

# FortiVoice-VM Install Guide



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# Overview

Welcome and thank you for selecting Fortinet products.

The FortiVoice Enterprise Phone System enables you to completely control your organization's telephone communications. Easy to use and reliable, the FortiVoice phone system delivers everything you need to handle calls professionally, control communication costs, and stay connected everywhere.

The VMware version of FortiVoice Enterprise Phone System allows you to install the FortiVoice virtual machine on a VMware server.

This guide assumes that the reader has a thorough understanding of vitualization servers.

VMware vSphere Hypervisor™ (ESX/ESXi) software *must* be installed on a server prior to installing FortiVoice VM. Go to

http://www.vmware.com/products/vsphere-hypervisor/index.html for installation details.

This section includes the following topics:

- Licensing
- System requirements
- Registering FortiVoice VM
- Downloading FortiVoice VM software

## Licensing

The base license of FortiVoice VM allows the connection of 50 phones. Stackable license allows the connection of up to 350 phones. For stackable license information, contact Customer Service & Support at https://support.fortinet.com.

There are no other restrictions to the license other than the number of active phones, i.e. there is no restriction on the number of virtual CPUs, disk space, etc.

After placing an order for FortiVoice VM, a license registration code is sent to the email address used in the order form. Use the license registration code provided to register your FortiVoice VM with Customer Service & Support at https://support.fortinet.com.

Upon registration, you can download the license file. You will need this file to activate your FortiVoice VM. You can configure basic network settings from the CLI to complete the deployment. Once the license file is uploaded, the CLI and Web-based Manager are fully functional.

#### **Trial mode**

When FortiVoice-VM is first installed, it will be in trial mode. Trial mode supports a maximum of 50 active phones for 45 days.

## **System requirements**

The installation instructions for FortiVoice VM assume you are familiar with VMware ESX/ESXi server and terminology.

Ensure the following prerequisites are met before installing FortiVoice VM:

- Minimum hardware requirement: 1GB memory, 50GB of hard disk.
- The VMware vSphere Hypervisor (ESX/ESXi 5.0 or 5.1) must be installed and configured. For more details, refer to http://www.vmware.com/products/vsphere-hypervisor/overview.html.
- The VMware vSphere Client is installed on the management computer.

# **Registering FortiVoice VM**

To obtain the FortiVoice VM license file, you must first register your FortiVoice VM with Customer Service & Support.

#### To register your FortiVoice VM:

- 1. Log in to the Fortinet Customer Service & Support portal using an existing support account or select *Create an Account* to create a new account.
- **2.** In the toolbar select *Asset > Register/Renew*.

The Registration Wizard opens.

- Enter the license registration code from the FortiVoice VM License Certificate that was emailed to you and select *Next*. A registration form will appear. You must specify the IP address that you will use to access the FortiVoice VM.
- 4. Follow the instructions to finish the registration.



As a part of the license validation process FortiVoice VM compares its IP addresses with the IP information in the license file. If a new license has been imported or the FortiVoice's IP address has been changed, the FortiVoice VM must be rebooted in order for the system to validate the change and operate with a valid license.



The Customer Service & Support portal currently does not support IPv6 for FortiVoice VM license validation. You must specify an IPv4 address in both the support portal and the port1 management interface.

- 5. After completing the form, a registration acknowledgement page will appear.
- 6. Select the License File Download link. You will be prompted to save the license file (.lic) to your local computer. See "Uploading the FortiVoice VM license file" on page 27 for instructions on uploading the license file to your FortiVoice VM via the Web-based Manager.
- 7. Select the IP Address link to change the IP address of your FortiVoice VM.

#### To edit the FortiVoice VM IP address:

- In the toolbar select Asset > Manage/View Products. The View Products page opens.
- 2. Select the FortiVoice VM serial number. The *Product Details* page opens.
- **3.** Select *Edit* to change the description, partner information, and IP address of your FortiVoice VM.

The Edit Product Info page opens.

4. Enter the new IP address and select Save.



You can change the IP address five (5) times on a regular FortiVoice VM license. There is no restriction on a full evaluation license.

 Select the License File Download link. You will be prompted to save the license file (.lic) to your management computer. See "Uploading the FortiVoice VM license file" on page 27 for instructions on uploading the license file to your FortiVoice VM via the Web-based Manager.

# **Downloading FortiVoice VM software**

FortiMail deployment packages are included with FortiMail firmware images on the Customer Service & Support site. First, see Table 1 to determine the appropriate VM deployment package for your VM platform.

