Performing a System Upgrade, Downgrade or Recovery

Important Notes

Following are important notes regarding the installation, upgrade or downgrade procedures for the Cisco Cloud APIC:

- When you downgrade from Release 5.0(x) to a previous release, as the CSRs downgrade to a lower release, you could see some of the tunnels in a “down” state in the CSRs. This could occur due to stale VPN resources in the AWS accounts that did not get cleaned up.

  To correct this issue, manually clean up the stale VPN connections.

- As noted in Requirements for the AWS Public Cloud, the supported instance type for the Cisco Cloud APIC deployment has changed for Release 5.0(x) or later:
  - For releases prior to Release 5.0(x), Cisco Cloud APIC is deployed using the M4.2xlarge instance.
  - For Release 5.0(x) and later, Cisco Cloud APIC is deployed using the M5.2xlarge instance.

  When upgrading from a 4.2(x) release to Release 5.0(x) or later, policy-based upgrades are not supported because you cannot change the instance type through a policy-based upgrade; instead, for these upgrades, you must upgrade using a migration procedure, as provided in Migration-Based Upgrade, on page 3.

- When upgrading from a 4.2(x) release to Release 5.0(x) or later, a configuration import with the option of replace on atomic is not supported. In the **Restore Configuration** area at this point in the procedures, make these selections instead:
  - In the **Restore Type** field, choose **Merge**.
  - In the **Restore Mode** field, choose **Best Effort**.

This restriction applies only for upgrades from a 4.2(x) release to Release 5.0(x) or later; these restrictions do not apply when upgrading from Release 5.0(x) to a later release.

- There is an issue with the upgrade process where an upgrade from release 5.2(1g) to any later release will fail.

  To work around this issue, enable the **Ignore Compatibility Check** option:

  1. Follow the normal upgrade instructions provided in Upgrading the Software Using the Policy-Based Upgrade Process, on page 9 until you get to the **Ignore Compatibility Check** step in the **Schedule Upgrade** window.
  2. Enter a check mark in the box next to the **Ignore Compatibility Check** field to enable the **Ignore Compatibility Check** option.

     Enabling the **Ignore Compatibility Check** option allows this specific upgrade to proceed normally.
  3. Complete the upgrade to the post-5.2(1g) release.
  4. Once you have completed the upgrade to the post-5.2(1g) release, return to the **Schedule Upgrade** window and remove the check mark in the box next to the **Ignore Compatibility Check** field.

     This disables the **Ignore Compatibility Check** option, which is the default setting for this field.

- Due to the issue described in the previous bullet, if you are upgrading from a release prior to release 5.2(1) to a 5.2(1) release, we recommend that you upgrade directly to release 5.2(1**h**) and not release 5.2(1**g**).

Upgrading the Software

The method that you use to upgrade your Cisco Cloud APIC software varies, depending on the situation:

- If you are upgrading from a 4.2(x) release to Release 5.0(x), you will use a migration-based process to upgrade your software. Go to Migration-Based Upgrade, on page 3 for those instructions.

  Note The same migration-based procedures used for an upgrade can also be used for a system recovery, as described in Performing a System Recovery, on page 11.

- If you are upgrading from Release 5.0(1) to Release 5.0(2), you will use a policy-based process to upgrade your software. Go to Policy-Based Upgrade, on page 8 for those instructions.

  Note If the policy-based upgrade from Release 5.0(1) to Release 5.0(2) does not work for some reason, you can upgrade from Release 5.0(1) to Release 5.0(2) using the migration-based process as described in Migration-Based Upgrade, on page 3.

Upgrading the CSRs

Regardless of the method that you use to upgrade your Cisco Cloud APIC software, the Cloud Services Routers (CSRs) must also be upgraded whenever the Cloud APIC software is upgraded.

