

StarWind iSCSI Target for Microsoft Windows: Using StarWind with DPM

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www.starwindsoftware.com

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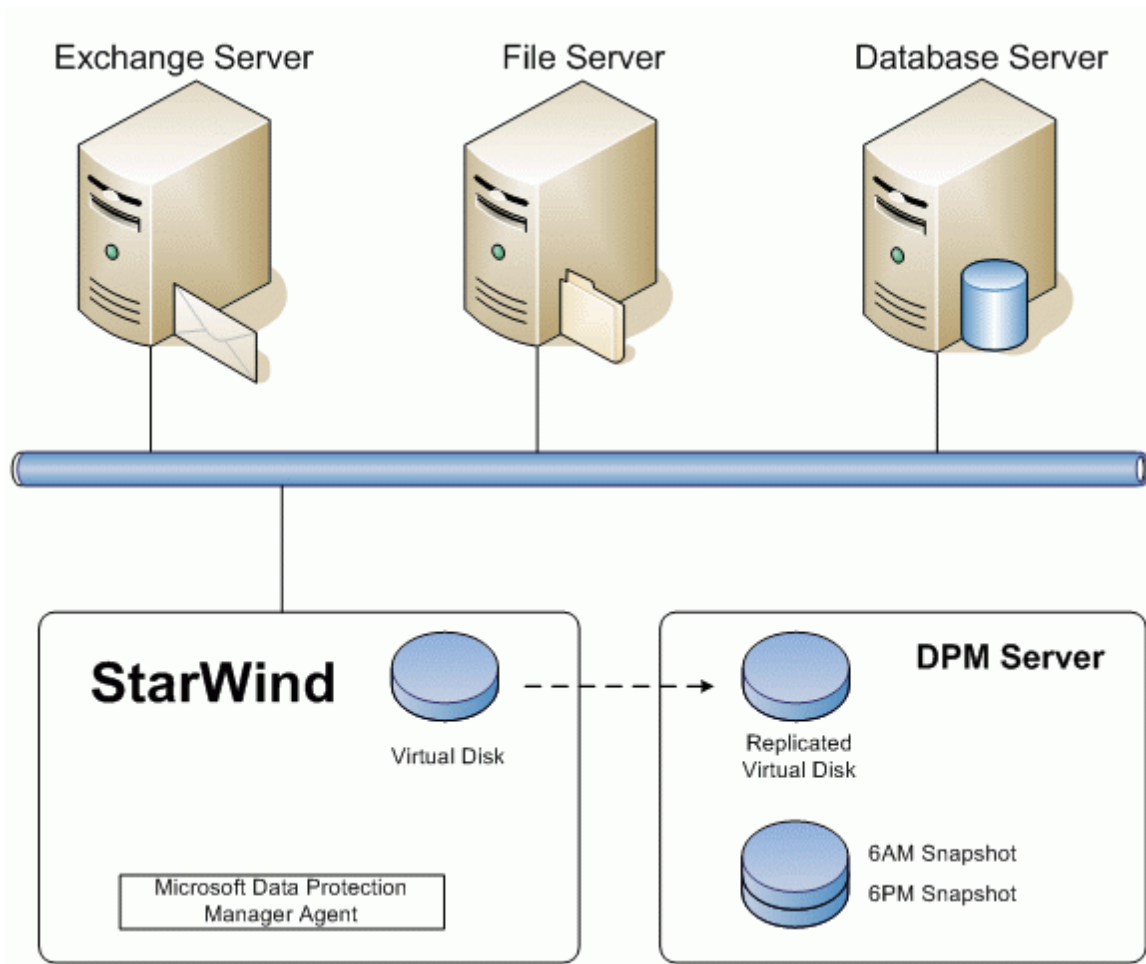
Guide

Introduction

The manual assumes that the user has already installed DPM and StarWind and that the StarWind server is in one domain with the DPM server.

The diagram below illustrates a typical DPM deployment in a StarWind-based iSCSI storage network architecture. In this example, StarWind provides block level data storage services to the Exchange, File and SQL Servers. DPM replicates the StarWind Disks from the StarWind server to the DPM server. A separate network segment is used for iSCSI SAN traffic to ensure high-performance. Depending on data volumes and other performance parameters use of the common network segment may be possible.

In the event of corruption of the StarWind Disks from such events as a virus attack or accidental user deletion, the data replicas residing on the DPM server can be used to restore the StarWind Disks with minimal downtime.

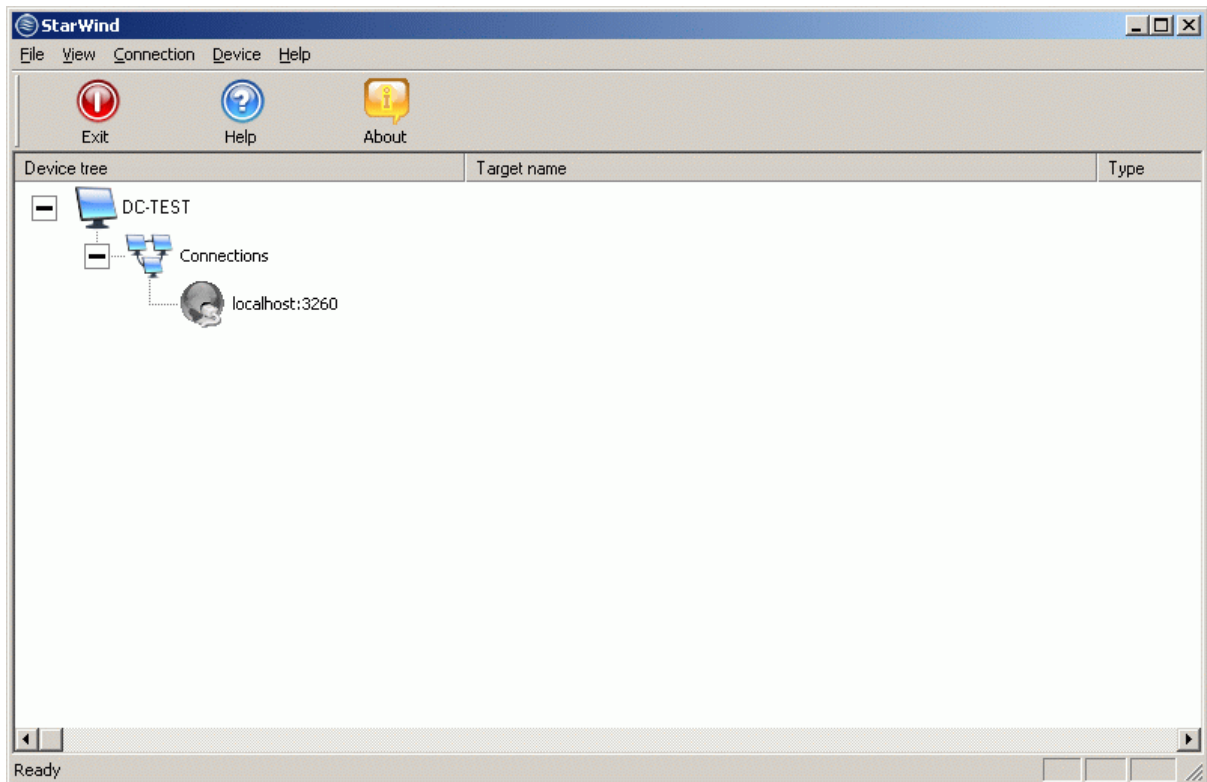


Reference Architecture

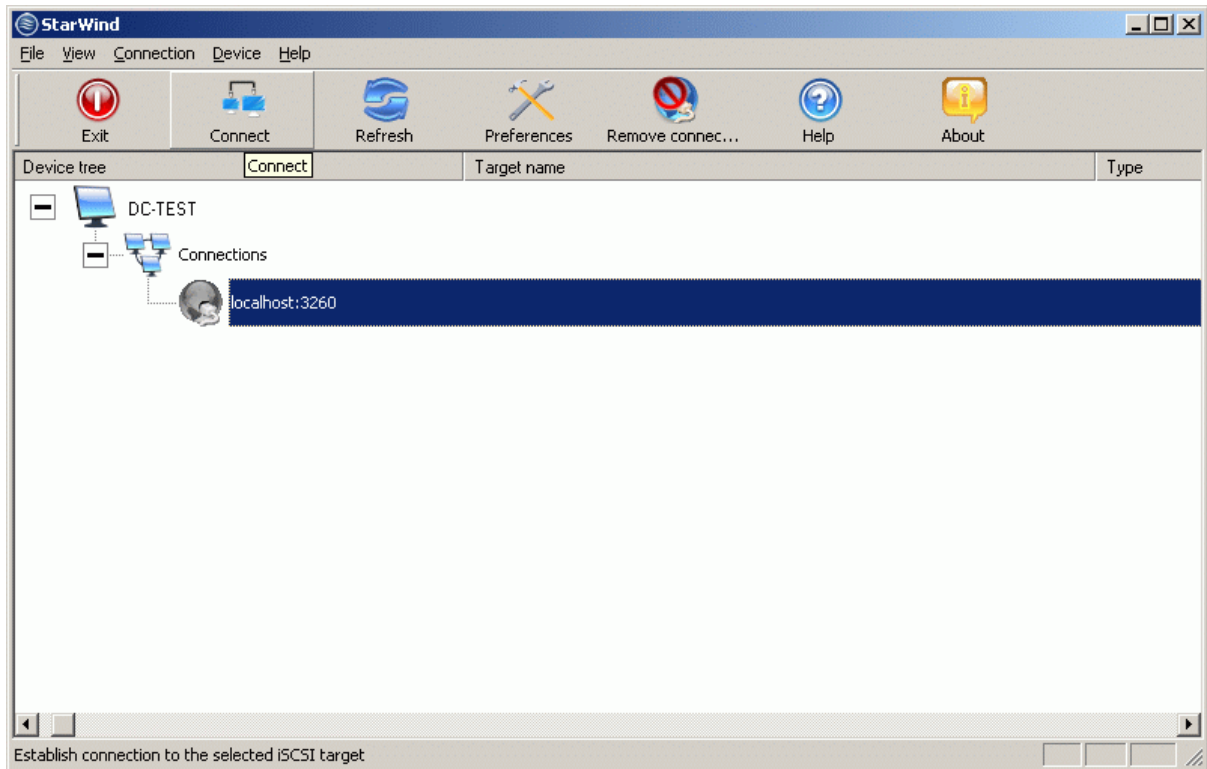
StarWind server configuration

The steps below will guide you through the process of configuring StarWind iSCSI target server.

Launch the **StarWind** console selecting **Start -> All Programs -> StarWind Software -> StarWind -> StarWind**. After the console is launched its icon appears in the system tray. Double click the icon with the left mouse button or single click it with the right and select **Start Management** pop-up menu item. StarWind management console will appear.

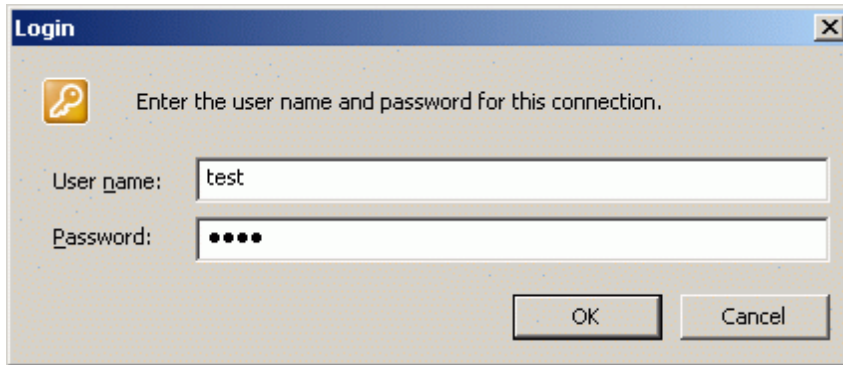


From the **Connections** tree please select the computer you wish to connect to. By default, there is a single item in the tree (localhost) which represents a loopback connection. Press the right mouse button over the desired host (computer) and select the **Connect...** menu item.



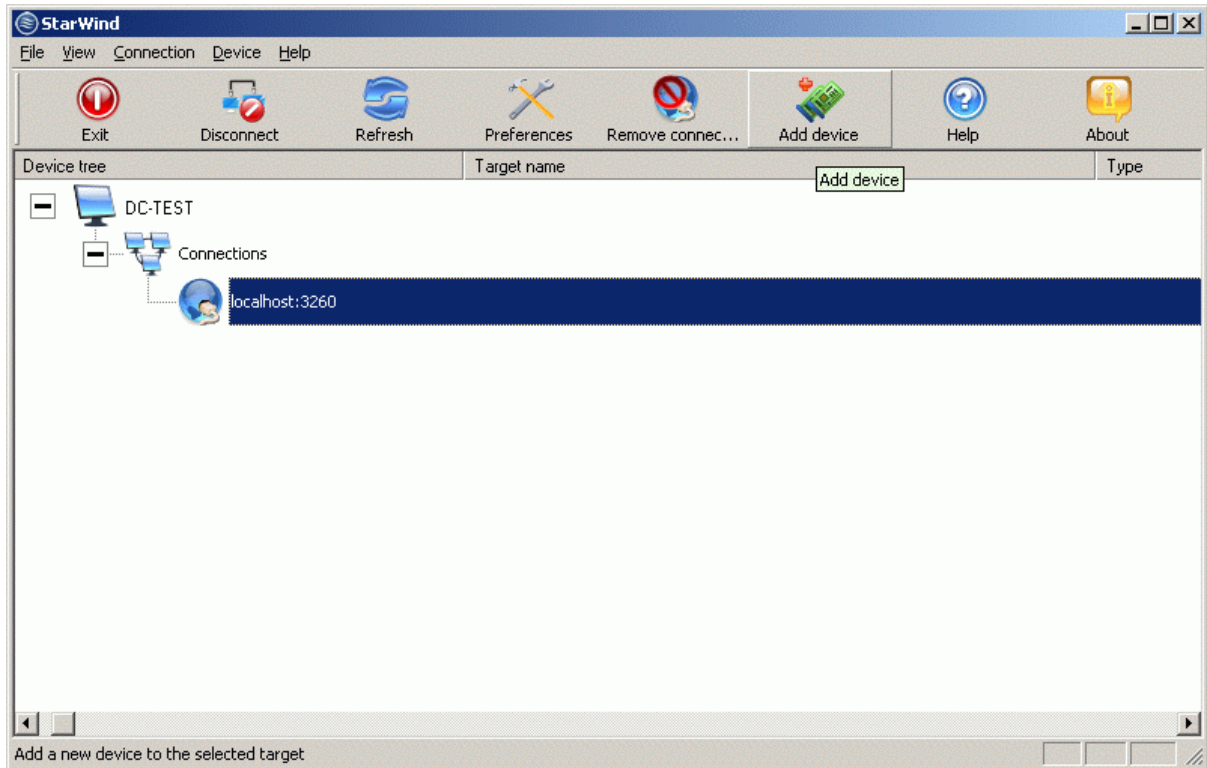
Select **Connect...** menu item to continue.

You will be prompted to enter the login and password. Default ones are: test, test. You can always change them later.



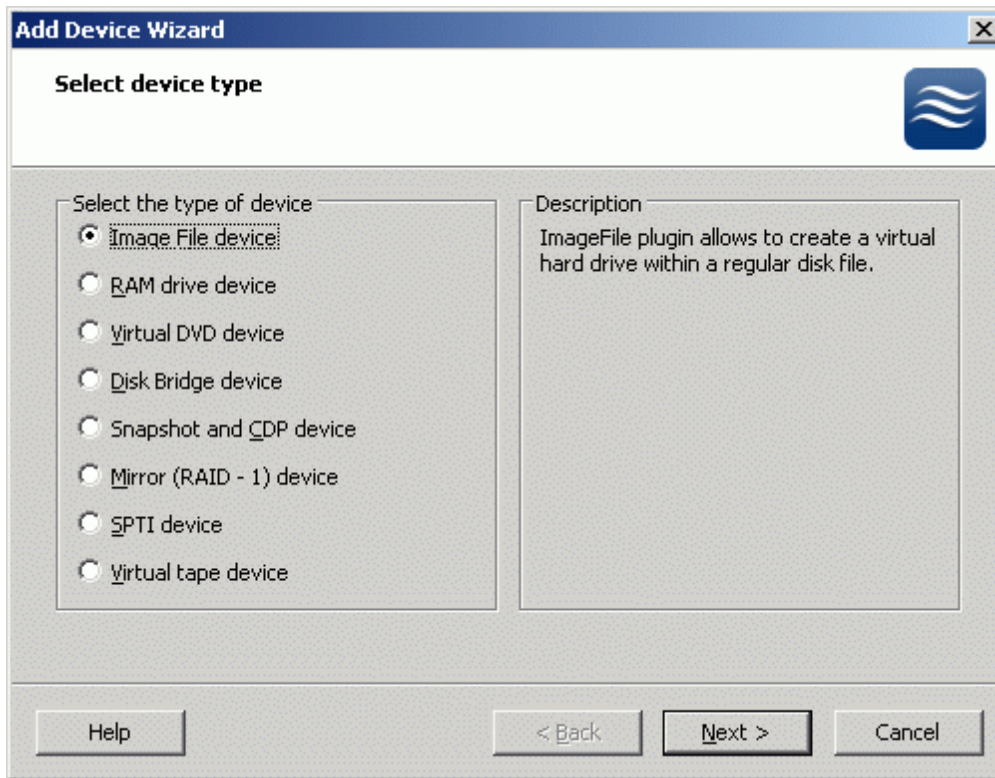
Press the **OK** button to continue.

