
HP LeftHand P4000 VSA

Quick Start user guide

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Table Of Contents

About this guide

HP technical support	ix
Subscription service	ix
HP websites	x
Documentation feedback	x

Chapter 1 Getting Started with the VSA for ESX Server

Introduction	1
Planning for the VSA	1
Installing the VSA	3
Installing the HP LeftHand Centralized Management Console	8
Getting Started with the HP LeftHand Centralized Management Console	10
Creating the iSCSI SAN	14
Troubleshooting	15
Documentation Available	16

Chapter 2 Using the VSA Laptop Demo

Introduction	19
Overview	20
Planning the Demo Installation	21
Installing the CMC	22
Installing the VSA	23
Getting Started with the HP LeftHand Centralized Management Console	25
Installing Another VSA	29
Troubleshooting	29
Documentation Available	30

Figures

Figure 1.1.	Logging in to the SAN/iQ Configuration Interface	7
Figure 1.2.	Opening the CMC for the first time	10
Figure 1.3.	Newly found VSA in CMC	11
Figure 1.4.	Configuring the hardware	11
Figure 1.5.	Configuring virtual RAID	12
Figure 1.6.	Navigation window and the VSA RAID Setup tab	13
Figure 2.1.	Logging in to the Configuration Interface	24
Figure 2.2.	Opening the CMC for the first time	26
Figure 2.3.	Newly found VSA in CMC	27
Figure 2.4.	Configuring the hardware	27
Figure 2.5.	Choosing to configure virtual RAID	28

Tables

Table 1.1.	Relationship of disk size to datastore block size	4
Table 1.2.	Reserve physical memory for VSA disks	6
Table 1.3.	Troubleshooting Installation	15

About this guide

This guide provides information about:

- Installing and configuring the HP LeftHand P4000 VSA for ESX
- Installing and configuring the HP LeftHand P4000 VSA demo version that runs on VMware Player, Workstation, or Server

HP technical support

For worldwide technical support information, see the HP support website:

<http://www.hp.com/support>

Before contacting HP, collect the following information:

- Product model names and numbers
- Technical support registration number (if applicable)
- Product serial numbers
- Error messages
- Operating system type and revision level
- Detailed questions

Subscription service

HP recommends that you register your product at the Subscriber's Choice for Business website:

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HP websites

After registering, you will receive e-mail notification of product enhancements, new driver versions, firmware updates, and other product resources.

HP websites

For additional information, see the following HP websites:

- <http://www.hp.com>
- <http://www.hp.com/go/storage>
- http://www.hp.com/service_locator
- <http://www.hp.com/support/manuals>
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Getting Started with the VSA for ESX Server

1

Introduction

The free 30-day, fully functional evaluation HP LeftHand P4000 VSA (VSA) is pre-formatted for the VMware ESX Server. To continue using the VSA after the 30-day trial period has ended, you must purchase a license key. After you apply the license key, your configuration can be used as is in a production environment, or reconfigured if necessary.

Prerequisites

- Have available drive space of up to 10 TB for ESX Server. HP LeftHand Networks recommends installing ESX Server on top of a redundant RAID configuration. Do not use RAID 0.
- At least 1 GB of memory reserved.
- A single virtual CPU with at least 2000 MHz reserved.
- Have a Gigabit Ethernet or internal network environment
 - Designate a host name for the VSA,
 - Plan the network configuration, including an IP address, subnet mask, and gateway for the VSA, or use DHCP.
- VMware ESX Server version 3.x

Planning for the VSA

Careful planning of the virtual network configuration, the VSA configuration and the configuration of the clusters and volumes for data storage ensures that you can take full advantage of the features and benefits of the HP LeftHand Storage Solution.

Planning the Virtual Network Configuration

Before you install the VSA on the network, plan the virtual network configuration, including the following areas:

- Design and configuration of the virtual switches and network adapters.
- VSA directories, host names and IP addresses.
- Virtual network configuration, including the subnet and the virtual IP addresses (VIPs) for iSCSI access.

For more detailed information, see the HP LeftHand P4000 VSA User Manual, which is installed as a PDF in the directory into which you unzipped the VSA files. Or you can download it from the HP LeftHand Networks web site.

Planning the SAN/iQ Software Storage Configuration

When you install the HP LeftHand Centralized Management Console (CMC), you should plan and configure the storage node features, such as email alert notification, before you configure the data storage.

Installing the VSA

There are two ways you can obtain the VSA.

- As a zip package downloaded from the HP LeftHand Networks web site.

When you install the packaged VSA for the first time, you must perform the following steps.

- Unzip to the prepared directory and start the VMware Infrastructure Client (VI Client).
- Transfer the virtual machine to the ESX Server.
- Add the VSA to inventory.
- Select the network.
- Configure the data disk(s).
- Reserve the CPU and memory.
- Power on the VSA.
- Set the IP address and host name of the VSA.
- As a OVF package imported through the VI Client Import Virtual Appliance wizard.

When you import the VSA as an virtual appliance through the VI Client you must perform the following steps.

- Configure the data disk(s).
- Reserve the CPU and memory.
- Power on the VSA.
- Set the IP address and host name of the VSA.

Configuring the Capacity of the Data Disk

When you configure the data disk, use [Table 1.1](#) to determine the proper size for the disk. The maximum disk size on the ESX Server is limited by the block size used to format the datastore.

