

StarWind iSCSI SAN Software: Using an existing SAN for configuring High Availability storage with Windows Server 2003 and 2008

www.starwindsoftware.com

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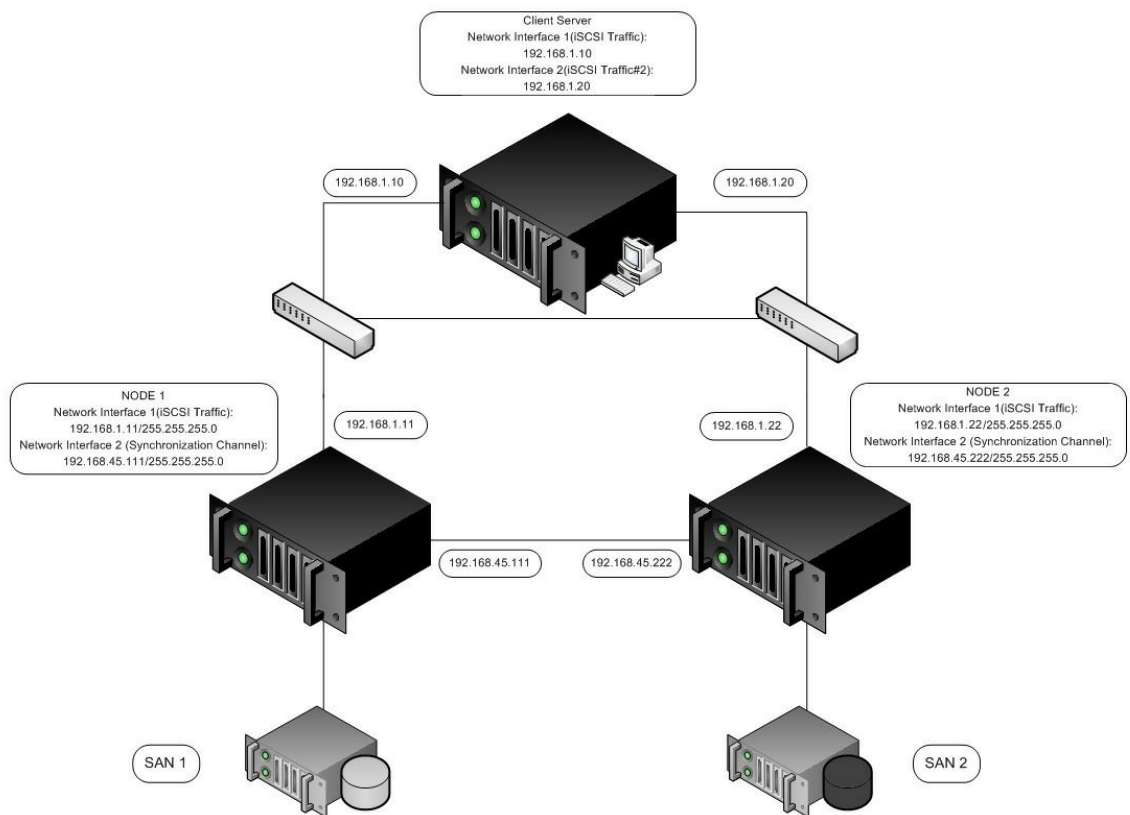
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Guide

Introduction

This document will walk you through the process of configuring HA configuration using your existing SAN.



Note: Data Synchronization Channel redundancy is required; use NIC teaming (link aggregation).

Configuring StarWind Server

Preconfiguring and connecting storage

Using HA requires some minor modifications to the servers that you will use as nodes for providing HA storage to the clients. You will have to configure iscsi initiator service and have it started before starwind service starts. It ensures that in the moment when starwind service is started, MS iSCSI Initiator is already up and connected to your storage where the virtual disk files are stored. You also need to bind volumes so that each time the initiator connects them to your server, they receive a constant drive letter.

- To set StarWind service dependent go **Start->Run**, type "cmd" and click **OK**.
- In the command line type "sc config starwindservice depend= msiscsi" and press the **Enter** key on your keyboard.

Now connect to your SAN using Microsoft iSCSI Initiator, initialize and format the disk you have connected, assign a drive letter to it.

- In the MS Initiator window click the **Volumes and Devices** tab and click **Auto Configure** button.

This will bind the volumes with the drive letters you have assigned to them.

The procedure described above has to be performed on both StarWind Servers.

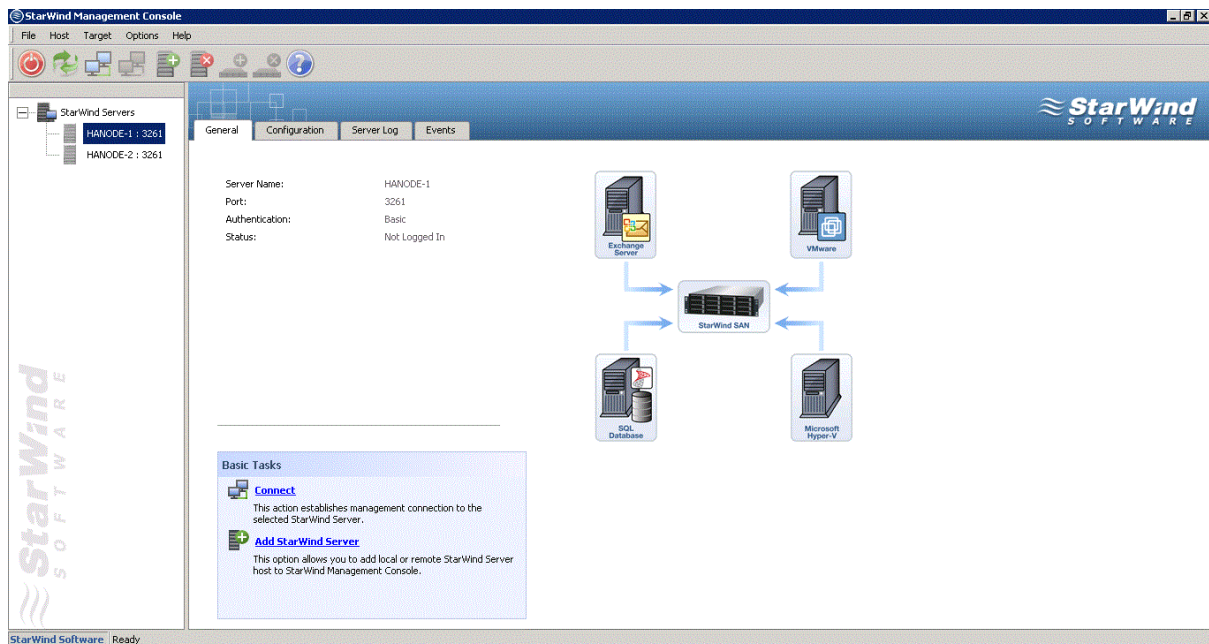
Preparing Storage

- To launch the StarWind Console, from the **Start** menu select **StarWind Software -> StarWind**.

Whenever the StarWind Console is running, its icon will appear in the system tray.

The StarWind Console may be accessed by double-clicking the icon using the left mouse button, or with a single click using the right mouse button and selecting **Start Management** from the pop-up menu.

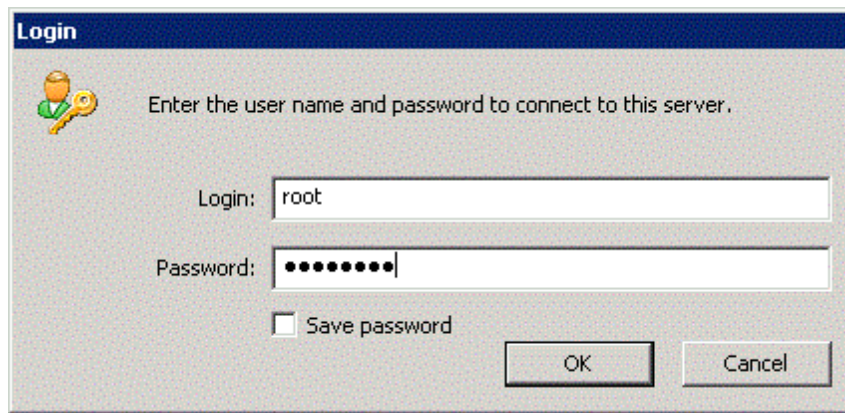
- From the **Connections** tree, select the computer you want to provision the iSCSI target device on.



