Hillstone Networks, Inc. VHSM Installation Guide

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Hillstone Networks, Inc.

Contact Information:

US Headquarters: Hillstone Networks 292 Gibraltar Drive, Suite 105 Sunnyvale, CA 94089 Phone: 1-408-508-6750 http://www.hillstonenet.com/about-us/contact/

About this Guide:

This guide gives you comprehensive installation instructions of Hillstone Networks, Inc.vHSM .

For more information, refer to the documentation site: http://docs.hillstonenet.com.cn.

To provide feedback on the documentation, please write to us at:

hs-doc@hillstonenet.com

Hillstone Networks, Inc.

www.hillstonenet.com

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Overview

The Virtual Hillstone Security Management (vHSM) is a software product, a HSM system running on a virtual machine.vHSM can centralize the control and management of multiple Hillstone devices in the network.

About This Guide

This guide introduces how to install vHSM on VMware virtualization platform (VMware ESXi and Workstation) and KVM platform. This document does not cover how to configure the operating system itself. For information of how to configure HSM system, please refer to *Hillstone Security Management User Guide*.

Targeted Readers

This guide is intended for administrators who want to install vHSM of Hillstone Networks, Inc.. Before deploying vHSM, the administrator should be familiar with the concept and components of VMware or KVM. This document is written with readers in mind that have already known basic virtualization knowledge, and it will only introduce operations of how to install vHSM.

vHSM Deployment Scenarios

- To install vHSM on Workstation host, please refer to "Installing vHSM on Workstation" on Page 17.
- To install vHSM on ESXi Server host, please refer to "Installing vHSM on VMware ESXi" on Page 6.
- To install vHSM on KVM host, please refer to "Deploying vHSM on KVM" on Page 20.

vHSM Models

vHSM is available in three models in terms of hard disk capacity: 100G, 500G and 2T. All models can be installed on VMware ESXi and VMware Workstation. You can choose product according to your actual needs.

The capacity is as listed below:

Capacity	vHSM
CPU	4 Cores
Memory	4 GB
Hard Drive	100 GB (extendible)
Interface	Physical server requires creating at least 2 interfaces.
Maximum Number of Managed Devices	1000
Maximum Shared Policies	1,000
Maximum Nested Levels of Shared Object	8

Capacity	vHSM
Shared Address Books/Maximum Number of Members	1,024/512
Shared Service Books/Maximum Number of Members	4,096/8
Shared Service Groups/Maximum Number of Members	512/2,048
Shared Schedules/Maximum Number of Members	512/16

Supported Features

vHSM supports the following features:

- >>> Viewing the running status, resource utilization, logs, etc. of the managed devices;
- » Monitoring the managed devices and viewing monitor details, including traffic monitor, user monitor, NBC monitor, etc.;
- Monitoring the operation status of managed devices by alarms. This function can help you to learn problems in network devices timely, speed up response to network problems, and lower risks of network failures;
- >>> Obtaining device statistics reports periodically. This function allows you to learn network status and analyze network accurately;
- Centralizing policy management and batch deploying rules. This function improves availability and usability of policy management;
- >>> Centralizing device upgrade. This function simplifies software management.

Licensing vHSM

Hillstone Networks, Inc.provides license to control the number of devices which can be managed by vHSM. Only after activating the system and installing formal license can the vHSM manage the listed number of devices. If there are more than 15 to be managed, you can contact sales person to purchase an official license.

Official Licenses

Official licenses can enable you to use vHSM to manage specified number of devices. It is restrict to time: within the validity period, vHSM supports system upgrading; when it expires, vHSM can still manage the specified number of devices, but can not be upgraded to the higher version after expiring date.

Generating Application Code

To install a license, log in the vHSM via WebUI and generate application code. Before logging in your vHSM, you need to refer to the installation instructions to set up your vHSM first (<u>VMware ESXi</u> or <u>VMware Workstation</u>). Make sure the system is activated.