After you have successfully connected to the **StarWind Service**, please click the right mouse button over the desired host (computer).



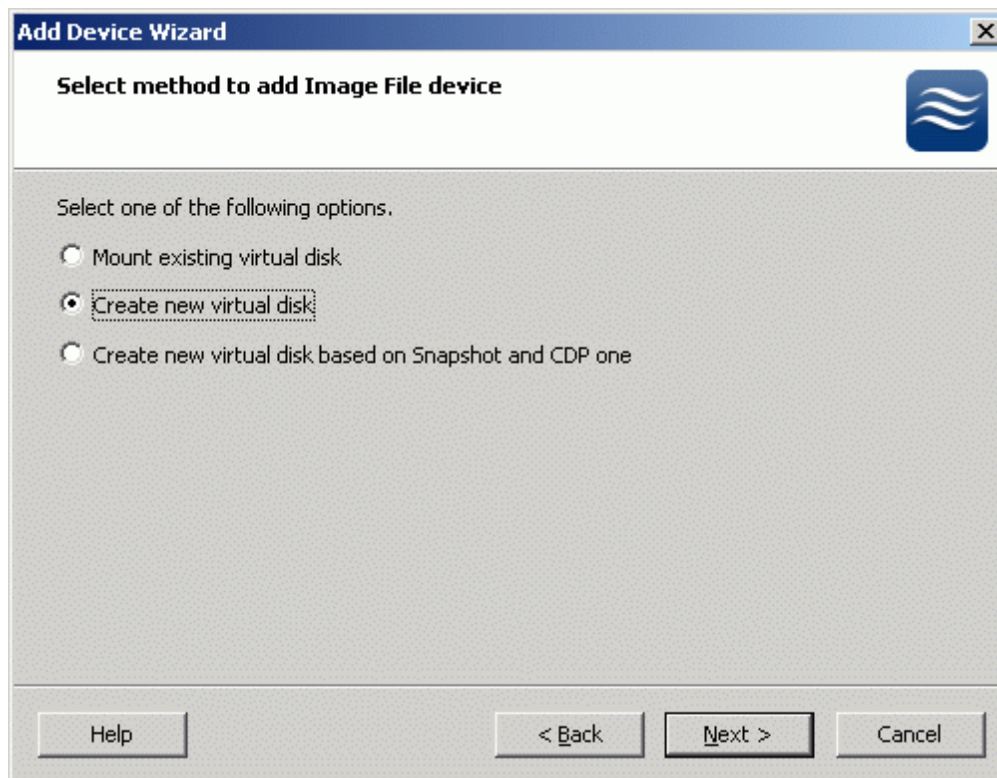
Select **Add device...** menu item to continue.

In the wizard that appears, please select **Image File device** (the brief description of each option is displayed in the right area of the wizard window). You can display the online help by pressing the **Help** button.



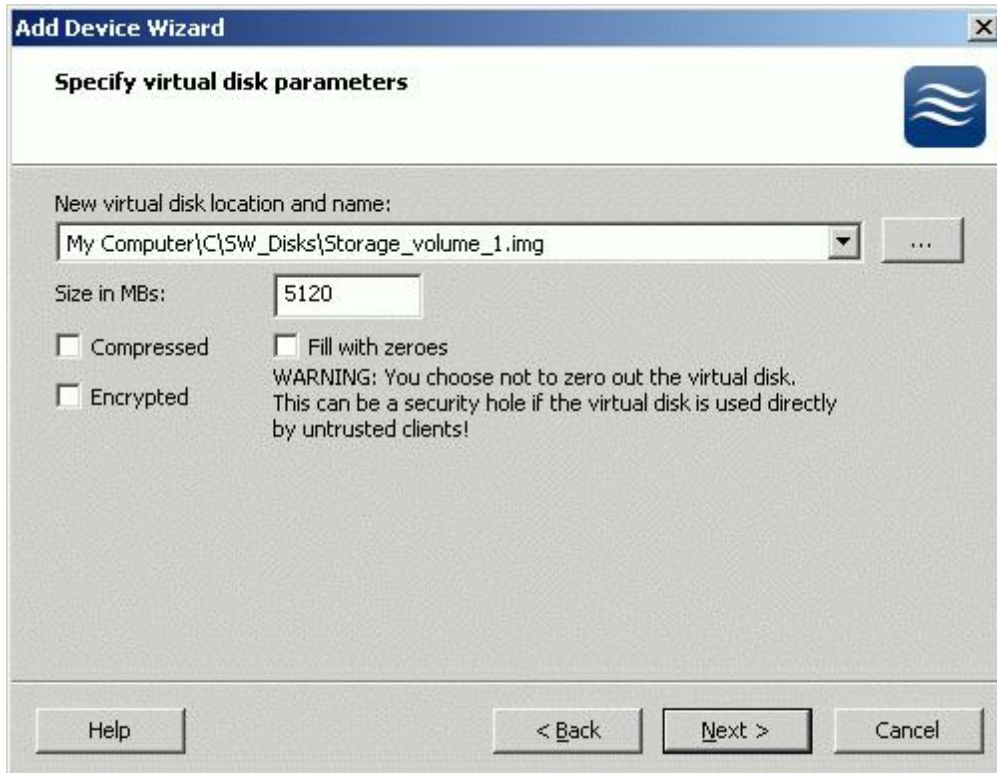
Press the **Next** button to continue.

Select **Create new virtual disk** to create a new virtual hard disk or **Mount existing virtual disk** to mount an existing virtual disk that you've prepared before.



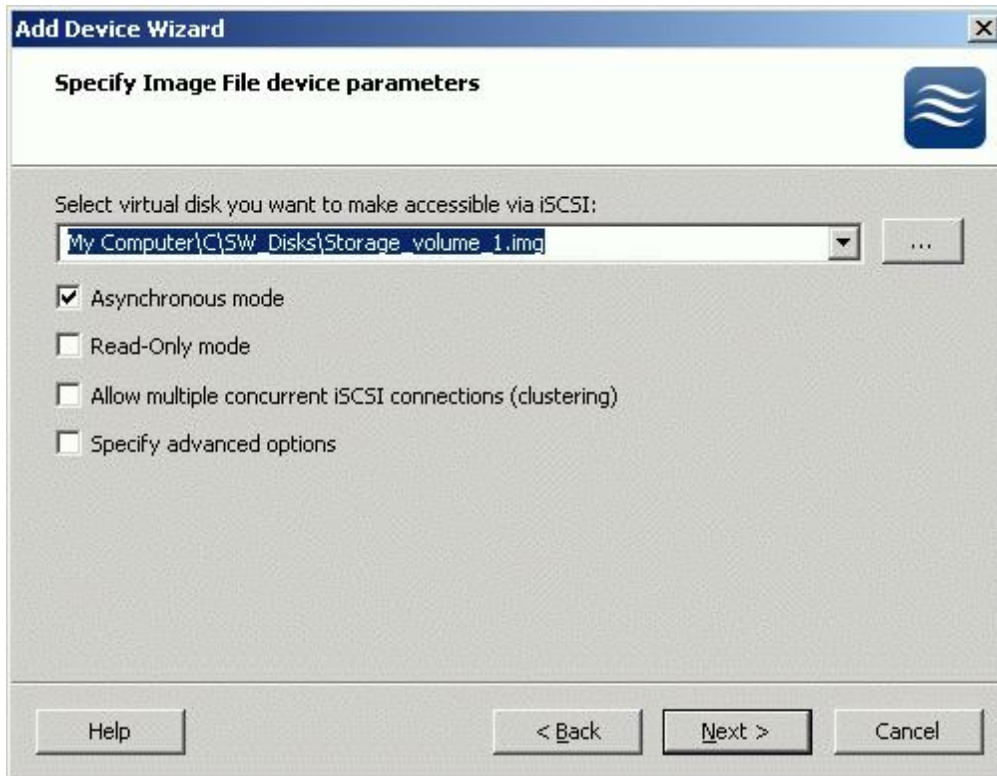
Press the **Next** button to continue.

If you have decided to create a new virtual disk please specify the location and the name of the virtual disk you wish to be created. Also you have to provide the virtual disk size in megabytes. Check any additional parameters of the virtual disk you wish to create. Please refer to the online help for details regarding those additional parameters (**Compressed** and **Encrypted**).



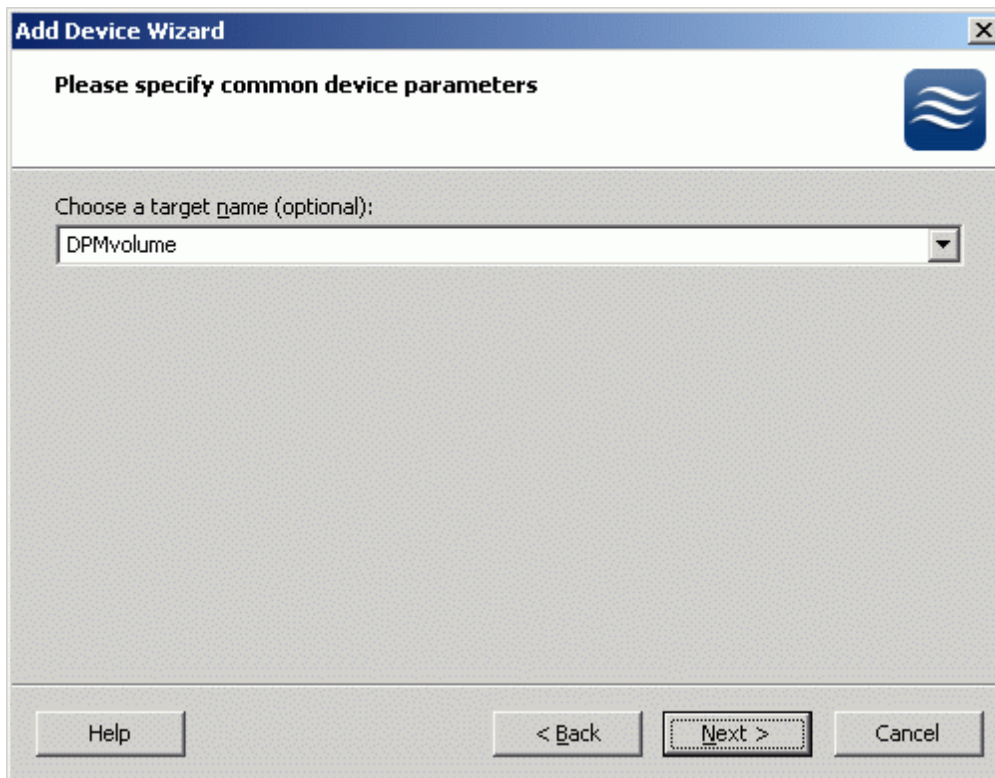
Press the **Next** button to continue.

Image File device has some extra parameters. Check **Allow multiple concurrent iSCSI connections (clustering)** checkbox. Please refer to the online help for details regarding those additional parameters (**Asynchronous mode**, **Allow multiple connections (clustering)**, **Read-only mode** and **Specify advanced options**).



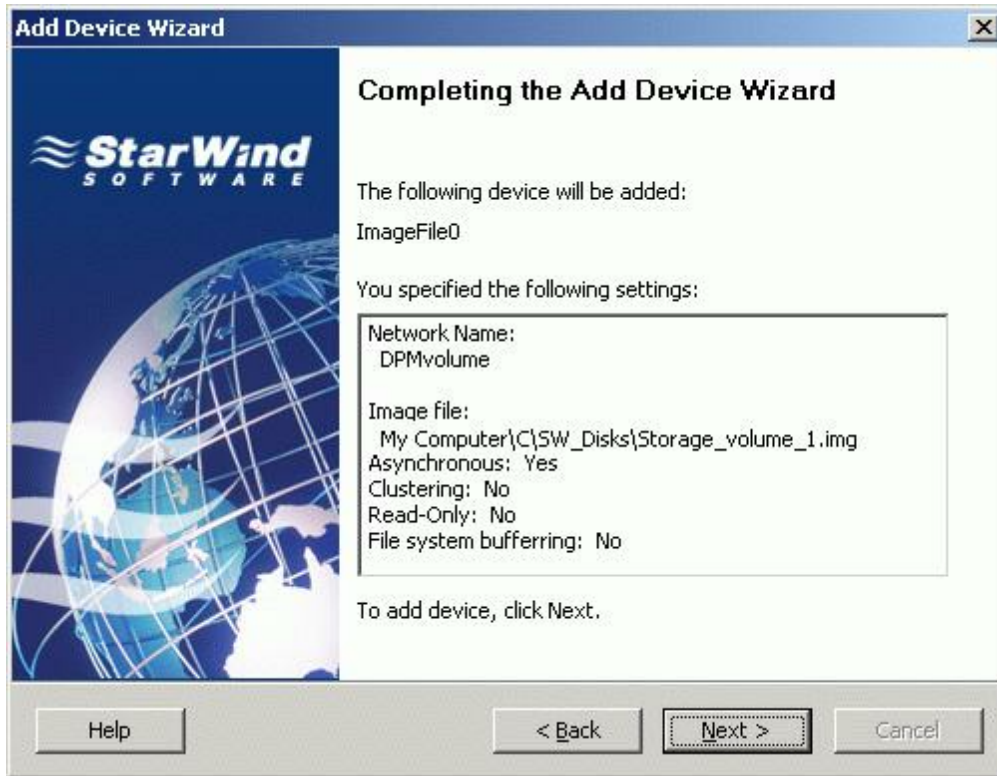
Press the **Next** button to continue.

Select an optional target name. The name must be a unique name by which the device will be declared to the iSCSI initiators connecting to **StarWind** over an IP network. It is also best practise to name the devices using recognizable sequences such as 'host machine name'. 'type of device'. 'name of device'.



Press the **Next** button to continue.

Check the device parameters are correct. Press the **Back** button should any changes be required.



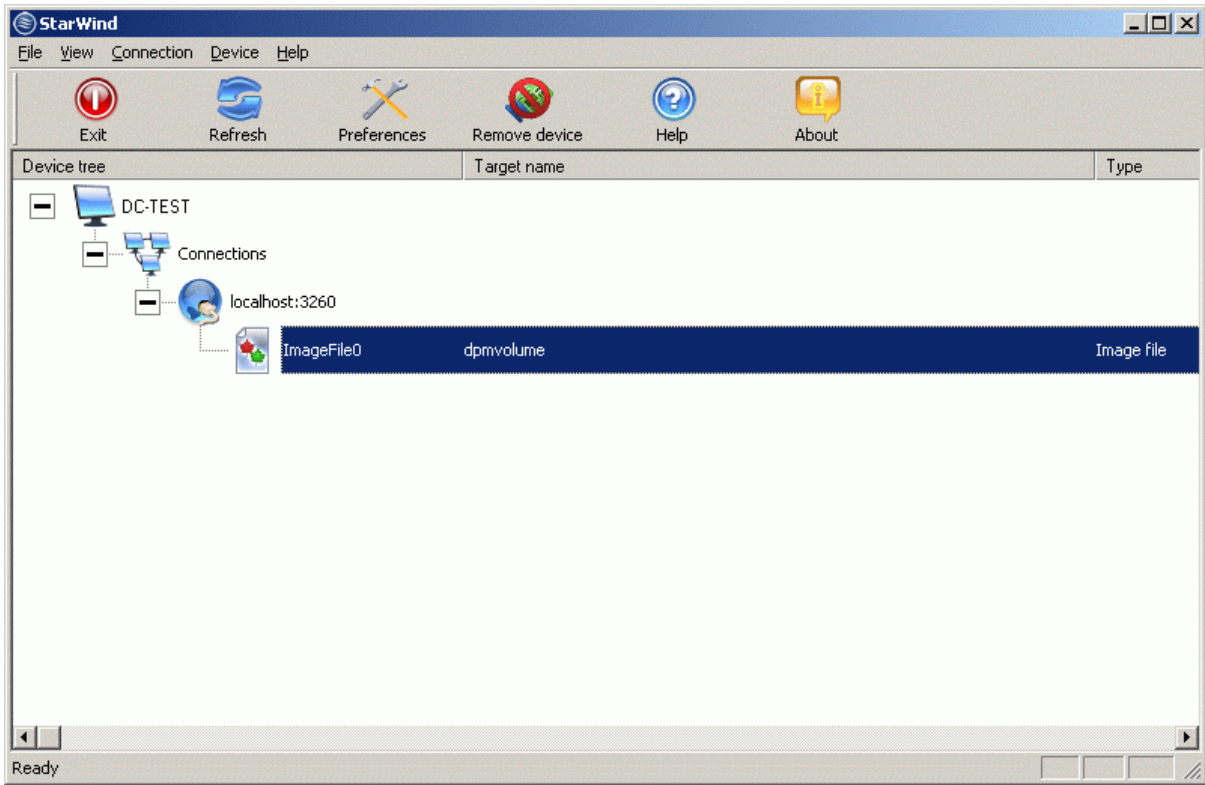
Press the **Next** button to continue.

