Windows Server 2012 R2 and Hyper-V Server 2012 R2 Host Configuration

Rapid EqualLogic Configuration Series
Implementation Guide

June 2014

Revisions

Date	Status
December 2012	Initial release
March 2013	Added Hyper-V 2012 content
June 2014	Updated for Windows Server 2012 R2 and Hyper-V Server 2012 R2

This document is one part of a complete installation guide series from the [Rapid EqualLogic Configuration Portal](http://en.community.dell.com/techcenter/storage/w/wiki/3615.rapid-equallogic-configuration-portal-by-sis.aspx). Please make sure that you have the complete set for your configuration before proceeding.
Full link to document site:
http://en.community.dell.com/techcenter/storage/w/wiki/3615.rapid-equallogic-configuration-portal-by-sis.aspx

Note: For instructions on enabling the Hyper-V role for a Windows 2012 Server, go to:
http://technet.microsoft.com/en-us/library/hh831531.aspx

Note: To enable Hyper-V to use volumes located on the EqualLogic iSCSI SAN, you must first complete the configuration instructions provided in this guide.
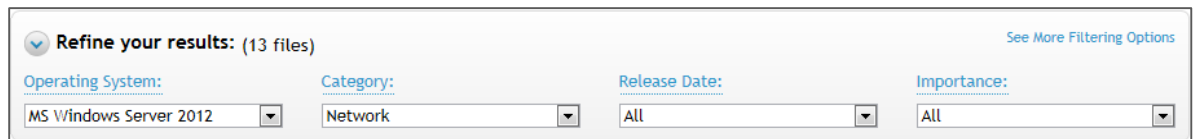
1 NIC device driver update and installation

This configuration is for Windows Server® 2012 or Windows Server® 2012 R2 hosts.

1.1 Download the latest driver update for the Intel NICs

Note: The following procedure is for an Intel 1G or 10G NIC. If you are using Broadcom® network adapters (NICS) for SAN connectivity, proceed to "Downloading the latest driver update for Broadcom NICs".

1. Go to http://support.dell.com and click **Start Here** under **Support for Small Business**.
2. In the following page, enter your server Service Tag. If you cannot find it, then browse the product category to find the model of your server.
3. Next go to the **Drivers & Download** tab.
4. In the **Refine Your Results** window, select **MS Windows Server 2012** or **MS Windows Server 2012 R2/SP** for the **Operating System**, and **Network** as the **Category**. Filtering by the **Release Date** also helps to find the latest updates.

5. Download the most recent version of the Intel driver package for **Intel PCI-E 10Gig and 1Gig Family of Server Adapters**.