Installing the VSA

Table 1.1. Relationship of disk size to datastore block size

Block Size	Max VMDK
1 MB	256 GB
2 MB	512 GB
4 MB	1024 GB
8 MB	2048 GB

Installing with VMware VI Client

Use one of the following methods, depending on the VSA you are using.

Upload the VSA (zip version)

If you downloaded the VSA zip package, use these steps.

1. Connect to the ESX host via VC or VI Client.
2. Click on the ESX host and select the Configuration tab.
3. Select Storage.
4. Find the local VMFS datastore where VSA will be hosted.
5. Right-click and select Browse DataStore.
6. Create a new directory and click the upload files icon.
7. Upload the unzipped folder with the VSA files.

Import the VSA (ovf version)

If you imported the VSA as a virtual appliance through the Virtual Infrastructure Client, skip to [“Configure a Data Disk” on page 5](#).

Add VSA to Inventory

Using the VI Client:

1. In the Inventory Panel, select the VMware ESX Server.
2. In the Information Panel, select the Configuration Tab.

3. In the Hardware section, select Storage (SCSI, SAN, and NFS).
4. In the Storage section, right-click the datastore icon and select Browse Datastore.
5. In the Datastore Browser, right-click the VSA.vmx file and select Add to Inventory.
6. In the Add to Inventory Wizard, enter a name for the new VSA and click Next.
7. Select the Resource Pool to run the VSA and click Next.
8. Verify the information and click Finish.
9. Close the DataStore Browser.

Select A Network Connection

1. In the Inventory Panel select the VSA.
2. In the Information Panel select Edit Settings in the Commands section.
3. On Virtual Machine Properties window, select the Hardware tab and select Network Adapter 1.
4. Select the appropriate network connection from the Network label list on the right side.

Configure a Data Disk

1. Next, click Add at the bottom of the Hardware tab.
2. Select Hard Disk as the type of device you want to add and click Next.
3. Select Create a new virtual disk and click Next.
4. In the Disk Capacity section, designate a capacity that is suitable for the amount of storage available on your ESX Server.
[See “Configuring the Capacity of the Data Disk” on page 3](#) for information about maximum disk size.
5. In the Location section, select Store with Virtual Machine, and click Next.

Installing the VSA

- For the first disk, select the Virtual Device Node to be SCSI 1:0 from the drop-down menu. For additional disks, assign SCSI 1:1 through 1:4, in sequential order.



Caution: Selecting anything other than SCSI 1:0 for the first disk causes RAID to be unconfigurable later.

- Select Mode > Independent > Persistent and click Next.
- Review the device configuration and click Finish to complete the Add Hardware wizard.
- Click the Resources tab on the Virtual Machine Properties window.
- Select CPU and reserve at least 2000 MHz.
- Select Memory and reserve the appropriate amount of physical memory for the disk capacity, as shown in the table.

Table 1.2. Reserve physical memory for VSA disks

Total Capacity of All Installed Disks	Requires At Least This Much Memory
< 500 GB	384 MB
500 GB to 4.5 TB	1 GB
4.5 TB to 9 TB	2 GB
9 TB to 10 TB	3 GB

- Click OK to close the Virtual Machine Properties window.
- Select the ESX Server in the inventory panel.
- Click the Resource Allocation tab.
- Verify the CPU and Memory reservations you just set.

Configuring the VSA for Use with the HP LeftHand Storage Solution

- In the inventory panel, select the new VSA and power it on.
- Select the Console Tab and wait for the VSA to boot.

3. After the VSA boots up, log in and use the SAN/iQ Configuration Interface to configure an IP address and host name for the VSA.

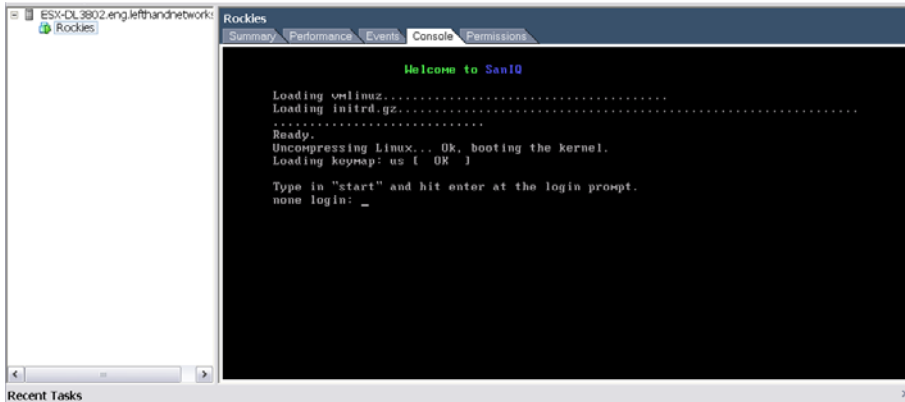


Figure 1.1. Logging in to the SAN/iQ Configuration Interface

Using the Configuration Interface

Use the Configuration Interface to set the IP address and host name on a VSA.

1. Type Start and press Enter to log in to the Configuration Interface.
2. On the Configuration Interface main menu, tab to Network TCP/IP Settings and press Enter.
3. On the Available Network Devices window, tab to the network interface and press Enter.
4. On the Network Settings window, tab to the Hostname field and type a host name for the VSA. Use backspace to erase an entry if necessary.

This host name displays in the CMC only. It does not change the name of the original .VMX file, nor does it change the name of the virtual machine in the VMware interface.

5. Tab to the method for setting the IP address.

If typing in a static IP address, note that Gateway is a required field. If you do not have a gateway, enter 0.0.0.0.

