

Application Note

November 2013

Installing and Configuring SnapSAN vCenter Plug-in Application



Summary

This Application Note describes how to install and configure the SnapSAN vCenter Plug-in with a fibre or iSCSI attached SAN Array. This document makes use of the VMware vSphere Client in an ESXi 5.1 environment.

Required Information, Tools, and Files

Before you begin these procedures, the following information, tools, and files are required.

Prerequisites

Prior to performing these procedures, ensure that you have the following:

- Overland Storage SnapSAN S3000/S5000 Disk Array must be installed and configured. You can get additional technical support from our website at http://support.overlandstorage.com, or by contacting Overland Storage using the information found on the <u>Contact Us</u> page on our web site.
- This document assumes that the storage pool has already been created. Additional information on binding a pool can be found in the *SnapSAN S3000/S5000 Disk Array User Guide* available at http://docs.overlandstorage.com/snapsan.
- The information in this Application Note covers installing and configuring the VMware vCenter Plug-in. For additional details about the SnapSAN vCenter Plug-in, refer to the following *SnapSAN S3000/S5000 VMware vCenter Plug-in User Guide* also available at http://docs.overlandstorage.com/snapsan.
- This document assumes that vCenter Server is already installed and running, and that the reader has a general understanding and familiarity with the VMware ESXi environment. Any and all additional information can be attained through the VMware Knowledge Center.
- Your vCenter Server credentials are also part of this requirement and will be used during the installation and configuration of the SnapSAN vCenter Plug-in.

Versions

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

- Java JRE version 7 update 40
- SnapSAN S5000 software version 082R.007
- SnapSAN S5000 firmware version U22R.007
- Overland SnapSAN vCenter Plug-in version 1.2.001
- Emulex LPe11000
- VMware ESXi, 5.1, 799733
- VMware ESXi 5.1 iSCSI Software Adapter
- VMware vCenter Server, 5.1, 799733
- VMware vSphere Web Client 5.1.0, Build 786111

Installing the vCenter Plug-in

- 1. From the vCenter plug-in installation package, double-click the installation setup file.
- 2. When the Installation Wizard is launched, click Next and follow these steps:
 - a. Read and accept the terms of the license agreement, and continue.
 - b. Browse the installation path and click Next.
 - c. Provide the Port Numbers (1, 2, 3 and 4) you want to use for the plug-in, and click Next.
 - d. Provide the vCenter Server IP Address, and click Next.

e. Provide the credentials required to connect to the vCenter Server, and click Next. The following command prompt pops-up and the plug-in registration for the VMware vCenter Server starts.

NOTE: Do not close the command prompt when it appears.



- 3. Once the plug-in registration completes, when prompted, press any key to continue.
- 4. Click Finish.
- 5. Click OK.

The SnapSAN vCenter Plug-in is now installed, as shown in the following image:

🗿 Plug-	in Manager						_ 🗆 🗡
			,	,		,	
Plug-in	n Name	Vendor	Version	Status	Description	Progress	Errors
Insta	lled Plug-ins						
8	VMware vCenter Storage Monitoring Service	VMware Inc.	5.1	Enabled	Storage Monitoring and		
					Reporting		
3	VMware vCenter Site Recovery Manager Extension	VMware, Inc.	5.1.1	Enabled	VMware vCenter Site Recovery		
					Manager extension		
8	vCenter Service Status	VMware, Inc.	5.1	Enabled	Displays the health status of		
					vCenter services		
8	vCenter Hardware Status	VMware, Inc.	5.1	Enabled	Displays the hardware status of		
1.1					hosts (CIM monitoring)		
8	Overland Storage VMware vCenter Plug-in	Overland Storag	1.2.001	Enabled	Overland Storage VMware		
					vCenter Plug-in		
Availa	able Plug-ins						
He	eln l						Close
	-1P						

Array Configuration

After installing the vCenter plug-in, the next step is to configure the SnapSAN array. Here is an overview of the tasks needed to be performed:

- **1.** Add a disk array.
- **2.** Create and Assign LUNs to a host.
- **3.** Create a new datastore.
- 4. Expand the created datastore.
- 5. Assign a raw device mapping to the virtual machine.
- **6.** Verify the datastore details.

Adding a Disk Array

1. Login to the vSphere Client and navigate to Home > Hosts and Clusters.

2. From the left pane, select the Datacenter, and from the right pane, select the Overland Storage tab.

etting Started Summary	Virtual Machines Hosts IP Pools	Performance Tasks & Events	Alarms Permissions Maps S	itorage Views Overland	Storage
Overland Storage			Last	Jpdate Time:2013/09,	/25 02:14:40
å dd Dick å mar	Disk Array Information				
Hud Disk Hildy	Disk Arrays				
Edit Disk Array	Disk Array Name	Status	Product ID	Serial Number	World Wide Name
	SDS500034170	ready	SnapSAN S5000	000000942990012	2000001697121F23
Remove Disk Array		1			

- 1. Click the Add Disk Array link and provide the following details:
 - IP Address for connecting
 - User name
 - Password
- 2. Click Save.