1.2 Install the Intel driver update

1. Click **Install** to start, and then click **Next**.
2. After accepting the license, make sure that only **Drivers**, **Intel(R) PROset**, and **Advanced Network Services** are selected as shown and then click **Next**.
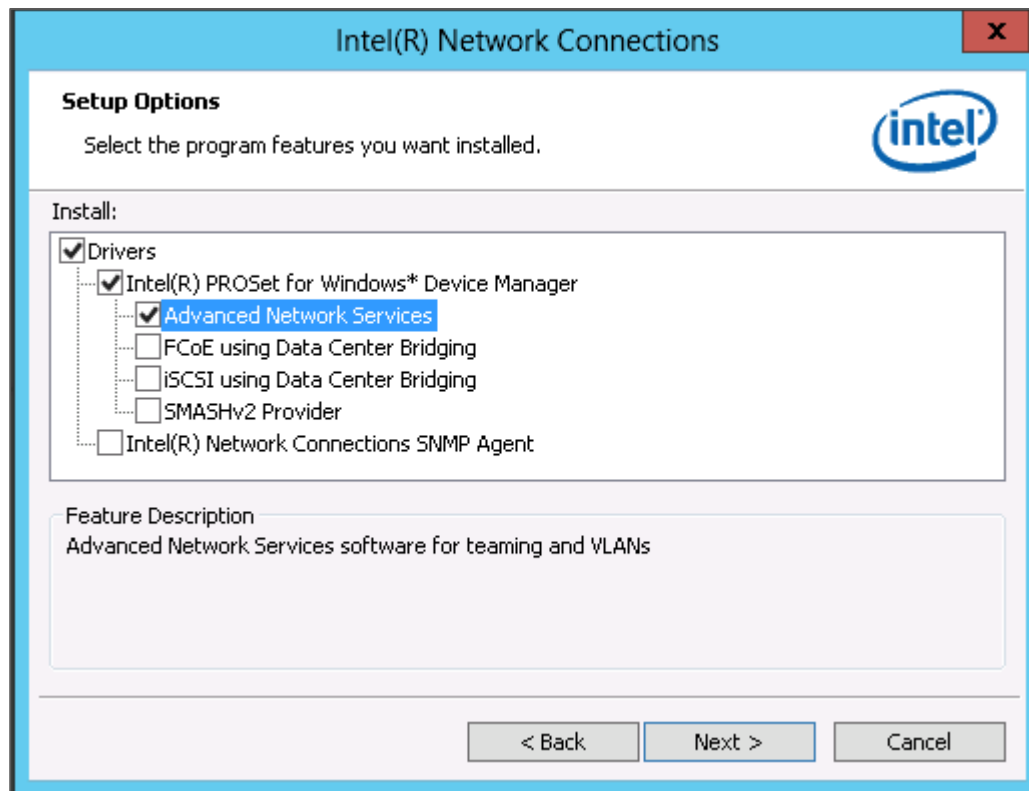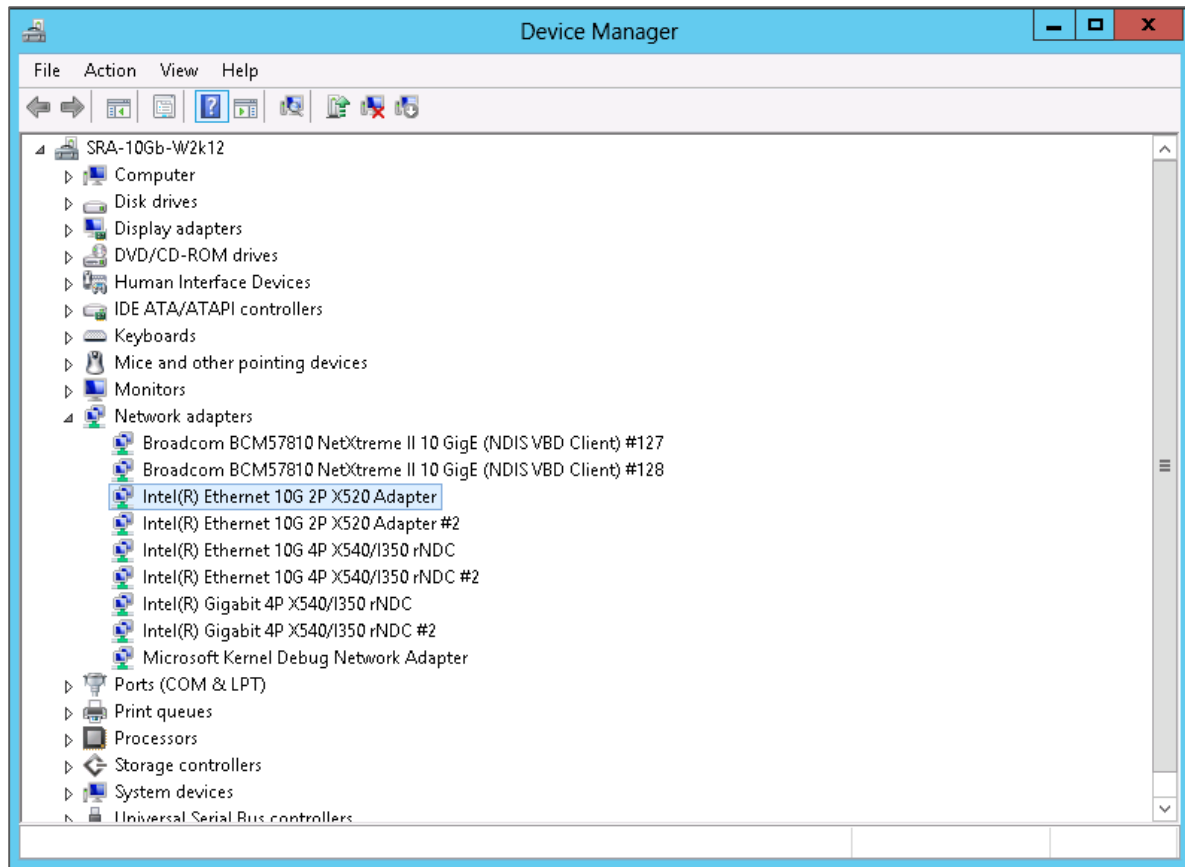

3. Click **Next** and then **Install** to complete the installation.

1.3 Configure the Intel network adapters (NICS)

After installing the Intel driver, launch the Windows device manager and expand **Network adapters**. You should see the Intel NICs listed, as shown.

For each Intel NIC that will be connected to the SAN, you need to change the following settings:

1. In **Device Manager**, double click the Intel NIC used for SAN traffic.
2. In the **Properties** dialog box, click the **Advanced** tab to configure the NIC settings.
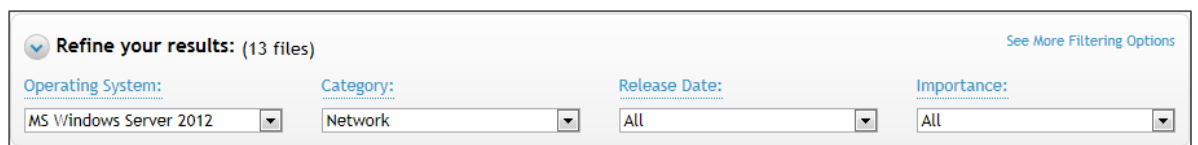3. Set the Jumbo Packet value to **9014 Bytes** and click **OK**.

Repeat these steps for all the NICs used for SAN traffic.

1.4 Downloading the latest driver update for Broadcom NICs

Note: The following procedure is for a Broadcom NIC. If you are using Intel Network Adapters (NICs), refer to section 1.1 titled, "Downloading the latest driver update for the Intel NICs".

1. Go to http://support.dell.com and click **Start Here** under **Support for Small Business**.
2. In the following page, enter your server Service Tag. If you cannot find it, then browse the product category to find the model of your server.
3. Next go to **Drivers & Download** tab.
   In the **Refine Your Results** window, select **MS Windows Server 2012** or **MS Windows Server 2012 R2/SP** for the **Operating System**, and **Network** as the **Category**. Filtering by the **Release Date** also helps to find the latest updates.

