Cisco APIC Forwarding Scale Profiles

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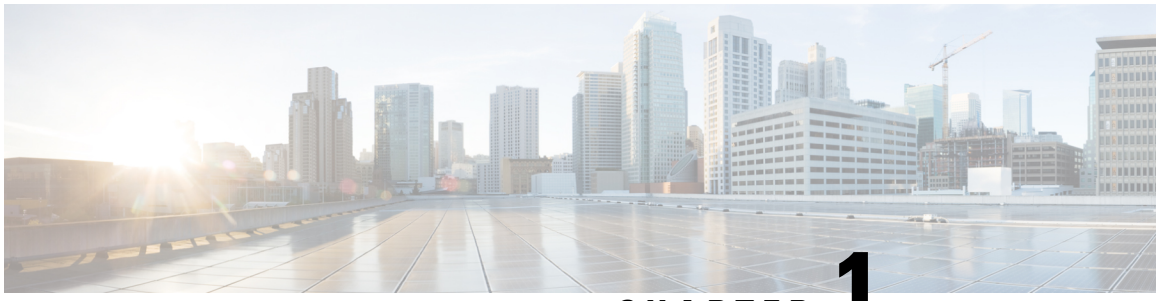


CHAPTER 1

New and Changed Information

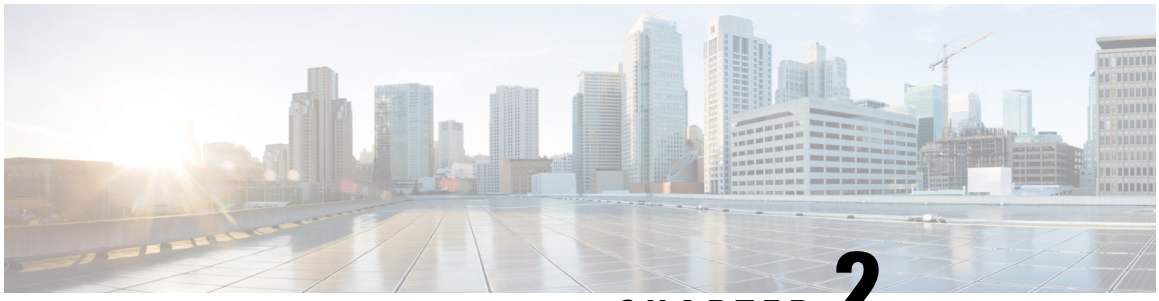
New and Changed Information

The following table provides an overview of the significant changes to the organization and features in this guide from the release the guide was first published to the current release. The table does not provide an exhaustive list of all changes made to the guide. Specific details about each change are available in the following sections.

Table 1: New and Changed Information

Release	New Feature or Update
Release 5.2(3)	Added support for forwarding scale profiles on Cisco Nexus N9K-C9332D-GX2B switches.
Release 5.2(1)	Added support for **High Policy** profile on Cisco Nexus C93180YC-FX3 and C93108TC-FX3P switches.
Release 5.1(3)	Added support for forwarding scale profiles on Cisco Nexus C93180YC-FX3 and C93108TC-FX3P switches.
Release 5.1(1)	Introduced **High IPv4 EP** and **Multicast Heavy** profiles on Cisco N9K-C93180YC-FX and Cisco N9K-C93600CD-GX switches with 32 GB RAM.
Release 5.0(1)	Added support for **High Policy** profile on Cisco Nexus 93180YC-EX and Cisco Nexus 9336C-FX2 switches.
Release 4.2(3l)	Added support for all forwarding scale profiles on Cisco Nexus 9364C-GX switches.
Release 4.2(2)	Added support for all forwarding scale profiles on Cisco Nexus 93600CD-GX switches.
Release 4.2(1)	Introduced **High Policy** profile supported on Cisco Nexus 93180YC-FX switches with 32 GB of RAM.

Release	New Feature or Update
Release 4.0(1)	Increased the multicast scale on **High Dual Stack** profile.
Release 3.2(1)	Introduced **High LPM** profile.
Release 3.1(1)	Introduced **High Dual Stack** profile.
Release 3.0(1)	Introduced **IPv4 Scale** profile.



CHAPTER 2

Overview and Guidelines

Forwarding Scale Profiles Overview

Cisco ACI and APIC allow you to configure different Forwarding Scale Profiles to suit your topology and deployment use cases. This section describes all Forwarding Scale Profiles and their purpose. Keep in mind, specific profiles may be unavailable in earlier releases or restricted to specific hardware platforms. For detailed information on hardware support and scalability numbers of each profile, see the release-specific chapters.

- **Dual Stack**—The default profile for all new supported switches that allows both IPv4 and IPv6 configurations.
- **High Dual Stack**—Provides increased IPv4, IPv6, and policy scale numbers compared to the default Dual Stack profile. This profile supports different scalability limits based on the specific switch platforms.
- **High LPM**—Provides scalability similar to the Dual Stack profile, but for deployments that require higher scale for longest prefix match (LPM) and lower policy scale.
- **High Policy**—This profile is similar to the Dual Stack profile but with higher policy scale. This profile has specific hardware requirements.
- **IPv4 Scale**—This profile is designed for IPv4-only deployments and allows you to configure higher IPv4 scale where no IPv6 configurations are needed.
- **High IPv4 EP Scale**—This profile is recommended to be used only for the ACI border leaf (BL) switches in Multi-Domain (ACI-SDA) Integration. It provides enhanced IPv4 EP and LPM scales specifically for these BLs and has specific hardware requirements.
- **Multicast Heavy**—This profiles provides an enhanced multicast scale and has specific hardware requirements.

Switch Behavior When Changing Forwarding Scale Profiles

Each ACI switch has a managed object (MO) called `topoctrlFwdScaleProf` which describes the existing and configured forward scale profiles on the switch using the following attributes:

- `currentProfile`, available starting with Release 4.1(1), indicates the forwarding scale profile that is currently running on the switch.
- `profType` indicates the forwarding scale profile that you configured for the switch.

The following table summarizes the expected behavior when changing the forwarding scale profile on a switch.

