FortiSandbox - Microsoft Hyper-V Installation Guide

Version 3.1

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FEEDBACK

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About FortiSandbox VM on Microsoft Hyper-V

FortiSandbox VM is a 64-bit virtual appliance version of FortiSandbox. It is deployed in a virtual machine environment. After you deploy and set up the virtual appliance, you can manage FortiSandbox VM via its GUI in a web browser on your management computer.

This guide describes how to deploy a FortiSandbox virtual appliance in a Microsoft Hyper-V environment.

This includes how to configure the virtual hardware settings of the virtual appliance. This guide assumes that you have a thorough understanding of virtualization servers.

This document does not cover configuration and operation of the virtual appliance after it has been successfully installed and started. For that information, see the *FortiSandbox Administration Guide* in the Fortinet Document Library.

Licensing

Fortinet offers the FortiSandbox in a stackable license model so that you can expand your VM solution as your needs grow. For information on purchasing a FortiSandbox license, contact your Fortinet Authorized Reseller, or visit https://www.fortinet.com/how_to_buy/.

When configuring your FortiSandbox hardware settings, use the following table as a guide with consideration for future expansion.

Technical Specification	Details
Hypervisor Support	FortiSandbox 3.1.1 or later
Virtual CPUs (min / max)	4 / Unlimited Fortinet recommends four virtual CPUs plus the number of Windows VMs.
Virtual Network Interfaces	6
Virtual Memory (min / max)	8GB / Unlimited Fortinet recommends 8GB plus 3GB for every Windows VM clone.
Virtual Storage (min / max)	200GB / 16TB Fortinet recommends at least 1TB for a production environment.

For more information, see the FortiSandbox product data sheet at https://www.fortinet.com/content/dam/fortinet/assets/data-sheets/FortiSandbox.pdf.

After placing an order for FortiSandbox VM, Fortinet sends a license registration code to the email address in the order. Use that license registration code to register the FortiSandbox VM with Customer Service & Support at https://support.fortinet.com.

After registration, you can download the license file. You need this file to activate your FortiSandbox VM. You can configure basic network settings using CLI commands to complete the deployment. When the license file is uploaded and validated, the CLI and GUI will be fully functional.

Downloading deployment packages

To download the firmware package:

1. Log into the Customer Service & Support site.
2. From the *Download* dropdown list, select *VM Images* to access the available VM deployment packages.
3. From the *Select Product* dropdown list, select *Other*.
4. Click *to download other firmware images, please click here.*
5. In the *Select Product* dropdown list, select FortiSandbox.
6. Click the Download tab and find the deployment package zip file for your product.
7. To download the file, click the HTTPS link beside the zip file for your product.
8. Extract the package file to a new folder on your management computer.

Deployment package contents for Microsoft Hyper-V

The *-FORTINET.out.hyperv.zip contains:

| File	Description
The following files are in the Virtual Hard Disks folder:	
fsa.vhdx	FortiSandbox VM system hard disk in Virtual Machine Disk (VHDX) format.
DATADRIVE.vhdx	FortiSandbox VM log disk in VHDX format.

Deploying and setting up the FortiSandbox VM

Before you deploy a virtual appliance, ensure the system meets minimum requirements and you have extracted the deployment package to a folder on the local computer. See Downloading deployment packages on page 5.

