certificate. You must install the certificate authority certificate manually in the trusted certificate store of the web server and task engine server. See To install the Certificate Authority certificate from the master server onto the NetBackup Self Service web server or Task Engine server for more information.

3. Ignore certificate errors.

   - Go into NetBackup Self Service as an administrator and navigate to the **Backup Servers** page.
   - Select the backup server. Click **Show Advanced Settings**. In the REST API Connection section review **Ignore Certificate Errors**, and save changes.

     This choice is a good option to use when first setting up the REST API, as it eliminates one source of problems. However, once the REST API connection works, you should only use trusted certificates. Once trusted certificates are established, clear the 'Ignore Certificate Errors' option.

Installing a Trusted Certificate Authority Certificate

To install the Certificate Authority certificate from the master server onto the NetBackup Self Service web server or Task Engine server

1 In NetBackup Self Service:

- In the **Backup Servers** page, select the backup server. Click the status icon, to open the configuration summary screen.

- In the REST Connection Status section, click to download the master server's certificate onto your computer.

2. In Windows Explorer, on the appropriate NetBackup Self Service server:
   - Locate the certificate and right-click to open it.
   - Review the certificate to ensure that it is correct.
   - Click **Install Certificate...**.
     - Select the **Local Machine** store location.
     - Browse to the certificate store **Trusted Root Certification Authorities** and select **OK**.
     - Select **Next**.
     - Select **Finish**.
3. This process installs the master server's Certificate Authority certificate on the NetBackup Self Service server. The server now trusts the master server certificate.
4. Return to NetBackup Self Service and in the **Backup Servers** page, select the backup server. Ensure that the **Ignore Certificate Errors** option is cleared.
5. Run the connectivity check. Verify that you can still connect to the backup server.

Creating NetBackup Template Policies

Numerous options are available when you create a NetBackup policy. The *NetBackup Administrator's Guide Volume I* contains an entire chapter on creating backup policies. Please refer to that manual for details on the creation of backup policies.

Self Service template policies do not use all NetBackup policy options. For scheduled policies, the information that is specified in Table 2-1 is the only items that affects Self Service. You should configure all other policy data as you would for any other NetBackup policy. Table 2-1 details the relevant tab in the NetBackup policy creation screen and the corresponding information that is required for Self Service template policies. For comprehensive information on how to create NetBackup policies, please see the *NetBackup Administrator's Guide Volume 1*.

Table 2-1 Required policy information for scheduled and Backup Now policies

NetBackup policy tab	Applicable template policy	Additional details
Attributes	Backup Now and scheduled backup	■ The policy must be deactivated. ■ When you specify the storage option, be sure to specify one that is large enough to successfully back up all the data.
Schedules	Backup Now only	■ If you use **Retention Levels**, you must have a schedule named **Default**. ■ Self Service does not use the retention value that is set in the NetBackup policy. Self Service updates the retention level of the **Default** schedule when the policy is created. ■ Do not set the schedule to run automatically.
Clients	Backup Now and scheduled backup	■ NetBackup Self Service adds the client information so leave this field blank.

Template Policies are inactive policies on the master server that need to be specially created for the solution. They are only required if you use Protection Levels or offer Backup Now functionality.

When users perform the actions that require a policy to be created on the master server, the relevant template is copied to create a tenant-specific policy. The policy is modified according to the user's action.

Template Policies must be created on every master server that is configured as a backup server. The naming of these policies is case-sensitive and all should be marked inactive.

Policy Type

The policy type code for NetBackup. For example, 0 for standard, 13 for Windows, 40 for VMware.

More information on NetBackup policy types is available.

See “List of NetBackup policy types” on page 60.

For any type 40 (VMware) template policy:

- For any vCloud Director template policy on the **Client** tab **Virtual Machine Selection** must specify **Enable vCloud Director integration**.

Backup Now Template Policies

NetBackup Self Service is configured out of the box to use the default NetBackup retention levels for BackupNow policies. If these are changed in NetBackup or

different retention levels are offered to users, modifications must be made in the NetBackup Self Service Portal. More information about Backup Now retention levels is available.

See "Configuring the Backup Now form" on page 29.

Type 40 (VMware) Backup Now template policies

Some consideration is needed around the **Reuse VM selection query results for** value on the **Clients** tab for Backup Now template policies. If the value is left as the 8-hour default value, backup now actions that are performed on a virtual machine that is created within the last 8 hours could fail. If the value is set lower or to 0 hours, the operation might succeed. This change may, however, have performance implications for connected VMware systems as the whole cache is rebuilt. This value may need changing from the default 8 hours, depending on the expected usage of the system.

Chapter 3

Configuring Self Service

This chapter includes the following topics:

About Self Service configuration

You can manage the key creation and editing configuration tasks from the main panel on the home page:

- Backup servers
- Protection
- Tenants
- Assets

Any non-Tenant associated Administrator sees this home page panel.

Configuring backup servers

A backup server represents a connection to a NetBackup master server. The system requires at least one backup server to function.

New backup servers are created with **Add Backup Server** on the **Backup Servers** page. A drop-list allows the further selection of **Add UNIX or Linux Backup Server** or **Add Windows Backup Server**. On-screen help is available to assist completion of the necessary details.

Once the backup server has been created the system returns to the main **Backup Servers** page where a Connectivity Check is started. The animated cog on the Check Connectivity button indicates that the Connectivity Check is started.

If the check has passed, no further action is required and your backup server is ready for use. If it failed, click the red cross to bring up details of the failure.

Once you have created a backup server, there are three actions available from the **Backup Servers** actions list: **Edit Details**, **View Connectivity**, and **Delete**.

Table 3-1 Backup Servers settings

Item	Details
Name	The name that is displayed to users.
Server Name	The host name or fully qualified domain name (FQDN) of the backup server, for example `netbackupserver` or `netbackupserver.example.com`. Alternatively you can specify the host name with a port number. On a UNIX system the syntax is *`hostname`*`:`*`portnumber`*. For example: `netbackupserver:22`, where 22 is the default port number for SSH. On a Windows system, specify a port number using the URL syntax shown: `http://`*`hostname`*`:`*`portnumber`*`/wsman`. For example: `http://netbackupserver:5985/wsman` or `https://netbackupserver:5986/wsman`.
Version	Range that includes the version of the NetBackup master server. 8.0 - 8.1.1 8.1.2 8.2 8.3 and later

Table 3-1 Backup Servers settings *(continued)*

Item	Details
Enable Agentless File Restore	Indicates that the backup server is configured to support VMware agentless file restore. The backup server must have all required VxUpdate packages installed. If this option is enabled, any VMware asset that does not have a NetBackup client name configured automatically offers Agentless File Restore.
Online	Indicates if the backup server is online. You may want to take a backup server offline while performing planned maintenance. The system does not process an offline backup server in any way and users are blocked from performing actions such as backup and restore.
Authentication	UNIX or Linux: Authentication mechanism when connection to a UNIX server. When connecting to a NetBackup Appliance choose **Password**. The options are: **Password**, **Keyboard Interactive Password**, or **Public Key**. Windows: CredSSP authentication delegates the user's credentials from the local computer to the remote computer. The options are: **Default** or **CredSSP**.
User Account and Password	UNIX or Linux: The user that connects to the backup server. The user must be able to connect with SSH. Windows: The user must be able to connect to Remote PowerShell.
Server Date Format and Server Time Format	The format in which the backup server expects dates and times. `ddMMyyyyHHmmss` ■ `dd` - The day of the month, from 01 through 31 ■ `MM` - The month, from 01 through 12 ■ `yyyy` - The year as a four-digit number ■ `HH` - The hour, from 00 through 23 ■ `mm` - The minute, from 00 through 59 ■ `ss` - The seconds, from 00 through 59 You can select from the example formats listed or enter a custom format. More information about editing the date and the time format is available. https://docs.microsoft.com/en-us/dotnet/standard/base-types/custom-date-and-time-format-strings
Server Time Zone	The time zone of the backup server.
URL	The URL of the backup server API. For example: https://netbackupserver:1556.

Table 3-1 Backup Servers settings *(continued)*

Item	Details
Domain Name	The domain name of the user.
Domain Type	The domain type for the user. Allowed values are `NIS`, `NIS+`, `NT`, `vx`, and `unixpwd`.
NetBackup Folder	Physical path on the backup server of the NetBackup commands. You only need to enter this path if NetBackup is not installed in the default location. On a UNIX system the default value is `/usr/openv/netbackup`.
NetBackup Temporary Folder	Physical path on the backup server for NetBackup Self Service temporary files. You only need to enter this path if NetBackup is not installed in the default location. The NetBackup Self Service user must have read and write access to the folder. Additionally, the folder must be on the allowed list in NetBackup. On a UNIX system the default value is `/usr/openv/netbackup/logs/user_ops`. On a Windows system the default value is C:\Program Files\Veritas\NetBackup.
Command timeout	The number of minutes to wait before a CLI command times out. Leave blank to use the default value.
Enable In-Place Disk Restore	Allow NetBackup Self Service to offer restore of VMDKs to existing VM. Ensure that the backup server supports **In-Place Disk Restore** using the `nbrestorevm` command.
Enable Usage Insights Data	Allows NetBackup Self Service to submit Usage Insights data to the backup server.
Chunk Size In Hours	Change this value only if instructed to do so by support. When NetBackup Self Service synchronizes backup images from NetBackup, they are retrieved in batches of the chunk size. The default chunk size is 10 hours, but may be reduced in busy systems with lots of backup activities. Reducing the chunk size results in more calls to NetBackup to retrieve a given number of images. If value is empty then the default is 10.
Maximum Backup Duration In Hours	Change this value only if instructed to do so by support. The Maximum Backup Duration represents the maximum time that NetBackup Self Service expects a long running backup to take. The synchronization engine uses this value as a buffer period to make sure that long duration backups are detected. Increase this duration if long running backups are not synchronized into NetBackup Self Service. If value is empty then the default is 24.

Table 3-1 Backup Servers settings *(continued)*

Item	Details
Use Pooled Connections (Windows only)	Change this value only if instructed to do so by support. Determines whether PowerShell connection pooling is enabled. Connection pooling is enabled by default to improve performance.
Minimum Pool Size	Change this value only if instructed to do so by support. Minimum number of connections in the PowerShell connection pool. If value is empty the default is 1.
Maximum Pool Size	Change this value only if instructed to do so by support. Maximum number of connections in the PowerShell connection pool. If value is empty the default is 3.

Configuring protection

A protection type defines all the ways a user can protect an asset. If all your users' assets have similar backup requirements you may only need a single protection type. If you offer different protection options for some assets, then each option needs a protection type. Examples of different protection types can include SQL servers, cloud volumes, or a mix of virtual and physical computers. As a general rule you need a protection type for each NetBackup Policy Type you support.

