



ESXi 4.1 Host

Rapid EqualLogic Configuration Series
Implementation Guide

April 2013



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Revisions

Date	Description
April 2012	Initial release
December 2012	Minor updates
April 2013	Added heartbeat network

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1 Prerequisites

Note: The following commands should be executed from your designated management server, using the VMware vSphere 4.1 Command-Line Interface.

Before proceeding, you must use the vSphere Client to place the ESXi host server into maintenance mode.

This document is one part of a complete installation guide series from the [Rapid EqualLogic Configuration Portal](#). 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>

2 ESXi NIC driver updates

To update the Broadcom network drivers do the following:

1. Using the offline-bundle (zip) driver package downloaded and extracted previously, update the drivers for the Broadcom network adapters.
`vihostupdate.pl --server server-ip-address --install --bundle offline-bundle.zip`
2. When prompted, supply the root user and password for the ESXi host server.
3. Repeat this for all offline-bundles to be applied.
4. When complete, reboot the ESXi server to apply the changes.



3 Enable flow control on the Broadcom 57711

The following procedure requires physical or remote SSH access to the server and is only required if Broadcom 57711 (10 Gb) network adapters are connected to the SAN. Refer to VMware KB article 101790 at <http://kb.vmware.com/kb/1017910> for more information on using the ESXi 4.1 console in Tech Support mode.

1. At the ESXi console, press **[F2]** and login as root.
2. Select Troubleshooting Options and press **[Enter]**.
3. Select Enable Local Tech Support Mode and press **[Enter]**.
4. Press **[Alt]+[F1]** to open the local console and login as root.
5. At the ESXi console type:
esxcfg-nics -l
6. The available NICs are displayed (example: vmnic0, vmnic1, vmnic2...).

Using the above output, determine which "vmnic" labels are assigned to adapters used for SAN connectivity. For example, the two ports on the Broadcom 57711 may be listed as vmnic4 and vmnic5 (this will vary depending on the system configuration).

7. At the ESXi console type:
vi /etc/rc.local
8. Type the letter **o** (lowercase) to append a new line to the file
9. Type
ethtool --pause <vmnic> tx on rx on

Substitute the vmnic number that corresponds to the Broadcom 57711 NICs listed in step 5 above. Press enter and repeat for each NIC that is connected to the SAN. When finished, go to the next step.

10. Press **[Esc]**, type **:wq**, and then press **[Enter]** to save the file.
11. Type:
/sbin/auto-backup.sh
12. Restart the system to apply the changes.
For more information, refer to VMware KB article document 1013413.

<http://kb.vmware.com/kb/1013413>



4 Installing and configuring the Multipath Extension Module

1. Place the ESXi host in Maintenance Mode. Right click on the ESX host from vSphere Client and select Enter **Maintenance** mode.

Note: The vCLI environment must be installed on the management server.

2. From the vCLI command prompt, change to the directory where the MultiPathing Extension Module (MEM) was unzipped. (Refer to the prerequisites listed in the selected introduction section.)
3. Type the following command:
setup.pl --install --server=<ESXi host IP address> --bundle=<bundle file name>

Where *bundle file name*=the Zip file such as dell-eql-mem-1.0.1.168651.zip

4. When prompted, login as root with the correct password. It may take several minutes.
5. When the setup is complete, "Clean install was successful" is displayed.
6. When prompted, reboot the ESXi host. When the server is back up, type the following command in the vSphere CLI command prompt:
setup.pl --configure --server=<ESXi host IP address>
7. Enter username and password.
8. Give the following answers to the configure wizard questions:
 - a. For the switch type, press **[Enter]** to select vSwitch since it is the default option.
 - b. For the switch name, press **[Enter]** to accept the default value.
 - c. Regarding which NICs, enter the VMNIC name that will handle the iSCSI traffic, separated by space. Example:
vmnic4 vmnic5
9. Enter the IP addresses for every VMNIC.
10. Provide an IP address for use by the highly available heartbeat vmknics..