Installing the HP LeftHand Centralized Management Console

6. Tab to OK and press Enter.
7. Press Enter again to confirm the action.
8. After the settings are configured, press Enter to confirm the IP address change.
9. On the Available Network Devices window, tab to Back and press Enter.
10. On the Configuration Interface, tab to Log Out and press Enter.

Finishing Up with VI Client

1. In the VI Client Information Panel, click the Summary tab.
2. In the General section on the Summary tab, verify that the IP address and host name are correct, and that VMware Tools are running.

Note: If VMware Tools show “out of date” then they are running correctly. The “out of date” status is not a problem. VMware tools are updated with each SAN/iQ software upgrade.

3. In the inventory panel, right-click the VSA and select Rename.
4. Change the name of the VSA to match the host name, if desired.

Next, install the CMC. Then follow the steps in [“Getting Started with the HP LeftHand Centralized Management Console” on page 10.](#)

Installing the HP LeftHand Centralized Management Console

Install the CMC on the computer or virtual machine that you use to administer the VSA. You administer the entire network of VSAs from this CMC.

To obtain the latest CMC for the VSA, go to <http://resources.lefthandnetworks.com/forms/Email-VSA-Download>.

Installing the CMC in Windows

1. Start the CMC installer.
2. At the Choose Install Set window, select the configuration most appropriate for your setup.
3. When the installation completes, HP LeftHand Networks is added as a separate Program Group and a shortcut icon is added to the Microsoft Windows desktop.

To start the CMC:

- Double-click the icon on your desktop, or
- From the Start menu, select All Programs > LeftHand Networks > Centralized Management Console.

Installing the CMC in Linux

You must be running X Windows in order to run the application.

1. Click the CMC installer.
2. At the Choose Install Set window, select the configuration most appropriate for your setup.
3. When the installation completes, HP LeftHand Networks is added as a separate Program Group.

To start the CMC:

From the directory into which you installed the files, run the script `./Console`.

Getting Started with the HP LeftHand Centralized Management Console

1. Open the CMC.

If you are opening the CMC for the first time, and have not already discovered storage nodes on the SAN, the Find Wizard opens automatically.

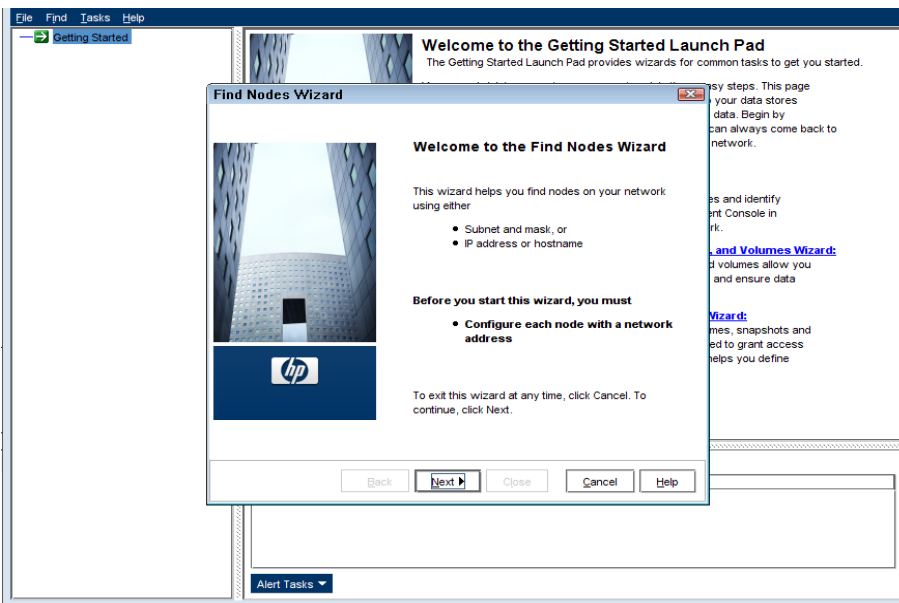


Figure 1.2. Opening the CMC for the first time

2. Click Next and proceed through the Find Nodes Wizard.

The wizard guides you through the steps for finding the VSA on your network. After finishing the wizard, the VSA appears in the navigation window in the Available pool.

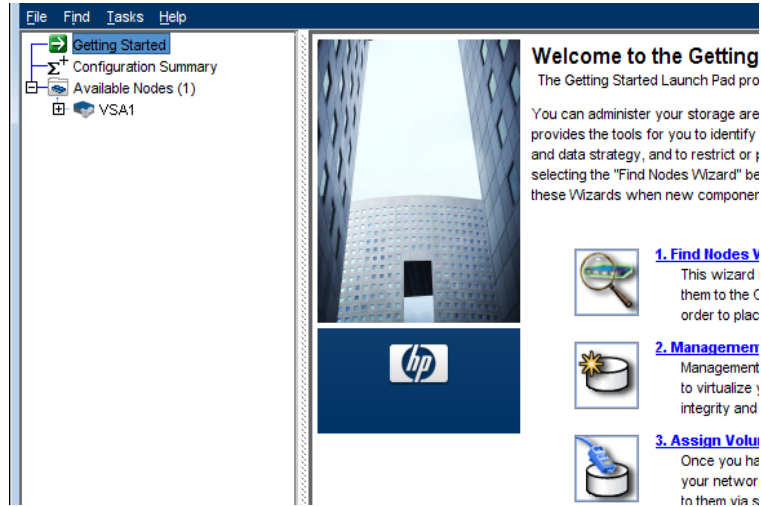


Figure 1.3. Newly found VSA in CMC

Configuring the Hardware

Configure hardware settings before you add the VSA to a management group. Select the VSA in the navigation window to expand the hardware configuration categories. Use these categories to configure RAID (if necessary), monitoring, and the network.