Within each protection type you can define a number of managed, unmanaged and Backup Now protection levels. Managed and Backup Now protection levels are the options that users see when they protect or back up an asset. They can be used to provide varying schedules, retention levels, or other options that you can configure directly on a NetBackup policy.

Each managed protection level or Backup Now level then defines one or more policies. These represent the policies that are created on the backup server in response to a user selecting that level. They define how the policy on the backup server is created, and how it is named. Each unmanaged protection level defines one or more policies. These represent manually created policies on the backup server.

Additionally you can configure a protection level to enable the availability of a Backup Now action. Use this Backup Now action for a computer using the policy it's protected by within the protection level.

Any changes you make to the protection definition are not automatically applied to NetBackup. The changes are not applied to the computers that use this protection type. If the change results in a different set of target policies, existing computers now have an unknown protection level. This change is shown as a black checkmark.

You can remove the unknown protection level policies from each asset or container and reapply the modified protection level.

Creating Protection Types

From the **Protection Types** cog button on the **Protection** page, select **Add**.

Table 3-2 Settings on Protection Types

Item	Details
Name	The name identifying a protection type. This option is displayed to the users.
Code	The unique code for this protection type. NetBackup policies use this code in the policy name. For example *[CustomerCode]-[Code]*-[...]

Creating Protection Levels and Backup Now Levels

With a protection type selected, click the relevant **Add Protection Level** option. The **Name**, **Description**, and **Color** properties are all used to distinguish the level for users. The other settings control functionality.

Table 3-3 Settings on Protection Levels and Backup Now Levels

Item	Details
Name	Name of the level (for users).
Description	A description that helps the users decide between different levels.
Code	Code is used when creating NetBackup policies that are associated with this level. It forms part of the name of the policy created. It must be unique within the protection type.
Color	Color is mainly used in the user screens to visually distinguish the different levels that are applied to different computers.

Table 3-3 Settings on Protection Levels and Backup Now Levels *(continued)*

Item	Details
Request type code	Should be left at the default value (DBNEWBACK for protection levels, DBBACKNOW for Backup Now levels) unless you need to customize the system. **Note:** This setting is not relevant to unmanaged protection levels and is not displayed on the screen. For Managed and Backup Now, you can display the field if you select **Show Advanced Settings**.
Visible	Controls the visibility of the level to users. **Note:** This setting is not relevant to unmanaged protection levels and is not displayed on the screen.

Creating Policies

From the details of a **Protection Level** or **Backup Now Level**, click **Add Policy** to create a policy within that level.

Managed protection levels offer the options shown: **Scheduled**, **Scheduled with File Selection**, **Cloud Protection Plan**, **Immediate**, and **Immediate with File Selection**. Backup Now protection levels offer the options shown: **Immediate** and **Immediate with File Selection**.

File Protection policies let you protect a list of files or folders on the target computer. File protection is only available for Standard (0) and MS-Windows (13) Policy Types. **Immediate** policies are run as a one-off backup using a new policy, rather than being added to an ongoing scheduled policy.

On the Policy you can set its **Code**. You can also see the **Target Policy Name** that is created with a combination of the code and the parent protection type and protection level codes.

Table 3-4 Settings on Policies

Item	Details
Name	Used only for administration; not displayed to users.

Table 3-4 Settings on Policies *(continued)*

Item	Details
Code	Code must be unique within the containing level. NetBackup policies use this code in the policy name. For example *CustomerCode-Code*-[...]. If there is only one policy within the level you may leave the code blank.
Target Policy Name	Not editable. This field shows an example of the name of the target policy that is created on the backup server when a user selects this level. It is made up of the three codes from protection type, level (either protection level or Backup Now) and policy code. **Note:** This setting is not relevant to unmanaged protection levels and is not displayed on the screen.
Policy Name	This setting is for unmanaged protection level only. The policy determines which backups in the catalog are used to calculate the traffic light status. You can specify an exact policy name or use * to match backups from any policy.
Template Name	The name of a template policy that exists on the backup server which is copied to create the target policy. You can either accept the default name, choose from an existing template, or specify a template name that you create later. **Note:** This setting is not relevant to unmanaged protection levels and is not displayed on the screen. More information is available. See "Creating NetBackup Template Policies" on page 15.

Table 3-4 Settings on Policies *(continued)*

Item	Details
Policy Type	You must specify the NetBackup policy type of the template policy. **Note:** This setting is not relevant to unmanaged protection levels and is not displayed on the screen.
Always Show as Protected	Used to bypass the calculation of a computer's traffic light status. When selected the computer always shows as protected.
Warning (hours)	Used in the calculation of a computer's traffic light status. More information is available. If the field is left blank computers without a backup are flagged for attention. If the field is completed, the computer is flagged for attention when a backup with the correct policy name has not occurred within the specified number of hours. See "About dashboard traffic light status and usage" on page 63.
Single Client Backup Schedule Name	If you enter a value in this field, this **Protection Level** is shown as a **Backup Now** option once a computer has been protected with the level. This field specifies the name of the Schedule that is used when the backup of the single computer is initiated. **Note:** This field applies only to scheduled policies.
Storage Lifecycle Policy Name	The name of the storage lifecycle policy that is used when the **Template** policy is copied.
VM File Restore	Use this field to determine if the virtual machine backup extracts information to allow for file restore. This field is only available for VMware or Hyper-V policies.

Table 3-4 Settings on Policies *(continued)*

Item	Details
Client Selection Type	Use this field to select how computers are identified in a VMware or Hyper-V policy. Options are: ■ **Client Based Display Name**: Use a Client List and the VM Display Name ■ **Client Based Hostname**: Use a Client List and the host name, or the NetBackup client name ■ **Query Display Name**: Use a VMware or Hyper-V Intelligent Policy and use the VM Display Name. This option is the default. ■ **Query Hostname**: Use a VMware Intelligent Policy and the host name, or the NetBackup client name. Hyper-V does not support this option. ■ **Query Computer Name (SCVMM only)**: Use a Hyper-V intelligent policy and the NetBackup Client Name for the SCVMM computer name. ■ **Query Name (SCVMM only)**: Use a Hyper-V intelligent policy and the VM Display Name for the SCVMM name. If you use vCloud Director Imports then you must use **Query Display Name**. This option allows vApp and vDC protection as well as the import only obtaining the VM Display Name. This field is only available for VMware or Hyper-V policies.

Policies that are created within a **Backup Now** level are always set to **Run Immediately**. Backup Now policies do not have the **Warning (hours)** option. Managed protection levels need to contain at least one policy that is not **Run Immediately**, before they are available for users to select.

Schedule Overrides

You may want to have different protection levels change schedule information when the policy that protects the computer is created. This option helps reduce the number of template policies you create on your backup servers. Schedule overrides allow

a number of changes to be made. Use **Add Schedule Override** in a policy to create an override for each schedule that you want to modify.

Table 3-5 Schedule Overrides settings

Item	Details
Name	The name of the schedule that you want to modify. The schedule must exist in the template policy. You can either select from the list or enter the name.
Override Frequency	If this option is selected you can set the frequency at which the schedule runs.
Override Storage Lifecycle Policy Name	If this option is selected you can either select or enter the name of a Storage Lifecycle Policy this schedule uses. This option cannot be used with **Override Retention Level**.
Override Retention Level	If this option is selected you can either select a retention level or enter the number that is associated with the retention level. This option cannot be used with **Override Storage Lifecycle Policy Name**.
Override Backup Window	If this option is selected you can set the backup window for the schedule. You can either use the mouse to create windows in the grid, or use the detailed settings. The values completely replace the backup window that is associated with the schedule.

Multiple Policies within a Level

You may want to specify multiple policies within a single level. For example, you want to provide protection for a database server with policies to back up both the database and the operating system.

After you add a protection level and the associated policies, click **Refresh** link from the cog icon on the **Protection** page. This action ensures that this data matches policies on the NetBackup master servers. The cog icon becomes animated which indicates that the check is active. The check reviews each defined backup server in the system for the template policies that correspond to the protection levels. Please be aware the system does not check for unmanaged protection levels. Any issues within template policies are highlighted on screen. If you click the highlighted row, further details about the issue that must be resolved are displayed. Once the

issues are resolved on the backup server you can refresh to confirm that they are correct. More information about template policy creation is available.

See “Creating NetBackup Template Policies” on page 15.

Creating Cloud Protection Plans

From the details of a **Protection Level**, click **Add Policy** and select **Cloud Protection Plan** to create a plan within that level.

Self Service uses the details in a **Cloud Protection Plan** to create an appropriate Protection Plan on the NetBackup master server when assets are protected. The created Protection Plan is named after the codes of the Protection Type, Level, and Plan, and displayed in the Cloud Protection Plan UI.

Cloud Protection Plans can set multiple schedules, but must always have at least one.

Configuring the Backup Now form

A Backup Now request can create temporary policies from predefined templates to back up a computer on demand. You can configure the request to support:

- Policies with Storage Lifecycle Policies (SLPs)
- Policies with the schedules that allow a backup retention to be set (the default operation).

The shipped request forms (request type) are overwritten with each version upgrade. You should make a copy of the Backup Now form before you edit it. Once complete, you can update all Backup Now protection levels to reference the new request form code. More information is available.

See “Creating or customizing a request form” on page 43.

A set of default retention levels are preinstalled with NetBackup Self Service. You can amend them as shown:

To amend the default retention levels

1. Go to **Admin > Request & Approval > Request Type > Backup Now (DBBACKNOW)**.
2. Click on the **Form** tab and then the **Backup Retention** field.
3. At the base of the page, click on the **Configuration** tab.
4. Listed under the **Items** field is a list of retention levels that are available in the Backup Now request form.

You can delete existing levels using the trashcan icon or add new levels. The **Code** must match the NetBackup retention number and the **Description** is what the user sees.

To use SLPs on Backup Now requests, you must modify the NetBackup Self Service form as shown:

To modify the NetBackup Self Service form for SLPs

1. Go to **Admin > Request & Approval > Request Type > Backup Now (DBBACKNOW)**.
2. Click on the **Form** tab and then select the radio button field **Backup Retention** or **Storage Lifecycle Policy**. This option is the code for `BackupRetentionRadio`. Be aware this field is hidden from the user and has a default of **Backup Retention**.
3. Click the **Configuration** tab and change the default to SLP for the selected SLP.
4. Save the **Request Type**.

The next time a Backup Now is initiated the form prompts the user to select an SLP. The user can select from all available SLPs on the backup server (NetBackup master server) that is registered with the computer.

Note: You can make further scripting customizations to restrict the list of SLP displayed for user selection. See *NSSINSTALLFOLDER*`\NetBackupAdapterServices\PowerShellScripts\FlexiField\DB-Get-StorageLifecyclePolicies`.