4. Download the most recent version of the Broadcom Corporation -Driver package for "NetXtreme I and NetXtreme II driver family".

1.5   Install the Broadcom driver update

1. Launch the Broadcom driver installation update.
   At the custom setup screen, select the **Control Suite** and **BASP** features as shown, and click **Next**.
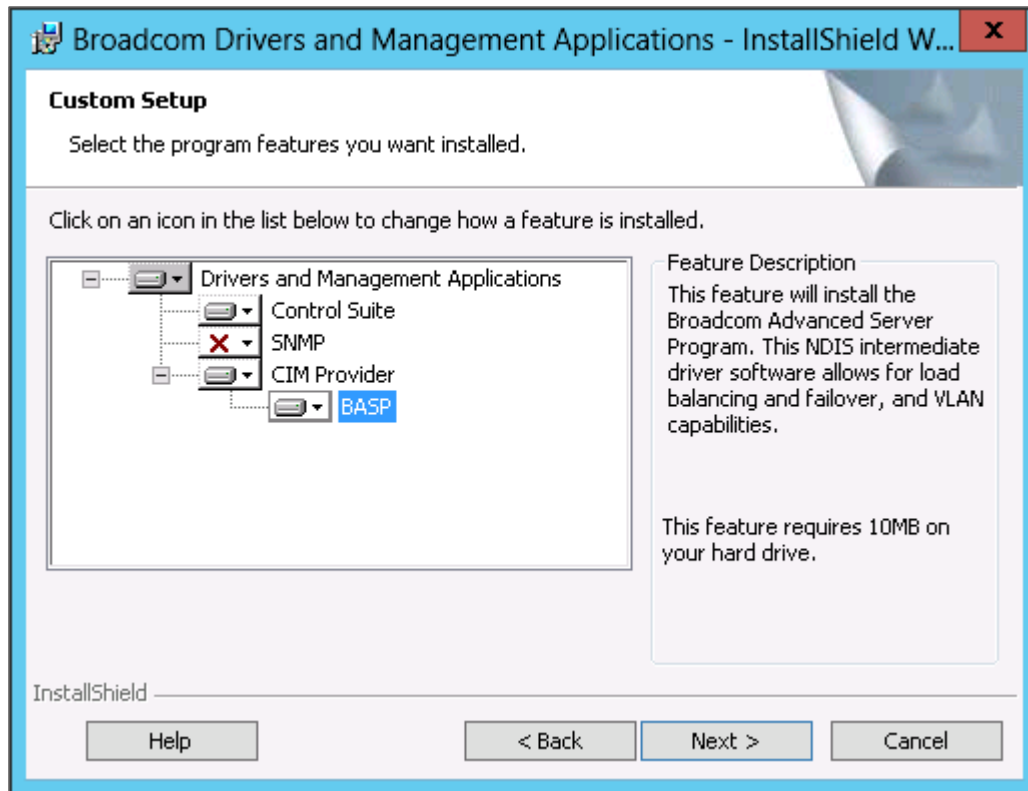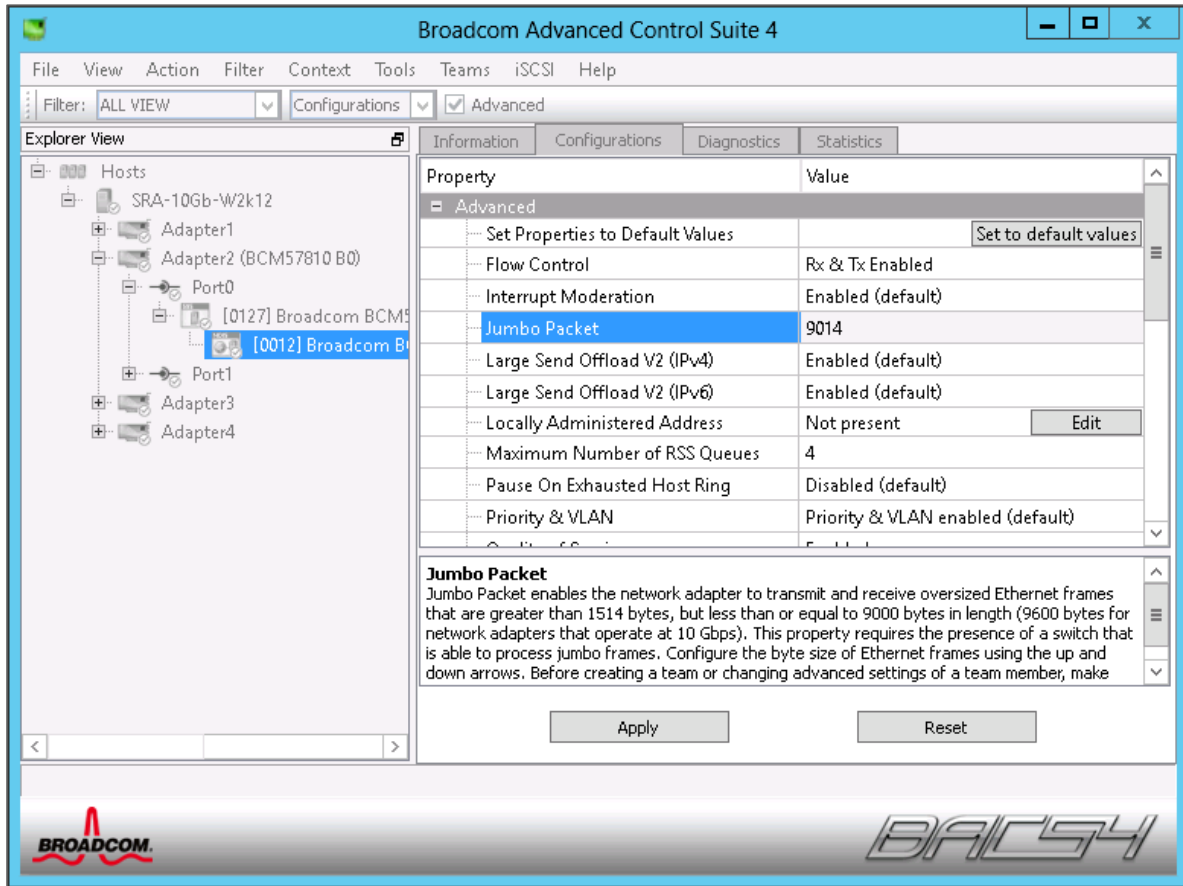