A summary of the created device is displayed on the last wizard page (see image below).



Press the **Finish** button to close the wizard.

If successful, the **StarWind Console** should look like the sample image provided below.



DPM server & agent installation

System requirements

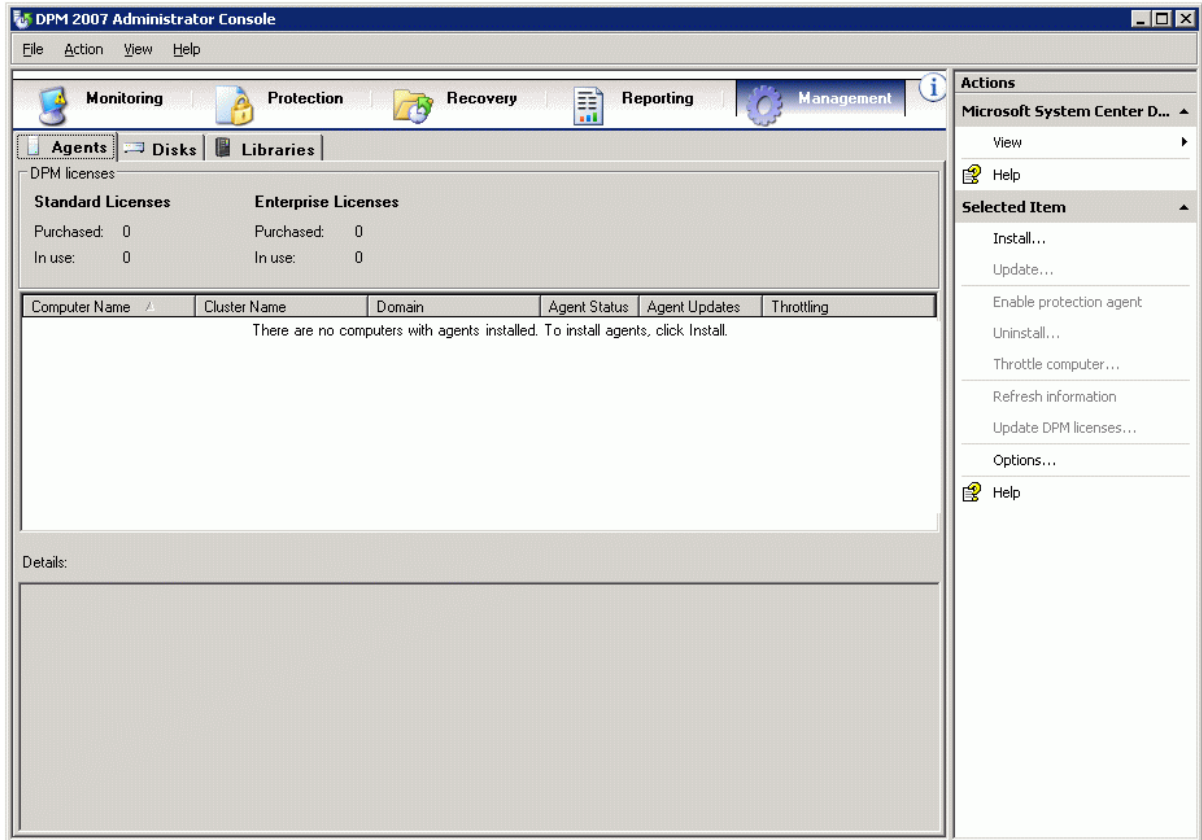
DPM Server

- **Windows Server 2003** with the latest service packs installed
- DPM

For more detailed information on system requirements, please see <http://www.microsoft.com/windowsserversystem/dpm/evaluation/sysreqs.mspx>.

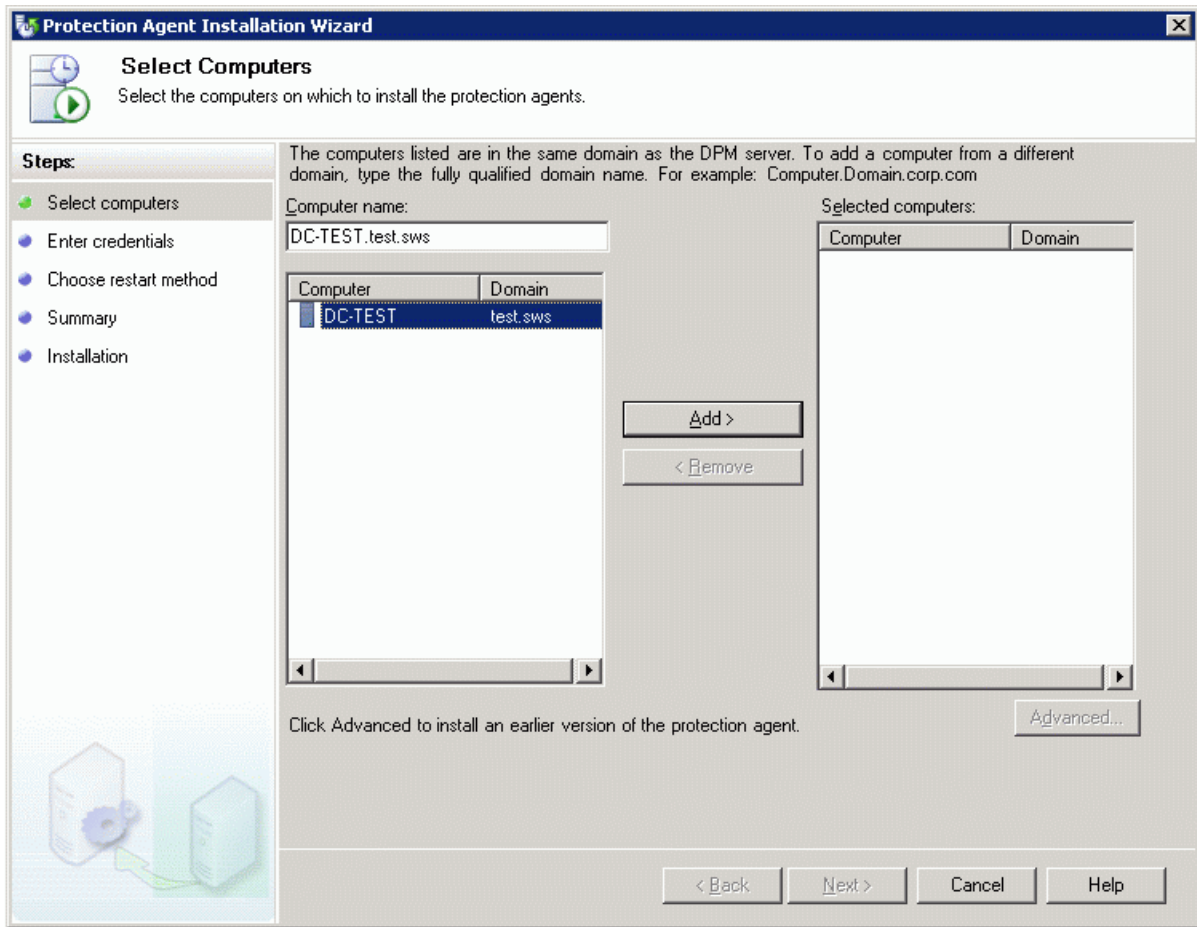
DPM agent installation

Open the DPM Administrator console. On Management tab of DPM Administrator Console select the Agents tab.



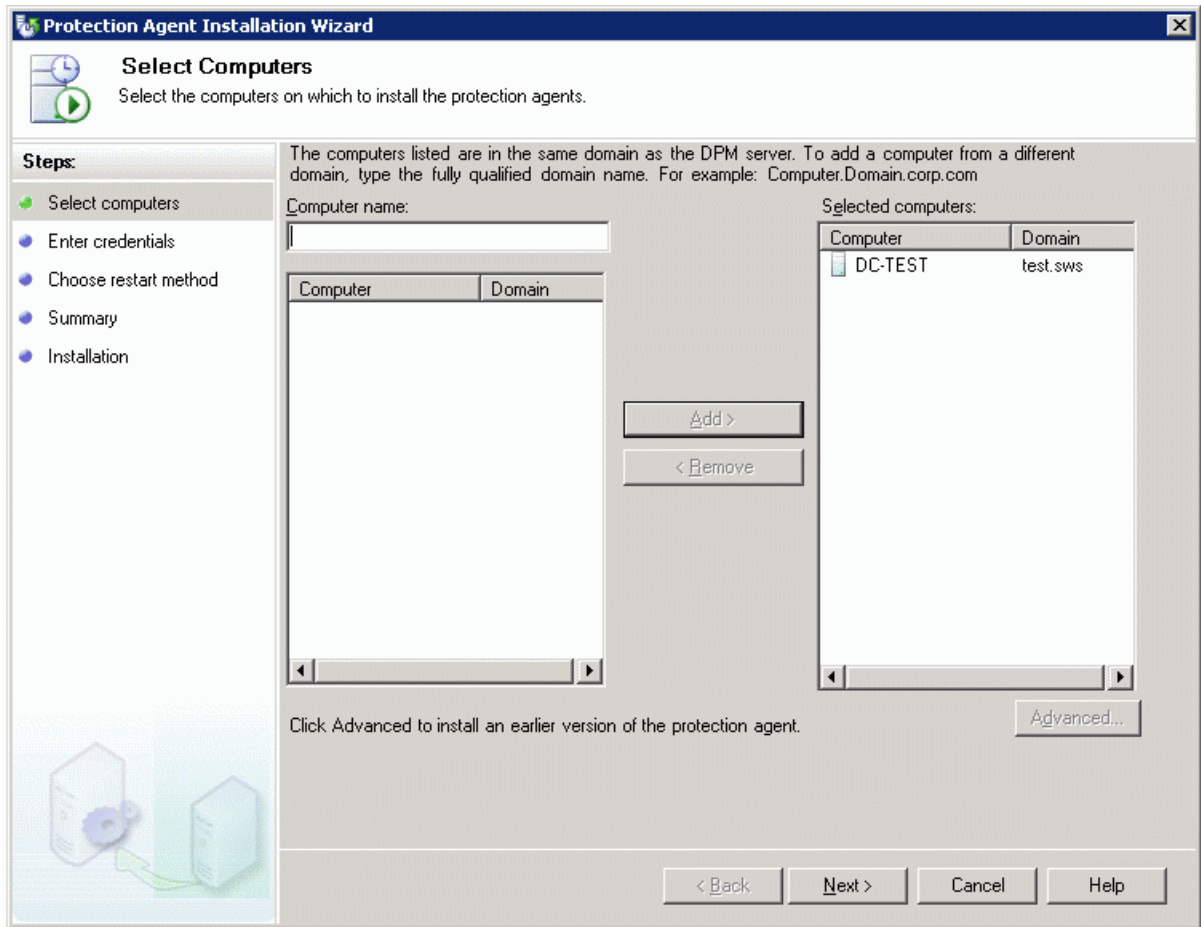
Click **Install** option from the Action bar.

Choose server to install DPM File Agent.



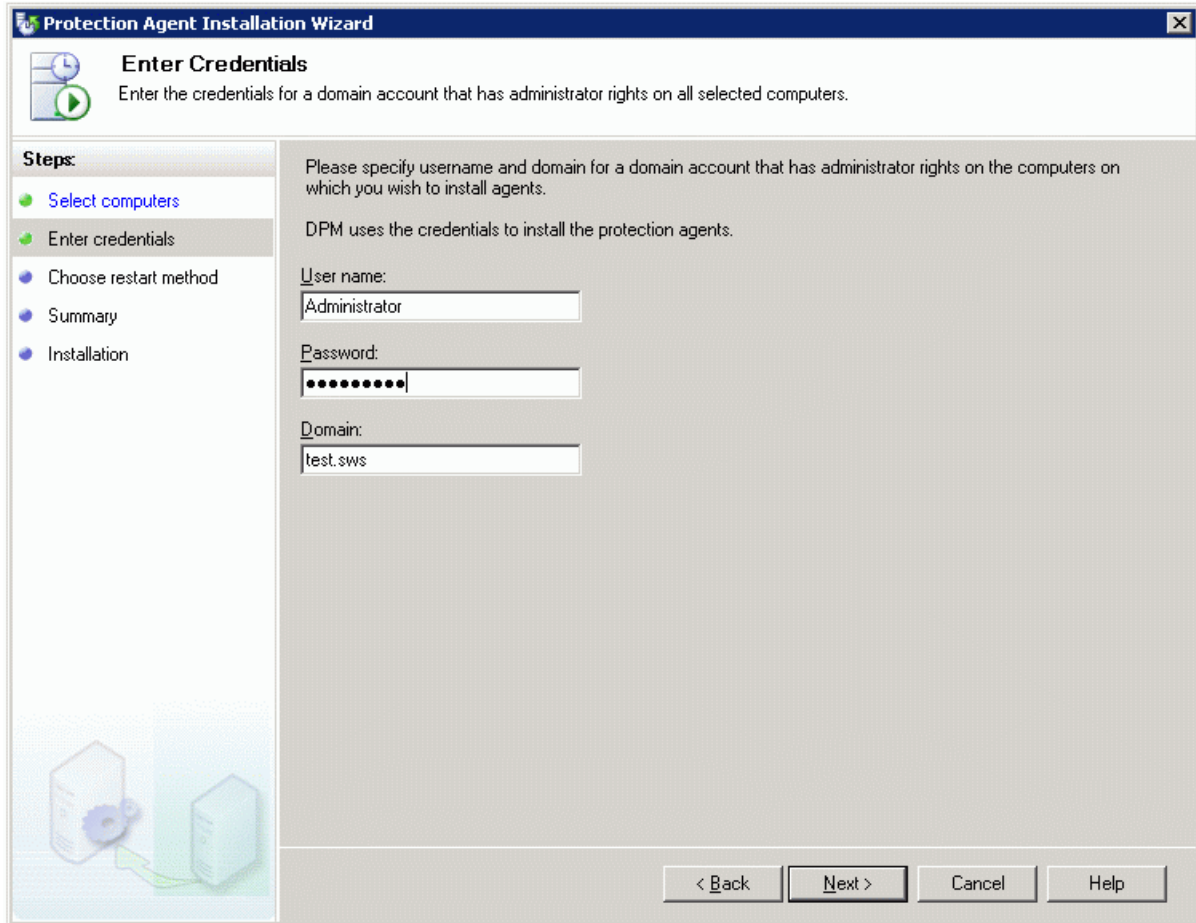
Press the **Add** button to continue.

The server is added. It is displayed on the Selected servers list.