To allow users to select whether to use **SLPs** or **Retentions** on a Backup Now request, use the procedure to make the radio button visible:

1. Go to **Admin > Request & Approval > Request Type > Backup Now (DBBACKNOW)**.
2. Select the **Roles** tab.
3. With the Requester role selected, clear the **Hide** check box against the **BackupRetentionRadio-Radio Button** field.
4. Save the **Request Type**.

The next time a Backup Now is initiated you can select **SLPs** or **Retentions**.

Configuring tenants

A tenant is an organizational unit and at least one tenant must exist. A tenant can be created with the **Add Tenant** button in the **Tenants** page. The first (admin level) user of the tenant is created at the same time. If any vCloud Director Import sources are defined, the tenant's credentials can be set. A tenant record, related tenant Integration Settings, and the user record are added to the database when you click **OK**.

A tenant's details can be edited through **Admin > Organization > Tenant**. A tenant's **Customer Code**, which is set when you create a tenant, can be viewed in the **Details** tab. All users that are associated to the tenant are visible in the **Users** tab. Tenant level Integration settings are available in the **Integration** tab. vCloud Director credentials, and also additional vCloud Director imports, can be set here. The tenant administrator can subsequently set the updated vCloud Director password when required, using the change facility on their home page vCloud Director Infrastructure tree view node. Tenant level theming can be carried out in the **Theme** tab.

You can also use an API to create tenants. A PowerShell script is provided as a starting point for automating the creation of tenants and their users. It makes use of the Front Office SDK to call the public web services.

Further information about the SDK is available in the help files. The help files are found in the install location of the NetBackup Self Service portal. By default, the files are located in `C:\Program Files\Biomni\Front Office 9.4\Sdk\`. Microsoft developers should use the SDK. Non-Microsoft developers can call the web service directly. The URL is found in **Admin > Support > Configuration Check** in the **Public Web Service** section of the **Server** tab. The web service is `DirectaApi.svc`.

Caution: Do not create tenants directly in the portal Admin section (**Admin > Organization > Tenant > Add**). If you create tenants from this screen, not all of the required Self Service data is created. Create tenants from the **Add Tenant** form (on the **Tenants** page) or use the API.

Deactivating a Tenant

To deactivate a tenant:

1. Go to **Admin > Organization > Tenant**.
2. Deactivate the tenant.

   Deactivate the tenant with the **Deactivate** link on the right of the specific tenant row from the list page. Or deactivate the tenant from the **Details** tab by deselecting the **Active** check box in tenant record.

   This action prevents logon from tenant users.

3 All computers, backup, protection, and usage data is retained in the Self Service database.

4 Delete all policies for the tenant in NetBackup.

You can identify the policies by checking for any that start with the deactivated tenant's Customer Code.

Adding users

You can add additional users to the tenant in a number of ways:

- Manually through the portal from the **Admin > Organization > Tenant > Users** tab
- Active Directory (**Admin > Organization > User** right-click **Import Active Directory**). The Cost Center Code must be the same as that found in the Tenant record.
- Base Data import through CSV (**Admin > Organization > User** right-click **Import / Export Users**. **User** tab in the **Import File Template**). The Cost Center Code must be the same as that found in the Tenant record.
- Using the API

Note: Once a user is associated to a tenant this association cannot change.

A user record can be deactivated to prevent access to the system. If using Forms Authentication, password rules can be defined using a number of criteria. These rules can be configured in **Admin > Settings > System Configuration**.

A tenant user with an `Administrator` access profile can manage their own user records.

Access rights

By default all users can carry out all possible actions on every computer that is registered to their tenant. This ability depends on the functionality that the computer can support. All users can see the monthly usage data for their tenant. You can control the available actions at three levels: globally, per tenant, or per user.

Control of these access rights is available through **Admin > Settings > Integration Settings** in the **NetBackup Adapter Access Rights** section. The access rights are: **Allow Backup Now**, **Allow Protect Machine**, **Allow Restore File**, **Allow Restore Vm**, **Allow Unprotect Machine**, **Allow Usage Report**, **Allow Register for File Restore**, **Allow Restore Sql**, **Allow Restore Oracle**, **Allow Restore Cloud**

Asset, **Allow Agentless Restore File**, **Allow Agentless Restore File To Alternate Vm**, **Allow Expire Backups**, and **Allow Restore Disks**.

To globally enable or disable an action for all users

1. Click the required **access right** in the **NetBackup Adapter Access Rights** section.
2. Choose **Enabled** or **Disabled** in the **Value** field.

   Ensure **Allow Tenant Override** is not checked.

   Ensure **Allow User Override** is **(None)**.
3. To allow different tenants to have different actions available to them.
   - Click the required **access right** in the **NetBackup Adapter Access Rights** section
   - Choose **Enabled** or **Disabled** in the **Value** field. This setting is the default for any existing tenants or any new tenants
   - Check **Allow Tenant Override**
   - Ensure **Allow User Override** is set to **None**.

Only a non-tenant associated administrator who has access to all of the Tenants can change the value.

To configure the value of the access rights for each tenant

1. Select the **Integration** tab in the **Tenant Admin** screen (**Admin > Organization > Tenant > Integration**).
2. Click the required **access right** in the **NetBackup Adapter Access Rights** section.
3. Choose **Enabled** or **Disabled** in the **Value** field.

To allow different users to have different actions available to them

1. Click the required **access right** in the **NetBackup Adapter Access Rights** section.
2. Choose **Enabled** or **Disabled** in the **Value** field. This setting is the default for any existing or any new users.
3. Ensure **Allow Tenant Override** is not checked.
4. Set **Allow User Override** to **For User**.

When **For User** overriding is chosen the value can be changed in any of the following places:

- By an administrator user in the **Integration** tab of User Administration (**Admin > Organization > User > Integration**)

- By an administrator user in the **Integration** tab of Tenant User Administration (**Admin > Organization > Tenant > Users > Select User > Integration**)
- By a tenant administrator in the **Integration** tab of their tenant's User Maintenance screen (**Admin > User Management > Select User > Integration**).
  - Click the required **access right** in the **NetBackup Adapter Access Rights** section
  - Choose **Enabled** or **Disabled** in the Value field

Do not select the **By User override** option.

Registering computers

Computers within the estate must be registered to NetBackup Self Service. This requirement includes the name for display in the UI and configuration data for use with NetBackup.

You can register a computer in four different ways: through the user interface, through the API, through NetBackup cloud asset import, or automatically through vCloud Director import. A single tenant can have more than one source of computer, for example, virtual machines imported from vCloud Director and physical computers imported through the API.

Registering a computer with the user interface

You can register a computer from the **Assets** page on the home page with **Register Computer**. Help text is available to assist in completion of the data. Fields are validated for accurate data either during entry or when you click **Save**.

To remove a computer registration, go to the **Assets** list on the **Assets** home page, select an asset, and use the **Remove Registration** link from the **Actions** button. Computer registration cannot be edited so it is recommended that a computer registration is deleted and recreated if changes are required. Be sure to use the same computer code when you recreate a computer registration.

The computer registration process includes an automatic refresh of protection data and image data from NetBackup. Protection data indicates what is protected either by schedule or by a one-off Backup Now task. If you click **Refresh NetBackup Data** from the **Actions** button on the asset details page, you can synchronize protection and backup images of a computer. Typically synchronization should not require manual intervention. Exceptions might be if you want to immediately see images from a new protection policy or images that have been created manually.

Registering a computer with the API

For automated or bulk import of computer details, an API is available. The SDK allows clients to be written in .NET and is the preferred usage of the API. A REST API can, however, be used outside Microsoft environments.

Please see the SDK documentation in Install directory.

Registering by vCloud Director Import

You can automatically import a vCloud hierarchy from vCloud Director and register the computers with NetBackup Self Service. The import is performed on a tenant by tenant basis using individual credentials.

A vCloud Director import must define the vCloud Director instance from which the hierarchy is imported. Additionally, it must specify the NetBackup Self Service settings you want to associate with it.

An import must specify a **Protection Type** and a **Backup Server** that the imported hierarchy is associated with.

An import may optionally use virtual data center (vDC) filtering. When vDC filtering is enabled, only vDCs in the filter are imported. Filtering occurs on a per tenant basis and each must be set up with a filter to import any vDCs. Each vDC should appear only in a single tenant's filter.

When vDC filtering is disabled, all vDCs that are visible through the import credentials are imported.

Use the **Add Import** option on the **Asset Imports > vCloud Director** page to create a new vCloud Director Import. Follow the on-screen prompts to create a corresponding **vCloud Import Integration Setting** section.

If the vCloud Director is version 9.5 or higher, you must specify an administrator user name and password for the vCloud Director system. You must also add credentials for each of the underlying vCenter servers that the vCloud Director manages if you are using version 10.1 or below. The credentials are not required for version 10.2 and above. Each vCenter server must be running version 6.5 or higher. Select **Manage vCenter Credentials** and then **Add vCenter Credential** to add each vCenter. The vCenter is identified using the **URL**. This URL must match the name that is registered in vCloud Director.

You must specify logon credentials at a tenant level to enable import. The credentials in vCloud Director are defined against an Organization and must have the **General > Administrator View** right. Only a single tenant can import computers from any vCloud Director Organization.

When you create a new tenant, the **Add Tenant** form supports specifying credentials for a single vCloud Director system as part of the tenant creation process. Further credentials can be supplied either using the API or through the **Integration** tab in

Tenant administration. Once the initial password is set, a tenant-administrator can update the vCloud Director password that is used to access vCloud Director. The tenant-administrator updates the password through a drop-down on the root node of their Computers list.

Table 3-6 Integration Settings that are used in a vCloud Director Import

Item	Details
vCloud Api	This value should be set to the URL of the vCloud Director API, in the format of `https://hostname/api/`.
Location	The name of the NetBackup backup server the computers are registered to
Online	Indicates if the vCloud Director instance is considered online. Self Service does not use the instances that are not online.
Ignore SSL Certificate Errors	This option allows the Self Service to connect to vCloud Director instances where the SSL certificate is not valid.
vCloud UserName	The user name that the tenant uses to connect to the vCloud Director API. Each tenant must have their own credentials. It must be in the format *userid@vOrg*. Must be set at the tenant level only.
vCloud Password	The tenant's corresponding vCloud Director password. Must be set at the tenant level only.
Protection Type Code	The protection type that is applied to imported computers.
Use vDC Filter	Set to enable vDC filtering.
vDC Filter	The filter to apply to vDCs during an import. This filter is a comma separated list and vDC names are case-sensitive. Set at the tenant level only.
Display Name	The name that is displayed for users. This name is displayed on the default view of the home page

Table 3-6 Integration Settings that are used in a vCloud Director Import *(continued)*

Item	Details
Include Metadata	Determines if the metadata should be included in the import.
vCloud Admin UserName	The administrator user for vCloud in the format: `Administrator@System`. Required if using vCloud Director 9.5 or higher.
vCloud Admin Password	The password of the account with Admin credentials in vCloud. Required if using vCloud Director 9.5 or higher.