Action	Effect
Configured a supported FSP on the switch	The switch accepts the new forwarding scale profile. The following specific events occur: • The `profType` field changes to the newly configured profile • APIC prompts you to reload the switch for the change to take effect • After you reload the switch, the `currentProfile` field is updated to the new profile and the new profile takes effect
Configured an unsupported FSP on the switch	The switch does not accept the unsupported FSP and retains its original existing FSP. The following specific events occur: • The `profType` field changes to the newly configured profile • The `currentProfile` field and the currently enabled forwarding scale profile remain unchanged • APIC does not show the notification to reload that switch • Whether you reload the switch or not, it will continue to use its existing profile without change. • Whether you reload the switch or not, the `profType` field will continue to display the profile you attempted to configure until you manually change it again.

Guidelines and Limitations

- When downgrading to a release that does not support one or more switches in your current fabric, keep the following in mind:
  - If you downgrade your fabric to a release where one or more of your current switches are not supported, those switches will become inactive in the fabric.

  - If you later upgrade the fabric to a release where the switch is supported again, the APIC will not regain complete details about the switch. In this case, you will need to explicitly remove the switch from the APIC and then re-add it to the fabric.

- When downgrading to a release that does not support one or more of your current forwarding scale profiles, the default forwarding scale profile will be configured on the switch. You must reduce the configurations on the switch to fit the default profile before the upgrade.
- Because the IPv4 Scale forwarding scale profile does not support IPv6 configurations, you must remove all IPv6 configurations from the switches that need to be configured with the IPv4 Scale profile.
- Before switching between forwarding scale profiles, the configurations on the switch must be reduced appropriately and thoroughly verified so that scale parameters of the target profile are not exceeded.

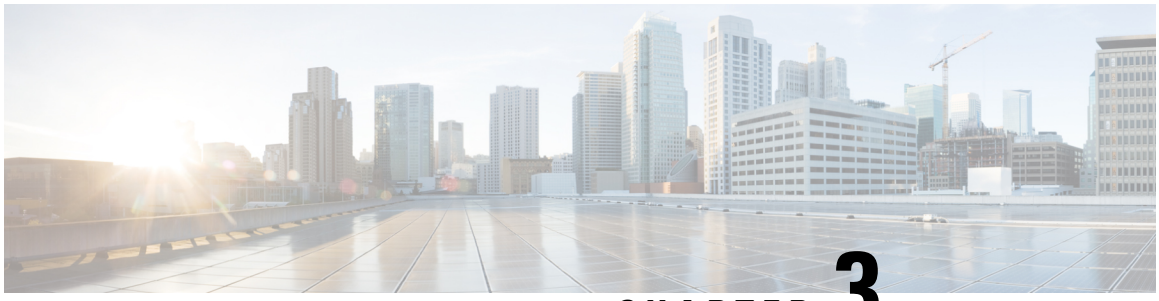
  For example, for switch models with EX at the end of the switch name, because the High Dual Stack profile has reduced scale support for contract policies, you must reduce the contracts scale accordingly before deploying that profile.
- Before migrating to minimal tenant multicast scale leaf profiles, such as High Dual Stack, we recommend that you first disable Layer 2 IGMP snooping, Layer 3 IGMP, and PIM-related configurations to prevent having a stale multicast state in your hardware.
- Applying a forwarding scale profile to a node requires a manual reload of that node. Any unsupported switches are ignored.
- vPCs associated with different forwarding scale profile settings are not supported. You must configure the vPC members with the same profile settings.
- With the default deny model in Cisco ACI, the configured tenant or VRFs have implicit rules that consume several TCAM entries for each VRF. With an increase in the number of VRFs configured on a single switch, these TCAM entries that are used per VRF also count toward the overall policy TCAM usage.
- Beginning with Release 4.1(1), the policy count updates that are reported by the leaf switches to the Cisco APIC through the MO `actrlRuleHit5min` is set to `0` for the High Dual Stack profile for all platforms.
- Beginning with Release 4.2(1), the policy count updates that are reported by the leaf switches to the Cisco APIC through the MO `actrlRuleHit5min` is set to `0` for the High Policy profile on the Cisco Nexus 93180YC-FX switch.
- Beginning with Release 4.2(2), the policy count updates that are reported by the leaf switches to the Cisco APIC through the MO `actrlRuleHit5min` is set to `0` for the High Policy profile on the Cisco Nexus 93600CD-GX switch.
- Beginning with Release 4.2(3l), the policy count updates that are reported by the leaf switches to the Cisco APIC through the MO `actrlRuleHit5min` is set to `0` for the High Policy profile on the Cisco Nexus 9364C-GX switch.
- Beginning with Release 5.2(1g), the policy count updates that are reported by the leaf switches to the Cisco APIC through the MO `actrlRuleHit5min` is set to `0` for the High Policy profile on the Cisco Nexus C93180YC-FX3 and C93108TC-FX3P switches.
- If you need to clear the configurations on the switch, we recommend using the `setup-clean-config.sh -k` command. The command will clear all configurations on the switch, except the forwarding scale profile and port profile configurations.

Switch Operations and Their Effect on Forwarding Scale Profiles

This section lists various operations on the switch and their effect on the forward scale profile configuration in releases 4.1(1) and later. We recommend that the following operations are performed during a maintenance window.

Operation	Is Forwarding Scale Profile (FSP) Preserved	Additional Details
Upgrade or Downgrade	Yes, if the particular FSP is supported in target version	The switch will retain its forwarding scale profile if the switch model and the deployed forwarding scale profile are supported on both the current and target image versions except in Release 3.2(4d). In Release 3.2(4d), where the scale profile is not preserved with the upgrade, you will need to reload the switch for the original scale profile to take effect. If the forwarding scale profile is not supported on the target release, the switch reverts to the default Dual Stack profile. If the switch itself is not supported on the target release, the switch will become inactive in the fabric.
Reload the switch	Yes	The switch will retain its forwarding scale profile
Clean reboot with `-k` option	Yes	The switch will retain its forwarding scale profile and port profile configurations, but erase all other configurations.
Enable maintenance mode	Yes	The switch will retain its forwarding scale profile
Commission the switch from maintenance mode	Yes, from Release 4.1(1) and later	For release 4.1(1) and later, the switch will reload with the original forwarding scale profile For releases prior to Release 4.1(1), the switch will join the switch fabric with default Dual Stack forwarding scale profile. You can then reload the switch for any previously configured forwarding scale profile to take effect

Operation	Is Forwarding Scale Profile (FSP) Preserved	Additional Details
Decommission the switch	No	The switch will erase all configuration, including the forwarding scale profile, and will show up with factory default configuration. The node serial number and other configurations will still be available on the APIC.
Commission a decommissioned switch	No	The switch will join the switch fabric with default Dual Stack forwarding scale profile. You can reload the switch for any previously configured forwarding scale profile to take effect.
Remove the switch from APIC	No	All configurations are erased on the switch. The switch serial number and all other details are also removed from the APIC



CHAPTER 3

Forwarding Scale Profile Configuration

Configuring Forwarding Scale Profiles Using GUI

The Forwarding Scale Profile policy provides different scalability options. For more information on the scalability options, see the *Forwarding Scale Profile Policy Overview* section in the chapter for your Cisco APIC release.

