

Application Note

Aug 2013

Assigning SnapSAN S3000/S5000 Logical Disks to VMware ESXi 5 Server



Summary

This application note describes how to bind pools, create logical disks, add a host to the storage array, and then assign logical disks to a host using SnapSAN Manager Server software for VMware ESXi 5 server. In addition, this document shows the user how to collect HBA WWPNs from an ESXi 5 server, add an iSCSI initiator, create a datastore, set a multipath policy, and check VAAI status on the ESXi host.

Required Information, Tools, and Files

Before beginning this procedure, the following information, tools, and files are required.

Prerequisites

- 1. Overland Storage SnapSAN S3000/S5000 Disk Array must be installed and configured. You can get additional technical support on the Internet at http://support.overlandstorage.com, or by contacting Overland Storage using the information found on the Contact Us page on our web site.
- **2.** Verify:
 - Java Runtime Environment (JRE) is installed prior to running the SnapSAN Manager Server application.
 - **SnapSAN Manager Server** Web Management Interface is installed on the management server.
 - VMware vSphere Client is accessible.

Versions

The test environment used for illustration in this document uses the following versions:

- ESXi Server 5
- Java JRE 7 update 13
- SnapSAN Manager Server 7.4.151
- SnapSAN S3000/S5000 at firmware U14B.007

Binding Pools

- 1. Open your browser and login to the Web Manager Interface.
- 2. Select product number S5000 or S3000.
- **3.** Navigate to **Configuration > Pool > Pool Bind**.

4. Click Show Pool List.



- 5. Select these two options:
 - Physical Disk Type
 - RAID Type
- **6.** Select **one** of the following:
 - Auto disk selection
 - Manual disk selection
- 7. Click Next.
- Verify the basic settings.
 To modify the default settings, proceed to Advanced Settings.
- 9. Click Set.
- **10.** Click **Yes** to complete the binding.

Advanced Settings

If the default settings need modification:

1. Click Advanced Settings.

Pool Bind				
Configure the advanced settings.				
Pool name Pool_Test				
Rebuild priority Medium	Expected time whe	n Medium is selecte	d: 7 hour	
System volume 🧮 Bind				
Explanation				
 Rebuild priority Specify pool rebuilding I/0) priority.			
		OK	Cancel	Help

- **2.** Enter both items:
 - Pool name
 - Rebuild Priority
- **3.** Click **OK**.
- 4. Click Yes.
- 5. Click Finish.

Binding a Logical Disk

- **1.** Use **one** of the options:
 - From the Pool Bind Completion screen, click the Bind Logical Disk.
 - From the SnapSAN Manager Monitor screen, navigate to Configuration > Logical Disk > Logical Disk Bind.

By Logical Disk Bind
Logical Disk Bind > Confirmation > Completion
1: Select the pool where a logical disk will be bound.
Show all pools
- Pool list -
Number Pool name FAID Physical disk type Free capacity(GB) Capacity(CB) Actual capacity(GB) Actual used capacity(GB)
0000h Pool_test RAID1/10 SAS 103.7 262.0
0002h Pool_CLI_2 RAID1/10 SAS 262.0 262.0
0003h Pool_Testing RAID1/10 SAS 111.7 262.0
Show logical disks of the selected pool
2: Specify the number of logical disks and their capacity.
Humber of logical disks (1-103) 1
Logical disk capacity (1-103) 50- 08 V
Logical disk capacity : 50.0 GB
Capacity logical disks consume : 50.0 GB
Unused capacity of the pool : 103.7 GB
3: Set logical disk name.
Logical disk name Wingles (D)
- Evalance (and the second sec
Set the name of the logical disk to be bound.
If two or more logical disks are bound, enter the prefix for them.
Control Martin Control Volu
Plata Bary Caucel Helb
<i>"</i> "

- **2**. Enter:
 - Number of Logical Disks
 - Logical Disk Capacity
 - Logical Disk Name
- 3. Click Next.
- 4. Verify the basic settings.