Note: vCloud Director imports exist in Self Service as Integration Settings that are grouped into a section. A single section defines each individual vCloud Director import. When you use the **Add** function for each of these, they create Integration Settings behind the scenes.

You can edit or delete these only through **Integration Settings**. Care must be taken, however, as no validation is performed when editing values directly through **Integration Settings**.

Computers that are imported from vCloud Director are displayed to the tenant-user in a two-paned tree-view. Computers are listed within their parent containers. If the computer is from vCloud, containers display in left pane. When you click on the lowest level container, the contents are displayed on the right pane. Protection can be applied at either the container or the computer level. When only non-vCloud Director computers are registered, they are displayed in a full width list.

Registering Cloud Assets by NetBackup Import

You can automatically import cloud assets from NetBackup and register them with Self Service. The import is performed on a tenant by tenant basis, using individual credentials.

You must define the NetBackup server from which the assets are to be imported. Additionally, you must specify the Self Service settings you want to associate with it.

You must specify a Protection Type and a Tenant that you want to associate the imported assets with.

You may also specify which types of cloud assets are to be imported.

You must specify logon credentials for each import. These credentials must only have access to the specified tenant's assets.

Registering vCenter Assets by NetBackup Import

You can automatically import vCenter assets from NetBackup and register them with Self Service. The import is performed on a tenant by tenant basis, using filters or individual credentials.

You must define the NetBackup server from which the assets are to be imported.

Additionally, you must specify the Self Service settings you want to associate with it.

You must specify a Protection Type and a Tenant that you want to associate the imported assets with.

You must specify at least the vCenter server to identify the imported assets. You may also specify a set of other filter criteria which every asset must meet for it to be imported. During setup you can preview the results of the current filter criteria.

Alternatively, you can set up individual credentials for the import and use the NetBackup RBAC configuration to determine which assets are imported.

Configuring the home page

The home page allows the user to view the current status of their assets and initiate actions with a minimum of mouse clicks.

The top sections are a traffic light-style status, consumption total tile, and consumption trend graph. Visibility of these top sections can be configured within **Integration Settings**.

Home page integration settings

The integration settings that are shown affect the display and information that is included in the **Status** and the **Usage** panels.

You can find the relevant Integration settings either by **Admin > Settings > Integration Settings** or **Admin > Organization > Tenant > Integration**.

Table 3-7 NetBackup Adapter

Item	Details
Contracted Space (TB)	Used to augment **used space** display; maintainable at tenant level.

Table 3-7 NetBackup Adapter *(continued)*

Item	Details
Usage Retention Period (months)	The number of months retained for display in Usage trend graph or list.
Show Traffic Light Tiles	This setting determines whether traffic lights are displayed on the home page.
Show Consumption Total Tile	This setting determines whether the total usage is displayed on the home page.
Show Consumption Trend Tile	This setting determines whether the usage trend graphs are displayed on the home page.

The Action Request Type controls the request type that is associated with the following computer actions:

Table 3-8 Action Request Types (advanced customization only)

Item	Details
DB Unprotect Machine	The Request Type Code of the customized request type. Defaults to `DBREMBACK`.
DB Restore VM	The Request Type Code of the customized request type. Defaults to `DBRESTVM`.
DB Restore File	The Request Type Code of the customized request type. Defaults to `DBRESTFILE`.
DB Register for File Restore	The Request Type Code of the customized request type. Defaults to `DBREGDNS`.
DB Restore Sql	The Request Type Code of the customized request type. Defaults to `DBRESTSQL`.
DB Restore Oracle	The Request Type Code of the customized request type. Defaults to `DBRESTORA`.
DB Restore Cloud Asset	The Request Type code of the customized request type. Defaults to `DBRESTCLD`.
DB Restore File Agentless	The Request Type code of the customized request type. Defaults to `ALFRORIG`.
DB Restore File Agentless Alternate VM	The Request Type code of the customized request type. Defaults to `ALFRALT`.

Table 3-8 Action Request Types (advanced customization only) *(continued)*

Item	Details
DB Restore Disks	The Request Type code of the customized request type. Defaults to `VMDISKREST`.
DB Restore VM Message	Override for default DB Restore VM message.
DB Restore File Message	Override for default DB Restore File message.
DB Unprotect Message	Override for default DB Unprotect message.
DB Register for File Restore Message	Override for default DB Register for File Restore message.
DB Backup Now Message	Override for default DB Backup Now message.
DB Restore Sql Message	Override for default DB Restore SQL message.
DB Restore Oracle Message	Override for default DB Restore Oracle message.
DB Protect Message	Override for default DB Protect message.
DB Restore Cloud Asset Message	Override for default DB Restore Cloud Asset message.
DB Restore File Agentless Message	Override for default DB Restore File Agentless message.
DB Restore File Agentless Alternate VM Message	Override for default DB Restore File Agentless Alternate VM message.
DB Restore Disks Message	Override for default DB Restore Disks message.

The NetBackup adapter access rights controls the actions all users, individual tenants, or specific users are allowed to perform against an asset.

Table 3-9 NetBackup Adapter Access Rights

Item	Details
Allow Backup Now	Determines if the Backup Now option is displayed.

Table 3-9 NetBackup Adapter Access Rights *(continued)*

Item	Details
Allow Protect Machine	Determines if the Protect Computer option is displayed.
Allow Restore File	Determines if the Restore File option is displayed. This option also includes the Restore Folder option.
Allow Restore Vm	Determines if the Restore Vm option is displayed.
Allow Unprotect Machine	Determines if the Unprotect Computer option is displayed.
Allow Usage Report	Controls the display of the Usage report on the home page.
Allow Register for File Restore	Determines if the Register for File Restore option is displayed.
Allow Restore SQL	Determines if the Restore SQL Database option is displayed (if backups are found).
Allow Restore Oracle	Determines if the Restore Oracle Backups option is displayed (if backups are found).
Allow Restore Cloud Asset	Determines if the Restore Cloud Asset option is displayed.
Allow Agentless Restore File	Determines if the **Restore File** option is displayed. This option also includes the Restore Folder option.
Allow Agentless Restore File to Alternate Vm	Determines if the **Restore File to Alternate VM** option is displayed. This option also includes the **Restore Folder** option.
Allow Expire Backups	Determines if the **Expire Backups** option is available on the **Asset > Backups** tab.
Allow Restore Disks	Determines if the **Restore Disks** option is displayed.

More information about access rights is available in the **Configuring Tenants** section.

See “Configuring tenants” on page 31.

NetBackup Adapter Usage controls features within the Usage tab.

Table 3-10 NetBackup Adapter Usage

Item	Details
Charging Type	Basis of charge calculation: New backup, Consumed Capacity, or none; maintainable at tenant level
Use Data Transferred values	Controls whether to use Transferred Size or Image Size in usage statistics. Transferred Size values can be lower, such as when you use Accelerators. Transferred Size values only available on NetBackup 7.7.1 and later.

Chapter 4

Customizing Self Service

This chapter includes the following topics:

Language settings

Although the portal supports multiple languages, NetBackup Self Service solution data is currently only available in a subset of those languages. These languages include English, Simplified Chinese, Japanese, and French. This setting encompasses language and regional settings, including date formats.

Creating or customizing a request form

You can customize a request type but normal operation does not require this customization. All shipped request types are implementation-ready.

Note: If changes to a shipped request form are essential, it should be copied first, then you can edit the copy as required.

NetBackup Self Service is shipped with fully preconfigured request forms (request types). These forms are launched when a backup or restore option is selected from the home page dashboard. If additional data or integration is required, you can override the default request form with an association to a customized form. This override takes effect at the system-wide level.

You should be aware that a customization may be overwritten on upgrade and any customizations must be reapplied.

The shipped request form should be selected from the list and then copied. Access the form through **Admin > Request and Approval > Request Type**. Additional request fields, approval stages, or workflow can then be added and the **Request Type Active** check box enabled. Ensure that the **Request Type Name** is amended to text suitable for viewing in the **Request List**.

Note: No shipped request fields or workflow steps should be removed. This facility is available as a means of adding fulfillment steps or an approval process.

You should edit the relevant **Action Request Type** setting from the **Integration Settings** section.

1. Access the setting through **Admin > Settings > Integration Settings**.
2. Edit it by replacing the existing value with the new **Request Type Code**.
3. You can then deactivate the shipped request form.

Note: The Service Catalog and a full list of shipped request types is available if a restore to default values is required. They can be found in the `MsBuild\RequestTypes` folder, under the Installation location.

Note: You can enable replacement Protect and Backup Now forms by linking them to the appropriate **Protection Level**. This option is found on the **Protection** page when logged on as an administrator.

Themes

The pre-shipped NetBackup Self Service theme can be adjusted. Change the theme in an Admin area screen by editing the colors that are used as well as many of the images and styles. Many elements are editable by an edit page. The **Page Width** should remain at 1024 pixels. You can also do additional customized editing with an online CSS editor.

The shipped theme can be adjusted system wide with **Admin > Settings > Theme & Customization** or for an individual tenant with **Admin > Organization > Tenant > Theme**.

Notices

You can display news ticker-style notices at the top of the home page. These notices can be either alert type or information types. You can change the theme of the notice and filter the notice by tenant. You can control the publication of a notice by both start date and end dates. An API supports these notices.

A tenant with an access profile of **Administrator** can maintain their organization's notices.

Chapter 5

User authentication methods

This chapter includes the following topics:

About user authentication methods

NetBackup Self Service supports three different methods of authenticating users:

- Forms based authentication that uses a user name and password. This configuration is the default configuration that ships with Self Service.
- Windows authentication, optionally with an Active Directory Import. This option is only suitable for Enterprise type deployments.
- Federated Single Sign-On by the WS-Federation Passive Protocol.

Forms based authentication

Users access the Self Service portal by entering a user ID and password on the logon page. This configuration is the default method of accessing the system and no additional configuration is required.

Password rules can be defined in the **Password Policies** category of **Admin > Settings > System Configuration**.

Windows Authentication

To use Windows Authentication, the users must be set up in the database with the user names that match the users' domain names. This format is either *DOMAIN_NAME\username* or *username*. The format depends on the system setting.

Configure `REMOVE_DOMAIN_NAME` in **Admin > Settings > System Configuration**. Switch it on if it uses *`firstname.lastname`* or switch off if it uses *`DOMAIN\firstname.lastname`*.

Once at least one Windows user has access to the Administration area, disable both Anonymous Authentication and Forms Authentication in IIS. Then enable Windows Authentication. This configuration in IIS insures the `web.config` file is updated and Self Service address is changed accordingly.

You can only use the shipped `admin` user ID to access the system until Windows Authentication is configured in IIS. After that point, no manual logon is available.