- Double-click the host to connect.

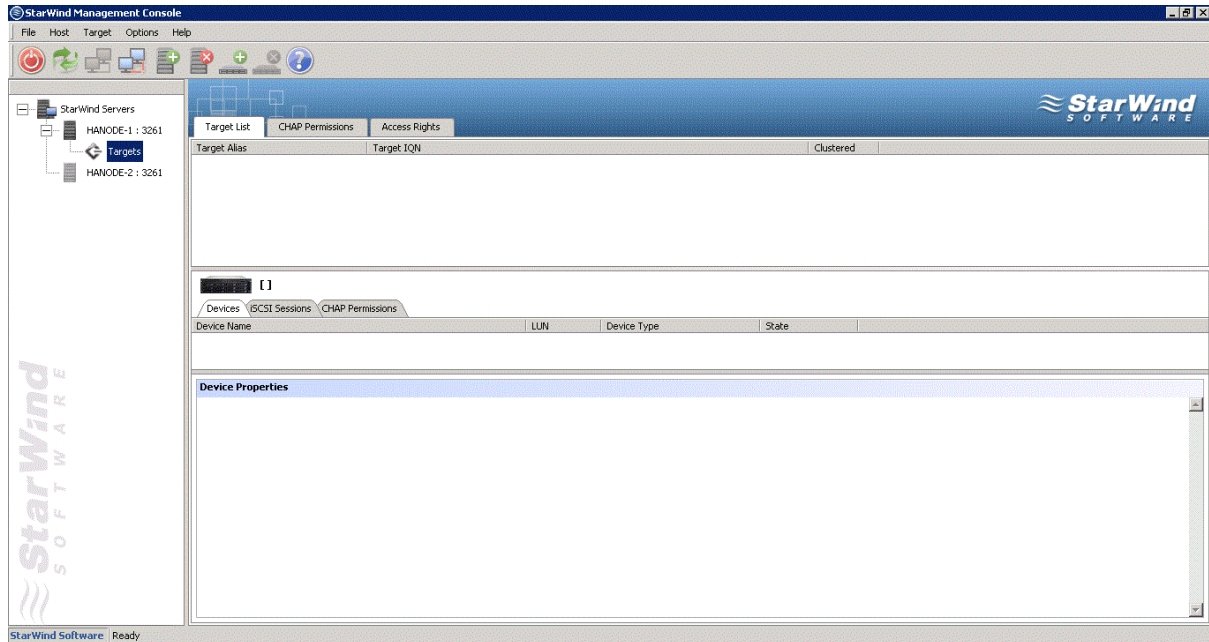
- Enter the login and password.

The default login and password are “root” and “starwind.” You can always change them later.



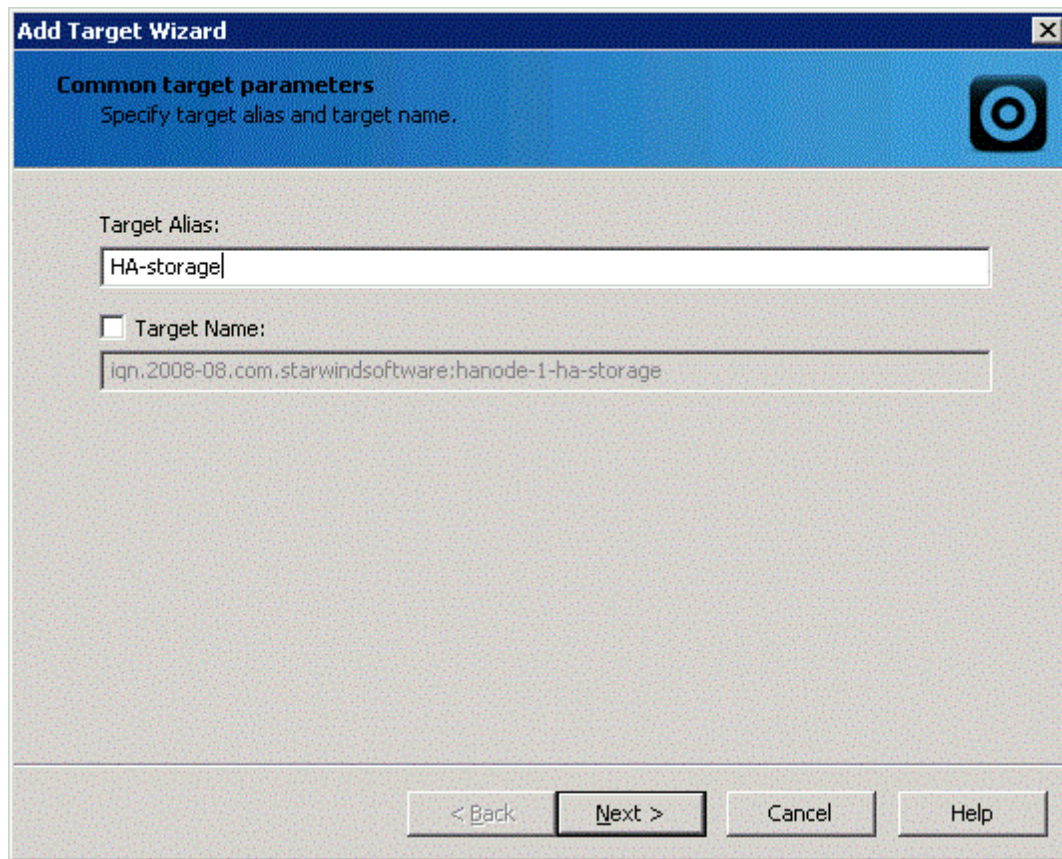
- To store password, select the **Save password** checkbox and click the **Yes** button.
- Click **OK** to continue.

Now when you are connected to the StarWind Service on the machine you can create targets on it.

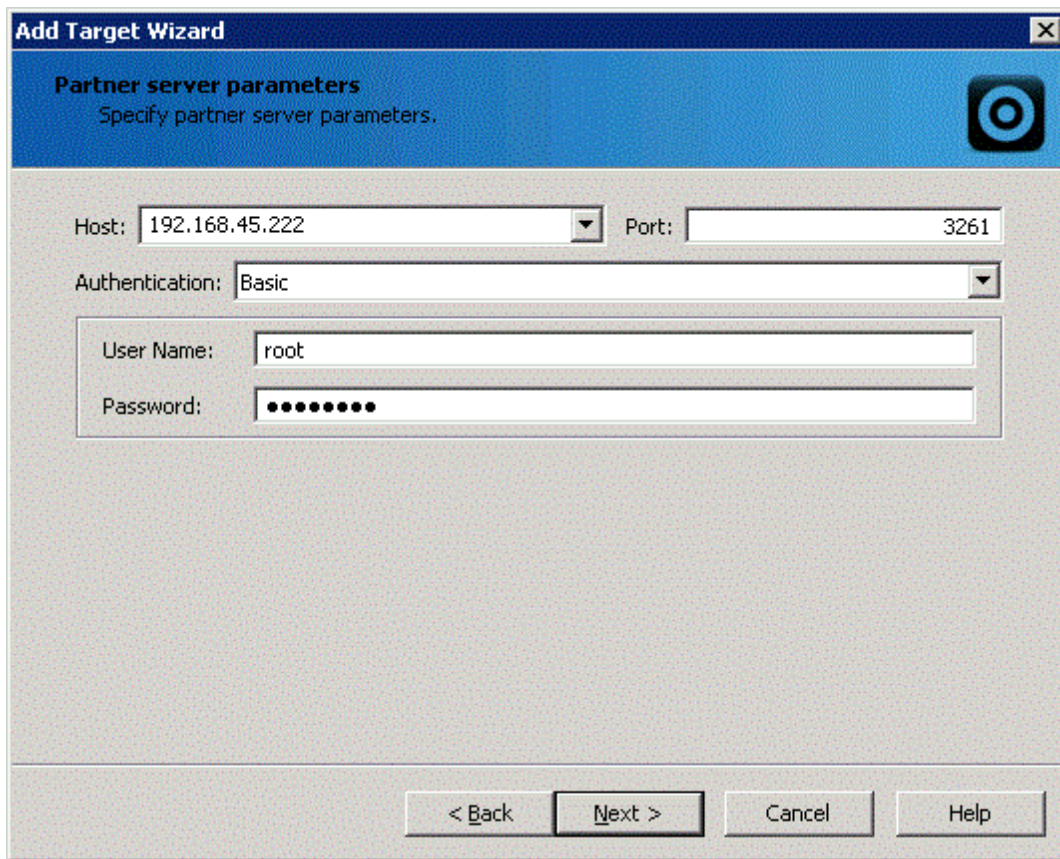


To create targets:

- Click the **Add Target** button to continue.
- In the wizard that appears, specify a unique target name. Using it the device will be declared to the iSCSI initiators connecting to StarWind over an IP network.