2. A system reboot may be required to complete the installation.

1.6   Configure Broadcom NIC device settings using BACS

Launch the Broadcom Advanced Configuration Suite (BACS) tool by going to **Start** > **Broadcom Advanced Control Suite**.

1. On the left pane, select the Broadcom NIC that will be used to connect to the SAN
2. On the right pane, click the **Configurations** tab.
3. Perform the following steps on each NIC port connected to the SAN network:
   Leave all values at default except for the following:

Option	Value
Flow control	Rx & Tx Enabled
Jumbo Mtu	9014

4. Click **Apply** to save the changes.
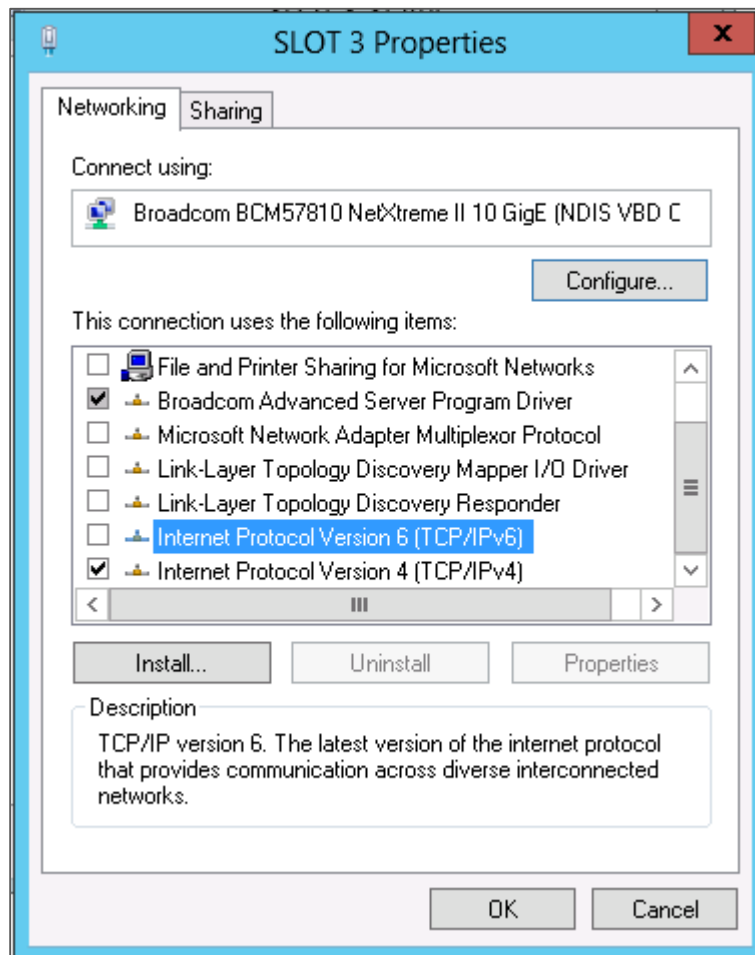5. Exit Broadcom Advanced Control Suite.

2 Configure networking

Configure and optimize the NIC ports to be used for SAN connectivity.

1. In the NIC properties, disable (uncheck) all protocols except **Internet protocol Version 4 (TCP/IPv4)**.

Note: If using Broadcom NICs, the Broadcom Advanced Server Program Drivers are protected and cannot be disabled.

2. Double click **Internet Protocol Version 4 (TCP/IPv4)** to enter the appropriate IP address for each SAN connected port (refer to the Prerequisites Table in Preparation document selected from the [Rapid EqualLogic Configuration Portal](#), and then click **Advanced Settings**.