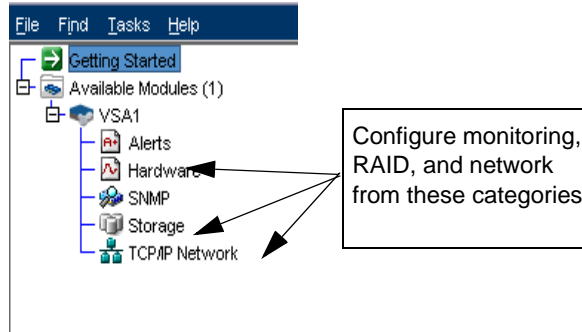


Figure 1.4. Configuring the hardware

Configuring RAID

RAID is configured automatically the first time you power on the VSA for use with the HP LeftHand Storage Solution. However, if you power off the VSA and add disks, you must configure RAID when you power on the VSA.

1. Select the VSA in the navigation window and select the Storage category.
2. Click RAID Setup Tasks on the RAID Setup tab.

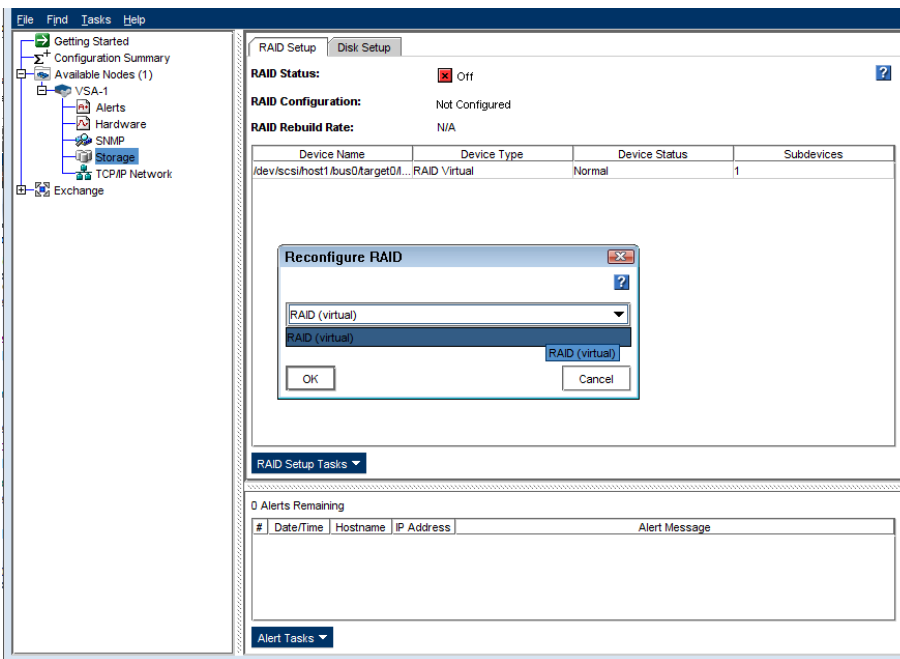


Figure 1.5. Configuring virtual RAID

3. Choose Configure RAID.
4. Select RAID (virtual) from the list and click OK.



Caution: If you have trouble configuring RAID now, you may have made a mistake when configuring a virtual disk earlier.

On the ESX Server, verify that the VSA has at least one virtual disk. The first virtual disk must be configured on SCSI 1:0. Additional disks must be configured sequentially on SCSI 1:1 through 1:4.

VSAs use SCSI 0:0 and 0:1 for operating system disks, and use the disk configured for SCSI 1:0 for SAN data storage. If no SCSI disk is configured for SCSI 1:0, RAID cannot be configured on the appliance.

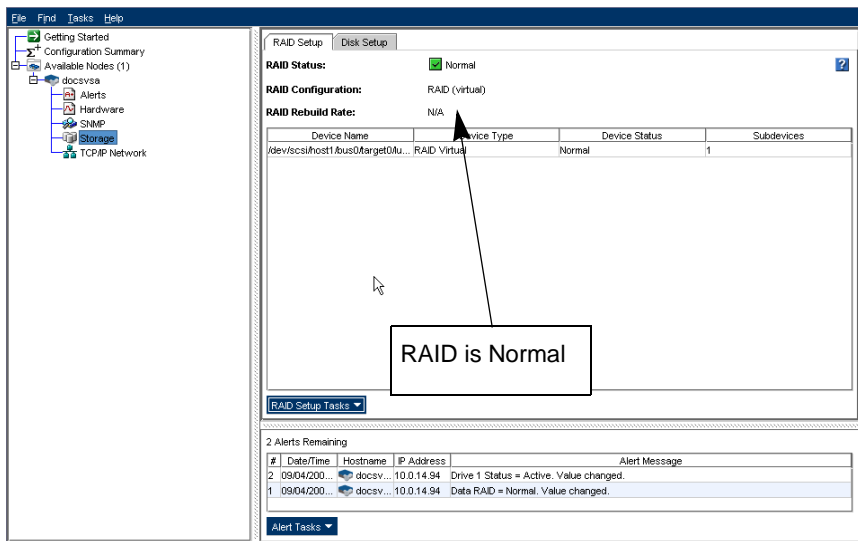


Figure 1.6. Navigation window and the VSA RAID Setup tab

Creating the iSCSI SAN

Configuring Monitoring and Network

Use the rest of the configuration categories to change settings for the following features:

- Alerts and monitoring
- SNMP traps
- Network settings such as NIC bonding.