- Prior to Release 5.2(1), the CSRs are upgraded automatically whenever you trigger an upgrade for the Cisco Cloud APIC.
- Beginning with Release 5.2(1), you can trigger upgrades to the CSRs and monitor those CSR upgrades, independent from the Cisco Cloud APIC upgrades. This is useful to reduce traffic loss by allowing you to split up the upgrades for the management plane (Cisco Cloud APIC) and the data plane (CSRs).

See Triggering an Upgrade of the Cloud Service Routers, on page 11 for more information.

Migration-Based Upgrade

The following section provides migration procedures, which will allow you to upgrade from a 4.2(x) release to Release 5.0(x) or later without losing traffic flow.

Upgrading Your Cloud APIC Software Using Migration Procedures

This section provides the migration procedures that you will use if you want to upgrade from a 4.2(x) release to Release 5.0(x) or later on your Cisco Cloud APIC. There should be no effect on traffic with this migration.

Step 1 Enable the encryption passphrase control, if it is not enabled already.

a) In your Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

You should be underneath the **General** tab by default; if not, click the **General** tab.

b) Determine if the encrypted passphrase control is enabled already.

- In the **Global AES Encryption** area, if you see **Yes** underneath the **Encryption** and **Key Configured** fields, then you have the encrypted passphrase control enabled already. Go to Step 2, on page 3.
- If you do not see **Yes** underneath the **Encryption** and **Key Configured** fields:

1. Click the pencil icon at the upper right part of the **Global AES Encryption** area.

   The **Global AES Encryption Settings** window appears.

2. Click the box next to the **Encryption: Enabled** area, enter a passphrase in the **Passphrase/Confirm Passphrase** fields, then click **Save** at the bottom of the window.

Step 2 Back up your existing Cloud APIC configuration.

There are a number of different ways that you can back up your Cloud APIC configuration. See the *Cloud APIC for AWS Users Guide* for more information. Note that if you want to use a remote backup, you will also need to add a remote location first.

Step 3 Terminate the Cloud APIC EC2 instance from the AWS infra account.

a) Log into your Amazon Web Services account for the Cloud APIC infra tenant and go to the AWS Management Console, if you are not there already:

https://signin.aws.amazon.com/

https://console.aws.amazon.com/

b) Go into **Instances** in the EC2 Dashboard in the AWS Management Console.

c) Locate the Cloud APIC instance.

You should see **m4.2xlarge** listed as the instance type for your Cloud APIC - this is the correct instance type for pre-5.0(1) releases.

d) Check the box next to the Cloud APIC instance to select it, then click **Actions** > **Instance State** > **Terminate**.

In the **Terminate Instances** popup window, select **Yes, Terminate** to terminate this instance.

The **Instances** window reappears and the status changes to **shutting-down** in the **Instance State** row for the Cloud APIC instance. Even though you are terminating the Cloud APIC instance here, there should be no traffic drop for your Cloud APIC.

Step 4 Go to the Cloud APIC page on the AWS Marketplace:

http://cs.co/capic-aws

Step 5 Click **Continue to Subscribe**.

Step 6 In the **Subscribe to this software** page, click the **Continue to Configuration** button.

The **Configure this software** page appears.

Step 7 Select the following parameters:

- **Delivery Method:** Cisco Cloud APIC Cloud Formation Template (selected by default)
- **Software Version:** Select the appropriate version of the Cloud APIC software (for example, `5.0.1k`)
- **Region:** Region where Cloud APIC will be deployed

Step 8 Click the **Continue to Launch** button.

The **Launch this software** page appears, which shows a summary of your configuration and lets you launch the cloud formation template.

Step 9 In the **Choose Action** field, choose **Launch CloudFormation**, then click **Launch** to go directly to the CloudFormation service in the correct region, with the correct Amazon S3 template URL already populated. The **Specify template** page appears within the **Create stack** page.

