HPE Aruba Networking EdgeConnect-Virtual (EC-V) in Oracle Cloud

Deployment Guide

Important Notice

Revision A, January 2024

Open Source Code:

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HPE aruba networking

Contents

1 Overview

An HPE Aruba Networking EdgeConnect SD-WAN instance, referred to throughout this guide as EdgeConnect-Virtual (EC-V), can be deployed as a virtual machine (VM) in Oracle Cloud Infrastructure (OCI). This guide explains the process of deploying an EC-V in OCI by copying an EC-V Custom Image from an Object Storage bucket hosted on an HPE-owned Oracle Cloud account to your Oracle Cloud account. After the image is successfully copied, you will utilize a Terraform template to deploy the EC-V into either an existing or new Oracle Cloud Virtual Cloud Network (VCN).

2 Prerequisites

Before you deploy, you must have the following:

- An existing Oracle account
- Permission to deploy a VM from the Oracle Cloud

3 Import an EC-V Image into Your Oracle Cloud Account

To deploy Orchestrator in OCI:

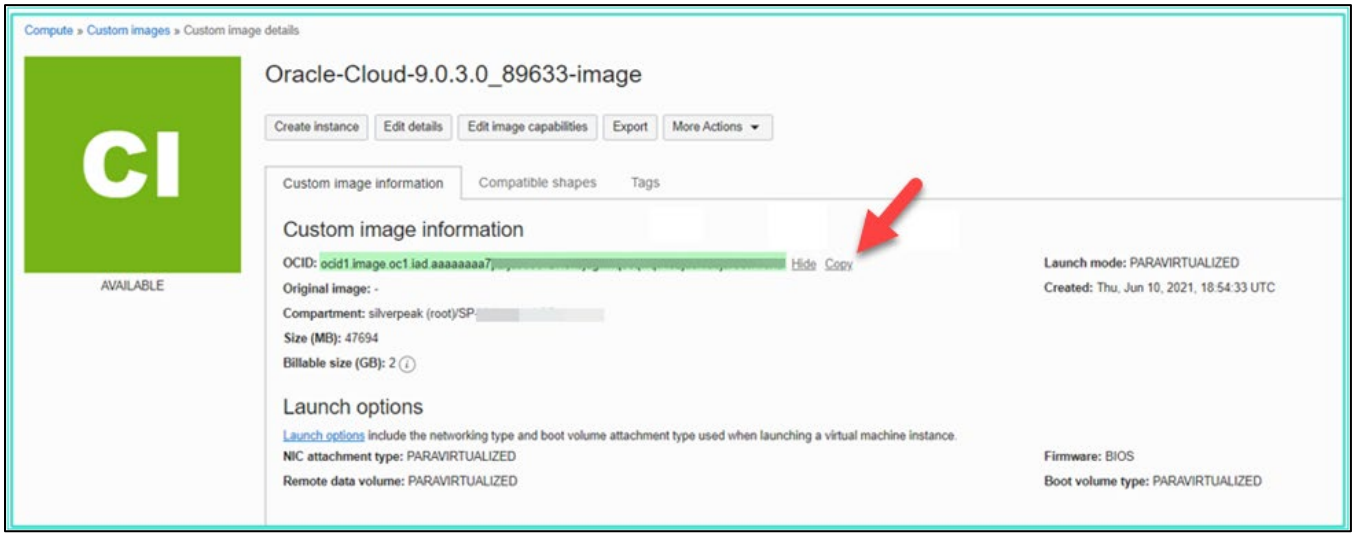
1. Log in to the OCI Console.
2. Click **Navigation menu** at the top-left of the screen.
3. Click **Compute**.
4. Click **Custom Images**.
5. Select the compartment where you want to deploy the EC-V.
6. Click **Import image**, and then enter the appropriate information for your configuration:

Field	Description
Create in compartment	Select your compartment.
Name	Enter a name for the custom image. Example: edgeconnect-9410
Operating System	Click **Generic Linux**, and then select the **Import from an Object Storage URL** radio button.
Object Storage URL	https://silverpeak.objectstorage.us-ashburn-1.oci.customer-oci.com/p/eVvnpszwY4rWCiNBRqSC9gMtJL_1EsU4dbl9WdAXQrXyffeVHFyQeTZALPJBwQ97/n/silverpeak/b/DFernando/o/EC-V-9.0.3.0_89633
Image type	Select **OCI**.