Creating and Assigning LUNs to a Host

This section covers how to create and assign LUNs to a host through the vSphere Client console.

- 1. From vSphere Client console, navigate to Home > Hosts and Clusters.
- 2. Bind logical disks and assign them to a host:
 - a. From the left pane of the console, click the Host to which LUNs will be assigned.
 - b. Select the Overland Storage tab from the right pane.
 - c. Click Logical Disk Bind and Assignment.
 - d. Select the particular disk array, and click Next.
- **3.** The bound pools in the particular disk array are shown. Configure these three **options**:

Select Disk Array > Select Pool And Specify The New Logical Disk > Select Assignment Target Host > Confirmation :

Pool Number Pool Name	Status	RAID	Free Capacity[GB]	Capaci
0000h Vedams	ready	RAID1/10	213.7	
2: Specify the capacity of logical	disk			
2: Specify the capacity of logical	disk			
2: Specify the capacity of logical Capacity(1-213) :	disk 10 - GB V			
2: Specify the capacity of logical Capacity(1-213)	10 💌 GB 💌			
2: Specify the capacity of logical Capacity(1-213)	disk 10 🔹 GB 💌			
2: Specify the capacity of logical Capacity(1-213) : 3: Select interface between hos	t and disk array			
2: Specify the capacity of logical Capacity(1-213) : 3: Select interface between hos	t and disk array			

- a. Select the Pool.
- **b.** Specify the LUN **size** for the logical disk.
- c. Using the drop-down list, select the interface to be used:
 - iSCSI
 - FC

- **d.** Click **Next** to accept.
- **4.** The selected host as the target is the only option at the next screen. Click **Next** again to start assigning LUNs to a particular host.

Select Disk Array > Select Pool And Specify The New Logical Disk > Select Assignment Target Host > Confirmat Completion



5. Click Set.

Verifying if the LUNs are properly assigned to a host:

- 1. From vSphere Client console, click the **Configuration** tab.
- 2. Select the Storage Adapter feature from the Hardware list.
- 3. Click **Rescan All** to make the LUN visible to a host.
- **4.** From the **Storage Adapters** device list, select the correct Fibre Channel or iSCSI **adapter**. You can see the assigned LUN and its details:

Hardware	Storage Adapters			1	Add	Remove	Refresh	Rescan Al
Processors	Device	Туре	WWW					
Memory	iSCSI Software Adapter							
Storana	🚱 vmhba33	iSCSI	ign.1998-01.com.vmware:esx5u1	134108-7f9bd5b2				
Networking	631xESB/632xESB IDE Controller							
 Storage Adapters 	O vmhba0	Block SCSI						
Network Adapters	O vmhba32	Block SCSI						
Advanced Settings	Adaptec SCSI							
Dawar Management	🔄 vmhbaS	SCSI						
Power management	LPe11000 4Gb Fibre Channel Hos	t Adapter						
Software	O vmhba3	Fibre Channel	20:00:00:00:c9:6a:95:a210:00:0	00:00:c9:6a:95:a	2			
Social	O vmhba4	Fibre Channel	20:00:00:00:c9:6a:95:a310:00:0	00:00:c9:6a:95:a	3			
Licensed Features	AIC-8902 U320 OEM							
Time Configuration	🎯 vmhba1	SCSI						
DNS and Routing	📀 vmhba2	SCSI						
Authentication Services								
Power Management								
Virtual Machine Startup/Shutdown								
Virtual Machine Swapfile Location	Dataila							
Security Profile	Details							
Host Cache Configuration	vmhba3							
System Resource Allocation	Model: LPe11000 4Gb Fibre C	hannel Host Adapter						
Agent VM Settings	WWN: 20:00:00:c9:6a:95:	a2 10:00:00:00:c9:6	a:95:a2					
Advanced Settings	Targets: 2 Devices:	2 Paths:	3					
Advanced becongs	Mana Davies Dates							
	VIEW: Devices Paths							
	Runtime Name	Operational State	LUN Type Driv	/e Type	Transpor	t C	Capacity	Owner
	H1d000e vmhba3:C0:T0:L0	Mounted	0 disk Nor	n-SSD	Fibre Cha	annel 1	100.00 G	NMP
	11d0004 vmhba3:C0:T1:L1	Mounted	1 disk Nor	n-SSD	Fibre Cha	annel S	50.00 GB	NMP

Creating New Datastore

- **1.** From vSphere Client console, go to **Configuration > Hardware > Storage**.
- 2. Click the Add Storage link.
- 3. At the Add Storage wizard, select Storage Type > Disk/LUN and click Next to start:
 - a. Select the LUN to create a datastore, and click Next.

- **b.** Select the preferred File System Version, and click Next.
- c. Review the current disk layout details, and click Next.
- d. Provide the Datastore Name, and click Finish.