 Table 1: Selecting the correct FortiVoice VM deployment package for your VM platform

VM Platform	FortiVoice VM Deployment File
Citrix XenServer v5.6sp2, 6.0 and later	FVC_VMXE-64-v500-buildnnnn-FORTINET.out.xenserver.zip
Microsoft Hyper-V Server 2008R2 and 2012	FVC_VMHV-64-v500-buildnnnn-FORTINET.out.hyperv.zip
KVM (qemu 0.12.1)	FVC_VMKV-64-v500-buildnnnn-FORTINET.out.kvm.zip
VMware ESX 4.0, 4.1 ESXi 4.0/4.1/5.0/5.1/5.5	FVC_VM-64-v500-buildnnnn-FORTINET.out.ovf.zip

The firmware images FTP directory is organized by firmware version, major release, and patch release. The firmware images in the directories follow a specific naming convention and each firmware image is specific to the device model.

#### To download the FortiVoice VM deployment package

**1.** In the main page of the Customer Service & Support portal, in the *Download* area, select *Firmware Images*.

The Firmware Images page opens.

- 2. In the Firmware Images page, select FortiVoice.
- **3.** Browse to the appropriate directory on the FTP site for the version that you would like to download.
- **4.** Download the appropriate .zip file for your VM server platform.

You can also download the corresponding release notes.

5. Extract the contents of the deployment package to a new file folder.

# **Deployment package contents**

### **Citrix XenServer**

The FORTINET.out.CitrixXen.zip file contains:

- fortivoice-vm-xen.vhd and xxx.vhd files: the FortiMail system hard disk in VHD format
- fortivoice-vm-xen-xxxgb.ovf: Open Virtualization Format (OVF) template file, containing virtual hardware settings for Xen

### Microsoft Hyper-V

The FORTINET.out.hyperv.zip file folder contains the following file:

- fortivoice-hv.vhd: Virtual hard disk (VHD) format file
- nnngb.vhd: the VHD files for the virtual storage disk

#### KVM

The FORTINET.out.kvm.zip contains:

- fortivoice-kvm.qcow2: the FortiMail system hard disk in qcow2 format
- nnngb.qcow2 files: the qcow2 files for the virtual storage disk

### VMware ESX/ESXi

The contents of the extract vary with the size version of FortiVoice VM you downloaded.

- Virtual Machine Disk (VMDK) files.
- OVF files.



The 1024-GB OVF may not function if the ESXi block size is set as 1 MB or 2MB. It needs 4-MB blocks.

# **Deploying the FortiMail appliance**

Prior to deploying the FortiMail appliance, the VM platform must be installed and configured so that it is ready to create virtual machines. The installation instructions for FortiMail assume that you are familiar with the management software and terminology of your VM platform.

For assistance in deploying FortiMail, refer to the deployment chapter in this guide that corresponds to your VMware environment. You might also need to refer to the documentation provided with your VM server. The deployment chapters are presented as examples because for any particular VM server there are multiple ways to create a virtual machine. There are command line tools, APIs, and even alternative graphical user interface tools.

Before you start your FortiMail appliance for the first time, you might need to adjust virtual disk sizes and networking settings. The first time you start FortiMail, you will have access only through the console window of your VM server environment. After you configure one FortiVoice network interface with an IP address and administrative access, you can access the FortiMail web-based manager.

# Deployment example: VMWare

Once you have downloaded the install file and extracted the package contents to a folder on your local computer, you can use the vSphere client to create the virtual machine from the deployment package OVF template.

This section contains the following topics:

- Deploying the FortiVoice VM OVF software
- Powering on your FortiVoice VM

## Deploying the FortiVoice VM OVF software

To install FortiVoice VM, you must successfully deploy the OVF file using the VMware vSphere Client<sup>™</sup>.

#### To deploy the software

- 1. Start the VMware vSphere Client.
  - The client's login dialog appears.
- 2. Enter:
  - the IP address of the ESX/ESXi server hosting VMware vSphere Hypervisor
  - an account user name on the ESX/ESXi server
  - the account password

When you successfully log in, the vSphere Client window appears.

#### Figure 1: vSphere Client window



- 3. Select File > Deploy OVF Template to launch the OVF Template wizard.
- 4. Select the source location of the OVF file. Select *Browse* and locate the file folder on your computer. Select the appropriate FortiRecorder VM OVF file and select *Next* to continue.