Note: If you use Active Directory import to synchronize users, ensure that at least one user is associated to the `Supervisor` access profile on initial import. Otherwise, access to the Admin area is compromised.

Note: These instructions only apply to configuration on initial implementation of the system and are not appropriate for later changes to the logon protocol. This limitation is due to effect on historical data.

Active Directory Import

You can synchronize Self Service with Active Directory for easier maintenance. Import is managed from a scheduled import task. This process lets you specify a time or frequency for the process. The schedule should reflect the full user set as any user that is not included is deactivated in Self Service.

You can create multiple import profiles with a different source for each profile. For each profile a Self Service access profile, cost center, and user account status must be specified. The users may be automatically assigned to zero or more user groups. The user group, however, must already exist in Self Service. You can source the Self Service user name from either **Full Name** (default) or **Display Name**. You can select a language, otherwise the system base language is used. You can specify

an import profile by group or organizational unit, and with or without children included.

Import profiles are processed from the top of the list so you can modify the order to fit your requirements. If the same user is present in multiple profiles, only the **Imported User Fields** from the latest profile that is processed apply. User group membership is updated from all profiles.

The user that is specified within the Active Directory Import requires the **List Contents** and **Read All Properties** rights at the root level of the domain. These rights are required so that the user can search all organizational units and organizational groups and import all users.

A system configuration setting lets you control whether the Domain Name is pre-pended to the user ID when you import it. Find the system configuration setting in **Admin > Settings > System Configuration**. Verify the appropriate setting value before you create the first user accounts. Subsequent change causes new user accounts to be created and existing accounts are disabled, along with the impact on accessing historical requests. A change of SAM account name causes the creation of a new Self Service user account.

You can create locally maintained Self Service users for the records that are not maintained in Active Directory. Active Directory update ignores these users.

Note: If you use Windows Authentication, ensure that at least one user is associated to the `Supervisor` access profile on initial import. Otherwise access to the Administration area is compromised.

Note: These instructions only apply to configuration on initial implementation of the system. They are not appropriate for later changes to the logon protocol due to effect on the user-maintained method

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Configuring Self Service to use Federated Single Sign-On

Self Service supports Federated Single Sign-On through the WS-Federation Passive Protocol. It is implemented with Microsoft Windows Identity Foundation (WIF), and uses Security Assertion Markup Language (SAML) tokens for claims transfer. It does not, however, support the SAML2 Protocol, SAML-P.

When Self Service is installed, it is configured with Forms Authentication that requires first logon to use the **admin** account.

To authenticate through the identity provider:

1. Create users in the Self Service database, who correspond to users in the identity provider.
2. Edit the Self Service `web.config` file to enable federated single sign-on.

Create a user in Self Service

The **User ID** is used to identify users in Self Service. **Claims** are used to identify users in the identity provider. For authentication to succeed, users in Self Service must have a **User ID** that matches the value in one of the claims from the identity provider.

Self Service looks at the following claims when it attempts to find the Self Service user: **Name**, **Email**, **Windows Account Name**, and **UPN**. Typically **Name** and **Windows Account Name** have the format `domain\username`, and typically **Email** and **UPN** have the format `username@domain`.

You can enter Users through the portal or import in bulk, either directly from Active Directory or by a `.CSV` file.

Edit web.config to enable Federated Single Sign-On

To change the `web.config` file to enable federated single sign-on:

1. Navigate to *`install_path`*`\WebSite`.
2. Open `web.config` with Notepad as Administrator.
3. Find the `<modules>` section and uncomment the two `IdentityModel` modules.
4. Find the `<authentication>` section and change the mode to `None`.
5. Enter the URL of the WS-Federation website in the issuer attribute of the `<wsFederation>` element
6. Find the `<trustedIssuers>` section and enter the token-signing certificate thumbprint of the WS-Federation server.

   Note: You should not use cut and paste for the thumbprint as it can insert hidden characters into the file which interfere with the thumbprint matching.

7. If these changes are on a test system that uses self-sign SSL certificates, uncomment the `<certificateValidation>` element.
8. Save the `web.config` file.

If you have to switch back to **Forms Authentication**, the `web.config` file can be edited and the authentication mode set to forms: `<authentication mode="Forms">`.

One instance where you would switch back to **Forms Authentication** is to recover from a problem.

Log on to Self Service

To confirm that the system is fully configured for Federated logon:

1. Close and re-open Internet Explorer
2. Enter the URL of Self Service
3. If your environment uses test certificates, accept the two certificate errors
4. Enter the credentials for the previously created user. The user should successfully log on.

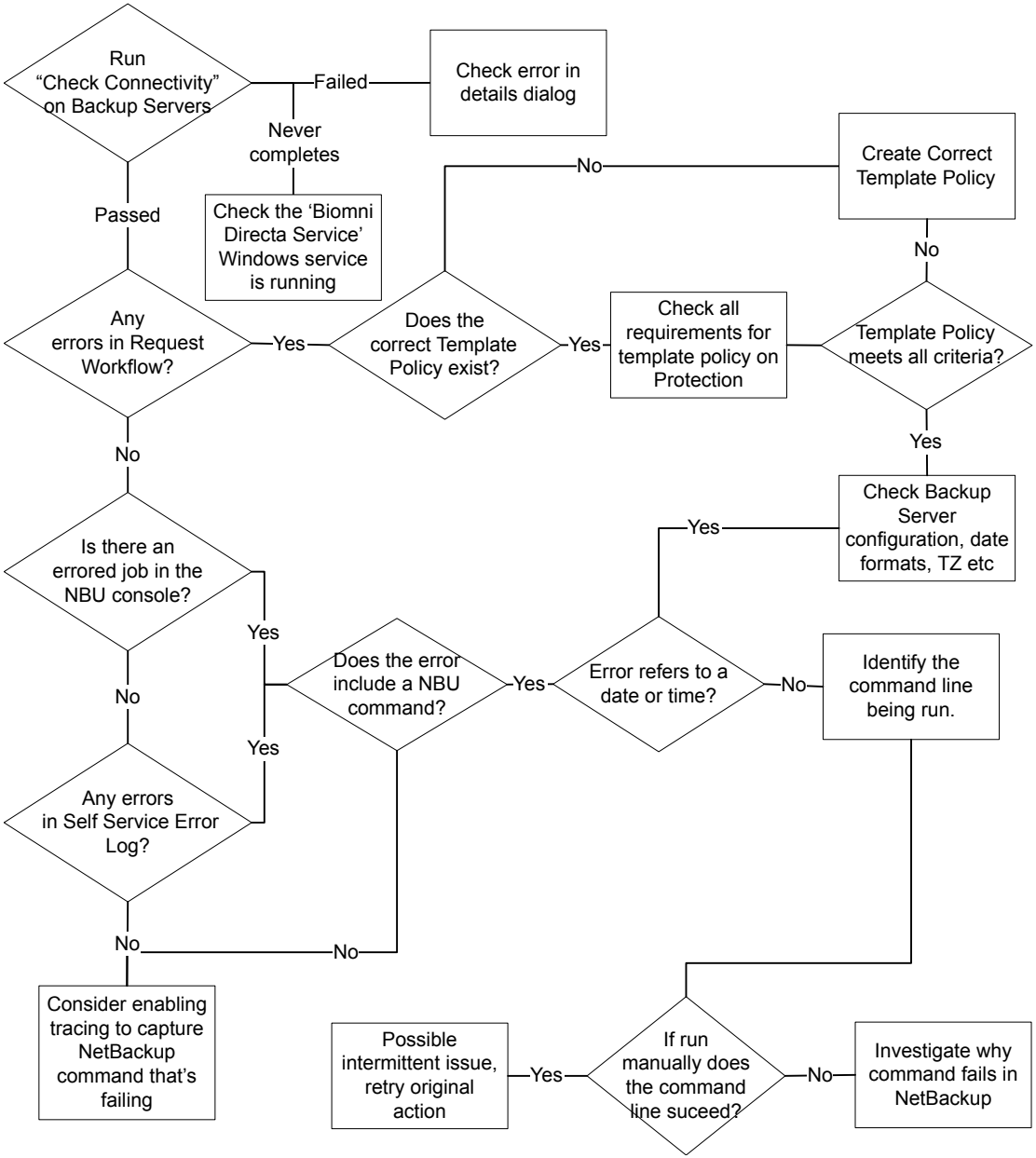
Chapter 6

Troubleshooting

This chapter includes the following topics:

About troubleshooting

The first step in troubleshooting a problem is to determine if it lies with Self Service or NetBackup itself. Unless there is an error or a failure message that points in a clear direction, the best first course of action is to try and manually perform the action on the NetBackup console. If this action fails it points to a NetBackup issue. Once NetBackup issues have been ruled out proceed with diagnosing in Self Service.


Run "Check Connectivity" on Backup Servers
Failed
Check error in details dialog
Never completes
Check the 'Biomni Directa Service' Windows service is running
Passed
Any errors in Request Workflow?
Yes
Does the correct Template Policy exist?
No
Create Correct Template Policy
Yes
Check all requirements for template policy on Protection
Template Policy meets all criteria?
No
Yes
Check Backup Server configuration, date formats, TZ etc
Yes
Is there an errored job in the NBU console?
Yes
Does the error include a NBU command?
Yes
Error refers to a date or time?
No
Identify the command line being run.
No
Yes
Any errors in Self Service Error Log?
No
No
Consider enabling tracing to capture NetBackup command that's failing
Possible intermittent issue, retry original action
Yes
If run manually does the command line suceed?
No
Investigate why command fails in NetBackup

Where to find troubleshooting information

Check Connectivity

On the **Backup Servers** page the **Check Connectivity** button tests the connection to each backup server in the system. Any failures show as a red cross which can be clicked to show error information.

Request Workflow

Some actions in Self Service create a request in the system. From the **Requests** icon on the top menu you can find the request which can be a good source of troubleshooting information:

Table 6-1 Request Summary information

Milestone name	Details
Fulfillment milestone	Any failed steps are red and have errors against them.
Request milestone (Audit)	Will show progress against the action and can also provide the NetBackup Job Id.

Self Service Error Log

Found in **Admin > Support > Error Log**

Errors can contain a System Reference which can be used to tie it back to a specific Request, and hence an Action.

If trying to locate failed NetBackup commands, performing a search for the text `/bin` or `\bin` can be helpful.

Additional activity reporting

An additional source of activity reporting can be found in the **Support** category of the **Admin** home page. This category includes access to Integration Logs, Audit Logs, and Email Logs, as well as a Task Queue and Email Queue. The **Task Queue** is a particularly useful source of information. The different tabs show the different states of **Task Queue** activity. The **History** tab can be filtered to show the tasks that have **Completed With Errors**. Tasks with errors are highlighted red.

