

# **BIG-IQ™ Systems and VMware ESXi®: Setup**

Version 4.2





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# Chapter 1

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## Getting Started with BIG-IQ Virtual Edition

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- *What is BIG-IQ Virtual Edition?*
-

## What is BIG-IQ Virtual Edition?

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BIG-IQ™ Virtual Edition (VE) is a version of the BIG-IQ system that runs as a virtual machine in specifically-supported hypervisors. BIG-IQ VE emulates a hardware-based BIG-IQ system running a VE-compatible version of BIG-IQ™ software.

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***Note:** The BIG-IQ VE product license determines the maximum allowed throughput rate. To view this rate limit, you can display the BIG-IQ VE licensing page within the BIG-IQ Configuration utility. Lab editions have no guarantee of throughput rate and are not supported for production environments.*

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## About BIG-IQ VE compatibility with VMware hypervisor products

BIG-IQ™ Virtual Edition (VE) is compatible with VMware ESX® 4.0 and 4.1, and VMware ESXi® 4.0, 4.1 update 1, and 5.0 hosts.

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***Important:** Hypervisors other than those identified in this guide are not supported with this BIG-IQ version; any installation attempts on unsupported platforms might not be successful.*

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## About the hypervisor guest definition requirements

The VMware virtual machine guest environment for the BIG-IQ™ Virtual Edition (VE), at minimum, must include:

- 2 x virtual CPUs
- 4 GB RAM
- 1 x VMXNET3 virtual network adapter or Flexible virtual network adapter (for management)
- 1 x virtual VMXNET3 virtual network adapter (three are configured in the default deployment for dataplane network access)
- 1 x 100 GB SCSI disk, by default
- 1 x 50 GB SCSI optional secondary disk, which might be required as a datastore for specific BIG-IP modules. For information about datastore requirements, refer to the BIG-IP module's documentation.

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***Important:** Not supplying at least the minimum virtual configuration limits will produce unexpected results.*

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For production licenses, F5® Networks suggests using the maximum configuration limits for the BIG-IQ VE system. Reservations can be less for lab editions. For each virtual machine, the VMware virtual machine guest environment permits a maximum of 10 virtual network adapters (either 10 VMXNET3 with 1 management + 9 dataplane or 1 Flexible management + 9 VMXNET3 dataplane).

There are also some maximum configuration limits to consider for deploying a BIG-IQ VE virtual machine, such as:

- CPU reservation can be up to 100 percent of the defined virtual machine hardware. For example, if the hypervisor has a 3 GHz core speed, the reservation of a virtual machine with 2 CPUs can be only 6 GHz or less.
- To achieve licensing performance limits, all allocated RAM must be reserved.
- For production environments, virtual disks should be deployed Thick (allocated up front). Thin deployments are acceptable for lab environments.

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***Important:*** *There is no longer any limitation on the maximum amount of RAM supported on the hypervisor guest.*

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# Chapter 2

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## Deploying BIG-IQ Virtual Edition

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- *About VE VMware deployment*
-

## About VE VMware deployment

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To deploy the BIG-IQ™ Virtual Edition (VE) system on VMware, you perform these tasks:

- Verify the host machine requirements.
- Deploy a BIG-IQ™ system as a virtual machine.
- Deploy a BIG-IP® system.
- After you have deployed the virtual machines, log in to the BIG-IQ VE system and run the Setup utility. Using the Setup utility, you perform basic network configuration tasks, such as assigning VLANs to interfaces.
- Configure secure communication between the BIG-IQ system and the BIG-IP device.

## Host machine requirements and recommendations

To successfully deploy and run the BIG-IQ™ VE system, the host system must satisfy minimum requirements.

The host system must include:

- VMware ESX 4.0 or 4.1, or ESXi 4.0 or 4.1 update 1, or ESXi 5.0 or 5.1
- VMware vSphere™ client
- Connection to a common NTP source (this is especially important for each host in a redundant system configuration)

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**Important:** *The hypervisor CPU must meet the following requirements:*

- Use a 64-bit architecture.
  - Have support for virtualization (AMD-V or Intel VT-x) enabled.
  - Support a one-to-one thread-to-defined virtual CPU ratio, or (on single-threading architectures) support at least one core per defined virtual CPU.
  - Intel processors must be from the Core (or newer) workstation or server family of CPUs.
- 

## Deploying a BIG-IQ VE virtual machine

The first step in deploying BIG-IQ™ Virtual Edition (VE) is to download the OVA file to your local system. Next, you can run the Deploy OVF Template wizard from within the VMware vSphere™ client. Follow the steps in this procedure to create an instance of the BIG-IQ system that runs as a virtual machine on the host system.