Step 10 In the **Specify template** page, make the following selections:

- **Prerequisite - Prepare template** field: Leave the default **Template is ready** option selected.
- **Specify template** area:
  - In the **Template source** field, leave the default **Amazon S3 URL** option selected.
  - In the **Amazon S3 URL** field, leave the automatically-generated entry as-is.
  - Click **View in designer**.

Step 11 In the **template1** area in the lower half of the screen:

- Leave the **Choose template language** selection as **JSON**.

- Place your cursor at the very beginning of the text string on line 1, press the Shift key and scroll down to the bottom of the window to select the entire text string in the window, then copy all of the text in this window (press Ctrl+C, or right-click and select **Copy**).

Step 12 On your local computer, navigate to an appropriate folder and create a text file, giving it a unique name, and paste the text string that you just copied into the text file.

This will be the Cloud APIC CFT for Release 5.0(1), which has the M5.2xlarge instance type.

Step 13 Save and close the text file.

Step 14 Upload the Cloud APIC CFT for Release 5.0(1) to AWS.

a) Log in to the AWS CloudFormation console:

https://console.aws.amazon.com/cloudformation

b) On the AWS CloudFormation dashboard, click your existing Cloud APIC stack, then click **Update**.

c) In the **Update Stack** wizard, in the **Prepare template** screen, select **Replace current template**.

The **Specify template** area appears.

d) In the **Update Stack** wizard, on the **Specify template** area, select **Upload a template file**.

The **Upload a template file** option appears.

e) Click **Choose file** underneath the **Upload a template file** option and navigate to the area where you created the Cloud APIC CFT for Release 5.0(1).

f) Select the Cloud APIC CFT for Release 5.0(1), and then click **Next**.

g) In the **Specify stack details** screen, verify that the instance type shown in the **Other parameters** area at the bottom of the screen is correctly set to **m5.2xlarge**, then click **Next**.

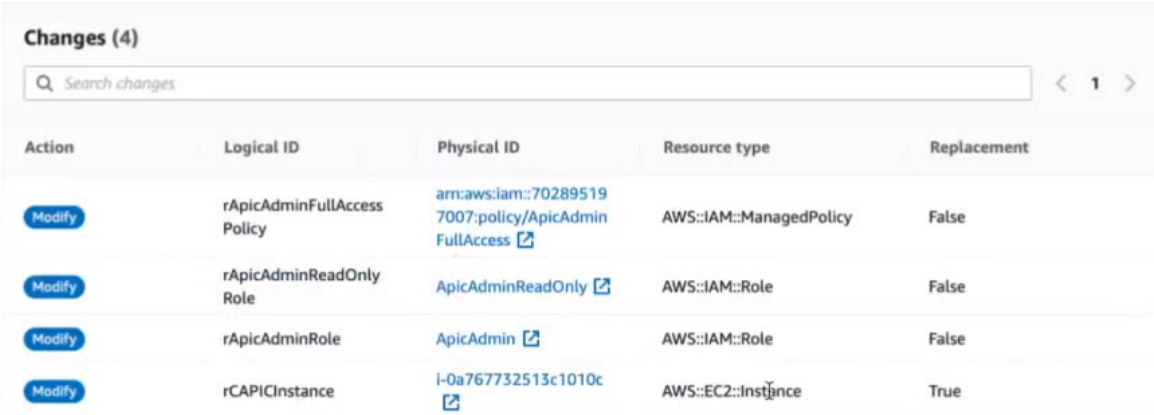
Do not change the instance type to **m4.2xlarge** in this step.

h) In the **Configure stack options** screen, click **Next**.

i) In the **Review** screen, click **Update stack**.

The following actions take place at this point:

- The AWS infra detects three IAM resources that will be updated (shown as **False** in the Replacement column).
- The AWS infra detects one EC2 instance that will be replaced (shown as **True** in the Replacement column).



This will bring up the new Cloud APIC instance with the Release 5.0(1) image, with the same public IP address as you had previously. You can check the progress of the new Cloud APIC instance coming up by navigating back to **Instances** in the EC2 Dashboard in the AWS Management Console.

