



# FortiMail-VM™ Secure Messaging Platform

Version 4.0 MR2  
Install Guide

**FORTINET.**

## ***FortiMail-VM™ Secure Messaging Platform Version 4.0 MR2 Install Guide***

Revision 3

23 November 2011

© Copyright 2011 Fortinet, Inc. All rights reserved. Contents and terms are subject to change by Fortinet without prior notice.

### **Trademarks**

The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

*Visit these links for more information and documentation for your Fortinet product:*

Technical Documentation - <http://docs.fortinet.com>

Fortinet Knowledge Center - <http://kb.fortinet.com>

Technical Support - <http://support.fortinet.com>

Training Services - <http://campus.training.fortinet.com>

# Contents

<b>Licensing .....</b>	<b>5</b>
<b>Resources.....</b>	<b>5</b>
<b>Architecture of FortiMail-VM .....</b>	<b>6</b>
<b>Registering your Fortinet product.....</b>	<b>6</b>
<b>Customer service and technical support.....</b>	<b>6</b>
<b>Training .....</b>	<b>7</b>
<b>Documentation .....</b>	<b>7</b>
Fortinet Knowledge Base.....	7
Comments on Fortinet technical documentation .....	7
<b>Preparing to install FortiMail-VM .....</b>	<b>9</b>
Getting the FortiMail-VM software .....	9
<b>Deploying the FortiMail-VM software .....</b>	<b>10</b>
<b>Configuring virtual network settings .....</b>	<b>14</b>
Preparing for transparent mode.....	14
Configuring the number of CPUs.....	17
Maintaining license limits.....	17
Configuring a smaller disk .....	17
<b>Starting FortiMail-VM .....</b>	<b>18</b>
Installing the license .....	21
<b>What next? .....</b>	<b>22</b>



# Overview of FortiMail-VM

Welcome and thank you for selecting Fortinet products to protect your network.

The FortiMail-VM Secure Messaging Platform is part of an integrated hardware and software solution that provides powerful and flexible logging and reporting, antispam, antivirus, and email archiving capabilities to incoming and outgoing email traffic. FortiMail has reliable and high performance features for detecting and blocking spam messages and malicious attachments. Built on Fortinet's FortiOS™, FortiMail antivirus technology extends full content inspection capabilities to detect the most advanced email threats.

This guide assumes that the reader has a thorough understanding of VMware® concepts, procedures, and terminology.

VMware vSphere Hypervisor™ (ESX/ESXi) software **must** be installed on a server prior to installing FortiMail-VM. Go to <http://www.vmware.com/products/vsphere-hypervisor/index.html> for installation details.

FortiMail-VM supports VMware vSphere Hypervisor™ ESX/ESXi 4.0 and 4.1.

## Licensing

When you place an order for FortiMail-VM, Fortinet sends a registration number to the email address supplied on the order form. Use that number to register with FortiCare ([support.fortinet.com](http://support.fortinet.com)) and to obtain a license file (.lic). You need the license file to activate FortiMail-VM and unlock the full range of features, such as the maximum virtual memory and number of CPUs.

FortiMail-VM includes a 15-day trial (VM00). The trial version provides all FortiMail-VM functions except antispam and antivirus signature updates and the FortiGuard Antispam query. Because the trial version only provides low encryption, you may not be able to access the FortiMail-VM web UI through HTTPS, unless you have enabled weak cipher in your browser. The trial period begins the first time you start FortiMail-VM. If you do not install a valid license after the trial period expires or after your license expires, you will not be able to make configuration changes to FortiMail-VM.

Fortinet provides several licenses for FortiMail-VM: a 1-CPU license (VM01), a 2-CPU license (VM02), a 4-CPU license (VM04), and an 8-CPU license (VM08). You can install your full license from FortiCare at any time during or after the trial period. For details about how to install or update a license, see "Installing the license" on page 21.

## Resources

Table 1 shows the resources available with each license.

**Table 1: FortiMail-VM resources**

	VM00/01	VM02	VM04	VM08
Hypervisor supported versions	VMware ESXi/ESX/4.0/4.1/5.0			
Maximum vCPUs	1	2	4	8
Maximum vNICs	4	4	6	6
Virtual Machine Storage (Min/Max)	50 GB/1 TB	50 GB/1 TB	50GB/2 TB	50GB/2 TB
Virtual Machine Memory (Min/Max)	1 GB/2 GB	1 GB/4 GB	1 GB/4 GB	1 GB/12 GB

Most resources in [Table 1](#) are available after successful deployment of the OVF file and validation of the license file. See [“Deploying the FortiMail-VM software” on page 10](#) and [“Starting FortiMail-VM” on page 18](#).

To use more than one CPUs, you must configure its use once you deploy FortiMail-VM. See [“Configuring the number of CPUs” on page 17](#).

You can reduce the default virtual storage to as little as 10 GB once you deploy FortiMail-VM, if required. See [“Configuring a smaller disk” on page 17](#).