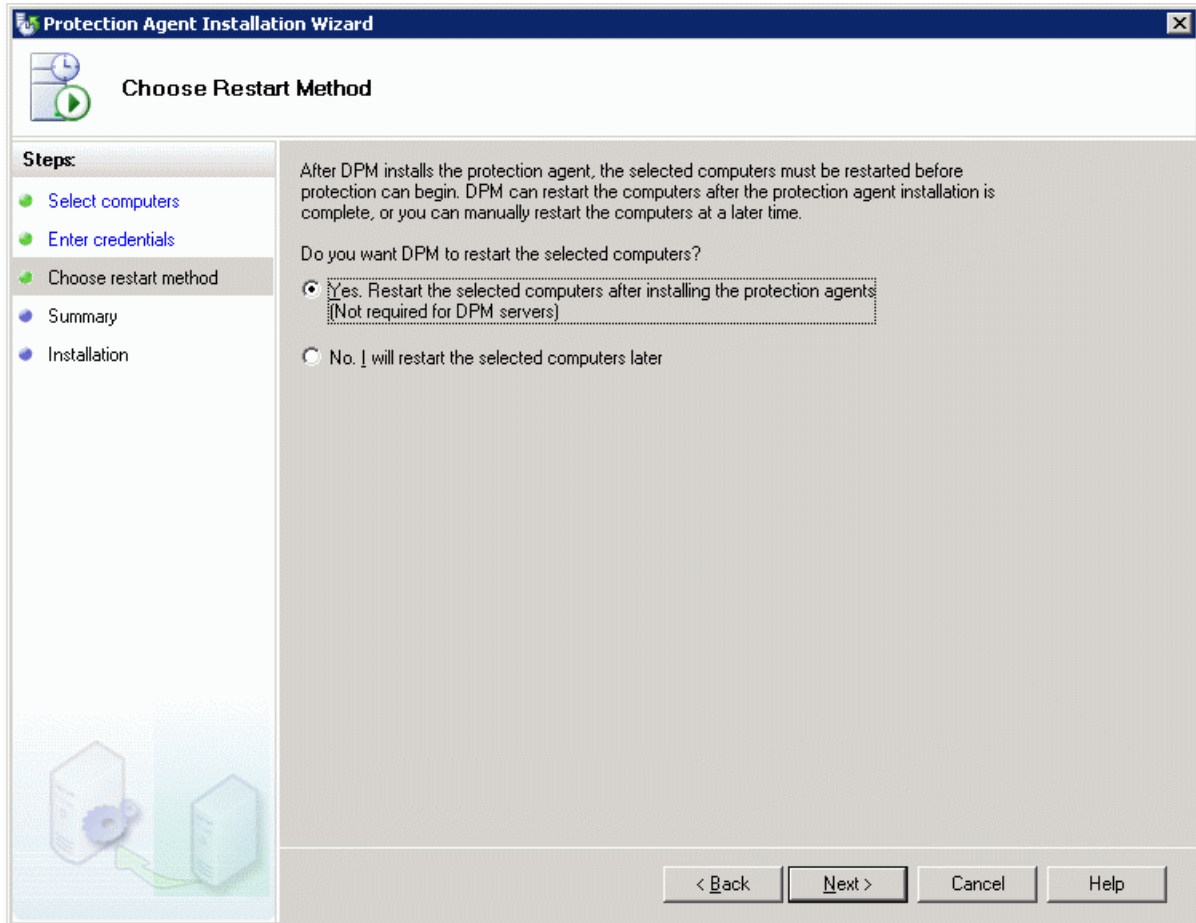
Press the **Next** button to continue.

Specify user account with administrative privileges of selected server, type the password of that user.



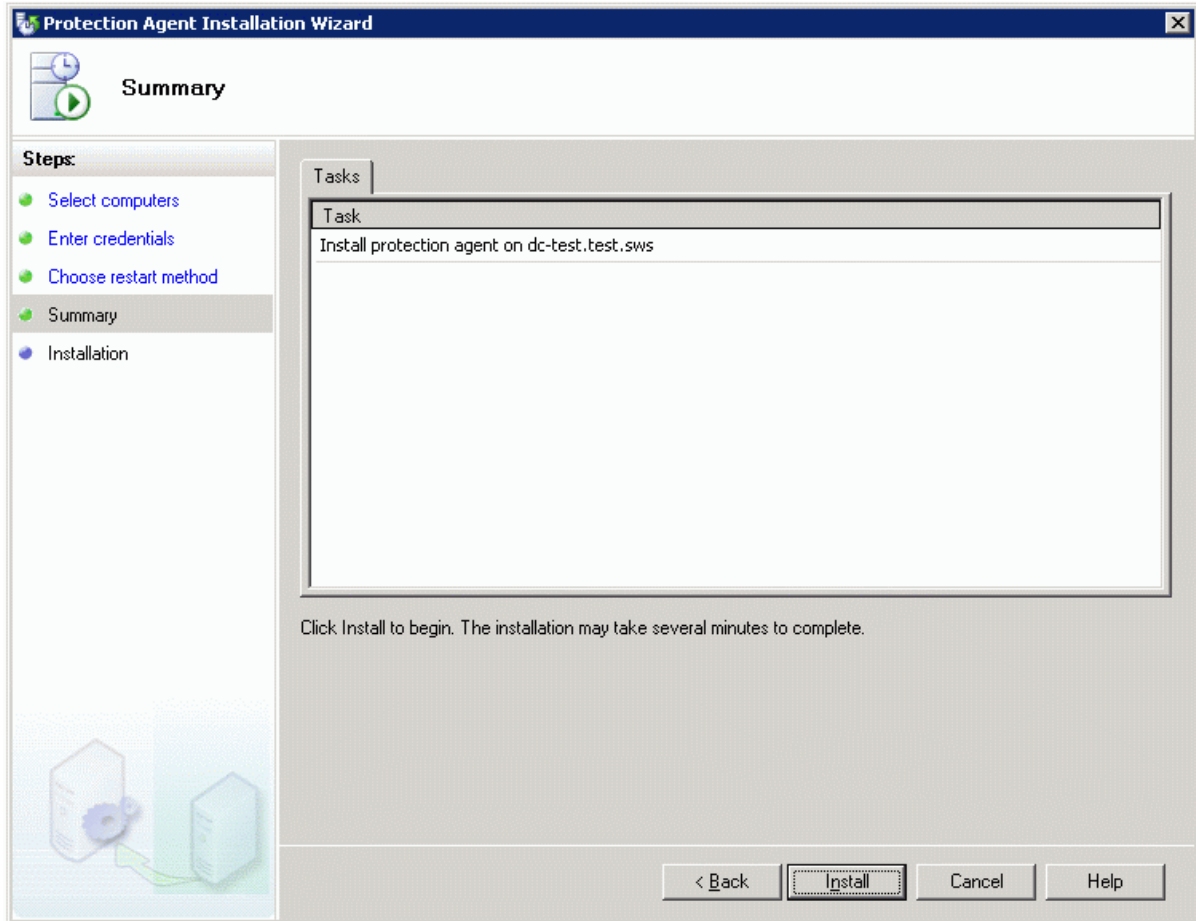
Press the **Next** button to continue.

Choose restart method for the file server. The installer can restart the server automatically after installing the file agent or you can manually restart the file server later.



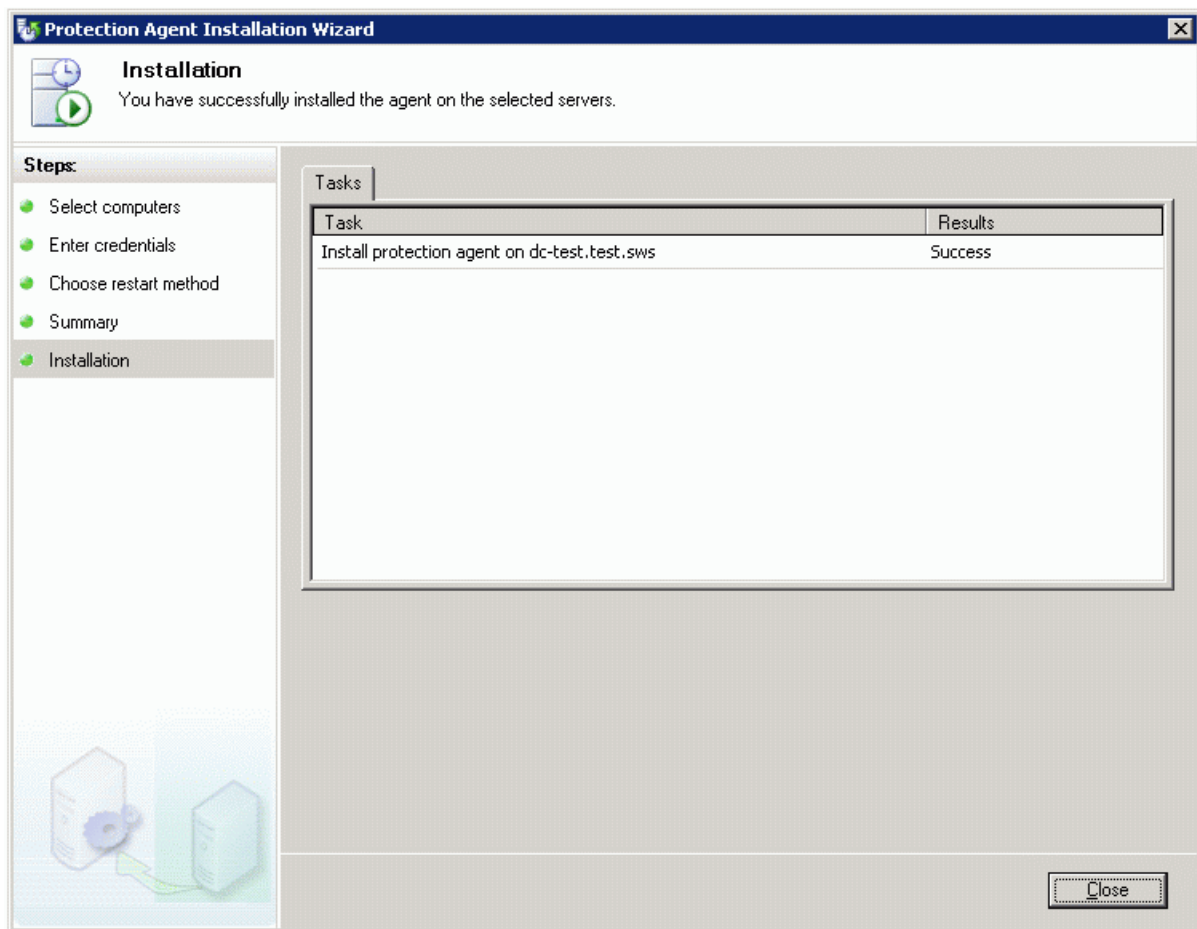
Press the **Next** button to continue.

Review the summary. Check if all of the parameters are correct. Press the Back button if any changes are required.



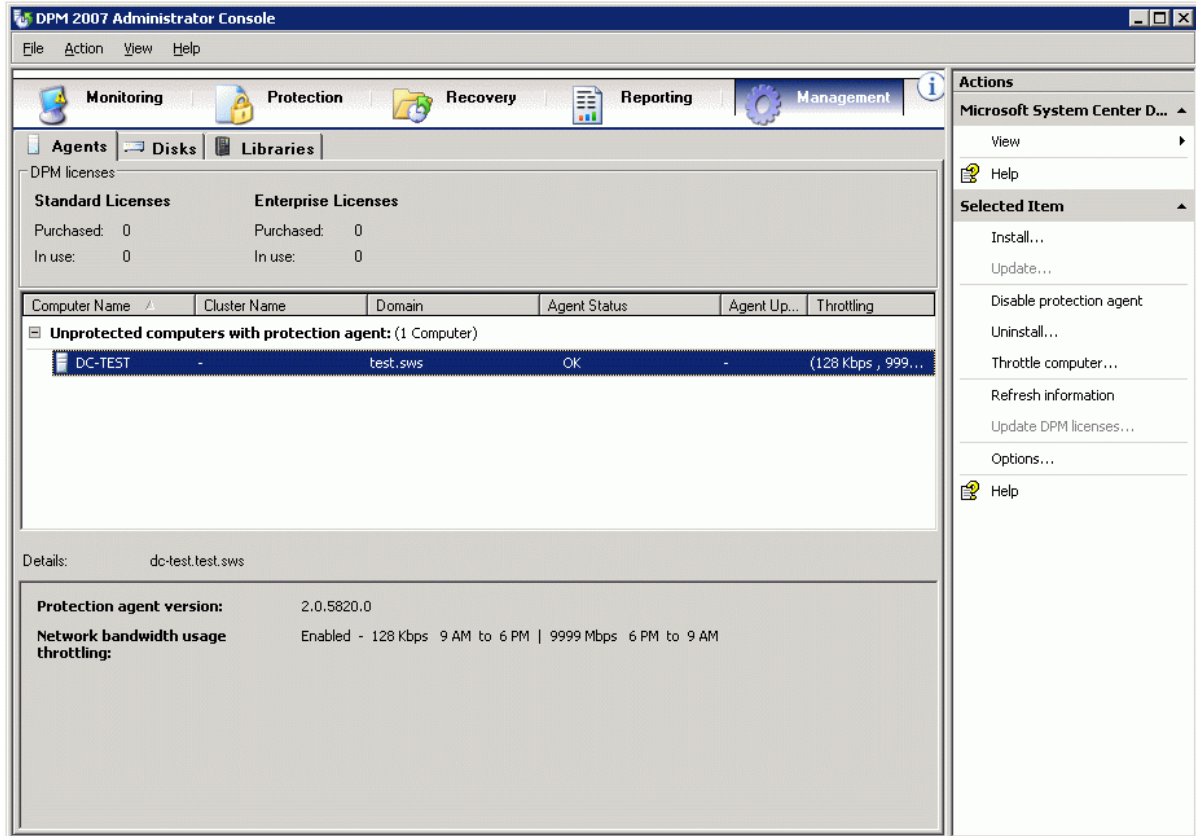
Press the **Install** button to begin installation.

When the agent installation is completed result notification appears.



Press the **Close** button to exit the wizard.

The Administrator console will show the computer where the agent is installed

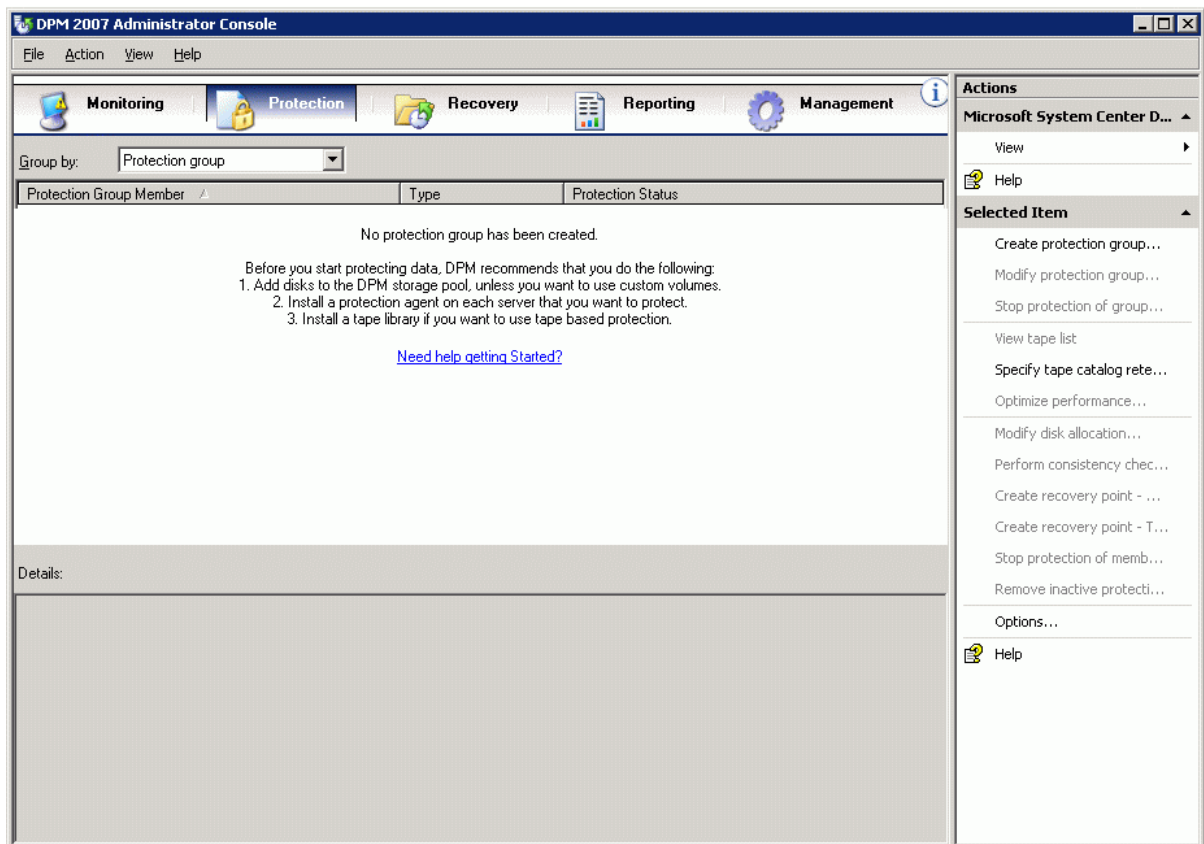


Note:
For replication to work you must use file-based **StarWind Disks**.

