MAKING DATA SMART

Qsan Document - White Paper

How to configure iSCSI initiator in ESXi 6.x

Version 1.0
May 2015

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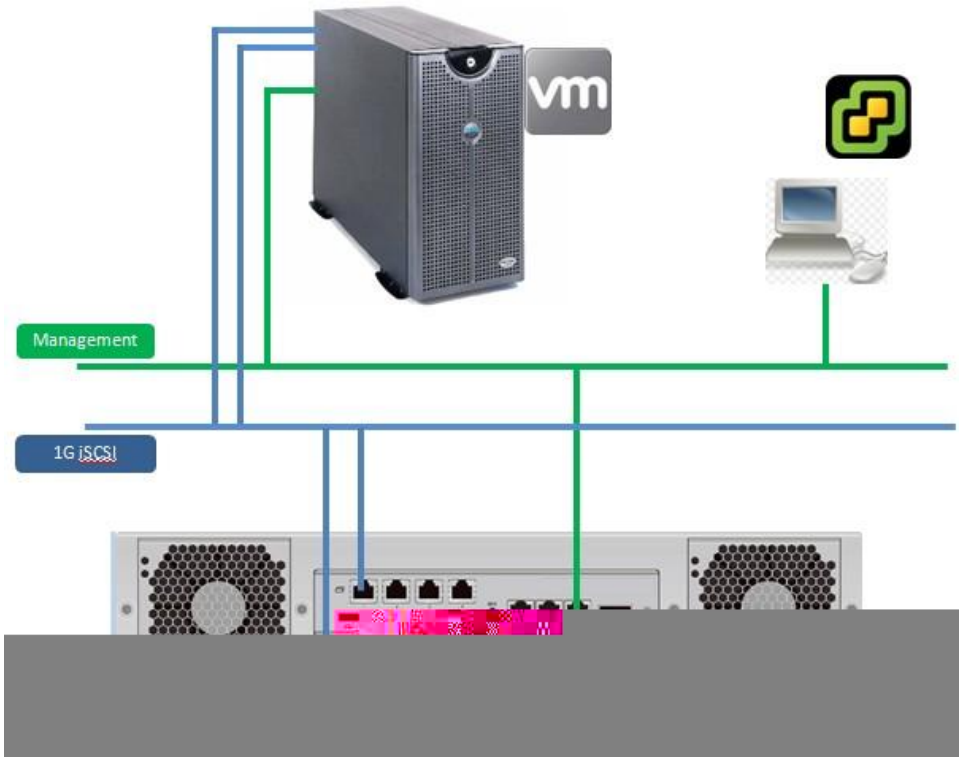
Introduction

In this document, we will guide users to understand how to use the software iSCSI initiator in ESXi 6.x to connect to Qsan AegisSAN LX P400Q dual controller system. We will also demonstrate the steps pertaining to how multipath I/O be configured with P400Q for achieving the expected throughput.

Environment

Host:	VMware ESXi server 6.0
NICs:	VMnic2 (management) VMnic0/VMnic1 (used for connecting to P400Q)
Storage:	Qsan AegisSAN LX P400Q
Controller firmware:	V3.5.1
iSCSI data port:	172.16.1.5.10/24 172.16.1.6.10/24
LUN attached:	target10, LUN0, 3TB

Diagram



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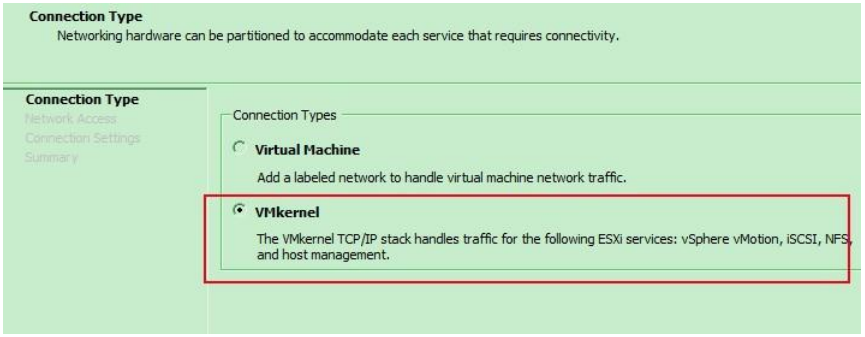
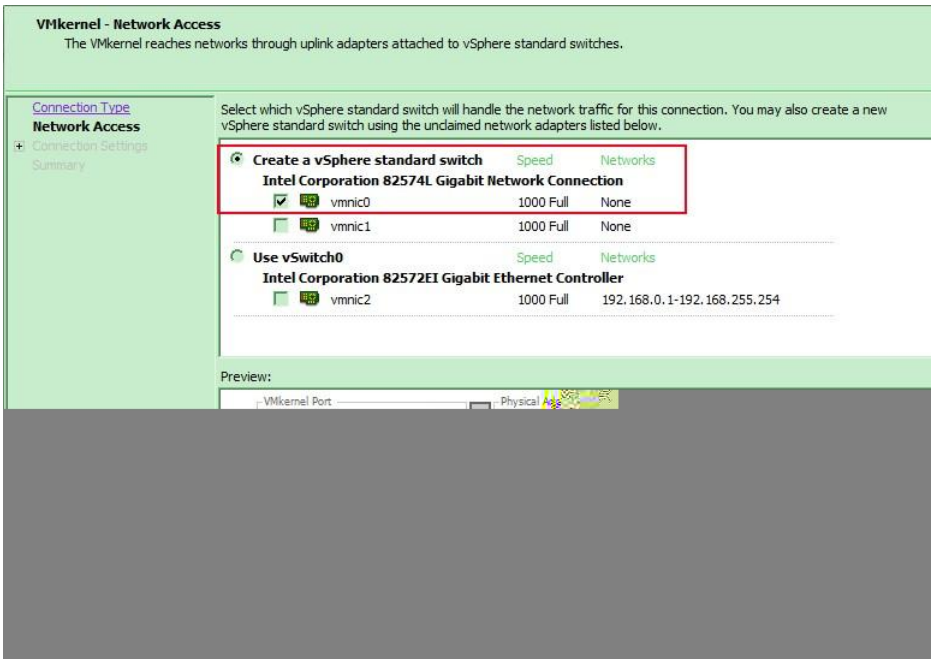