Advanced Settings

To modify the default settings:

1. Click Advanced Settings.

🚰 Logical Disk Bi <mark>nd</mark>	
Configure the advanced setting	J\$.
Logical disk type First logical disk number Binding priority Explanation - Logical disk type Set the type of logical - First Logical disk number Specify a logical disk to If two or more logical this will be the starting The rest of logical disk - Binding priority Specify the formatting p	Windows MBR (UN) Windows GPT (UG) SUPER-UX (SX) Solaris (CX) HP-UX (XX) ACOS-2 (A2) Linux (LX) winber. disks are bound, og number arsigned to a logical disk. ks will be assigned unused numbers following this number in sequence. priority of logical disk binding.
	OK Cancel Help

- **2.** Enter:
 - Logical Disk type
 - First Logical Disk number
 - Binding Priority
- 3. Click OK.
- 4. Click Set.
- 5. Click Yes.
- 6. Click Finish.

Gather vSphere Client Information

The FC WWPNs or iSCSI IQN addresses are needed to properly configure your system. This information is easily found using vSphere Client.

FC WWPN

To find the fibre channel WWPN:

- 1. In VMware vSphere Client, navigate to Configuration > Storage Adapters.
- 2. Select the appropriate fibre channel adapter.

The example below is for FC adapter vmhba3. The last eight number pairs are the WWPN.

10.20.34.106 ¥Mware ESXi, 5.0.0, 623860				
Getting Started Summary Virtual Machin	es Resource Allocation Perform	nance Configuration	Tasks & Events Alarms Permissions Maps Storage Vie	ews
Hardware	Storage Adapters		Add Remove Refresh Rescan All.	
Processors	Device	Туре	WWN	-
Memory	iSCSI Software Adapter			
Storage	🎯 vmhba33	iSCSI	iqn.1998-01.com.vmware:esx5u34106-5c163166:	
Networking	631xESB/632xESB IDE Contro	ller		
	🌀 vmhba0	Block SCSI		
Storage Adapters	🌀 vmhba32	Block SCSI		
Network Adapters	Adaptec SCSI			
Advanced Settings	📀 vmhba5	SCSI		
Power Management	LPe11000 4Gb Fibre Channel I	Host Adapter		
Software	📀 vmhba3	Fibre Channel	20:00:00:00:c9:71:2d:ce 10:00:00:c9:71:2d:ce	
Solemaic	🌀 vmhba4	Fibre Channel	20:00:00:00:c9:71:2d:cf 10:00:00:00:c9:71:2d:cf	
Licensed Features	AIC-8902 U320 OEM			
Time Configuration	🙆 vmhba1	SCSI		•

iSCSI IQN

To find the iSCSI IQN address:

- 1. In VMware vSphere Client, navigate to Configuration > Storage Adapters.
- 2. Select the appropriate iSCSI Software Adapter.

The example below is for iSCSI software adapter vmhba3. Make careful note of the IQN address shown to the right.

10.20.34.106 ¥Mware E5Xi, 5.0.0, 623860					
Getting Started Summary Virtual Machine	es Resource Allocation	Performance Configuration	Tasks & Events Alarms Perr	nissions Maps	Storage Views <
Hardware	Storage Adapters		Add Remove	Refresh	Rescan All
Processors	Device	Туре	WWN		▲
Memory	iSCSI Software Adapt	er			
Storage	📀 vmhba33	iSCSI	ign.1998-01.com.vmware:esx5u3	34106-5c163166:	
Networking	631xESB/632xESB IDI	Controller			
 Storage ådapters 	🌀 vmhba0	Block SCSI			
Network Adapters	📀 vmhba32	Block SCSI			
Advanced Cathlens	Adaptec SCSI				
Advanced Settings	🌀 vmhba5	SCSI			
Power Management	LPe11000 4Gb Fibre C	hannel Host Adapter			
Software	🌀 vmhba3	Fibre Channel	20:00:00:00:c9:71:2d:ce 10:00:	00:00:c9:71:2d:ce	
Solution	🌀 vmhba4	Fibre Channel	20:00:00:00:c9:71:2d:cf 10:00:0	10:00:c9:71:2d:cf	
Licensed Features	AIC-8902 U320 OEM				
Time Configuration	🙆 vmhba1	SCSI			•
DNS and Routing	Details				
Authentication Services	umabh a 22				Droportion
Power Management	Model:	iSCSI Software Adapter			Propercies
Virtual Machine Startup/Shutdown	iSCSI Name:	ign.1998-01.com.vmware:esx5u	34106-5c163166		
Virtual Machine Swanfile Location	iSCSI Alias:				

