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## Software Upgrade

Use the Software Upgrade screen to download new software images and to upgrade the software image running on a Viptela device.

From a centralized vManage NMS, you can upgrade the software on Viptela devices in the overlay network and reboot them with the new software. You can do this for a single device or for multiple devices simultaneously.

When you upgrade a group of vBond orchestrators, vSmart controllers, and vEdge routers, the software upgrade and reboot is performed first on the vBond orchestrator, next on the vSmart controllers, and finally on the vEdge routers. For vEdge routers, up to five routers can be upgraded and rebooted in parallel at the same time.

You cannot include the vManage NMS in a group software upgrade operation. You must upgrade and reboot the vManage server by itself.

It is recommended that you perform all software upgrades from the vManage NMS rather than from the CLI.

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## Screen Elements

- Title bar—Includes tabs for vEdge routers, Controller devices, and vManage NMS. On the right is the Repository toggle button.
- Upgrade button bar—Installs a new software version on the device. Includes:
  - Activate button—Reboots the device and activates the new software version.
  - Delete Available Software—Delete a software version from a device.
  - Set Default Version—Set a software version to be the default.
- Device Groups drop-down.
- Filter criteria—Sort options drop-down and Search box, for a Contains or Match string.
- Device table—Set a software image to be the default image on the device.



Annotations in the screenshot:

- Upgrade
- Activate
- Delete Available software
- vEdge
- Controller
- vManage
- Set Default Version
- Running Tasks
- Device Groups

	Hostname	System IP	Site ID	Device Type	Device Model	Reachability	Current Version	Available Versions	Default Version	Up Since
<input type="checkbox"/>	pm8002	172.16.248.102	80000002	vedge	vedge-1000	reachable	16.2.0	16.2.999-104	16.2.999-104	05 Jul 2016 10:...
<input type="checkbox"/>	pm8001	172.16.248.101	80000001	vedge	vedge-100	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	pm8003	172.16.248.103	80000003	vedge	vedge-1000	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	pm8004	172.16.248.104	80000004	vedge	vedge-1000	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	pm8005	172.16.248.105	80000005	vedge	vedge-2000	reachable	16.1.1	16.2.0	16.1.1	05 Jul 2016 9:3...
<input type="checkbox"/>	pm8006	172.16.248.106	80000006	vedge	vedge-1000	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	pm8007	172.16.248.107	80000005	vedge	vedge-100-B	reachable	16.1.1		16.1.1	05 Jul 2016 10:...
<input type="checkbox"/>	pm9002	172.16.248.192	90000002	vedge	vedge-1000	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	pm9003	172.16.248.193	90000003	vedge	vedge-1000	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	vm6001	172.16.251.1	60000001	vedge	vedge-cloud	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	vm6002	172.16.251.2	60000002	vedge	vedge-cloud	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	vm6003	172.16.251.3	60000003	vedge	vedge-cloud	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	vm6004	172.16.251.4	60000004	vedge	vedge-cloud	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	vm6005	172.16.251.5	60000005	vedge	vedge-cloud	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...
<input type="checkbox"/>	vm6006	172.16.251.6	60000006	vedge	vedge-cloud	reachable	16.1.1	16.2.0	16.1.1	06 Jul 2016 10:...

## Add Software Images to the Repository

Before you can upgrade the software on a vEdge router, vSmart controller, or vManage NMS to a new software version, you need to add the software image to the vManage software repository. The repository allows you to store software images on the local vManage server and on a remote file server.

The vManage software repository allows you to store images in three ways:

- On the local vManage server, to be downloaded over a control plane connection—Here, the software images are stored on the local vManage server, and they are downloaded to the Viptela devices over a control plane connection. The receiving device generally throttles the amount of data traffic it can receive over a control plane connection, so for large files, the vManage server might not be able to monitor the software installation on the device even though it is proceeding correctly.
- On the local vManage server, to be downloaded over an out-of-band connection—Here, the software images are stored on the local vManage server, and they are downloaded to the Viptela devices over an out-of-band management connection. For this method to work, you specify the IP address of the out-of-band management interface when you copy the images to the software repository. This method is recommended when the software image files are large, because it bypasses any throttling that the device might perform and so the vManage server is able to monitor the



software installation. This method is available in Release 16.2.11 and later releases of 16.2.