NetBackup Command-Line Errors

Self Service works by running NetBackup Commands on the command line of the master server. If there is a problem running a command, it is included in the error in Self Service. Locating these errors is very helpful. Once you have an error with

a NetBackup Command line, you can copy the command and try running it manually on the master server. This technique is useful for troubleshooting.

Errored Jobs in NetBackup Console

Check for any errors on the NetBackup Activity Monitor especially against Job IDs that are identified.

Checking Template Policies

Template Policies must be configured in certain ways to function correctly. When you check policy templates, refer to the **Protection** page in Admin. Click **Export Template Policies** from the **Protection Types** cog button to generate a summary of outstanding changes.

Problem assets

An amber or a red cog in the **Assets** page highlights the problem assets.

- A red cog indicates that a synchronization or an activity failure error has occurred previously.
- An amber cog indicates that a synchronization or an activity failure error has occurred previously but that an activity is currently in progress.

From the details pop-up select the **Details** tab which provides you with the last error and the stack trace.

Synchronization Errors

Can be viewed as an MSP admin user in computer detail pop-up.

Details incorrect for asset

In the case that image or protection details don't seem correct for an asset, run **Refresh NetBackup Data** for the asset using the **Actions** button.

Tracing

Tracing can be configured to analyze problems on a more detailed level. This method is a more advanced troubleshooting method. Do not attempt this method without the assistance of support. See the `ReadMe.txt` in *`Services Site`*`\Logs` and *`Panels Site`*`\Logs`.

Impersonation of a tenant user

You can impersonate a tenant-user to see their home page view, as well as perform actions on their behalf.

From the home page, when you click the logged on user initials icon, the option **Act as another user** is displayed. If this option is selected, it displays a user list. Select the required tenant-user and their home page view is displayed.

Issues with Remote PowerShell to Windows master servers

Concurrent Remote PowerShell Connection Limits

The NetBackup master server limits the number of remote connections. The server defaults are typically sufficient.

In high usage installations it may be necessary to increase this limit. If the limit is exceeded the following error may occur:

```
NetBackup server name Connecting to remote server NetBackup server
name failed with the following error message : The WS-Management
service cannot process the request. The maximum number of concurrent
shells for this user has been exceeded. Close existing shells or
raise the quota for this user. For more information, see the
about_Remote_Troubleshooting Help topic.
```

To increase the limit:

1. On the NetBackup master server, run the PowerShell command that is shown to determine the number of connections allowed:

   ```
   Get-Item WSMan:\localhost\Shell\MaxShellsPerUser
   ```

2. On the NetBackup master server, run the PowerShell command that is shown to increase the number of connections allowed:

   ```
   Set-Item WSMan:\localhost\Shell\MaxShellsPerUser interger_value
   ```

Concurrent User Operation Limits

Symptom of reaching this limit is an error similar to:

```
RunCommand failed.
"C:\Program Files\Veritas\NetBackup\bin\admincmd\bpimagelist"
"-d" "03/02/2015 09:58:11" "-e" "03/02/2015 11:58:11"
"-json_compact"
Run-Process script threw exception:
Starting a command on the remote server failed with the following
error message : The WS- Management service cannot process the
request. This user is allowed a maximum number of 15 concurrent
operations, which has been exceeded. Close existing operations for
```

```
this user, or raise the quota for this user. For more information,
see the about_Remote_Troubleshooting Help topic.
```

Windows 2012 defaults to 1500. On the NetBackup master server, run the command that is shown to increase this limit:

```
winrm set winrm/config/Service
@{MaxConcurrentOperationsPerUser="1500"}
```

PowerShell Connection Pooling

By default, Windows locations use PowerShell Connection Pooling. This option allows much higher throughput when you call PowerShell on the NetBackup master server. Higher throughput is achieved because every call does not require the computer to create and destroy a new Run Space.

Settings

Table 6-2 The backup server fields that are used for PowerShell Connection Pooling

Name	Details
NetBackup Use Pooled Connections	Determines whether PowerShell connection pooling is enabled. Connection pooling is enabled by default to improve performance. Only change this value if instructed to do so by Support.
NetBackup Minimum Pool Size	Minimum number of connections in the PowerShell connection pool. If value is empty, the default is 1. Only change this value if instructed to do so by Support.
NetBackup Maximum Pool Size	Maximum number of connections in the PowerShell connection pool. If value is empty, the default is 3. Only change this value if instructed to do so by Support.

Diagnostics

The diagnostic tracing captures a large amount of information about the PowerShell connection creation, use, and disposal.

The following PowerShell script can be used to find information about the connections to a NetBackup master server:

```
$machineName = 'netbackup_master_server_machine_name'
$userName = 'user_name_-_same_as_the_location_integration_setting'
```

```
$password = '<password>'

$connectionURI = ('http://{0}:5985/wsman' -f $machineName)

$securePassword = ConvertTo-SecureString $password -AsPlainText -Force
$credential = New-Object System.Management.Automation.PSCredential
($userName, $securePassword)

$connections = Get-WSManInstance -ConnectionURI $connectionURI
-Credential $credential -ResourceURI shell -Enumerate #| where
{ $_.Owner -eq $userName }


if($connections.length -eq 0) { "There are no remote PowerShell
connections" }

$connections | ForEach-Object {
    # To remove the connection, uncomment the line below
    # Remove-WSManInstance -ConnectionURI $connectionURI shell
      @{ShellID=$_.ShellID}

    $_
    "Owner: {0}" -f $_.Owner
    "HostName: {0}" -f (Resolve-DnsName $_.ClientIP | select
    -expand NameHost)
    "-------------------------------------------------------"
}
```

Monitoring Scheduled Tasks

Self Service runs a number of scheduled tasks in the background. These scheduled tasks synchronize data between external systems and keep the user interface as up to date as possible. The status and timing of these tasks is displayed to the left of the **Monitoring** page when logged on as non-tenant administrator user.

The action cog is red if there are any problems running a particular task. If you click the task name, the **Scheduled Task Details** window is displayed. This window shows any error messages, which aids the troubleshooting process. You can resolve errors and then click **Run Now** in the drop-down to retry the task.

The **Activity** area of the **Monitoring** page displays tasks queued for action. If this queue is over ten items and shows no sign of change over several minutes, there could be a problem with the main task engine of Self Service. Make sure the Windows Service is running and look for errors in **Admin > Support > Error Log**.

You can initiate a rebuild of the utilization data from the **Monitoring** page. This action updates both current month and previous months' data.

Table 6-3 Background tasks and descriptions

Background task	Description
`System Sync`	Imports backup images from all backup servers since the last time it ran. The task expires old backup images and calculates usage. This task runs once per day on schedule.
`System Update`	Performs system updates such as syncing backup images and updating active requests. This task runs once per minute on schedule.
`Asset Import`	Synchronizes the computers from NetBackup Import or vCloud Director, according to configured imports. This task runs once per day on schedule but can be initiated manually.

Issues with HTTPS configuration

Starting with NetBackup Self Service 10.0, the default configuration for Self Service is HTTPS. Veritas made this change for security reasons.

The steps that are shown can assist you as you troubleshoot any issues with your HTTPS configuration.

To verify HTTPS is correctly configured:

1. Make sure that the installer created an SSL certificate. Search the **Start** menu for **Internet Information Service**. You can see bindings with corresponding SSL certificate.
2. Make sure the binding for port 443 is created and the certificate is assigned to that port. Search the **Start** menu for **Internet Information Service**. You can see bindings with corresponding SSL certificate.
3. Validate the integration settings. Under **Admin > Integration Settings**, confirm all URLs are HTTPS.
4. Under **Admin > Integration Settings** confirm the Panel URL and Service URL use the same host name.

Example:

```
https://example.com/NetbackupSelfServiceNetBackupPanels
https://example.com/NetBackupSelfServiceNetBackupServices
```

Appendix A

NetBackup policy types

This appendix includes the following topics:

List of NetBackup policy types

Table A-1 is a list of the Policy Types available in NetBackup and their associated IDs. You must use these when you create the Policy Types Integration Setting.

Table A-1 Policy types and associated IDs

ID	Name	NetBackup Self Service	Backup selection
0	Standard	Protection; file restore	Defined in policy template and applies to all clients in the policy.
4	Oracle	Protection (client based only); database restore	Defined by a script that resides on the client.
6	Informix-On-BAR	Not supported	
7	Sybase	Protection	Defined by a script that resides on the client.
8	MS-SharePoint	Protection	Defined in policy template and applies to all clients in the policy.
10	NetWare	Not supported	
11	DataTools-SQL-BackTrack	Not supported	
12	Auspex-FastBackup	Not supported	

Table A-1 Policy types and associated IDs *(continued)*

ID	Name	NetBackup Self Service	Backup selection
13	MS-Windows	Protection; file restore	defined in policy template, applies to all clients
14	OS/2	Not supported	
15	MS-SQL-Server	Protection (client based only); database restore	Defined by a script that resides on the client.
16	MS-Exchange-Server	Protection	Defined in policy template and applies to all clients in the policy.
17	SAP	Protection	Defined by a script that resides on the client.
18	DB2	Protection	Defined by a script that resides on the client.
19	NDMP	Protection	Defined in policy template and applies to all clients in the policy.
20	FlashBackup	Protection	Defined in policy template and applies to all clients in the policy.
21	Split-Mirror	Not supported	
22	AFS	Not supported	
24	DataStore	Not supported	
25	Lotus-Notes	Not supported	
27	OpenVMS	Not supported	
29	FlashBackup-Windows	Not supported	
31	BE-MS-SQL-Server	Not supported	
32	BE-MS-Exchange-Server	Not supported	
34	Disk Staging	Not supported	
35	NBU-Catalog	Not supported	
37	CMS_DB	Not supported	
38	PureDisk Export	Not supported	

Table A-1 Policy types and associated IDs *(continued)*

ID	Name	NetBackup Self Service	Backup selection
39	Enterprise Vault	Not supported	
40	VMware	Protection (intelligent policies or client based); restore VM; restore file	
41	Hyper-V	Protection (intelligent policies or client based); restore VM; restore file	
42	NBU-Search	Not supported	

At this time, computers cannot be protected with snapshot-enabled policies. This issue is a known issue.

Appendix B

Dashboard traffic light status and usage

This appendix includes the following topics:

About dashboard traffic light status and usage

The dashboard status section shows the number of computers in a given protection state: red, amber, or green. This color calculation is dependent on a computer having a protection type.

Consumed capacity is visible as a total and by month.

If you are a tenant-user you see totals for your tenant. If you are a service provider, you see totals reflecting the full estate.

Assets with a protection type

When a user selects a managed protection level from those available to a protection type, this action adds the computer to one or more NetBackup policies. Self Service holds a threshold (in hours) for each policy it is aware of. Evaluating the thresholds of all the known policies that an asset is in determines its red, amber, or green status. Assets with a protection type that includes an unmanaged protection level are evaluated with a red or a green traffic light. The traffic light color is dependent

on the existence of a backup matching the unmanaged protection level's policy name.