Adding Host To The Storage Array

- 1. Use one of these options:
 - From the Logical Disk Bind Completion screen, click the link Set the host to which logical disks will be assigned.
 - From the SnapSAN Manager Monitor screen, navigate to Configuration > Host > Host Operation > Host Information Collection.

Host Information Collection	
Host Information Setting Method > Host Information Registration > Completion	
Select host information setting method.	
© Follect host information automatically. (Windows, Linux or Hyper-V) C Update with host information file. (Platforms where iSMcc_hostinfo can run C treate host information manually. (All platforms)	n)
Explanation-	
"Storage Manager Agent Utility" or "ControlCommand" has to be installed in a beforehand to collect automatically or update with host information file.	host
Bither of the following conditions must be satisfied to collect the host information automatically.	
 The platform of all the new hosts is either Windows or Linux, and the syste consists of new disk arrays and new hosts. The Platform of existing and new hosts is either Windows or Linux, and new hosts are added to an existing system where there is only one disk array. 	-m
* For Linux hosts, you need to click Next to enable host recognize volumes, then make the Linux hosts recognize the host recognize volumes, and run the command to collect host information.	
When update with host information file, please prepare the host information file made on the host on the client machi	ne.
	< Back Next > Cancel

2. Select Create Host Information Manually and follow the next procedure to install it.

Create Host Information Manually

There are two interface options: **FC** and **iSCSI**. Follow the appropriate procedure below.

FC Option

Host Information Collection	
Host Information Setting Method > Host Information Registration > Completion	
1: Select the interface of the host.	
C IC TRERI C BYR	
2: Input host name.	
Host Name : excul34108	
21atforn : VMwwwe(12X)	
3: Specify paths to host.	
- Paths Assignable to Host -	(Used connections : § Number of Assigned Paths : 0)
Path Info Path Node	
	Add WWPN Add Port Giange Delete
	< Back Sat Cancel Help

- 1. Login to the ESXi server.
- **2.** Click **FC**.
- **3.** Enter:
 - Host Name
 - Platform
- 4. Click Add WWPN.
- 5. Enter the WWPN into the Type In field at the bottom of the screen, and click OK.

6. Repeat Steps 4–5 to manually add other WWPNs.

Set Host Information		
Specify the WWPNs to be assigned.		A
$\mathbb C$ Select from the WADNs which are recognized by disk array automatically		
- Assignable WWPNs -	(Number of UMPHs : S	Number of selected WWPNs : 0)
WPN Into 1000-0000-C571-30BA 1000-0000-C571-30BB 20FD-0005-1E03-7524 2101-00E0-EB3F-4EDC 2100-00E0-EB1F-4EDC		
C Select from host information		Refrech History
- Assignable WWPNs -	(Number of UNPMs : 0	Number of selected WWPMs : 0)
WWDW Into		
(* Type In [2101] - [0080] - [0837] - [4800]		
		OK Cancel Help

