



Upgrade ACI and OSP

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Guidelines for Upgrading Cisco APIC and OSP

The OpenStack plug-in is released with Cisco Application Policy Infrastructure Controller (APIC) releases, and therefore uses the same semantic version as Cisco APIC. For example, the 4.2(1) plug-in is provided with the Cisco APIC 4.2(1) release. Generally, the OpenStack plug-in releases are tested against the matching Cisco APIC release, as well as the previous Long Term Support (LTS) Cisco APIC release. However, a given plug-in release may be compatible with additional Cisco APIC releases. See the [Cisco ACI Virtualization Compatibility Matrix](#) to verify that the version of the plug-in used is compatible with the version of Cisco APIC.

See the [Cisco ACI Virtualization Compatibility Matrix](#) for information about compatible Cisco APIC and Red Hat OSP releases.

Pre-upgrade Guidelines

You need to first upgrade the Cisco Application Centric Infrastructure (ACI) plug-in.

For more information about the compatibility of the plug-in with various OpenStack versions, see the [Cisco ACI Virtualization Compatibility Matrix](#) at:

<https://www.cisco.com/c/dam/en/us/td/docs/Website/datacenter/aci/virtualization/matrix/virtmatrix.html>

Upgrade Guidelines

The Cisco ACI fabric can be upgraded following the information on Cisco Application Policy Infrastructure Controller (APIC) Management, Installation, Upgrade, and Downgrade Guide at:

https://www.cisco.com/c/en/us/td/docs/switches/datacenter/aci/apic/sw/2-x/managing_ACI_fabric_upgrades_and_downgrades/b_Managing_ACI_Fabric_Upgrades_and_Downgrades/b_Managing_ACI_Fabric_Upgrades_and_Downgrades_chapter_01.html

Optionally, you can upgrade the Cisco ACI fabric without upgrading the plug-in, as long as the Cisco ACI plug-in and Cisco ACI fabric release combination is supported. For more information, see the *Cisco ACI Virtualization Compatibility Matrix* at:

<https://www.cisco.com/c/dam/en/us/td/docs/Website/datacenter/aci/virtualization/matrix/virtmatrix.html>

Post-upgrade Guidelines

After you upgrade the Cisco ACI fabric, you can optionally upgrade the OpenStack ACI packages to a version which is equal or lower than the ACI fabric code you have upgraded to. You should also refer to the OpenStack ACI Plugin Release Notes for specific information:

https://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html#Cisco_APIC_OpenStack_Release_Notes

For more information on how to upgrade the OpenStack ACI plugin, see [Upgrading the Cisco ACI Packages, on page 2](#)

Upgrading the Cisco ACI Packages

The Cisco Application Centric Infrastructure (ACI) release upgrade can be live; follow the Red Hat director documentation. See the "Director-Based Environments: Performing Updates to Minor Versions" chapter of *Upgrading Red Hat OpenStack Platform* for Platform 10 on the Red Hat website.



Note The update of ACI packages from pre-2.3 releases to 2.3 or later is not supported. In other words, only composable services deployments are upgradable.

Here are example steps to perform an upgrade in a fully deployed Overcloud:

Procedure

Step 1 Copy the updated version of the `tripleo-ciscoaci` RPM from CCO to the OSP Director.

Step 2 Remove the existing RPM package by entering the following command:

```
sudo rpm -ev tripleo-ciscoaci
```

Step 3 Install the `tripleo-ciscoaci` package using yum:

```
sudo yum install tripleo-ciscoaci-<version number>.rpm
```

Step 4 Update the current plan using your original `openstack overcloud deploy` command but including the `--update-plan-only` option.

Example:

```
openstack overcloud deploy --update-plan-only --templates -e \
    #/home/stack/templates/scheduler_hints_env.yaml -e \
    #/usr/share/openstack-tripleo-heat-templates/environments/network-isolation.yaml \
    #-e ~/templates/network-environment.yaml -e /home/stack/templates/aci_cs.yaml \
```

```
#-e ~/templates/rhel-registration-resource-registry.yaml -e \
#~/templates/environment-rhel-registration.yaml --control-flavor control
--compute-flavor compute
```

Step 5 Update the stack to push the new packages to the Overcloud:

```
openstack overcloud update stack -i overcloud
```

Upon completion of the preceding command, the Overcloud updates with the new version of the plug-in.

Performing an OSP Major Release Upgrade

For a major release upgrade, you must follow the Red Hat director documentation for a major release upgrade. For more information, see the "Director-Based Environments: Performing a Major Version Upgrade" section of *Upgrading Red Hat OpenStack Platform* on the Red Hat website.



Note In release 2.3 or later, live upgrade is only supported with composable services as described in this document. You cannot upgrade from previous versions.

You may also need to update some templates and update the `tripleo-ciscoaci` package. Using the right procedure, it is possible to perform a live upgrade of the Overcloud. Here is the summary of the steps:

Procedure

Step 1 Remove the `tripleo-ciscoaci` package from the existing OpenStack version.

Step 2 Stop and upgrade the undercloud by following the Red Hat director documentation to the end of section "Upgrading the Overcloud Images" in *Upgrading Red Hat OpenStack Platform* on the Red Hat website.

Step 3 Stop the aim processes on all overcloud controller nodes. This can be accomplished by using the following commands on the director:

Example:

```
source stackrc
for IP in $(nova list | grep ACTIVE | sed 's/.*ctlplane=//' | sed
's/ |//'); do ssh -o UserKnownHostsFile=/dev/null -o
StrictHostKeyChecking=no heat-admin@$IP "sudo systemctl stop
aim-event-service-rpc; sudo systemctl stop aim-aid; sudo systemctl
stop aim-event-service-polling"; done
```

Step 4 Install the `tripleo-ciscoaci` package for the new major Red Hat release.

Step 5 Update the templates required for a specific release.

This step may be release-specific, and the Cisco ACI plug-in upgrade may require changes. For more information, see the [Release Specific Changes, on page 4](#).

Step 6 Upgrade the Overcloud by following the rest of Red Hat the document.

Release Specific Changes

This section describe release specific changes to the templates that maybe require to upgrade between releases. Follow the section that correspond to your release version.

In OSP 11 and Ocata release of OpFlex plugin, the package "neutron-ml2-cisco" is deprecated and needs to be removed during the upgrade to OSP 11. These changes in the openstack-tripleo-templates are required for the upgrade from OSP 10 to OSP 11.

Procedure

Step 1

Edit the

`/usr/share/openstack-tripleo-heat-templates/puppet/services/tripleo-packages.yaml` file and add the highlighted lines:

```
- name: Fail when rpm-python wasn't present
  fail: msg="rpm-python package was not present before this run! Check environment before re-running"
  when: rpm_python_check.changed != false
  tags: step0
- name: clean yum cache
  tags: step0
  command: yum clean all
  ignore_errors: True
- name: remove neutron-ml2-cisco
  tags: step3
  yum: name=neutron-ml2-driver-apic state=removed
- name: Update all packages
  tags: step3
  yum: name=* state=latest
```

Step 2

Edit the

`/usr/share/openstack-tripleo-heat-templates/extraconfig/tasks/tripleo_upgrade_node.sh` file and add the highlighted line:

```
set -eu
yum -y remove neutron-ml2-driver-apic || true
NOVA_COMPUTE=""
```