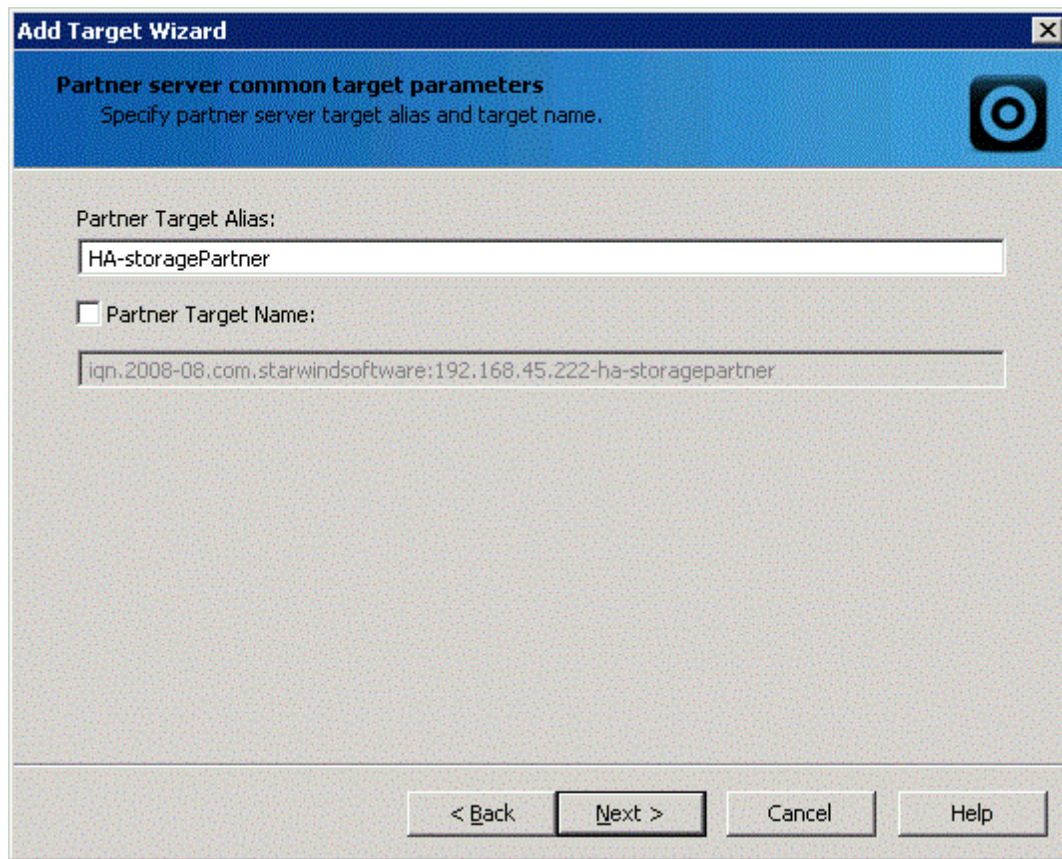


- Click the **Next** button to continue.
- Select the HA device type by going **Hard Disk->Advanced Virtual->High Availability device**.
- Specify the partner server parameters. Enter the server's IP address or host, and specify the user name and password for the StarWind Service.



The image shows a Windows-style dialog box titled "Add Target Wizard". It has a blue header bar with the title and a close button. Below the header, the text "Partner server parameters" is displayed, followed by the instruction "Specify partner server parameters." and a StarWind logo. The main area contains several input fields: "Host:" with a text box containing "192.168.45.222" and a dropdown arrow; "Port:" with a text box containing "3261"; "Authentication:" with a dropdown menu showing "Basic"; and a group box containing "User Name:" with a text box containing "root" and "Password:" with a masked text box (dots). At the bottom, there are four buttons: "< Back", "Next >", "Cancel", and "Help".

- Click the **Next** button to continue.
- Enter target alias and target name that will be assigned to the partner target.



The image shows a Windows-style dialog box titled "Add Target Wizard". It has a blue header bar with the title and a close button. Below the header, the text "Partner server common target parameters" is displayed, followed by the instruction "Specify partner server target alias and target name." To the right of this text is a circular icon with a target symbol. The main area of the dialog contains two input fields. The first is labeled "Partner Target Alias:" and contains the text "HA-storagePartner". Below it is a checkbox labeled "Partner Target Name:". The input field below the checkbox contains the text "iqn.2008-08.com.starwindsoftware:192.168.45.222-ha-storagepartner". At the bottom of the dialog are four buttons: "< Back", "Next >", "Cancel", and "Help".

Add Target Wizard

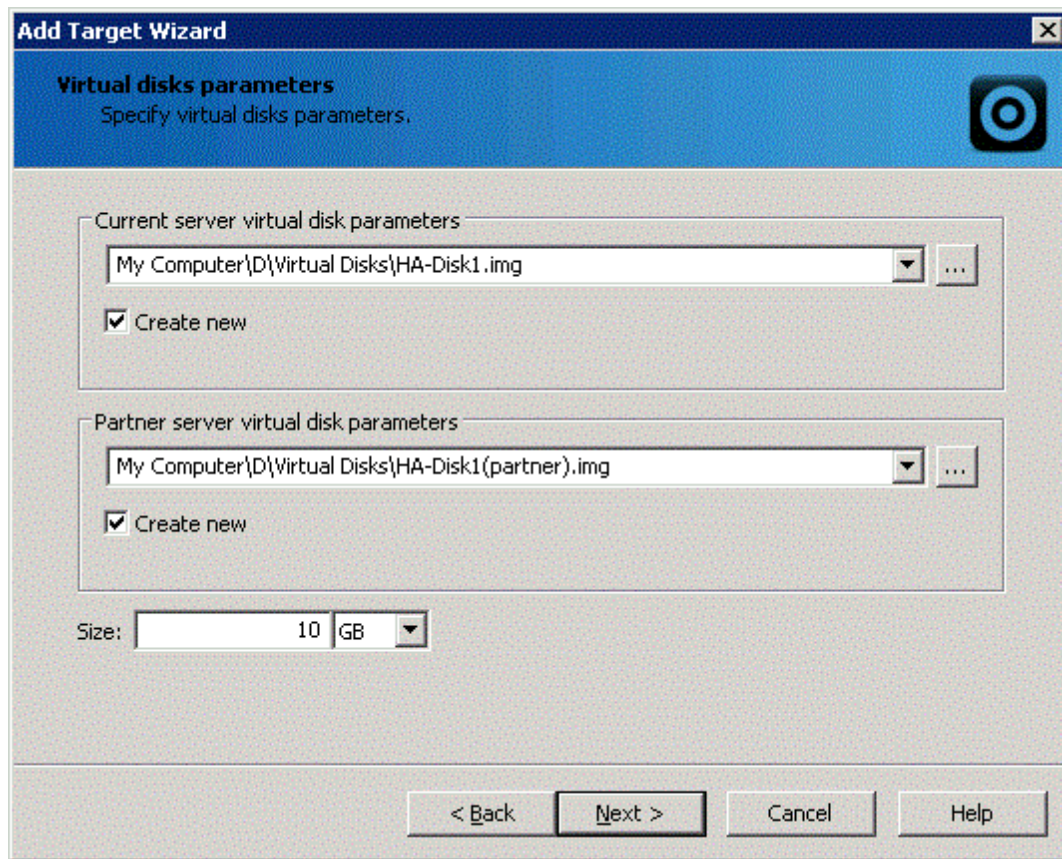
Partner server common target parameters
Specify partner server target alias and target name.