To generate application code in WebUI:

- 1. Log in the vHSM system.
- 2. Select **System > License > Register** to enter the license page.
- 3. Fill in the required fields under the Apply for License section.
- 4. Click **Apply**, and a series of code appears.
- 5. Copy and send the code to sales person or vendor. They will return the license to you soon.

Installing License

After receiving license, you need to upload and install the license to make it take effect.

To install a license:

- 1. Select **System > License > Register** to enter the license page.
- 2. Under Install License, click Browse, select the license plain text file (.txt) to upload it to the system:
- 3. Click **Upload**, then license(s) will take effect.



Note: Only after the system is activated can the Apply button and Upload button be available.

Installing vHSM on VMware ESXi

vHSM is packed in an OVA file, and can be installed on a VMware ESXi server running on a 64-bit system.

Before installing vHSM, you should be already familiar with VMware vSphere hypervisor, ESXi host and VMware virtual machines.

Deployment Scenario

You may refer to the following deployment scenario to deploy your vHSM.



System Requirements

To deploy vHSM:

- VMware ESXi 5.1, 5.5 or 6.0.
- >>> The physical server should have at least 4 vCPU and 4 GB memory available.
- At least 2 NICs will be created.
- >>> The USB interfaces of physical server should be able to be virtualized.

Deploying vHSM

To improve manageability and make full use of vSphere Hypervisor, we suggest you to use vCenter and vSphere Client to manage ESXi servers.

Installing vHSM

Before installation of vHSM, please set up your ESXi Server, vCenter Server and vSphere Client host, then get the vHSM disk.

- 1. Save the OVA file in your local computer.
- 2. In vSphere Client, enter the IP address or name of vCenter Server, then username and password, click Login.
- 3. After logging in vCenter, from left list, click the ESXi host which vHSM will belong to, then select File > Deploy OVF

Template.	
Deploy OVF Template	
Source Select the source location.	
Source OVF Template Details Name and Location Resource Pool Disk Format Ready to Complete	Deploy from a file or URL C:\Users\Administrator\Desktop\VHSM_100G.ova Browse Enter a URL to download and install the OVF package from the Internet, or specify a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.
Help	< Back Next > Cancel

4. In the pop-up dialog box, click **Browse**, browse your PC and import vHSM's OVA file to vCenter, click **Next**.

- 5. Confirm the details of the OVF template, click **Next**.
- 6. Enter the name of the OVF template, and select the location of list, click **Next**.
- 7. Select the host or cluster to deploy the OVF template on it, click Next.
- Select the resource pool to run the OVF template in it, click Next.
 This page is displayed only when the cluster contains a resource pool.
- Select data storage to store the deployed OVF template, then choose the Thick Provision Lazy Zeroed format, click Next.
- 10. Click **Finish** to start the deployment.

Wait for a while, and your vHSM will be deployed successfully.

Visiting vHSM via Console

After all the setups above, you can now start your vHSM.

- 1. In vCenter, click Home > Inventory > VMs and Templates.
- 2. Right click vHSM on virtual machine, and select **Open Console**. In the prompt, you are accessing to vHSM's console port.
- 3. Click the green button to start the vHSM virtual machine.



- 4. Wait for a while, and the system will be up.
- 5. When the prompt shows the command line interface below, enter default username and password (hillstone/hillstone) to log in vHSM.