7. At the Completion screen, click Set.

Set Host Information	
Host Information Setting Method > Host Information Registration > Completion	
1: Select the interface of the host.	
C ISCSI C ISCSI C SAS	
2: Input host name.	
Host Name : essidition	
Platforn : VMware (LX)	
3: Specify paths to host.	
- Paths Assignable to Host -	(Used connections : 7 Number of Assigned Paths : 2)
- Paths Assignable to Host - Path Info Path Mode	(Used connections : 7 Number of Assigned Paths : 2)
- Paths Assignable to Host - Path Info Path Hode 2101-0020-08037-42DC WFNN 0102-0020-0817-42DC WFNN	(Used connections : 7 Number of Assigned Paths : 2)
- Paths Assignable to Host - Path Info Path Hode 2101-00E0-8B3F-4EDC WFPN 2100-00E0-8B1F-4EDC WFPN	(Used connections : 7 Number of Assigned Paths : 2)
- Paths Assignable to Host - Path Info Path Hode 2101-00E0-8B3F-4EDC WFPN 2100-00E0-8B1F-4EDC WFPN	(Used connections : 7 Number of Assigned Paths : 2)
- Paths Assignable to Host - Path Info Path Hode 2101-00E0-8B3F-4EDC WEPN 2100-00E0-8B1F-4EDC WEPN	(Used connections : 7 Number of Assigned Paths : 2) Add WWFW Add Port Change Delete
- Paths Assignable to Host - Path Info Path Hode 2101-00E0-8B3F-4EDC WEPN 2100-00E0-8B1F-4EDC WEPN	(Used connections : 7 Number of Assigned Paths : 2) Add WPPN Add Port Delete
- Paths Assignable to Host - Path Info Path Hode 2101-00E0-8B3F-4EDC WEPN 2100-00E0-8B1F-4EDC WEPN	(Used connections : 7 Number of Assigned Paths : 2) Add WWFN Add Port Delete < Back

8. Click Finish.

iSCSI Option

- **1.** Login to the **ESXi server**.
- **2.** Enter:
 - Host Name
 - Platform

3. Click Add.

Set Host Information	
Host Information Setting Method > Host Information Registration > Completion	
1. Select the interface of the host.	
C MC & Ascal I C SYR	
2: Input host : name.	
Host Name : extablis Platform : Value (LX)	
3. Specify initiators to host.	
- Initiators Assignable to Host -	(Used connections : 0 Number of Assigned Initiators : 0)
Initiator Node Name Initiator Alias	
	Add Change Belste
	< Back Sat Cancel Help

 $\textbf{4.} \quad \text{Enter the IQN into the } \textbf{Type In field at the bottom of the screen, and click } \textbf{OK}.$

Set Host Information		
Specify the initiators to be assigned.		
O Select		
- Assignable Initiators -	(Number of Initiators : 0 Number of selected Initiators : 0)	
Initiator Node Name Thitiator Alias		
© Туре In	Fefresh History	
iqn. 1998-01. com. vmware: SDESX513407-3d5848al		
	OK Cancel Help	

5. Click Set.

Set Host Information	
Host Information Setting Method > Host Information Registration	> Completion
1: Select the interface of the host.	
OFC OISCEI OSAS	
2: Input host name.	
Host Name : esx5u134108	
Platform : VHware(LX)	
3: Specify initiators to host.	
- Initiators Assignable to Host -	(Used connections : 16 Number of Assigned Initiators : 1)
Initiator Node Name Initiator Alias	
iqn.1998-01.com.vmware:sdesx513407-3d5848ml	
	Add Change Delete
	< Eack Set Cancel Help

- 6. Click Yes.
- 7. Click Finish.

Assigning Logical Disks To The Host

- **1.** Use **one** of these options:
 - From the 'Host Information Setting Method Completion' screen, click the Assign Logical Disks To The Host link.
 - From the SnapSAN Manager Monitor screen, navigate to the Configuration > Host > Assignment of Logical Disk page.

	W2K8VH34127	iSCSI						-
Vindows (WN)	WIN-55SKUAVH19J	iSCSI						
Vindows (WN)	WIN-B1U4138	iSCSI						
LINUX (LX)	esxi5u134106	FC						
EFAULT (DF)	rdrlink	- iSCSI	iSCS	I RDR				*
				Registe	er infor	nation	of a h	ost
elect logical Show all	disks to be assign assignable logic	ned to the h al disks	iosts.					
elect logical Show all	disks to be assign assignable logic	ned to the h al disks	nosts.					
elect logica Show all Select ALL LD List -	disks to be assign assignable logic	ned to the r al disks	iosts.	r of LDs : 1	Number o	f selecte	d LDs : 1	,
elect logica Show all Select ALL LD List -	disks to be assign assignable logic Type Lo	ned to the H al disks ogical Disk	Nosts.	r of LDs : 1 Capacity[Number o	f selecte	d LDs : 1	۰ ۲
elect logical Show all Select ALL LD List - fumber 05 0008h	disks to be assign assignable logic Type Lo 20	ned to the H al disks ogical Disk 00001697121F	(Number Name 230008	r of LDs : 1 Capacity[500	Number o E) Furpose	f selecte	d LDs : 1) (Ce
elect logical Show all Select ALL LD List - fumber 05 0008h	disks to be assign assignable logic Type Lo 20	ned to the H al disks ogical Dis) 00001697121F	(Number Name 230008	r of LDs : 1 Capacity (50.0	Number o 58] [Furpose	f selecte	d LDs : 1) Ce