Table B-1 Computers with Protection Types

Color	Computer state
Green	Protection level applied, and all policies have backups within their threshold; or the policy has been set to **Always show as protected**
Amber	No protection level has been applied to the computer
Red	Protection level applied, but one or more policies have no backups, or the most recent backup is outside of its threshold

Note: If an asset is in a NetBackup policy but no protection level is found, the policy is not considered when the color status is determined.

Assets that are protected with only a **Backup Now** process are not included in the count and are not shown as protected.

Assets without a Protection Type

When an asset does not have a protection type, the status always displays as amber.

Usage and Charging

The **Usage** section is split into two parts: the amount of consumed capacity as a total and as a graph by month.

Consumed capacity is calculated from all non-expired images belonging to the tenant. It can be expressed either as an absolute figure, in gigabytes, or in relation to the amount of contracted space for the tenant. When consumed capacity is shown in relation to contracted space, the value is shown both as a percentage and as an absolute amount against that total. The calculation for consumed capacity depends on the **Use Data Transferred Values** integration setting.

Configuring charging

You can configure charging data per tenant, per protection level or both.

When **Usage** calculates the price for a backup, the rules that are shown are applied:

1. If the Tenant has charge rates and there is one for this backup's Protection Level then that charge rate is used, otherwise:
2. If the Tenant has a default charge rate, then this default rate is used, otherwise:
3. If there is a system-wide Protection Level charge rate for the backup then that is used, otherwise:
4. The default system charge rate is used.

By default, NetBackup Self Service has a single system-wide charge rate that is configured to 0 USD.

If a Tenant requires Protection Level charge rates then you must provide a Tenant-wide cost.

To add or edit charges, you must log on as a service provider or administrator account and click on the **Charge Rates** link on the home page. Click on Add or Edit and you can set a System/Tenant wide charge rate or override individual Protection Levels with the appropriate charge.

Note: A computer has an associated usage record if it has a backup in NetBackup Self Service.

Note: Only NetBackup Self Service aware NetBackup policy backups count towards usage.

Note: When you view the Tenant Usage data, the reported **CostPerGb** figure is the tenant's value. If you configure the system to use Protection Level overrides, this **CostPerGb** is not correct. The actual costs, however, are calculated using Protection Level costs. You should use the Tenant Protection Level data for a breakdown of that Tenant's usage.

Appendix C

Synchronizing data from NetBackup

This appendix includes the following topics:

About synchronizing data from NetBackup

Two different processes are responsible for synchronizing data from NetBackup to Self Service. The processes are illustrated.

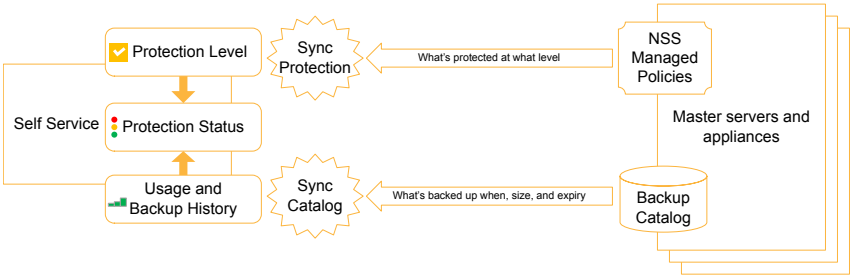


Table C-1 Synchronization process and associated details

Synchronization process	Details
Synchronization protection	■ Only synchronized when protection levels are configured. For example, Self Service managing policies. ■ Searches the policies on NetBackup for client computers. ■ Displays the protection level against computer or container (colored tick icons). ■ Self Service keeps local cache up to date itself with add and remove protection requests. ■ Can be manually initiated in the **Administration** panel.
Synchronization catalog	■ Synchronizes the backup catalogs and transfers details of all active images to Self Service. ■ Initial post-installation full synchronization that is carried out in configurable batch sizes. ■ Regular task keeps records up to date at Self Service with daily incremental synchronization. ■ Image records are matched against computers in the Self Service inventory. ■ Self Service rolls up image size data per computer and tenant on a nightly basis for summary dashboards. ■ Images for an individual computer are resynchronized on a Backup Now request completion or when an administrator manually initiates in the administration panel.

Appendix D

NetBackup Self Service data caching process

This appendix includes the following topics:

About NetBackup Self Service data caching process

The NetBackup Adapter caches data about assets, protection, and backup images for improved performance.

Scheduled Tasks run periodically to keep the data up to date. Scheduled tasks include:

- **System Sync**
  - Imports the backup images from all backup servers since the last time it ran.
  - Expires the old backup images.
  - Calculates the usage.
  - Calculates the traffic light statuses.
  - Runs daily at 12:15 A.M. (UTC) by default.

- **System Update**
  This task processes the computers that are flagged for NetBackup data synchronization. Imports the protection levels and backup images, then recalculates traffic light statuses. Runs every minute by default.
- **Asset Import**
  Synchronizes the computers from vCloud Director and cloud assets from NetBackup according to configured imports. This task runs once per day at 12:30 A.M. (UTC) by default, but can be initiated manually.

System Sync

- Imports the images from the last day for all online backup servers. The import includes a 24 hour overlap to get the backups that started but not completed when the last System Sync took place.
- Flags the expired images.
- Updates the last backup time and calculates traffic light status.

Note: Adding a new backup server does not trigger any independent action in the system. Any new synchronizations or ongoing synchronizations, such as getting backup images or importing policies, now include this new backup server. Older images are not imported without manual intervention. Click **Refresh NetBackup Data** or call the API to import older images. These actions are required for every computer that may have backups.

Integration settings

The Integration Settings that are listed are relevant to the System Sync:

- Utilization Retention Period (Months) (NetBackup Adapter integration section)
  The period of time which usage data and expired backup images are retained for and the number of months displayed in the charts. After this period the usage data and expired images are deleted in the System Sync.

NetBackup Data Synchronization

When an asset is imported, **Refresh NetBackup Data** is clicked, or `SyncNetBackupData` is called in the API, the asset is flagged for synchronization. This marks the asset as ready for synchronization and it is picked up by the System Update. This process imports the protection and images, then recalculates traffic light status.

The task processes batches of 100 assets for 5 minutes (by default) or until there are no assets requiring import. Assets added longest ago are processed first. All

assets have the same priority initially but if a **Backup Now** is performed, that asset is marked as high priority.

If a synchronization fails, the synchronization is locked for a period of time. This lock allows other assets without errors to be processed.

Integration Settings

The integration settings that are listed are relevant to the NetBackup Data Synchronization:

- Image Import Batch Processing (minutes) (NetBackup Adapter integration section)
  The System Update gets data for a period of time while there are computers marked for synchronization. This defaults to five minutes.
- Image Import Lock Delay (minutes) (NetBackup Adapter integration section)
  This value defines how long to lock a computer image synchronization for a computer if its image retrieval fails. This defaults to 60 minutes.

Backup Now

When a **Backup Now** request completes, the computer is flagged for synchronization with high priority so that the computer synchronizes the new image as soon as possible.

Protect

When a **Protect** request completes, a task is queued to add the protection level to the database and update the traffic light status.

Unprotect

When an **Unprotect** request completes, a task is queued to remove the protection level from the database and update the traffic light status.

Appendix E

Integration settings

This appendix includes the following topics:

About integration settings

Integration Settings are a flexible store of named settings with values. They are used to configure the integration between NetBackup Self Service and NetBackup. Individual Settings are grouped within sections and are accessed through **Admin > Settings > Integration Settings**. This section includes the full list of Integration Settings relevant to the NetBackup Self Service solution. Individual sections or settings are referred to throughout the document, in the appropriate functional area.

Some settings have **Allow Tenant Override** set to **yes**. These settings typically need to be configured on a per tenant basis and should not normally be completed in the top-level Integration Settings. Instead they are configured under the details for the specific tenant. The NetBackup Adapter Access Rights settings also have the option of user override. More information about access rights is available.

See “Access rights” on page 32.

If an override setting is manually changed from the values automatically created for the system-wide Integration Setting, that new value is ignored.

Most Tenant level integration settings are created from the home page but are edited through **Admin > Organization > Tenant**, on a separate tab within each tenant record. Accessing from within the tenant, only the settings that can be edited at the tenant level are available.

The Integration Settings sections that are pre-shipped are:

Table E-1 Preset integration settings

Setting	Details
NetBackup Adapter	This section holds the settings which affect the whole of the solution. There should be only one of these sections.
NetBackup Adapter Usage	This section controls the data and calculations in the **Usage** panel on the home page. There should be only one of these sections.
NetBackup Adapter Access Rights	This section determines what backup and restore actions are permitted in the solution. There should be only one of these sections.
Action Request Types	This section supports overwrite of specific shipped request types. There should be only one of these sections.

The Integration Settings section that is generated from the completion of an **Add vCloud Director Import** form is:

Table E-2 Generated integration settings

Setting	Details
vCloud Import *import*	This type of section contains details of the vCloud Director instance. Computers are imported from here and this section determines the Self Service backup server that is associated with the imported computers. Individual tenant credentials are specified against the Tenant. You can have multiple vCloud Director Import sections. More information is available. See “Registering computers” on page 34.

NetBackup Adapter

This section holds the settings which affect the whole of the solution. There should be only one of these sections.

Table E-3 NetBackup Adapter settings

Setting	Tenant Override	Details
Report Customer Root	Yes	The path of a folder on the web server where this tenant's reports are stored.
Report File Extensions	No	A semicolon-separated list of file extensions can be specified.
Contracted Space (TB)	Yes	The total amount of space, in terabytes, agreed for use. Optional value; if set, typically configured at tenant level
Usage Retention Period (months)	No	The number of months the historical rolled up data is retained for display in the home page Usage graph and table.
Panels URL	No	The URL of the NetBackup Adapter Panels, the installer sets this value initially.
Services URL	No	The URL of the NetBackup Adapter web services. The installer sets this value initially.
Image Import Batch Processing (minutes)	No	The computer image load retrieves images for a period of time while there are computers marked for synchronization. This defaults to 5 minutes.
Image Import Lock Delay (minutes)	No	This setting determines how long to lock a computer synchronization for a computer if an error occurs during image retrieval. The default is 60 minutes.
Send Usage Email	No	An email detailing system usage is sent on the 1st of each month. If you do not want this email to be sent, set the setting to **No**.
Show Traffic Lights Tiles	Yes	This setting determines whether traffic lights are displayed on the home page.
Show Consumption Total Tile	Yes	This setting determines whether the total usage is displayed on the home page.
Show Consumption Trend Tile	Yes	This setting determines whether the usage trend graphs are displayed on the home page.

NetBackup Adapter Usage

This section controls the data and calculations in the **Usage** panel on the home page. There should be only one of these sections.