In addition, FortiMail-VM requires a valid FortiGuard connection using:

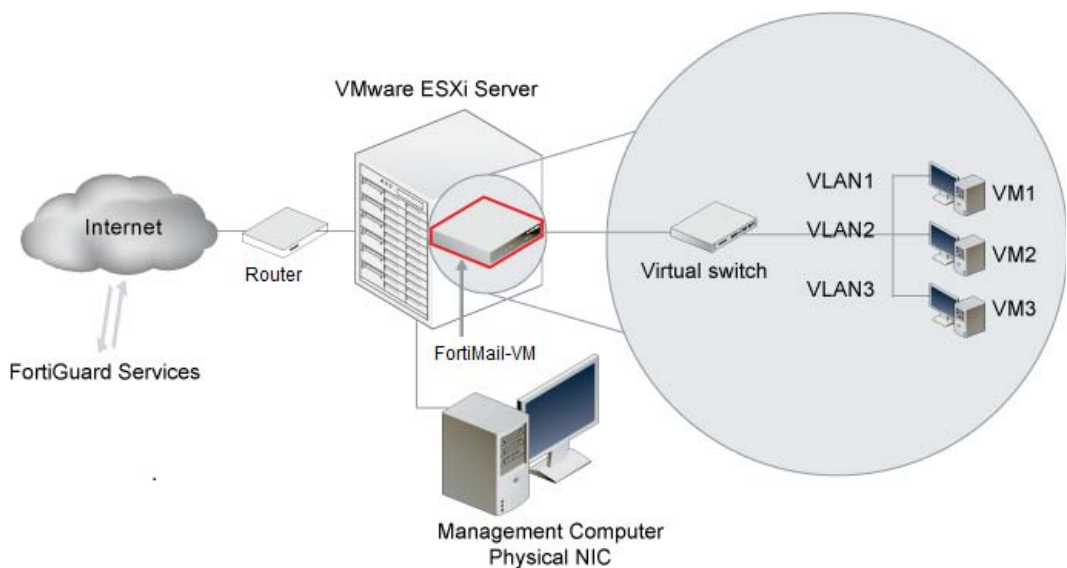
- for DNS lookup; RBL lookup — UDP 53
- for FortiGuard Licensing — TCP 443

## Architecture of FortiMail-VM

FortiMail-VM, in conjunction with VMware vSphere Hypervisor, leverages the power of virtualization to provide protection for email and mail servers.

FortiMail-VM runs on the VMware ESX/ESXi server and is managed using the FortiMail-VM web-based manager accessed from the management computer. See [Figure 1](#).

**Figure 1: FortiMail-VM architecture**



## Registering your Fortinet product

Before you begin to configure and customize features, take a moment to register your Fortinet product at the Fortinet Technical Support web site, <https://support.fortinet.com>. Many Fortinet customer services, such as firmware updates and technical support, require product registration.

## Customer service and technical support

Fortinet Technical Support provides services designed to make sure that you can install your Fortinet products quickly, configure them easily, and operate them reliably in your network.

To learn about the technical support services that Fortinet provides, visit the Fortinet Technical Support web site at <https://support.fortinet.com>.

You can dramatically improve the time that it takes to resolve your technical support ticket by providing your configuration file, a network diagram, and other specific information. For a list of required information, see the Fortinet Knowledge Base article "Fortinet Technical Support Requirements" at <http://kb.fortinet.com>.

## Training

Fortinet Training Services provide classes that orient you quickly to your new equipment, and certifications to verify your knowledge level. Fortinet provides a variety of training programs to serve the needs of our customers and partners world-wide.

To learn about training, visit the Fortinet Training Services web site at <http://campus.training.fortinet.com>, or email them at [training@fortinet.com](mailto:training@fortinet.com).

## Documentation

The Fortinet Technical Documentation web site, <http://docs.fortinet.com>, provides the most up-to-date versions of Fortinet publications.

### Fortinet Knowledge Base

The Fortinet Knowledge Base provides additional Fortinet technical documentation, such as troubleshooting and how-to-articles, examples, FAQs, technical notes, and more. Visit the Fortinet Knowledge Base at <http://kb.fortinet.com>.

### Comments on Fortinet technical documentation

Please send information about any errors or omissions in this technical document to [techdoc@fortinet.com](mailto:techdoc@fortinet.com).



# Installing FortiMail-VM

This chapter provides instructions for installing FortiMail-VM:

- [Preparing to install FortiMail-VM](#)
- [Deploying the FortiMail-VM software](#)
- [Configuring virtual network settings](#)
- [Starting FortiMail-VM](#)
- [What next?](#)

## Preparing to install FortiMail-VM

Before installing FortiMail-VM, make sure the following are in place and functioning properly:

- The VMware vSphere Hypervisor software (ESX/ESXi) **must** be installed on a network server prior to installing FortiMail-VM. This install guide does not cover how to install and set up the VMware server. Go to <http://www.vmware.com/products/vsphere-hypervisor/index.html> for installation details.



**Tip:** Take note of the IP address of the server hosting VMware vSphere Hypervisor. Also get an account name and password on that server. You will need these to log in using the VMware vSphere Client. You also need an IP address from that server's IP pool for use later when configuring FortiMail-VM.

- The VMware vSphere Client™ must be installed on the computer you plan to use for FortiMail-VM management. This could be a desktop or a laptop connected to your network. If not already installed, install the client before going further.

## Getting the FortiMail-VM software

Once registered with Fortinet, do the following:

- 1 From the link provided by Fortinet, download the FortiMail-VM license file (.lic) to the computer you plan to use for FortiMail-VM management. You need this file to complete the installation. (See [“Registering your Fortinet product”](#) on page 6.)
- 2 From the link provided by Fortinet, download the compressed FortiMail-VM software file to the computer you plan to use for FortiMail-VM management.
- 3 Extract the compressed file to a folder. The contents of the extract vary with the size version of FortiMail-VM you downloaded.