After you deploy a FortiSandbox VM and upload a full license to replace the default evaluation license, you can power on the FortiSandbox VM and test connectivity.
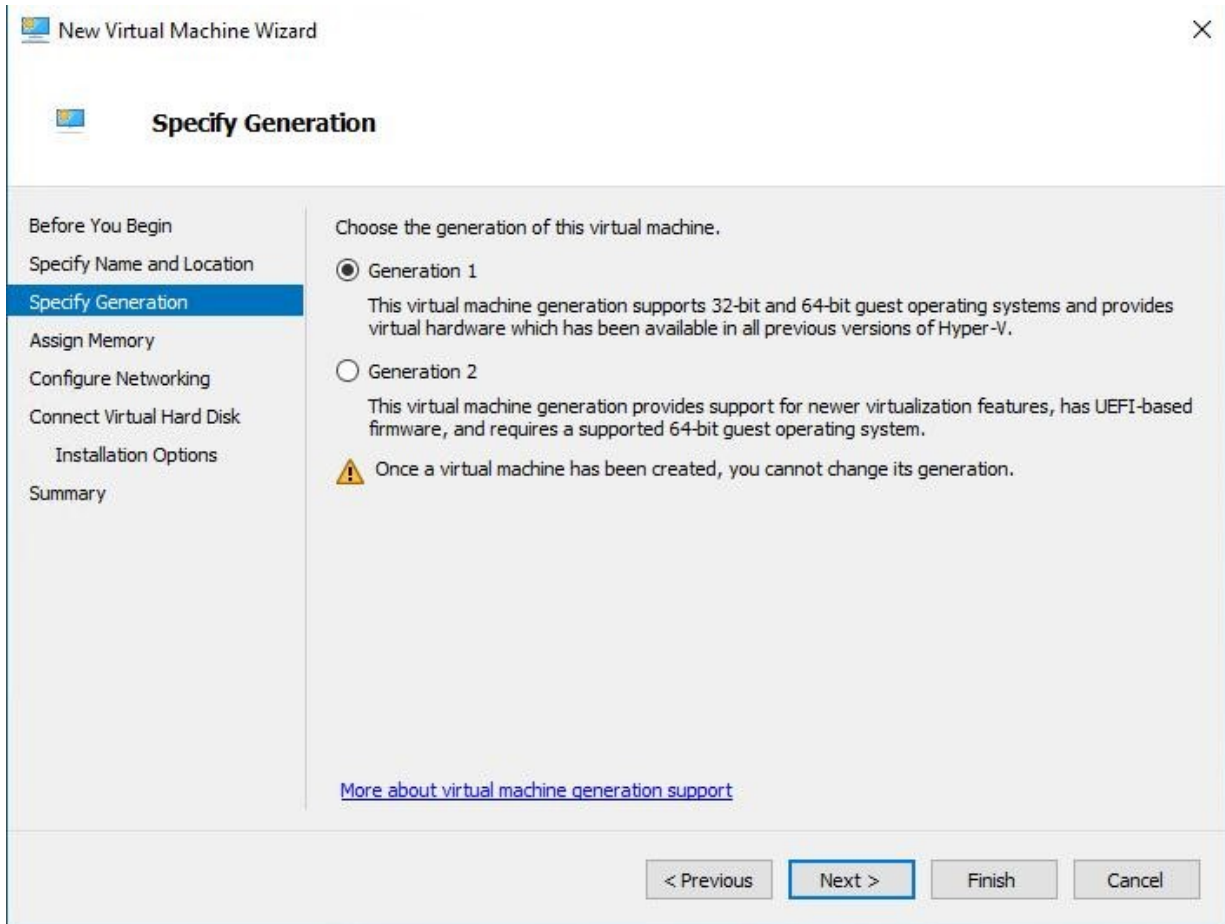
Deploying the FortiSandbox VM