DPM server configuration

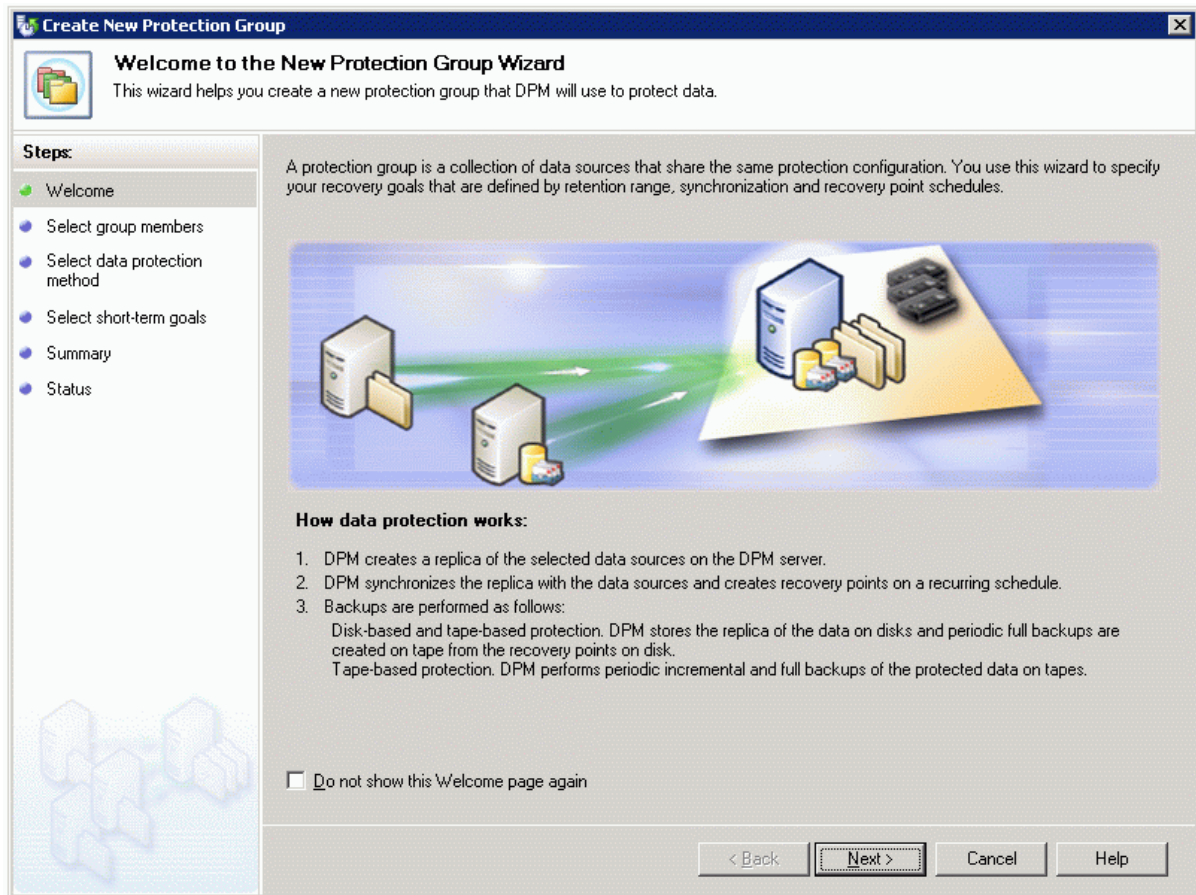
Creating Protection Group

Switch to the **Protection** tab. You will be informed that no protection group has been assigned.



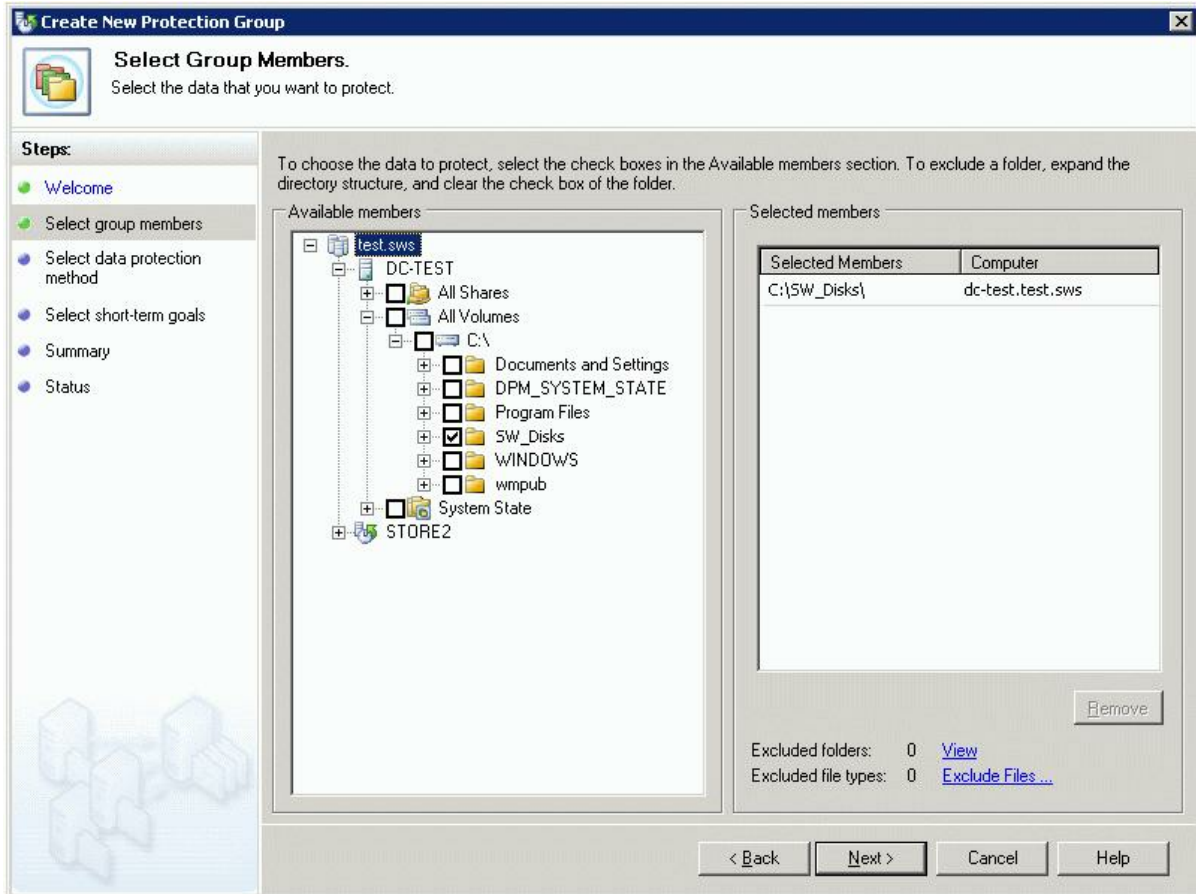
From the Action menu select **Create protection group**.

The Create New Protection Group Wizard appears.



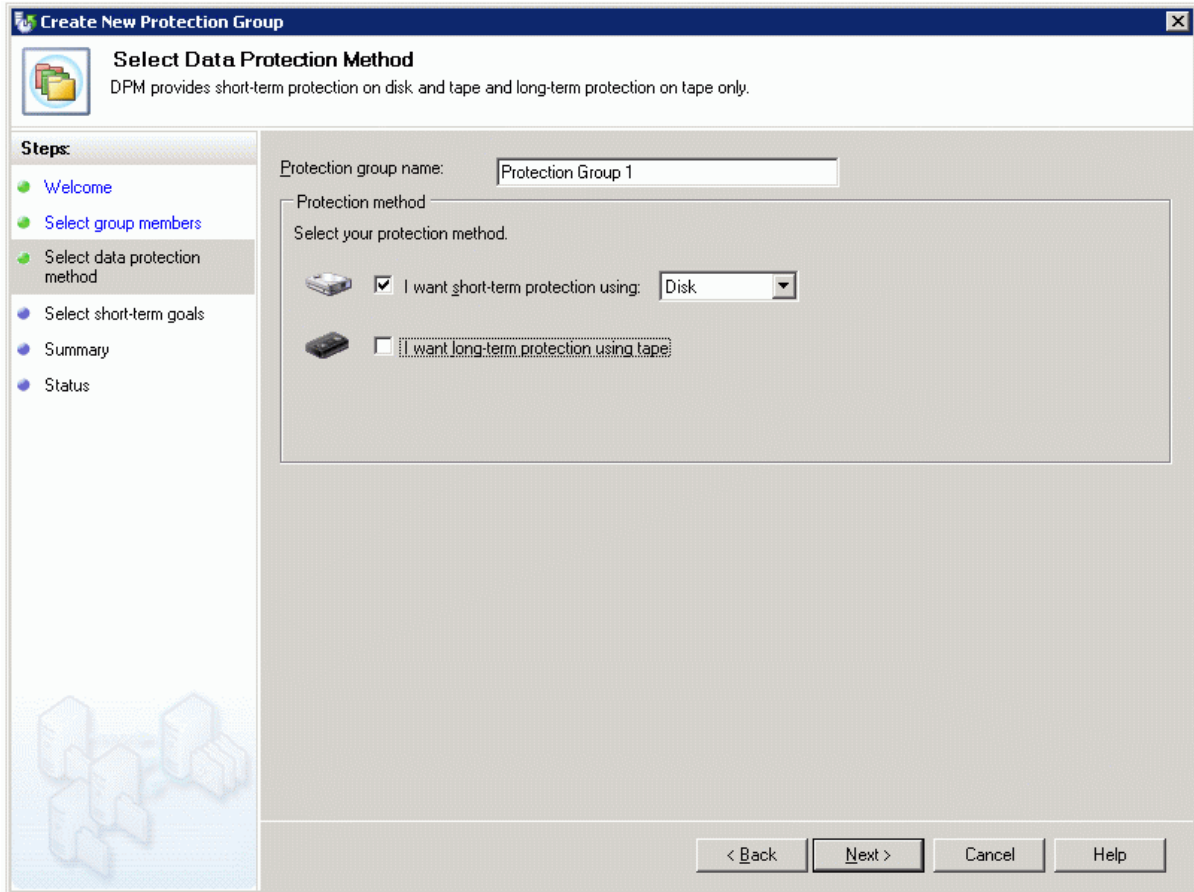
Press the **Next** button to continue.

On the Select Group Members Page select the StarWind Disks folder (C:\SW_Disks) on the StarWind server as the data to protect. Follow the rest of the wizard to complete this step.



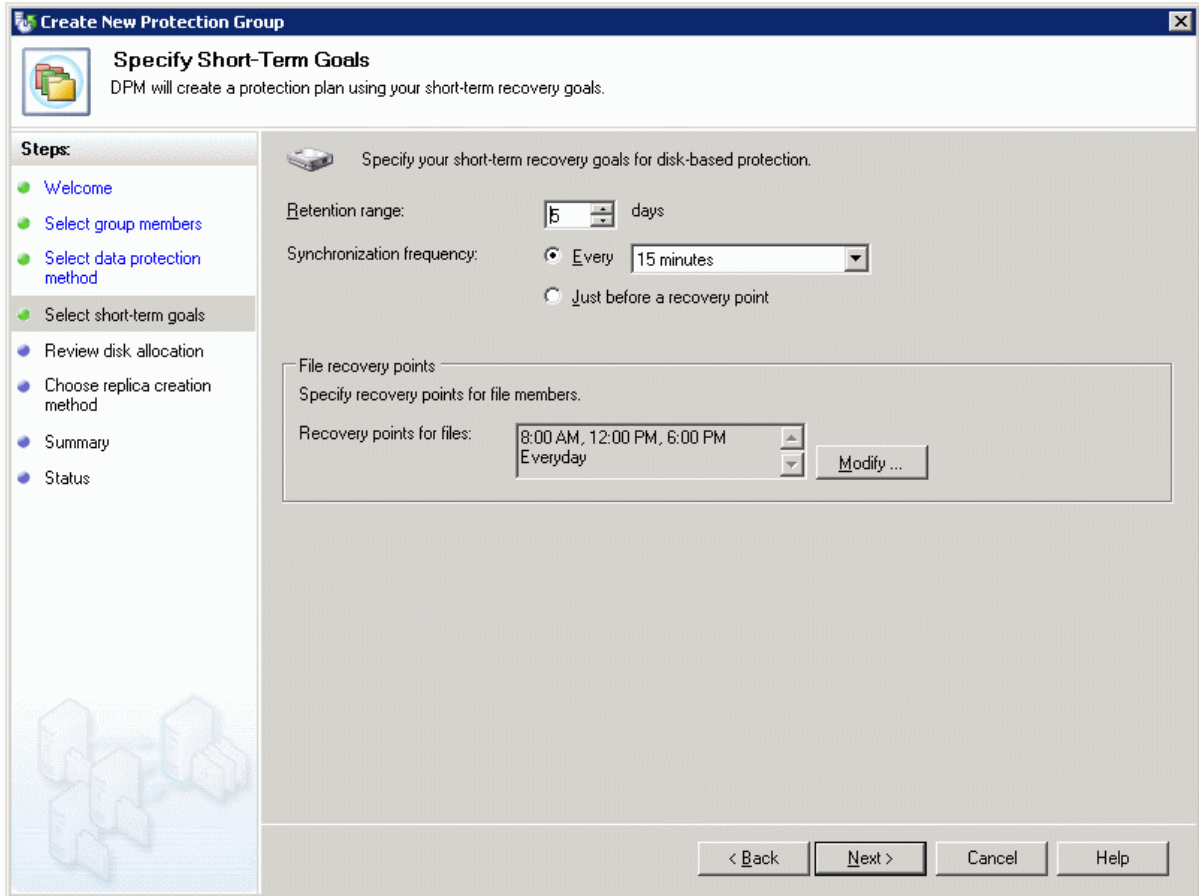
Press the **Next** button to continue.

Specify the name for your protection group and select if you want to use short term protection using disk or a long term one, using tape.



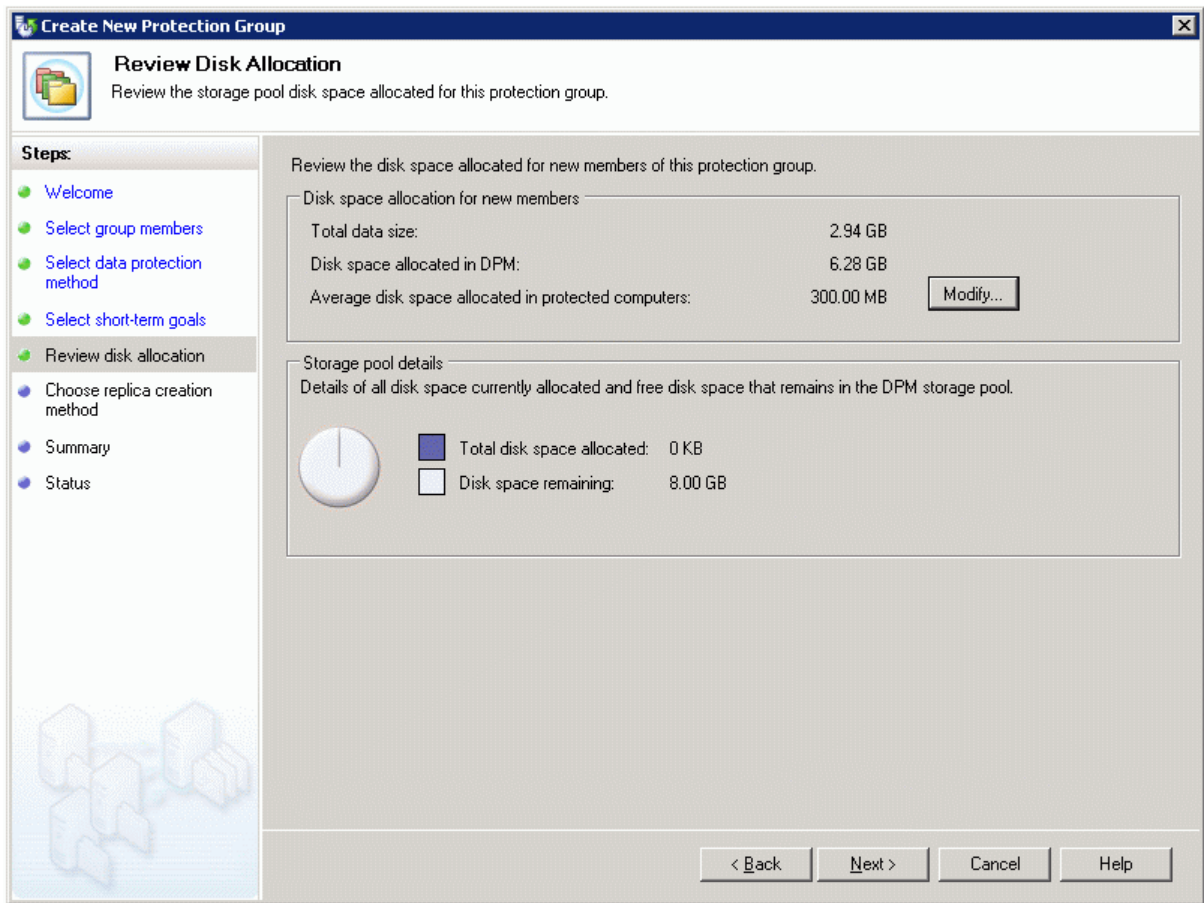
Press the **Next** button to continue.

Specify the goals for the disk-based protection and the additional parameters like synchronization frequency.