4. Create the first virtual switch and make sure to choose the right network interface which is connected to the same network with P400Q iSCSI data port



5. Specify **Network Label** and setup a proper **VMkernel** network IP which is used to connect to the iSCSI data port of P400Q

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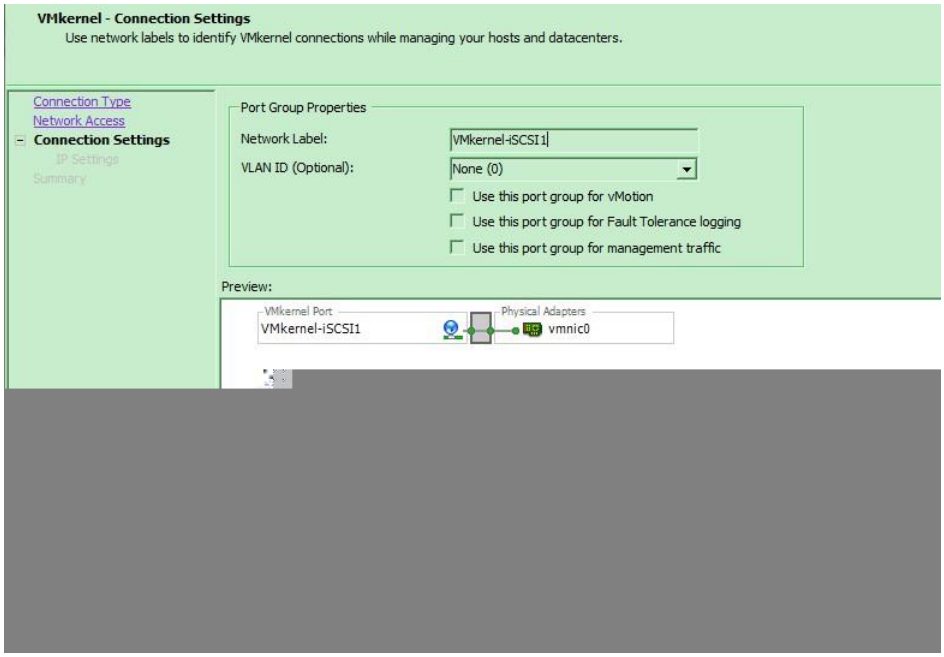

6. Check all configurations are correct, and then click **Finish** button.

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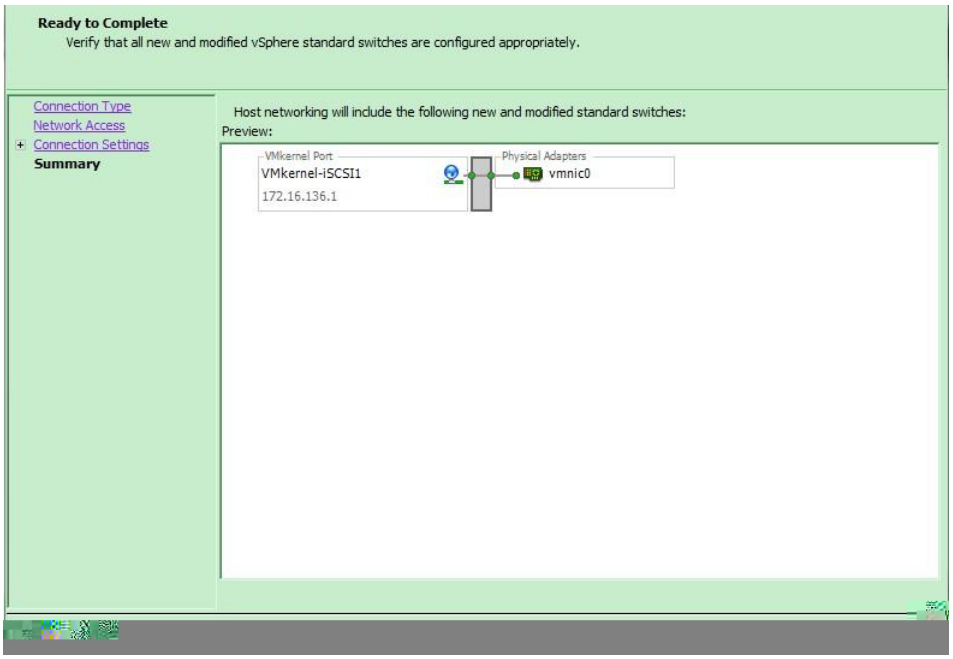

7. [redacted] to add another **VMkernel** network, and we suggest to add another vSwitch for separating the network segment and preventing getting user confused

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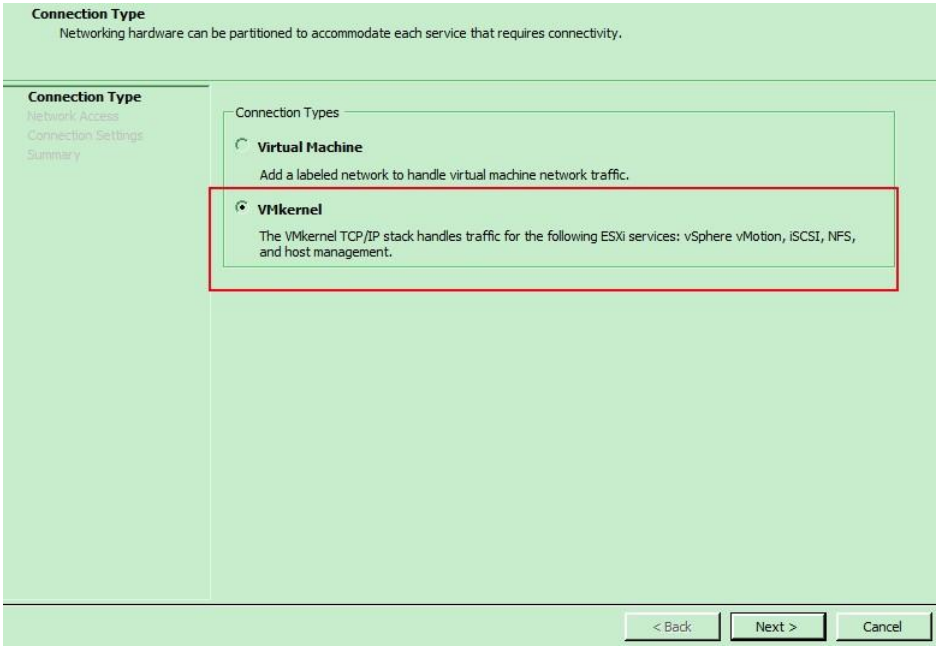