1. Uncompress the *.out.hyperv.zip* file in the share folder of the Hyper-V server.
2. Launch Hyper-V Manager on your Microsoft server from *Start > Windows Administrative Tools > Hyper-V Manager*.
3. Connect to the Hyper-V server by clicking *Connect to Server* from the Actions pane on the right.
4. 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.
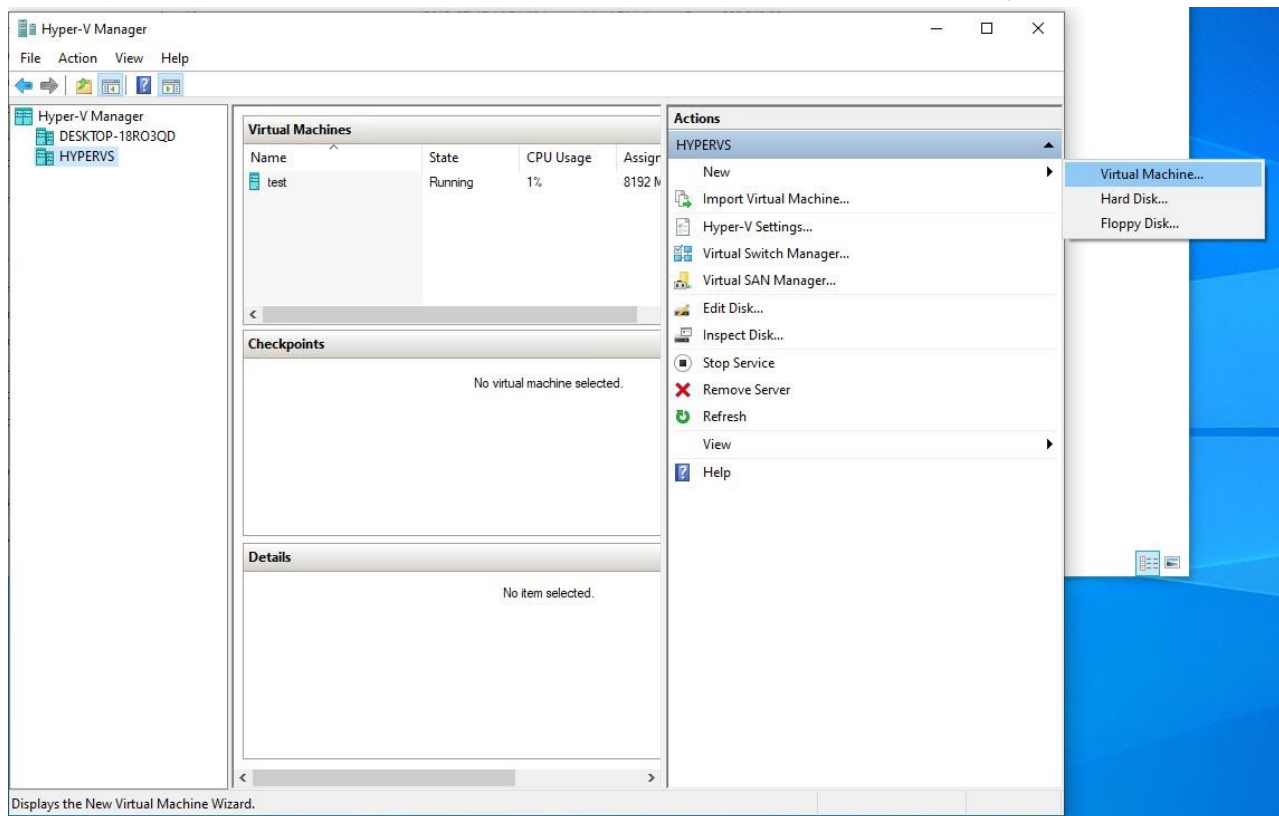
5. Configure VM settings:

    a. Specify any name for your FortiSandbox and *Location* (if different from the default) for the VM and click *Next*.

    b. Specify *Generation 1* (this option is mandatory for FortiSandbox).

New Virtual Machine Wizard ✕

Specify Generation

Before You Begin
Specify Name and Location
Specify Generation
Assign Memory
Configure Networking
Connect Virtual Hard Disk
    Installation Options
Summary

Choose the generation of this virtual machine.

◉ Generation 1

This virtual machine generation supports 32-bit and 64-bit guest operating systems and provides virtual hardware which has been available in all previous versions of Hyper-V.

○ Generation 2

This virtual machine generation provides support for newer virtualization features, has UEFI-based firmware, and requires a supported 64-bit guest operating system.

⚠ Once a virtual machine has been created, you cannot change its generation.

More about virtual machine generation support

< Previous   Next >   Finish   Cancel

    c. In the *Startup memory* field, specify the amount of memory to allocate to this VM. The minimum memory for the FortiSandbox VM is 4 GB. Click *Next*.

    d. Each new VM includes a network adapter. This should be configured to port1 under the *Connection* drop down menu, then click *Next*.

    e. Select the *Attach a virtual hard disk later* option and click *Next*. We will perform this task in a following section.

    f. Review the chosen options, then Select *Finish*.

6. Configure Hardware settings:

    a. Right click your newly-created VM and click *Settings*.

    b. Click BIOS and Set the BIOS to boot from the IDE as primary by moving it to the top. Click *Apply*.

    c. Click Processor and Edit the Processor number to be a minimum of 2. 4 is recommended for best performance.