This section explains how to configure forwarding scale profiles using the APIC GUI.

Before you begin

- Read through and follow the Guidelines and Limitations, on page 4 section.
- Ensure you have access to the APIC GUI
- Ensure that your switches support the profile you want to configure. For the list of supported switches, see the release-specific chapter.
- Changing the scale profile for individual members of a VPC is not allowed. If members of the same VPC are associated with different leaf profiles, then a new leaf profile should be created with both members and the scale profile applied to it.

Step 1 To create the policy, perform the following steps:

a) Click **Fabric** > **Access Policies**.
b) From the **Navigation** pane, expand **Policies** and **Switch**.
c) Right-click **Forwarding Scale Profile** and choose **Create Forwarding Scale Profile Policy**.
d) In the **Create Forwarding Scale Profile Policy** dialog, enter a name for the policy in the **Name** field and choose the type.
e) Click **Submit**.

Step 2 To add the policy to a policy group to enable it to be associated with fabric nodes, perform the following steps:

a) Click **Fabric** > **Access Policies**.

b) Expand **Switches** and **Leaf Switches**.
c) Right-click **Policy Groups** and choose **Create Access Switch Policy Group**
d) From the **Create Access Switch Policy Group** dialog, click the **Forward Scale Profile Policy** drop-down arrow and choose the policy you previously configured.
e) Click **Submit**.

Step 3 To associate the policy group to a node, perform the following steps:

a) Click **Fabric** > **Access Policies**.
b) Expand **Switches** and **Leaf Switches**.
c) Right-click **Profiles** and choose **Create Leaf Profile**.
d) Enter a name for the profile in the **Name** field.
e) From the **Leaf Selectors** table, click the + icon to access the **Leaf Selectors** table fields.
f) Enter a name in the **Name** field.
g) Choose one or more switches to associate the the profile from the **Blocks** drop-down list.
h) Chose the policy group containing your Forwarding Scale Profile Policy from the **Policy Group** drop-down list.
i) Click **Update**.
j) Click **Next**.
k) Click **Finish**.

Step 4 Manually reload the switch after the forwarding scale profile policy is applied for the changes to take effect.

Configuring Forwarding Scale Profiles Using CLI

The Forwarding Scale Profile policy provides different scalability options. For more information on the scalability options, see the *Forwarding Scale Profile Policy Overview* section in the chapter for your Cisco APIC release.

This section explains how to configure forwarding scale profiles using the CLI.

Before you begin

- Read through and follow the Guidelines and Limitations, on page 4 section.
- Ensure you have access to the switch via CLI
- Ensure that your switches support the profile you want to configure. For the list of supported switches, see the release-specific section.
- Changing the scale profile for individual members of a VPC is not allowed. If members of the same VPC are associated with different leaf profiles, then a new leaf profile should be created with both members and the scale profile applied to it.

Step 1 Enter global configuration mode

```
apic1# configure
```

Step 2 Define the scale-profile policy

```
apic1(config)# scale-profile <scale-profile-name>
```

Step 3 Set the Forwarding Scale profile type.

You can use the **profile-type** {**dual-stack** | **high-dual-stack** | **high-lpm** | **high-policy** | **ipv4** } command to set the type:

```
apic1(config-scale-profile)# profile-type ipv4
```

Step 4 Return back to global configuration.

```
apic1(config-scale-profile)# exit
```

Step 5 Define the leaf policy group.

```
apic1(config)# template leaf-policy-group <leaf-policy-group-name>
```

Step 6 Configure the relation between the scale profile policy and the leaf policy group.

```
apic1(config-leaf-policy-group)# scale-profile <scale-profile-name>
```

Note The switches that support the forwarding scale profile policy must be manually reloaded after the forwarding scale profile policy is applied. For a list of supported switches, see the *Supported Platforms for Forwarding Scale Profile Policies* section in the chapter for your Cisco APIC release.

Step 7 Return back to global configuration.

```
apic1(config-leaf-policy-group)# exit
```

Step 8 Configure a leaf profile.

```
apic1(config)# leaf-profile <leaf-profile-name>
```

Step 9 Specify a group of leaf switches.

```
apic1(config-leaf-profile)# leaf-group <leaf-group>
```

Step 10 Add leaf switches to the leaf group.

```
apic1(config-leaf-profile)# leaf 201
```

Step 11 Specify the leaf policy group to be associated to the leaf switches

```
apic1(config-leaf-group)# leaf-policy-group <leaf-policy-group-name>
```

Step 12 Exit command mode.

```
apic1(config-leaf-policy-group)# exit
```

Step 13 (Optional) Display the current running configuration.

```
apic1(config)# show running-config
# Command: show running-config scale-profile testFwdScaleProf
# Time: Thu Jul 27 22:31:29 2017
  scale-profile testFwdScaleProf
    profile-type ipv4
    exit

apic1(config-leaf-group)# show running-config leaf-profile sampleLeafProf
# Command: show running-config leaf-profile sampleLeafProf
# Time: Tue Aug  1 11:19:58 2017
  leaf-profile sampleLeafProf
    leaf-group sampleLeafGrp
      leaf 201
      leaf-policy-group samplePolicyGrp
      exit
```

Step 14 Manually reload the switch after the forwarding scale profile policy is applied for the changes to take effect.