Step 15 When you see the **Instance State** change to **running**, you can then log into your Cloud APIC is you did previously.

The Cloud APIC will come up with no configurations at this point.

Note If you see an error message when you try to log in, such as **REST Endpoint user authentication datastore is not initialized - Check Fabric Membership Status of this fabric node**, wait for several minutes, then try again after a few minutes. You might also have to refresh the page in order to log in.

Step 16 Enable the same encryption passphrase.

a) In your Cloud APIC GUI, navigate to **Infrastructure** > **System Configuration**.

You should be underneath the **General** tab by default; if not, click the **General** tab.

b) In the **Global AES Encryption** area, click the pencil icon at the upper right part of the **Global AES Encryption** area.

The **Global AES Encryption Settings** window appears.

c) Click the box next to the **Encryption: Enabled** area, enter the same passphrase in the **Passphrase/Confirm Passphrase** fields that you used in Step 1, on page 3, then click **Save** at the bottom of the window.

Step 17 If you are performing a migration-based upgrade to release 5.2(1), run the Python script to clean up the necessary configuration before importing the configuration that you backed up earlier.

Contact Cisco TAC to get the Python script to address the issue raised in CSCvy42684 to clean up the necessary configuration:

https://www.cisco.com/c/en/us/support/web/tsd-cisco-worldwide-contacts.html

Step 18 Import the configuration that you backed up in Step 2, on page 3.

If you configured a remote location when you backed up your configuration, you might have to create the remote location again to access the backup.

a) In your Cloud APIC GUI, navigate to **Operations** > **Backup & Restore**.
b) In the **Backup & Restore** window, click the **Backups** tab.
c) Click the **Actions** scrolldown menu, then choose **Restore Configuration**.

The **Restore Configuration** window appears.

d) Enter the necessary information to restore the configuration that you backed up in Step 2, on page 3.

If you are upgrading from a 4.2(x) release to Release 5.0(x) or later, for this particular backup restore, use the following settings:

- In the **Restore Type** field, choose **Merge**.
- In the **Restore Mode** field, choose **Best Effort**.

Click **Restore Configuration** when you have entered the necessary information in this window. Click the **Job Status** tab in the **Backup & Restore** window to get the status of the backup restore.

Step 19 Run the CapicTenantRole update to change the set for all trusted tenants.

a) Locate the tenant role CFT.

The tenant role CFT is located in the S3 bucket in the AWS account for the Cisco Cloud APIC infra tenant. The name of the S3 bucket is `capic-common-[capicAccountId]-data` and the tenant role CFT object is `tenant-cft.json` in that bucket. The capicAccountId is the AWS account number for the Cisco Cloud APIC infra tenant, which is the account in which Cloud APIC is deployed.

b) Click the tenant role CFT link.

The **Overview** page for this tenant role CFT appears.

c) Click the box next to the **tenant-cft.json** entry on the **Overview** page.

A slide-in pane appears for this JSON-formatted tenant role CFT.

d) Click **Download** to download the tenant role CFT to a location on your computer.

For security reasons, public access to this S3 bucket in AWS is not allowed, so you must download this file and use it in the tenant account.

e) In AWS, go to the user account of the trusted tenants, then click **CloudFormation**.

f) On the AWS CloudFormation dashboard, locate the trusted tenant stack and click on the stack name for that trusted tenant.

The stack properties page appears for this particular stack.

g) Click the **Change sets** tab.

h) In the **Change sets** area, click **Create change set** .

i) In the Create change set window for this stack, click **Replace current template**.

j) In the **Specify template** area, click the circle next to **Upload a template file**, then click the **Choose File** button.

k) Navigate to the location on your computer where you downloaded the tenant role CFT and select that template file.

l) Click **Next** in the Create change set window for this stack.