Partner Target Alias:
HA-storagePartner

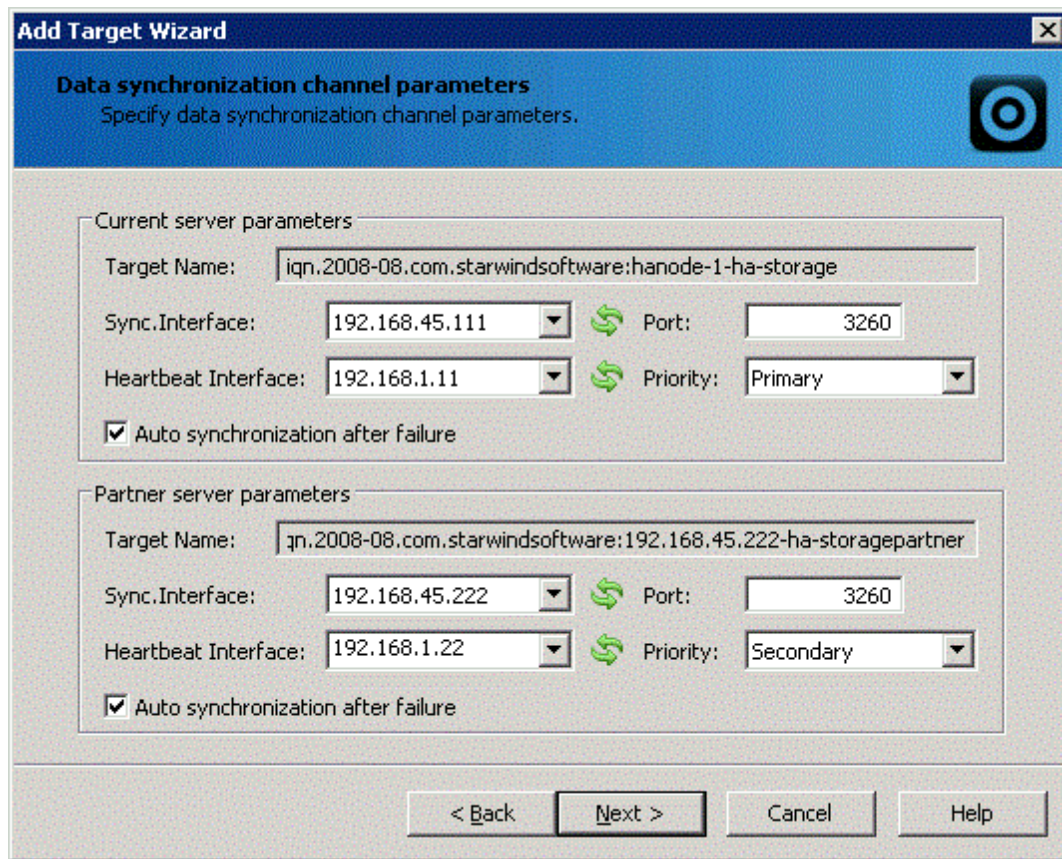
☐ Partner Target Name:
iqn.2008-08.com.starwindsoftware:192.168.45.222-ha-storagepartner

< Back Next > Cancel Help

- Click the **Next** button to continue.
- Specify the location and name of your local virtual disks and your partner's virtual disks by clicking the "... " button.
- If you want to create new virtual disks, select the **Create New** checkbox.



- Click the **Next** button to continue.
- Configure the data synchronization and heartbeat channels parameters by specifying the network interface for synchronization and heartbeat respectively. You can also set node priority by designating it as Primary or Secondary.



The image shows a screenshot of the "Add Target Wizard" dialog box, specifically the "Data synchronization channel parameters" step. The dialog has a blue header bar with the title and a close button. Below the header, there's a sub-header "Data synchronization channel parameters" and a description "Specify data synchronization channel parameters." with a StarWind logo icon. The main area is divided into two sections: "Current server parameters" and "Partner server parameters". Each section contains fields for "Target Name", "Sync.Interface", "Heartbeat Interface", "Port", and "Priority", along with a checkbox for "Auto synchronization after failure". The "Current server parameters" section has the following values: Target Name: "iqn.2008-08.com.starwindsoftware:hanode-1-ha-storage", Sync.Interface: "192.168.45.111", Heartbeat Interface: "192.168.1.11", Port: "3260", Priority: "Primary", and the checkbox is checked. The "Partner server parameters" section has the following values: Target Name: "qn.2008-08.com.starwindsoftware:192.168.45.222-ha-storagepartner", Sync.Interface: "192.168.45.222", Heartbeat Interface: "192.168.1.22", Port: "3260", Priority: "Secondary", and the checkbox is checked. At the bottom, there are four buttons: "< Back", "Next >", "Cancel", and "Help".

Add Target Wizard

Data synchronization channel parameters
Specify data synchronization channel parameters.

Current server parameters

Target Name: iqn.2008-08.com.starwindsoftware:hanode-1-ha-storage

Sync.Interface: 192.168.45.111 Port: 3260

Heartbeat Interface: 192.168.1.11 Priority: Primary

☒ Auto synchronization after failure

Partner server parameters

Target Name: qn.2008-08.com.starwindsoftware:192.168.45.222-ha-storagepartner

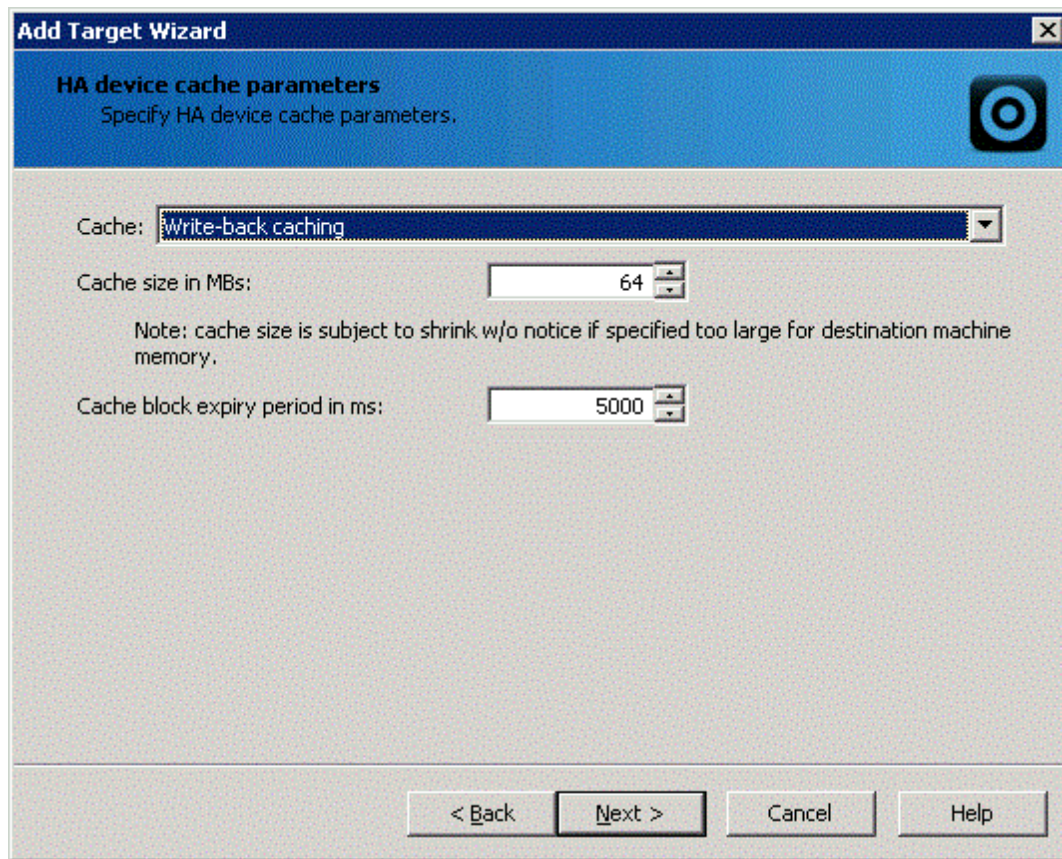
Sync.Interface: 192.168.45.222 Port: 3260