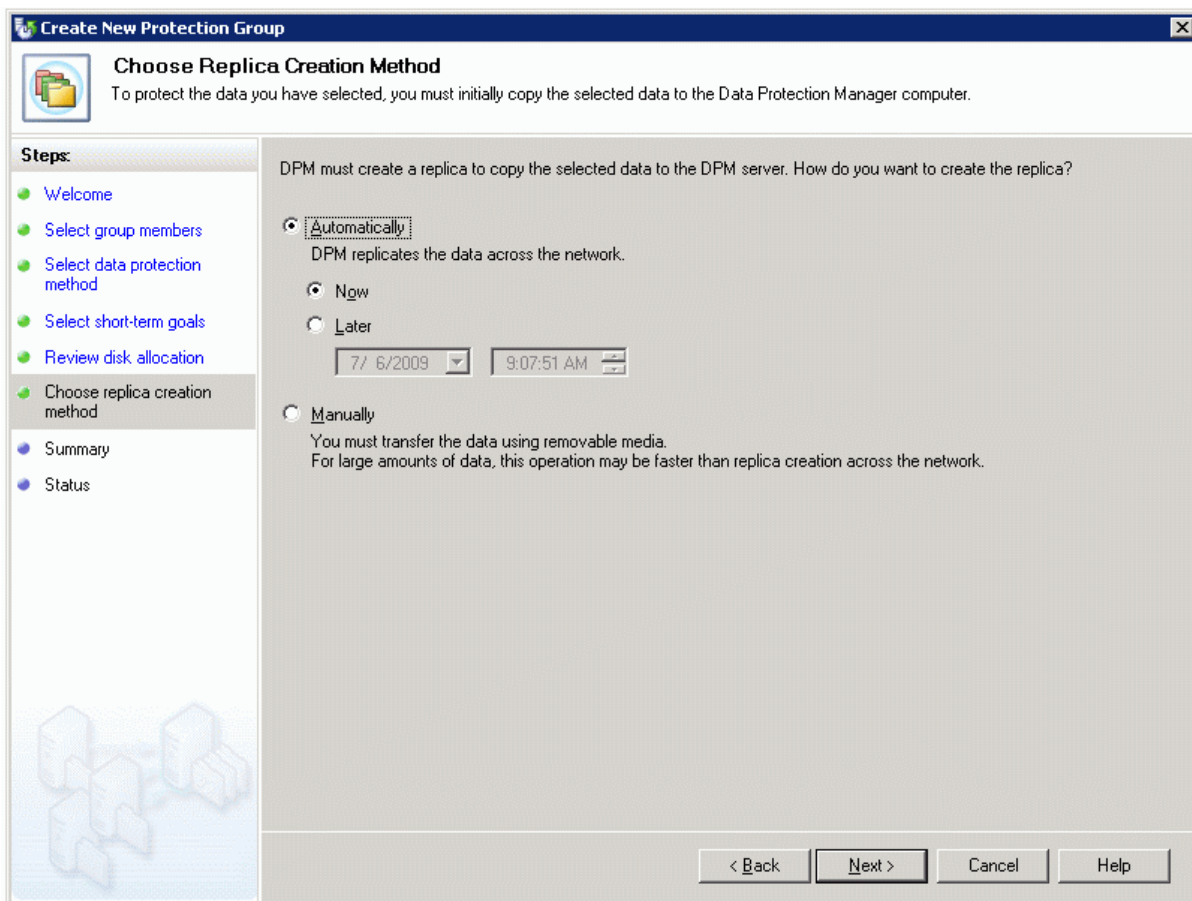
Press the **Next** button to continue.

Review the disk space allocated for your backups.



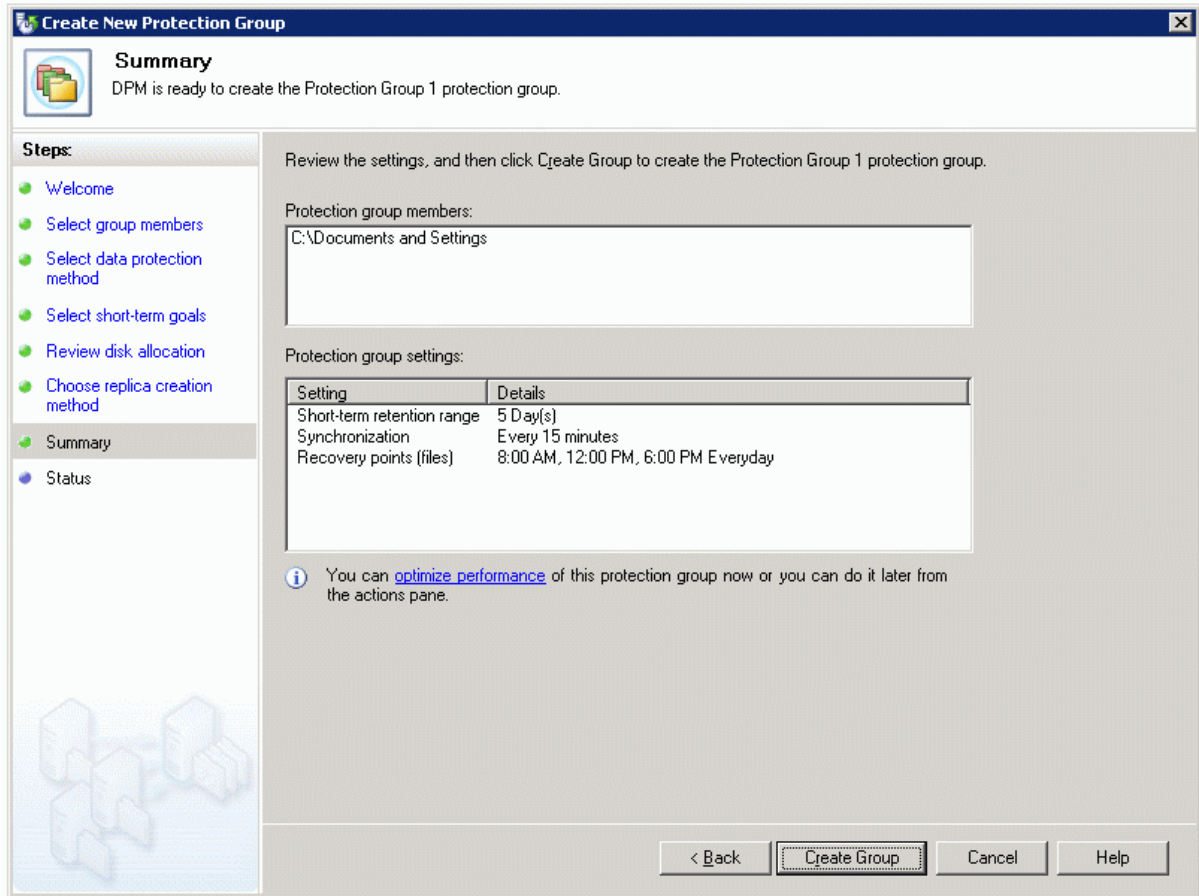
Press the **Next** button to continue.

Select the replica creation method.



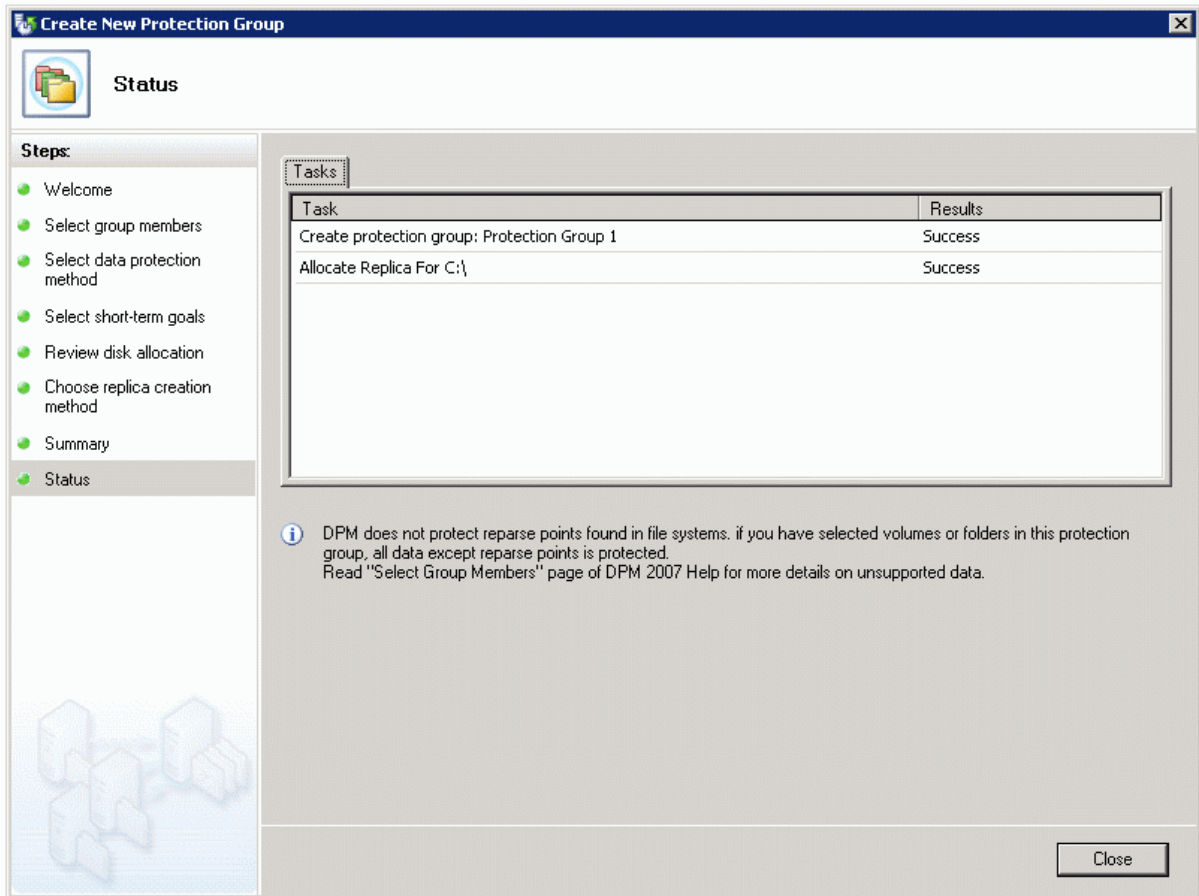
Press the **Next** button to continue.

Check if all of the parameters are correct. Press the Back button if any changes are required.



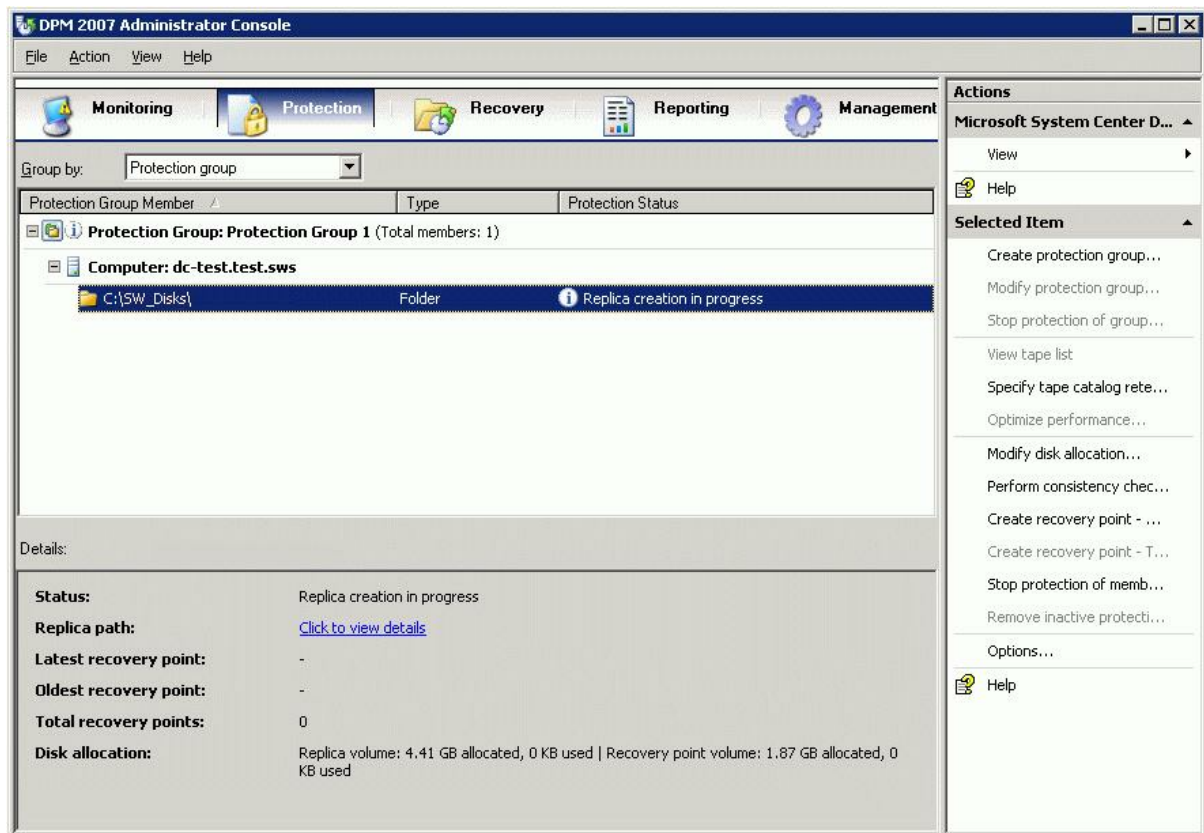
Press the **Create Group** button to continue.

New protection group has been successfully created.



Press the **Close** button.

You will be returned to the Administrator console window. The replica is now being created

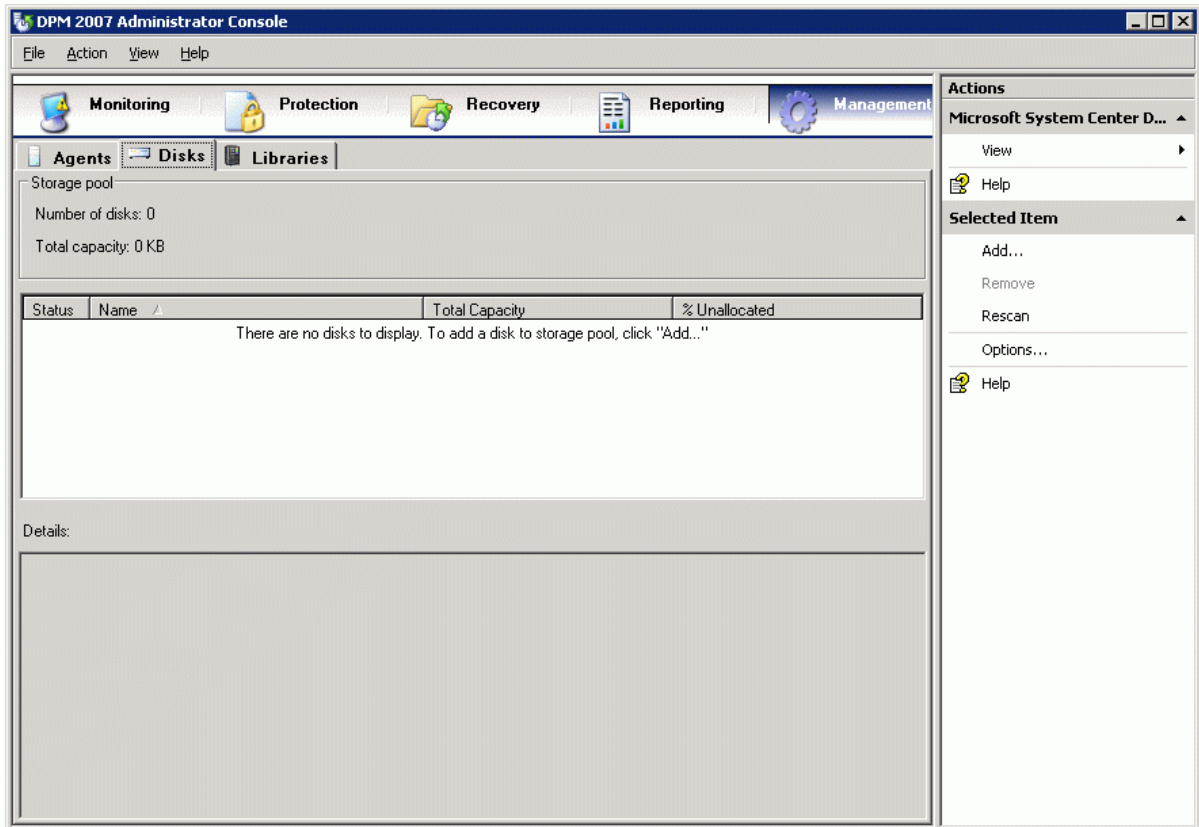


The configuration process is now complete. As new file-based StarWind Disks are created in C:\SWDisks, these files will automatically be replicated to the DPM server. The default settings of a DPM protection group synchronizes the files every 15 minutes and the shadow copies of these replicas are taken three times a day. These configuration can be customized further to better serve the needs of a particular environment. Please see the DPM Help for more information on optimizing these settings.