The **Create Change Set** pop-up appears.

m) Click **Create Change Set** in the **Create Change Set** pop-up window.

The Status will show as **CREATE_PENDING** for a period of time, then will change to **CREATE_COMPLETE**.

n) Repeat these steps for each trusted tenant.

On each trusted tenant, use this **tenant-cft.json** file to create a change set and run that change set.

Step 20 In your Cloud APIC GUI, verify that all the configurations that you previously had for your Cloud APIC prior to the migration are present now.

Note that for releases prior to 5.2(1), the CSRs will also get upgraded automatically, from the 16.x version to the 17.x version. You can verify this by navigating to **Instances** in the EC2 Dashboard in the AWS Management Console and locating the CSR instances to verify that they are also upgraded.

For release 5.2(1) and later, CSRs are no longer upgraded automatically when the Cisco Cloud APIC is upgraded, so you must trigger the CSR upgrades separately after the Cisco Cloud APIC has finished upgrading. See Triggering an Upgrade of the Cloud Service Routers, on page 11 for more information.

Policy-Based Upgrade

Use the procedures in the following sections to perform a policy-based upgrade of your Cisco Cloud APIC software, if you are upgrading from Release 5.0(1) to Release 5.0(2).

Downloading an Image

Step 1 Log in to your Cisco Cloud APIC, if you aren't logged in already.

Step 2 From the **Navigation** menu, choose **Operations** > **Firmware Management**.

The **Firmware Management** window appears.

Step 3 Click the **Images** tab in the **Firmware Management** window.

Step 4 Click **Actions**, then choose **Add Firmware Image** from the scroll-down menu.

The **Add Firmware Image** pop-up appears.

Step 5 Determine if you want to add the firmware image from a local or a remote location.

- If you want to add the firmware image from a *local* location, click the **Local** radio button in the **Image Location** field. Click the **Choose File** button, then navigate to the folder on your local system with the firmware image that you want to import and select the file. Go to Step 6, on page 9.
- If you want to import the firmware image from a *remote* location, click the **Remote** radio button in the **Image Location** field, then perform the following actions:

a) In the **Protocol** field, click either the **HTTP** or the **SCP** radio button.
b) In the **URL** field, enter the URL from where the image will be downloaded.

- If you selected the **HTTP** radio button in the previous step, enter the http source that you want to use to download the software image. An example URL is `10.67.82.87:/home/<username>/ACI/aci-apic-dk9.1.0.2j.iso`. Go to Step 6, on page 9.
- If you selected the **SCP** radio button in the previous step, enter the Secure Copy Protocol (SCP) source that you want to use to download the software image, using the format `<SCP server>:/<path>`. An example URL is `10.67.82.87:/home/<username>/ACI/aci-apic-dk9.1.0.2j.iso`.

c) In the **Username** field, enter your username for secure copy.
d) In the **Authentication Type** field, select the type of authentication for the download. The type can be:

- **Password**
- **SSH Key**

The default is **Password**.

e) If you selected **Password**, in the **Password** field, enter your password for secure copy. Go to Step 6, on page 9.
f) If you selected **SSH Key**, enter the following information:

- **SSH Key Content** — The SSH Key Content is used to create the SSH Key File which is required when creating a Remote location for the download.

Note The public key is generated at the time of the transfer. After the transfer the key files that were generated in the background are deleted. The temporary key files are stored in dataexport directory of the Cisco Cloud APIC.

- **SSH Key Passphrase** — The SSH Key Passphrase is used to create the SSH Key File which is required when creating a Remote location for the download.

  Note The Passphrase field can remain empty.

Step 6 Click **Select**.
Wait for the Cisco Cloud APIC firmware images to download.

Upgrading the Software Using the Policy-Based Upgrade Process

Use the procedures in the following sections to perform a policy-based upgrade of your Cisco Cloud APIC software, if you are upgrading from Release 5.0(1) to Release 5.0(2).