- 5. Verify the OVF template details. This page details the product name, download size, size on disk, and description. Select *Next* to continue.
- 6. Read the end user license agreement for FortiRecorder VM. Select *Accept* and then select *Next* to continue.
- 7. Enter a name for this OVF template. The name can contain up to 80 characters and it must be unique within the inventory folder. Select *Next* to continue.
- 8. Select one of the following:
  - *Thick Provision Lazy Zeroed*: Allocates the disk space statically (no other volumes can take the space), but does not write zeros to the blocks until the first write takes place to that block during runtime (which includes a full disk format).
  - *Thick Provision Eager Zeroed*: Allocates the disk space statically (no other volumes can take the space), and writes zeros to all the blocks.
  - Thin Provision: Allocates the disk space only when a write occurs to a block, but the total volume size is reported by VMFS to the OS. Other volumes can take the remaining space. This allows you to float space between your servers, and expand your storage when your size monitoring indicates there is a problem. Note that once a Thin Provisioned block is allocated, it rema ins in the volume regardless if you have deleted data, etc.



The Thick Provision allocation options are the reccommended to avoid future space issues in the resource pool.

#### 9. Select *Next* to continue.

The OVF Template Network Mapping page opens.

#### Figure 2: Network mapping page

Network Mapping What networks should the	deployed template use?		
Source OVF Template Details End User License Agreement Name and Location Disk Format Network Mapping Ready to Complete	Map the networks used in this OVF Source Networks Network 1 Network 2 Network 3 Network 4 Description: The "Network 1" network Warning: Multiple source networks	template to networks in your inventory	
Help	Warning: Multiple source networks	< Back Next >	Cancel
		< Back Next >	Cancel

**10.**Map the networks used in this OVF template to networks in your inventory. Network 1 maps to port1 of the FortiRecorder VM. You must set the destination network for this entry to access the device console. Select *Next* to continue.

The OVF Template Ready to Complete page opens.

- **11.**Review the template configuration. To power on the FortiRecorder VMselect the checkbox beside *Power on after deployment*.
- **12.**Select *Finish* to deploy the OVF template. You will receive a *Deployment Completed Successfully* dialog box once the FortiRecorder VM OVF template wizard has finished.

## Powering on your FortiVoice VM

You can now proceed to power on your FortiRecorder VM. From the VMware vSphere client, select the name of the FortiRecorder VM you deployed in the inventory list and select *Power on the virtual machine* in the *Getting Started* tab. Optionally, you can select the name of the FortiRecorder VM you deployed, right-click and select *Power > Power On*.

# Deployment example: Hyper-V

Once you have downloaded the .hyperv.zip file and extracted the package contents to a folder on your Microsoft server, you can deploy the VHD package to your Microsoft Hyper-V environment.

The following topics are included in this section:

- Creating the FortiVoice VM virtual machine
- Configuring FortiVoice VM hardware settings
- Starting FortiVoice VM

## **Creating the FortiVoice VM virtual machine**

#### To create the FortiVoice VM virtual machine:

 Launch the Hyper-V Manager in your Microsoft server. The Hyper-V Manager home page opens.

Figure 3: Hyper-V Manager home page

12a	Hyper-V Manager		×
File Action View Help			
Hyper-V Manager	Hyper-V Manager provides the tools and information you can use to manage a virtualization server.	Actions Hyper-V Manager	
	Introduction	Connect to Server View	
	A ritualization serve is a physical computer that provides the resources required to run vitual machines. You can use Hyper-V Manager to create, originar, and manage the vitual machines on a vitualisation enviro. You can use vitual machines to un different validoads. Each vitual machine runs in an isolated execution environment, which gives you the fieldability to run different operating systems and applications on one physical computer.	Hep	
	]	1	

- **2.** Select the server in the right-tree menu. The server details page is displayed.
- Right-click the server and select New and select Virtual Machine from the menu. Optionally, in the Actions menu, select New and select Virtual Machine from the menu. The New Virtual Machine Wizard opens.
- **4.** Select *Next* to create a virtual machine with a custom configuration. The *Specify Name and Location* page is displayed.

5. Enter a name for this virtual machine. For example, FortiMail-VM. The name is displayed in the Hyper-V Manager.

Select Next to continue. The Assign Memory page is displayed.

**6.** Specify the amount of memory to allocate to this virtual machine. The default memory for FortiVoice VM is 2GB (2048MB).

Select Next to continue. The Configure Networking page is displayed.

7. Each new virtual machine includes a network adapter. You can configure the network adapter to use a virtual switch, or it can remain disconnected. FortiVoice VM requires four network adapters. You must configure network adapters in the *Settings* page.

Select Next to continue. The Connect Virtual Hard Disk page is displayed.

8. Select to use an existing virtual hard disk and browse for the fortimail-hv.vhd file that you downloaded from the Fortinet Customer Service & Support portal.

Select Next to continue. The Summary page is displayed.