NOTE: The object storage URL above imports an EC-V 9.0.3.0 image from an HPE-owned Oracle Cloud account. If your SD-WAN fabric uses a different EdgeConnect Operating System (ECOS) version than 9.0.3.0, you can upgrade the EC-V to your desired version after the EC-V is deployed.

7. Click **Import image**.
8. After the image is imported, select it.

   The Custom Image Details page appears.
9. Copy the OCID, as shown below.



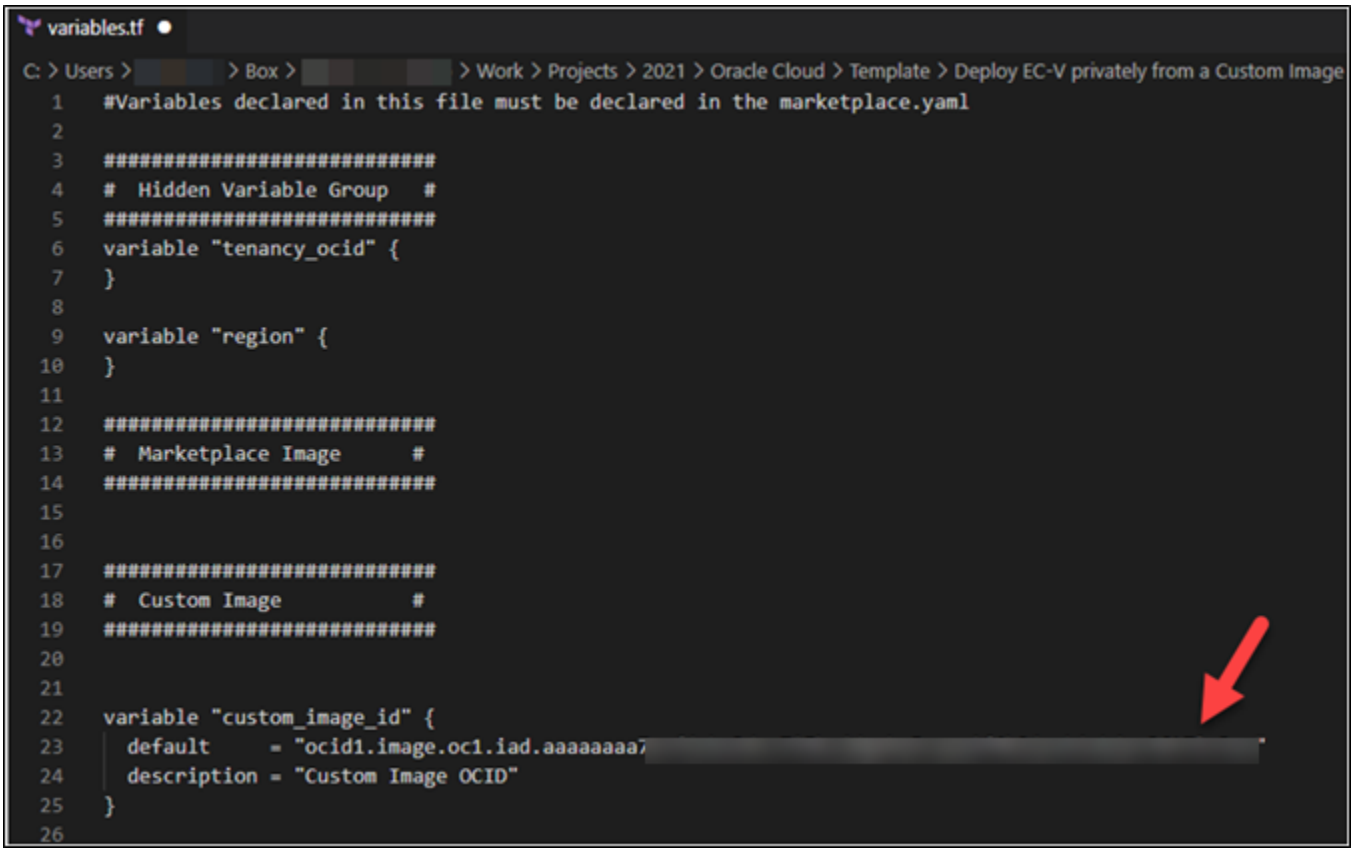
4 Update the Terraform Template

After you have imported the EC-V image into your Oracle Cloud account, next you will download and update the Terraform template you will use to deploy the EC-V.