This example shows how to configure the IPv4 scale profile policy.

```
apic1# configure
apic1(config)# scale-profile testFwdScaleProf
apic1(config-scale-profile)# profile-type ipv4
apic1(config-scale-profile)# exit
apic1(config)# template leaf-policy-group samplePolicyGrp
apic1(config-leaf-policy-group)# scale-profile testFwdScaleProf
apic1(config-leaf-policy-group)# exit
apic1(config)# leaf-profile sampleLeafProf
apic1(config-leaf-profile)# leaf-group sampleLeafGrp
apic1(config-leaf-profile)# leaf 201
apic1(config-leaf-group)# leaf-policy-group samplePolicyGrp
apic1(config-leaf-group)# show running-config scale-profile testFwdScaleProf
# Command: show running-config scale-profile testFwdScaleProf
# Time: Thu Jul 27 22:31:29 2017
  scale-profile testFwdScaleProf
    profile-type ipv4
    exit
apic1(config-leaf-group)# show running-config template leaf-policy-group samplePolicyGrp
# Command: show running-config template leaf-policy-group samplePolicyGrp
# Time: Tue Aug  1 11:19:44 2017
  template leaf-policy-group samplePolicyGrp
    scale-profile testFwdScaleProf
    exit
apic1(config-leaf-group)# show running-config leaf-profile sampleLeafProf
# Command: show running-config leaf-profile sampleLeafProf
# Time: Tue Aug  1 11:19:58 2017
  leaf-profile sampleLeafProf
    leaf-group sampleLeafGrp
      leaf 201
      leaf-policy-group samplePolicyGrp
      exit
```

Configuring Forwarding Scale Profiles Using REST API

The Forwarding Scale Profile policy provides different scalability options. For more information on the scalability options, see the *Forwarding Scale Profile Policy Overview* section in the chapter for your Cisco APIC release.

This section explains how to configure forwarding scale profiles using REST API.

Before you begin

- Read through and follow the Guidelines and Limitations, on page 4 section.
- Ensure that your switches support the profile you want to configure. For the list of supported switches, see the release-specific section.
- Changing the scale profile for individual members of a VPC is not allowed. If members of the same VPC are associated with different leaf profiles, then a new leaf profile should be created with both members and the scale profile applied to it.

Step 1 To apply a forwarding scale profile policy with IPv4 scaling, send a post with XML similar to the following example:

```
<polUni>
    <infraInfra>
        <topoctrlFwdScaleProfilePol name="sampleFwdScaleProf" profType="ipv4"/>
        <infraAccNodePGrp name="sampleNodePolGrp">
            <infraRsTopoctrlFwdScaleProfPol tnTopoctrlFwdScaleProfilePolName="sampleFwdScaleProf"/>
        </infraAccNodePGrp>
        <infraNodeP name="nodeProf_101">
            <infraLeafS name="leafS_101" type="range">
                <infraNodeBlk name="test" from_="101" to_="101"/>
                <infraRsAccNodePGrp tDn="uni/infra/funcprof/accnodepgrp-sampleNodePolGrp "/>
            </infraLeafS>
        </infraNodeP>
    </infraInfra>
</polUni>
```

Step 2 Manually reload the switch after the forwarding scale profile policy is applied for the changes to take effect.

Verifying Forwarding Scale Profiles on the Switch

This section provides a few commands you can use to verify the forwarding scale profile configuration on your switch.

- Displaying forwarding scale profiles supported on a switch.

```
switch# cd /mit/sys/configProfile
switch# dir
cfgent-default   cfgent-high-dual-stack   cfgent-high-lpm
cfgent-high-policy   cfgent-ipv4   summary
```

- Displaying the current forwarding scale profile on a switch.

  In the following command,

  - `currentProfile`, indicates the forwarding scale profile that is currently running on the switch.

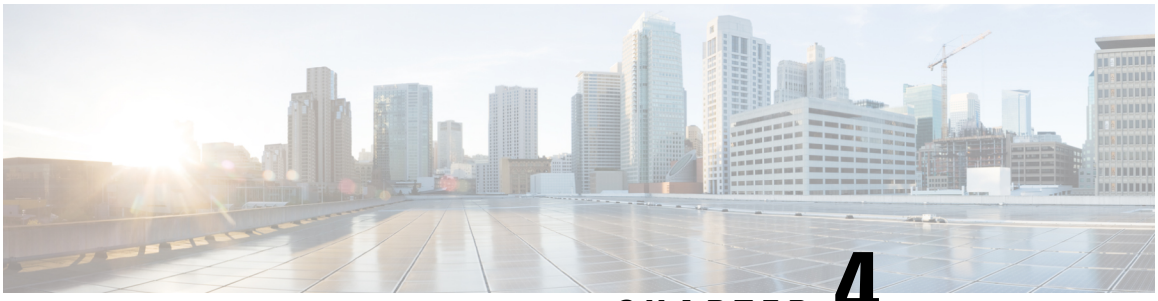
    Note that this field is available starting with Release 4.1(1). In prior releases, you can verify the currently running scale profile only by checking the scale values in the capacity dashboard of the APIC GUI.

  - `profType` indicates the forwarding scale profile that you configured for the switch.

```
switch# moquery -c topoctrlFwdScaleProf
# topoctrl.FwdScaleProf
annotation     :
childAction    :
currentProfile : sys/configProfile/cfgent-ipv4
dn             : sys/topoctrl/fwdprofile
extMngdBy      :
lcOwn          : local
modTs          : 2019-08-21T13:03:18.185-07:00
profType       : ipv4
rn             : fwdprofile
status         :
uid            : 0
```

- Display the policy (`actrlRule`) scale on the switch:

```
switch# moquery -c actrlRule -x rsp-subtree-include=count | grep count
count : 255000
```



CHAPTER 4

Forwarding Scale Profiles Information for Cisco APIC Release 5.2(3)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 5.2(3).

The following table summarizes platform support for each forwarding scale profile.

Table 2: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX, FX3, and GX Switches
High Policy	Yes	Yes, except on FXP switches. Requires 32GB of RAM. Different scale numbers than EX/FX2.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes
High IPv4 EP Scale	No	Only on N9K-C93180YC-FX, N9K-C93600CD-GX, N9K-C9332D-GX2B, and N9K-C93180YC-FX3 switches with 32GB RAM.