9. To create the virtual machine and close the wizard, select *Finish*.

## **Configuring FortiVoice VM hardware settings**

Before powering on your FortiVoice VM you must configure the virtual CPU, and create network adapters and virtual disk configuration to match your FortiVoice VM license. See "Licensing" on page 5 for FortiVoice VM license information.



It is recommended to configure the FortiVoice VM hardware settings prior to powering on the FortiVoice VM.

#### To configure settings for FortiVoice VM on the server

1. In the Hyper-V Manager, locate the name of the virtual machine, right-click the entry, and select *Settings* from the menu. Optionally, you can select the virtual machine and select *Settings* in the *Actions* menu.

a a a a a a a a a a a a a a a a a a a			Hyper-1	/ Manager			
File Action View Help							
+ + 2 🗊 🛛 🗊							
Hyper-V Manager							Actions
WIN2012 VITUAI Machin	nes						WIN2012 • _
Name	-	State	CPU Usage	Assigned Memory	Uptime	Sta ^	New +
Fabikansiyu		Off Off					🚡 Import Virtual Machine
i mi_hv	i	Running	0%	1024 MB	23:30:50		Hyper-V Settings
imi266-hv	(	Off					🗱 Virtual Switch Manager
fortigate-Hyperv	(	Olf					Virtual SAN Manager
fortwoice-0162	(	Off					💰 Edit Disk
hvc-hyvb015	Connect						📑 Inspect Disk
PVHyV52	Settings						Stop Service
win7-pro	Start					~	X Remove Server
<	Checkpoint					>	G Refresh
Checkpoint	Move					۲	View +
	Export						Help
	Rename	1 1 1				_	frc hv
frc_hv	Delete						S Connect
	Enable Replication	PM		Clustered: No			Settings
	Help						Start
	Generation: 1						Ba Checkpoint
	Notes: None						P Move
							S Export_
							T Bename
Summary Memory	Networking   Replication						Delete
Launches the Virtual Machine Connection application.							

Figure 4: Hyper-V Manager

The Settings page is displayed.

#### Figure 5: Settings page

irc-hv	~	4 Þ Q
<ul> <li>Hardware         <ul> <li>Madd Hardware</li> <li>Madd Hardware</li> <li>Book from CD</li> <li>Book from CD</li> <li>Book from CD</li> <li>In Visual processor</li> <li>I Witual processor</li> <li>I Witual processor</li> <li>I IDE Controller 0</li> <li>Hard Drive Fortbreorder-wm-hw.vhd</li> <li>I IDE Controller 1</li> <li>I IDE Controller 1</li> <li>I IDE Controller 1</li> <li>Network Adapter vmmet</li> <li>Network Diagter</li> <li>Network Adapter vmmet</li> <li>Network Adapter vmmet</li> <li>Network Mathematica vmmet</li></ul></li></ul>		Add Hardware         You can use this setting to add devices to your virtual machine.         Select the devices you want to add and dick the Add button.         Select the devices you want to add and dick the Add button.         Usago Metwork Adapter         Leago Metwork Adapter         Piere Channel Adapter         RemoteFX 3D Video Adapter         Add         Vou can increase the storage available to a virtual machine by adding a SCSI controller and attaching virtual hard disks to k. A SCSI controller requires integration services in the guest operating system. Door attach a system disk to a SCSI controller. System disk must be attached to an IDE controller.

- 2. Configure virtual processors, network adapters, and virtual hard drive settings.
- 3. Select *Apply* to save the settings and then select *OK* to close the settings page.

#### FortiVoice VM virtual processors

You must configure FortiVoice VM virtual processors in the server settings page. The number of processors is dependent on your server environment.

#### Configure FortiVoice VM virtual processors:

1. In the Settings page, select Processor from the Hardware menu.

The Processor page is displayed.

#### Figure 6: Processor page

Processor	
You can modify the number of virtual processors the physical computer. You can also modify other	s based on the number of processors on er resource control settings.
Number of virtual processors: 9 🔨	
Resource control	
You can use resource controls to balance reso	ources among virtual machines.
Virtual machine reserve (percentage):	0
Percent of total system resources:	0
Virtual machine limit (percentage):	100
Percent of total system resources:	75
Relative weight:	100

- **2.** Configure the number of virtual processors for the FortiVoice VM virtual machine. Optionally, you can use resource controls to balance resources among virtual machines.
- **3.** Select *Apply* to save the settings.

### FortiVoice VM network adapters

You must configure FortiVoice VM network adapters in the server settings page. FortiVoice VM supports four network adapters.

#### Configure FortiVoice VM network adapters:

1. In the Settings page, select Add Hardware from the Hardware menu, select Network Adapter in the device list, and select the Add button.

The Network Adapter page is displayed.