Adding disks to the storage pool

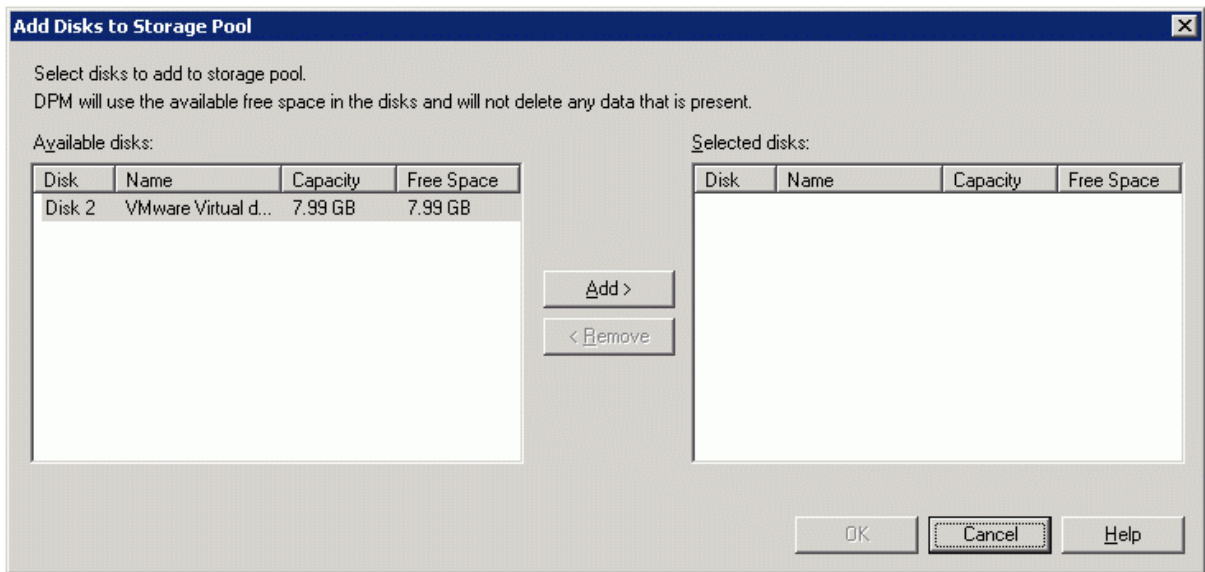
The steps below will show you how to add your StarWind disks to DPM storage pool.

Start the DPM Administration Console. Open the Management tab. Select the Disks tab.



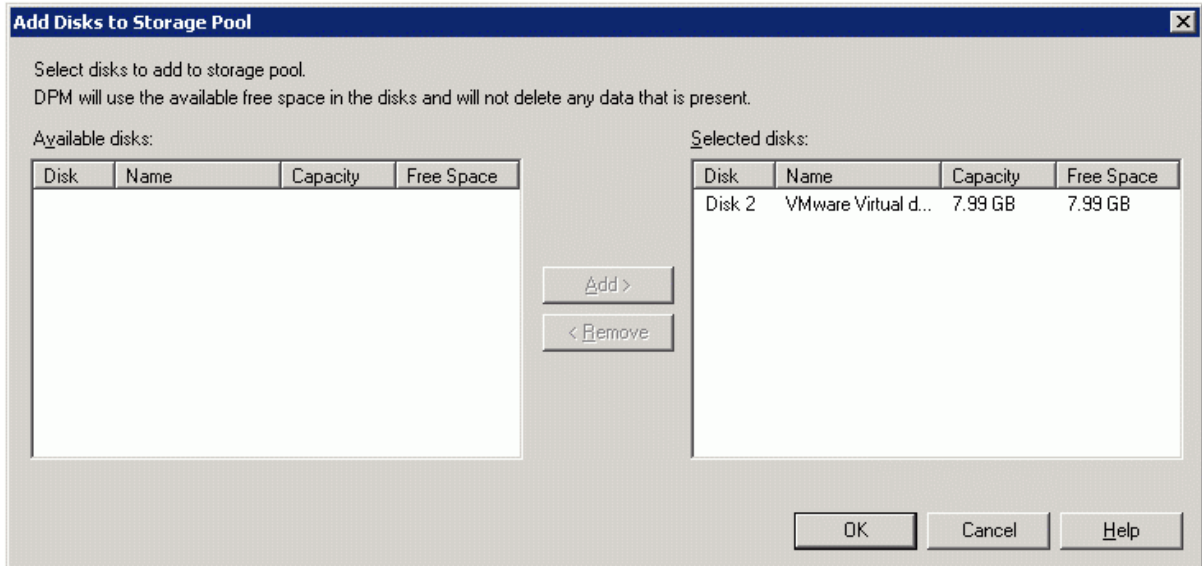
Press the **Add...** link to continue.

Select the disk you want to protect.



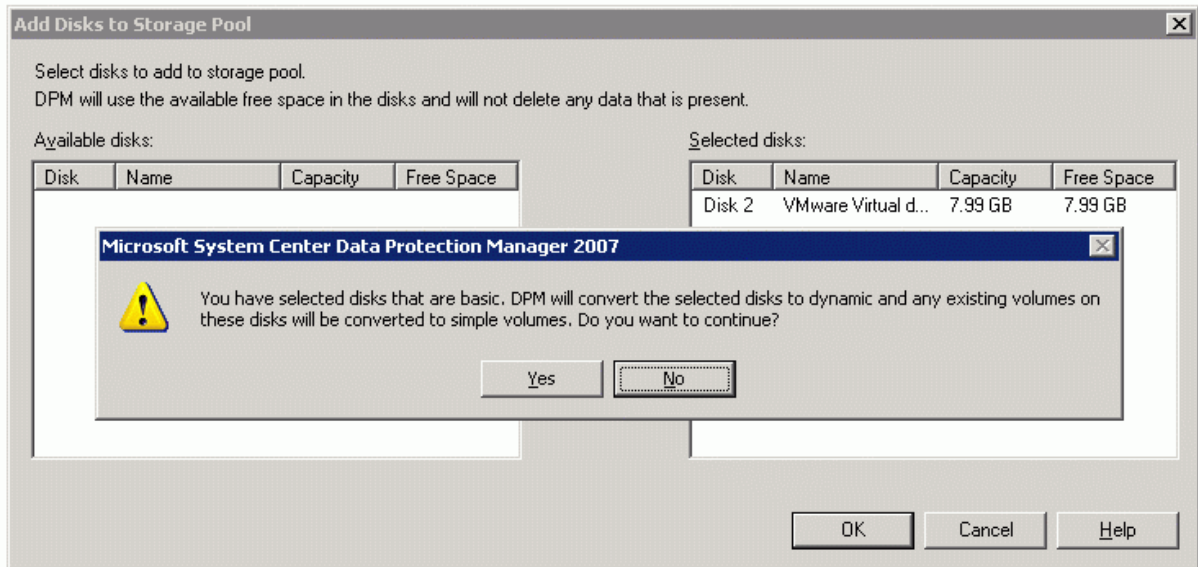
Press the **Add >** button to continue

After the necessary disks have been added they will appear in the right field of the window.



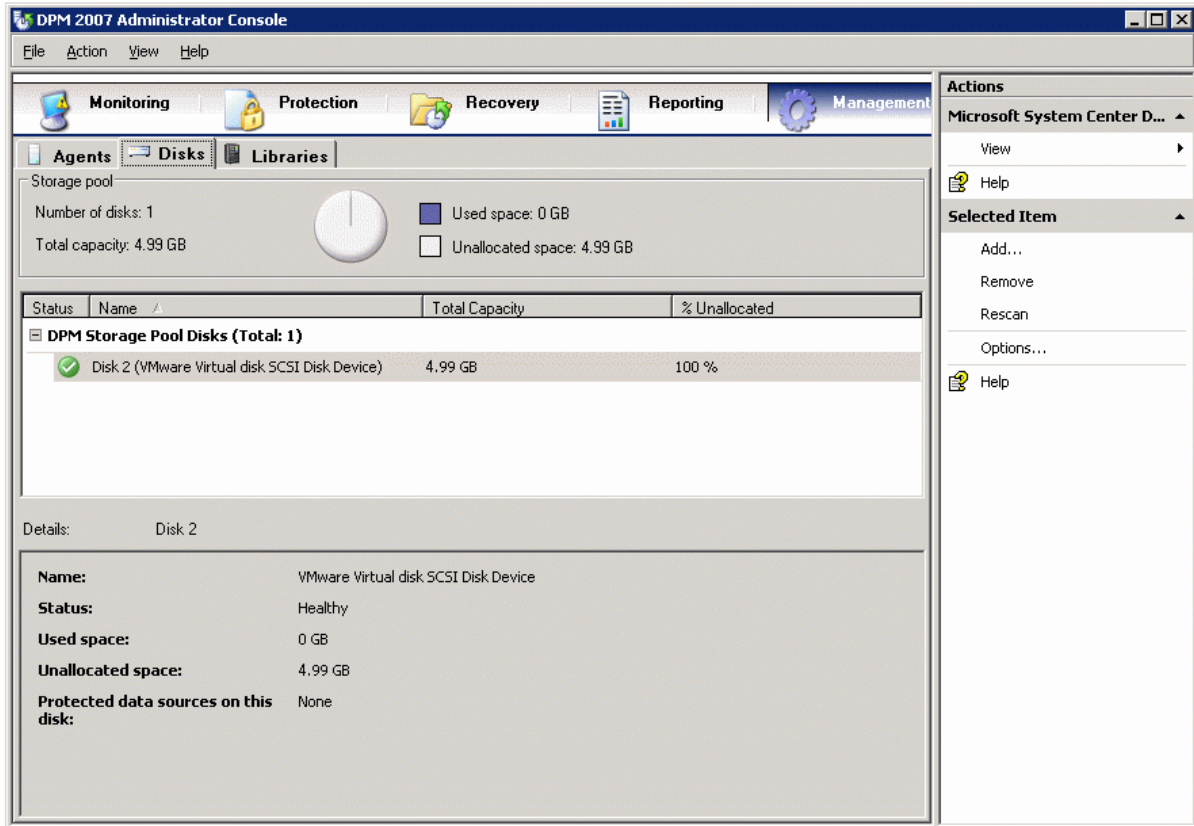
Press the **OK** button to continue.

You will be prompted if you want to continue.



Press the **Yes** button to proceed.

The protected disk is now displayed in the DPM storage pool disks field.

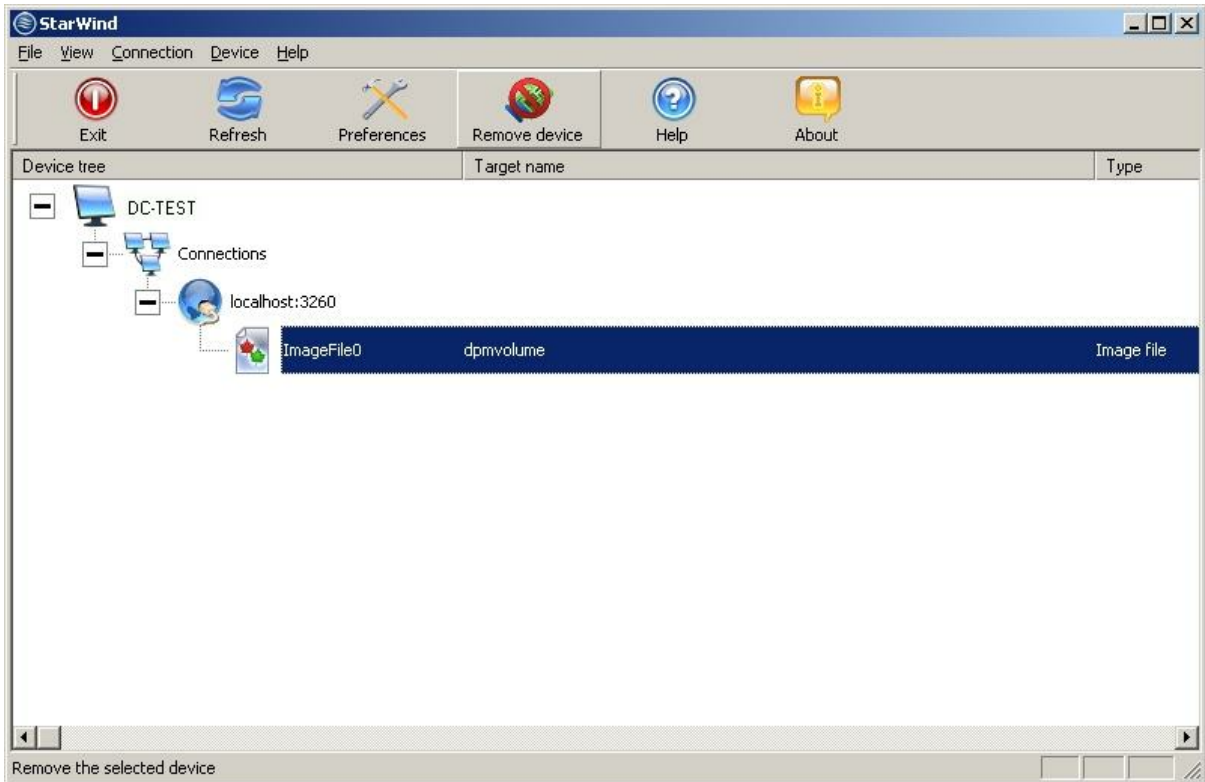


Data Recovery

This section guides you through the process of restoring StarWind Disks from the DPM replicas.

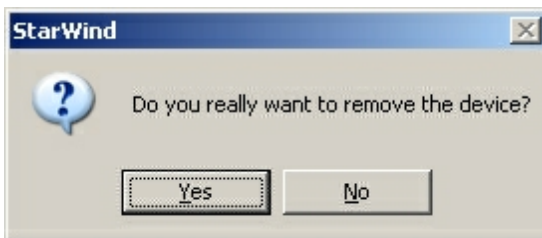
- On the application server that is utilizing the **StarWind** Disk, disconnect the initiator from StarWind. If the initiator is unable to logoff from StarWind the server will need to be shutdown.
- On the StarWind server, open the StarWind console. Launch the StarWind console selecting **Start->All Programs->StarWind Software->StarWind**. After the console is launched its icon appears in the system tray. Double click the icon with the left mouse button or single click it with the right and select Start Management menu item from the pop-up menu.
- From the “**Connections**” list select the StarWind server computer.
- Press the right mouse button over the StarWind server host (computer) and select the Connect... menu item. You will be prompted to enter the login and password. Default ones are: test, test.

After you have successfully connected to the StarWind service make sure the status of the StarWind Disk is **Idle** (there are no connections).



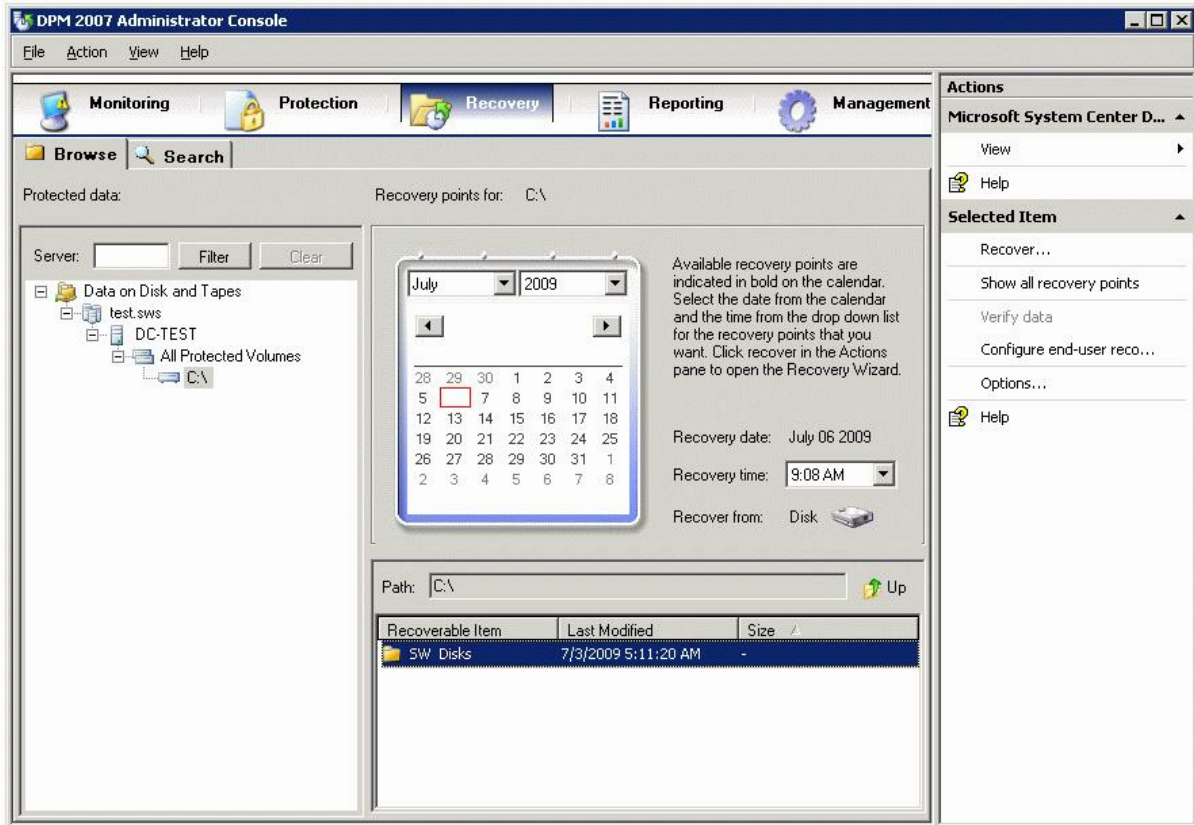
Select the disk and press the **Remove device** button.