To download and update the Terraform template:

1. Click the following link to download the `Custom_9.0.3.0.zip` file:

   https://www.arubanetworks.com/techdocs/sdwan-PDFs/deployments/Custom_9.0.3.0.zip.
2. Unzip the file, and then use a text editor to open the `variables.tf` file.
3. Replace the OCID in line 23 with the OCID value you copied in step 9 above.



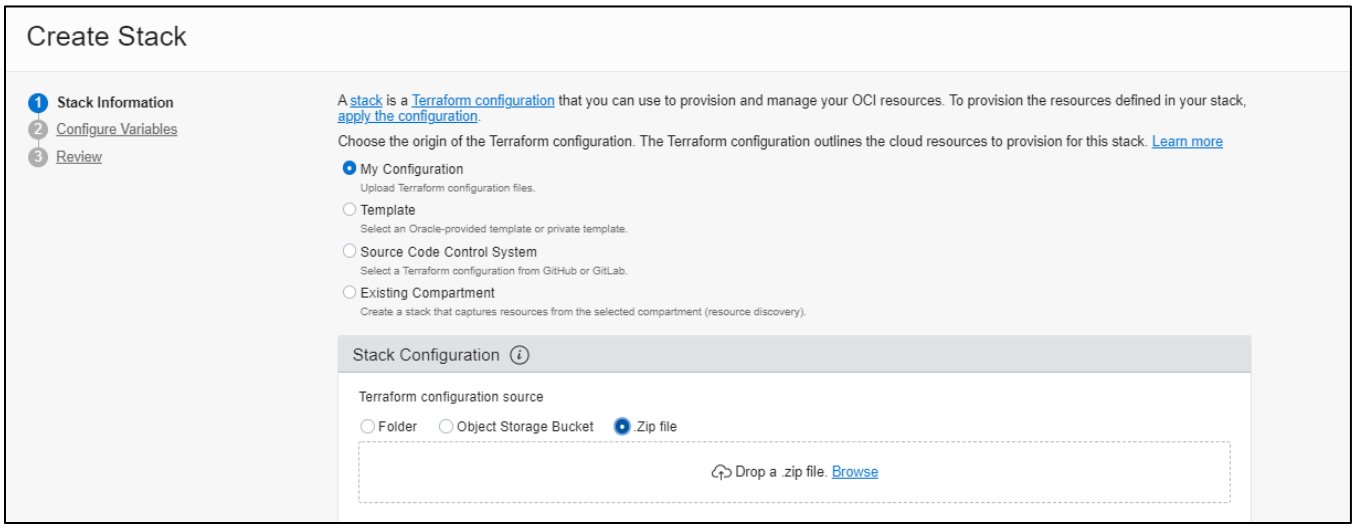
4. Save and close the `variables.tf` file.
5. Create a new .zip file that includes the updated `variables.tf` file.

5 Deploy the EC-V

After you have updated the Terraform template used to deploy the EC-V image, you are ready to create an EC-V:

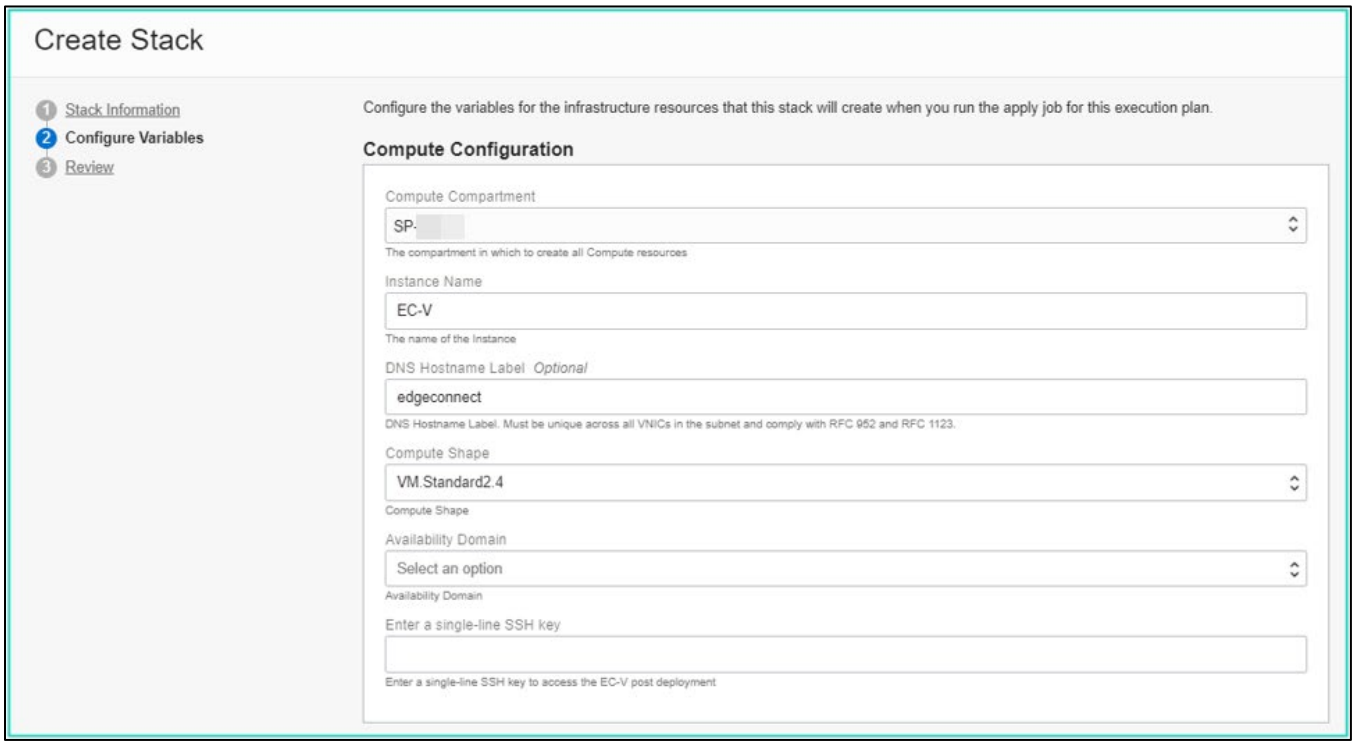
1. In the Oracle Console, open the navigation menu and then click **Developer Services**.
2. Under Resource Manager, click **Stacks**.
3. Click **Create Stack**.
4. On the Create stack page, under Choose the origin of the Terraform configuration, select **My configuration**.
5. Click **.Zip file**, and then add the updated zip file you created in step 5 above. You can either drag the file onto the dialog's control or click **Browse** and navigate to the location of the file or folder.

   The page is populated with information contained in the Terraform configuration.

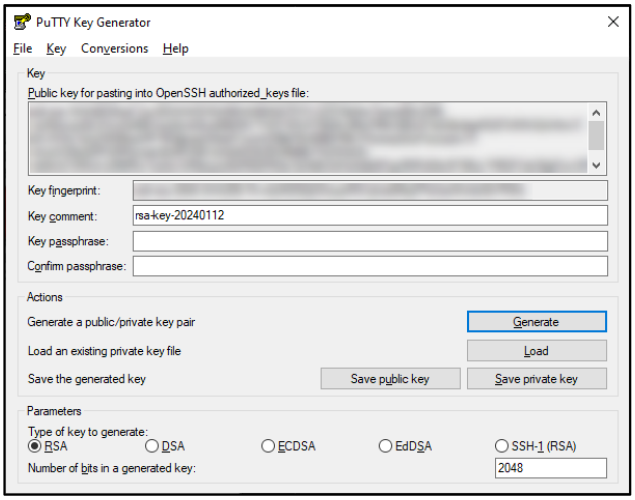


6. Select the compartment where you want to create the stack.
7. Clear the **Use custom Terraform providers** check box.
8. Enter a stack name and description.
9. For Terraform version, select version **0.13**.
10. *(Optional)* Add tags.
11. Click **Next**.
12. Complete the fields under Compute Configuration. In the **User Data Configuration** field, enter your HPE Aruba Networking account name and key. This makes the EC-V appear in the Orchestrator.