#### Figure 7: Network Adapter page

adcom NetXtreme Gigabit	Ethernet - Virtual Switch
Enable virtual LAN iden	tification
he VLAN identifier specifie etwork communications th 2	es the virtual LAN that this virtual machine will use for all rough this network adapter.
ndwidth Management	
Enable bandwidth mana	agement
pecify how this network a andwidth and Maximum Ba	dapter utilizes network bandwidth. Both Minimum andwidth are measured in Megabits per second.
linimum bandwidth:	0 Mbps
laximum bandwidth:	0 Mbps
To leave the minimum	or maximum unrestricted, specify 0 as the value.
emove the network adapt	ter from this virtual machine, click Remove.

- **2.** You must manually configure four network adapters for FortiVoice VM in the settings page. For each network adapter, select the virtual switch from the drop-down list.
- **3.** Select *Apply* to save the settings.

### FortiVoice VM virtual hard disk

You must configure the FortiVoice VM virtual hard disk in the server settings page.



FortiVoice VM requires at least two virtual hard disks. Before powering on the FortiVoice VM, you need to add at least one more virtual hard disk. The default hard drive, fortimail-hv.vhd, contains the operating system. The second hard drive will be used for logs and mail data.



If you know your environment will expand in the future, it is recommended to add hard disks larger than the 250GB FortiVoice VM base license requirement. This will allow your environment to be expanded as required while not taking up more space in the SAN than is needed.



FortiVoice VM allows for twelve virtual log disks to be added to a deployed instance. When adding additional hard disks to your FortiVoice VM use the following CLI command to extend the LVM logical volume:

execute lvm enable
execute lvm extend <arg ..>

#### Create a FortiVoice VM virtual hard drive:

- 1. In the Settings page, select IDE Controller 1 from the Hardware menu.
- 2. Select Virtual Hard Disk.
- 3. Select *Browse* and select the .vhd file that matches your license.
- 4. Select OK.

## Starting FortiVoice VM

You can now proceed to power on your FortiVoice VM. Select the name of the FortiVoice VM in the list of virtual machines, right-click, and select *Start* in the menu. Optionally, you can select the name of the FortiVoice VM in the list of virtual machines and select *Start* in the *Actions* menu.

# FortiVoice VM backup

Once the FortiVoice VM license has been validated you can begin to configure your device. For more information on configuring your FortiVoice VM, see the *FortiMail Administration Guide* available at the Fortinet Document Library.



In VM environments, it is recommended that you use the Microsoft Hyper-V Manager *Snapshot* utility to backup the VM instance (depending on the Hyper-V version you use, the utility might be called checkpoint). In the event of an issue with a firmware upgrade or configuration issue, you can use *Snapshots* to revert the VM instance to a previous *Snapshot*.

#### To create a virtual machine snapshot:

- 1. In the Hyper-V Manager, locate the name of the virtual machine, right-click the entry, and select *Snapshot* from the menu. Optionally, you can select the virtual machine and select *Snapshot* in the *Actions* menu.
- 2. The virtual machine snapshot will be listed in the Snapshot pane in the Hyper-V Manager.

#### To apply a virtual machine snapshot:

- **1.** In the Hyper-V Manager, locate the name of the virtual machine. All snapshots for this virtual machine are displayed in the Snapshots pane.
- 2. Right-click the snapshot entry, and select *Apply* from the menu.

Select Apply in the confirmation dialog box. The virtual machine's current state will be lost.

# Deployment example: KVM

Once you have downloaded the install file and extracted the package contents to a folder on your local computer, you can create the virtual machine in your KVM environment.

This section contains the following topics:

- Creating the FortiVoice virtual machine
- Configuring FortiVoice hardware settings
- Starting FortiVoice VM

## **Creating the FortiVoice virtual machine**

#### To create the FortiVoice virtual machine:

- 1. Launch Virtual Machine Manager (virt-manager) on your KVM host server. The *Virtual Machine Manager* home page opens.
- 2. In the toolbar, select Create a new virtual machine.
- 3. Enter a Name for the VM, FortiMail-VM for example.
- 4. Ensure that Connection is localhost. (This is the default.)
- 5. Select Import existing disk image.
- 6. Select Forward.
- 7. In OS Type select Linux.
- 8. In Version, select Generic 2.6 and later kernel.
- 9. Select Browse.
- **10.** If you copied the fortimail-kvm.qcow2 file to /var/lib/libvirt/images, it will be visible on the right. If you saved it somewhere else on your server, select Browse Local and find it.
- **11.**Select Choose Volume.
- 12.Select Forward.
- **13.**Specify the amount of memory and number of CPUs to allocate to this virtual machine.
- 14.Select Forward.
- **15.**Expand *Advanced options*. A new virtual machine includes one network adapter by default. Select a network adapter on the host computer. Optionally, set a specific MAC address for the virtual network interface. Set *Virt Type* to *virtio* and *Architecture* to *qcow2*.
- 16.Select Finish.