3. In the **WINS** tab of the **Advanced TCP/IP Settings** dialog box, uncheck **Enable LMHOSTS lookup**, select **Disable NetBIOS over TCP/IP**, and click **OK**.
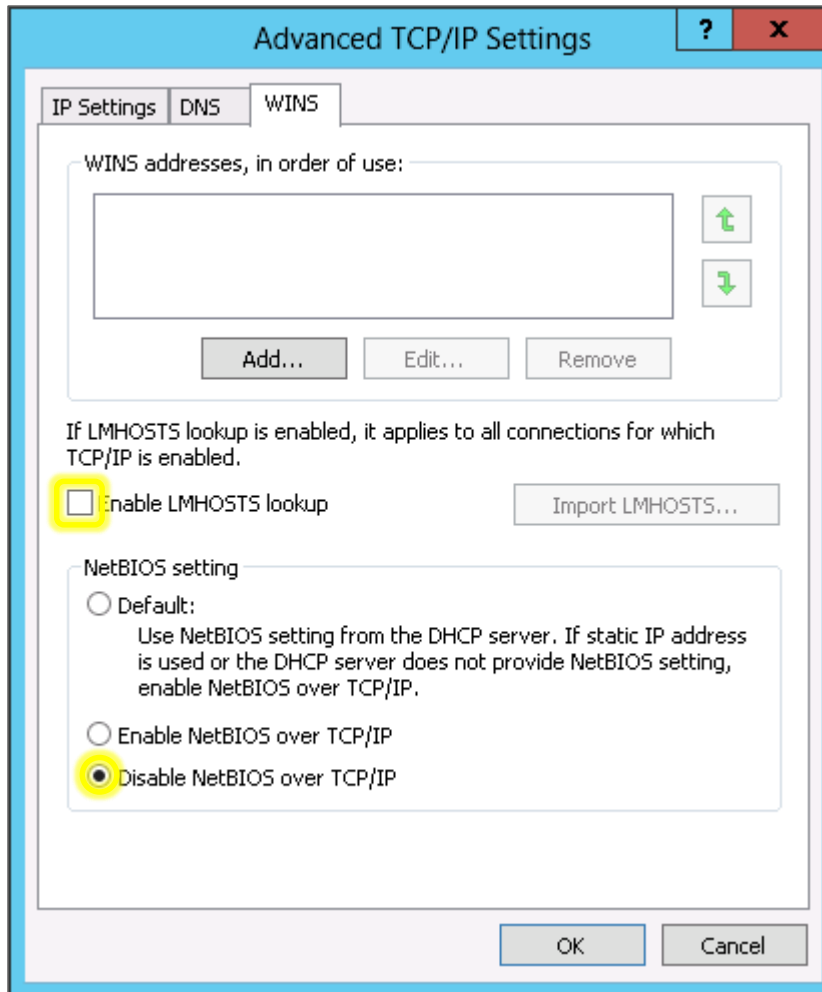

4. Repeat the steps above to configure and optimize each NIC port to be used for SAN connectivity.

3 EQL HIT kit installation

Download the latest Host Integration Tools (HIT) kit from
https://support.equallogic.com/secure/login.aspx and run the setup.

1. Select the **Complete** installation option, and then click **Next**.
2. At the **Installation Complete** screen, uncheck the **Launch Remote Setup Wizard** checkbox and then click **Finish**.
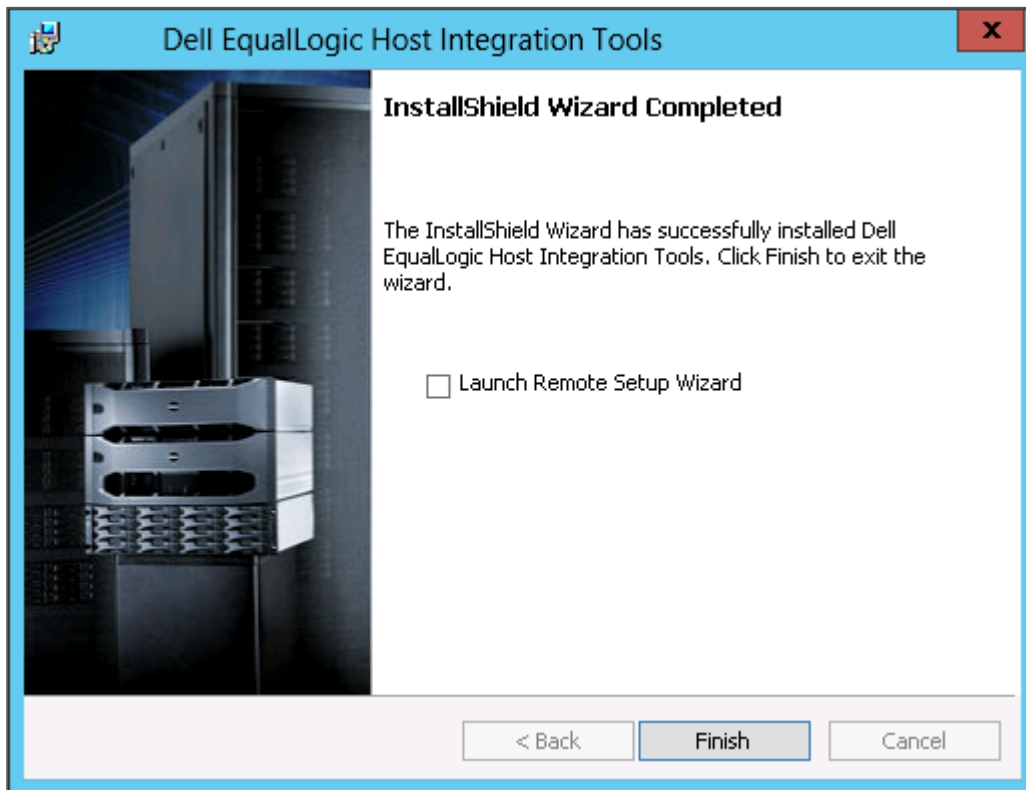
When the following message is displayed, click **Yes** to restart the system.
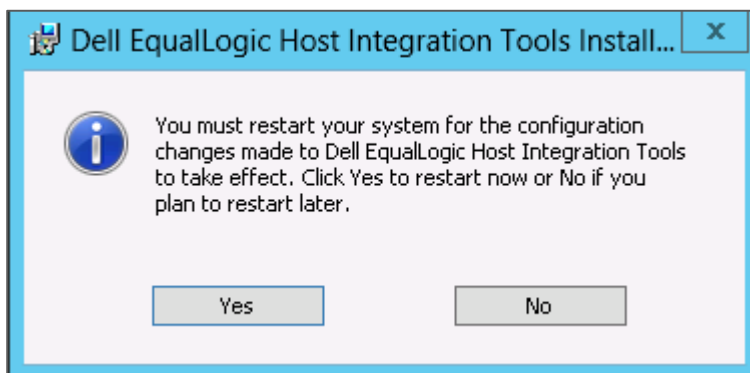
4 Configure SAN switch fabric