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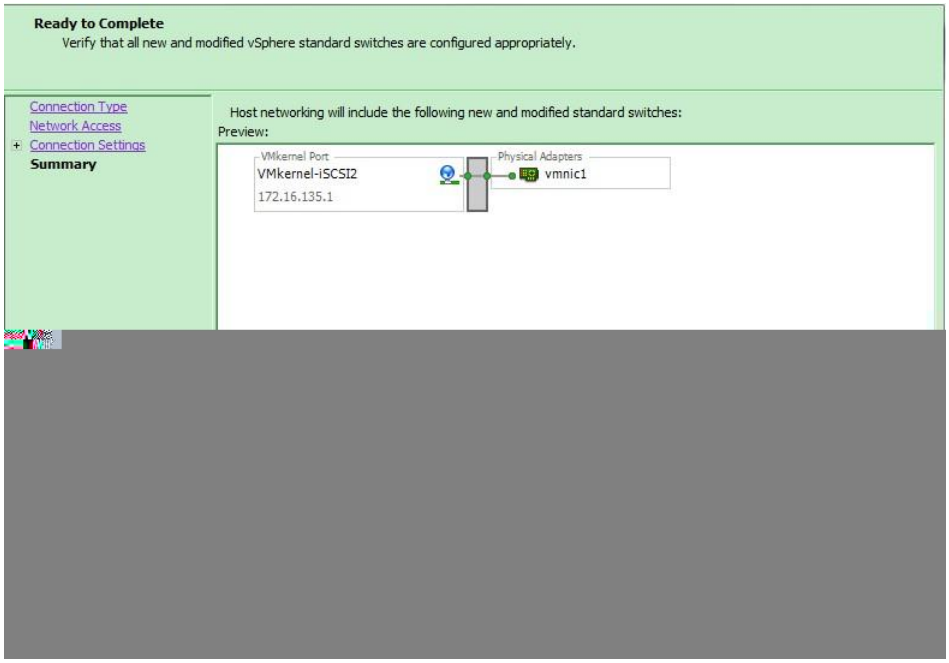

8. In **Configuration** tab, select **Storage Adapters** to list all available storage adapters. Choose **iSCSI Software HBA** and click **Properties** to modify the settings

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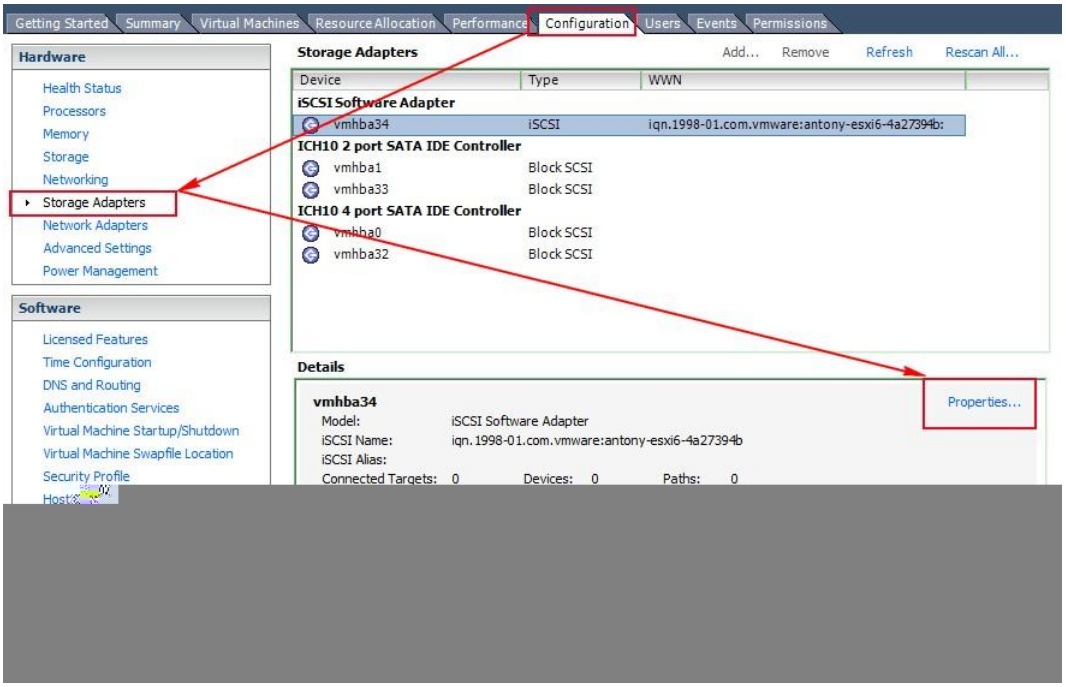

9. In **iSCSI initiator Properties**, select **General** tab and click **Configure** to enable iSCSI initiator.

10. Next, please add another VMkernel port (default is one only) into the iSCSI initiator so that the multipath session can be created smoothly