Scale Profile	Supported on EX and FX2 Switches	Supported on FX, FX3, and GX Switches
Multicast Heavy	No	Only on N9K-C93180YC-FX,N9K-C93180YC-FX3, N9K-C93108TC-FX3P, N9K-C93600CD-GX, and N9K-C9332D-GX2B switches with 32GB RAM.

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
  - Cisco Nexus C93180YC-FX3 switch
  - Cisco Nexus C93108TC-FX3P switch
  - Cisco Nexus 93600CD-GX switch
  - Cisco Nexus 9364C-GX switch
  - Cisco Nexus C9332D-GX2B switch
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
  - Cisco Nexus 9364C-GX with 32 GB of RAM
  - Cisco Nexus C9332D-GX2B with 32 GB of RAM
  - Cisco Nexus C93180YC-FX3 with 32 GB of RAM
  - Cisco Nexus C93108TC-FX3P with 32 GB of RAM
  - Cisco Nexus 93180YC-EX
  - Cisco Nexus 9336C-FX2
- The **High IPv4 EP** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus C93180YC-FX3 with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
  - Cisco Nexus C9332D-GX2B with 32 GB of RAM
- The **Multicast Heavy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM

- Cisco Nexus C93180YC-FX3 with 32 GB of RAM
- Cisco Nexus C93108TC-FX3P with 32 GB of RAM
- Cisco Nexus 93600CD-GX with 32 GB of RAM
- Cisco Nexus C9332D-GX2B with 32 GB of RAM

- Switches not listed here do not support forwarding scale profiles in this release.

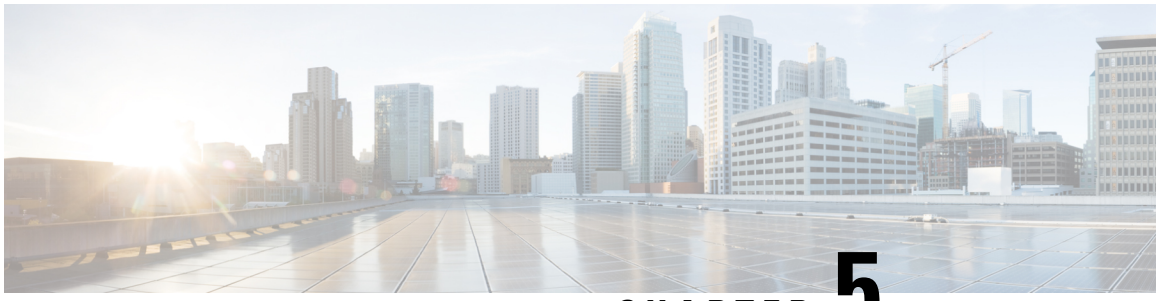
Scalability

The following table provides forwarding scale profiles scalability information in Release 5.2(3).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
High Policy	**Note** High Policy profile is supported only on the N9K-C9336C-FX2 and N9K-C93180YC-EX switches. • EP MAC: 16,000 • EP IPv4: 16,000 • EP IPv6: 8,000 • LPM: 8,000 • Policy: 100,000 • Multicast: 8,000	**Note** High Policy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, N9K-C9364C-GX, N9K-C9332D-GX2B, C93180YC-FX3, and C93108TC-FX3P switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
High IPv4 EP Scale	Not supported.	**Note** High IPv4 EP Scale profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, N9K-C9332D-GX2B, and N9K-C93180YC-FX3 switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 280,000 • EP IPv6: 12,000 • LPM: 40,000 • Policy: 64,000 • Multicast: 8,000
Multicast Heavy	Not supported.	**Note** Multicast Heavy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, N9K-C9332D-GX2B, N9K-C93180YC-FX3, and N9K-C93108TC-FX3P switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 64,000 • EP IPv6: 4,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 90,000 with (S,G) scale not exceeding 72,000



CHAPTER 5

Forwarding Scale Profiles Information for Cisco APIC Release 5.2(1)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 5.2(1).

The following table summarizes platform support for each forwarding scale profile.

Table 3: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX, FX3, and GX Switches
High Policy	Yes	Yes, except on FXP switches. Requires 32GB of RAM. Different scale numbers than EX/FX2.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes
High IPv4 EP Scale	No	Only on N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C93180YC-FX3 switches with 32GB RAM.

Scale Profile	Supported on EX and FX2 Switches	Supported on FX, FX3, and GX Switches
Multicast Heavy	No	Only on N9K-C93180YC-FX,N9K-C93180YC-FX3, N9K-C93108TC-FX3P, and N9K-C93600CD-GX switches with 32GB RAM.

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
  - Cisco Nexus C93180YC-FX3 switch
  - Cisco Nexus C93108TC-FX3P switch
  - Cisco Nexus 93600CD-GX switch
  - Cisco Nexus 9364C-GX switch
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
  - Cisco Nexus 9364C-GX with 32 GB of RAM
  - Cisco Nexus C93180YC-FX3 with 32 GB of RAM
  - Cisco Nexus C93108TC-FX3P with 32 GB of RAM
  - Cisco Nexus 93180YC-EX
  - Cisco Nexus 9336C-FX2
- The **High IPv4 EP** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus C93180YC-FX3 with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
- The **Multicast Heavy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus C93180YC-FX3 with 32 GB of RAM
  - Cisco Nexus C93108TC-FX3P with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM

- Switches not listed here do not support forwarding scale profiles in this release.

