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ENTERPRISE LEVEL STORAGE OS
for EVERY BUSINESS

Open-E DSS V6 MPIO with VMware ESXi 4.x



DSS V6
DATA STORAGE SOFTWARE

16 TB



Easy to use, GUI based management provides performance and security.



Reliable disk based backup and recovery, along with Snapshot capability enable fast and reliable backup and restore.



Easy to implement remote Replication, at block or volume level, enables cost-effective disaster recovery.



IP based storage management combines NAS and iSCSI functionality for centralized storage and storage consolidation.

Software Version: DSS ver. 6.00 up55

Presentation updated: August 2011

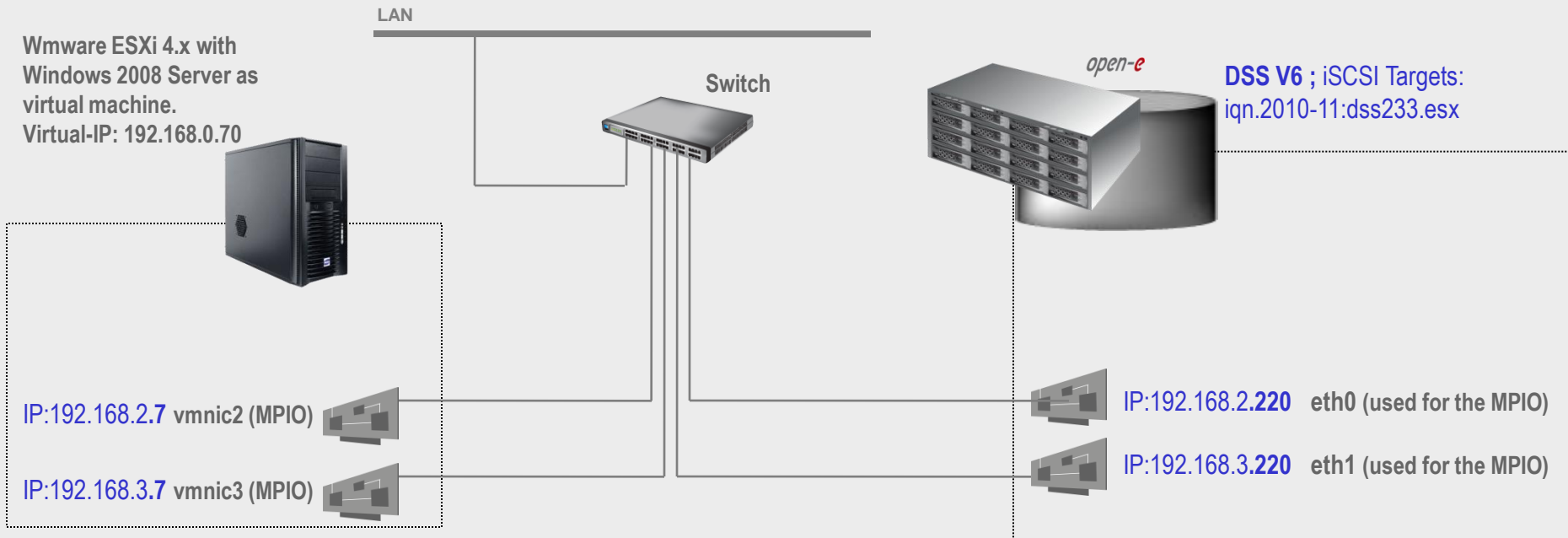
www.open-e.com

Multipath I/O on DSS V6 with ESXi 4.x

Example configuration of Multipath I/O on DSS V6 with VMware ESXi 4.x and VM-Windows 2008

Hardware Requirements:

To run the Multipath I/O on DSS V6 with VMware ESXi 4.x and Windows 2008 server running as virtual machine, a minimum of two network cards in both systems are required. In this example the DSS V6 system and ESXi 4.x use two NICs.



Configure the DSS V6

In order to verify proper NICs settings, go to menu: „STATUS” tab, „network” and Interfaces.

Two NICs to be used for MPIO has IP address:
192.168.2.220
192.168.3.220

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: STATUS > network

Interfaces

Name	IP address	DHCP	Active	Cable	State
eth0	192.168.2.220	off	yes	cable	single
eth1	192.168.3.220	off	yes	cable	single
eth2	192.168.0.220	off	yes	cable	single
eth3	192.168.1.220	off	yes	no cable	single

DNS info

Info
No DNS servers set.

HTTP proxy info

Use HTTP proxy HTTP proxy is off

Event Viewer: [icon]

Data Storage Software V6 - All rights reserved

Configure the DSS V6

Next, please go to menu:
„CONFIGURATION” tab, „volume
manager” and Vol. groups.

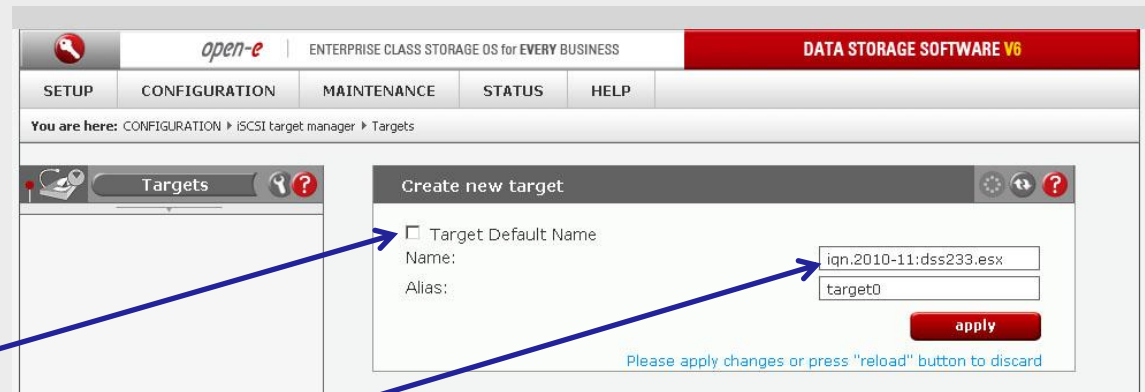
Select vg0 and in **Volume manager**,
create **Block-IO** or **File-IO** iSCSI
volume.