2. Select both the Host and the Logical Disk.

- 3. Click Next.
- 4. Click Set.
- 5. At the confirmation page, click Yes.
- 6. Click Finish.

Verify Assigned LUN Visible

- 1. Login to the vSphere Client.
- 2. Navigate to Home > Hosts and Clusters.
- 3. From the left panel select the ESXi host.
- 4. From the Hardware list under the Configuration tab, select Storage Adapters.
- 5. Click the Rescan All.

🛃 WIN-B1U402HND5K - vSphere Cli	ent						_ & ×
File Edit View Inventory Administra	ation Plug-ins Help						
🖾 🔝 🏡 Home 🕨 🏭 Inv	rentory 🕨 🎁 Hosts and Clusters				6]•	Search Inventory	Q
5 e 8							
WIN-B1U4O2HND5K B New Datacenter	10.20.34.106 ¥Mware E5Xi, 5.0.0, 623i	360					
III.20.34.106	ng Started Summary Virtual Machines	Resource Allocation Performance	Configuration 1	asks & Events 🔪 Alarms 🔪 Permissio	ns Maps Storage Vie	aws Hardware Status	Overland Storage 🛛 🛛 🕨
W2K3VM34132	Hardware	Storage Adapters			Add	Remove Refresh	Rescan All
W2K3VM34137	Processors	Device	Туре	WWN			
W2K8VM34136	Memory	iSCSI Software Adapter					
W2K8VM34138	Storage	🕥 vmhba33	iSCSI	ign.1998-01.com.vmware:esx5	5u34106-5c163166:		
	Networking	631xESB/632xESB IDE Control	es				
	- Charles Adventure	💿 vmhba0	Block SCSI				
	Scorage Adapters	🔇 vmhba32	Block SCSI				

 Select the FC adapter from the Storage Adapters list. The assigned LUN is shown in the right panel.

Hardware	Storage Adapters			Add	Remove	Refresh	Rescan All.
Processors	Device	Туре	WWN				
Memory	iSCSI Software Adapter						
Shorana	O vmhba33	iSCSI	iqn.1998-01.com.vmware:esx5u34106-5c16316	6:			
Mahurahira	631xESB/632xESB IDE Co	ntroller					
Networking	G vmhba0	Block SCSI					
 Storage Adapters 	O vmhba32	Block SCSI					
Network Adapters	Adaptec SCSI						
Advanced Settings	(g) vmhba5	SCSI					
Power Management	LPe11000 4Gb Fibre Chan	nel Host Adapter					
Coffmono	📀 vmhba3	Fibre Channel	20:00:00:00:c9:71:2d:ce 10:00:00:c0:c9:71:2d	:ce			
ortware	O vmhba4 N	Fibre Channel	 20:00:00:00:c9:71:2d:cf 10:00:00:00:c9:71:2d: 	cf			

Create a Datastore

The following section details how to create a datastore.

- 1. At the vSphere Client console, from the Hardware list under the Configuration tab, select Storage.
- 2. Click Add Storage to the right to start the wizard.