Visiting WebUI of vHSM

In order to operate vHSM easily, it is recommended to log in and configure via WebUI. For the first time to access vHSM via WebUI, take the following steps:

- 1. Collect necessary information from your network administrator. You need to have eth0's IP address, network mask, and gateway IP address.
- Modify eth0's default IP address to a static IP address you collected from administrator(192.168.1.1 by default). To modify IP address for eth0, use the following command:

[hillstone]ipconfigeth0ip-addressnetmaskup

3. Add a static route. Use the command below to add a route whose next hop is the gateway.

[hillstone]route addip-address

4. Test if the gateway is accessible.

Lhillstone	elpir	ig 10.89.3	18.180	1					
PING 10.89	9.18.	180 (10.8	39.18.	.180)	56(84)) bytes	of data.		
64 bytes i	from	10.89.18	.180:	icmp_	_seq=1	ttl=64	time=0.3	359	ms
64 bytes i	from	10.89.18	.180:	icmp	_seq=2	ttl=64	time=0.3	314	ms
64 bytes i	from	10.89.18	.180:	icmp	_seq=3	ttl=64	time=0.2	279	ms
64 butes i	from	10.89.18	.180:	icmb	seg=4	tt1=64	time=0.3	324	ms

 In the Web browser (IE9 is recommended) of the management PC, type http://192.168.1.1 or https://192.168.1.1, and press Enter. If you use HTTPS, select Continue when the Web Browser displays security tips. The login page is shown below:

HSM		_	
	Please input user name		
	Please input password		
	Please input captcha	5987	
		Login	

- 6. Type the default username (admin), password (hillstone) and verification code into the boxes respectively. If typing the wrong password for three times, HSM will lock your account for 30 minutes, and disable your account for 30 minutes when you type wrong password the fourth times.
- 7. Click **Login** to log into the main page of vHSM.

Į	Note: To make vHSM to manage devices normally, make sure that the vHSM is routed up to the managed devices.

Disk Expansion

You can expand disks if necessary. Take the vHSM deployed on EXSi server as an example, take the following steps:

- 1. In VMware, click **Home > Inventory > VMs and Templates**.
- 2. You can expand the disk capacity only when powering off the virtual machine. Right-click the virtual machine in the left list and choose **Power> Power Off**.
- 3. Right-click the virtual machine in the left list and choose **Edit Settings**. The **Virtual Machine Properties** dialog box appears. Select **Hardware** tab, and then click **Add** to enter the **Add Hardware** dialog box.



4. Select Hard Disk tab, and then click Next .

Add Hardware Device Type What sort of device do	you wish to add to your virtual machin	e?	×
Device Type Select a Disk Create a Disk Advanced Options Ready to Complete	Choose the type of device you w Serial Port Parallel Port Floppy Drive CD/DVD Drive USB Controller USB Device (unavailable) CI Device (unavailable) PCI Device (unavailable) Herent Adapter	vish to add. Information This device can be added to this Virtual Machine.	
Help		Cancel	

5. Select Create a new virtual disk , and then click Next .

🕜 Add Hardware		×
Select a Disk		
Device Type Select a Disk Create a Disk Advanced Options Ready to Complete	A virtual disk is composed of one or more files on the host file system. Together these files appear as a single hard disk to the guest operating system. Select the type of disk to use. Disk C Create a new virtual disk C Use an existing virtual disk Reuse a previously configured virtual disk. C Raw Device Mappings Give your virtual machine direct access to SAN. This option allows you to use existing SAN commands to manage the storage and continue to access it using a datastore.	
Help	<pre> < Back Next > Cance</pre>	:el

6. Set the disk capacity by requirement, and then click ${\bf Next}$.

🕝 Add Hardware		×
Create a Disk Specify the virtual disk size	and provisioning policy	
Device Type Select a Disk Create a Disk Advanced Options Ready to Complete	Capacity Disk Size: 100 - GB - Disk Provisioning (Thick Provision Lazy Zeroed Thick Provision Eager Zeroed Thin Provision Location Costore with the <u>virtual machine</u> Specify a <u>d</u> atastore or datastore duster: Browse	
Help	≤Back Next ≥Ca	ncel