For the 250-GB hard-disk version, the contents are:

- `fortimail-vm-64bit-250gb-hw7.ovf`
- `fortimail-vm-disk1.vmdk`
- `fortimail-vm-disk2-250gb.vmdk`

For the 1024-GB hard-disk version, the contents are:

- `fortimail-vm-64bit-1024gb-hw7.ovf`
- `fortimail-vm-disk1.vmdk`
- `fortimail-vm-disk2-10240gb.vmdk`



**Note:** 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-VM software

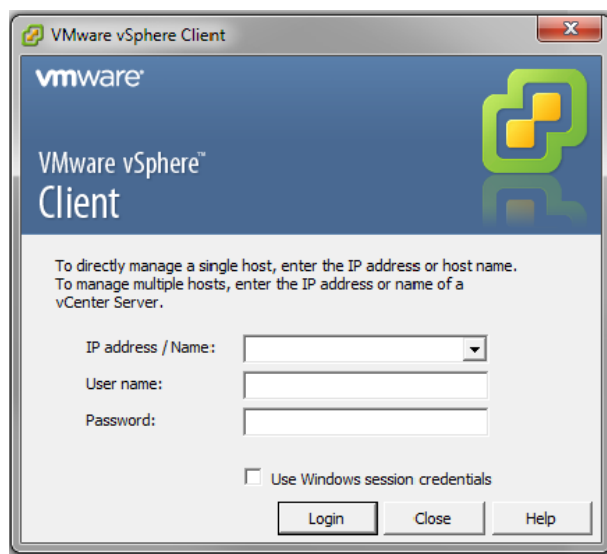
To install FortiMail-VM, you must successfully deploy the OVF file using the VMware vSphere Client™.

### To deploy the software

- 1 Start the VMware vSphere Client.

The client's login dialog appears.

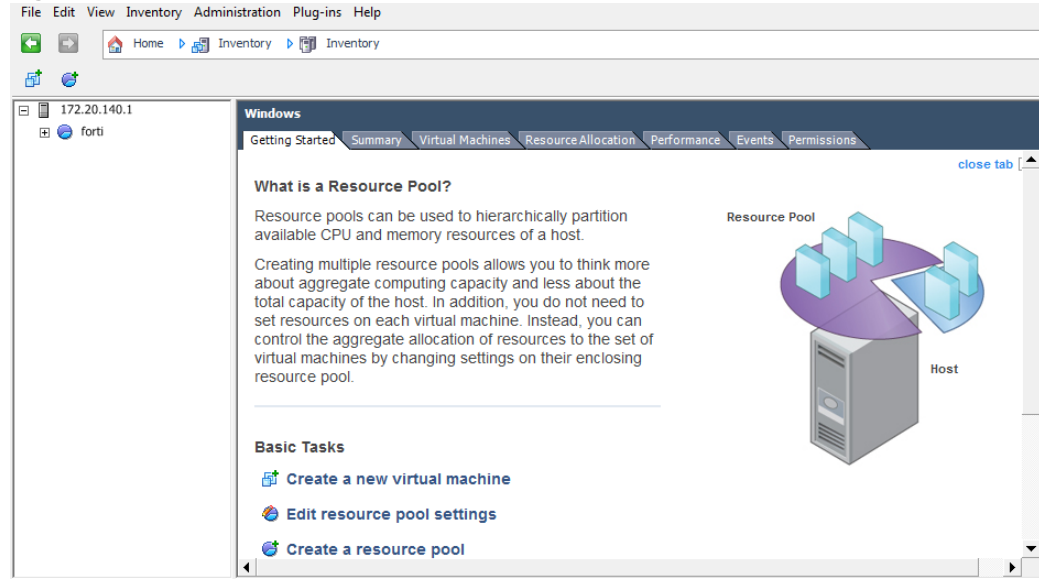
**Figure 2: VMware vSphere Client login dialog**



- 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

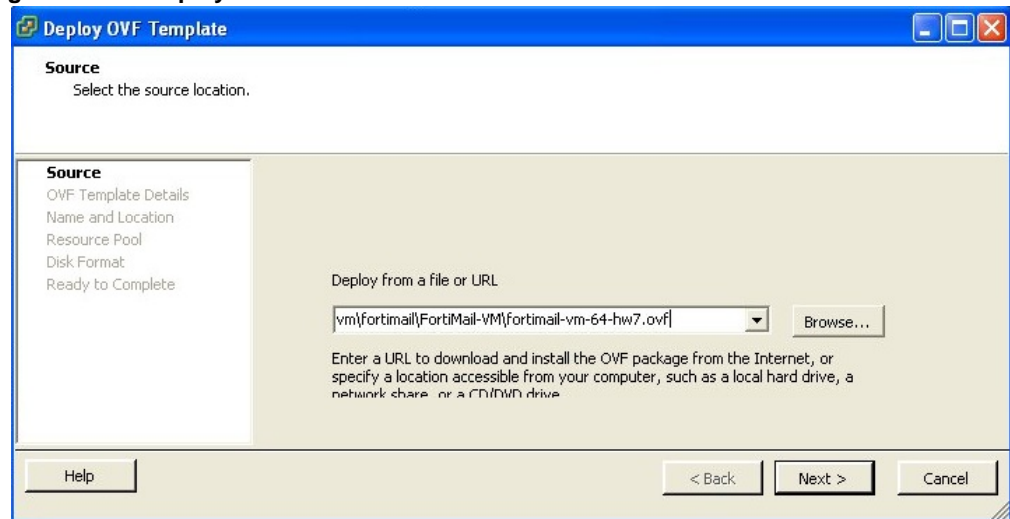
When you successfully log in, the vSphere Client window appears.