## **Configuring FortiVoice hardware settings**

Before powering on your FortiVoice you must add the storage disk and configure the virtual hardware of your FortiVoice.

#### To configure settings for FortiVoice on the server:

- 1. In the Virtual Machine Manager, locate the name of the virtual machine and then select *Open* from the toolbar.
- 2. Select Add Hardware. In the Add Hardware window select Storage.

- **3.** Browse to the storage disk file that matches your licence, for example, 250.qcow2 (250 GB storage space) and click OK.
- 4. Select Network to add more network interfaces. The Device type must be Virtio.

A new virtual machine includes one network adapter by default. You can add more through the Add Hardware window. FortiVoice requires four or six network adapters. You can configure network adapters to connect to a virtual switch or to network adapters on the host computer.

5. Select Finish.

## **Starting FortiVoice VM**

You can now proceed to power on your FortiVoice. Select the name of the FortiVoice in the list of virtual machines. In the toolbar, select *Console* and then select *Start*.

# Deployment example: Citrix XenServer

Once you have downloaded the install file and extracted the package contents to a folder on your local computer, you can create the virtual machine in your Citrix XenServer environment/

This section contains the following topics:

- Creating the FortiVoice VM virtual machine (XenCenter)
- Configuring virtual hardware

# Creating the FortiVoice VM virtual machine (XenCenter)

#### To create the FortiVoice virtual machine from the OVF file

- 1. Launch XenCenter on your management computer.
  - The management computer can be any computer that can run Citrix XenCenter, a Windows application.
- 2. If you have not already done so, select *ADD a server*. Enter your Citrix XenServer IP address and the root logon credentials required to manage that server.

Your Citrix XenServer is added to the list in the left pane.

The Virtual Machine Manager home page opens.

- **3.** Go to *File > Import*. An import dialog will appear.
- 4. Click the *Browse* button, find the FortiVoice .ovf template file, then click Open.



5. Select Next.

6. Accept the FortiVoice Virtual Appliance EULA, then select Next.



7. Choose the pool or standalone server that will host the VM, then select Next.

a Downloads	Views: Server View	C Import OVF/OVA Package	
Libraries	Search	Select the location where the imported VM will be placed	
Documents  Music  Subversion  Subversion  Computer  Local Disk (C)  Local Disk (C)  Local Disk (C)  Induker (\\17220.110.16)  Network	<ul> <li>Storigate-Vitik</li> <li>Storikali-Vitik</li> <li>Sto</li></ul>		
	*	cirep:	

8. Select the storage location for FortiVoice disk drives or accept the default. Select Next.



**9.** Configure how each vNIC (virtual network adapter) in FortiVoice will be mapped to each vNetwork on the Citrix XenServer, then click *Next*.

Back + () Forward	Add New Server	ew Pool 🛅 New Storage 🛅 New VM 🛛 🥥 Shut Down 🍕	Reboot 🕘 Surpend 🍳 System Alerta: 1	80 MB
es: Server View	Import OVF/OVA Package	read .	COMPANY IN CONTRACTOR AND INC.	ACCRETE AND ADDRESS
O XenCenter	Select network to	connect VM		•
Fortigate-V To Fortigate-V To FortiMal-VI To FortiRecord	Import Source EULAs Location	Map the virtual network interfaces in the VMs you are in Virtual network interfaces in imported VMs:	importing to networks in the destination pool or standalone server.	
E Local storag	Storage	VM - Virtual Network Interface	Target Network	
I Aemovable	Security	FortiVolce: VM-XEN - Network 0 Exautopenerated MA	Ketwork 0	*
	OS Fisup Settings	FortiVoice-VM-XEN - Network 1 ( <autopenerated ma<="" td=""><td>C&gt;) Network 0</td><td>-</td></autopenerated>	C>) Network 0	-
	Transfer VM Settings	Fortivolce-VM-ALV - Network 2 ( - autogenerated NA EnvtNoice-VM-ALV - Network 2 ( - autogenerated MA	(	
	сітвіх			