If you have already configured your SAN switches, continue to the next section. If not, refer to the specific instructions for configuring each switch model in the [Rapid EqualLogic Configuration Portal](#).

5 Configure storage

5.1 Configure array

If you have already configured the storage array, continue to section 5.2. If you have not completed the array configuration, then complete the steps for array configuration using the instructions in the [Rapid EqualLogic Configuration Portal.](#)

5.2 Edit volume access permissions for Windows host

1. The following steps will be performed at the Windows host that will access a volume on the storage.
2. On the Start menu click Administrative Tools > iSCSI Initiator.
3. In the configuration tab, locate the Initiator name field and copy the contents.
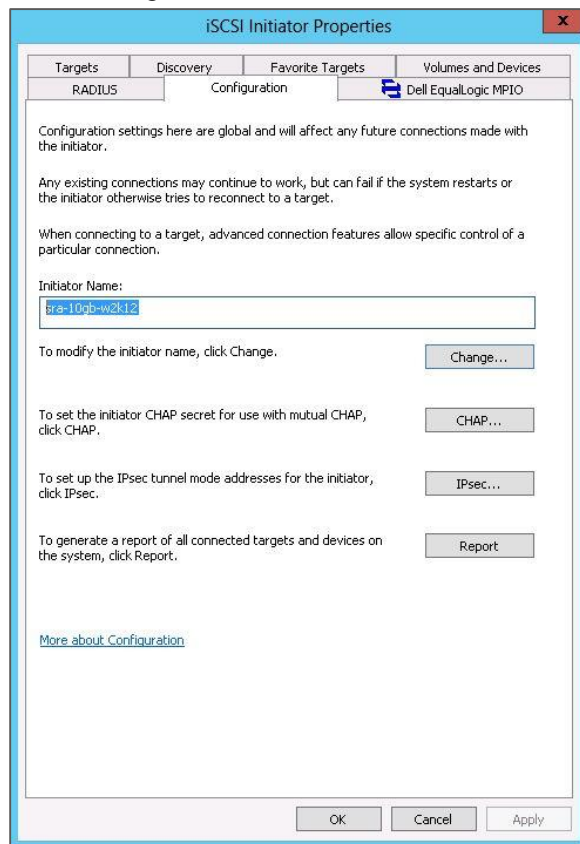
4. The following steps should be performed from the Group Manager web application.
5. The next screen image illustrates how to use the iSCSI initiator name to limit iSCSI access.

Tip: Use this screen to edit initiator names for existing volumes.

If you need to allow simultaneous connections from initiators with different IQN names, check the box in **Access** type.

Note: This is usually only necessary if the Windows node will be part of a failover cluster.
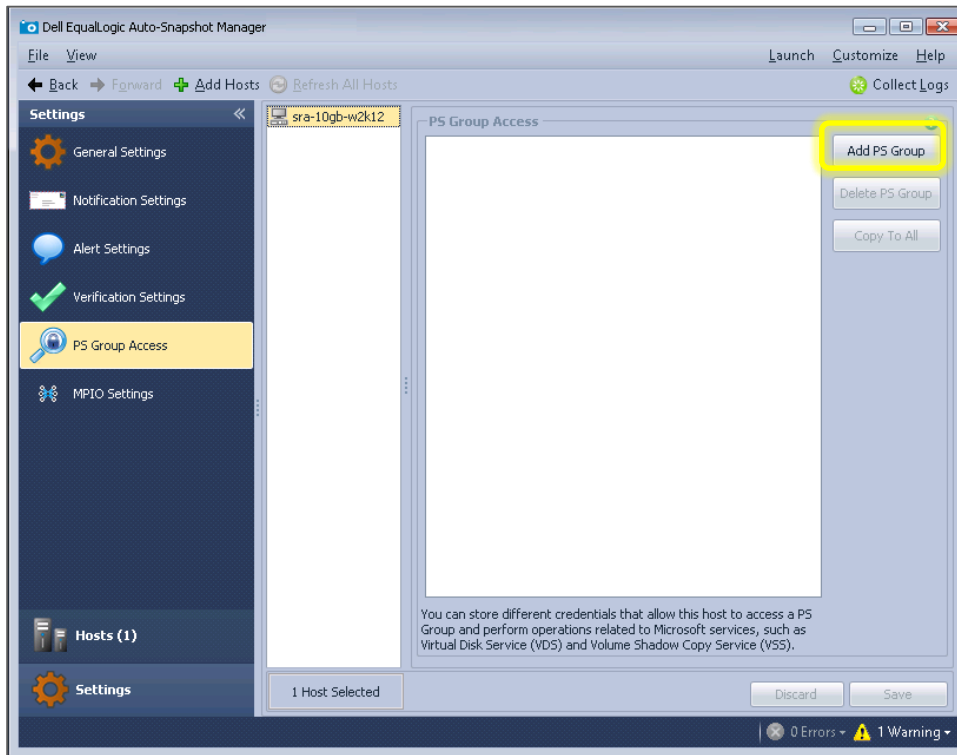
6 Configure iSCSI – target discovery