Before you begin

- You have downloaded an image using the procedures provided in Downloading an Image, on page 8.

Step 1 In the Cloud APIC GUI, from the **Navigation** menu, choose the **Operations** > **Firmware Management**.

The **Firmware Management** window appears.

Step 2 Click **Schedule Upgrade**.

The **Schedule Upgrade** pop-up appears.

If you see a message that says that faults are present in your fabric, we recommend that you resolve these faults before performing a upgrade. See "Viewing Health Details Using the Cisco Cloud APIC GUI" in the *Cisco Cloud APIC for AWS User Guide* for more information.

Step 3 In the **Target Firmware** field, choose a firmware image from the scroll-down menu.

Step 4 In the **Upgrade Start Time** field, determine if you want to begin the upgrade now or later.

- Click **Now** if you want to schedule the upgrade for now. Go to Step 5, on page 9.
- Click **Later** if you want to schedule the upgrade for a later date or time, then select the date and time from the pop-up calendar for the scheduled upgrade.

Step 5 In the **Ignore Compatibility Check** field, leave the setting in the default off (unchecked) setting, unless you are specifically told to disable the compatibility check feature.

In Cloud APIC, there is a compatibility check feature that verifies if an upgrade path from the currently-running version of the system to a specific newer version is supported or not. The **Ignore Compatibility Check** setting is set to off by default, so the system automatically checks the compatibility for possible upgrades by default.

Note If you choose to disable the compatibility check feature by entering a check mark in the box next to the **Ignore Compatibility Check** field, you run the risk of making an unsupported upgrade to your system, which could result in your system going to an unavailable state.

Step 6 Click **Schedule Upgrade**.

You can monitor the progress of the upgrade in the main **Firmware Management** window, under the **Upgrade Status** area.

Downgrading the Software

The following sections provide the necessary information that you will need to successfully downgrade your Cisco Cloud APIC software.

Downgrading the Software

Before you begin

The following prerequisites apply if you are downgrading from 5.0(2) to a release prior to 5.0(2):

- If your Cisco Cloud APIC has always been running on Release 5.0(2) [if you never upgraded from a release prior to 5.0(2) to Release 5.0(2)], then you cannot downgrade to a release prior to Release 5.0(2) on your Cisco Cloud APIC. Downgrading to a release prior to 5.0(2) when your Cisco Cloud APIC never ran on that prior release is not supported.
- If you upgraded your Cisco Cloud APIC to Release 5.0(2) and you completed certain Release 5.0(2)-specific configurations afterward, and you want to downgrade to a release prior to Release 5.0(2), you will have to remove the 5.0(2)-specific configurations before downgrading.

Step 1 Remove the 5.0(2)-specific configurations before downgrading, if necessary.

Step 2 Download an image for the downgrade using the procedures provided in Downloading an Image, on page 8.

Step 3 When the image is fully downloaded, from the **Navigation** menu, choose the **Operations** > **Firmware Management**.

The **Firmware Management** window appears.

Step 4 Click **Schedule Upgrade**.

The **Schedule Upgrade** pop-up appears.

If you see a message that says that faults are present in your fabric, we recommend that you resolve these faults before performing a downgrade. See "Viewing Health Details Using the Cisco Cloud APIC GUI" in the *Cisco Cloud APIC for AWS User Guide* for more information.

Step 5 In the **Target Firmware** field, choose a firmware image from the scroll-down menu.

Step 6 In the **Upgrade Start Time** field, determine if you want to begin the downgrade now or later.

- Click **Now** if you want to schedule the downgrade for now. Go to Step 7, on page 10.
- Click **Later** if you want to schedule the downgrade for a later date or time, then select the date and time from the pop-up calendar for the scheduled downgrade.

Step 7 In the **Ignore Compatibility Check** field, leave the setting in the default off (unchecked) setting, unless you are specifically told to disable the compatibility check feature.