#### **10.**Click *Next* to skip OS fixup.

nport Source Operation Surtee				
ULAS Operating system cocation coperating system torage etworking Operating system county Fixup Settings Operating System	Fixup creates a basic level of interoperability for OVF packages and disk. VF Package created from a VMware environment. It attempts to repair pro of the VM from booting. Fixup is supplied as a bootable ISO image which is attached to the DVD of to the VM when it is first started.	images that originated on non-XenServer platforms, oblems with imported VMs that might prevent the drive of the imported VM and which performs		
ransfer VM Settings	rating system Fixup			
nish Select this op	tion if the VMs being imported were created on XenServer.			
🔘 Use Operating	O Use Operating System Fixup			
Select this op	tion if the VMs being imported were created on a hypervisor other than Xe	enServer.		
EDCalion of O	s roup taos [[choose an tao an]			



Configure network	ing options for the Trar	nsfer VM	0
Import Source EULAs Location Storage Networking Security	Select the network on Network: Network ( Network Settings	which the temporary VM (Transfer VM) used to perform the import operation will run. ) (management)	•
OS Fixup Settings	Automatically of	ptain network settings using DHCP	
Transfer VM Settings Finish	Use these netwo IP address: Subnet mask Gateway:	rk settings: 172.20.140.123 255.255.255.0 172.20.140.2	
CITRIX.			

#### 12.Select Finish.

fews: Server View	Import OVE/OVA Package				SU MB	
Inerch.	Review the impor	t settings			0	
Bin Terrestate AV     Bin Forespace AV     Bin	Import Source EULAs Location Networking Socialy Of Filus Settings Transfer VM Settings Finds	All the necessary information h Prease review these settings an wized. Import may take sever Package name: Verity manefac content Verity digital signature: Use OS Finaps Target Storge: Network: Transfer VM network interface: Transfer VM network interface: Transfer VM network interface: Transfer VM addexensi: Transfer VM addexensi:	Is been collected and the wizard is ready to import suit dick Previous If you need to go back and make any chu it minutes. FortWiscer-VM-XEN No No No No No Coali dotage on senserver-yong Local totage on senserver-yong Network 0 Network	p the settings shown below.	et and close this	
	citrix:					

The Citrix XenServer imports the FortiVoice files and configures the VM as specified in the OVF template. Depending on your computer's hardware speed and resource load, and also on the file size and speed of the network connection, this might take several minutes to complete.

۲	Import A	Jan 20, 2014 4:09:36 PM	
	Details:	Transferring virtual disk Hard disk 2	Cancel
	Time:	00:00:52	
	Progress:		)

When VM import is complete, the XenCenter left pane includes the FortiVoice in the list of deployed VMs for your Citrix XenServer.

## **Configuring virtual hardware**

Before you start your FortiMail VM for the first time, you can optionally adjust your virtual machine's virtual hardware settings to meet your network requirements.

### Configuring number of CPUs and memory size

Your FortiMail VM license limits the number CPUs and amount of memory that you can use. The amounts you allocate must not exceed your license limits. See "Licensing" on page 5.

#### To access virtual machine settings

- **1.** Open XenCenter.
- 2. Select your FortiMail VM in the left pane.

The tabs in the right pane provide access to the virtual hardware configuration. The Console tab provides access to the FortiMail console.

#### To set the number of CPUs

1. In the XenCenter left pane, right-click the FortiMail VM and select Properties. The Properties window opens. **2.** In the left pane, select CPU.

S 'FortiVoice-VM-XEN' Properties	<ul> <li>Retificia IN ADI as 'senamer pang'</li> </ul>	? ×
General FortiVoice-VM-XEN         Custom Fields <none>         IVCPU(c)         Bott Options None defined         Sart Options HA is not currently configure         Alerns None defined         Home Server xenserver-yong</none>	The number of VCPUs available to your VM can be adjusted, as well as the priority to assign to them over VCPUs. Number of VCPUs: VCPU priority for this virtual machine: COULD priority for this virtual machine: Highest	other
	ОК	Cancel

3. Adjust Number of CPUs and then select OK.

XenCenter will warn if you select more CPUs than the Xen host computer contains. Such a configuration might reduce performance.

#### To set memory size

- 1. In the XenCenter left pane, select the FortiMail VM.
- 2. In the right pane, select the Memory tab.
- 3. Select *Edit*, modify the value in the Set a fixed memory of field and select OK.



# **Initial Configuration**

Before you can connect to the FortiVoice VM web UI, you must configure basic configuration via the console tab in your vSphere client. Once configured, you can connect to the FortiVoice VM Web-based Manager and upload the FortiVoice VM license file that you downloaded from the Customer Service & Support portal.

The following topics are included in this section:

- FortiVoice VM console access
- Connecting to the FortiVoice VM web UI
- Uploading the FortiVoice VM license file
- Configuring your FortiVoice VM

## FortiVoice VM console access

To enable web UI access to the FortiVoice VM, you must configure the port1 IP address and netmask of the FortiVoice VM.