You can see the created datastore under the **Datastore** list with its details below it.

Datastores				R	efresh Del	ete A	dd Storage Rescan All.
Identification	Status	Device	Drive Type	Capacity	Free	Туре	Last Update
👔 datastore1	🤣 Normal	Local Adaptec Disk	. Non-SSD	2.04 TB	1.85 TB	VMPSS	8/12/2012 9:50:10 PM
Overland-FC-Datastore	Normal	OVERLAND Fibre	Non-SSD	9.75 GB	8.89 GB	VMP55	8/12/2012 9:50:05 PM
overland-storage-L1	Normal	OVERLAND ISCSI	Non-SSD	24.75 GB	23.83 GB	VMPSS	8/12/2012 9:50:05 PM
A Datastore Details	17						Properties
Overland-FC-Datastore Location: /vmfs/volumes/5020 Hardware Acceleration: Supp	32573-8530d760-8 orted	8da-003048358e55	9.75 GB 880.00 MB	Capacity			
Refresh Storage Capabilities System Storage Capability: User-defined Storage Capability:	N/A N/A		8.89 GB	L Free			

Expanding the Datastore

- 1. From vSphere Client console, select the **host** and click the **Overland Storage** tab.
- **2.** Assign a **logical disk** (approximately 20 GB capacity) to that host. Refer to Creating and Assigning LUNs to a Host.
- **3.** From Configuration > Hardware, select Storage Adapter and click Rescan All or Refresh to make the LUN visible to the host.
- 4. Under the Configuration > Hardware, select Storage.
- 5. From the Datastores list, select the particular datastore to be extended.
- 6. From the Datastore Details section, click the Properties link.
- 7. Click Increase.
- 8. Select the LUN and click Next. Complete the capacity extension as prompted.
- 9. Click Finish.

The datastore is extended. You are moved back to the **Properties** dialog box where you can check the increased capacity of the datastore.

Assigning a Raw Device Mapping (RDM) to the Virtual Machine

- 1. From vSphere Client console, navigate to Home >Host and Clusters.
- 2. Select the host.
- 3. Click the Overland Storage tab.
- **4.** Assign **logical disk** (approximately 15 GB capacity) to that host. Refer to Creating and Assigning LUNs to a Host.
- 5. From Configuration > Hardware, select Storage Adapter and click Rescan All or Refresh to make the LUN visible to the host.
- 6. From the left-pane, right-click the particular Virtual Machine and select Edit Settings.
- 7. Click Add to start the Add Hardware wizard:
 - a. Select Raw Device Mappings, and click Next.

- b. Select the LUN, and click Next.
- c. Choose a datastore on which to store the LUN mapping, and click Next.
- d. Select the Compatibility Mode to be applied to the virtual disk, and click Next.
- e. Select the Virtual Device Node, and click Next.
- a. Click Finish.
- 8. Click OK to assign the LUN as an RDM to the virtual machine.
- **9.** From the vSphere Client console, select the **Virtual Machine** from the left-pane and click the **Overland Storage** tab.

You can see the RDM assigned to the virtual machine. If not, click the **Update** link to refresh the details and verify the updated information.

Verifying the Datastore Details

- 1. From the vSphere Client console, select the Host and click the Overland Storage tab.
- **2.** Select Datastore Information.
- **3.** At the **Datastore Information** section, select the **datastore** for which the details are to be verified.

The particular datastore details are displayed.

Managing the SnapSAN Disk Array

Editing Disk Array

Perform the following steps to edit a disk array:

- 1. From vSphere Client console, select Datacenter.
- 2. Click the Overland Storage tab.
- 3. Select the disk array of which details are to be modified.
- **4.** Select the **Edit Disk Array** link. Change the user account details as per your requirements and click **Test**.

NEC Storage	Edit Disk Array					
Add Disk Array • Edit Disk Array Remove Disk Array	IP Address for Connecting : 10.20.34.172 User Name : ••••• Password : •••••					
	Test Save Cancel					

5. After successful testing, Save the disk array information.

Deleting Disk Array

Perform the following steps to delete a disk array:

- 1. From vSphere Client console, select the Datacenter.
- 2. Click the Overland Storage tab.
- 3. Select the **disk array** to be deleted, and click **Remove Disk Array**.
- 4. At the confirmation, click Perform.

Uninstall vCenter Plug-in

To uninstall the vCenter plug-in, perform the following steps:

- 1. Navigate to Start > Setting > Control Panel.
- 2. Double-click the Add or Remove Programs feature and the select the program Overland Storage VMware vCenter Plug-in.
- 3. Click Uninstall.
- The un-install process starts. Click Yes to confirm.
 Un-registration of the plug-in starts automatically, in the command prompt.

NOTE: Do not close the command prompt when it appears.

- **5.** After un-registering the plug-in, hit **any key** to proceed. The un-installation process continues.
- 6. Once the un-installation is complete, click Finish.