Table E-4 Adapter Usage settings

Setting Name	Tenant Override	Details
Charging Type	Yes	The base parameter for whether the charge represents new backups or used space, or whether no calculation is made. Options: New Backups, Consumed Capacity, or None.
Use Data Transferred Values	No	Controls whether to use **Transferred Size** or **Image Size** in usage statistics. **Transferred Size** values can be lower such as when you use Accelerators. The **Transferred Size** value is only available on NetBackup 7.7.1 and later.

NetBackup Adapter Access Rights

Determines the actions that are available from the home page for any listed computer. The actions are system wide, for a specific tenant, or for an individual tenant user. The actions are:

- **Backup Now**
- **Protect Machine**
- **Restore File**
- **Restore VM**
- **Unprotect Machine**
- **Register for File Restore**
- **Restore SQL**
- **Restore Oracle**
- **Restore Cloud Asset**
- **Agentless Restore File**
- **Agentless Restore File to alternate VM**
- **Expire Backups**

- **Restore Disks**

This section also allows control of the home page **Usage graph** and **Usage list**.

There should be only one of these sections.

Table E-5 NetBackup Adapter Access Rights

Setting Name	Tenant Override	Details
Allow Backup Now	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Protect Machine	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Restore File	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Restore VM	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Unprotect Machine	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Usage Report	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Register for File Restore	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Restore SQL	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Restore Oracle	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Restore Cloud Asset	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.

Table E-5 NetBackup Adapter Access Rights *(continued)*

Setting Name	Tenant Override	Details
Allow Agentless Restore File	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Agentless Restore File to Alternate VM	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Expire Backups	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.
Allow Restore Disks	Yes	To override this value at the user level, select **for user** from the drop-down list. See the note that follows this table.

Note: The recommendation is that you only set a system wide or tenant level flag. An override at tenant user level should only be considered if the system-wide setting is set to **enabled**.

More information about the configuration of tenants is available.

See "Configuring tenants" on page 31.

Action Request Types

This section supports overwrite of specific shipped request types. There should be only one of these sections.

If you choose to change the shipped request type detail, create a copy of the shipped request type first. Then the new request type is amended as required. Once that is complete, the new request type can be activated and this section updated with the new request type code. The shipped request type can then be deactivated.

Table E-6 Action Request Type

Setting Name	Tenant Override	Details
DB Restore VM	No	The request type code that is associated with the Restore VM dashboard option. Defaults to `DBRESTVM`.

Table E-6 Action Request Type *(continued)*

Setting Name	Tenant Override	Details
DB Restore VM Message	No	If this message is supplied, it is used on notifications when restoring a VM. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Restore File	No	The request type code that is associated with the Restore File dashboard option. Defaults to `DBRESTFILE`.
DB Restore File Message	No	If this message is supplied, it is used on notifications when restoring a file. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Unprotect Machine	No	The request type code that is associated with the Unprotect Machine dashboard option. Defaults to `DBREMBACK`.
DB Unprotect Message	No	If this message is supplied, it is used on notifications when you specify unprotect. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Register for File Restore	No	The request type code that is associated with the Register for File Restore dashboard option. Defaults to `DBREGDNS`.
DB Register for File Restore Message	No	If this message is supplied, it is used on notifications when you select register for file restore. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Restore SQL	No	The request type code that is associated with the Restore SQL Database dashboard option. Defaults to `DBRESTSQL`.
DB Restore Sql Message	No	If this message is supplied, it is used on notifications when restoring SQL. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Restore Oracle	No	The request type code that is associated with the Restore Oracle Backups dashboard option. Defaults to `DBRESTORA`.

Table E-6 Action Request Type *(continued)*

Setting Name	Tenant Override	Details
DB Restore Oracle Message	No	If this message is supplied, it is used on notifications when restoring Oracle. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Backup Now Message	No	If this message is supplied, it is used on notifications when Backup Now is used. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Restore Cloud Asset	No	The request type code that is associated with the Restore Cloud Asset dashboard option. Defaults to `DBRESTCLD`.
DB Restore Cloud Asset Message	No	If this message is supplied, it is used on notifications when restoring a cloud asset. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Protect Message	No	If this message is supplied, it is used on notifications when you select protect. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Restore File Agentless	No	The request type code that is associated with the **Restore File** dashboard option. Defaults to `ALFRORIG`.
DB Restore File Agentless Message	No	If this message is supplied, it is used on notifications when **Restore File** is used. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Restore File Agentless Alternate VM	No	The request type code that is associated with the **Restore File** to Alternate VM dashboard option. Defaults to `ALFRALT`.
DB Restore File Agentless Alternate VM Message	No	If this message is supplied, it is used on notifications when **Restore File** to Alternate VM is used. If this value is not supplied, the default system message is used. This value defaults to empty.
DB Restore Disks	No	The request type code that is associated with the **Restore Disks** dashboard option. Defaults to `VMDISKREST`.

Table E-6 Action Request Type *(continued)*

Setting Name	Tenant Override	Details
DB Restore Disks Message	No	If this message is supplied, it is used on notifications when **Restore Disks** is used. If this value is not supplied, the default system message is used. This value defaults to empty.

vCloud Director import

This type of section contains details of the vCloud Director import process which allows computers to be imported from a specific vCloud Director instance and registered with NetBackup Self Service. The computers are imported on a tenant by tenant basis using individual credentials. There can be multiple vCloud Director Import sections.

Table E-7

Setting name	Tenant override	Details
vCloud Api	No	This value should be set to the URL of the vCloud Director API, in the format of `https://hostname/api/`.
Location	No	The name of the NetBackup backup server the computers are registered to
Online	No	Indicates if the vCloud Director instance is considered online. Self Service does not use the instances that are not online.
Ignore SSL Certificate Errors	No	This option allows the Self Service to connect to vCloud Director instances where the SSL certificate is not valid.
vCloud UserName	Yes	The user name that the tenant uses to connect to the vCloud Director API. Each tenant must have their own credentials. It must be in the format `userid@vOrg`. Must be set at the tenant level only.
vCloud Password	Yes	The tenant's corresponding vCloud Director password. Must be set at the tenant level only.
Protection Type Code	No	The protection type that is applied to imported computers.

Table E-7 *(continued)*

Setting name	Tenant override	Details
Use vDC Filter	No	Set this option to enable vDC filtering.
vDC Filter	No	The filter to apply to vDCs during an import. This filter is a comma separated list and vDC names are case-sensitive. Set at the tenant level only.
Display Name	No	The name that is displayed in the default view on the home page for end-users.
Include Metadata	Yes	Determines if metadata is included in the import.
vCloud Admin UserName	No	The administrator user for vCloud in the format: `Administrator@System`.
vCloud Admin Password	No	The password of the account with administrator credentials in vCloud

Appendix F

REST API

This appendix includes the following topics:

About the REST API

A REST API supports both administrative actions and operational actions against the system, such as adding, protecting, and restoring computers.

Documentation for the API is found in the `SDK` folder in the installation directory. The documentation for the API is also available on the Veritas Open Exchange (VOX). The URL is included in the `ReadMe.txt` file in the `SDK` directory. It can also be found in the portal's **About NetBackup Self Service** page.

Version 6 of the API is enabled and requires logon with a user's credentials.

Appendix G

Glossary

This appendix includes the following topics:

- Glossary

Glossary

Table G-1 Glossary of terms

Term	Definition
Asset	Any computer or volume of which the solution is aware.
Backup Now	A user action in Self Service that creates a temporary Policy on the NetBackup master server and schedules it for immediate backup. The template policy is deleted afterwards. If a computer is already protected and residing in a scheduled policy, you can use this option to initiate an immediate backup using that policy.
Backup servers	A backup server represents a connection to a NetBackup master server. Backup server is the new UI terminology but Location is still used in the Rest API.
Cloud Import	A computer source which allows automated import of CloudPoint assets.
Computer	Any physical or any virtual computer that the solution is aware of.
Customer Code	A unique code that is used to identify the tenant in NetBackup Self Service. This code is used in policy naming in NetBackup.
Image Sync	Process where Self Service collects information about computer backups from NetBackup.

Table G-1 Glossary of terms *(continued)*

Term	Definition
Integration Settings	Integration Settings are a flexible store of named settings with values held in the Self Service Portal. All integrations settings can be accessed as an Admin user from **Admin > Settings > Integration Settings**. If they are configured with Tenant level exceptions, you can access them from **Admin > Organization > Tenant > Integration**.
Location	A location represents a connection to a NetBackup master server. This connection is more commonly known as a backup server.
Machine	Any physical or any virtual machine that the solution is aware of.
NetBackup Self Service	Term that is used to describe the whole solution, also known as Self Service.
NetBackup Self Service Adapter	Second part of a Self Service system; responsible for communications with NetBackup.
NetBackup Self Service Portal	First part of a Self Service system, the solution's main website.
Panels	A sub area in the home page of the Self Service portal. Sometimes called home page widgets.
Protect (computer)	A user action in Self Service that results in a computer being scheduled for regular backups through its addition to a NetBackup Policy.
Protection Level	A protection level represents a level of protection which can be applied to a computer. Configuring protection levels means that the users can maintain their own scheduled backups against NetBackup Policies. This maps to template policies on each NetBackup master server.
Protection type	A protection type defines all the ways you can protect a computer. This protection may be by a single protection level or by multiple protection levels, for example to cover a mix of physical and virtual computers. Scheduled protection and one-off backup require different protection levels.
Refresh NetBackup Data	Computer level manual or automated process to rebuild image data, protection data, and traffic lights.
Register Machine	The process that is used to update the Self Service system with information about a tenant's computer.

Table G-1 Glossary of terms *(continued)*

Term	Definition
Restore File/Folder	A user action in Self Service that creates a job to restore a file or folder in NetBackup.
Restore VM	A user action in Self Service that creates a job to restore a virtual machine in NetBackup.
Self Service	Term that is used to describe the whole solution, also known as NetBackup Self Service.
Service Catalog	The home page that is presented to users of the Self Service portal. Can be edited from **Admin > Service Catalog & Notices > Service Catalog**.
Service Provider	Refers to the top-level organization administering the Self Service system.
Template Policies	Inactive NetBackup Policies on a master server the system uses to create active policies for users.
Tenant	An organizational group of users. May be used as a business unit within an enterprise scenario, or a customer for a service provider. All users must be in a tenant.
Unmanaged (computer)	An additional class of protection. It lets you restore computers and monitor their health. It assumes protection (policy management) is handled outside of NetBackup Self Service.
Unprotect (computer)	A user action in Self Service that results in a computer being removed from a NetBackup Policy.
vCenter Import	A computer source which allows automated import of VMware assets.
vCloud Director Import	A computer source which allows automated import from vCloud Director.
Web Services	An API for the portal, can be used to automate adding Tenants, users, etc. Sometimes referred to as DAPI.