BIG-IQ® Centralized Management and VMware vCloud™ Director: Setup

Version 4.6

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Getting Started with BIG-IQ Virtual Edition

What is BIG-IQ Virtual Edition?

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.

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.*

About BIG-IQ VE compatibility with vCloud Director hypervisor products

Each time there is a new release of BIG-IQ® Virtual Edition (VE) software, it includes support for additional hypervisor management products. The Virtual Edition and Supported Hypervisors Matrix on the AskF5™ website, `http://support.f5.com`, details which hypervisors are supported for each release.

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.*

About the hypervisor guest definition requirements

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

- 2 x virtual CPUs
- 4 GB RAM
- 3 x VMXNET3 virtual network adapters
- 1 x 55 GB disk

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

Important: *Although you can successfully deploy BIG-IQ software with as few as 2 CPUs and 4 GB RAM, this configuration should only be used for evaluation purposes. For production use, F5 Networks reccomends either 4 CPUs and 16 GB RAM, or (for higher performance) 8 CPUs and 32 GB RAM.*

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 optimum performance limits, all allocated RAM must be reserved and virtual disks should be deployed Thick (allocated up front).

Deploying BIG-IQ Virtual Edition

About VE vCloud Director deployment

To deploy the BIG-IQ® Virtual Edition (VE) system on vCloud Director, 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 these elements:

- VMware vCloud Director. The *Virtual Edition and Supported Hypervisors Matrix*, published on the AskF5™ web site, `http://support.f5.com` identifies the versions that are supported.
- VMware ESX or ESXi. The *Virtual Edition and Supported Hypervisors Matrix*, published on the AskF5™ web site, `http://support.f5.com` identifies the versions that are supported.
- VMware vSphere™ client
- Connection to a common NTP source (this is especially important for each host in a redundant system configuration)

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 the BIG-IQ VE virtual machine

The first step in deploying BIG-IQ® Virtual Edition (VE) is to download the compressed OVF file to your local system. Next, you can run the Deploy OVF Template wizard from within the vCloud Director 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.

Important: *Do not modify the configuration of the vCloud Director 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.*

Note: *The following procedures are a suggested guideline. F5 Networks® recommends that you consult vCloud Director documentation for template creation as the steps might differ with your organization's vCloud Director deployment.*

1. In a browser, open the F5 Downloads page (`https://downloads.f5.com`).
2. Download the BIG-IQ BIG-IQ v4.x/Virtual Edition file package.

   There are two options to choose from.

Option	Description
Large: the file name ends in `.LARGE - vCloud.zip`	The large option creates a 500GB disk footprint at installation. This choice supports larger log files required for data analytics.
Normal: the file name ends in `.vCloud.zip`	The standard option creates a 55GB disk footprint at installation. This choice should be the normal working BIG-IQ installation unless data analytics functionality is required.

3. Extract the file from the Zip archive.
4. Start the vCloud Director vSphere™ web-based client and log in.
5. Click **Catalogs** > **My Organization's Catalogs** and on the **vApp Templates** tab, click **Upload**.
6. Browse for and select the extracted `.ovf` file, type a name for the template, and click **Upload**.
7. Type a name and optional description for the vApp template.
8. Select a virtual data center and catalog.
9. Click **Upload**.

   If you want to track the progress, you can click **Launch Uploads and Downloads Progress Window**.
10. Click **My Cloud** > **vApps**.
11. Click **Add vApp from Catalog**.
    The add vApp from Catalog window opens.
12. Select **My organization's catalogs** or **Public catalogs** from the list, select a vApp template, and click **Next**.

    You can also enter an optional description for the vApp.
13. Read and accept the license agreement, and click **Next**.
    The Name and Location pane opens.
14. Under **Configure Virtual Machines**, specify the full name and computer name for the vApp, and configure the network settings.
    a) Select the network for NIC0 from the list of networks.

       This network is used to manage the VE system. The **Select IP Assignment – Static** settings have no effect, so you should configure IP address for management interface through the console after the VM starts. When using DHCP, you should have a DHCP server on that network.

    b) Select the networks for NIC1, NIC2, and NIC3.
    c) Click **Next**.
15. Configure organizational settings, such as **Fence vApp** and **IP persistence** for example, and click **Next**.
16. Verify the settings and click **Finish** to start deployment.

Powering on the virtual machine

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

1. In the vCloud Director web interface, click **My Cloud** > **vApps**.
2. Select the vApp to power on.
3. Click **Start**.
   The virtual machine starts.

Assigning a management IP address to a virtual machine

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

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

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.

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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