Click the Help button available on any window for further information.

Creating the iSCSI SAN

The VSAs are on the network and operating properly. Next, use the HP LeftHand Centralized Management Console to create the clustered iSCSI SAN with the VSAs.



Caution: You cannot clone a VSA after it is in a management group. You must clone a VSA while it is in the Available Nodes pool.

Use the Management Groups, Clusters, and Volumes wizard to create your storage pool. For information about using the wizards, see Chapter 1, “Getting Started,” the section [“Creating Storage by Using the Getting Started Launch Pad”](#) in the HP LeftHand Storage Solution User Manual or in the Online Help.

Troubleshooting

Table 1.3. Troubleshooting Installation

Trouble	Solution
You want to reinstall the VSA	<ol style="list-style-type: none"> 1. Close your CMC session. 2. In the VI Client, power off the VSA. 3. Right-click and select Delete from Disk. 4. Copy fresh files into the virtual machine folder from the downloaded zip file or distribution media. 5. Open VMware and begin again.
You cannot find the VSA with the HP LeftHand Centralized Management Console, and cannot recall its IP address.	<p>CMC windows display the IP address of a machine if the machine can be found.</p> <p>Open a VI Client session and select the Summary tab for the machine you want. The IP address and DNS name are displayed in the General information section.</p>
You can't configure RAID.	Verify that the VSA has a virtual disk configured on SCSI 1:0. VSAs use SCSI 0:0 and 0:1 for operating system disks. They use the disk configured for SCSI 1:0 for SAN data storage. If no SCSI disk is configured for SCSI 1:0 then RAID cannot be configured on the appliance.
In Windows	
If the Installation wizard freezes, reset the Hardware Acceleration in Windows.	<ol style="list-style-type: none"> 1. Open the Windows Display Properties > Settings tab > Advanced button > Troubleshoot tab. 2. Move the Hardware Acceleration slider to one notch above None. 3. Click OK, and then OK again to leave the Properties dialog. 4. Restart the Installation wizard.
In Linux	
If the installer does not start automatically	Run CMC_Installer.bin again.
In VI Client	

Documentation Available

Table 1.3. Troubleshooting Installation (Continued)

Trouble	Solution
You don't have the cursor available, or you don't have the keyboard available.	If your cursor is missing, you are in console mode. Press Ctrl-Alt to regain the cursor.
	If your keyboard is missing, move the mouse to the console window and click once.
You want to see your VSA, but the window is black.	• You are in the console view of the guest window. Change to the Summary view.
	• Your console window has timed out. Click in the window with the mouse and then press the Backspace key.

Documentation Available

For detailed instructions about using the HP LeftHand Centralized Management Console and the VSA, see the following resources. The User Manuals are available in PDF format and are installed in the Documentation subdirectory with the HP LeftHand Centralized Management Console program files.

Online Help



All User Manual content is contained in the Online Help, available from the menu bar under Help > Help Topics. Context sensitive help is available by clicking the question mark on any window.

HP LeftHand P4000 VSA User Manual

“*Designing a Virtual SAN*” in the HP LeftHand P4000 VSA User Manual provides important information about configuring the VSA virtual network environment, hardware configuration, and using the VSA with physical platforms and the SAN/iQ software.

HP LeftHand Storage Solution User Manual

The HP LeftHand Storage Solution User Manual provides detailed instructions for using the SAN/iQ software to create, access and manage the SAN data storage.

Remote Copy User Manual

The Remote Copy User Manual provides instructions for using the Remote Copy capabilities of the SAN/iQ software.

HP LeftHand P4000 Multi-Site HA/DR Solution Pack User Manual

The HP LeftHand P4000 Multi-Site HA/DR Solution Pack User Manual provides instructions for configuring and using the HP LeftHand P4000 Multi-Site HA/DR Solution Pack, which must be licensed separately.

VSA Frequently Asked Questions

Check out www.lefthandnetworks.com for the HP LeftHand Networks VSA Forum.

Using the VSA Laptop Demo

2

Introduction

The VSA laptop demo is HP LeftHand Networks smallest and most portable version of the SAN/iQ software virtual appliance. Use this demo to create an HP LeftHand Storage Solution, complete with storage clusters.

The VSA runs a full-featured version of the SAN/iQ software, and provides the following benefits:

- Experience the SAN/iQ software without investing in physical storage devices
- A 30-day evaluation period for advanced SAN/iQ software features such as Clustering and Virtualization, Managed Snapshots, Remote Copy and Multi-Site SAN.
- Can be used indefinitely as a stand-alone iSCSI target.
- Is a VMware certified virtual appliance

The demo is available at www.lefthandnetworks.com.

Requirements for the Demo

- Minimum of 384 MB of RAM
- 5 GB to 950 GB SCSI of disk space
- VMware Player, Workstation, or Server
- IP address, subnet mask, and gateway for the virtual machine

Overview

When using the demo version, the full suite of features in the SAN/iQ software is enabled for 30 days. After 30 days, volumes become unavailable if any licensed features are in use. Licensed features include:

- Multi-Node Virtualization and Clustering
- Managed Snapshots
- Remote Copy
- Multi-Site SAN

The VSA can be used for free indefinitely as a single node iSCSI target with snapshots. If a configuration is deleted and recreated, the 30-day trial period of licensed features starts again.