**d.** Click IDE Controller 0, Add 'Hard Drive'.
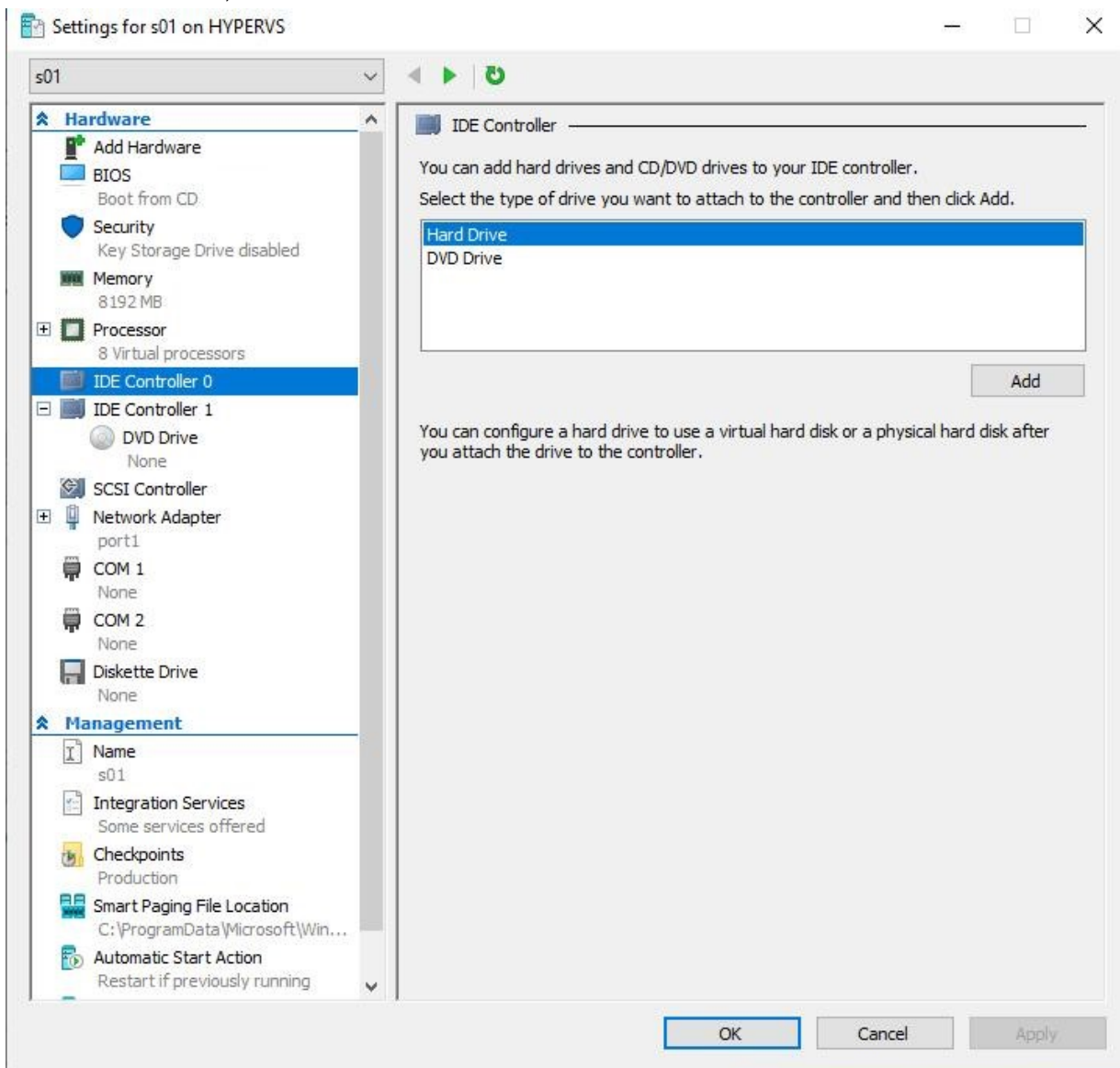
e. Select the Virtual Hard disk radio button, then click *Browse* to attach the first Hard Drive from the download package 'fsa.vhdx', then repeat this for the second hard Drive, 'datadrive.vhdx'. For more information, see Deploy package contents.
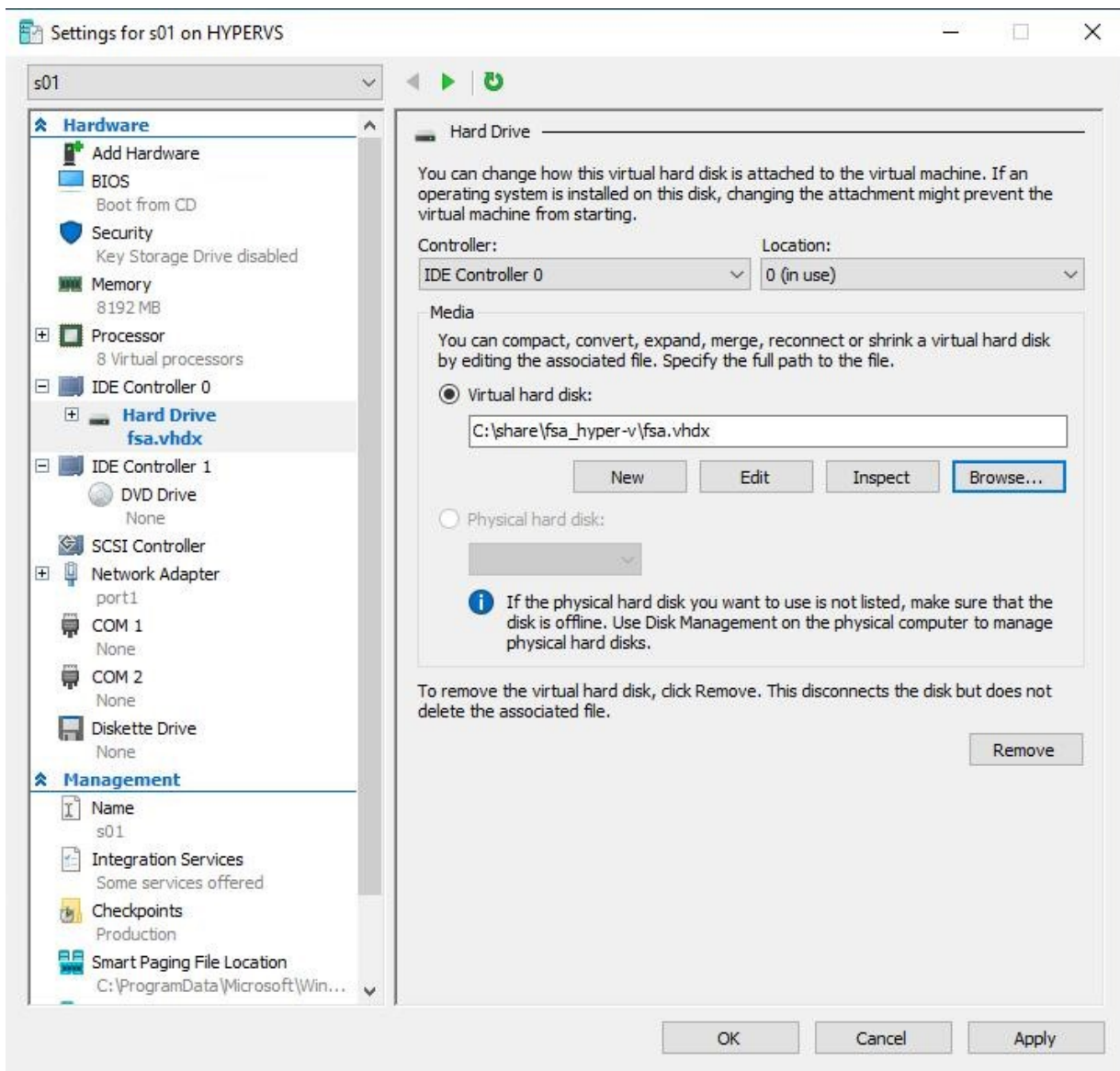