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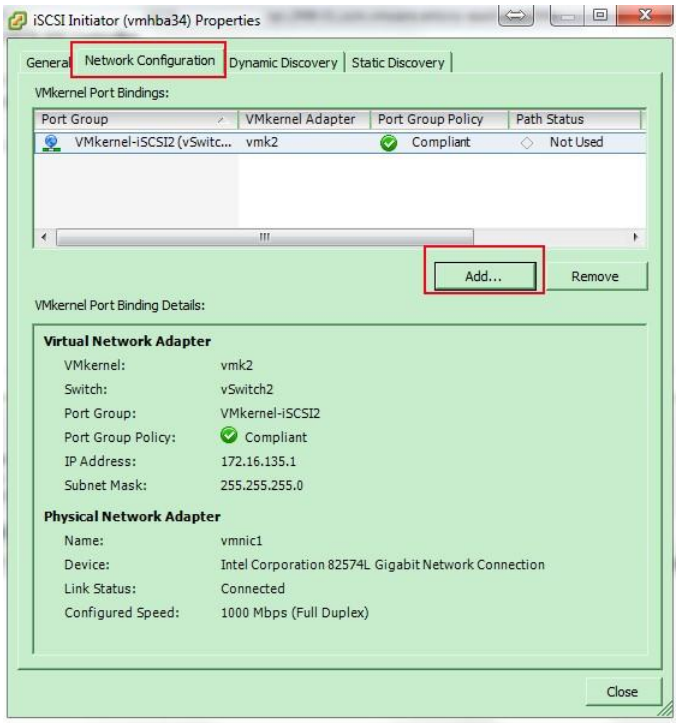

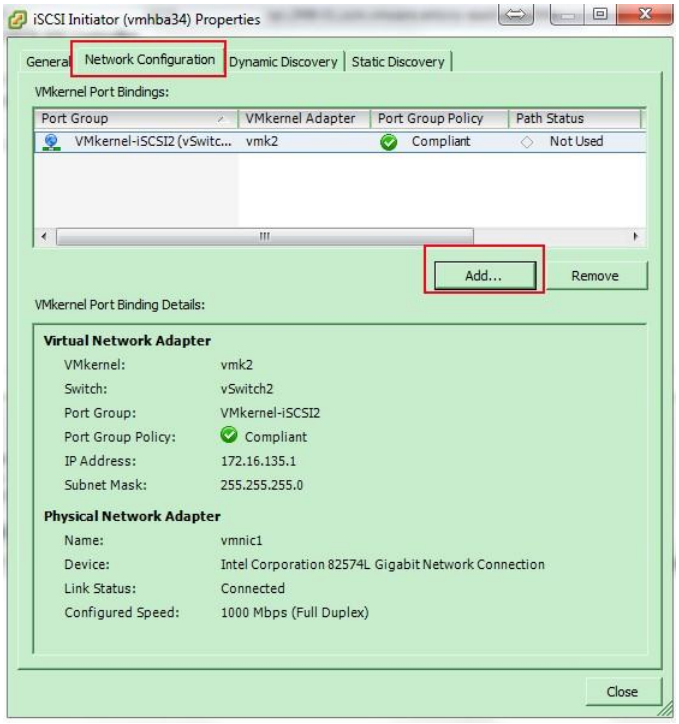

11. Go to **Static Discovery** tab, click **Add** button to set iSCSI target IP, here is iSCSI data port of P400Q

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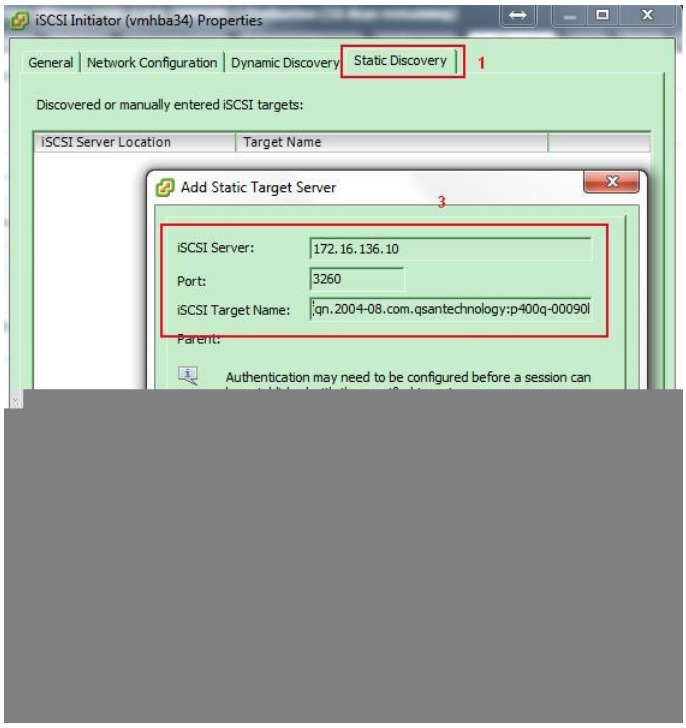

TIP:
The iSCSI target iqn can be found on web UI. Remember that the iqn is not if if you are connecting to the iSCSI data port of controller1 and controller2 f ESXi server.

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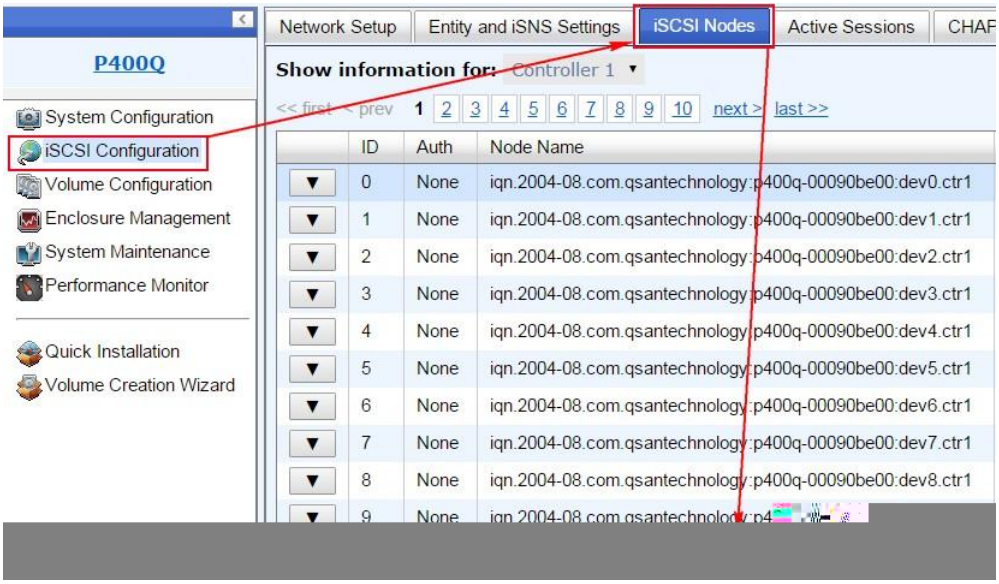
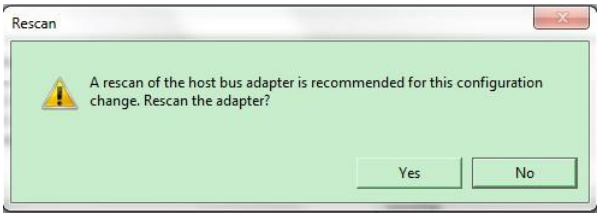