The screenshot displays the open-e web interface for configuring storage. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'DATA STORAGE SOFTWARE V6'. The breadcrumb trail indicates the path: 'CONFIGURATION > volume manager > Vol. groups > vg00'. The 'Vol. groups' tab is active, showing a list with 'vg00'. The 'Volume manager' tab is also active, displaying a table of logical volumes and system volumes.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	B				N/A	500.00
System volumes						
SWAP						4.00
Reserved for snapshots						0.00
Reserved for system						4.00
Reserved for replication						0.00
Free						457.66


The 'Action:' dropdown is set to 'new NAS volume'. Below the table, there are checkboxes for 'Use volume replication' and 'WORM'. A progress bar shows the current size (0) and total size (457.66). An 'add:' field is set to '0.00' GB. An 'apply' button is visible at the bottom right.

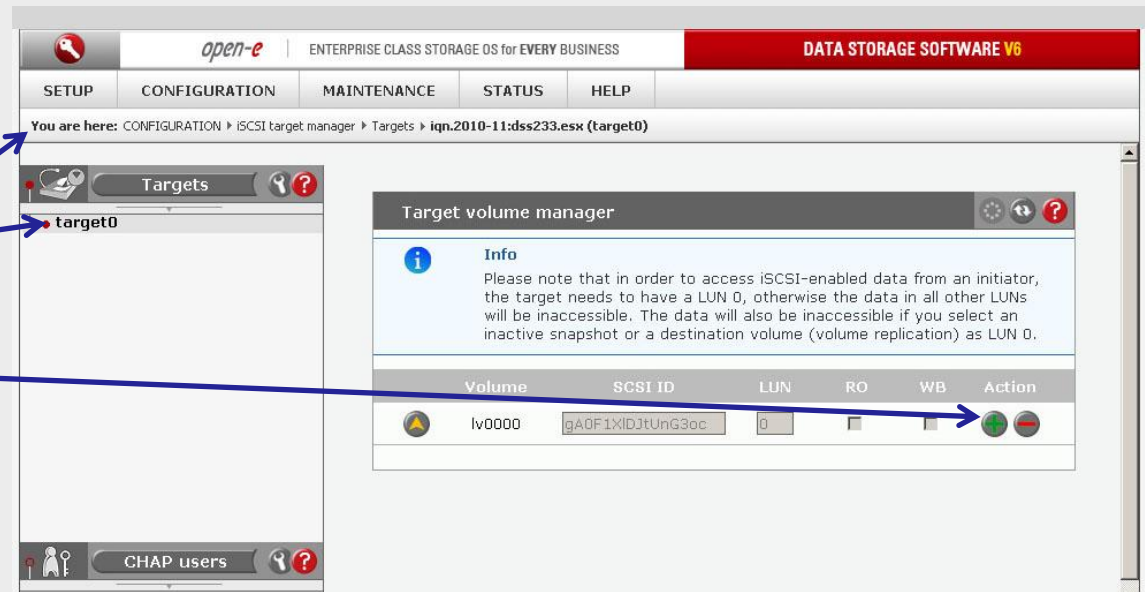
Configure the DSS V6



In menu: „CONFIGURATION” tab,
„iSCSI target manager”, Targets,
please uncheck the **Target Default
Name** and enter target name:
iqn.2010-11:dss233.esx

Configure the DSS V6

In menu „CONFIGURATION” tab,
„iSCSI target manager”, Targets,
select first alias: target0 and click on
the  button.



Now, configuring DSS V6 is finished.

```
[root@esx ~]# nano /etc/ssh/sshd_config
```

```
PermitRootLogin yes
```

```
<Ctrl-o>
```

```
<Ctrl-x>
```

Fixing „iSCSI MPIO throughput limited to 1G“

Setting the Round Robin params:

```
esxcli nmp roundrobin setconfig --type "iops" --iops 1 --device <device UID>
```

Listing devices:

```
esxcli nmp device list
```

Example commands for fixing „iSCSI MPIO throughput limited to 1G“ issue:

Setting the Round Robin params for the first device:

```
esxcli nmp roundrobin setconfig --type "iops" --iops 1 --device `esxcli nmp device list | grep ^eui | head -n 1`
```

Setting the Round Robin params for the second device:

```
esxcli nmp roundrobin setconfig --type "iops" --iops 1 --device `esxcli nmp device list | grep ^eui | head -n 2 | tail -n 1`
```

Entering the settings into ESX start script:

```
[root@esx ~]# nano /etc/rc.local
```

```
# Fixing iSCSI MPIO throughput limited to 1G.
```

```
esxcli nmp device list | grep ^eui |
```

```
while read device ; do
```

```
    esxcli nmp roundrobin setconfig --type "iops" --iops 1 --device ${device}
```

```
done
```

```
<Ctrl-o>
```

```
<Ctrl-x>
```