Figure 3: vSphere Client window



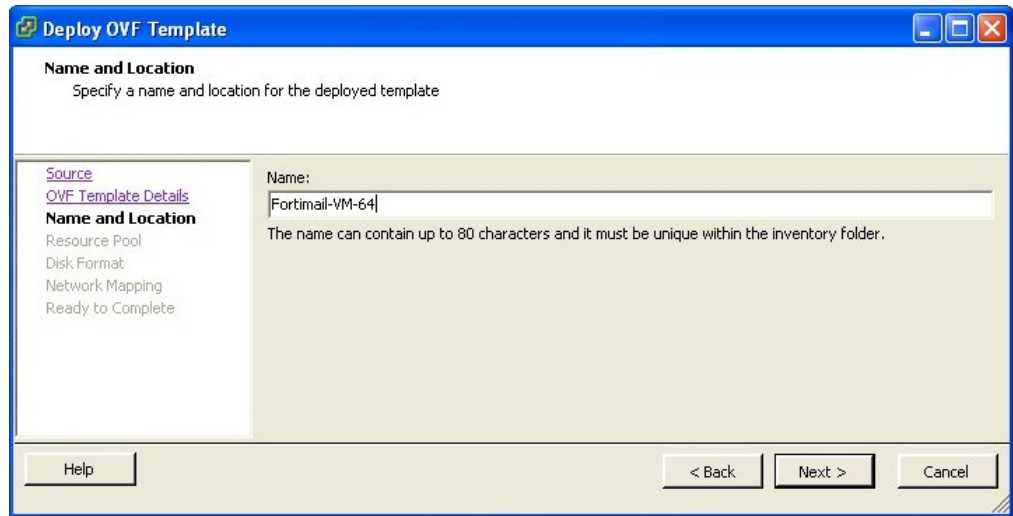
- 3 On the vSphere Client window, select *File > Deploy OVF Template*.  
The first dialog of the OVF deployment wizard appears.

Figure 4: OVF deployment wizard



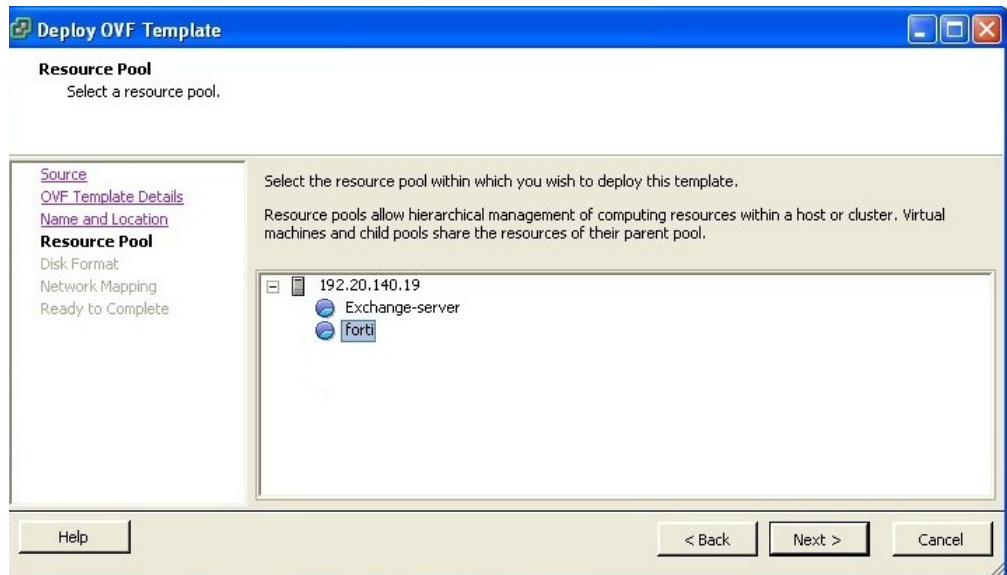
- 4 Select *Browse* and locate the applicable OVF template file you extracted earlier (for example, *fortimail-vm-64-hw7.ovf*), and click *Next*.
- 5 The second dialog displays the details of the deployed file. Click *Next*.  
A window appears and prompts for the name of your OVF template.

Figure 5: OVF template name



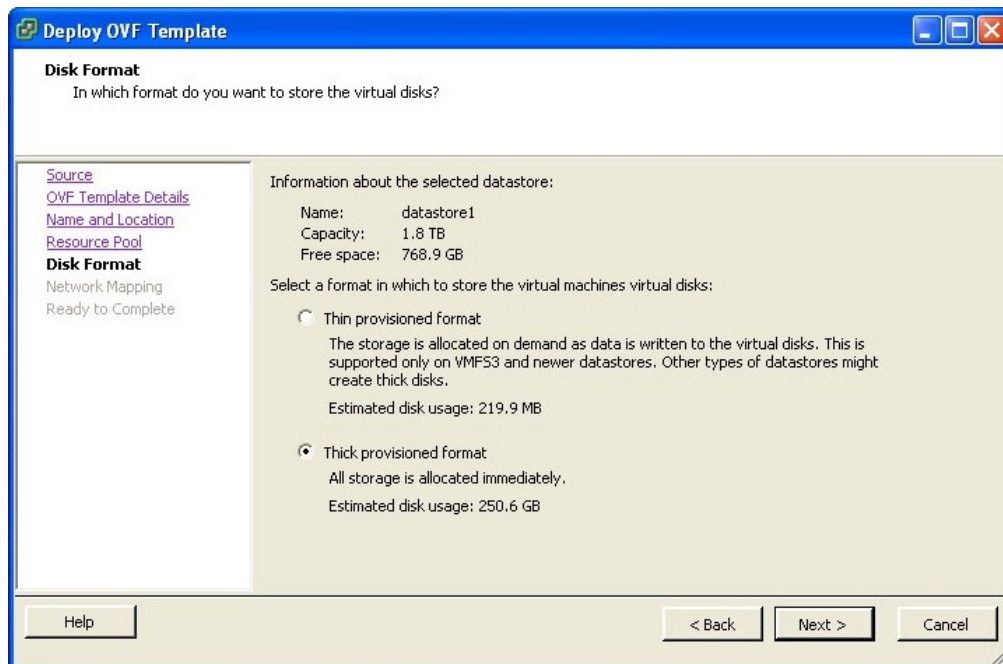
- 6 Enter a unique name and click *Next*. This becomes the name of your virtual machine. A window appears asking where to deploy the OVF template.