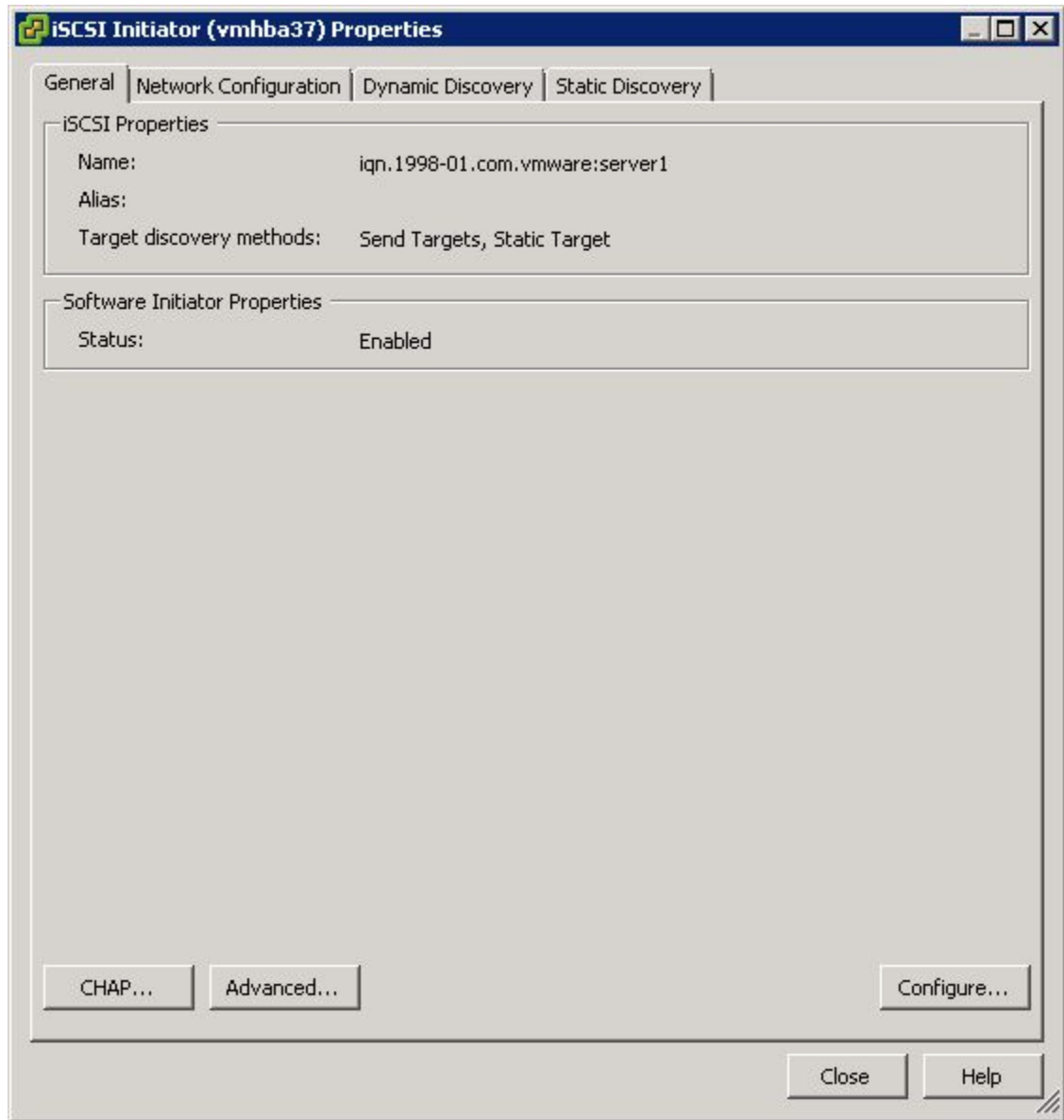
Note: Storage heartbeat is required for ESX version 5.0 and earlier.