7. Select the default virtual device node, and then click ${\bf Next}$.

🕜 Add Hardware		×
Advanced Options These advanced options d	lo not usually need to be changed.	
Device Type Select a Disk Create a Disk Advanced Options Ready to Complete	Specify the advanced options for this virtual disk. These options do not normally need to be changed. Virtual Device Node SCSI (0:2) DE (0:0) Mode Mode Negendent Independent Independent Independent disks are not affected by snapshots. Persistent Changes are immediately and permanently written to the disk. Nonpersistent Changes to this disk are discarded when you power off or revert to the snapshot.	
Help	≤ Back Next ≥ Canc	el

8. Click Finish to add the hardware. When the Hardware tab appears, click OK .

🕝 Add Hardware					×
Ready to Complete Review the selected option	ns and click Finish to add	the hardware.			
Device Type Select a Disk Create a Disk Advanced Options Ready to Complete	Options: Hardware type: Create disk: Disk capacity: Disk provisioning: Datastore: Virtual Device Node: Disk mode:	Hard Disk New virtual disk 100 GB Thick Provision Lazy Zeroed datastore 1 SCSI (0:2) Persistent			
Help		<	< Back	Finish	Cancel

- 9. Right click vHSM on virtual machine, and select **Open Console**. In the prompt, you are accessing to vHSM's console port.
- 10. Click the green button to start the vHSM virtual machine.



- 11. Wait for a while, and the system will be up.
- 12. When the prompt shows the command line interface below, enter default username and password to log in vHSM.



13. To expand the disk, use the following command:

[hillstone]extendLVM

Installing vHSM on Workstation

vHSM is packed in an OVA file, and can be installed on a VMware Workstation host running on a 64-bit system.

Before installing vHSM, you should be already familiar with VMware Workstation virtual machines.

System Requirements

To deploy vHSM:

- >>> VMware Workstation 12 Pro and above.
- >>> The physical server should have at least 4 vCPU and 4 GB memory available.
- >> At least 2 NICs will be created.
- The USB interfaces of physical server should be able to be virtualized.

Deploying vHSM

Installing vHSM

Before installation of vHSM, please set up your Workstation host, then get the vHSM disk and USB Key.

- 1. Copy the OVA file in the disk to your local computer.
- 2. In Workstation, select **File > Open**, browse your PC and click **Open** to import vHSM's OVA file in the pop-up dialog box.
- 3. Enter the name of the virtual machine, and type or select the directory where stores virtual machine, click Import.

Import Virtual Machine					
Store the new Virtual Machine Provide a name and local storage path for the new virtual machine.					
Name for the new virtual machine:					
Storage path for the new virtual machine:					
Help Import Cancel					

4. Wait for a while, and your vHSM will be installed successfully.

Workstation will perform OVFs' specification and conformance checks and virtual hardwares' compliance checks. The progress dialog box will display the installing progress. After the successful installation in Workstation, the vHSM virtual machine appears in the virtual machine library.

Starting and Visiting vHSM

After all the setups above, you can now start your vHSM.

- 1. In Workstation, click the virtual machine which vHSM will run on.
- 2. Click **Power on this virtual machine** on right page, in the prompt, you are accessing to vHSM's console port.



Description
 Type here to enter a description of this virtual machine.

- 3. Wait for a while, and the system will be up.
- 4. When the prompt shows the command line interface below, enter default username and password (hillstone/hillstone) to log in vHSM.



Visiting WebUI of vHSM

Please refer to "Deploying vHSM" on Page 7 in Installing vHSM on VMware ESXi chapter.

Disk Expansion

Please refer to "Disk Expansion" on Page 10 in Installing vHSM on VMware ESXi chapter.

Deploying vHSM on KVM

vHSM is packed in an qcow2 file, and can be installed on a KVM host running on a Linux system with libvirt library whose version is 1.2.2 or later.

To deploy vHSM on Kernel-based Virtual Machine (KVM), you should be already familiar with Linux system and KVM installation.

Now we respectively use Ubuntu and CentOS as example to describe how to deploy vHSM on KVM.