Started Summary Virtual Machines VI	Resource A	location Pe	erforma	nce Configura	ation Tasks & Eve	ents Alarms	Permissions	Maps	Storage View	s Hardw	are Status 🔪 Overl	and Storage	
Hardware	View:	Datastores	Devic	es									
Processors	Datast	ores							Refresh	Delete	Add Sinrage	Rescan A	I.,
Memory	Identif	fication	~	Status	Device	Drive Type		Capacity	Free	Туре	Last Update	4	la
 Storage 		datastore1		🤣 Normal	Local Adaptec Di	isk Non-SSD		2.04 TB	1.85 TB	VMFS5	8/12/2012 9:49:0	07 PM E	ina

3. At the Add Storage screen, select the Disk/LUN storage type, and click Next.

🛃 Add Storage	
Select Storage Type Specify if you want to for	mat a new volume or use a shared folder over the network.
Disk/LUN Select Disk/LUN File System Version 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 WHFS volume. Network File System Choose this option if you want to create a Network File System. Adding a datastore on Fibre Channel or iSCSI will add this datastore to all hosts that have access to the storage media.
Help	< Back Nert > Cancel

4. For creating a datastore, provide the following details in sequence.

These details are presented back-to-back when you click the Next button in the wizard.

- a. Select the LUN.
- **b.** Select the preferred **File System Version**.
- c. Verify the current disk layout details.
- d. Provide the Datastore Name.
- e. Click Finish to complete the task.

Review the disk layout	and click Finish to add storage	
Disk/LUN	Disk layout:	
	Device Drive Type Capacity OVERLAND Fibre Channel Disk (eu Non-SSD 10.00 GB Location /vmfs/devices/disks/eui.001697121f23000d Partition Format GPT Primary Partitions Capacity VMFS (OVERLAND Fibre Channel DI 10.00 GB	UN O
	File system: Properties Datastore name: Overland-FC-Datastore Formatting File system: vmfs-5 Block size: 1 MB	

5. To verify the **newly added datastore** in the vSphere Client console, look under the **Datastores** list.

Click the name to see its details in the lower field.

Datastores				Re	fresh Delete	e Add Storag	e Rescan All
Identification	Status	Device	Drive Type	Capacity	Free T	ype Last	Update
👔 datastore1	🦁 Normal	Local Adaptec Disk	. Non-SSD	2.04 TB	1.85 TB V	MPSS 8/12,	2012 9:50:10 PM
Overland-FC-Datastore	Normal	OVERLAND Fibre	Non-SSD	9.75 GB	8.89 GB V	MP55 8/12,	2012 9:50:05 PM
i overland-storage-L1	🦁 Normal	OVERLAND ISCSI	Non-SSD	24.75 GB	23.83 GB V	MF55 8/12,	/2012 9:50:05 PM
Datastore Details							Dronastias
							Properties
Uverland-FL-Datastore	2572,9520,4760,9	eda.002049259a55	9.75 GB	Capacity			
Hardware Acceleration: Supp	orted	000-003046330633	880.00 MB	Used			

Setting the Multipath Policy

The following section details how to set a multipath policy for a datastore.

IMPORTANT: Overland recommends using the Most Recently Used (VMW_PSP_MRU) policy as a multipath policy.

To set the multipath policy, perform the following steps:

- 1. From the vSphere Client console, select the **host** in the left panel and, from the **Hardware** list under the **Configuration** tab, select **Storage**.
- **2.** From the **Datastores** section, select the **datastore** for which you want to set/change the multipath policy.
- 3. In the Datastore Details section, click Properties.

The particular datastore Properties dialog box appears (here we are using Overland-Fibre Channel).

- 4. Click the Manage Paths button.
- 5. From the Manage Paths dialog box, select the Path Selection field value as Most Recently Used (VMware). Click Change.

Path Selection:	Most Recently Used (VMware)				Chang	IB .
Storage Array Type	: VMW_SATP_ALUA					
athe						
Juis		1009	Chal		Preferred	
Runtime Name	larget	LON	- Diau	us	Tribioned I	
mhba4:C0:T1:L0	20:00:00:16:97:12:1f:232b:00:00:16:97:12:1f:23	0	Stat	Active	Profetted	
mhba4:C0:T1:L0 mhba4:C0:T0:L0	Target 20:00:00:16:97:12:1f:232b:00:00:16:97:12:1f:23 20:00:00:16:97:12:1f:2323:00:00:16:97:12:1f:23	0		Active Active	ricicito	
rmhba4:C0:T1:L0 rmhba4:C0:T0:L0 rmhba3:C0:T0:L0	1 arget 20:00:00:16:97:12:1f:23 2b:00:00:16:97:12:1f:23 20:00:00:16:97:12:1f:23 23:00:00:16:97:12:1f:23 20:00:00:16:97:12:1f:23 23:00:00:16:97:12:1f:23	0 0 0)(a)	Active Active Active (I/O)	Horonog	