11. Enter the netmask.
12. MTU size is 9000.
13. Select the default prefix by pressing **[Enter]**.
14. In the SW iSCSI or HW iSCSI question, enter **sw**.
15. If prompted, answer **yes** to enable the iSCSI initiator.
16. Enter the PS Group IP address.
17. Press **[Enter]** to deactivate CHAP.
18. When the installation is complete, go to the ESXi console.
19. Press **[Alt]+[F1]** to open the local console and login as root.
20. Return to the ESXi console and type:
/etc/init.d/hostd restart



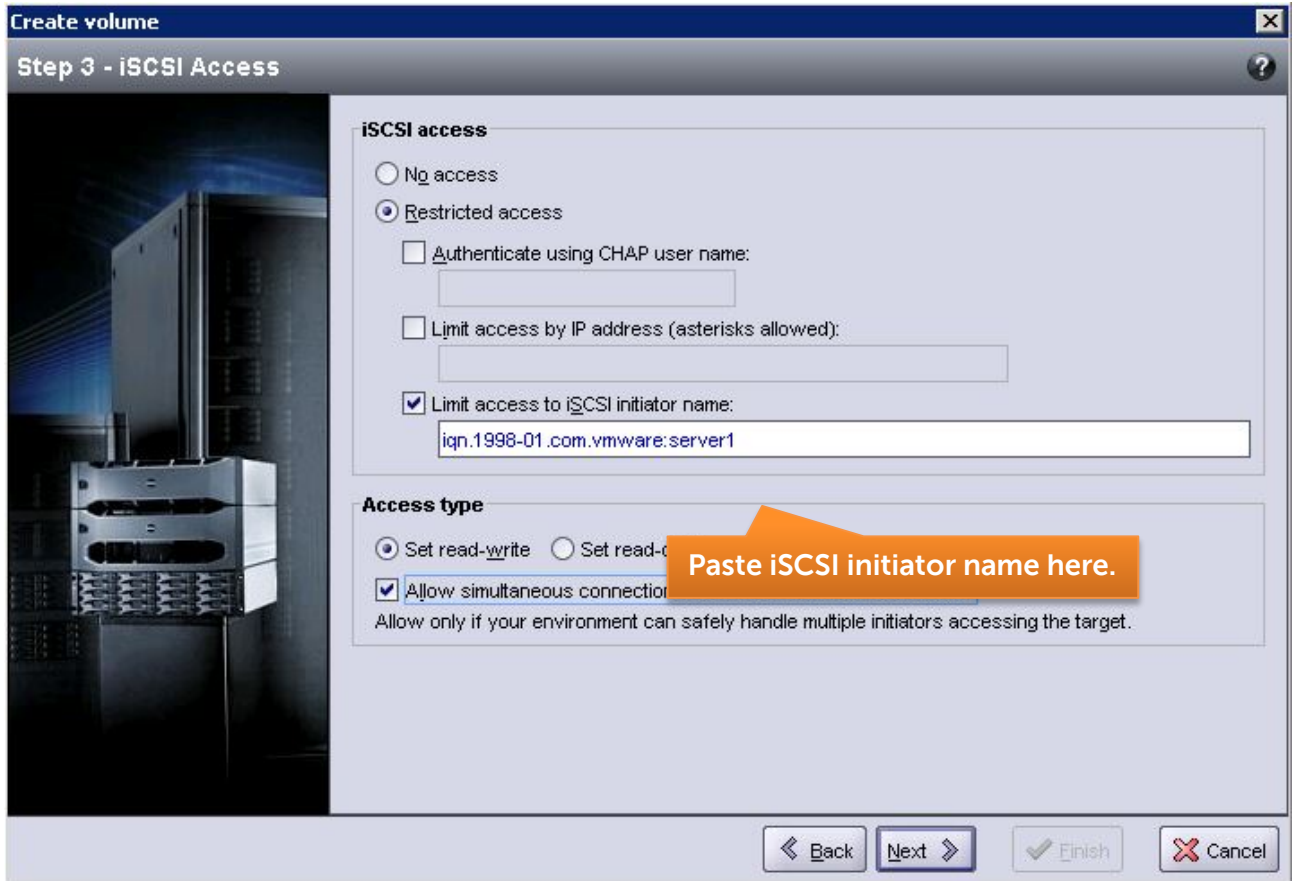
5 Connecting to volumes

1. Open the vSphere client and under **Configuration**, go to **Storage Adapters**.
2. Click **Properties** for the iSCSI Software Adapter.
3. If the name is blank, click **Configure** and enable the Software iSCSI Initiator. Copy the name and proceed to the next step.



