



FortiVoice Phone System - Microsoft Hyper-V Deployment Guide

Version 6.4.0

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November 18, 2020

FortiVoice Phone System 6.4.0 Microsoft Hyper-V Deployment Guide

26-640-678481-20201118

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Change Log

| Date | Change Description |
|------------|--------------------|
| 2020-11-18 | Initial release. |

Overview

The FortiVoice 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.

This guide describes how to deploy a FortiVoice virtual machine (VM) in a Microsoft Hyper-V server environment.

This section includes the following topics:

- [Licensing on page 5](#)
- [Requirements on page 5](#)
- [Registering FortiVoice VM on page 6](#)
- [Downloading FortiVoice VM software on page 7](#)

Licensing

The base license of FortiVoice VM allows the connection of 50 phones.

There are no other restrictions to the license other than the number of active phones. For example, there is no restriction on the number of virtual CPUs and disk space.

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](#).

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.

Requirements

Before deploying a FortiVoice VM on a Microsoft Hyper-V server, make sure to address the following requirements:

- Install the Hyper-V software on a physical server with sufficient resources to support the FortiVoice VM and all other VMs deployed on the platform.
- Verify that the internet connection is working. The FortiVoice VM needs an internet connection to contact FortiGuard and validate its license

Registering FortiVoice VM

To obtain the FortiVoice VM license file, you must first register your FortiVoice VM with Fortinet [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 Now*.
The *Registration Wizard* opens.
3. 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.

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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 11](#) for instructions on uploading the license file to your FortiVoice VM using the web-based manager.

To edit the FortiVoice VM IP address:

1. 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.

-
5. 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 11](#) for instructions on uploading the license file to your FortiVoice VM using the web-based manager.

Downloading FortiVoice VM software

FortiVoice deployment packages are included with FortiVoice firmware images on the [Customer Service & Support](#) website.

To download the FortiVoice VM deployment package

1. Go to the [Customer Service & Support](#) website.
2. Log in to your account or create one.
3. Select *Download > Firmware Images*.
4. In *Select Product*, select *FortiVoiceEnterprise*.
5. Click the *Download* tab, open the 6.0.0 folder to navigate to the 6.4.0 folder.
6. Review the list to locate the FVE_VMHV-64-v64-buildnnnn-FORTINET.out.hyperv.zip file.
7. To download the file, go near the end of the row and click *HTTPS*.
8. Extract the contents of the deployment package to a new file folder.

Deployment package contents

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

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

Deploying the FortiVoice VM

Prior to deploying the FortiVoice VM, the VM platform must be installed and configured so that it is ready to create virtual machines. The installation instructions for FortiVoice assume that you are familiar with the management software and terminology of your VM platform and an Internet connection is available for FortiVoice to contact FortiGuard to validate its license.

For information on deploying FortiVoice, see [Deploying Hyper-V on page 8](#). You may also need to refer to the documentation provided with your VM server. The deployment section is presented as an example 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 FortiVoice appliance for the first time, you may need to adjust virtual disk sizes and networking settings. Depending on your network settings, the first time you start FortiVoice, you may 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 FortiVoice web-based manager. For details, see [Connecting to the FortiVoice VM web-based Manager](#).

Deploying Hyper-V

After you have downloaded the install 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.

Procedures in this section are based on the Hyper-V Manager interfaces of your Microsoft server.

This section contains the following topics:

- [Creating the FortiVoice VM on page 8](#)
- [Configuring FortiVoice hardware settings on page 9](#)
- [Turning on the FortiVoice VM on page 10](#)
- [Backing up the FortiVoice VM on page 10](#)
- [Uploading the FortiVoice VM license file on page 11](#)
- [Connecting to the FortiVoice VM web-based manager on page 11](#)
- [Configure the FortiVoice VM on page 12](#)

Creating the FortiVoice VM

To create the FortiVoice VM:

1. Launch the Hyper-V Manager in your Microsoft server.
2. Select the server in the menu on the left pane.
The server details page is displayed.
3. In the *Actions* menu, click *New > Virtual Machine* from the menu.
The *New Virtual Machine Wizard* opens.
4. Click *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, FortiVoice-VM.
The name is displayed in the Hyper-V Manager.
6. Click *Next* to continue.
The *Specify Generation* page appears.
7. Select a generation and click *Next*.
The *Assign Memory* page appears.
8. Specify the amount of memory to allocate to this virtual machine. The default memory for FortiVoice VM is 2 GB (2048 MB).
9. Click *Next* to continue.
The *Configure Networking* page is displayed.
10. 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 supports up to four network adapters. You must configure network adapters in the *Settings* page.
11. Click *Next* to continue.
The *Connect Virtual Hard Disk* page is displayed.

