

DEPLOYMENT GUIDE

NetMRI Deployment Guide on KVM

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Executive Summary

Infoblox NetMRI is the leading automation solution for network change, configuration, security policy, and compliance management—and is the only solution today that manages both traditional and virtualized VRF networking for multi vendor environments with a single appliance.

This deployment guide shows how to deploy NetMRI with the associated sandbox in a KVM environment.

Requirements

- Server running Centos 7 or Red Hat
- Configured interface bridge
- KVM
- NetMRI version 7.4.1 and above.
- NetMRI licenses

Instructions

Deploying the NetMRI VM on KVM

1. Download the NetMRI qcow image from the Infoblox support site.

NetMRI for KVM

NetMRI for KVM consists of the following downloads.

File	Size / MD5 Check Sum				
NetMRI 7.4.1 QCOW2.zip 4.3GB, md5: 5daa68c1885d9276179e17eb2015795b					
NetMRI Sandbox for KVM					
File	Size / MD5 Check Sum				
NetMRI QCOW2 Sandbox	360MB, md5: a3b26a84395bb233874866df5d87619f				

- 2. Unzip the NetMRI qcow2 image.
- 3. Copy the image to the /var/lib/libvirt/images subdirectory on the KVM server.
- 4. Run the virt-manager application.



5. Click on the left button to install the NetMRI qcow2 image. Import existing disk image. Click Forward.



6. Click on the 'Browse' button to find the images. Select the NetMRI-7.4.1.qcow2 image and click on 'Choose Volume'.

			🔀 Choose Storage Vol	ume		
5% det File		Size:	47.19 GiB Free / 2.79 G	iB In Use		
	Cre Step	ate a new v	rirtual machine			
	_					Ву
	Provide the	existing stora	ge path:			
	/var/lib/l	ibvirt/images/l	NetMRI-7.4.1.qcow2		Browse	
	Choose an c	operating syste	em type and version			
	OS type:	Generic	-			
	Version:	Generic	-			
+			Cancel	Back	Forward	se Volume

- 7. After the storage path has been populated, click on the 'Forward' button.
- 8. CPU and Memory should be configured in function of the anticipated number of devices you plan to manage. Refer to the following table for guidance on the required resources.

	Supported Numnber of Devices	CPU	Mem
	5,000	40	128
	3,500	28	64
	2,500	20	44
	1,750	14	36
Infoblox Deployme	1,200	10	34
	200	4	24

9. Click 'Forward'.

	🔀 Nev	v VM					
Create a new virtual machine Step 3 of 4							
Choose Memory a	nd CPU sett	ings					
Memory (RAM):	4096	-	+				
	Up to 17467	MiB av	vailable on the host				
CPUs:	2	-	+				
	Up to 4 avail	able					
Cancel Back Forward							

Note: the numbers in the screen shot are for demonstration purposes. Refer to the table in step 8 for proper memory and CPU settings.

10. Type in a name for the VM. Click on 'Customize configuration before install'. Click 'Finish'.

New VM							
Create a new virtual machine Step 4 of 4							
Ready to be	gin the installation						
Name:	NetMRI-KVM						
OS:	Generic						
Install:	Import existing OS image						
Memory:	4096 MiB						
CPUs:	2						
Storage:	b/libvirt/images/NetMRI-7.4.1.qcow2						
	Customize configuration before install						
▶ Network selection							
	Cancel Back Finish						

11. Click on the 'NIC'. Ensure the network source is the bridge interface and the device model is 'virtio'.

	00	•	Σ	NetMRI-KVM on QEMU/KVM	
	\checkmark	Begin Installation	💥 Cancel Installat	tion	
Infoblox			Virtual Natwork I	ntorface	-
	불	Overview	VILLUAI NELWOIK I		
		CPUs	Network source:	Bridge br0: Host device ens33 🔻	
		Memory			
	93	Boot Options	Device model:	virtio	
		IDE Diale 1			

12. Click on 'IDE Disk 1' and then click on 'Advanced options'. Change the 'Disk bus' to VirtIO for optimal performance. Click 'Begin Installation'.