In Cloud APIC, there is a compatibility check feature that verifies if an downgrade path from the currently-running version of the system to a specific newer version is supported or not. The **Ignore Compatibility Check** setting is set to off by default, so the system automatically checks the compatibility for possible downgrades by default.

Note If you choose to disable the compatibility check feature by entering a check mark in the box next to the **Ignore Compatibility Check** field, you run the risk of making an unsupported downgrade to your system, which could result in your system going to an unavailable state.

Step 8 Click **Schedule Upgrade**.

You can monitor the progress of the downgrade in the main **Firmware Management** window, under the **Upgrade Status** area.

Performing a System Recovery

The procedures for performing a system recovery is identical to the procedures for performing a migration-based upgrade. Refer to the section Migration-Based Upgrade, on page 3 for those procedures.

Triggering an Upgrade of the Cloud Service Routers

The following topics provide information and procedures for triggering an upgrade of the cloud service routers (CSRs).

Triggering an Upgrade of the Cloud Service Routers

Prior to Release 5.2(1), the Cloud Services Routers (CSRs) are upgraded automatically whenever you trigger an upgrade for the Cisco Cloud APIC. Beginning with Release 5.2(1), you can trigger upgrades to the CSRs and monitor those CSR upgrades, independent from the Cisco Cloud APIC upgrades. This is useful to reduce traffic loss by allowing you to split up the upgrades for the management plane (Cisco Cloud APIC) and the data plane (CSRs).

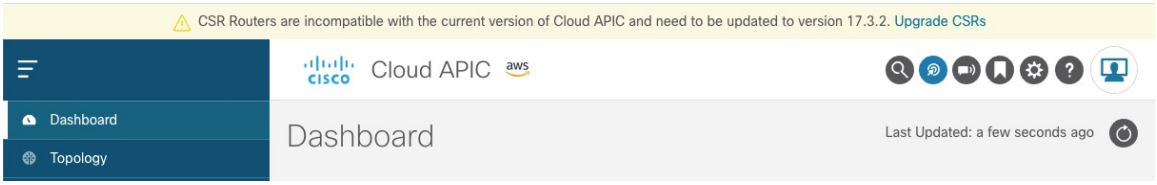
Beginning with Release 5.2(1), this feature is enabled by default, where the default assumption is that you will be triggering the upgrades to the CSRs after you trigger an upgrade to the Cisco Cloud APIC. You cannot disable this feature once it's enabled.

When this feature is enabled, the proper upgrade sequence for the Cisco Cloud APIC and the CSRs is as follows.

Note Following are upper-level steps to describe the overall process for triggering upgrades to the CSRs. For specific step-by-step instructions, see Triggering an Upgrade of the Cloud Service Routers Using the Cisco Cloud APIC GUI, on page 12.

1. Upgrade Cisco Cloud APIC using the instructions provided in this chapter.
2. Wait for the Cisco Cloud APIC upgrade process to complete. When that upgrade is completed, the system will recognize that the CSRs are now incompatible with the Cisco Cloud APIC. You will then see a

message saying that the CSRs and the Cisco Cloud APIC are incompatible and that any new policies configured for the Cisco Cloud APIC will not be applied to the CSRs until you've upgraded the CSRs.



3. View and accept the terms and conditions for the CSRs on the AWS portal.
4. Trigger the CSR upgrade so that it is now at a compatible version as the Cisco Cloud APIC.

   You can begin the process of triggering the CSR upgrade using either of these two methods:

   - In the banner at the top of the screen, click on the **Upgrade CSRs** link, or
   - Through the **CSRs** area in the **Firmware Management** page. Navigate to:

     Operations > **Firmware Management**

     Click the **CSRs** tab, then choose **Upgrade CSRs**.

You can also trigger the CSR upgrade through the REST API. See Triggering an Upgrade of the Cloud Service Routers Using the REST API, on page 13 for those instructions.