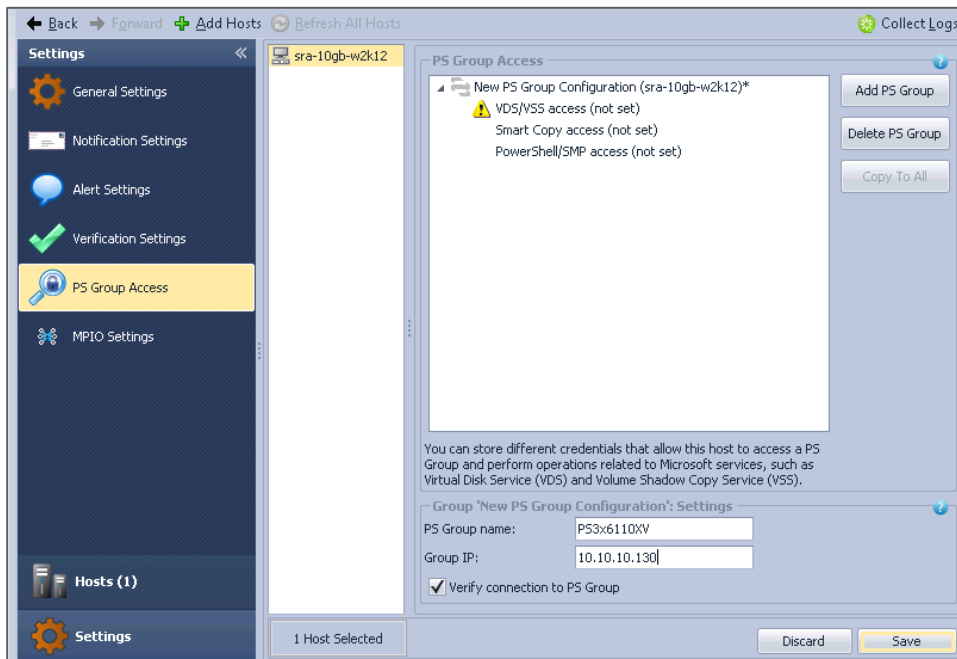To configure the host for iSCSI and target discovery, use the remote setup wizard as described in this section.

1. Open the Remote Setup Wizard by clicking **Start** > **Remote Setup Wizard**.
2. Chose **Configure PS Group Access** as shown. Auto-Snapshot Manager will be loaded automatically.
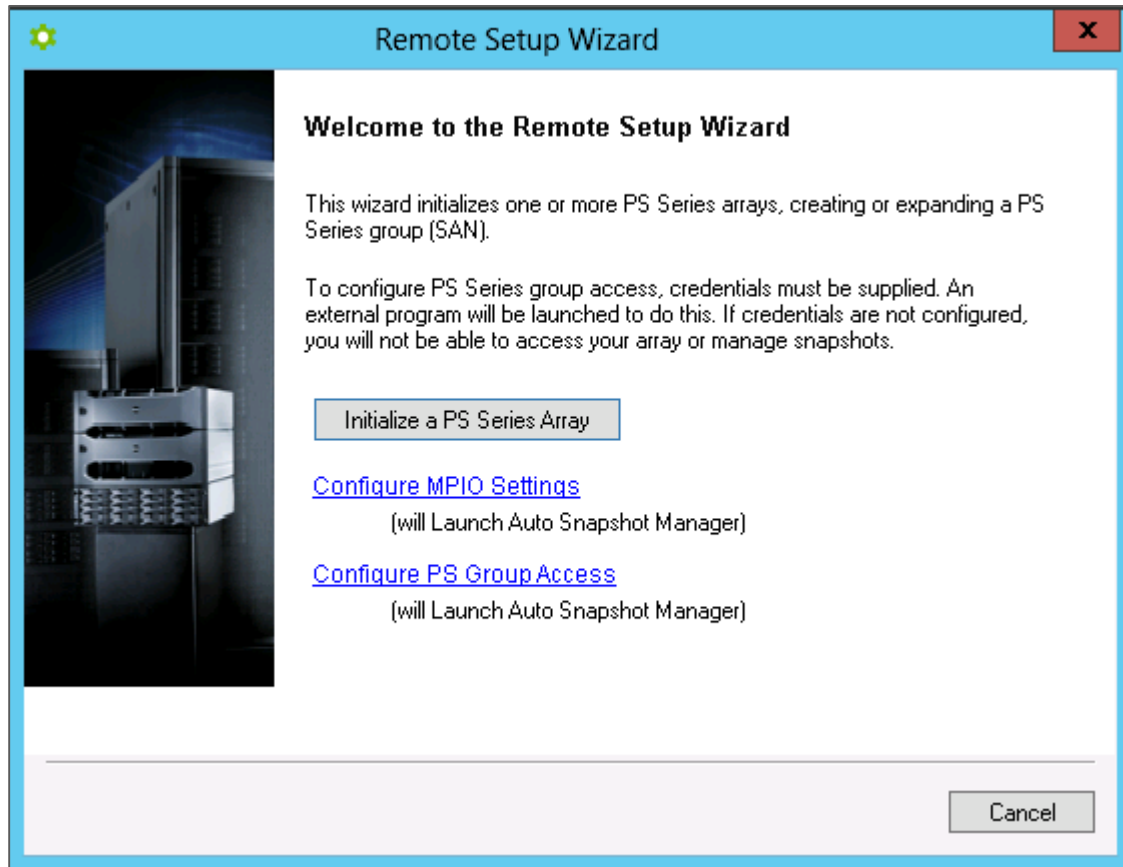
3. Click **Add PS Group**.