Figure 6: Resource pool selection



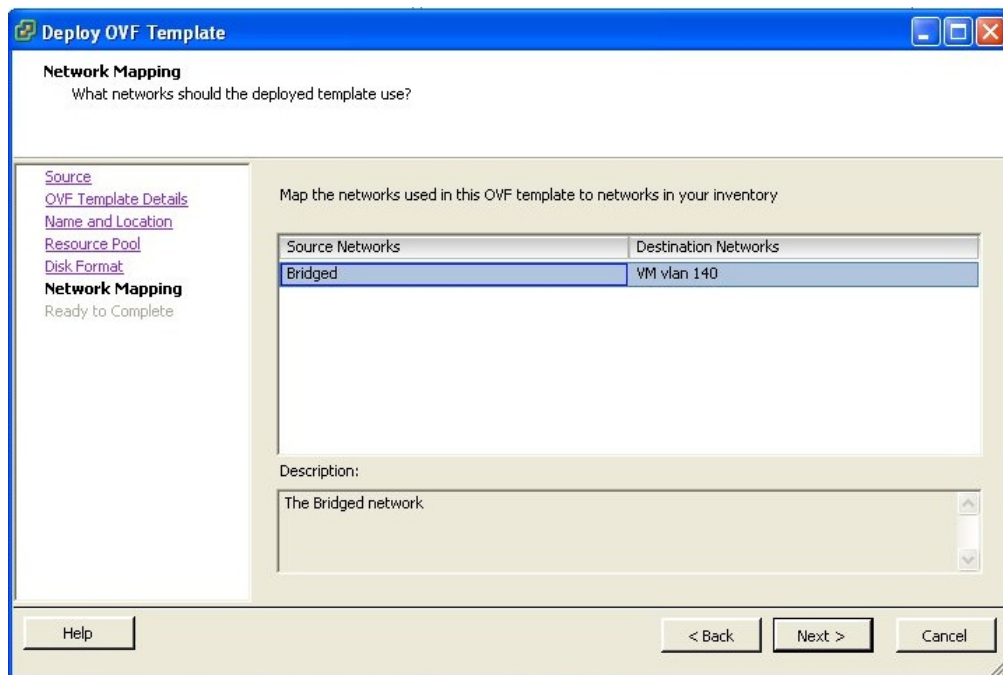
- 7 Select a resource pool and click *Next*. A window appears asking for the disk storage format.

Figure 7: Disk storage options



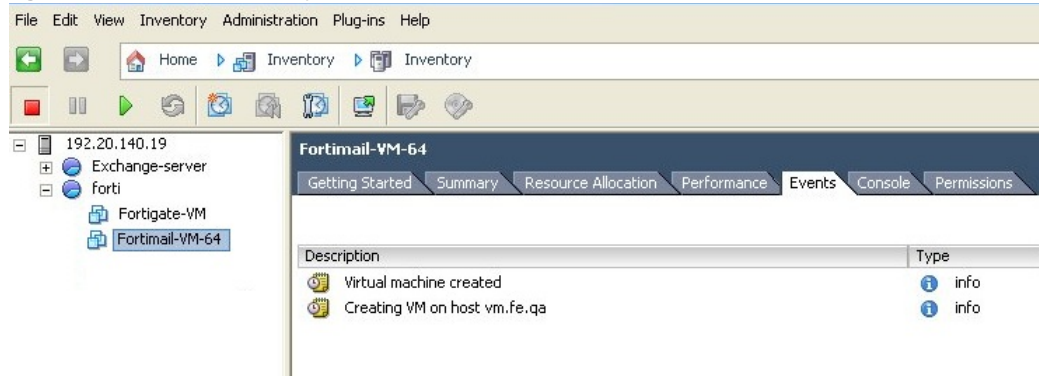
- 8 Select a format option and click *Next*.  
A window appears asking which network to deploy on.

Figure 8: Deployment network



- 9 Select a virtual network if there is more than one and click *Next*.
- 10 A window appears listing all your settings. Click *Finish*.  
The wizard closes.  
The vSphere Client window reappears and displays your new virtual machine.

Figure 9: Completed deployment



**Note:** Do *not* power on FortiMail-VM yet if you need to configure the virtual network first.

## Configuring virtual network settings

Before you power on FortiMail-VM, you may need to set the number of virtual CPUs or configure the virtual network to support your implementation of transparent mode for FortiMail-VM.

This section includes:

- [Preparing for transparent mode](#)
- [Configuring the number of CPUs](#)
- [Configuring a smaller disk](#)

When you deploy the FortiMail-VM OVF file, one virtual network interface card (vNIC) is automatically mapped to a port on the ESX/ESXi server. You can change the mapping, or map other vNICs if required. Each vNIC has its own MAC address and one or more IP addresses.

For more information, see the VMware vSphere documentation at [http://www.vmware.com/support/pubs/vs\\_pages/vsp\\_pubs\\_esxi41\\_e\\_vc41.html](http://www.vmware.com/support/pubs/vs_pages/vsp_pubs_esxi41_e_vc41.html)

### Preparing for transparent mode

If you plan to use transparent mode with your FortiMail-VM installation, you need to:

- Set promiscuous mode. See [“To set promiscuous mode”](#) on page 15.
- Modify the network adapter configuration. See [“To modify a network adapter”](#) on page 16.

An ESX/ESXi server always has at least one vSwitch. For transparent mode, you need at two vSwitches, one to connect FortiMail-VM to the network and one to connect it to the mail server.

Add an additional vSwitch if necessary.



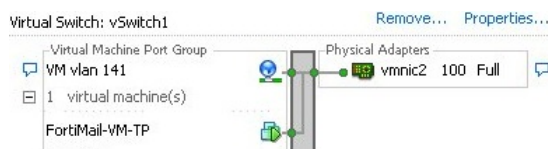
**Note:** The following example of vSwitch creation shows connection to a virtual mail server hosted on the same ESXi server. For a physical mail server, you need to connect to a physical NIC.