Heartbeat Interface: 192.168.1.22 Priority: Secondary

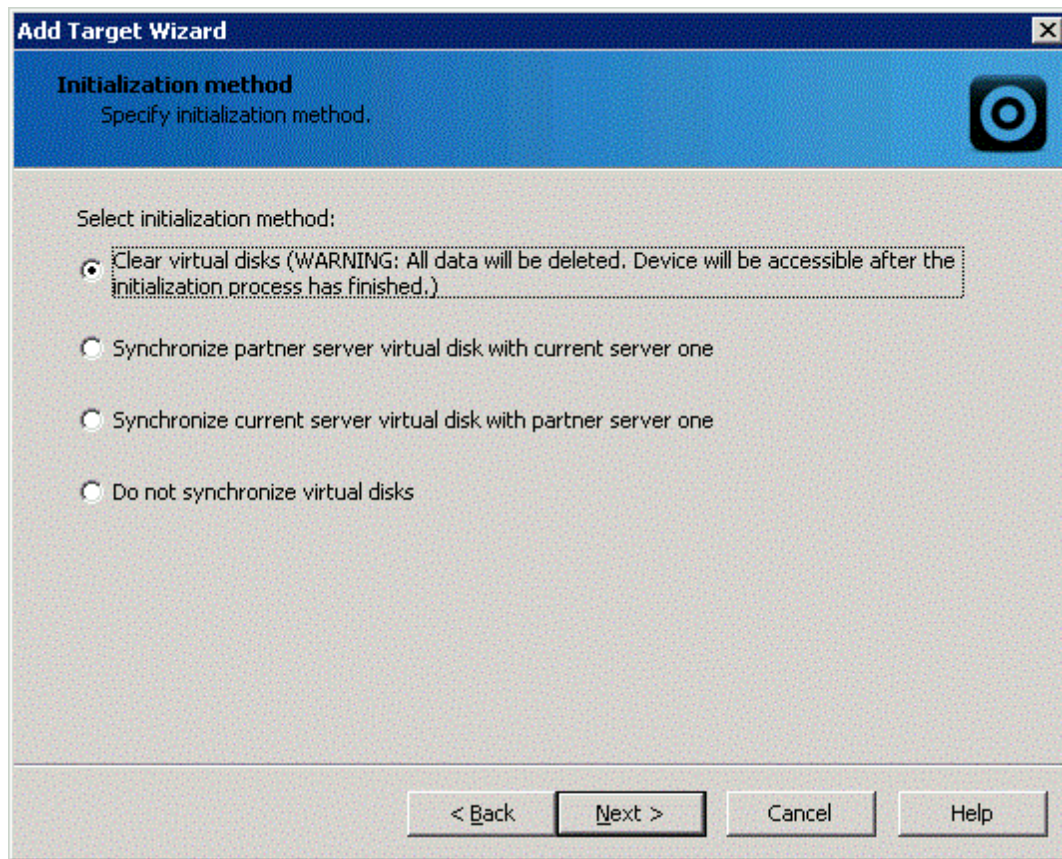
☒ Auto synchronization after failure

< Back Next > Cancel Help

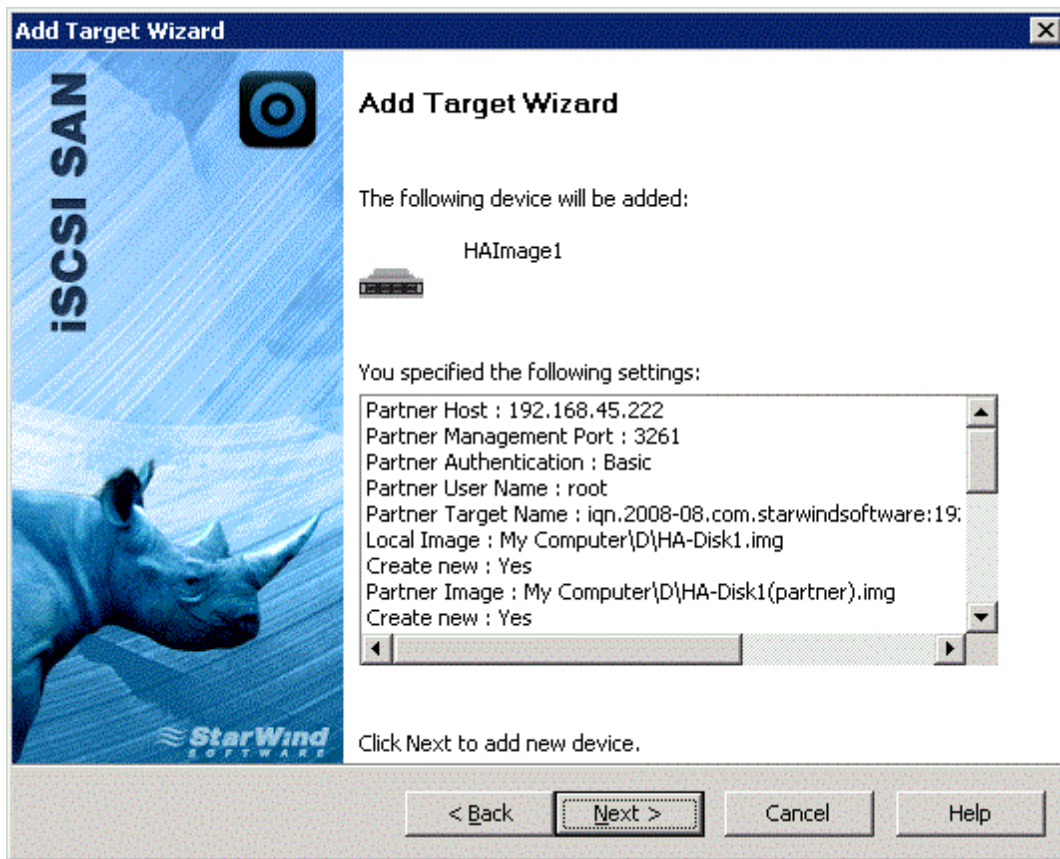
- Click the **Next** button to continue.
- Specify HA device cache type and size.



- Click the **Next** button to continue.
- Specify the method to initialize your HA device.