A confirmation dialog appears.



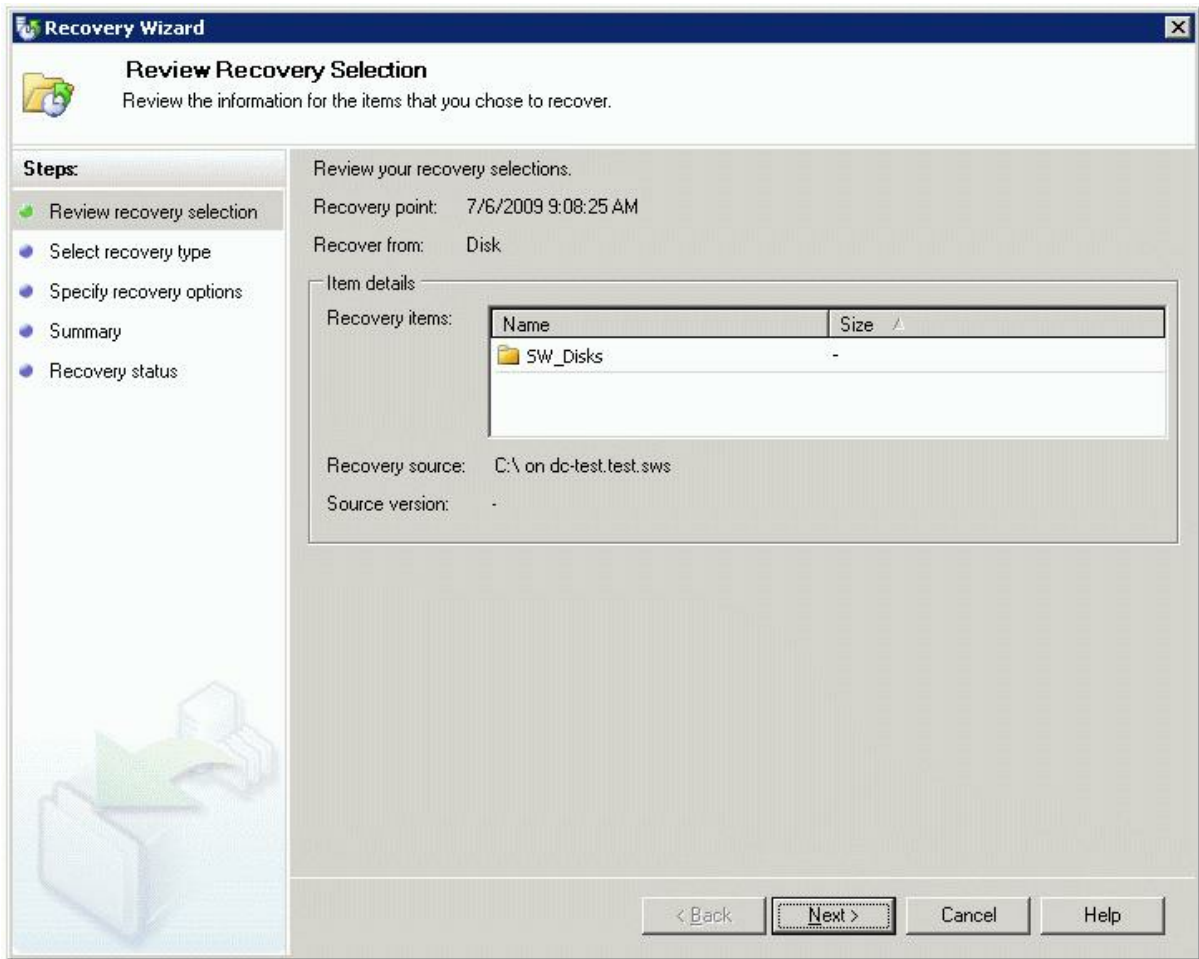
Select **Yes** to remove StarWind disk.

- Launch the DPM Administration Console.
- Select the Recovery item.
- Navigate the directory tree in the Browse window to find the protected volume (C:\) of the **StarWind** server.



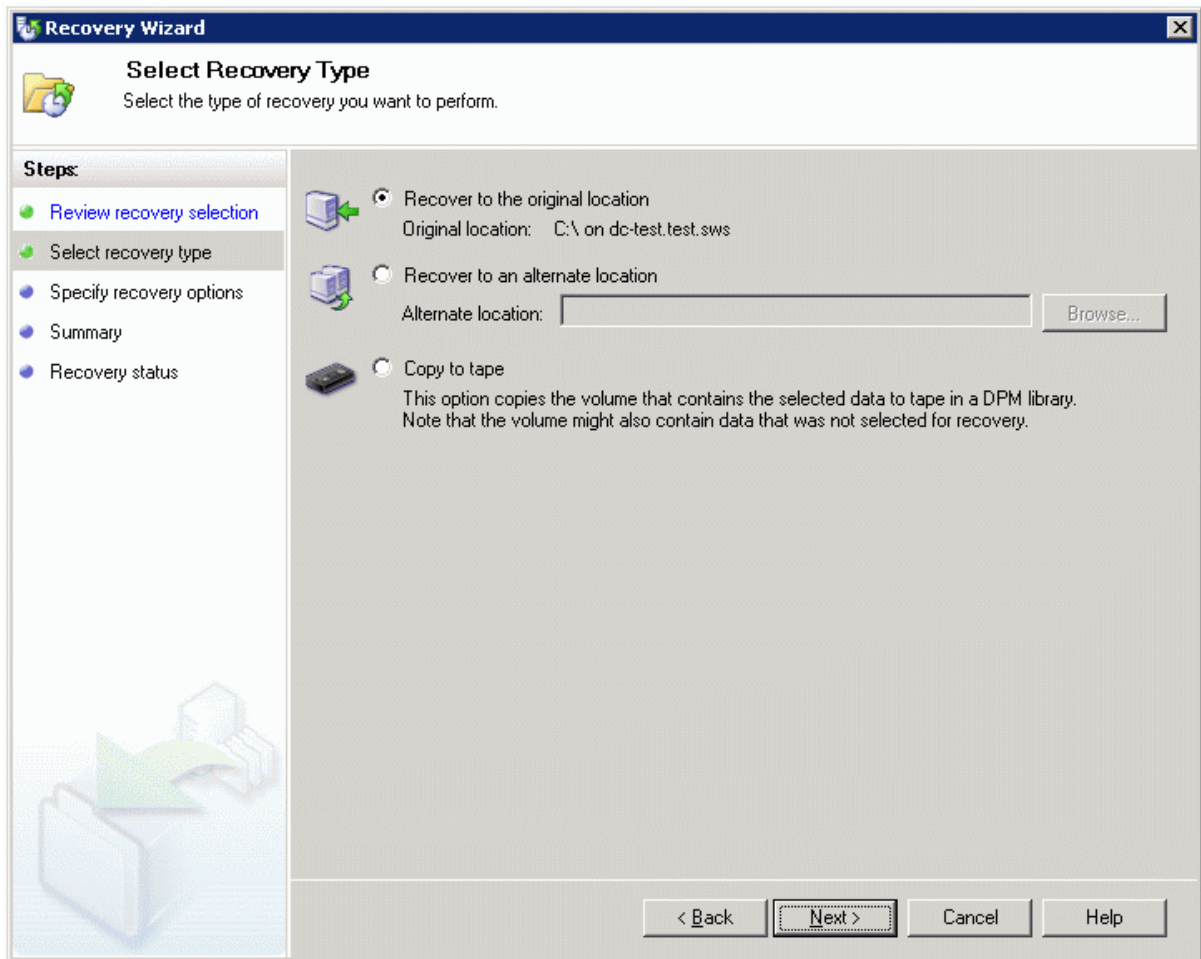
Select the necessary recovery point and click **Recover...** item on the Actions panel.

Recovery Wizard window appears.



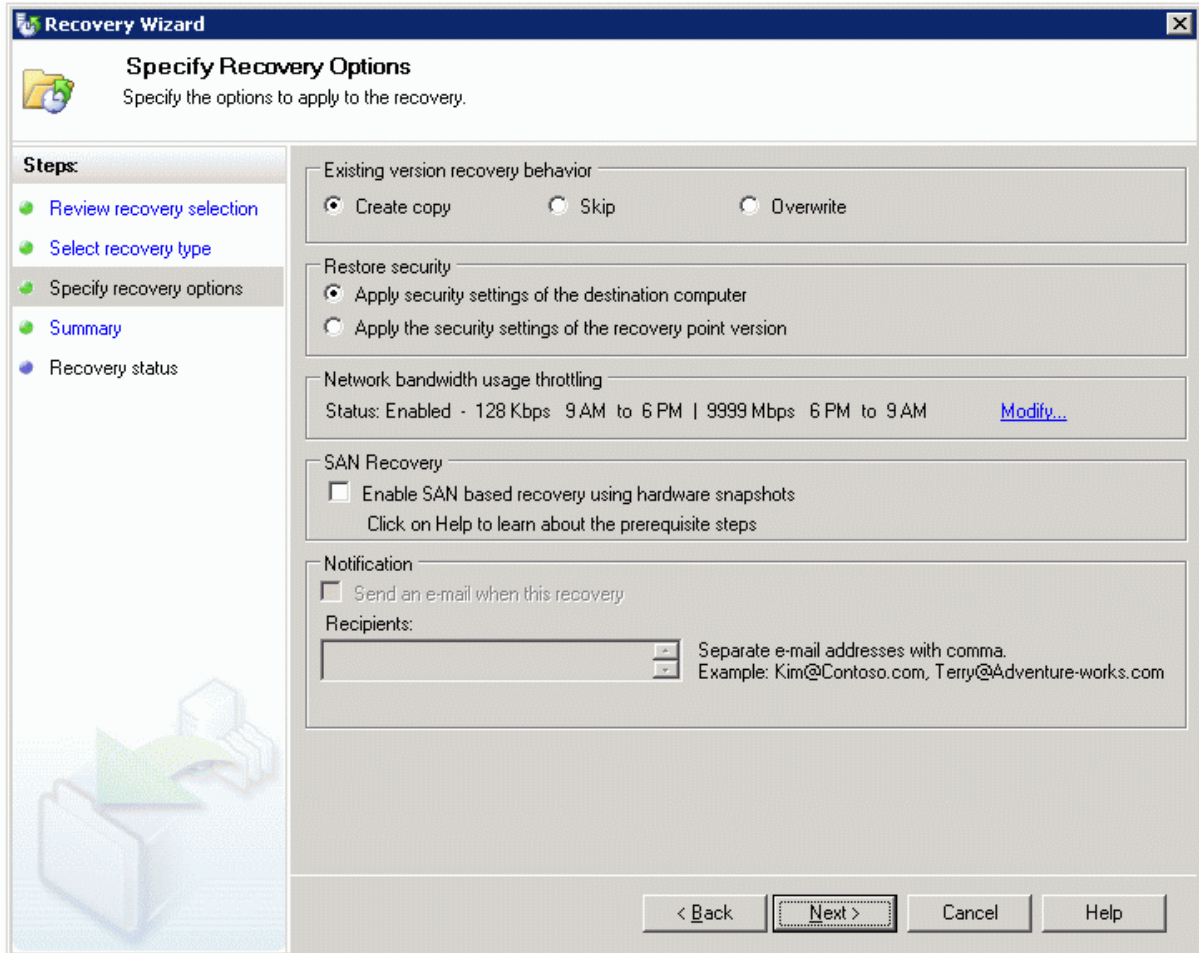
Press the **Next** button to continue.

Select Recovery type.



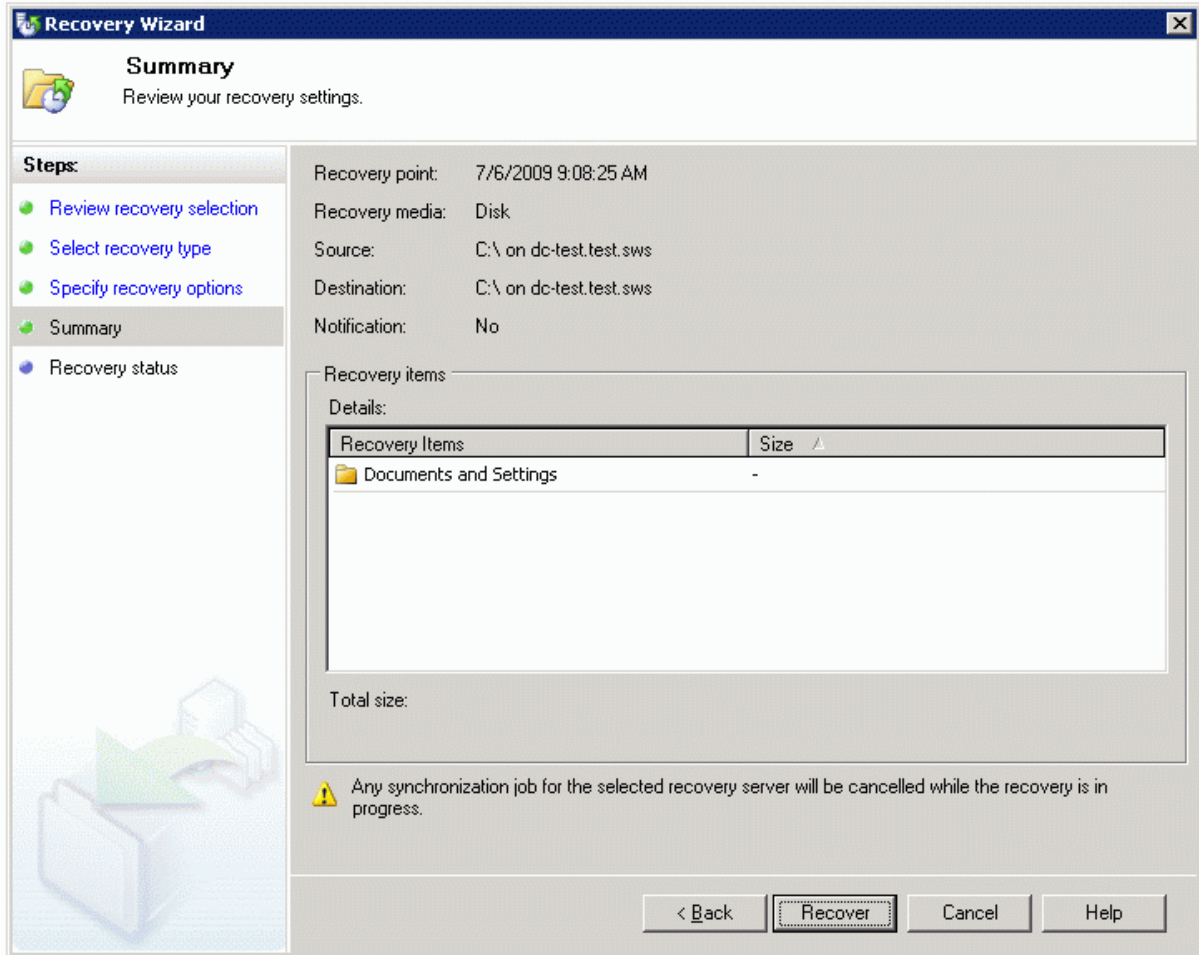
Press the **Next** button to continue.

Select **Overwrite** option on the Recovery Options page for the Existing file version recovery behavior settings. This option will overwrite the **StarWind** Disk file. If you are unsure, you can chose **Create copy** and manually delete the original StarWind Disk file later.



Press the **Next** button to continue.

Check the parameters are correct. Press the **Back** button should any changes be required.



Press the **Recover** button to continue.

When the recovery is finished re-create and export the StarWind Disks using the recovered files. See the Configure StarWind Server section of this document. Reconnect the application server to StarWind and run integrity checks on the disks using tools such as **chkdsk** or **eseutil** before bringing the disks online.

Conclusion

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