6. To verify if the datastore **multipath policy value** is set properly, check the particular **datastore details** from the **Datastores** list, as shown in the following image:

Datastores						Refres	h Dele	te Ad	id Storage	Rescan Al
Identification	~ S	tatus	Device	Drive Type	(Capacity	Free	Туре	Last Updat	e
👩 datastore1		Norma	al Local Adap	tec Disk Non-SSD		2.04 TB	1.85 TB	VMPSS	8/12/2012	9:50:10 PM
0verland-FC-D	atastore 📢	Norma	al OVERLAND	Fibre Non-SSD		9.75 GB	8.89 GB	VMPSS	8/12/2012	9:50:05 PM
👔 overland-stora	je-Li 🕻	Norma	al OVERLAND	ISCSI Non-SSD	2	24.75 GB 2	3.83 GB	VMFSS	8/12/2012	9:50:05 PM
4										,
Datastore Details										Properties
Overland-FC-Data	tore			9.75	GB Capaci	ty 🖉				
Location: /vmts/ Hardware Accelerat	olumes/502825	573-85306 ted	1760-88da-003048	358e55 880.00	MB 🔲 Use	ed b				
Refrech Storage Ca	a a hilitiar	.03		8.89	GB 🔲 Fre	e				
System Storage Car	ahility: N	(A								
User-defined Storag	e Capability: N	/A								
Path Selection Most Recently Us	Propertie Volume L	es abel:	Overland-FC	Extents OVERLAND Fibre Ch	annel D	10.00 G8	Sto Dis	rage I/0 sabled	0 Control	

7. To set the default **multipath policy** to **VMW_PSP_MRU**, run the following command followed by a reboot:

esxcli storage nmp satp set -s VMW SATP ALUA -P VMW PSP MRU

NOTE: Rebooting is required to take the changes effect.

This changes the default multipath policy to **MRU** (Most Recently Used) for all the LUNs of the storage type VMW_SATP_ALUA.

z ² 10.20.34.108 - Pu <mark>TTY</mark>	
~ # esxcli storage mmp satp set -s VMW_SATP_ALUA -P VMW_PSP_MRU	<u> </u>
Default PSP for VHW_SATP_ALUA is now VMW_PSP_HRU	
~ #	

Checking VAAI Status on the Host

By default, vSphere Storage API for Array Integration (VAAI) is enabled in ESXi 5. The following section details how to check if the VAAI is enabled on the ESXi host:

1. From the vSphere Client console, select the **host** in the left panel and, from the **Hardware** list under the **Configuration** tab, select **Storage**.

Available datastores are shown under the Datastores list. You can check the status from the Hardware Acceleration column value for the particular datastore. The value **Supported** indicates that VAAI is enabled.

Datastores					Refresh	Delete	Add Storage	Rescan All
Identification	Status	Device	Drive Type	Capacity	Free	Туре	Hardware Accel	eration La
👩 datastore1	🤣 Normal	Local Adaptec Disk	Non-SSD	2.04 TB	1.83 TB	VMFS5	Not supported	10
👔 overland-datastore-L4	🥏 Normal	OVERLAND ISCSI	Non-SSD	19.75 GB	18.85 G8	VMF55	Supported	10

- **2.** To check the status of VAAI from the CLI, run the following command:
 - # esxcli storage core device vaai status get



3. To check if the VAAI is enabled on the ESXi host, run the following commands and check if the **Int** value is set to **1** (enabled):

```
# esxcli system settings advanced list -o /DataMover/HardwareAcceleratedMove
# esxcli system settings advanced list -o /DataMover/HardwareAcceleratedInit
# esxcli system settings advanced list -o /VMFS3/HardwareAcceleratedLocking
If the value is 1, then it indicates that VAAI is enabled.
```

For example:

