F5® BIG-IQ® Centralized Management and VMware vCloud Director: Setup

Version 5.2

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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.

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:

* 4 x virtual CPUs
* 16 GB RAM

   Important: When you provision the amount of RAM allocated to the virtual machine, it must match the amount of reserve RAM.

* 1 x VMXNET3 virtual network adapter
* 1 x 95 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 recommends 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 *BIG-IQ 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

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. On the Downloads Overview page, select **Find a Download**.
3. Under Product Line, select **Centralized Management**.
4. Under Name, select the release you want to install.
5. If the End User Software License is displayed, read it and then click **I Accept**.
6. Determine which BIG-IQ v5.x/Virtual Edition file package to download.

    - If you are installing a BIG-IQ, download the file name that ends in `-vCloud.zip`

- If you are installing a Data Collection Device, download the file name that ends in `LARGE-vCloud.zip`

    The BIG-IQ file package creates a 95GB disk footprint at installation.

    The Data Collection Device file package creates a 500GB disk footprint at installation.

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

    If you want to track the progress, you can click **Launch Uploads and Downloads Progress Window**.
14. Click **My Cloud** > **vApps**.
15. Click **Add vApp from Catalog**.
    The add vApp from Catalog window opens.
16. 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.
17. Read and accept the license agreement, and click **Next**.
    The Name and Location pane opens.
18. 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**.
19. Configure organizational settings, such as **Fence vApp** and **IP persistence** for example, and click **Next**.
20. Verify the settings and click **Finish** to start deployment.

Once deployment is complete, with the power off on the virtual machine, open the VM properties to make and save any necessary adjustments to resource settings such as CPU and R

Note: The recommended minimum settings in production scenarios are 4 CPU and 16 GB RAM, or 8 CPU and 32 GB RAM for better performance. A lower setting of 2 CPU and 4 GB RAM can be used for evaluation purposes, but as of version 5.2.0, this is deprecated and no longer supported.

Power on the BIG-IQ VE virtual machine

You power on the virtual machine so that 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.

There are two default accounts used for initial configuration and setup:

- The root account provides access locally, or using SSH, or using the F5 Configuration utility. The root account password is `default`.
- The admin account provides access through the web interface. The admin account password is `admin`.

You should change passwords for both accounts before bringing a system into production.

Accessing the BIG-IQ VE management user interface

If your network has DHCP, an IP address is automatically assigned to BIG-IQ®VE during deployment. You can use this address to access the BIG-IQVE user interface or `tmsh` command-line utility.

If no IP address was assigned, you can assign one by using the BIG-IQConfiguration utility.

Important: Do not use VMware tools to configure the IP address; the BIG-IQ system will not use these changes.

1. In the vSphere client, click **Launch Virtual Machine Console**.
   The console screen opens. After a few seconds, a login prompt appears.
2. At the password prompt, type `default`.
3. Type `config` and press Enter.
   The F5 Management Port Setup screen opens.
4. Click **OK**.
5. 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.

You can use a hypervisor generic statement, such as `tmsh list sys management-ip` to confirm that the management IP address has been properly assigned.

You can now log into the BIG-IQ VE user interface, and license and provision BIG-IQ VE.

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Publication Date

This document was published on April 14, 2017.

Publication Number

MAN-0517-07

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