Now, in order to fix:
"iSCSI Round Robin limited to 1G"
problem, please use following CLI
command first:
`esxcli nmp device list`

```
root@esx:~  
[root@esx ~]#  
[root@esx ~]# esxcli nmp device list  
eui.00000000c1742b0a  
Device Display Name: SCST BIO iSCSI Disk (eui.00000000c1742b0a)  
Storage Array Type: VMW_SATP_DEFAULT_AA  
Storage Array Type Device Config:  
Path Selection Policy: VMW_PSP_RR  
Path Selection Policy Device Config: (policy=iops,iops=1514565248,bytes=10485760,useANO=0,lastPathIndex=1: NumIOsPending=0,numBytesPending=0)  
Working Paths: vmhba36:CO:TO:L0, vmhba36:C1:TO:L0  
  
mpx.vmhba32:CO:TO:L0  
Device Display Name: Local USB CD-ROM (mpx.vmhba32:CO:TO:L0)  
Storage Array Type: VMW_SATP_LOCAL  
Storage Array Type Device Config:  
Path Selection Policy: VMW_PSP_FIXED  
Path Selection Policy Device Config: (preferred=vmhba32:CO:TO:L0;current=vmhba32:CO:TO:L0)  
Working Paths: vmhba32:CO:TO:L0  
  
mpx.vmhba3:CO:T1:L0  
Device Display Name: Local Slimtype CD-ROM (mpx.vmhba3:CO:T1:L0)  
Storage Array Type: VMW_SATP_LOCAL  
Storage Array Type Device Config:  
Path Selection Policy: VMW_PSP_FIXED  
Path Selection Policy Device Config: (preferred=vmhba3:CO:T1:L0;current=vmhba3:CO:T1:L0)  
Working Paths: vmhba3:CO:T1:L0  
  
naa.600605b000161ab00f8e8ce6c527141b  
Device Display Name: Local LSI Disk (naa.600605b000161ab00f8e8ce6c527141b)  
Storage Array Type: VMW_SATP_LOCAL  
Storage Array Type Device Config:  
Path Selection Policy: VMW_PSP_FIXED  
Path Selection Policy Device Config: (preferred=vmhba2:CO:TO:L0;current=vmhba2:CO:TO:L0)  
Working Paths: vmhba2:CO:TO:L0  
  
mpx.vmhba33:CO:TO:L0  
Device Display Name: Local USB CD-ROM (mpx.vmhba33:CO:TO:L0)  
Storage Array Type: VMW_SATP_LOCAL  
Storage Array Type Device Config:  
Path Selection Policy: VMW_PSP_FIXED  
Path Selection Policy Device Config: (preferred=vmhba33:CO:TO:L0;current=vmhba33:CO:TO:L0)  
Working Paths: vmhba33:CO:TO:L0  
  
eui.000000007f95b4e8  
Device Display Name: SCST BIO iSCSI Disk (eui.000000007f95b4e8)  
Storage Array Type: VMW_SATP_DEFAULT_AA  
Storage Array Type Device Config:  
Path Selection Policy: VMW_PSP_RR  
Path Selection Policy Device Config: (policy=iops,iops=1514565248,bytes=10485760,useANO=0,lastPathIndex=1: NumIOsPending=0,numBytesPending=0)  
Working Paths: vmhba36:CO:T1:L0, vmhba36:C1:T1:L0  
  
[root@esx ~]#
```

Using ESXi 4.x CLI

Entering the settings into ESX start script:

```
# Fixing iSCSI MPIO throughput limited to 1G.
```

```
esxcli nmp device list | grep ^eui |
```

```
while read device ; do
```

```
    esxcli nmp roundrobin setconfig --type "iops" --iops 1 --device ${device}
```

```
done
```

<Ctrl-o>

<Ctrl-x>

```
root@esx:~
GNU nano 1.3.12 File: /etc/rc.local Modified
#!/bin/sh
#
# This script will be executed *after* all the other init scripts.
# You can put your own initialization stuff in here if you don't
# want to do the full Sys V style init stuff.

touch /var/lock/subsys/local

# Fixing iSCSI MPIO throughput limited to 1G.
esxcli nmp device list | grep ^eui |
while read device ; do
    esxcli nmp roundrobin setconfig --type "iops" --iops 1 --device ${device}
done

File Name to Write: /etc/rc.local
^G Get Help      ^T To Files      M-M Mac Format   M-P Prepend
^C Cancel        M-D DOS Format   M-A Append      M-B Backup File
```

Using ESXi 4.x CLI

```
root@esx:~
[root@esx ~]#
[root@esx ~]# esxcli nmp device list
eui.00000000c1742b0a
  Device Display Name: SCST BIO iSCSI Disk (eui.00000000c1742b0a)
  Storage Array Type: VMW_SATP_DEFAULT_AA
  Storage Array Type Device Config:
  Path Selection Policy: VMW_PSP_RR
  Path Selection Policy Device Config: (policy=iops,iops=1,bytes=10485760,useANO=0,lastPathIndex=1: NumIOsPending=15,numBytesPending=983040)
  Working Paths: vmhba36:C1:T0:L0, vmhba36:C0:T0:L0

mpx.vmhba32:C0:T0:L0
  Device Display Name: Local USB CD-ROM (mpx.vmhba32:C0:T0:L0)
  Storage Array Type: VMW_SATP_LOCAL
  Storage Array Type Device Config:
  Path Selection Policy: VMW_PSP_FIXED
  Path Selection Policy Device Config: (preferred=vmhba32:C0:T0:L0;current=vmhba32:C0:T0:L0)
  Working Paths: vmhba32:C0:T0:L0

mpx.vmhba3:C0:T1:L0
  Device Display Name: Local Slimtype CD-ROM (mpx.vmhba3:C0:T1:L0)
  Storage Array Type: VMW_SATP_LOCAL
  Storage Array Type Device Config:
  Path Selection Policy: VMW_PSP_FIXED
  Path Selection Policy Device Config: (preferred=vmhba3:C0:T1:L0;current=vmhba3:C0:T1:L0)
  Working Paths: vmhba3:C0:T1:L0

naa.600605b000161ab00f8e8ce6c527141b
  Device Display Name: Local LSI Disk (naa.600605b000161ab00f8e8ce6c527141b)
  Storage Array Type: VMW_SATP_LOCAL
  Storage Array Type Device Config:
  Path Selection Policy: VMW_PSP_FIXED
  Path Selection Policy Device Config: (preferred=vmhba2:C0:T0:L0;current=vmhba2:C0:T0:L0)
  Working Paths: vmhba2:C0:T0:L0

mpx.vmhba33:C0:T0:L0
  Device Display Name: Local USB CD-ROM (mpx.vmhba33:C0:T0:L0)
  Storage Array Type: VMW_SATP_LOCAL
  Storage Array Type Device Config:
  Path Selection Policy: VMW_PSP_FIXED
  Path Selection Policy Device Config: (preferred=vmhba33:C0:T0:L0;current=vmhba33:C0:T0:L0)
  Working Paths: vmhba33:C0:T0:L0

eui.000000007f95b4e8
  Device Display Name: SCST BIO iSCSI Disk (eui.000000007f95b4e8)
  Storage Array Type: VMW_SATP_DEFAULT_AA
  Storage Array Type Device Config:
  Path Selection Policy: VMW_PSP_RR
  Path Selection Policy Device Config: (policy=iops,iops=1,bytes=10485760,useANO=0,lastPathIndex=1: NumIOsPending=0,numBytesPending=0)
  Working Paths: vmhba36:C1:T1:L0, vmhba36:C0:T1:L0

[root@esx ~]#
```