12. A **Rescan** window will pop up after the configuration is finished, click **Yes** button to rescan all devices



13. After rescanning, the available LUNs will be listed in the **Details** column when selecting the **iSCSI software adapter**. Although only one LUN is created on P400Q there are two different physical paths to the same LUN, therefore the system displays two different records to the same LUN here.

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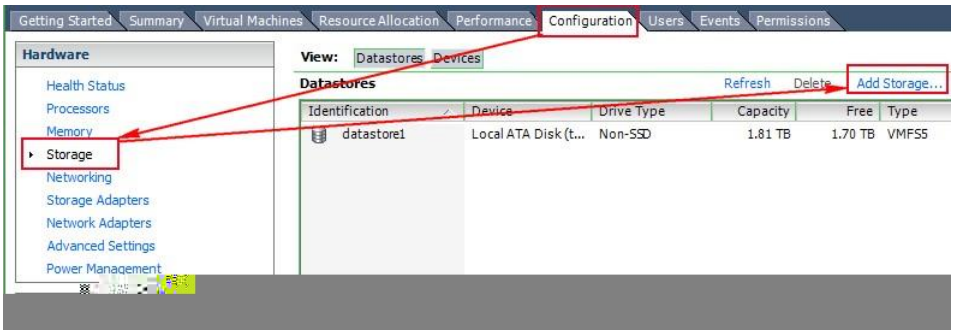
Add a new storage using the iSCSI LUN

1. The LUN will be used as a virtual disk of the created guest OS. In the **Configuration** tab, select **Storage** and click **Add Storage**.



2. Select **Disk/LUN**, and click **Next** button.

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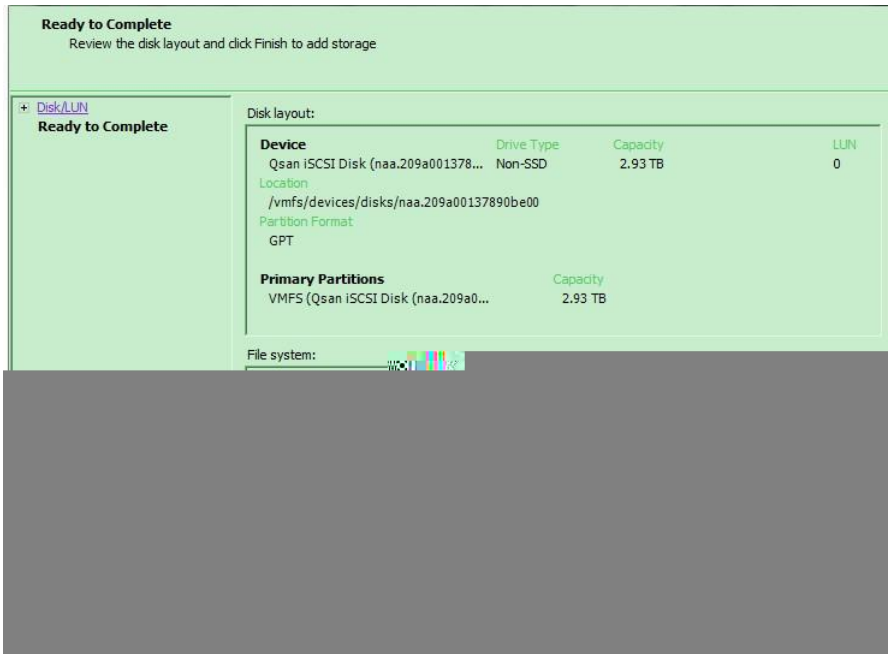
6. Check all settings, then click **Finish** button.



7. A new storage is added under **Datastores** of the ESXi server. The ESXi server provides settings to the multipath I/O. We can select the iSCSI storage and click **Properties** to modify the settings.

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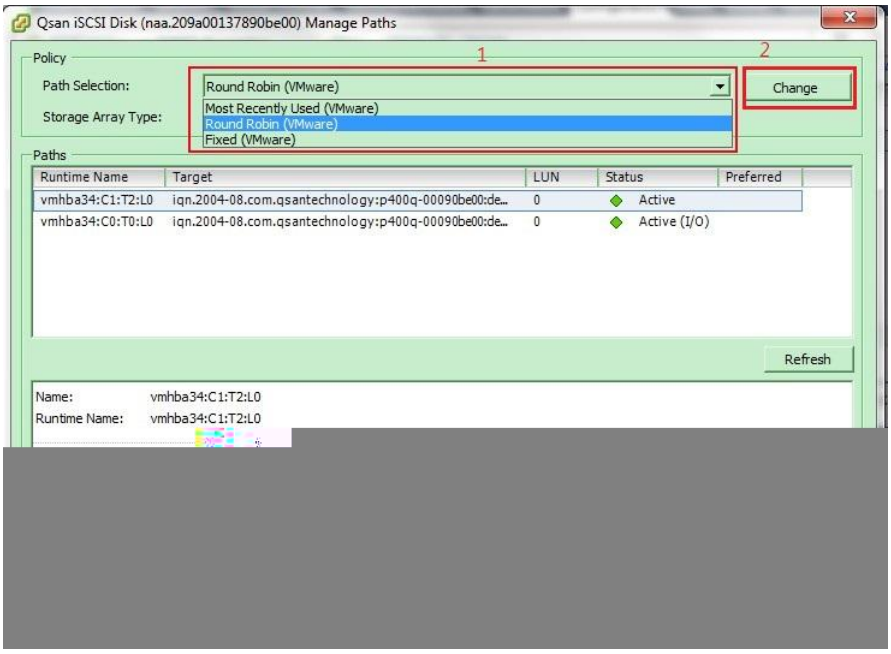