Deploying vHSM on KVM Running on Ubuntu

System Requirements

To deploy vHSM on KVM running on Ubuntu, the host should meet the following requirements:

- Support Intel VT or AMD-V
- At least 2 NICs will be created
- >>> 64 bit CPU which can provide four virtual cores, and its virtualization is enabled
- » at least 4 GB memory
- Support virtual SATA, SCSI or IDE hard disk
- Ubuntu 14.04 or later is recommended
- Graphical interface of Ubuntu is recommended
- For KVM environment establishment, the Linux system should have installed KVM, qemu, qemu-kvm, Irzsz, bridge-utils, libvirt, virtinst, python-libvirt, virt-viewer and virt-manager(To install these components, use command: sudo apt-get install kvm qemu qemu-kvm Irzsz bridge-utils libvirt-bin virtinst python-libvirt virt-manager virt-viewer).

Installing vHSM on KVM Host

To install vHSM on a KVM host, use the following steps:

Step 1: Importing system package

The following steps use Windows system to access KVM host.

- 1. Copy the qcow2 file in the disk to your local PC.
- 2. In Windows, log into the KVM host, enter the following command to create a directory which will be used to store qcow2 file.

```
sudo mkdir /images/disk/
```

- In this directory, enter the following command, a dialog box will prompt.
- In the dialog box, browse your computer and select the qcow2 file. The files will be uploaded to the above directory of KVM host.
- 5. Enter the following command to check if the file is uploaded.

ls

6. If there is an qcow2 file in the file list, it means file is uploaded successfully.

Step 2: Creating a virtual bridge

If the vHSM wants to access to external networks, you should create a virtual bridge on the KVM host, and then place the host's two interfaces i.e. eth0 and eth1 under the virtual bridge. Once vHSM is installed successfully, each interface becomes a virtual bridge, and automatically connects to a vnet interface of KVM. So, when you install the qcow2 file, place the vnet interface of KVM under the new created virtual bridge, then the external networks can be accessible.

- In the root directory of KVM host, enter the following command to create a virtual bridge.
 sudo brctl addbr br0
- 2. Add eth0 and eth1 to the virtual bridge.

sudo brctl addif br0 eth0
sudo brctl addif br0 eth1

3. Modify the IP address of eth0 or eth1 to arbitrary one, then assign the original IP address of eth0 or eth1 to the virtual bridge interface.

sudo ifconfig eth0ip-address netmasknetmask
sudo ifconfig br0ip-address netmasknetmask

- 4. In Linux, use command brctl show to show virtual bridge and interfaces.
- 5. Reconfigure the default route.

sudo route del defaule gwgateway

sudo route add defaule gwgateway

Step 3: Installing system package

Enter into the Linux graphical interface, to install and start vHSM, use the following steps:

1. Search and open Virtual Machine Manager.



2. Click the icon which is used to create a new virtual machine, and set as shown below.



3. Browse the file system of KVM host and select the qcow2 file in step 1.

😣 🗉 Locate existing storage						
Name: VHS	SM.qcow2					
Save in folder:	images disk		c	reate Folder		
Places	Name		Size	Modified		
🔍 Search	📓 VHSM.qcow2					
Recently Used	U VHSM2.5R3_100G.mf		143 bytes	03/18/201		
🙍 zqteng	VHSM2.5R3_100G.ova		1.3 GB	03/18/201		
🔲 Desktop	VHSM2.5R3_100G.ovf		9.8 kB	03/18/2010		
File System	VHSM2.5R3_100G-disk1.vmdk		1.3 GB	03/18/2010		
Documents Music Pictures Videos Downloads						
			Cancel	Open		

4. Choose an OS type and version.



5. Choose Memory and CPU settings.

😣 🗉 New VM
Create a new virtual machine Step 3 of 4
Choose Memory and CPU settings Memory (RAM) 4096 MB Up to 7967 MB available on the host CPU: 4096 MB Up to 8 available
Cancel Back Forward