In order to check the settings,
please run the list command:
esxcli nmp device list

Now, the iops parameter is
changed to 1

Step 1

Navigate in the ESX 4.0 host Configuration tab and select Networking. Click on „Add Networking...”, select Vmkernel and then on „Next >” button.

The screenshot shows the ESX 4.0 Configuration console. The 'Configuration' tab is active, and the 'Networking' section is selected. The 'Add Network Wizard' dialog box is open, showing the 'Connection Type' step. The 'VMkernel' option is selected, which is highlighted by a blue arrow from the instruction box. The dialog box also shows 'Virtual Machine' and 'Service Console' options. The 'Next >' button is visible at the bottom right of the dialog box.

Step 2

The screenshot shows the ESXi Configuration Wizard in the 'Add Network Wizard' step, specifically the 'VMkernel - Network Access' screen. The wizard is titled 'VMkernel - Network Access' and includes the instruction: 'The VMkernel reaches networks through uplink adapters attached to virtual switches.'

The 'Connection Type' section is set to 'Network Access'. Under 'Network Access', 'Connection Settings' is selected. The main configuration area asks to 'Select which virtual switch will handle the network traffic for this connection. You may also create a new virtual switch using the unclaimed network adapters listed below.'

There are two main options:

- Create a virtual switch** (selected): This option lists three unclaimed network adapters: vmnic1, vmnic2, and vmnic3. Each has a speed of 1000 Full and a network range of 192.168.0.1-192.168.63.254. The 'vmnic2' option is selected with a checkmark.
- Use vSwitch0**: This option lists the existing vSwitch0 with vmnic0, also having a speed of 1000 Full and the same network range.

A 'Preview' section at the bottom shows a diagram of the VMkernel port connected to the selected vmnic2 adapter.

A blue callout box on the left contains the text: 'Please select one network adapter dedicated for the first Vmkernel. In this example: vmnic2'. An arrow points from this box to the 'vmnic2' selection in the 'Create a virtual switch' section.

Please select one network adapter dedicated for the first Vmkernel. In this example: vmnic2

Step 3

Please enter the Network Label for the first Vmkernel: iSCSI_2
And click on the „Next >” button.

The screenshot shows the ESXi Configuration Wizard in the 'Add Network Wizard' step, specifically the 'VMkernel - Connection Settings' screen. The 'Network Label' field is set to 'iSCSI_2'. The 'VLAN ID (Optional)' dropdown is empty. There are two checkboxes: 'Use this port group for VMotion' (unchecked) and 'Use this port group for Fault Tolerance logging' (unchecked). The 'Preview' section shows a diagram with a 'VMkernel Port' labeled 'iSCSI_2' connected to a 'Physical Adapters' box labeled 'vmnic2'. The 'Port Group Properties' section is also visible, showing 'Network Label: iSCSI_2' and 'VLAN ID (Optional):'. The 'Next >' button is highlighted.

Configure MPIO on ESXi 4.x

Step 4

Please enter the IP Address and Subnet Mask
192.168.3.7
255.255.255.0
And click on the „Next ≥” button.

The screenshot shows the ESXi Configuration Wizard in the 'Configuration' tab, specifically the 'Networking' section. The 'Virtual Switch: vSwitch0' is selected, and the 'VM Network' is being configured. The 'Add Network Wizard' dialog box is open, showing the 'VMkernel - IP Connection Settings' step. The 'Use the following IP settings' option is selected, and the IP Address is set to 192.168.2.7 and the Subnet Mask is set to 255.255.255.0. The 'Next ≥' button is highlighted, indicating the next step in the wizard.

Step 5

The screenshot shows the ESXi Configuration Wizard in the 'Ready to Complete' stage. A 'Warning' dialog box is open, stating: 'There is no default gateway set. You may need to set a default gateway before you can use this network interface. Do you want to configure it now?'. The 'Finish' button at the bottom right of the wizard is highlighted with a blue arrow. The background shows the 'Add Network Wizard' window with a preview of the network configuration.

Now, click on the „Finish” button.
Next, in the Warning prompt about default gateway, click on „No”

Now repeat steps 1 to 5 for the second Vmkernel. This time use: **vmnic3** for the network adapter, **iSCSI_3** for the Network Label, **192.168.3.7** for IP Address and **255.255.255.0** for the Network Subnet.

Step 6

Now, there are 2 vmkernel ports with dedicated network adapter.