4. Enter the group name and in-band group IP address, as shown below. Click **Save** and then close the window.

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7 Configure MPIO settings

1. Open the Remote Setup Wizard by clicking **Start** > **Remote Setup Wizard**.
2. Select the option to Configure MPIO Settings. Auto-Snapshot Manager will be loaded automatically.
3. In the **MPIO Settings** screen, exclude any network not used for iSCSI SAN traffic (for example, the client LAN or management network). Click **Save** and then close the window.
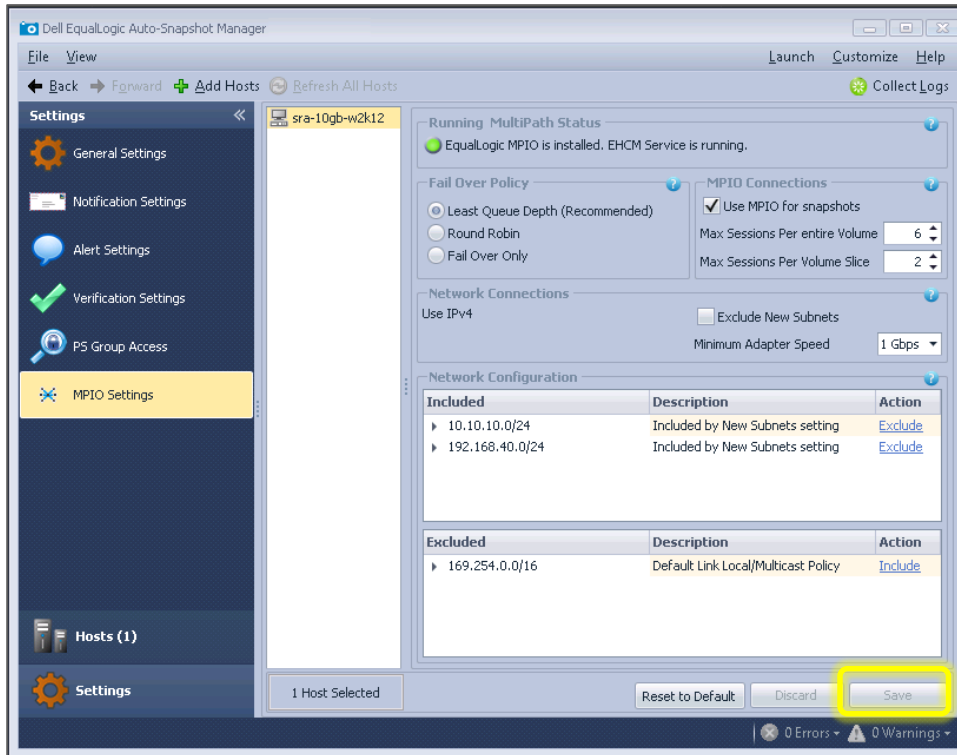
8 Configure volume access

1. Open the iSCSI Initiator on a Windows host machine by clicking **Start** > **Administrative Tools** > **iSCSI Initiator**.
2. Click the **Targets** tab to view the iSCSI target for the volume created on the array member.
3. Click **Refresh** to rescan the ISCSI targets.
4. Select a target to connect to and click **Connect**.
5. Click **OK** to confirm the connection.
   Repeat steps 4 and 5 of "Volume access" for the remaining volumes.

6. Click **OK** to close the iSCSI initiator properties.
7. In the **Start** menu select **Administrative Tools** > **Server Manager**.
8. Click **File and Storage Services** > **Volumes** > **Disks.**
9. Right click the new disk (offline) and choose **Bring Online**.
10. Right click the disk again and choose **New Volume.**
11. Follow the **New Volume Wizard** to create a volume, assign it a drive letter or folder, and then format it with a file system.