6. Check the **Customize configuration before install** check box, then select virtual bridge.

😣 🗈 New VM
Create a new virtual machine Step 4 of 4
Ready to begin installation of VHSM OS: Generic 2.6.x kernel Install: Import existing OS image Memory: 4096 MB CPUs: 4 Storage: 2.7 GB /images/disk/VHSM.geow2 Customize configuration before install
Host device eth0 (Bridge 'br0') 💲
Set a fixed MAC address
52:54:00:3a:32:db
Virt Type: kvm 🛟
Architecture: x86_64 🛟
Firmware: Default 💲
Cancel Back Finish

7. Select the **Boot Options** tab, then check **Hard Disk** in the right page.



8. Select the SATA Disk 1 tab, then set Disk bus and Storage format in the right page.



9. Add the vnet interface to the virtual bridge created in step 2 and set device model.



10. Create a virtual network interface and add it to the virtual bridge created in step 2.



11. Click **Begin Installation** to install and start vHSM.

Step 4: Initial login of vHSM

After vHSM started, enter username and password "hillstone"/"hillstone".

From now on, you can use command line interface to manage vHSM. It is recommended to change your password at earliest convenience.

Visiting WebUI of vHSM

Please refer to "Deploying vHSM" on Page 7 in Installing vHSM on VMware ESXi chapter.

Deploying vHSM on KVM Running on CentOS

System Requirements

To deploy vHSM on KVM running on CentOS, the host should meet the following requirements:

- Support Intel VT or AMD-V
- >> At least 2 NICs will be created
- 64 bit CPU which can provide four virtual cores, and its virtualization is enabled
- » at least 4 GB memory
- Support virtual SATA, SCSI or IDE hard disk
- CentOS 7 or later is recommended
- Graphical interface of CentOS is recommended
- For KVM environment establishment, the Linux system should have installed KVM, qemu, qemu-kvm, Irzsz, bridge-utils, libvirt, virtinst, python-libvirt, virt-viewer and virt-manager(To install these components, use command: yum -y install kvm qemu qemu-kvm Irzsz bridge-utils libvirt-bin virtinst python-libvirt virt-manager virt-viewer).

Installing vHSM on KVM Host

To install vHSM on a KVM host, use the following steps:

Step 1: Importing system package

The following steps use Windows system to access KVM host.

- 1. Copy the qcow2 file in the disk to your local PC.
- In Windows, log into the KVM host, enter the following command to create a directory which will be used to store qcow2 file.

sudo mkdir /images/release/

- In this directory, enter the following command, a dialog box will prompt.
- In the dialog box, browse your computer and select the qcow2 file. The files will be uploaded to the above directory of KVM host.
- 5. Enter the following command to check if the file is uploaded.

ls

6. If there is an qcow2 file in the file list, it means file is uploaded successfully.

Step 2: Creating a virtual bridge

If the vHSM wants to access to external networks, you should create a virtual bridge on the KVM host, and then place the host's two interfaces i.e. eth0 and eth1 under the virtual bridge. Once vHSM is installed successfully, each interface becomes a virtual bridge, and automatically connects to a vnet interface of KVM. So, when you install the qcow2 file, place the vnet interface of KVM under the new created virtual bridge, then the external networks can be accessible.

- In the root directory of KVM host, enter the following command to create a virtual bridge.
 sudo brctl addbr br0
- 2. Add eth0 and eth1 to the virtual bridge.

sudo brctl addif br0 eth0
sudo brctl addif br0 eth1

3. Modify the IP address of eth0 or eth1 to arbitrary one, then assign the original IP address of eth0 or eth1 to the virtual bridge interface.

sudo ifconfig eth0ip-address netmasknetmask
sudo ifconfig br0ip-address netmasknetmask

- 4. In Linux, use command brctl show to show virtual bridge and interfaces.
- 5. Reconfigure the default route.