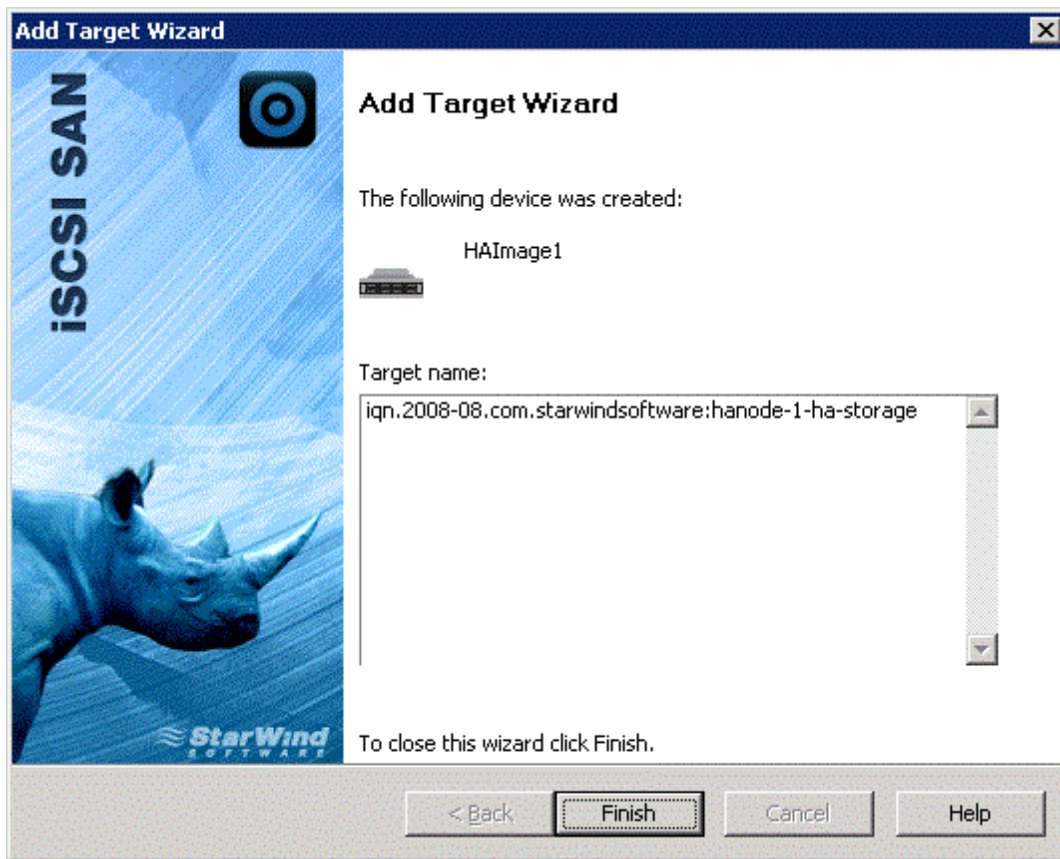


- Click the **Next** button to continue.
- Make sure that the device parameters are correct. Click the **Back** button if you need to make any changes.



- Click the **Next** button to continue.

A summary is displayed on the last wizard page.



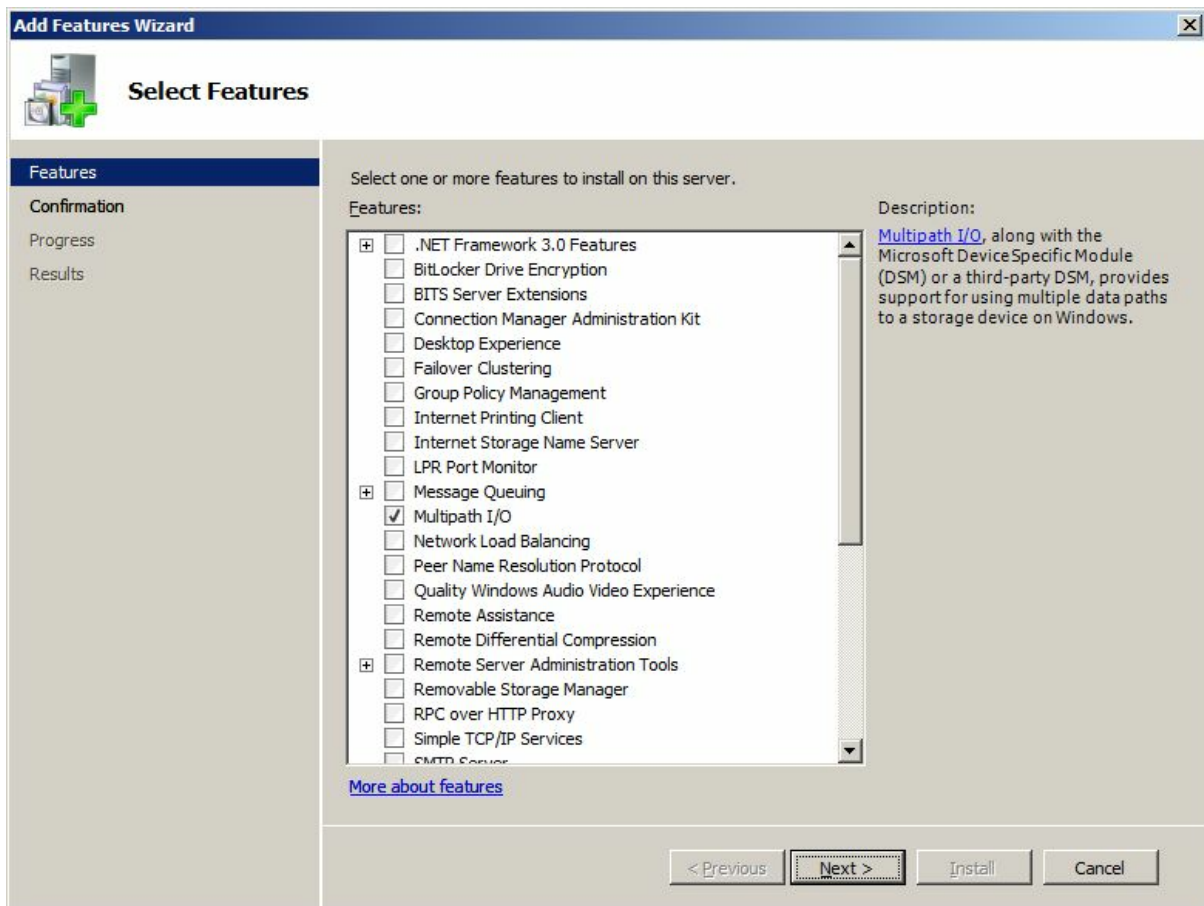
- Click the **Finish** button to close the wizard.

Configuring Windows Server 2008

Install MPIO Feature

To open Server Manager:

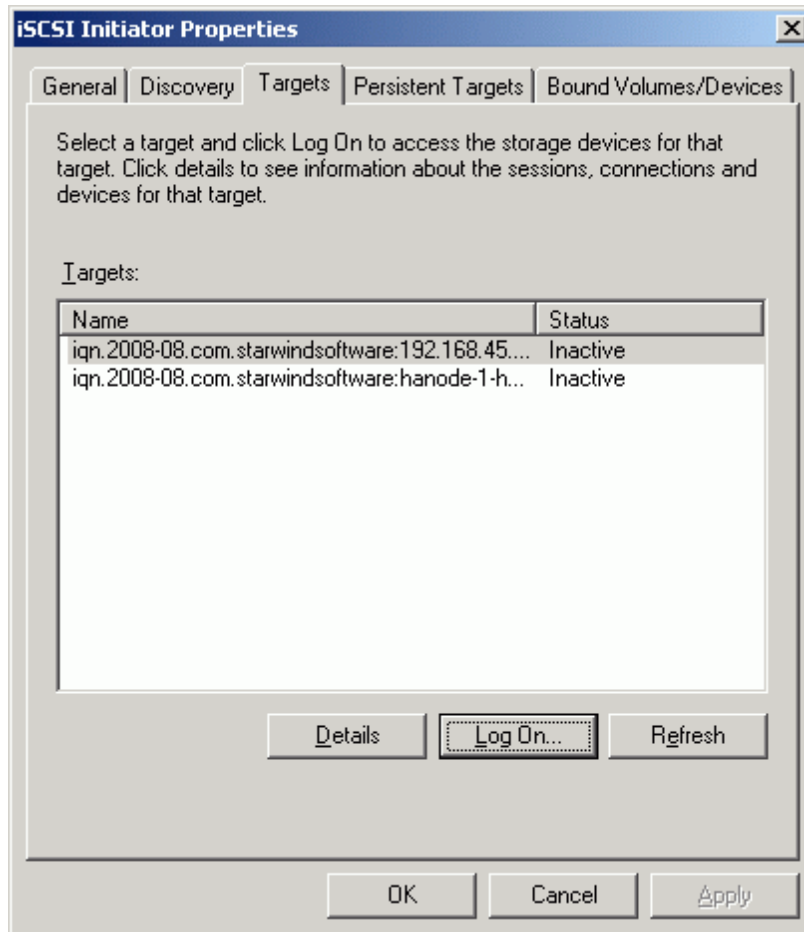
- From the **Start** menu, select **Administrative Tools->Server Manager**.
- Click the **Features** item.
- Click **Add Features**. An **Add Features Wizard** will appear.
- In the features list select the **Multipath I/O** checkbox and install it.