If you want to use the VSA fully featured on an ESX Server, simply purchase a license and follow the instructions in [Chapter 1, “Getting Started with the VSA for ESX Server”](#) to set up a virtual HP LeftHand Storage Solution.

Using the VSA demo comprises the following steps:

- Install a VMware application on a host system.
- Download the VSA to the host system.
- Unzip the downloaded package to a directory on the host system.
- Using VMware, browse to directory containing the virtual machine and start it.
- Configure the IP address and hostname of the VSA using the VMware console.
- Install the HP LeftHand Centralized Management Console (CMC) on a machine from which to administer the SAN.
- Use the CMC to create clusters and storage volumes and use the features of the HP LeftHand Storage Solution.

Download the VSA

The VSA for Laptop Demos is available from the HP LeftHand Networks web site:

- www.lefthandnetworks.com

Planning the Demo Installation

Before you install the VSA, plan the virtual network configuration. Then, when you install the HP LeftHand Centralized Management Console, plan and configure the hardware features before configuring the virtual storage node for data storage.

Configuration planning includes the following elements:

- Virtual appliance directories, host names, IP addresses
- Network configuration, including subnet and virtual IP address
- Storage configuration

Plan the Network Configuration

Plan the subnet and IP address for the virtual machines as well as for the VIPs required for SAN/iQ clusters.

Plan for Installing the VSA on Hardware

Create a directory for your virtual machines on the hard drive you will use as the storage node. Create a separate directory for each virtual machine.

Plan for Installing the CMC

Install the CMC on a Linux or Microsoft Windows OS. Then use the CMC to find storage nodes, create storage, and connect to application servers.

Installing the CMC

Install the CMC on the computer that you will use to administer the HP LeftHand Storage Solution. You administer the entire network of VSAs from the CMC.

Installing the CMC in Windows

1. Click the CMC installer.
2. At the Choose Install Set window, select the configuration most appropriate for your setup.
3. When the installation completes, HP LeftHand Networks is added as a separate Program Group and a shortcut icon is added to the Microsoft Windows desktop.

Installing the CMC in Linux

You must be running X Windows in order to run the application.

1. Click the CMC installer.
2. At the Choose Install Set window, select the configuration most appropriate for your setup.
3. When the installation completes, HP LeftHand Networks is added as a separate Program Group.

To start the CMC:

1. From the directory into which you installed the files, run the script `./Console`.

Installing the VSA

When you start the VSA for the first time with a VMware console, you will:

- Unzip to the prepared directory and start the virtual machine.
- Direct the Ethernet port to NAT (default), Host-only, or bridged.
- Set the IP address and host name of the VSA.

You only need to configure each virtual machine once.

1. Copy or download the VSA zip file.
Leave this zip file intact.
2. Copy or unzip the VSA files to the virtual machine directory.
3. Start the VMware application.

Installing with VMware Player, VMware Server, or VMware Workstation

1. Open the VMware console.
2. Click File > Open or other choice to open the VSA.vmx file.
3. Navigate to the location of the unzipped VSA files.
4. Select the VSA.vmx file and click Open.
5. Edit the VSA settings as required by the VMware console you are using. Select the appropriate network mode:
 - Bridged
 - NAT
 - Host-only



Note: All VSAs on the same platform should use the same networking mode.

When running multiple VSAs on a single host, use NAT or Host-only networking mode, and use DHCP to assign IP addresses to the VSAs.

6. Power on the VSA.

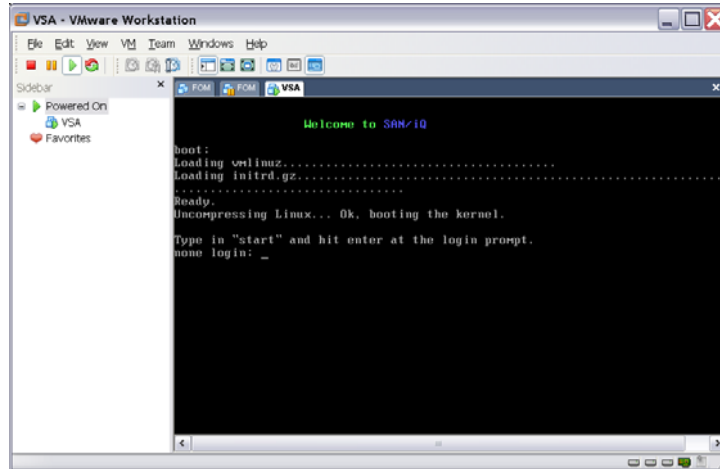


Figure 2.1. Logging in to the Configuration Interface

Using the Configuration Interface

Use the Configuration Interface to set IP addresses and host names on VSAs configured in your environment.

1. Type Start, and press Enter to log in to the Configuration Interface.
2. On the Configuration Interface main menu, tab to Network TCP/IP Settings and press Enter.
3. On the Available Network Devices window, tab to the network interface and press Enter.
4. On the Network Settings window, tab to the Hostname field and type a host name for the VSA.

This host name displays in the CMC. It does not change the name of the original .VMX file, nor does it change the name of the virtual machine in the VMware interface.

5. Tab to the method for setting the IP address.
If typing in a static IP address, note that Gateway is a required field. If you do not have a gateway, enter 0.0.0.0.
6. Tab to OK and press Enter.