„iSCSI_2” -- „vmnic2”
„iSCSI_3” -- „vmnic3”

Next, please select „Storage Adapters”.

The screenshot shows the ESXi Configuration console with the 'Configuration' tab selected. The left sidebar has 'Network Adapters' highlighted under the 'Hardware' section. The main area displays three virtual switches (vSwitch0, vSwitch1, vSwitch2) and their connections to physical adapters (vmnic0, vmnic2, vmnic3). vSwitch0 is connected to vmnic0, vSwitch1 to vmnic2, and vSwitch2 to vmnic3. Each connection is labeled with a VMkernel port (vmk0) and its IP address (192.168.0.7, 192.168.2.7, 192.168.3.7). The physical adapters are shown as 'Full' and '1000' Mbps.

Step 7

In „Storage Adapters” menu, please select „iSCSI Software Adapter” and click on „Properties” button.

The screenshot shows the ESXi Configuration console with the 'Storage Adapters' tab selected. The left sidebar shows the 'Storage Adapters' menu item highlighted. The main area displays a table of storage adapters and a details pane for the selected 'vmhba36' iSCSI Software Adapter.

Device	Type	WWN
iSCSI Software Adapter		
vmhba36	iSCSI	iqn.1998-01.com.vmware:esx-01ccaf35
31xESB/632xESB/3100 Chipset SATA Storage Controller IDE		
vmhba4	Block SCSI	
vmhba35	Block SCSI	
631xESB/632xESB IDE Controller		
vmhba3	Block SCSI	

Details

vmhba36

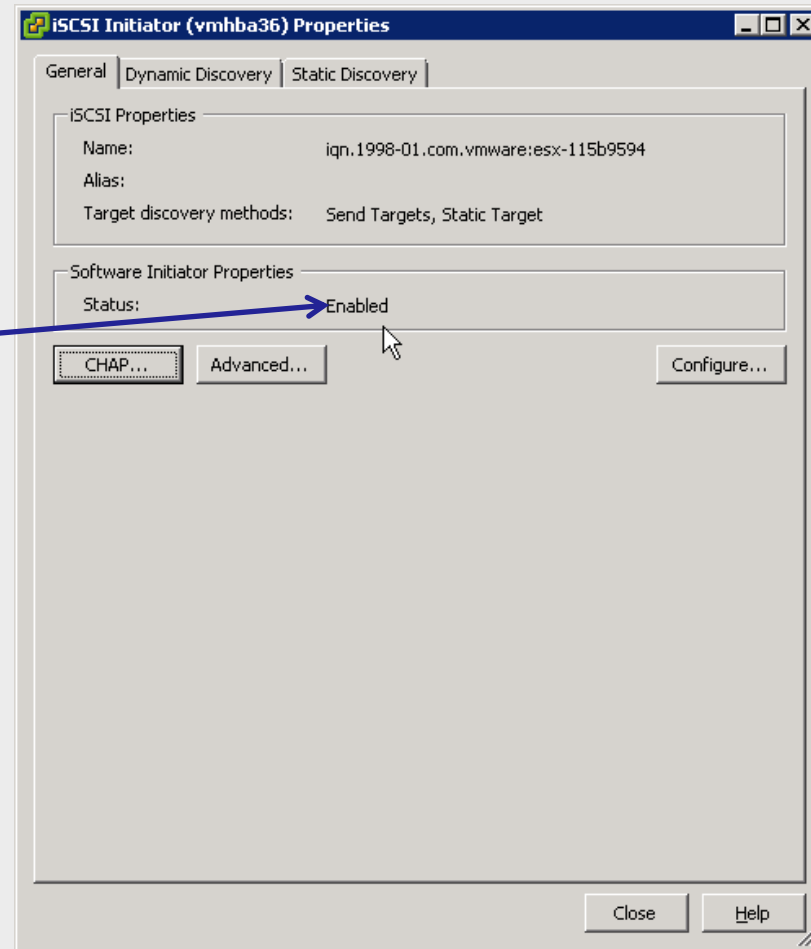
Model: iSCSI Software Adapter
iSCSI Name: iqn.1998-01.com.vmware:esx-01ccaf35
iSCSI Alias:
Connected Targets: 0 Devices: 0 Paths: 0

View: **Devices** Paths

Name	Identifier	Runtime Name	LUN	Type	Transport	Capacity	Owner
------	------------	--------------	-----	------	-----------	----------	-------

Step 8

In the iSCSI Initiator Properties, make sure the status is „Enabled”. If not, then click on „Configure...” button and enable it.
Next, click on the „Static Discovery” tab.