f. FortiSandbox requires at least 4 Network Adapters. Attach the Network Adapters by selecting *Add Hardware > Network Adapter > Add*.
Once you have added all the adapters, Click *Apply* then *OK*.
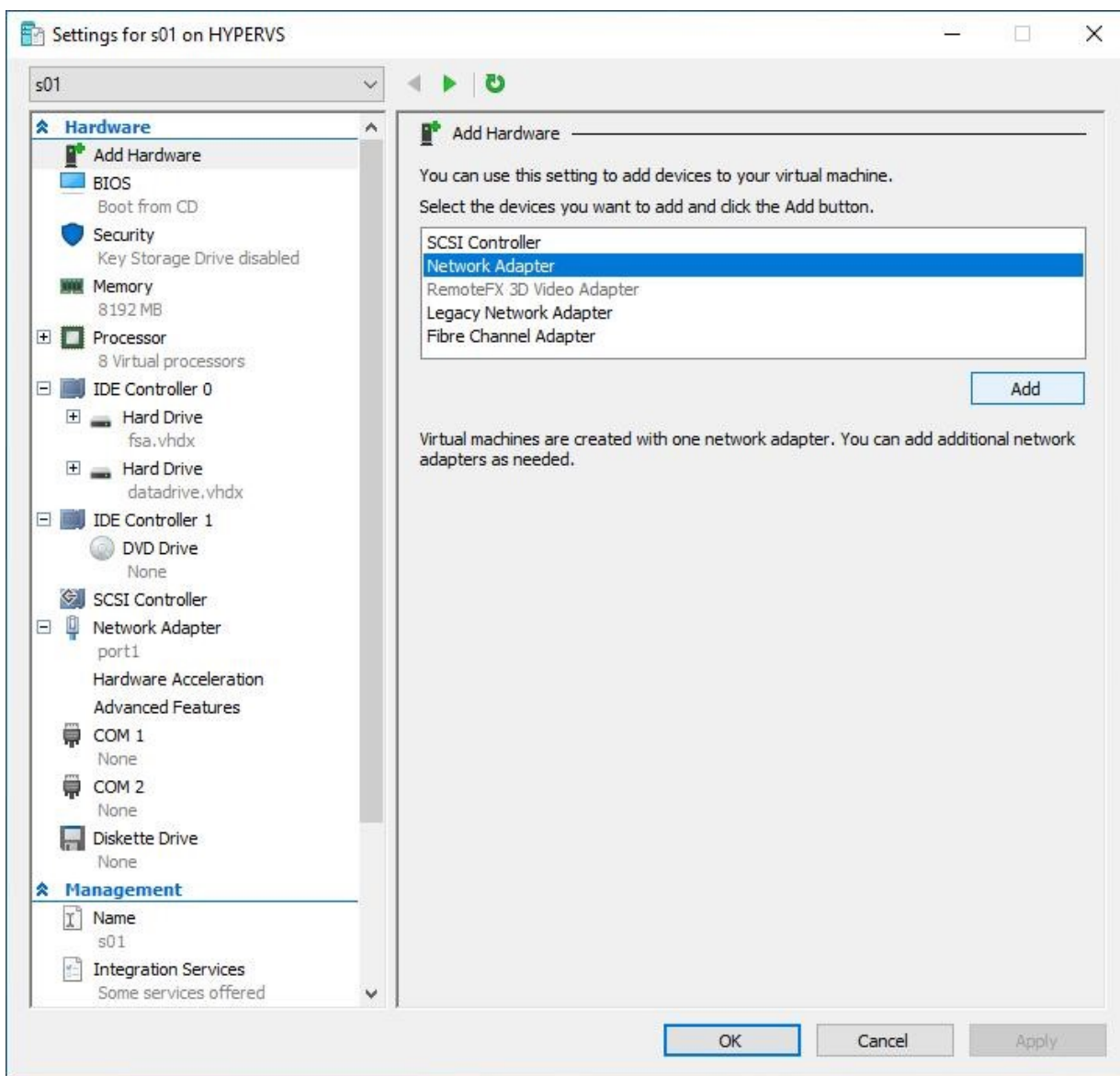
g. Click *Smart Paging File Location* from the *Management* section and use the *Browse...* button to select the management folder on the Hyper-V server.