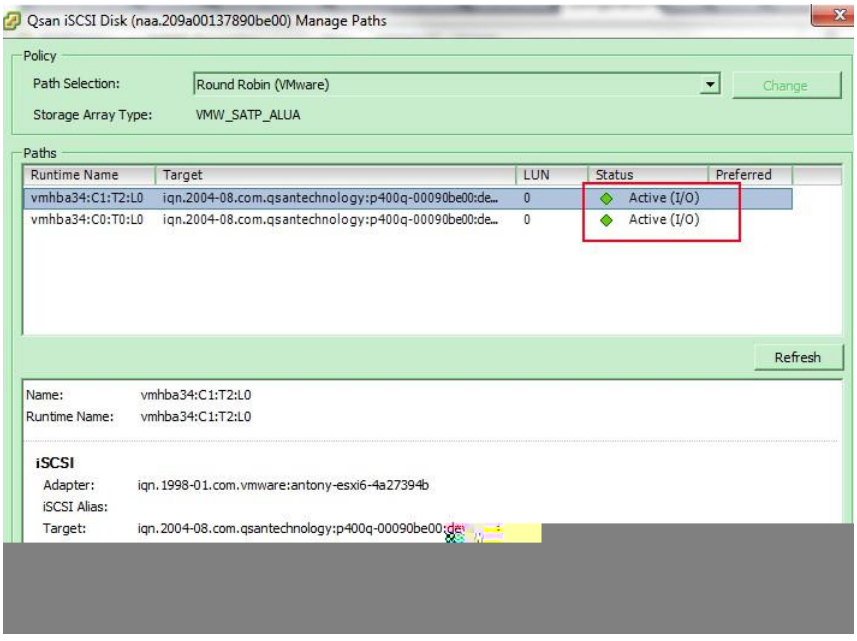

Add a new HDD to the created guest OS using the added datastore

1. Now the datastore can be added as a virtual disk of guest OS. Right click on the guest OS and select **Edit Settings**.

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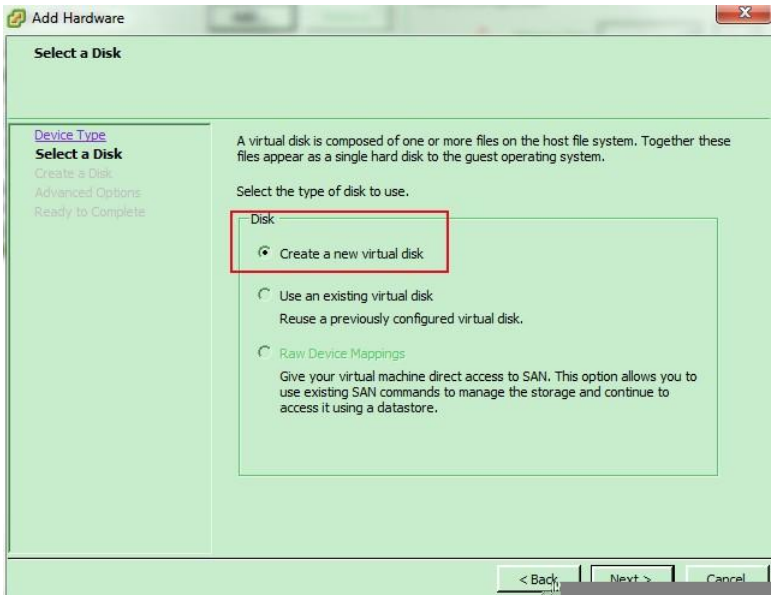
4. Choose **Create a new virtual disk**, and click **Next** button.



5. Select **Specify a datastore or datastore cluster**, and click **Browse** button.

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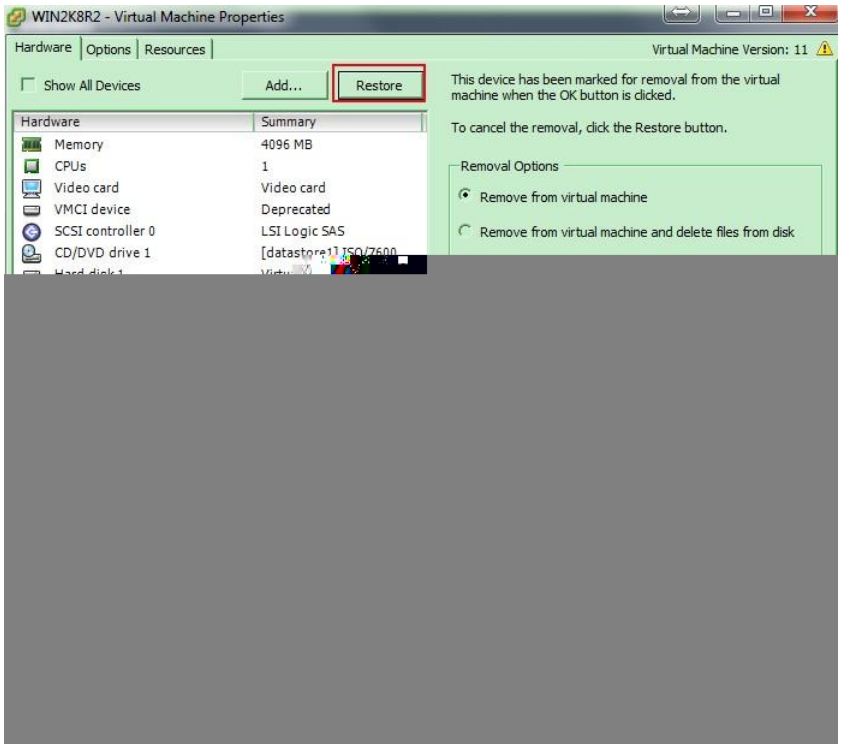