- On a remote server—Here, the software images remain on a remote file server that is reachable through an FTP or HTTP URL. As part of the software upgrade process, the vManage server sends this URL to the Viptela device, which then establishes a connection to the file server over which to download the software images.

To add software images to the vManage software repository:

1. Click the Repository button located in the title bar. The Software Repository screen opens.
2. Click Add New Software.
3. Select the location to store the software image:
  1. To store the software image on the local vManage server and have it be downloaded to Viptela devices over a control plane connection, select vManage. The Upload Software to vManage dialog box opens.
    1. Drag and drop the software image file to the dialog box, or click Browse to select the software image from a directory on the local vManage server.
    2. Click Upload to add the image to the software repository. The Software Repository tables displays the added software image, and it is available for installing on the devices.
  2. To store the software image on a remote server, select Remote Server. The Location of Software on Remote Server dialog box opens.
    1. In the Version box, enter the version number of the software image.
    2. In the URL box, enter the FTP or HTTP URL of the software image.
    3. Click Add to add the image to the software repository. The Software Repository tables displays the added software image, and it is available for installing on the devices.
  3. To store the image on a remote vManage server and have it be downloaded to Viptela devices over an out-of-band management connection, select Remote Server - vManage. The Upload Software to Remote Server - vManage dialog box opens. (This location is available in Release 16.2.11 and later releases of 16.2.)
    1. In the vManage Hostname box, enter the IP address of an interface on the vManage server that is in a management VPN (typically, VPN 512).
    2. Drag and drop the software image file to the dialog box, or click Browse to select the software image from a directory on the local vManage server.
    3. Click Upload to add the image to the software repository. The Software Repository tables displays the added software image, and it is available for installing on the devices.
4. To return to the Software Upgrade view, click the Device List toggle button.



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## Upgrade a Software Image

To upgrade the software image on a device:

1. In the title bar, click the vEdge, Controller, or vManage tab.
2. Select one or more devices on which to upgrade the software image.
3. Click the Upgrade button. The Software Upgrade dialog box opens.
4. Select the software version to install on the device. If the software is located on a Remote Server, select the VPN in which the software image is located.
5. To automatically activate the new software version and reboot the device, select the Activate and Reboot checkbox.
6. Click Upgrade. A progress bar indicates the status of the software upgrade.

If the control connection to the vManage NMS does not come up within the configured time limit, vManage NMS automatically reverts the device to the previously running software image. The configured time limit for all Viptela devices to come up after a software upgrade is 5 minutes, except for vEdge 100 routers, which have a default time of 12 minutes.

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## Activate a New Software Image

If you did not select the Activate and Reboot checkbox when upgrading the software image, the device continues to use the existing configuration. To activate the new software image:

1. In the title bar, click the vEdge, Controller, or vManage tab.
2. Select one or more devices on which to activate the new software image.
3. Click the Activate button. The Activate Software dialog box opens.
4. Select the software version to activate on the device.
5. Click Activate. vManage NMS reboots the device and activates the new software image.

If the control connection to the vManage NMS does not come up within the configured time limit, vManage NMS automatically reverts the device to the previously running software image. The configured time limit for all Viptela devices to come up after a software upgrade is 5 minutes, except for the vEdge 100 routers, which have a default time of 12 minutes.

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## Delete a Software Image

To delete a software image from a Viptela device:

1. In the title bar, click the vEdge, Controller, or vManage tab.



2. Select one or more devices from which to delete a software image.
3. Click the Delete Available Software button. The Delete Available Software dialog box opens.
4. Select the software version to delete.
5. Click Delete.

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## Set the Software Default Version

You can set a software image to be the default image on a Viptela device. Performing this operation overwrites the factory-default software image, replacing it with an image of your choosing. It is recommended that you set a software image to be the default only after verifying that the software is operating as desired on the device and in your network.

To set a software image to be the default image on a device:

1. In the title bar, click the vEdge, Controller, or vManage tab.
2. Select one or more devices on which you wish to change the default software image.
3. Click the Set Default Version button. The Set Default Version dialog box opens.
4. From the Version drop-down, select the software image to use as the default.
5. Click Set Default.

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## View Log of Software Upgrade Activities

To view the status of software upgrades and a log of related activities:

1. Click the Tasks icon located in the vManage toolbar. vManage NMS displays a list of all running tasks along with the total number of successes and failures.
2. Click a row to see details of a task. vManage NMS opens a status window displaying the status of the task and details of the device on which the task was performed.