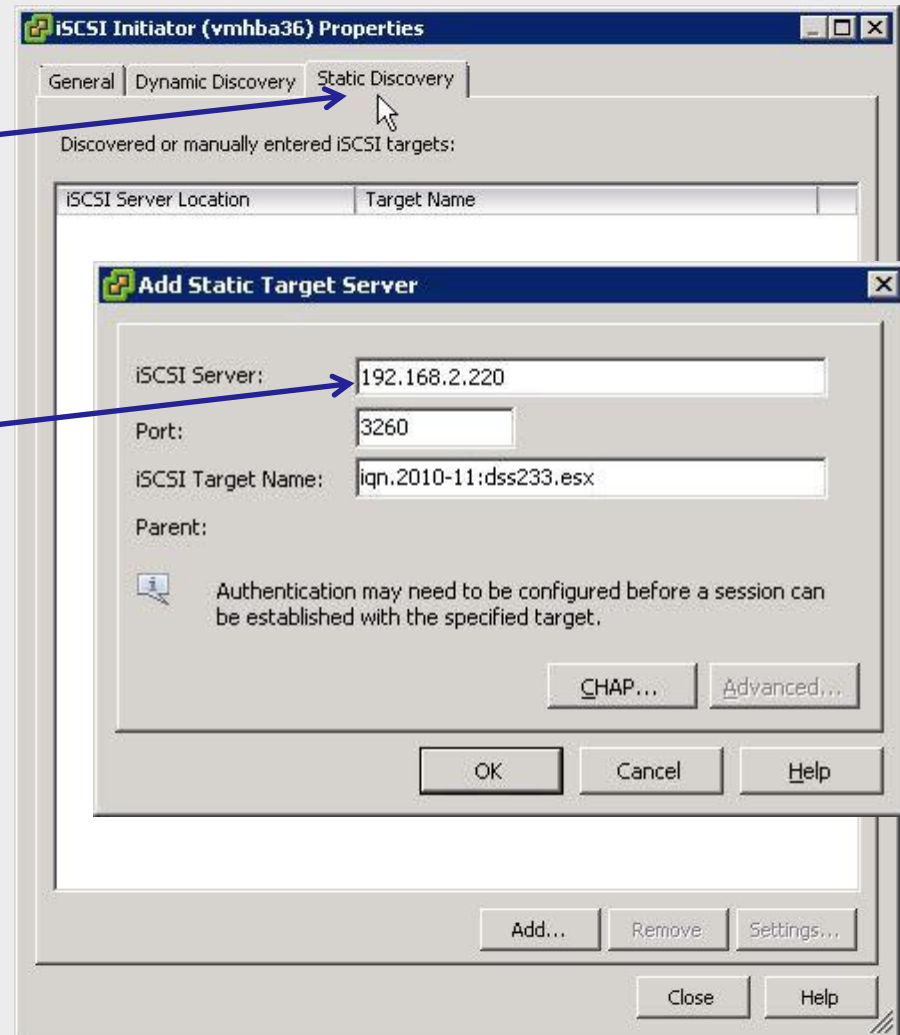
Step 9

In the „**Static Discovery**” tab click the „**Add...**” button and enter the IP address and Target Name of the iSCSI target for the first path.

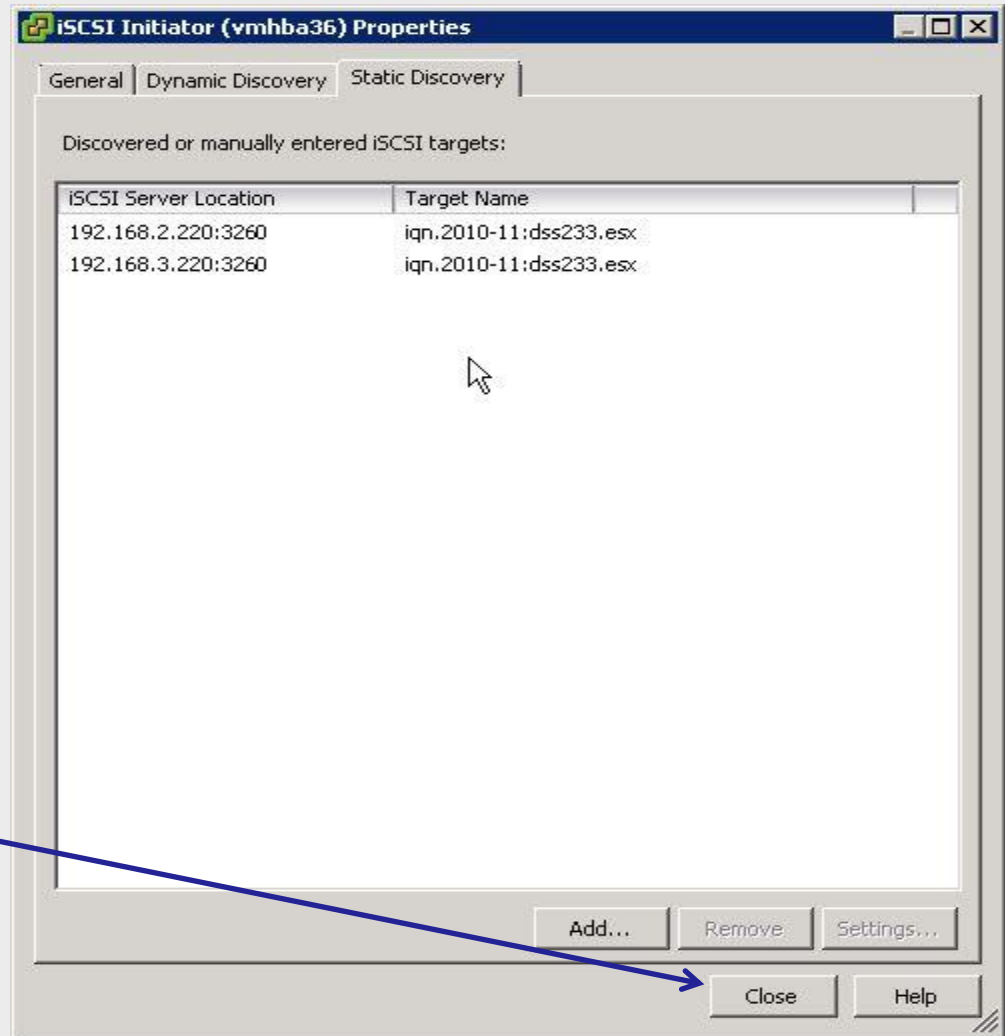
In this example: **192.168.2.220** and **iqn.2010-11:ds233.esx**.

Then click the „**Add...**” button and enter the IP address and Target Name of the iSCSI Target for the second path:

192.168.3.220 and **iqn.2010-11:ds233.esx**



Step 10



Next, click on „Close” button.