sudo route del defaule gwgateway

sudo route add defaule gwgateway

Step 3: Installing system package

Enter into the Linux graphical interface, to install and start vHSM, use the following steps:

1. Open Virtual Machine Manager.

🚸 Applications 🔻	Places 🔻	_		
Favorites		a	Application Installer	
Accessories	ģ		Boyes	
Documentation	6	21	Doxes	
Graphics	6	\sim	Settings	
Internet	đ	Ø	Software Update	
Office	F	-	Startup Applications	
Sound & Video	Ľ			
Sundry	4	ρ	System Log	
System Tools		44-	System Monitor	
Utilities		30	Virtual Machine Manager	
Other		\lor		

2. Click the icon which is used to create a new virtual machine, and set as shown below.



3. Browse the file system of KVM host and select the qcow2 file in step 1.



4. Choose an OS type and version.

Create a new virtual machine Step 2 of 4							
Provide the	Provide the existing storage path:						
/images/	/release/VHSM_2.5R3P1_100G.qco Browse						
Choose an o	perating system type and version						
OS type:	Generic						
Version:	Generic 🔹						
	Cancel Back Forward						

5. Choose Memory and CPU settings.

Create a new virtual machine Step 3 of 4						
Choose Memory ar	nd CPU s	ettin	gs			
Memory (RAM):	4096	-	+	MiB		
	Up to 780	8 MiB	8 availi	able on the host		
CPUs:	4	-	+			
	Up to 8 av	ailabl	e			
C	ancel		Bac	k Forward		

6. Set the virtual machine name, and check the **Customize configuration before install** check box, then select virtual bridge.

Create a new virtual machine Step 4 of 4					
Ready to be	egin the installation				
Name:	иням				
OS:	Generic				
Install:	Import existing OS image				
Memory:	4096 MiB				
CPUs:	4				
Storage:	100.0 GiB /images/release/VHSM_2.5R3P1_1				
	Customize configuration before install				
 Network selection 					
Bridge br0: Host device eno16777736 ▼					
	Cancel Back Finish				

7. Select the **IDE Disk 1** tab, then set **Disk bus** and **Storage format** in the right page.

🖳 Overview	Virtual Disk
Processor	Source path: /images/release/VHSM_2.5R3P1_100G.qcow2
🚟 Memory	Device type: IDE Disk 1
Boot Options	Storage size: 100.00 GiB
IDE Disk 1	Readonly:
NIC :f8:a8:62	Shareable: 📃
👌 Mouse	✓ Advanced options
🛒 Display Spice	Disk bus: SATA 👻
Sound: ich6	Serial number:
a Console	Channel Company
🚵 Channel spice	storage rormat: qcow2
🐖 Video QXL	Performance options
📑 Controller USB	► IO Tuning
🛞 USB Redirector 1	
USB Redirector 2	
Add Hardware	Remove Cancel Apply

8. Select the **Boot Options** tab, then check **SATA Disk 1** in the right page.

9	Overview	Autostart	
	Processor	Start virtual machine on host boot up	
	Hotessol Memory Boot Options SATA Disk 1 NIC (Ba8.62 Mouse Display Spice Sound: info Console Console Console Console Console Console Console Console Console Console Console Console Console USB Redirector 1 USB Redirector 2	Boot device order Enable boot menu SATA Disk 1 SATA DI	
	Add Hardware	Cancel	Apply

9. Add the vnet interface to the virtual bridge created in step 2 and set device model.



10. Create a virtual network interface and add it to the virtual bridge created in step 2.

	Add New Virtual Hardware						
ø	Storage	Network					
	Controller Network	<u>N</u> etwork source:	Bridge br0: Host device eno16777736 🔻				
0	Input Graphics	MAC address:	✓ 52:54:00:21:fd:29				
	Sound	Device mode <u>l</u> :	e1000				
4	Serial Parallel						
*	Console Channel						
ŝ	USB Host Device						
	PCI Host Device Video						
	Watchdog Filesvstem						
2	Smartcard						
0	USB Redirection TPM						
đ	RNG						

11. Click **Begin Installation** to install and start vHSM.

Step 4: Initial login of vHSM

After vHSM started, enter username and password "hillstone"/"hillstone".