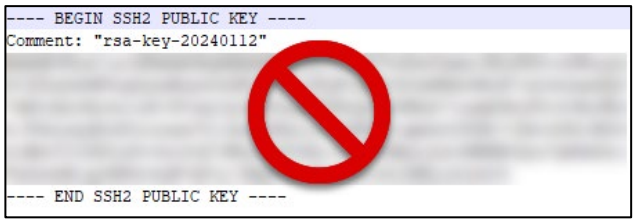
NOTE: Make sure to enter a single-line SSH public key, as shown in the image below. Do not enter a multi-line SSH public key.



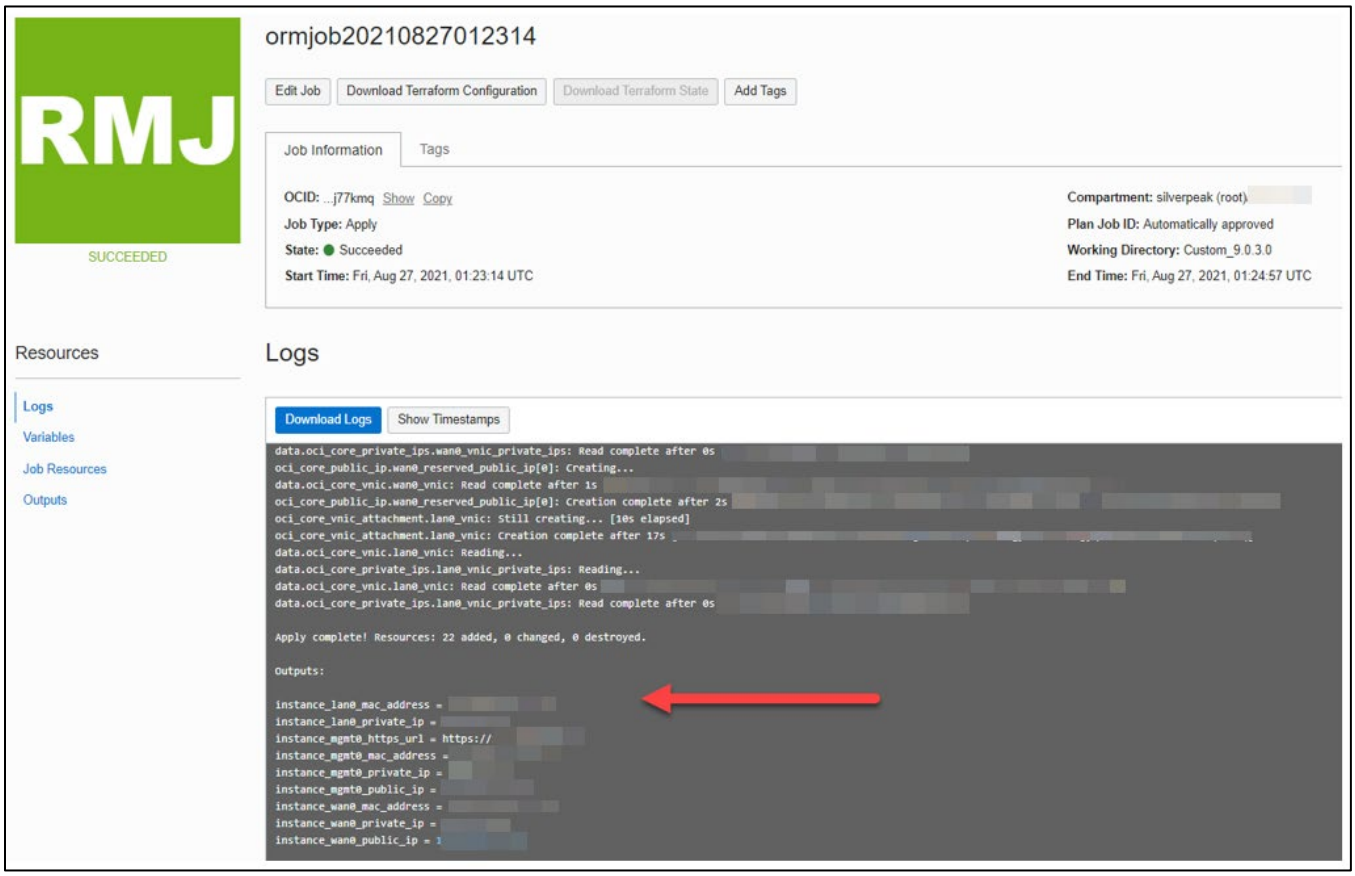
Single-Line SSH Key:



Multi-Line SSH Key:



13. Complete the fields under Virtual Cloud Network and User Data Configuration.
14. Click **Next**.
15. Click **Create**. After the stack is created, the instance details including MAC address information are displayed in the logs, as shown below.