Step 11

The screenshot shows the 'Storage Adapters' configuration page in the ESXi vSphere Client. A table lists several adapters, with 'vmhba36' selected. Below the table, the 'Details' section for 'vmhba36' is visible, showing its model as 'iSCSI Software Adapter' and its iSCSI Name as 'iqn.1998-01.com.vmware:esx-115b9594'. A 'Rescan' dialog box is overlaid on the page, asking for confirmation to rescan the adapter. A blue arrow points from a text box on the left to the 'Yes' button in the dialog.

Device	Type	WWN
iSCSI Software Adapter		
vmhba36	iSCSI	iqn.1998-01.com.vmware:esx-115b9594;
31xESB/632xESB/3100 Chipset SATA Storage Controller IDE		
vmhba4	Block SCSI	
vmhba35	Block SCSI	
631xESB/632xESB IDE Controller		
vmhba3	Block SCSI	

Details

vmhba36
Model: iSCSI Software Adapter
iSCSI Name: iqn.1998-01.com.vmware:esx-115b9594
iSCSI Alias:
Connected Targets: 0 Devices: 0 Paths: 0

View:

Name	Runtime Name	LUN	Type
------	--------------	-----	------

Rescan

A rescan of the host bus adapter is recommended for this configuration change. Rescan the adapter?

Now, click on the „Yes” button in order to start adapter rescan.

Configure MPIO on ESXi 4.x

Step 12

There is an option to run one more adapter to rescan now click on the „Rescan” button.

The screenshot shows the ESXi Storage Adapters configuration page. At the top right, there are 'Refresh' and 'Rescan...' buttons. A blue arrow points from the 'Rescan' button in the text box to the 'Rescan...' button in the interface. The 'Storage Adapters' section contains a table with columns 'Device', 'Type', and 'WWN'. It lists several adapters, including 'vmhba36' (iSCSI Software Adapter) and 'vmhba3' (Block SCSI). Below this is the 'Details' section for 'vmhba36', showing its model, name, and connection statistics. A 'View' section has 'Devices' and 'Paths' tabs. A 'Rescan' dialog box is open in the foreground, with 'Scan for New Storage Devices' and 'Scan for New VMFS Volumes' checked. The dialog also contains explanatory text and 'OK', 'Cancel', and 'Help' buttons. In the background, a table shows storage devices with columns 'Type', 'Transport', 'Capacity', and 'Owner', listing two disks.

Device	Type	WWN
iSCSI Software Adapter		
vmhba36	iSCSI	iqn.1998-01.com.vmware:esx-115b9594:
31xESB/632xESB/3100 Chipset SATA Storage Controller IDE		
vmhba4	Block SCSI	
vmhba35	Block SCSI	
631xESB/632xESB IDE Controller		
vmhba3	Block SCSI	

Details

vmhba36

Model: iSCSI Software Adapter
iSCSI Name: iqn.1998-01.com.vmware:esx-115b9594
iSCSI Alias:
Connected Targets: 2 Devices: 2 Paths: 4

View: Devices Paths

Type	Transport	Capacity	Owner
disk	iSCSI	500,00 G	NMP
disk	iSCSI	100,00 G	NMP

Step 13

Now, in the Storage Adapters menu, locate the first iSCSI LUN and right-mouse click on it. From pull-down menu select: „Manage Paths”.

The screenshot shows the ESXi configuration interface for Storage Adapters. The left sidebar contains 'Hardware' and 'Software' sections. The main area is titled 'Storage Adapters' and contains a table of adapters and their details.

Device	Type	WWN
iSCSI Software Adapter		
vmhba36	iSCSI	iqn.1998-01.com.vmware:esx-115b9594;
31xESB/63xESB/3100 Chipset SATA Storage Controller IDE		
vmhba4	Block SCSI	
vmhba35	Block SCSI	
631xESB/63xESB IDE Controller		
vmhba3	Block SCSI	

Details

vmhba36
Model: iSCSI Software Adapter
iSCSI Name: iqn.1998-01.com.vmware:esx-115b9594
iSCSI Alias:
Connected Targets: 2 Devices: 2 Paths: 4

View: Devices Paths

Name	Runtime Name	LUN	Type	Transport	Capacity	Owner
SCST_BIO iSCSI Disk (eui.00000000b5e5c990)	vmhba36:0:T2:L0	0	disk	iSCSI	500,00 G	NMP
SCST_BIO iSCSI Disk (eui.0000000094d9a...)		0	disk	iSCSI	100,00 G	NMP

A context menu is open over the first row of the table, with 'Manage Paths...' selected.

Step 14

The screenshot shows the ESXi configuration interface. The 'Storage Adapters' section is expanded, showing a list of adapters. The 'SCST_BIO iSCSI Disk (eui.0000000b5e5c590) Manage Paths' dialog is open, showing the 'Path Selection' dropdown menu set to 'Round Robin (VMware)'. A blue callout box points to this dropdown menu.

Storage Adapters

Device	Type	WWN
iSCSI Software Adapter		
vmhba36	iSCSI	iqn.1998-01.com.vmware:esx-115b9594:
31xESB/632xESB/3100 Chipset SATA Storage Controller IDE		
vmhba4	Block SCSI	
vmhba35	Block SCSI	
631xESB/632xESB IDE Controller		
vmhba3	Block SCSI	

SCST_BIO iSCSI Disk (eui.0000000b5e5c590) Manage Paths

Policy

Path Selection: Round Robin (VMware)

Storage Array Type: VMW_SATP_DEFAULT_AA

Runtime Name	Target	LUN	Status	Preferred
vmhba36:C0:T2:L0	iqn.2010-11:dss233.esx:192.168.2.220:3260	0	Active (I/O)	
vmhba36:C3:T2:L0	iqn.2010-11:dss233.esx:192.168.3.220:3260	0	Active (I/O)	

Refresh

Name: iqn.1998-01.com.vmware:esx-115b9594-00023d000001,iqn.2010-11:dss233.esx,t,1-eui.0000000b5e5c590
Runtime Name: vmhba36:C0:T2:L0

iSCSI

Adapter: iqn.1998-01.com.vmware:esx-115b9594

Target: iqn.2010-11:dss233.esx:192.168.2.220:3260

Close Help

Next, in Path selection pull-down menu please select: „Round Robin”.