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**Important:** *Do not modify the configuration of the VMware guest environment with settings less powerful than the ones recommended in this document. This includes the settings for the CPU, RAM, and network adapters. Doing so might produce unexpected results.*

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1. In a browser, open the F5 Downloads page (<https://downloads.f5.com>).
2. Download the F5 VE file package ending with `scsi.ova`.
3. Start your vSphere Client and log in.
4. From the vSphere Client File menu, choose Deploy OVF Template.  
The Deploy OVF Template wizard starts.



5. In the Source pane, click **Deploy from file or URL**, and, using the **Browse** button, locate the OVF file, open it, and then click **Next**.  
For example: `\MyDocuments\Work\Virtualization\<BIG-IQ_OVF_filename>`  
The OVF Template Details pane opens.
6. Verify that the OVF template details are correct, and click **Next**.  
This displays the End-User License Agreement (EULA).
7. Read and accept the license agreement, and click **Next**.  
The Name and Location pane opens.
8. In the **Name** field, type a name for the F5 VE virtual machine, such as: `smith_f5_ve`.
9. In the Inventory Location area, select a folder name and click **Next**.
10. From the **Configuration** list, select the number of CPUs and disks required for your system, and then click **Next**.
11. If the host system is controlled by VMware vCenter™, the Host Cluster screen opens. Choose the preferred host and click **Next**. Otherwise, proceed to the next step.
12. In the **Datastore** field, type the name of data source your system will use, in the **Available space** field, type in the amount of space your system needs (in Gigabytes), and then click **Next**.  
The Network Mapping dialog box opens.
13. Map the Source Networks for Management, External, Internal, and HA to the Destination Networks in your inventory.
  - a) Map the source network **Management** to the name of the appropriate external network in your inventory.  
An example of a destination external network is **Management**.
  - b) Map the source network **Internal** to the name of a destination non-management network in your inventory.  
An example of a destination internal network is **Private Access**.
  - c) Map the source network **External** to the name of the appropriate external network in your inventory.  
An example of a destination external network is **Public Access**.
  - d) Map the source network **HA** to the name of a high-availability network in your inventory.  
An example of a destination internal network is **HA**.
  - e) When you have all four destination networks correctly mapped, click **Next**.  
The Ready to Complete screen opens.
14. Verify that all deployment settings are correct, and click **Finish**.

## Powering on the virtual machine

You must power on the virtual machine before you can begin assigning IP addresses.

1. In the main vSphere™ client window, click the Administration menu.
2. Select the virtual machine that you want to power on.
3. Click the Summary tab, and in the Commands area, click **Power On**.  
The status icon changes to indicate that the virtual machine is on. Note that the system will not process traffic until you configure the virtual machine from its command line or through its web interface.

## Assigning a management IP address to a virtual machine

The virtual machine needs an IP address assigned to its virtual management port.

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**Tip:** The default configuration for new deployments and installations is for DHCP to acquire the management port IP address.

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1. Click the Console tab.  
You might need to click the console area and press Enter to activate the console.
2. At the login prompt, type `root`.
3. At the password prompt, type `default`.
4. Type `config` and press Enter.  
The F5 Management Port Setup screen opens.
5. Click **OK**.
6. If you want DHCP to automatically assign an address for the management port, select **Yes**. Otherwise, select **No** and follow the instructions for manually assigning an IP address and netmask for the management port.

When assigned, the management IP address appears in the Summary tab of the vSphere™ client. Alternatively, you can use a hypervisor generic statement to determine your management address; such as: `tmsl list sys management-ip`.

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**Tip:** F5 Networks® highly recommends that you specify a default route for the virtual management port, but it is not required for operation of the virtual machine.

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