00			X NetMRI-kvm on QEMU/K	.VM			
ď	Begin Installation	🎇 Cancel Installa	tion				
	Overview CPUs Memory Boot Options IDE Disk 1 NIC :99:4f:ca Display Spice Sound ich6 Console Channel spice Video QXL Controller USB 0 USB Redirector 1 USB Redirector 2	Virtual Disk Source path: /vi Device type: ID Storage size: 60 Readonly: □ Shareable: □ Advanced opti Disk bus: Serial number: Storage format: Performance of	ar/lib/libvirt/images/NetMF E Disk 1 0.00 GiB) ons VirtIO qcow2 pptions	▼	I.qcow2		
	Add Hardware				Remove	Cancel	Apply

- 13. Another window will appear and the installation of NetMRI is occurring. As part of the initial startup the virtual appliance will run a benchmark to calculate the number of infrastructure devices it can support with the given resources. During this benchmark the login prompt will not be available.
- 14. When finished, you will get a login prompt. The default username is admin and the password is admin.

		🔀 NetMRI-	kvm on QEMU/H	<vm< th=""><th></th></vm<>	
File Virtual M	achine View Send	Кеу			
	\triangleright II I	-			٥٩٩
NetMRI UM-CC7 ALL UNAUTHORI NetMRI-UM-CC7 Password: Last login: F XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	E-EBA69 ZED ACCESS TO THIS E-EBA69 login: adr ri Nov 15 11:08:49 ************************************	S SYSTEM WILL BE P nin 9 on ttySØ ************************* 8 SYSTEM WILL BE P WS.	ROSECUTED TO) THE MAXIMUM EXTENT ALLOU (************************************	JED BY APPLICABLE
*********	NetMRI Administ	**************************************	**********	******	
Auailable Com	mands:				
acl autoupdate cat clear configure connect debug deregister diagnostic exit export NetMRI-UM-CC7	ftp grep halt help installdsb installhelpfiles installmib license ls maintenance md5sum E-EBA69>	more netstat ping provisiondisk quit rdtclient recalculate-spm refreshgroups register remoteCopy	removedsb repovemib repair reset restore rm route set setup show show	ssh-key supportbundle telnet tftpsync top topology traceroute	

- 15. Type 'configure server' to do the initial setup of NetMRI. Please provide the following information when prompted: (underlined options are not required)
 - a. database name
 - b. server name
 - c. generate a new HTTPS certificate
 - d. DNS domain name
 - e. ntp server
 - f. time zone
 - g. IP address for lan interface
 - h. subnet mask for lan interface
 - i. IPv6 address
 - j. IPv6 prefix
 - k. IPv4 default gateway
 - I. IPv6 default gateway
 - m. <u>scan port</u>
 - n. DNS server IP
 - o. 2nd DNS server IP
- 16. Review the settings. If everything looks good, hit the return key to continue. If you require to make changes, type 'y' to restart the configuration steps.
- 17. NetMRI will reboot to apply the new configuration. After rebooting login to the CLI run the command 'set temp_license' to install a temporary license.
- 18. After completing the reboot process, refer to the <u>NetMRI Administrator's guide</u> for further setup information.
- 19. In order to have access to run Python and Perl scripts on a virtual appliance you will need to deploy and register the NetMRI sandbox. If you are not planning to do so you can now log in to the web interface and start using NetMRI.

Deploying the NetMRI Sandbox on KVM

1. Download the NetMRI sandbox qcow image from the Infoblox support site.

NetMRI for KVM

NetMRI for KVM consists of the following downloads.

File	Size / MD5 Check Sum				
NetMRI 7.4.1 QCOW2.zip	4.3GB, md5: 5daa68c1885d9276179e17eb2015795b				
NetMRI Sandbox for KVM					
File	Size / MD5 Check Sum				
NetMRI QCOW2 Sandbox	360MB, md5: a3b26a84395bb233874866df5d87619f				

2. Copy the image to the /var/lib/libvirt/images subdirectory on the KVM server.



- 3. Run the virt-manager application.
- 4. Click on the upper left button. Select 'Import existing disk image'. Click 'Forward'.