2. Remove the new added datastore on ESXi server

3. Log out both of the iSCSI targets

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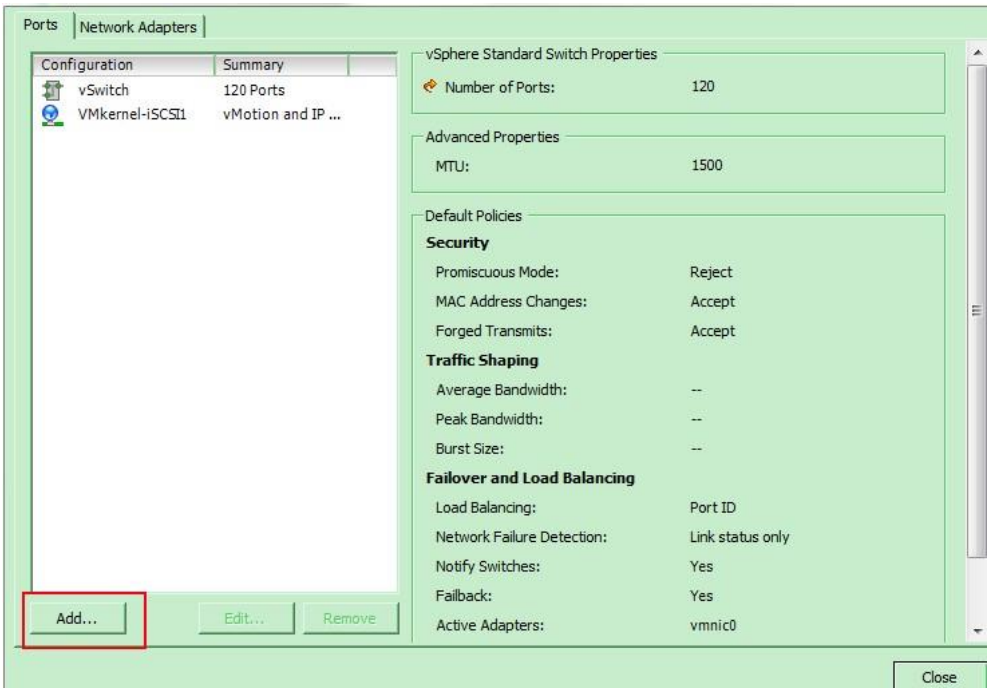

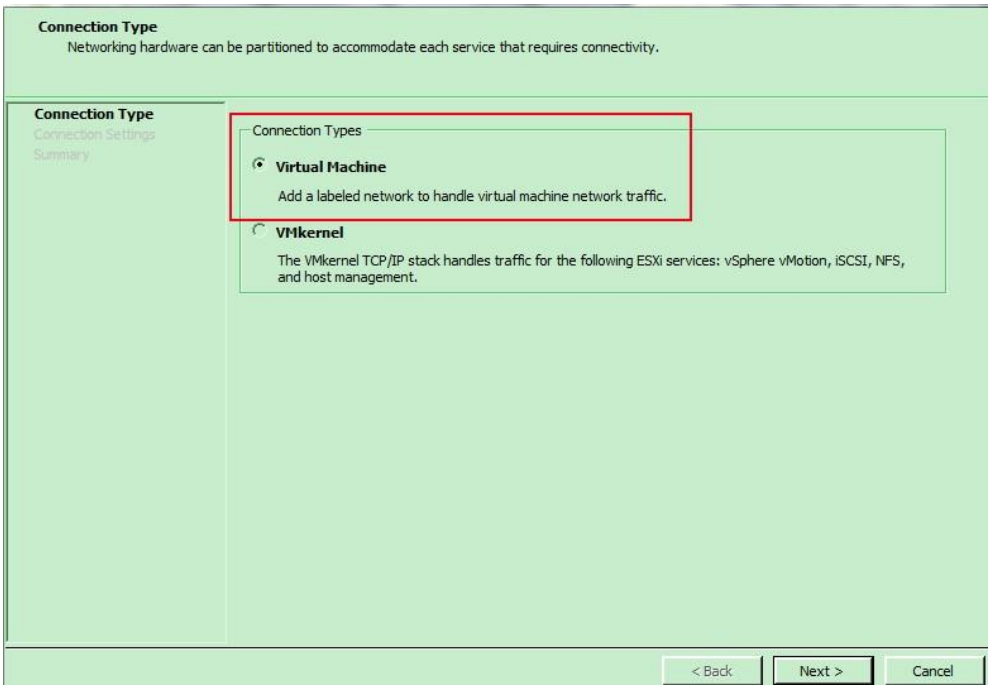

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5. And so on for the other vSwitch, there will be another 2 VM port group available for VM guest OS

6. Add 2 more Ethernet NIC to the created guest OS, using the VM port group is created

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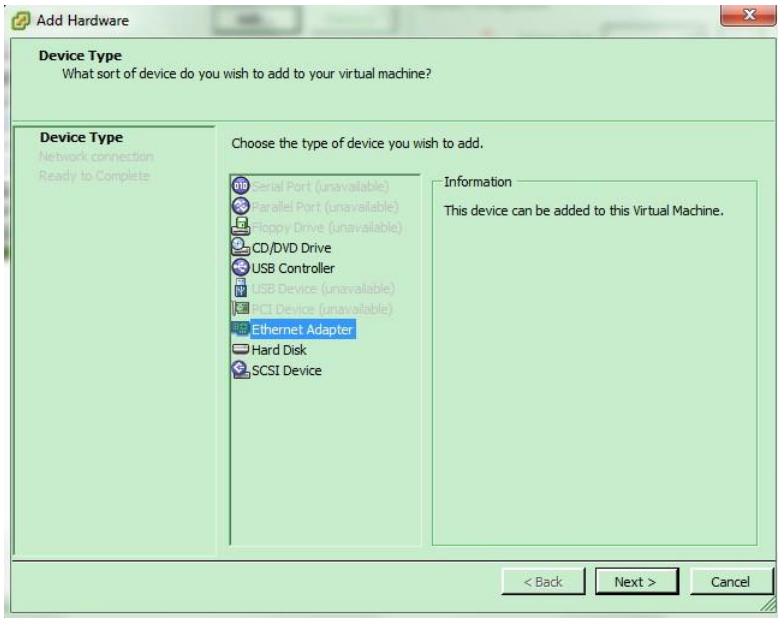