Connect Targets

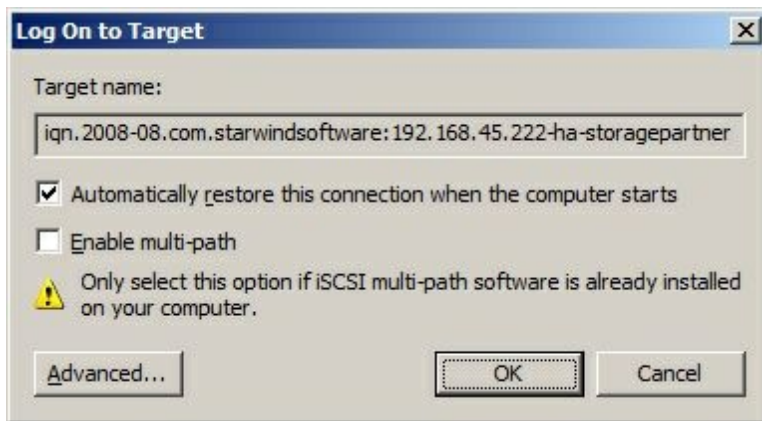
You connect targets in the Microsoft iSCSI Initiator:

1. From the **Start** menu, select **Administrative Tools -> iSCSI Initiator**.
2. Click the **Discovery** tab.
3. To add StarWind servers, click the **Add Portal ...** button and specify the servers' IP addresses.

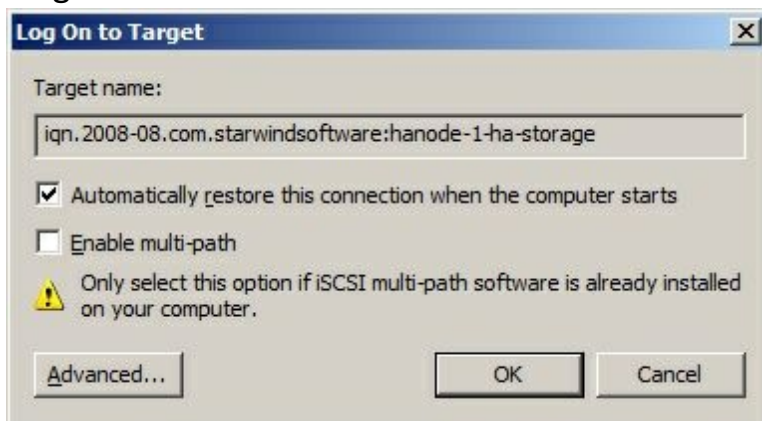


4. Switch to the **Targets** tab.
5. To connect the targets, click the **Log On...** button. A **Log On to Target** dialog appears.
6. Select the **Automatically restore this connection when the system boots** checkbox.

Target 1



Target 2

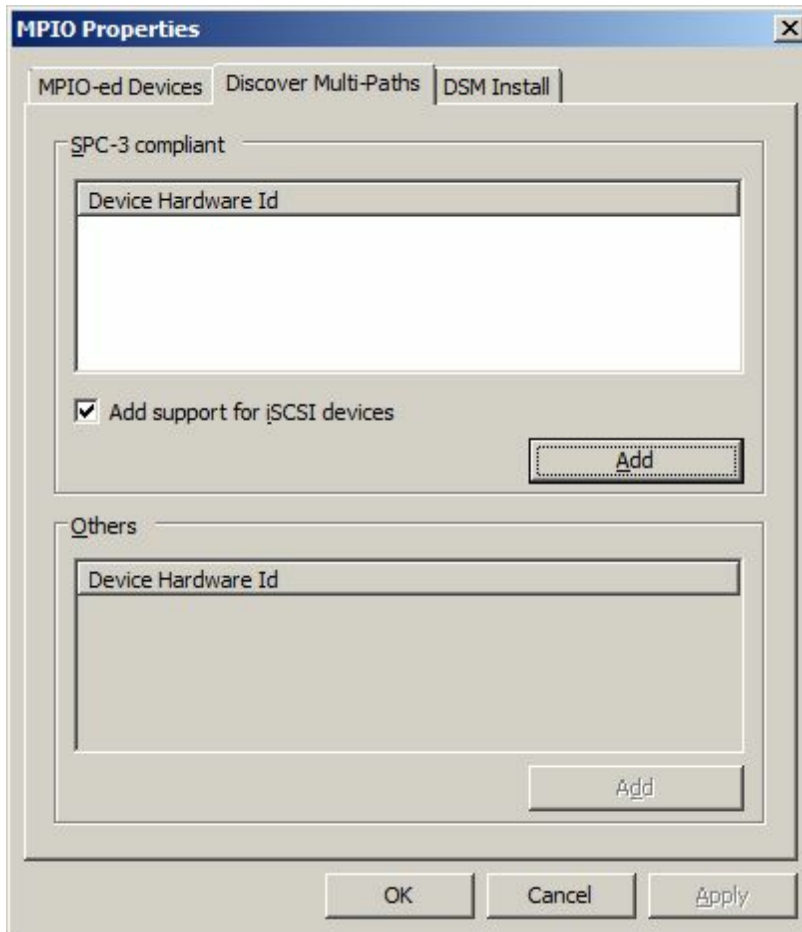


Click the **OK** button to connect the target.

Enable Multipath Support

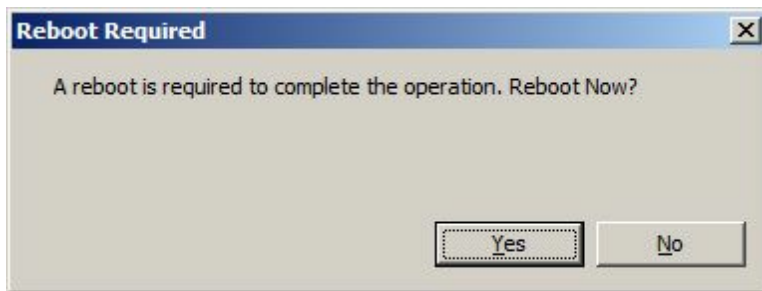
To enable Mutlipath Support:

1. Open the MPIO manager by selecting from the **Start** menu **Administrative Tools->MPIO**.
2. Click **Discover Multi-Paths** tab. Select the **Add support for iSCSI devices** checkbox.



3. Click the **Add** button.

Windows will prompt you to reboot the server.

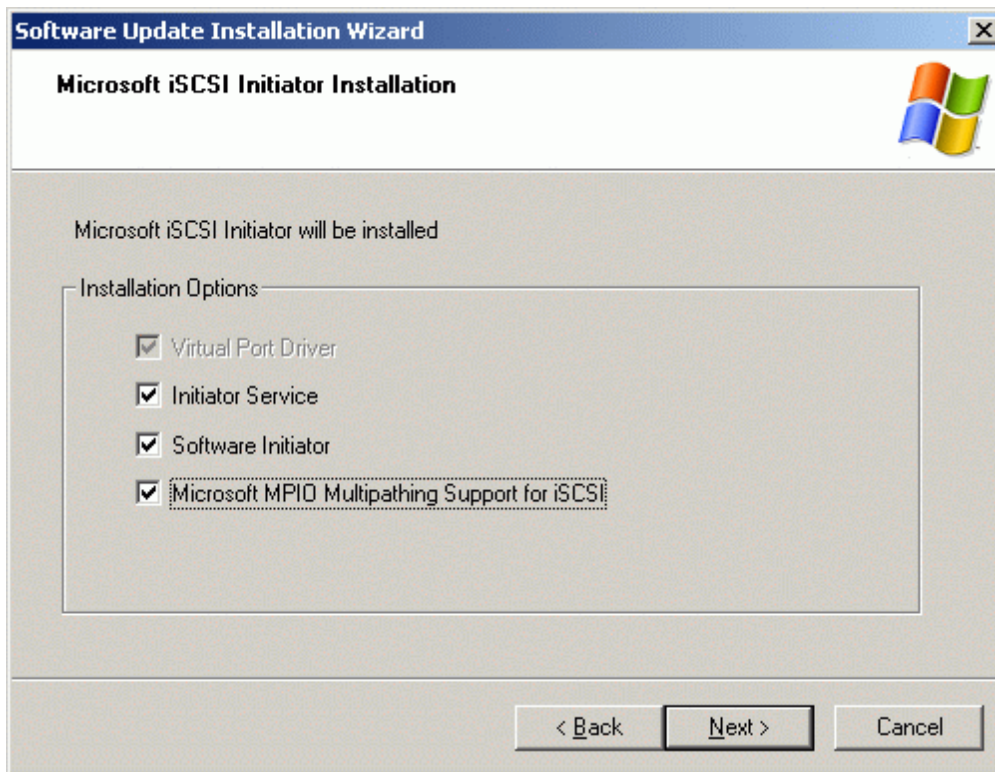


4. Click **Yes** to restart your server.

Configuring Windows Server 2003

Enable Multipath Support

1. Download Microsoft iSCSI Initiator and install it. Make sure the **Microsoft MPIO Multipathing Support for iSCSI** checkbox is selected.