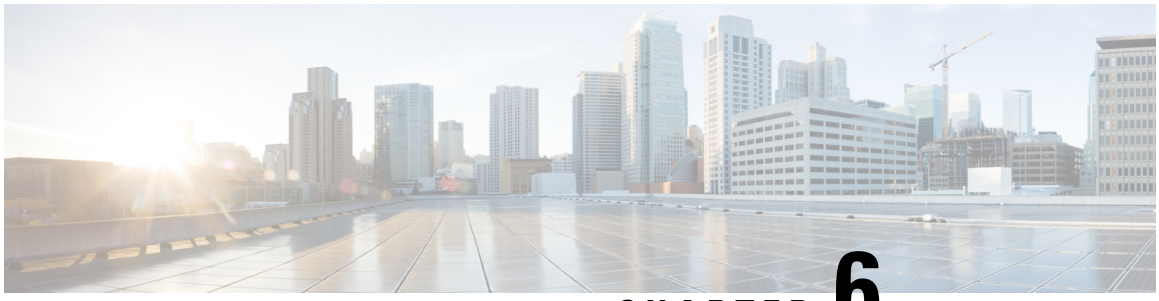
Scalability

The following table provides forwarding scale profiles scalability information in Release 5.2(1).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
High Policy	**Note** High Policy profile is supported only on the N9K-C9336C-FX2 and N9K-C93180YC-EX switches. • EP MAC: 16,000 • EP IPv4: 16,000 • EP IPv6: 8,000 • LPM: 8,000 • Policy: 100,000 • Multicast: 8,000	**Note** High Policy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, N9K-C9364C-GX, C93180YC-FX3, and C93108TC-FX3P switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000
High IPv4 EP Scale	Not supported.	**Note** High IPv4 EP Scale profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C93180YC-FX3 switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 280,000 • EP IPv6: 12,000 • LPM: 40,000 • Policy: 64,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
Multicast Heavy	Not supported.	**Note** Multicast Heavy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, N9K-C93180YC-FX3, and N9K-C93108TC-FX3P switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 64,000 • EP IPv6: 4,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 90,000 with (S,G) scale not exceeding 72,000



CHAPTER 6

Forwarding Scale Profiles Information for Cisco APIC Release 5.1(3)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 5.1(3).

The following table summarizes platform support for each forwarding scale profile.

Table 4: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX, FX3, and GX Switches
High Policy	Yes	Yes, except on FXP switches, C93180YC-FX3, and C93108TC-FX3P. Requires 32GB of RAM. Different scale numbers than EX/FX2.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes

Scale Profile	Supported on EX and FX2 Switches	Supported on FX, FX3, and GX Switches
High IPv4 EP Scale	No	Only on N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C93180YC-FX3 switches with 32GB RAM.
Multicast Heavy	No	Only on N9K-C93180YC-FX,N9K-C93180YC-FX3, N9K-C93108TC-FX3P, and N9K-C93600CD-GX switches with 32GB RAM.

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
  - Cisco Nexus C93180YC-FX3 switch
  - Cisco Nexus C93108TC-FX3P switch
  - Cisco Nexus 93600CD-GX switch
  - Cisco Nexus 9364C-GX switch
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
  - Cisco Nexus 9364C-GX with 32 GB of RAM
  - Cisco Nexus 93180YC-EX
  - Cisco Nexus 9336C-FX2
- The **High IPv4 EP** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus C93180YC-FX3 with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
- The **Multicast Heavy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus C93180YC-FX3 with 32 GB of RAM
  - Cisco Nexus C93108TC-FX3P with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM

- Switches not listed here do not support forwarding scale profiles in this release.

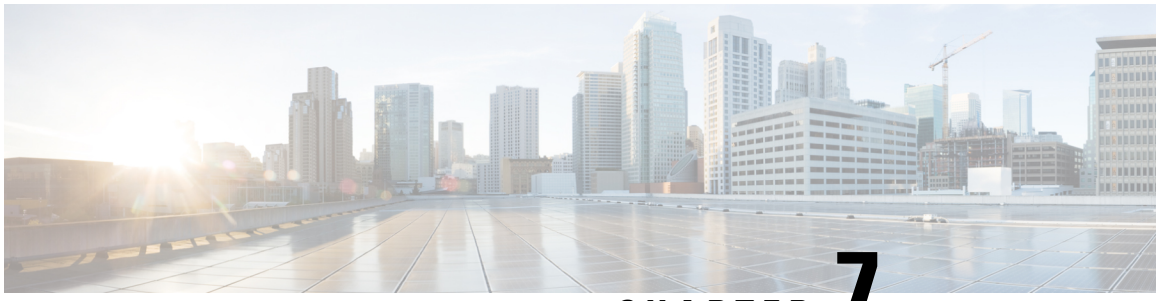
Scalability

The following table provides forwarding scale profiles scalability information in Release 5.1(3).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
High Policy	**Note** High Policy profile is supported only on the N9K-C9336C-FX2 and N9K-C93180YC-EX switches. • EP MAC: 16,000 • EP IPv4: 16,000 • EP IPv6: 8,000 • LPM: 8,000 • Policy: 100,000 • Multicast: 8,000	**Note** High Policy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C9364C-GX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000
High IPv4 EP Scale	Not supported.	**Note** High IPv4 EP Scale profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C93180YC-FX3 switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 280,000 • EP IPv6: 12,000 • LPM: 40,000 • Policy: 64,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX, FX3, and GX Switches
Multicast Heavy	Not supported.	**Note** Multicast Heavy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, N9K-C93180YC-FX3, and N9K-C93108TC-FX3P switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 64,000 • EP IPv6: 4,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 90,000 with (S,G) scale not exceeding 72,000



CHAPTER 7

Forwarding Scale Profiles Information for Cisco APIC Release 5.1(1)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 5.1(1).

The following table summarizes platform support for each forwarding scale profile.

Table 5: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX and GX Switches
High Policy	Yes	Yes, except on FXP switches. Requires 32GB of RAM. Different scale numbers than EX/FX2.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes
High IPv4 EP Scale	No	Only on N9K-C93180YC-FX and N9K-C93600CD-GX switches with 32GB RAM.
Multicast Heavy	No	Only on N9K-C93180YC-FX and N9K-C93600CD-GX switches with 32GB RAM.

- Forwarding scale profiles are supported on the following specific switch models switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
  - Cisco Nexus 93600CD-GX switch
  - Cisco Nexus 9364C-GX switch
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
  - Cisco Nexus 9364C-GX with 32 GB of RAM
  - Cisco Nexus 93180YC-EX
  - Cisco Nexus 9336C-FX2
- The **High IPv4 EP** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
- The **Multicast Heavy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
- Switches not listed here do not support forwarding scale profiles in this release.