#### To configure the port1 IP address and netmask:

1. In the list of virtual machines, select the FortiVoice VM that you deployed, right-click, and select *Connect* from the menu.

The Console window appears.

Build # * Version 9	Release Type ©	View COs	Built At O
Ø 172.20.140.19 - vSphere Client	March Ball	O line Is	2015-03-03
Elle Edit View Igventory Administration Blug-ins Help			2015-02-23
A Home A Inventory I Inventory			1010-01-10
			2015-02-18
I U 17220140.19 E O Exchange-server R O Fort FortWoke-VM140.111 Cetting Started Commany Resource	Abostan Performance Events Console Perman		2015-02-13
FortiAnalyzer-VM FortiAuthenticator			2015-02-11
FortiAuthenticato     Fortigate-VM-271     Bosting Fortig     Fortigate-VM-275     Bosting Fortig			2015-03-03
C FortiMal-VM-John	kay to enter maintenance mode		2015-02-26
FortMail/M-myc creating direction fortMail/M-SV Initialize Ba	ctory: /usr/local/sharw succeeded tabase		2015-02-24
FortMail-VM-Yina wDfg gurry E1	I for 547 is empty! recreate (nil) 0 547 I for 547 is empty! recreate (nil) 0 547		2015.02.20
FortiManager-VM     Initialize Co     FortRecorder-VM     Loading mail	I for 547 is empty: recreate (nil) = 543 afiguration ime mail statistics data returns 0		2015-02-20
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TO-SUMMADD	838 •		2015-01-30
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Figure 8: FortiVoice VM console access

- 2. At the FortiVoice VM login prompt, enter the username admin and password. The default password is no password.
- 3. To configure the port1 IP address and netmask, enter the following CLI commands:

```
config system interface
  edit port1
    set ip <IP address Netmask>
end
```



The port management interface should match the first network adapter and virtual switch that you have configured in the virtual machine settings.



The Customer Service & Support portal currently does not support IPv6 for FortiVoice VM license validation. You must specify an IPv4 address in both the support portal and the port management interface.

## Connecting to the FortiVoice VM web UI

Once you have configured the port1 IP address and netmask, launch a web browser and enter the IP address you configured for port1. At the login page, enter the username admin and select *Login*. The default password is no password. The Web-based Manager will appear with an *Evaluation License* dialog box.



By default, the Web-based Manager is accessible via HTTPS.

# Uploading the FortiVoice VM license file

The FortiVoice VM comes with a 45-day trial license. During this time the FortiVoice VM operates in trial mode (see "Trial mode" on page 5). Before using the FortiVoice VM you must enter the license file that you downloaded from the Customer Service & Support portal upon registration.

#### To upload the FortiVoice VM licence file:

1. In the *License Information* widget on the FortiRecorder VM web-based manager, click the *Update* link to the right of *VM*.

The license prompt appears.

Figure 9: FortiRecorder VM license prompt

/MWare License File	×
Choose File No file chosen	
Upload	

- 2. Click Choose File and locate the license file (.lic) you downloaded earlier from Fortinet.
- 3. Click Upload on the license prompt dialog.

A message box appears stating your license is being authenticated. This may take a few minutes.

If you uploaded a valid license, a second message box will appear informing you that your license authenticated successfully.

4. Click OK on the message box.

The system will reload and log out.

**5.** Log in again if prompted using admin, as the user name. The VM registration status appears as valid in the *License Information* widget once the license has been validated.



As a part of the license validation process FortiRecorder VM compares its IP address with the IP information in the license file. If a new license has been imported, the FortiRecorder VM must be rebooted in order for the system to validate the change and operate with a valid license.

6. If the IP address in the license file and the IP address configured in the FortiRecorder VM do not match, you will receive an error message dialog box when you log back into the VM.

If this occurs, you will need to change the IP address in the Customer Service & Support portal to match the management IP and re-download the license file.



After an invalid license file is loaded to FortiRecorder VM, the Web-based Manager will be locked until a valid license file is uploaded.

# **Configuring your FortiVoice VM**

Once the FortiVoice VM license has been validated you can begin to configure your device. For more information on configuring your FortiVoice VM see the *FortiVoice Enterprise Phone System Administration Guide* at Fortinet Document Library..



In VM environments, it is recommended that you use the VMware *Snapshot* utility to backup the VM instance. In the event of an issue with a firmware upgrade or configuration issue, you can use the *Snapshot Manager* to revert the VM instance to a previous *Snapshot*. To create a *Snapshot*, right-click the VM instance and select *Snapshot* > *Take Snapshot*.

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