12. Select to use an existing virtual hard disk and browse for the `fortivoice-hv.vhd` file that you downloaded from the [Customer Service & Support](#) website.
13. Click *Next* to continue.
The *Summary* page is displayed.
14. Click *Finish* to create the virtual machine and close the wizard.

Configuring FortiVoice hardware settings

Before turning on your FortiVoice VM, you must configure the virtual CPU, create network adapters, and configure virtual disks to match your FortiVoice VM license.

For FortiVoice VM license information, see [Licensing on page 5](#).

FortiVoice VM virtual processors

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

To configure FortiVoice VM virtual processors:

1. In the Hyper-V Manager, right-click the name of the virtual machine you created and select *Settings* from the menu.
2. In the *Settings* page, go to *Hardware > Processor*.
3. In the *Processor* page, configure the number of virtual processors for the FortiVoice VM virtual machine. Optionally, you can use resource controls to balance resources among virtual machines.
4. Click *Apply* to save the settings.

FortiVoice VM network adapters

Configure FortiVoice VM network adapters in the server settings page. FortiVoice VM supports four network adapters.

To configure FortiVoice VM network adapters:

1. In the Hyper-V Manager, right-click the name of the virtual machine you created and select *Settings* from the menu.
2. In the *Settings* page, go to *Hardware > Add Hardware*.
3. Select *Network Adapter* in the device list and click *Add*.
4. In the *Network Adapter* page, select the virtual switch for the adapter from the drop-down list.
5. Click *Apply*.
6. Repeat steps 1 to 5 to add up to 4 adapters if required.

FortiVoice VM virtual hard disk

Configure the FortiVoice VM virtual hard disk in the server settings page.



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

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

To create a FortiVoice VM virtual hard drive:

1. In the Hyper-V Manager, right-click the name of the virtual machine you created and select *Settings* from the menu.
2. In the *Settings* page, select *IDE Controller 1* from the *Hardware* menu.
3. Select *Virtual Hard Disk*.
4. Click *Browse*.
5. Select the `.vhd` file that matches your license.
6. Click *OK*.

Turning on the FortiVoice VM

You can now proceed to turn on the FortiVoice VM.

Select the name of the FortiVoice in the list of virtual machines. In the toolbar, select *Console* and then select *Start*.

Backing up the FortiVoice VM

In VM environments, it is recommended that you use the Microsoft Hyper-V Manager Snapshot utility to back up 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 back up a virtual machine instance:

1. In the Hyper-V Manager, right-click the name of the virtual machine you created and select *Snapshot* from the menu.
The virtual machine snapshot displays in the *Snapshot* pane.
2. Right-click the snapshot entry.

3. Click *Apply* from the menu.
4. Click *Apply* in the confirmation dialog box.

Connecting to the FortiVoice VM web-based manager

Depending on your network settings, the first time you start the FortiVoice VM, you may have access only through the console window of your Hyper-V server environment. You can access the FortiVoice VM web-based manager for easy configuration and operation of your FortiVoice VM.

Connect to the web-based manager by using the IP address, administrative access protocol, administrator account, and password that you have already configured during the FortiVoice VM deployment.

For details about the recommended web browsers, see the [FortiVoice Phone System Release Notes](#).

To connect to the web-based manager

1. Start a web browser and enter the URL: `https://<IP_address>/admin`
Where <IP_address> is the IP address of the FortiVoice VM that you want to connect to. If the FortiVoice VM configuration is using a non-default HTTPS port, then add :<port_number> after the IP address. For example:
`https://<IP_address>:446/admin`
2. Enter the name and password associated with the account.
3. Click *Log In*.
The web-based manager page of the FortiVoice VM opens.
For information about configuring and operating the FortiVoice VM using the web-based manager, see the [FortiVoice Phone System Administration Guide](#).

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](#)). 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 FortiVoice VM web-based Manager, click the *Update License* link to the right of VM.
2. Brows for the license file (.lic) you downloaded earlier from Fortinet.
3. Click *Open*.
4. Follow the system prompts to update the license.
The system will reload and log out after the update finishes.
5. Log in again if prompted using `admin`, as the user name.



As a part of the license validation process FortiVoice VM compares its IP address with the IP information in the license file. If a new license has been imported, the FortiVoice 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 FortiVoice 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.



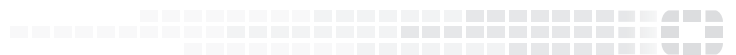
After an invalid license file is loaded to FortiVoice VM, the web-based Manager will be locked until a valid license file is uploaded.

Configure the FortiVoice VM

After validating the FortiVoice VM license, you can start to configure your device. For more information on configuring your FortiVoice VM, see the [FortiVoice Phone System Administration Guide](#).



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