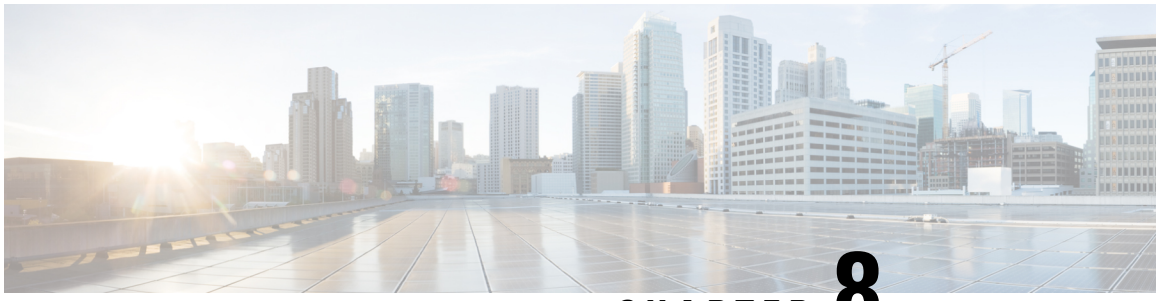
Scalability

The following table provides forwarding scale profiles scalability information in Release 5.1(1).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
High Policy	**Note** High Policy profile is supported only on the N9K-C9336C-FX2 and N9K-C93180YC-EX switches. • EP MAC: 16,000 • EP IPv4: 16,000 • EP IPv6: 8,000 • LPM: 8,000 • Policy: 100,000 • Multicast: 8,000	**Note** High Policy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C9364C-GX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000
High IPv4 EP Scale	Not supported.	**Note** High IPv4 EP Scale profile is supported only on the N9K-C93180YC-FX and N9K-C93600CD-GX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 280,000 • EP IPv6: 12,000 • LPM: 40,000 • Policy: 64,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
Multicast Heavy	Not supported.	**Note** Multicast Heavy profile is supported only on the N9K-C93180YC-FX and N9K-C93600CD-GX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4 Local: 24,000 • EP IPv4 Total: 64,000 • EP IPv6: 4,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 90,000 with (S,G) scale not exceeding 72,000



CHAPTER 8

Forwarding Scale Profiles Information for Cisco APIC Release 5.0(1)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 5.0(1).

The following table summarizes platform support for each forwarding scale profile.

Table 6: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX and GX Switches
High Policy	Yes	Yes, except on FXP switches. Requires 32GB of RAM. Different scale numbers than EX/FX2.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches

- Cisco Nexus 93600CD-GX switch
- Cisco Nexus 9364C-GX switch

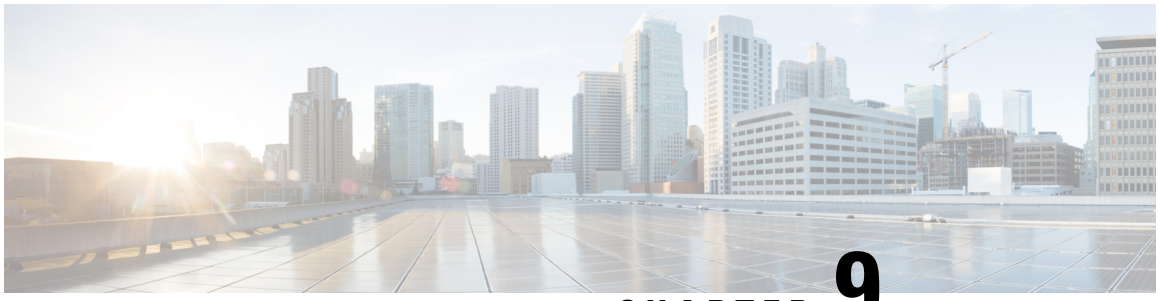
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
  - Cisco Nexus 9364C-GX with 32 GB of RAM
  - Cisco Nexus 93180YC-EX
  - Cisco Nexus 9336C-FX2
- Switches not listed here do not support forwarding scale profiles in this release.

Scalability

The following table provides forwarding scale profiles scalability information in Release 5.0(1).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
High Policy	**Note** High Policy profile is supported only on the N9K-C9336C-FX2 and N9K-C93180YC-EX switches. • EP MAC: 16,000 • EP IPv4: 16,000 • EP IPv6: 8,000 • LPM: 8,000 • Policy: 100,000 • Multicast: 8,000	**Note** High Policy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C9364C-GX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000



CHAPTER 9

Forwarding Scale Profiles Information for Cisco APIC Release 4.2(3)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 4.2(3l) and later releases. Scale information for Release 4.2(3j) is the same as Forwarding Scale Profiles Information for Cisco APIC Release 4.2(2).

The following table summarizes platform support for each forwarding scale profile.

Table 7: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX and GX Switches
High Policy	No	Only supported on 93180YC-FX, 93600CD-GX, and 9364C-GX with 32 GB of RAM.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes

The forwarding scale profile policy is only supported on the following switches:

Note Support for Cisco Nexus N9K-C9364C-GX switches was added in Release 4.2(3l). This switch is not supported in the earlier 4.2(3) releases.

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
  - Cisco Nexus 93600CD-GX switch
  - Cisco Nexus 9364C-GX switch
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
  - Cisco Nexus 9364C-GX with 32 GB of RAM
- Switches not listed here do not support forwarding scale profiles in this release.

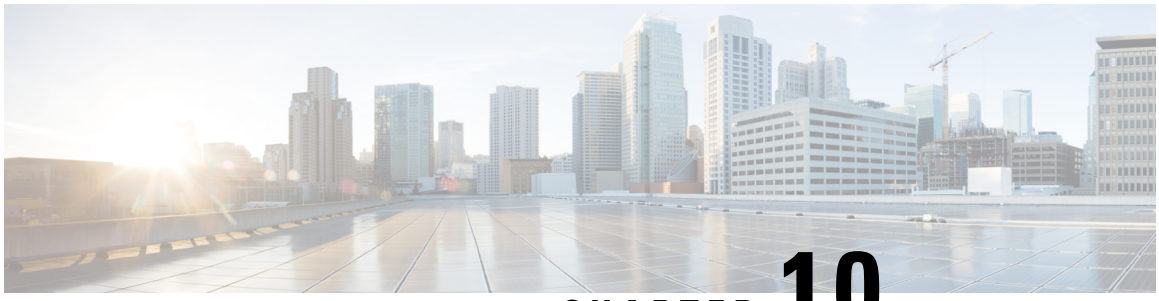
Scalability

The following table provides forwarding scale profiles scalability information in Release 4.2(3l) and later releases. Scalability information for Release 4.2(3j) is the same as Forwarding Scale Profiles Information for Cisco APIC Release 4.2(2).