Guidelines and Limitations

- After you have upgraded the Cisco Cloud APIC, if you do not see the message saying that the CSRs and the Cisco Cloud APIC are incompatible, you might have to refresh the browser for that message to appear.
- Trigger an upgrade to the CSRs *after* you have upgraded the Cisco Cloud APIC. Do not trigger an upgrade to the CSRs before you have upgraded the Cisco Cloud APIC.
- Once you have triggered an upgrade to the CSRs, it cannot be stopped.
- If you see any errors after you trigger an upgrade to the CSRs, check and resolve those errors. The CSR upgrade will continue automatically once those CSR upgrade errors have been resolved.

Triggering an Upgrade of the Cloud Service Routers Using the Cisco Cloud APIC GUI

This section describes how to trigger an upgrade to the cloud service routers (CSRs) using the Cisco Cloud APIC GUI. For more information, see Triggering an Upgrade of the Cloud Service Routers, on page 11.

Step 1 Begin the process of triggering the CSR upgrade to a compatible CSR version.

You can begin the process of triggering the CSR upgrade using either of these two methods:

- In the banner at the top of the screen, click on the **Upgrade CSRs** link, or
- Through the **CSRs** area in the **Firmware Management** page. Navigate to:

  Operations > **Firmware Management**

Click the **CSRs** tab, then choose **Upgrade CSRs**.

A warning appears after clicking **Upgrade CSRs**, stating that upgrading the CSRs will cause the CSRs to reboot, which may cause temporary disruption in traffic.

Step 2 If this is a good time to upgrade the CSRs and have a temporary disruption in traffic, click **Confirm Upgrade** in the warning message.
The CSR software upgrade begins. A banner appears at the top of the screen, saying that the CSR upgrade is in process. Click **View CSR upgrade status** in the message to view the status of the CSR upgrade.

Step 3 Fix any faults that might occur during the upgrade of the CSRs.

If a fault occurs during the upgrade, you can get more information on the fault by navigating to:

Operations > **Event Analytics** > **Faults**

Triggering an Upgrade of the Cloud Service Routers Using the REST API

This section describes how to trigger an upgrade to the cloud service routers (CSRs) using the REST API. For more information, see Triggering an Upgrade of the Cloud Service Routers, on page 11.

Set the value for the `routerUpgrade` field to `"true"` in the cloud template to trigger an upgrade to the CSRs through the REST API (`routerUpgrade="true"`).

```
<polUni>
<fvTenant name="infra">
    <cloudtemplateInfraNetwork name="default" vrfName="overlay-1">
       <cloudtemplateProfile name="defaultxyz" routerUsername="SomeFirstName" routerPassword="SomePass"
 routerUpgrade="true">
        </cloudtemplateProfile>
        <cloudtemplateExtSubnetPool subnetpool="10.20.0.0/16"/>
        <cloudtemplateIntNetwork name="default">
            <cloudRegionName provider="aws" region="us-west-1"/>
            <cloudRegionName provider="aws" region="us-west-2"/>
        </cloudtemplateIntNetwork>
        <cloudtemplateExtNetwork name="default">
            <cloudRegionName provider="aws" region="us-west-2"/>
            <cloudtemplateVpnNetwork name="default">
                <cloudtemplateIpSecTunnel peeraddr="23.2.1.1/32" />
                <cloudtemplateIpSecTunnel peeraddr="23.0.1.1/32" />
                <cloudtemplateIpSecTunnel peeraddr="23.1.1.1/32" />
                <cloudtemplateOspf area="0.0.0.1"/>
            </cloudtemplateVpnNetwork>
           <cloudtemplateBgpEvpn peeraddr="34.1.1.1/32" asn="63000" siteId="123" password="abcd1234"
 />
        </cloudtemplateExtNetwork>
    </cloudtemplateInfraNetwork>
</fvTenant>
</polUni>
```