4. The next screen image illustrates how to use the iSCSI initiator name to limit iSCSI access at the EqualLogic Group Manager.

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



5. Check the box to **Allow simultaneous connections from initiators with different IQN**,
6. In the vSphere Client GUI click on **Configuration > Storage Adapters**, and then select the iSCSI Software Adapter.
7. Click Rescan and choose to Scan for New Storage Devices and select Ok.
8. Click **Devices** and look for the new EQLOGIC iSCSI Disk with the correct size shown to verify configurations have been completed properly.

Details

vmhba37

Model: iSCSI Software Adapter
 iSCSI Name: iqn.1998-01.com.vmware:server1
 iSCSI Alias:
 Connected Targets: 4 Devices: 1 Paths: 4

View: Devices Paths

Name	Runtime Name	Operational State	Capaci...
EQLOGIC iSCSI Disk (naa.64ed2af567eba591ad17353b92013015)	vmhba37:C0:T0:L0	Mounted	50.01 GB



6 Creating datastores

1. From the vSphere Client, navigate to the **Configuration** tab and click **Storage Adapters** in the **Hardware** list.
2. In the **Storage Adapters** list, locate the **iSCSI Software Adapter** and select it.

The screenshot shows the vSphere Client interface for a VM named '192.168.40.59 VMware ESXi, 4.1.0, 348481'. The 'Configuration' tab is active, and the 'Storage Adapters' section is expanded. The 'iSCSI Software Adapter' is selected, and the 'Details' pane shows the following information:

Device	Type	WWN
vmhba37	iSCSI	iqn.1998-01.com.vmware:localhost-4be22d44:10G...

PowerEdge R610 SATA IDE Controller

vmhba0	Block SCSI
vmhba36	Block SCSI

Broadcom iSCSI Adapter

vmhba37	iSCSI	iqn.1998-01.com.vmware:localhost:13136613:34
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Details for vmhba37

Model: iSCSI Software Adapter
 iSCSI Name: iqn.1998-01.com.vmware:localhost-4be22d44
 iSCSI Alias: 10G-BCM-ESX-1
 Connected Targets: 6 Devices: 1 Paths: 6

View: **Devices** Paths

Name	Identifier
EQLOGIC iSCSI Disk (naa.6090a0b8b0863ea18ee6f40100003004)	naa.6090a0b8b0863ea18ee6f40100003004

3. A list of available volumes is displayed for the adapter. If the list does not appear, click **Rescan All**.
4. In the **Hardware** list of the **Configuration** tab, click **Storage**.
5. Click **Add Storage**.

The screenshot shows the vSphere Client interface for the same VM. The 'Configuration' tab is active, and the 'Storage' section is expanded. The 'Datastores' view is active, and a new datastore 'datastore1' is visible. The 'Datastore Details' pane is empty.

View: **Datastores** Devices

Identification	Status	Device	Capacity	Free	Type	Last Update
datastore1	Normal	Local Dell Disk (n...	131.00 GB	46.44 GB	vmfs3	9/8/2011 6:37:24

Datastore Details



6. In the **Add Storage** wizard that displays, select **Disk/LUN** for the **Storage Type** and click **Next**.
7. Select an available volume to create a datastore and click **Next**.
8. Click **Next** to accept the disk layout.
9. Provide a name for the datastore and click **Next**.
10. Select the **Maximum File** size (and **Block Size**) desired and click **Next**.
11. Click **Finish** to complete the **Add Storage** wizard.