h. Next, open a Powershell window on the Hyper-V server and execute the following CLI command:
Set-VMProcessor -VMName <VMName> -ExposeVirtualizationExtensions $true

i. Start up the FortiSandbox console from the Virtual Machines window. The default login is *admin* with no password.
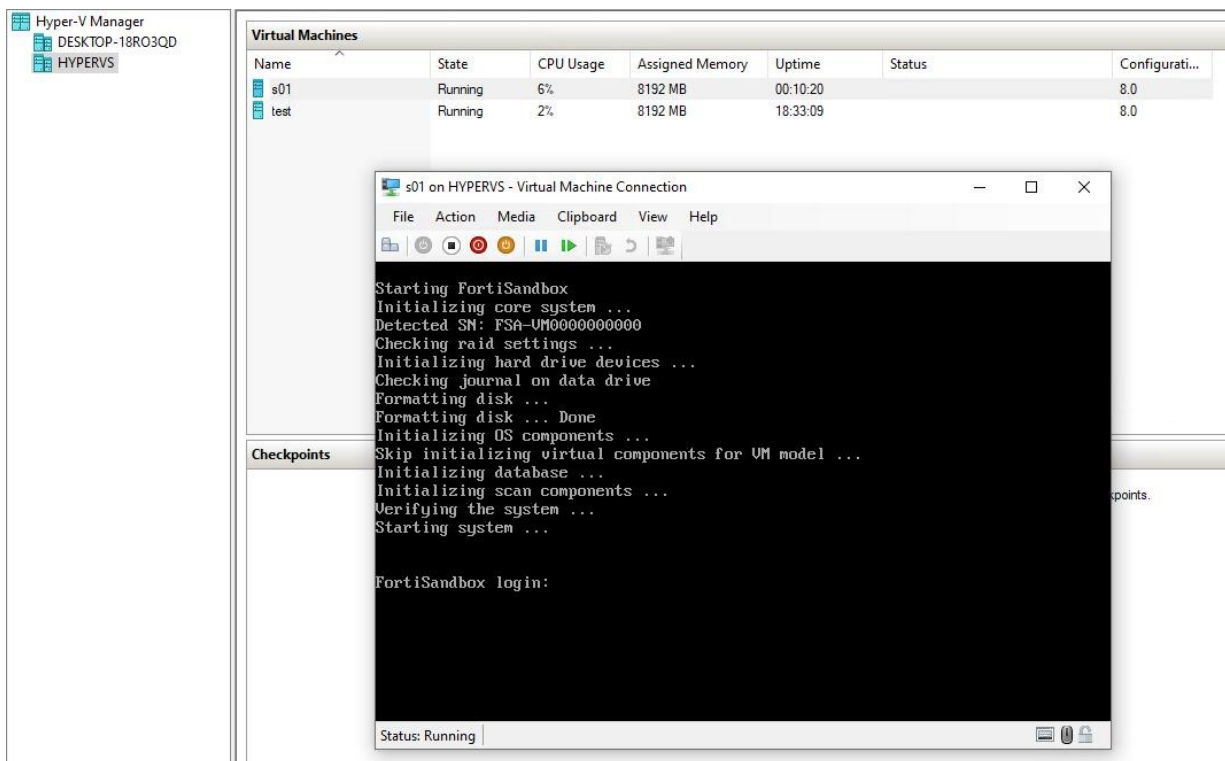
j. Enter the console of the FortiSandbox and configure the port1 IP and Default gateway as per the FortiSandbox Administration Guide.