16. Record the MAC addresses of the interfaces, as they are needed when configuring the EC-V instance later.

6 Provision the EC-V Instance in Orchestrator

If you entered your account name and account key while deploying the EC-V instance, the EC-V instance should be discovered on the Orchestrator.

To add the EC-V into the SD-WAN fabric:

1. Log in to Orchestrator.
2. Navigate to **Configuration > Overlays & Security > Discovery > Discovered Appliances**.
3. Click **Appliances Discovered**.
4. Click **Approve**.

   The Upgrade Appliance screen appears.
5. Click **Skip** to proceed or perform the upgrade to the required software version.

   The Appliance Wizard appears.
6. On the first page of the wizard, configure the following information:
   a. In the Appliance field, enter a name for the appliance.
   b. Select a group in which the EC-V will be placed.
   c. Enter a new admin password.
   d. Enter a location.

e. If you are going to deploy two or more EC-V instances in a Traditional HA mode, enter a site name. This prevents the Orchestrator from building SD-WAN tunnels between the appliances in an HA cluster.

7. Click **Next**.
8. On the second page of the wizard, click **Next**.

NOTE: You will configure the EC-V instance in Router mode after it is added on the SD-WAN fabric.

9. *(Optional)* On the third page of the wizard, enter a Loopback interface if needed. Otherwise, click **Next**.
10. On the fourth page of the wizard, select the **Automatically advertise local subnets** check box to advertise local LAN subnets to the SD-WAN fabric, and then click **Next**.
11. On the fifth page of the wizard, apply any Business Intent Overlays and Template Groups if needed, and then click **Apply** to complete the provisioning of the EC-V appliance in Orchestrator.

    A final status on the wizard appears indicating all the provisioning parameters successfully applied on the EC-V.

7 Assign MAC and IP Addresses on the EC-V

To assign MAC addresses and IP addresses on the EC-V:

1. Log in to Orchestrator.
2. Select the EC-V in the instance, and then navigate to **Configuration > Networking > Interfaces**.
3. Assign the WAN0 and LAN0 MAC addresses using the MAC address information that you recorded earlier:
    a. Click the **Edit** icon on one of the Interface rows to open the Interfaces dialog box.
    b. Click the **MAC** field for the wan0 interface, and then select its MAC address from the drop-down menu.
    c. Click the **MAC** field for the lan0 interface, and then select its MAC address from the drop-down menu.
    d. Click **Apply**. You will be prompted to reboot the EC-V instance, but **do not reboot the EC-V yet**.
4. In the appliance tree, select the EC-V and navigate to **Configuration > Networking > Deployment**.
5. Configure deployment parameters for the EC-V:
    a. Click the **Edit** icon of a deployment row to open the Deployment dialog box.
    b. Click the Router tab.
    c. Under LAN0 IP/Mask, enter the LAN0 interface private IP address/subnet mask.
    d. Under WAN0 IP/Mask, enter the WAN0 interface private IP address/subnet mask.
    e. Leave LAN0 Next Hop blank.
    f. Under WAN0 Next Hop, enter the first IP address of the WAN0 subnet address space.
    g. Enter the Total Outbound and Total Inbound bandwidth (Kbps) for the WAN0 interface, and then click ∑**Calc**.
    h. Set WAN0 Firewall Mode to **Stateful+SNAT**.
    i. Under WAN Next Hop, click **Not behind NAT**, and then select **NAT** in the NAT Settings dialog box. This allows Orchestrator to use the WAN0 public IP address as the tunnel endpoint when establishing underlays to the WAN0 interface.
    j. Click **Apply**.
    k. When prompted, click **Apply & Reboot**.
    l. After the VM reboots, navigate to **Configuration > Networking > Interfaces** and verify that the WAN0 public IP address appears in the table.

m. *(Optional)* To upgrade the EC-V appliance to a different software version, navigate to **Administration > Software > Upgrade > Upgrade Appliances**. Refer to the Release Notes for information about available software versions.