5. After the existing the storage path has been populated, click 'Forward'.

	[🔀 New VM		
Cre Step	ate a new virtua	l machine		
Provide the	existing storage pat	:h:		
/var/lib/l	ibvirt/images/NetMR	RI_Sandbox-7.	4.1.95749.qc	Browse
Choose an o	operating system typ	pe and versior	n	
OS type:	Generic	-		
Version:	Generic	•		
		Cancel	Back	Forward

6. Choose the memory and CPU settings. Click 'Forward'.

	🔀 Nev	v VM		
Create a Step 3 of 4	new virtu	ual n	nach	ine
Choose Memory a	nd CPU sett	ings		
Memory (RAM):	4096	-	+	
	Up to 17467	MiB a	vailab	le on the host
CPUs:	2	-	+	
	Up to 4 avail	able		
C	Cancel	В	ack	Forward

7. Type in a name for the VM. Click on 'Customize configuration before install'. Click Finish.

■ ■ ■ ■ ■ ■ ■ ■	w VM				
Create a new virtual machine Step 4 of 4					
Ready to begin the installation					
Name: NetMRI-Sandbo	e: NetMRI-Sandbox-KVM				
OS: Generic					
Install: Import existing OS image					
Memory: 4096 MiB					
CPUs: 2					
Storage:etMRI_Sandbox-7.4.1.95749.qcow2					
Customize configuration before install					
▶ Network selection					
Cancel	Back Finish				

8. Click on the 'NIC'. Ensure the network source is the bridge interface and the device model is 'virtio'.

00		XN	etMRI-Sandbox-KVM on QEM	MU/KVM			
ø	Begin Installation	💥 Cancel Installa	tion				
	Overview	Virtual Network I	nterface				
-	CPUs	Network source:	Bridge br0: Host device	ens33 🔻			
99 66	Memory Boot Options	Device model:	virtio	•			
	IDE Disk 1	MAC address:	52:54:00:0f:8f:bc				
¢	NIC :0f:8f:bc						
<u> </u>	Display Spice						
	Sound ich6						
ê	Console						
	Channel spice						
4	Video QXL						
	Controller USB 0						
Sec. 1	USB Redirector 1						
(P)	USB Redirector 2						
	Add Hardware			Rer	nove	Cancel	Apply

Note: the sandbox may exist on any layer 3 connected network as well as the same layer 2 network in this example.

9. Click on 'IDE Disk 1' and then click on 'Advanced options'. Change the 'Disk bus' to VirtIO provide optimal performance. Click 'Begin Installation'.

00		X NetMRI-Sandbox-KVM on QEMU/KVM
ď	Begin Installation	X Cancel Installation
	Overview CPUs Memory Boot Options IDE Disk 1 NIC :b9:cc:41 Display Spice Sound ich6 Console Channel spice Video QXL Controller USB 0 USB Redirector 1 USB Redirector 2	Virtual Disk Source path: /var/lib/libvirt/images/NetMRI_Sandbox-7.4.1.95749.qcow2 Device type: IDE Disk 1 Storage size: 4.00 GiB Readonly: Shareable: Advanced options Disk bus: VirtIO VirtIO V Serial number: Storage format: qcow2 Performance options
	Add Hardware	Remove Cancel Apply

- 10. Another window will appear and the installation of NetMRI sandbox is occurring.
- 11. When finished, you will get a login prompt. The default username is sbuser and the password is sbuser.



- 12. At the prompt, type './Setup' to set up the sandbox. You will be asked for the following:
 - a. server name
 - b. domain name
 - c. NTP server
 - d. time zone
 - e. IP address of management port
 - f. subnet mask
 - g. IPv6 address if needed
 - h. IPv6 prefix if needed
 - i. default gateway
 - j. DNS server IP
- 13. Review the settings. If everything looks good, hit the return key to continue. If you require to make changes, type 'y' to restart the configuration.
- 14. The NetMRI sandbox will reboot to apply the configuration. You can now continue with the setup.
- 15. SSH into the NetMRI CLI which you spun up earlier.
- 16. Type the command 'sandbox register' to connect the sandbox to NetMRI. Enter the IP address and password for the sandbox when prompted. NetMRI will now connect to the new sandbox and complete the integration.
- 17. After the prompt on the SSH session comes back, you can access NetMRI via a web browser. Refer to the <u>NetMRI Administrator guide</u> for further instruction.



Infoblox is the leader in modern, cloud-first networking and security services. Through extensive integrations, its solutions empower organizations to realize the full advantages of cloud networking today, while maximizing their existing infrastructure investments. Infoblox has over 12,000 customers, including 70 percent of the Fortune 500.

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