7. Press Enter to confirm the action and press Enter.
8. Press Enter to confirm the change to the network settings.
9. Press Enter again after the settings are configured to confirm the IP address.
10. On the Available Network Devices window, tab to Back and press Enter.
11. On the Configuration Interface, tab to Log Out and press Enter.
12. [Optional] In the inventory list or sidebar, right-click the VSA and rename to match the host name. (Not available in VMware Player.)
13. Minimize the VMware console.

Next, configure storage using the HP LeftHand Centralized Management Console. [“Getting Started with the HP LeftHand Centralized Management Console” on page 25.](#)

Getting Started with the HP LeftHand Centralized Management Console

1. Open the CMC.
If you are opening the CMC for the first time, and have not already discovered storage nodes on the SAN, the Find Wizard opens automatically.

Getting Started with the HP LeftHand Centralized Management Console

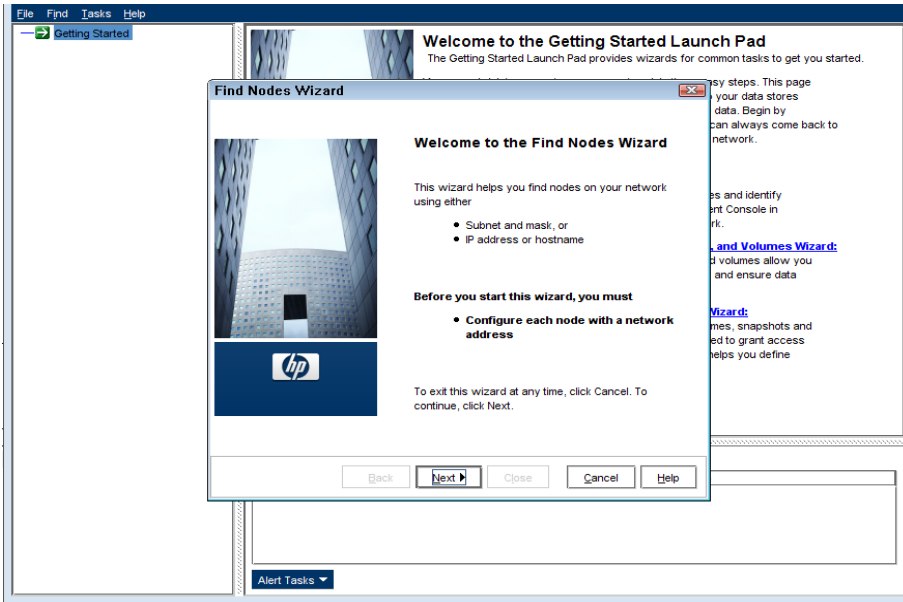


Figure 2.2. Opening the CMC for the first time

2. Click Next and proceed through the Find Nodes Wizard. The wizard guides you through the steps for finding the VSA on your network. After finishing the wizard, the VSA appears in the navigation window in the Available Nodes pool.

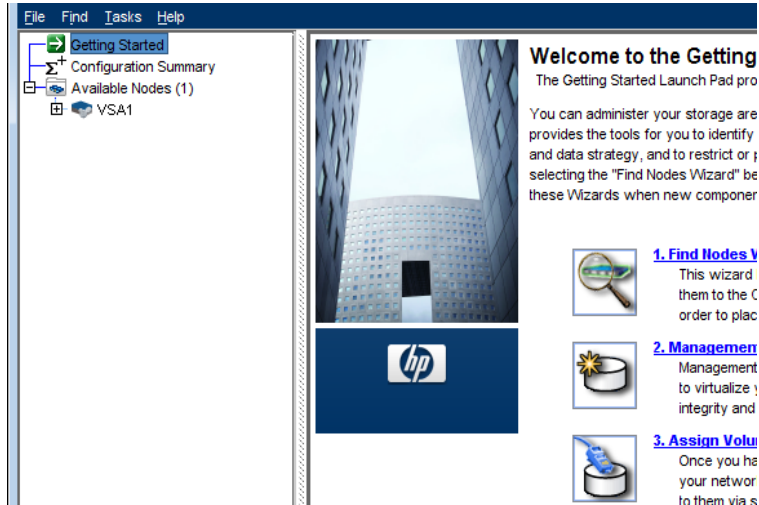


Figure 2.3. Newly found VSA in CMC

Configuring the Hardware

Configure hardware settings before you add the VSA to a management group. Select the VSA in the navigation window to expand the hardware configuration categories. Use these categories to configure RAID (if necessary), monitoring, and the network.

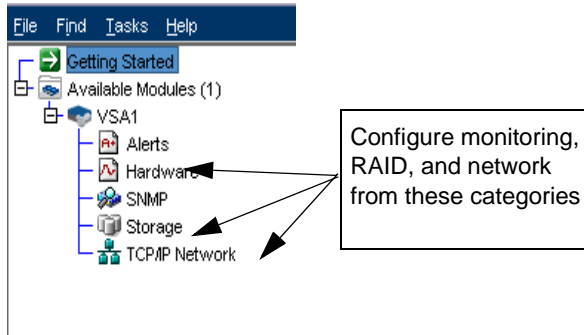


Figure 2.4. Configuring the hardware

Configuring RAID

RAID is configured automatically the first time you power on the VSA for use with the HP LeftHand Storage Solution. However, if you power off the VSA and add disks, you must configure RAID when you power on the VSA.

1. Select the VSA in the navigation window and select the Storage category.
2. Click the RAID Setup tasks list and choose Configure RAID.