From now on, you can use command line interface to manage vHSM. It is recommended to change your password at earliest convenience.

Visiting WebUI of vHSM

Please refer to "Deploying vHSM" on Page 7 in Installing vHSM on VMware ESXi chapter.

Disk Expansion

Take the vHSM deployed on KVM server as an example, take the following steps:

1. powering off the virtual machine and click **open**.



2. Click the icon which is used to display the dedails of virtual machine.



3. Click Add Hardware to create a new disk.

vhsm Vir	€))	3:48 AM	ψ			
Q	.	0	V			
©) 		Overview Performance Processor Memory Boot Options SATA Disk 1 NIC :79:9b:c3 NIC :26:ef:27 Mouse Input Display VNC Sound: ich6 Serial 1 Video Cirrus Controller USB Controller pci	▼ Image: Vhsm Name: vhsm UUID: 2c6749a4-5595-ab93-42b5-8483c507810a Status: Image: Shutoff Description: Image: Shutoff Hypervisor Details Hypervisor: kvm Architecture: x86_64 Emulator: /usr/bin/kvm-spice Firmware: Default Operating System Hostname: unknown Product name: unknown Product name: unknown			
	ini j	Controller SATA	Machine Settings			
			▶ Security			
		Add Hardware	C	ance		ppl

4. In the Add New Virtual Hardware dialog, set the disk capacity by requirement, and then click Finish .



5. Click the icon which is used to start the virtual machine.

vir coat machine manager						
0	E	💭 Oper 🕨 🚺 😈 👻				
	Name					
	▼ localhost (QEMU)					
		update-2.5r4p2-3.0r2 Shutoff				
<u>MM</u>	Ē	vhsm Shutoff				
_						

6. Wait for a while, When the prompt shows the command line interface below, enter default username and password to log in vHSM.



7. To expand the disk, use the following command:

[hillstone]extendLVM

Upgrading to Official Version

To make vHSM to manage multiple devices, you need to upgrade the trial version to the official version. vHSM product includes official version and trial version:

- official version: After being activated, the system becomes into an official version. By default, the official version can manage 15 devices.
- trial version: If not being activated, vHSM is a trial version. The trial version only can manage three devices. You can use trial version for 30 days.

Within the time limit, you can use all the functions of vHSM. After the trial version expired, functions including configuration management, task management, alarm management and log management are not supported, however, the system can still collect logs.

Upgrading Method

To upgrade to official version, please take the following steps:

- 1. Log in vHSM via WebUI.
- Select System > License > System Activation to enter the Activation Guide page. Click Add in the pop-up dialog box.
- 3. Enter the SN registration code(please contact salesperson to acquire), then click Next.
- 4. Select activation type.

When vHSM can connect to Internet, we recommend you to select online activation. Otherwise, please select offline activation.

5. Click Next.

If online activation is selected, the **Online Activation** page pops up and the system will be activated automatically. If offline activation is selected, please copy the code in step 1 in **Offline Activation** dialog box, then visit vHSM activation system(activation.hillstonenet.com) and paste the code to the text box. Click the **Activate** button, the activation code will be displayed in the below area. Paste the activation code to the step 2 text box in **Offline Activation** dialog box, then click **Activate**.

6. Finish the activation.

If you want to apply and install an official license, please refer to "Licensing vHSM" on Page 5.



Note: When not being activated, the system will display the remaining time dynamically in the upper-right corner of the WebUI page. Click on the link to enter the **Activation Guide** page.

» In the process of offline activation, vHSM can not be restarted, otherwise activation may be failed.