### To add a virtual switch

- 1 Log in to the vSphere Client.
- 2 **Do not** power on FortiMail-VM.
- 3 Select the host IP at the top of the left navigation pane.
- 4 On the *Configuration* tab, select *Networking*.

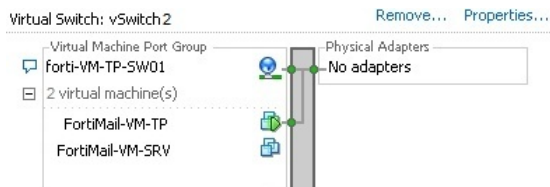
A window with information similar to [Figure 10](#) appears.

**Figure 10: Virtual switch 1**



- 5 Select the *Virtual Switch* view and click *Add Networking*.
- 6 Accept the default connection type, *Virtual Machines*, and click *Next*.
- 7 Select *Create a virtual switch* and click *Next*.
- 8 Under *Port Group Properties*, enter a network label that identifies the port group to create.
- 9 Click *Finish*.

**Figure 11: Virtual switch 2**

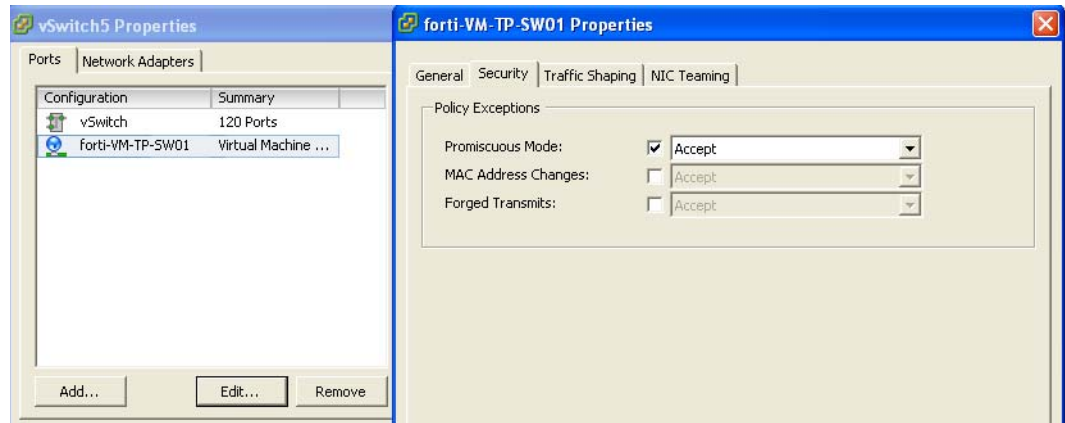


Next, set the network to run in promiscuous mode.

### To set promiscuous mode

- 1 On the *Configuration* tab, select *Networking*.
- 2 For each virtual switch, select *Properties*.

**Figure 12: Setting promiscuous mode**



- 3 On the *Ports* tab, click *Edit*.  
A dialog appears.
- 4 Select the *Security* tab.
- 5 Select *Accept* from the drop-down list for *Promiscuous Mode*.



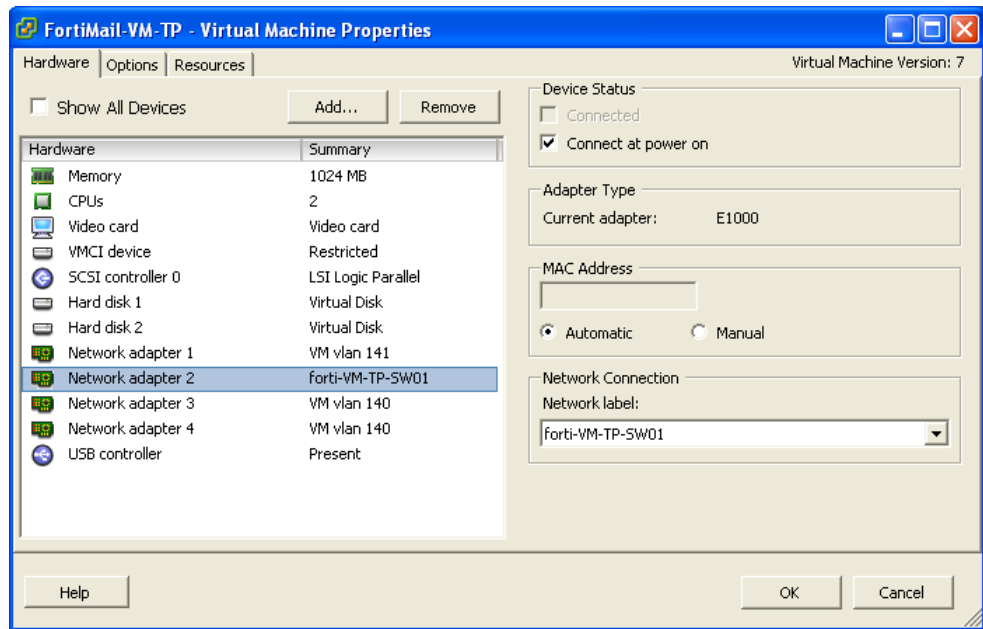
**Note:** The setting on the port group overrides the virtual switch setting.

Next, you need to link a FortiMail-VM network adapter to each new vSwitch.

**To modify a network adapter**

- 1 Select your FortiMail-VM machine in the left navigation pane.
- 2 On the *Getting Started* tab, select *Edit Virtual Machine Settings*.  
A window similar to [Figure 13](#) appears.

**Figure 13: Network adapter**



- 3 On the *Hardware* tab, select a network adapter from the hardware list.

- 4 Select the new vSwitch from the *Network label* drop-down list.
- 5 Click *OK*.

Later, configure the applicable FortiMail-VM port or ports using the web-based manager. See the topic “Editing Network Interfaces” in the [FortiMail Administration Guide](#).

## Configuring the number of CPUs

You may have more than one CPU depending on the type of license you purchased. By default, FortiMail-VM is set to one CPU. You can change the number of CPUs that the virtual machine uses by changing the number of virtual processors. (You cannot change the CPU setting while FortiMail-VM is running.)

### To change the number of CPUs

- 1 Make sure FortiMail-VM is not running.
- 2 Go to the *Hardware* tab as shown in [Figure 13](#).
- 3 Select *CPUs* in the hardware list.
- 4 In the CPUs drop-down list, select the number of virtual processors for the virtual machine.
- 5 Click *OK*.

## Maintaining license limits

If you set the number of CPUs or memory beyond your license limit, your FortiMail-VM license becomes invalid. Use the CLI command

```
get system status
```

to determine if you have exceeded licensed limits. If so, use the vSphere Client to restore valid settings.

## Configuring a smaller disk

FortiMail-VM comes prepackaged with a 1-TB disk. An alternate configuration with a 250-GB disk is provided for installing in a VMware datastore that does not support a 1-TB disk.

If neither of these sizes suits your resources, you can configure FortiMail-VM to support a disk size as small as 50 GB.

### To reduce the disk size

- 1 Stop FortiMail-VM if it is running.
- 2 Log in to the vSphere Client.
- 3 On the *Hardware* tab (see [Figure 13](#)), select either the 250-GB or 1-TB disk (Hard Disk 2) in the hardware list.
- 4 Click *Remove*.
- 5 Click *OK*.
- 6 Click *Add* and select *Hard Disk*.
- 7 Configure the new disk. Pick a size of at least 50 GB.  
The *Virtual Device Node* setting must be SCSI (0:1).
- 8 Complete the disk configuration and click *OK*.
- 9 Start the FortiMail-VM.

If FortiMail-VM was previously run, you need to manually initialize this new disk.

10 Log in as the administrator and run the CLI command:

```
execute partitionlogdisk 10
```

## Starting FortiMail-VM

Once you successfully deploy the OVF file and set up the network (if required), you need to power on your FortiMail-VM virtual appliance and enter initial setup commands.

### To start FortiMail-VM the first time

- 1 Log in to the vSphere Client.
- 2 Select your newly deployed FortiMail-VM virtual machine in the left navigation pane of vSphere Client and power it on.

There are several ways to power on a virtual machine. The easiest is to click the green triangle icon on the icon bar.

- 3 Select the *Console* tab in the vSphere Client window.

When you power on the virtual appliance, the console displays a sequence of messages ending in a login prompt.



**Note:** At this point, you have accessed the FortiMail-VM command line interface (CLI) but you do not have access to all CLI commands until you confirm the license in a later step.

- 4 Press the Enter key once to get a new prompt, and log in using the default FortiMail-VM administrator name, `admin`.

There is no password yet for this administrator, so press Enter when prompted.

You will see a welcome message.

- 5 Use CLI commands to configure the IP address of a virtual interface (usually port1) on the virtual appliance to use for administrative access.

You will later access the FortiMail-VM web-based manager through a browser at this IP. (See Step 7.)

Figure 14: IP address configuration

```
Getting Started Summary Resource Allocation Performance Events Console Permissions
FortiMail login: admin
Password:
Welcome !

FortiMail # config system interface
(interface)# edit port1
(port1)# set ip 182.20.120.168/24
(port1)# end
```

Enter the following CLI commands in the vSphere Client console:

```
config system interface
  edit <port_name>
    set ip <ipv4-mask>
```

end

Where:

- `port_name` is the name of the FortiMail-VM virtual port (usually port1)
- `ipv4-mask` is the IP (with a netmask) of your virtual machine on the the ESX/ESXi server



**Tip:** Take note of the IP you enter. Later, you will use that IP, minus the netmask, to configure and manage FortiMail-VM through the CLI or web-based manager.

- 6 Use CLI commands to configure a static route to act as a default gateway. This is needed for license updates.

Enter the following CLI commands in the vSphere Client console:

```
config system route
  edit <index_int>
    set gateway <gateway_ipv4>
  end
```

Where:

- `<index_int>` is the index number, such as 1, of the route in the list of static routes
  - `<gateway_ipv4>` is the IP address of the gateway router
- 7 When you successfully configure administrative access, the web-based manager login dialog may appear automatically if you have a browser open.

If not, open a browser and enter the IP address of the virtual interface your set in Step 5 and include `/admin` with the URL; for example:

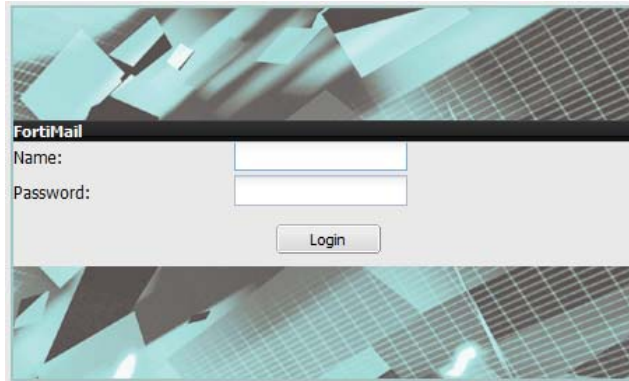
```
https://192.168.1.99/admin
```

**Table 2: FortiMail-VM start-up settings**

<b>Web-based administrator URL</b>	https://<virtual-ipaddress>/admin
<b>Administrator account</b>	admin
<b>Administrator password</b>	none
<b>Management access</b>	HTTPS, SSH, ping
<b>Operation mode</b>	gateway mode
<b>Webmail URL</b>	https://<virtual-ipaddress>

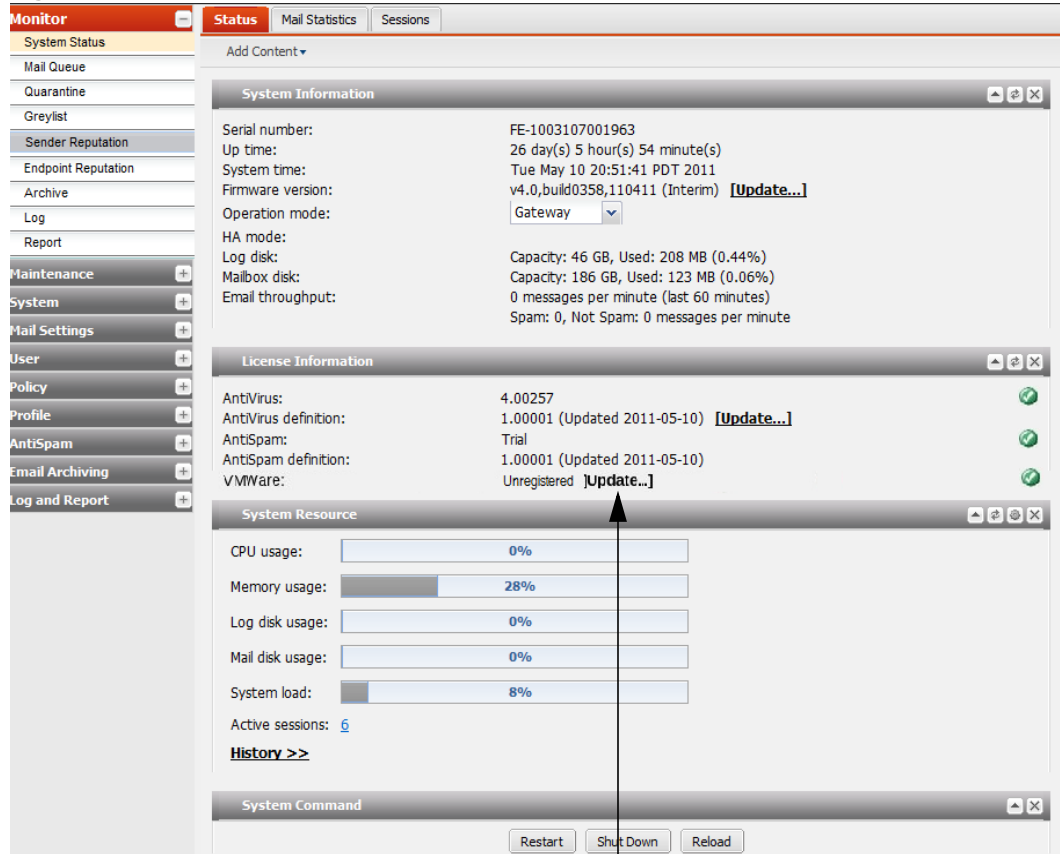
- 8 To log in as an administrator:
  - In *Name*, enter `admin`.
  - Skip the *Password* field (until you assign the `admin` a password later).

**Figure 15: FortiMail-VM login**



- Click *Login*.  
The FortiMail web-based manager opens at the dashboard.

Figure 16: FortiMail-VM dashboard



License Install/Update

## Installing the license

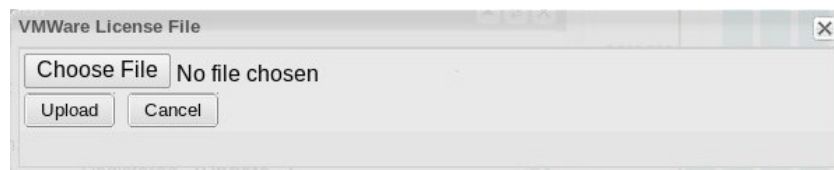
If you have a FortiMail-VM license (for details, see [“Licensing” on page 5](#)), you can install it now after you start up FortiMail-VM.

### To install the license

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

The license prompt appears.

Figure 17: FortiMail-VM license prompt



- 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.  
Congratulations! You have successfully installed FortiMail-VM and can now configure your virtual appliance.

## What next?

At this point, FortiMail-VM is running but is almost entirely unconfigured. Before you can use it to protect mail servers, you must complete a basic installation. Follow the instructions beginning in the “Choosing the operation mode” chapter of the [FortiMail Install Guide](#).

# Index

## A

administrator, 18  
architecture, 6

## C

CLI, 18  
CLI commands, 18, 19  
compressed file, 9  
console, 18  
CPUs, 17

## D

deploy, 10  
deployment wizard, 11  
disk storage, 12

## E

ESX/ESXi, 5  
extract file, 9

## G

gateway, 19

## I

interface  
    virtual, 18, 19  
IP address, 9, 10, 18, 19

## L

license, 5  
    CPUs, 17  
    download, 9  
    file, 21  
    prompt, 21  
    static route, 19  
    trial, 5  
login  
    FortiMail-VM GUI, 20  
    in console, 18  
    vSphere Client, 10

## M

message box, 22

## N

network, 13  
network adapter, 16

## O

OVF file, 10

## P

password, 18  
power on, 18  
promiscuous mode, 15

## R

resource pool, 12  
router, 19

## S

static route, 19  
support, 7

## T

technical support, 7  
template, 11  
training, 7  
trial license, 5

## V

VMware vSphere Hypervisor, 5  
vNIC, 14  
vSphere Client, 9

## W

wizard, 11





**FORTINET®**