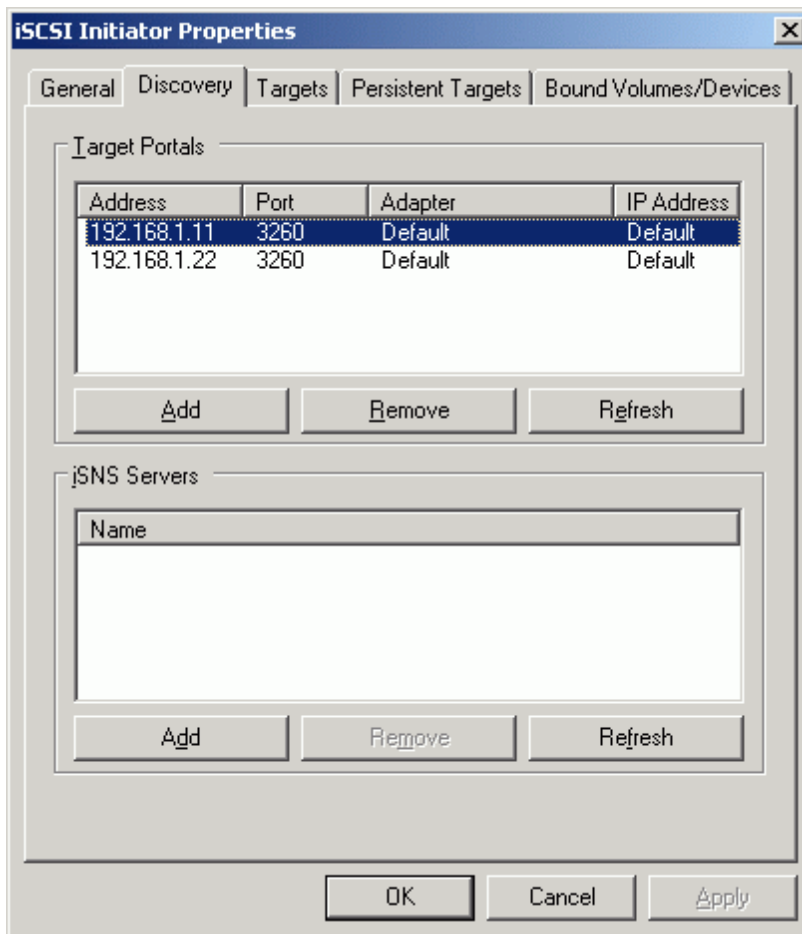


2. Restart the computer before continuing.

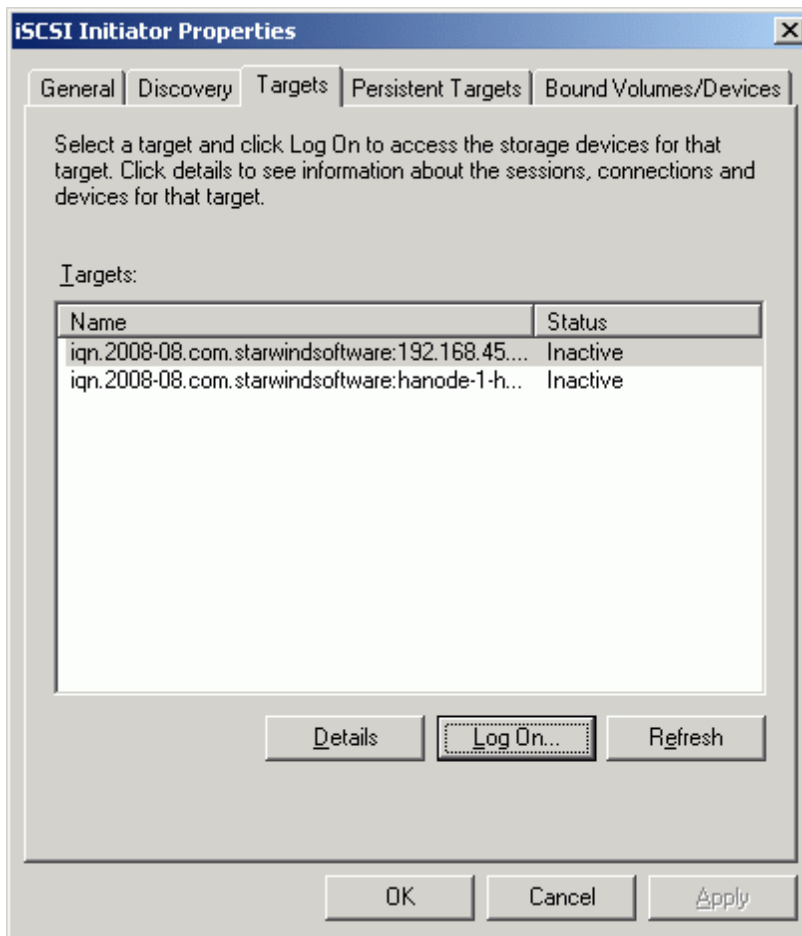
Connect Targets

To connect targets:

1. Launch the MS iSCSI Initiator by selecting from the **Start** menu **All Programs->Microsoft iSCSI Initiator**.
2. Click the Discovery tab. by
3. To add each of the StarWind servers, click the **Add** button and specify server IP address.

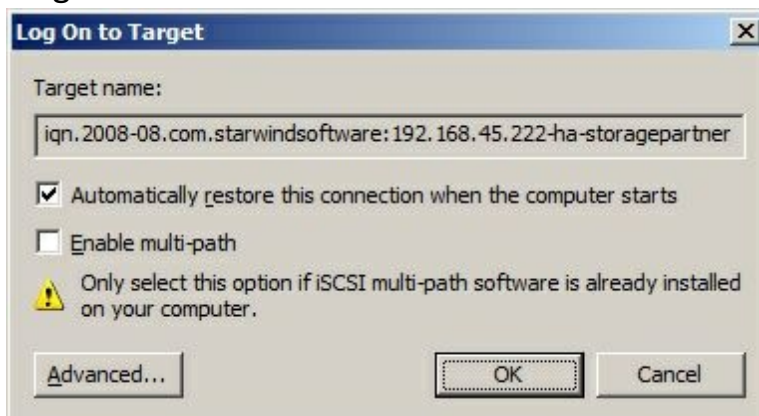


4. Click the **Targets** tab.

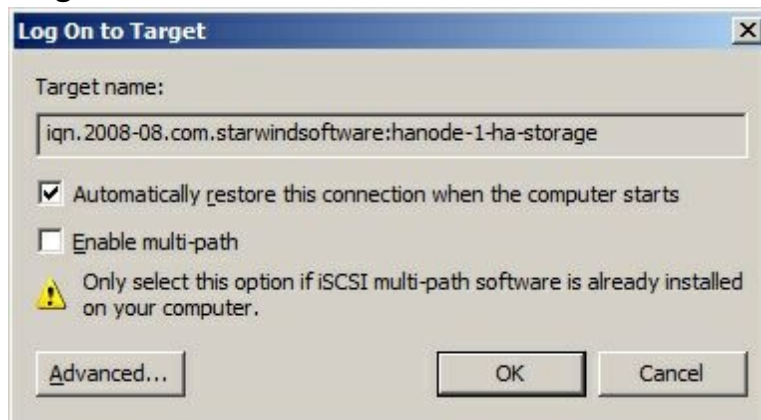


5. Click the **Log On...** button to connect the targets. A **Log On to Target** dialog appears.
6. Select the **Automatically restore this connection when the system boots** checkbox.

Target 1



Target 2



7. Click **OK** to connect the target.

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