Note Support for Cisco Nexus N9K-C9364C-GX switches was added in Release 4.2(3l). This switch is not supported in the earlier 4.2(3) releases.

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
High Policy	Not supported	**Note** High Policy profile is supported only on the N9K-C93180YC-FX, N9K-C93600CD-GX, and N9K-C9364C-GX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000



CHAPTER 10

Forwarding Scale Profiles Information for Cisco APIC Release 4.2(2)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 4.2(2).

The following table summarizes platform support for each forwarding scale profile.

Table 8: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX and GX Switches
High Policy	No	Only supported on 93180YC-FX and 93600CD-GX with 32 GB of RAM.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
  - Cisco Nexus 93600CD-GX switch

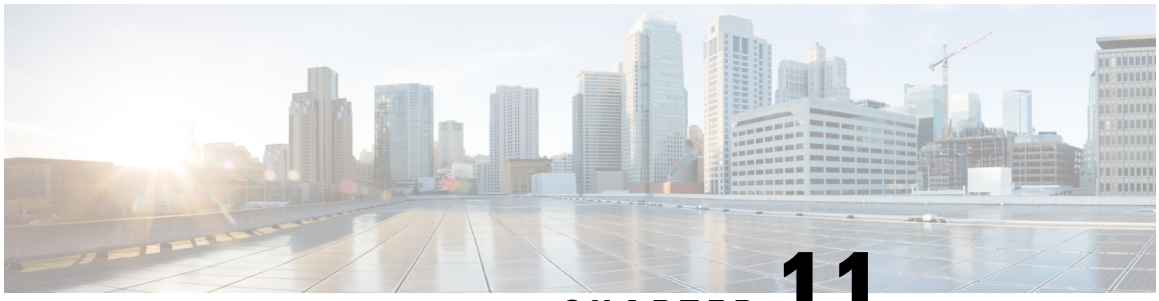
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM
  - Cisco Nexus 93600CD-GX with 32 GB of RAM
- Switches not listed here do not support forwarding scale profiles in this release.

Scalability

The following table provides forwarding scale profiles scalability information in Release 4.2(2).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
High Policy	Not supported	**Note** High Policy profile is supported only on the N9K-C93180YC-FX and N9K-C93600CD-GX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX and GX Switches
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000



CHAPTER 11

Forwarding Scale Profiles Information for Cisco APIC Release 4.2(1)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 4.2(1).

The following table summarizes platform support for each forwarding scale profile.

Table 9: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX Switches
High Policy	No	Only supported on 93180YC-FX with 32 GB of RAM.
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
- The **High Policy** profile is supported only on the following switches:
  - Cisco Nexus 93180YC-FX with 32 GB of RAM

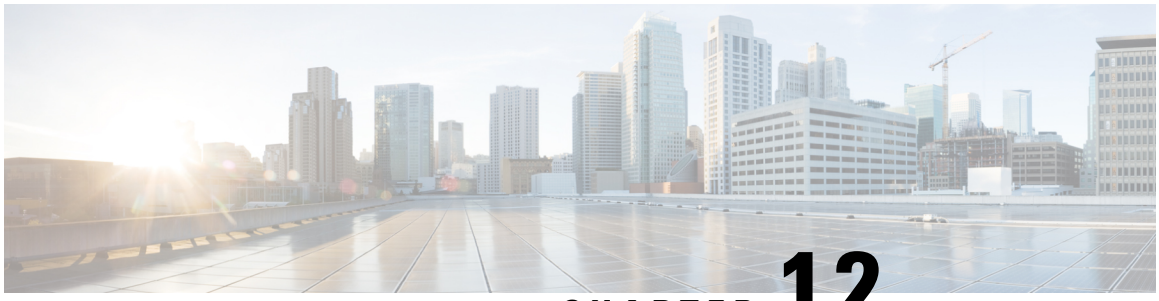
- Switches not listed here do not support forwarding scale profiles in this release.

Scalability

The following table provides forwarding scale profiles scalability information in Release 4.2(1).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX Switches
High Policy	Not supported	**Note** High Policy profile is supported only on the N9K-C93180YC-FX switches with 32GB of RAM. • EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 256,000 • Multicast: 8,000
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000

Scale Profile	Scale for EX and FX2 Switches	Scale for FX Switches
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000



CHAPTER 12

Forwarding Scale Profiles Information for Cisco APIC Release 4.1(1)

Supported Platforms

This section provides forwarding scale profiles hardware support information for Release 4.1(1).

The following table summarizes platform support for each forwarding scale profile.

Table 10: Supported Switches

Scale Profile	Supported on EX and FX2 Switches	Supported on FX Switches
Dual Stack	Yes	Yes
High Dual Stack	Yes	Yes Different scale numbers than EX/FX2.
High LPM	Yes	Yes
IPv4 Scale	Yes	Yes

- Forwarding scale profiles are supported on the following switches:
  - Cisco Nexus 9300-EX series switches
  - Cisco Nexus 9300-FX series switches
  - Cisco Nexus 9300-FX2 series switches
- Switches not listed here do not support forwarding scale profiles in this release.

Scalability

The following table provides forwarding scale profiles scalability information in Release 4.1(1).

Scale Profile	Scale for EX and FX2 Switches	Scale for FX Switches
Dual Stack	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 20,000 • Policy: 64,000 • Multicast: 8,000
High Dual Stack	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 24,000 • LPM: 38,000 • Policy: 8,000 • Multicast: 512	• EP MAC: 64,000 • EP IPv4: 64,000 • EP IPv6: 48,000 • LPM: 38,000 • Policy: 128,000 • Multicast: 32,000
High LPM	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000	• EP MAC: 24,000 • EP IPv4: 24,000 • EP IPv6: 12,000 • LPM: 128,000 • Policy: 8,000 • Multicast: 8,000
IPv4 Scale	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000	• EP MAC: 48,000 • EP IPv4: 48,000 • EP IPv6: 0 • LPM: 38,000 • Policy: 64,000 • Multicast: 8,000