Next, in the „Storage” menu, click on the „Add Storage” button and follow the next steps to add new LUN.

Step 15

The screenshot shows the ESXi 4.x Configuration console. The left sidebar has a 'Storage' menu item highlighted with a blue arrow pointing to the 'Add Storage' button in the top right of the main window. The main window displays the 'Add Storage' dialog box with the following content:

- Select Storage Type**
Specify if you want to format a new volume or use a shared folder over the network?
- Disk/LUN**
 - Select Disk/LUN
 - Current Disk Layout
 - Properties
 - Formatting
 - Ready to Complete
- Storage Type**
 - Disk/LUN**
Create a datastore on a Fibre Channel, iSCSI, or local SCSI disk, or mount an existing VMFS volume.
 - Network File System**
Mount a shared folder over a network connection as a datastore.
- Adding a datastore on Fibre Channel or iSCSI will add this datastore to all hosts that have access to the storage media.

At the bottom of the dialog are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.

Now install the Windows 2008 virtual machine on the new added LUN and run Iometer in order to check the performance.

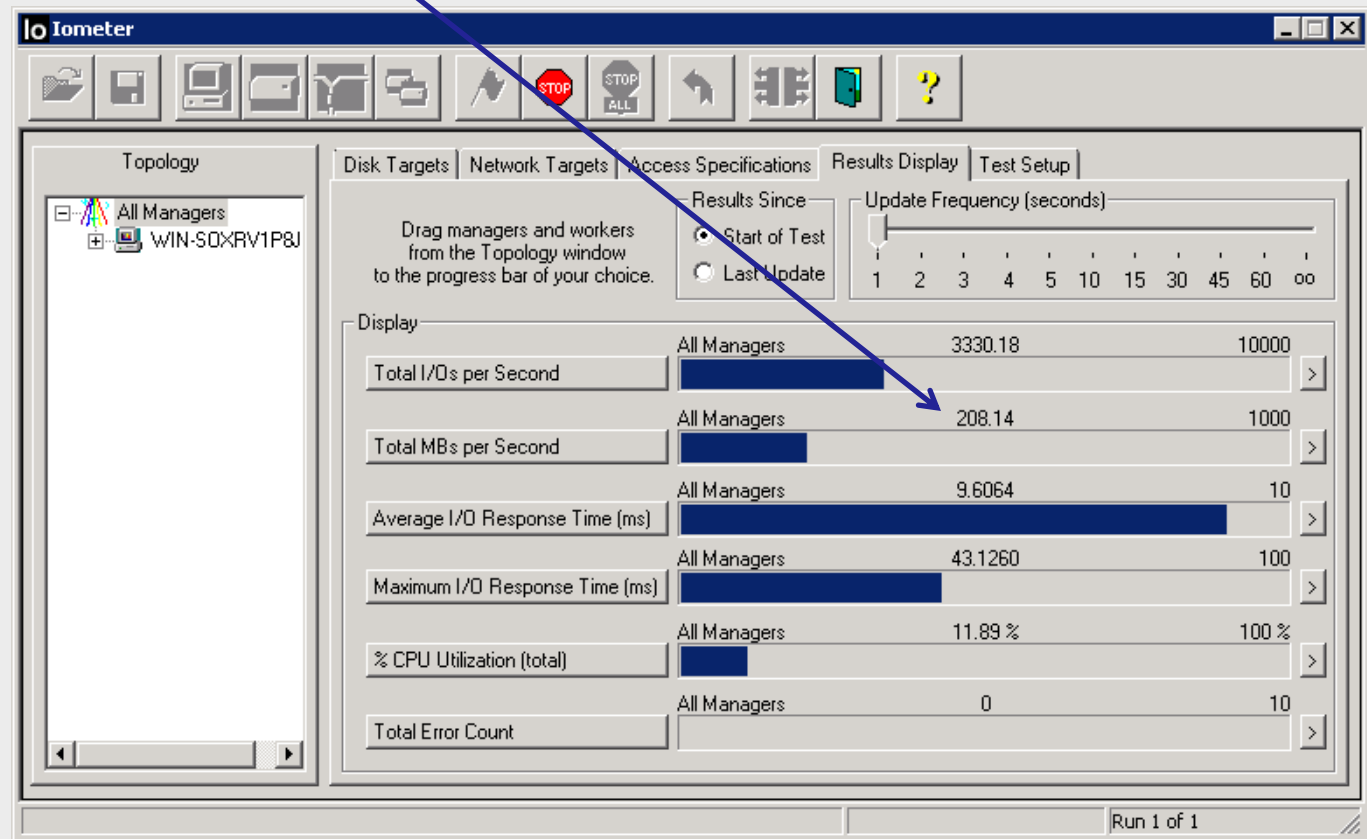
Step 16

Once the virtual machine is installed and running the network chart will like this screenshot.

The screenshot displays the ESXi Configuration console with the 'Configuration' tab selected. The left sidebar shows the 'Hardware' and 'Software' sections, with 'Networking' expanded under Hardware. The main area shows three virtual switches (vSwitch0, vSwitch1, and vSwitch2) connected to physical adapters. vSwitch0 is connected to vmnic0 (1000 Full), vSwitch1 to vmnic2 (1000 Full), and vSwitch2 to vmnic3 (1000 Full). A blue arrow points from the text box to the 'Win 2008 64 DEMO' virtual machine under vSwitch0.

Step 17

Verify the performance with „Iometer” running on



Now you have completed the configuration of Multipath I/O on DSS V6 with ESX4.

Thank you!