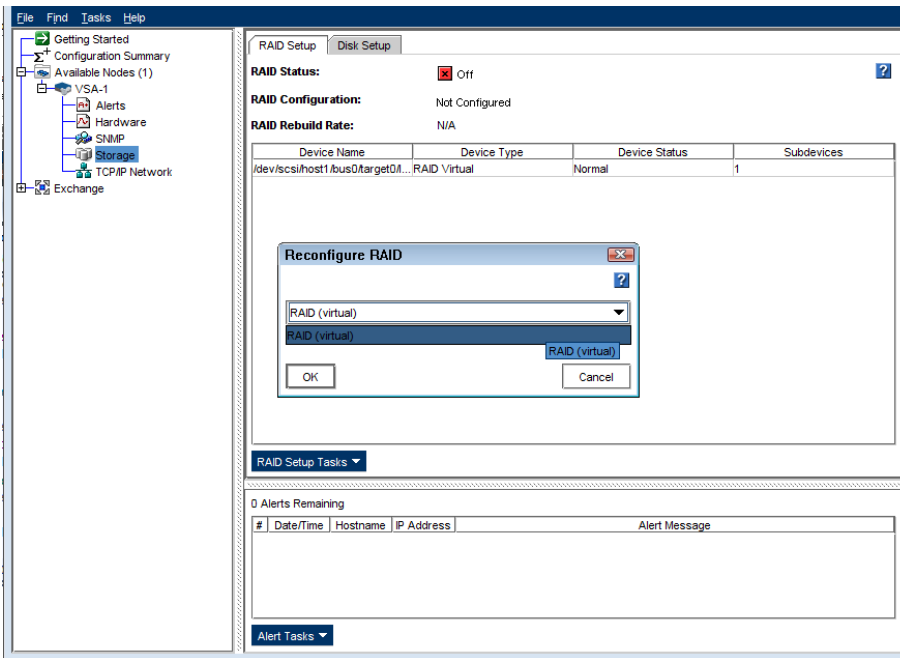


Figure 2.5. Choosing to configure virtual RAID

3. Select RAID (virtual) and click OK.

Configuring Clustered Storage

Use the Getting Started wizard to configure storage volumes.

Installing Another VSA

You may install more than one VSA to fully evaluate the SAN/iQ software and the HP LeftHand Storage Solution. To install additional VSAs, create separate directories at the same level as the first VSA. Follow the same steps to configure additional VSAs.

Troubleshooting

Trouble	Solution
You want to reinstall the VSA.	<ol style="list-style-type: none">1. Close your CMC session.2. In VMware, power off the VSA.3. Click File > Remove from inventory.4. In a file manager, go to the folder that holds the VSA.vmx file and delete all the files.5. Copy fresh files into the VSA folder from the downloaded zip file.6. Open VMware and begin again.
You cannot find the VSA with the CMC, and cannot recall its IP address.	<ol style="list-style-type: none">1. Open a VMware console session and display the console window for the VSA.2. At the SAN/iQ Welcome window, type START and press Enter.3. In the Configuration Interface, navigate to the Network TCP/IP settings. Select eth0 to open the Network Settings window.4. The IP address is displayed in the Network Settings window. <p>Tip: Enter the IP address in the NOTES area on the VMware summary window.</p>

Documentation Available

Trouble	Solution
In Windows	
If the installation wizard freezes, reset the Hardware Acceleration in Windows.	<ol style="list-style-type: none">1. Navigate to Windows Properties > Settings > Advanced > Troubleshooting.2. Move the Hardware Acceleration slider to one notch above None.3. Click OK, and then OK again to leave the Properties dialog.4. Restart the installation wizard.
In Linux	
If the installer does not start automatically	Run CMC_Installer.bin again.
In VMware	
You don't have your cursor available, or you don't have your keyboard available.	<ul style="list-style-type: none">• If your cursor is missing, you are in console mode. Press Ctrl-Alt.• If your keyboard is missing, move the mouse to the console window and click once.
You want to see your VSA, but the window is black.	<ul style="list-style-type: none">• You are in the console view of the guest window. Change to the Summary view.• Your console window has timed out. Click in the window with the mouse and then press the Backspace key.

Documentation Available

For detailed instructions about using the HP LeftHand Centralized Management Console and the VSA, see the following resources. The User Manuals are available in PDF format and are installed in the Documentation subdirectory with the HP LeftHand Centralized Management Console program files.

Online Help



The CMC Online Help is available from the menu bar under Help > Help Topics. Context sensitive help is available by clicking the question mark on any window.

HP LeftHand P4000 VSA User Manual

“Designing a Virtual SAN” in the HP LeftHand P4000 VSA User Manual provides important information about configuring the VSA virtual network environment, hardware configuration, and using the VSA with physical platforms and the SAN/iQ software.

HP LeftHand Storage Solution User Manual

The HP LeftHand Storage Solution User Manual provides detailed instructions for using the SAN/iQ software to create, access and manage the SAN data storage.

Remote Copy User Manual

The Remote Copy User Manual provides instructions for using the Remote Copy capabilities of the SAN/iQ software.

HP LeftHand P4000 Multi-Site HA/DR Solution Pack User Manual

The HP LeftHand P4000 Multi-Site HA/DR Solution Pack User Manual provides instructions for configuring and using the HP LeftHand P4000 Multi-Site HA/DR Solution Pack, which must be licensed separately.

VSA Frequently Asked Questions

Check out www.lefthandnetworks.com for the HP LeftHand Networks VSA Forum link on the home page.