Configuring initial settings

Before you can connect to the FortiSandbox you must configure basic configuration via the CLI console. Once configured, you can connect to the FortiSandbox GUI and upload the FortiSandbox license file that you downloaded from the Customer Service & Support portal.

The following topics are included in this section:

- Enabling GUI access
- Connecting to the GUI
- Uploading the license file
- Installing the Windows VM package
- Configuring your FortiSandbox

Enabling GUI access

To enable GUI access to the FortiSandbox you must configure the port1 IP address and network mask of the FortiSandbox.

To configure the port1 IP address and netmask:

1. In your hypervisor manager, start the FortiSandbox and access the console window. You might need to press *Enter* to see the login prompt.
2. At the FortiSandbox login prompt, enter the username *admin*, then press *Enter*. By default, there is no password.
3. Using CLI commands, configure the port1 IP address and netmask with the following command:
   ```
   set port1-ip <ip address>/<netmask>
   ```
4. Configure the static route for the default gateway with the following command:
   ```
   set default-gw <default gateway>
   ```

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

Connecting to the GUI

Once you have configured the port1 IP address and network mask, launch a web browser and enter the IP address you configured for the port management interface. By default the GUI is accessible via HTTPS. At the login page, enter the user name `admin` and no password, then select *Login*.

Uploading the license file

Before using the FortiSandbox you must enter the license file that you downloaded from the Customer Service & Support portal upon registration.