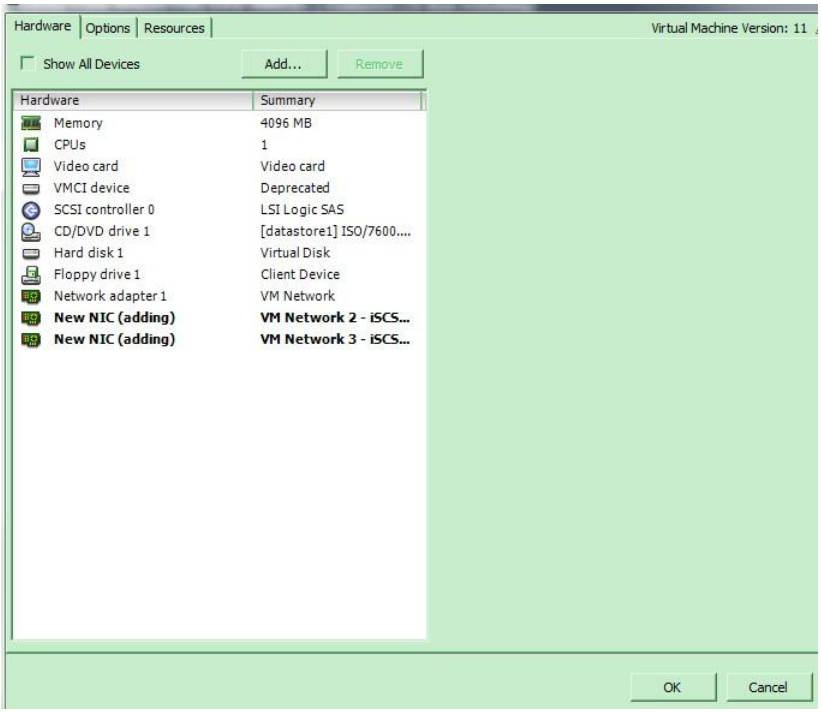

7. Configure the new added 2 NICs on the guest OS, so that the guest OS can ping to iSCSI data port on the P400Q, and log in the iSCSI target
8. Verify the performance via IOmeter

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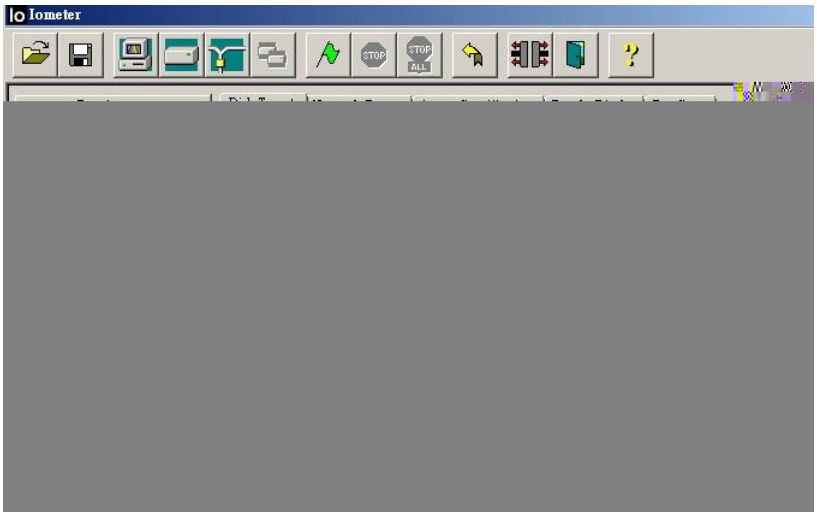

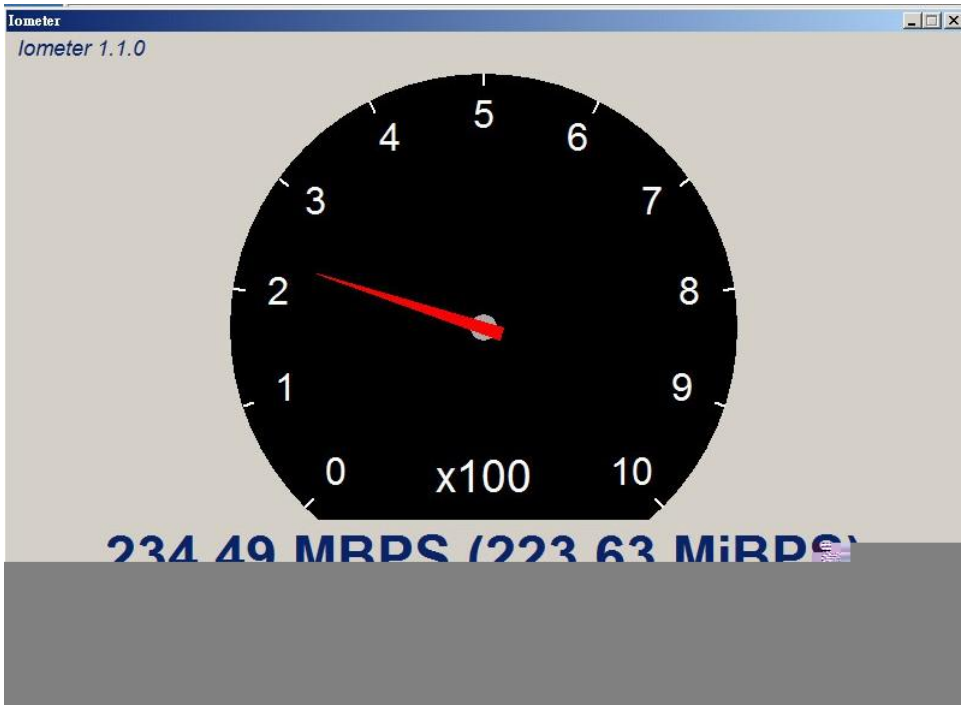

Conclusion

Qsan AegisSAN LX series products provide Active-Active dual controller and support ALUA, user } v [š Z À -configure any option on P400Q system to achieve the redundancy between ESXi server and P400Q, just make sure the multipath I/O session is correctly configured and the failover/back mechanism will automatically be executed once one of controllers gets failed.

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