To upload the license file:

1. Log in to the FortiSandbox GUI using username *admin* with no password.
2. After you log in, you must change the admin password and then log in again using the new password.
3. Go to the *System Information* widget on the dashboard.
4. In the *VM License* field, select `Upload License`. The *VM License Upload* page opens.
5. Select *Browse*, locate the VM license file (`.lic`) on your computer, then select *OK* to upload the license file.
   A reboot message will be shown, then the FortiSandbox system will reboot and load the license file.
6. Refresh your browser and log back into FortiSandbox (username *admin*, new password).
   The VM registration status appears as valid in the *System Information* widget once the license has been validated.

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

> If the IP address in the license file and the IP address configured in the FortiSandbox do not match, you will receive an error message 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.

Installing the Windows VM package

To complete the installation, download and install the Microsoft Windows VM package, and then activate it. You can download and install Windows VM packages automatically or manually.

Automatically download and install the package

FortiSandbox can automatically check for and download new Microsoft Windows VM packages. Login to the unit, go to *Virtual Machine > VM Images* to download and install a *Windows VM* image. The system must be able to access https://fsavm.fortinet.net. For more information, see the *FortiSandbox Administration Guide* in the *Virtual Machine > VM Images* section.

Manually download and install the package

Downloading the Windows VM package with a web browser is not recommended due to the size of the file. An FTP client that supports resume download is recommended.

Download packages from the following links.

Model	Link
3000D/3500D/VM	ftp://fsavm.fortinet.net/images/v3.00/general_base.pkg
1000D	ftp://fsavm.fortinet.net/images/v3.00/1000D_base.pkg

Model	Link
2000E	ftp://fsavm.fortinet.net/images/v3.00/2000E_base.pkg
3000E	ftp://fsavm.fortinet.net/images/v3.00/general_base.pkg
500F/1000F	ftp://fsavm.fortinet.net/images/v3.00/500F_base.pkg
VM00	ftp://fsavm.fortinet.net/images/v3.00/VM00_base.pkg
VMI	ftp://fsavm.fortinet.net/images/v3.00/VMI_base.pkg

MD5 file

1. Download the MD5 value of images from ftp://fsavm.fortinet.net/images/v3.00/md5.txt.
2. Put the package on a host that supports file copy with the SCP or FTP protocol.
   FortiSandbox must be able to access the SCP or FTP server.
3. In a console window, use the following command to download and install the package:
   ```
   fw-upgrade -v -t<ftp|scp> -s<SCP/FTP server IP address> -u<user name> -f<file path>
   ```

Windows Sandbox VMs must be activated on the Microsoft activation server. This is done automatically when a system reboots. For activation to work, ensure port3 can access the Internet and the DNS server can resolve the Microsoft activation servers.

Install Windows license key file for newly installed Windows VM

You might need Windows license keys to activate newly installed Windows VMs. If necessary, purchase and install the license key file from Fortinet. For example, the base license for FSA-VM00 model does not contain any Windows license key. Windows license keys are stackable, which means newly ordered Windows keys are appended to existing ones and the new license file contains all ordered keys.

For a VM unit, the number of simultaneously scanned Microsoft Office files is limited by the number of installed Microsoft Office license keys. You can purchase extra Microsoft Office license keys to improve Office file scan capacity.

For FSA-VM00 models, you can just purchase Windows license keys for enabled Windows VM only. For example, if you only enable the WIN7X86VMO16 VM, you only need the Windows 7 license keys and Microsoft Office keys.

1. Download the license key file from the Fortinet Customer Service & Support portal.
2. Log into the FortiSandbox VM GUI and go to *Dashboard > System Information* widget.
3. In the *VM License* field, click *Upload License*.
4. Select the license file on the management computer and click *Submit*.
   The FortiSandbox VM reboots.
   On reboot, the Windows VM or Microsoft Office is automatically activated on the Microsoft activation server.
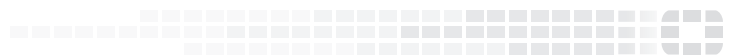
Configuring your FortiSandbox

Once the FortiSandbox license has been validated, you can configure your device. For more information on configuring your FortiSandbox, see the *FortiSandbox Administration Guide* available in the Fortinet Document Library.

Change log

Date	Change Description
2019-03-28	Initial release.
2019-12-19	Updated Uploading the license file on page 12.
2020-09-29	Updated Installing the Windows VM package on page 13.

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