

Cisco EasyQoS Application for APIC-EM Release Notes, Release 1.6.0.x

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Cisco EasyQoS Application for APIC-EM Release Notes

This document describes the Cisco EasyQoS features, limitations, and bugs for release 1.6.0.x.

Along with Cisco EasyQoS, Cisco APIC-EM supports the following additional applications:

- Cisco Network Visibility
- Cisco Path Trace
- Cisco Active Advisor
- Cisco Integrity Verification
- Cisco Remote Troubleshooter
- Cisco Wide Area Bonjour
- Cisco IWAN
- Cisco Network PnP

For information about the Cisco APIC-EM controller infrastructure (system requirements, security, licensing, supported multi-host configurations, and so on) and the other Cisco APIC-EM applications, see their corresponding release notes at the following URL:

<http://www.cisco.com/c/en/us/support/cloud-systems-management/one-enterprise-network-controller/products-release-notes-list.html>

What's New in Cisco EasyQoS for APIC-EM, Release 1.6.0.x

The Cisco APIC-EM software release provides the following new Cisco EasyQoS features and functionality:

- New Cisco EasyQoS custom queuing feature. Custom queuing policies can now be applied to both ingress and egress queuing for 2P6Q4T ingress and egress queuing (Two strict-priority queues, six standard queues, four thresholds, each configurable as either WRED-drop or tail-drop).
- Updated EasyQoS configuration that is applied to Cisco Catalyst 3650 and 3850 switches running the following software versions:
 - Cisco IOS XE 3.6.6 and higher
 - Cisco IOS XE 3.7.5 and higher

This updated EasyQoS configuration issues the **queue-softmax-multiplier 1200** command on the switches. This command provides a significant increase in buffering capacity for real-time queues (PQ2), as well as a significant increase in buffering capacity for non-real-time queues.

- Cisco EasyQoS support for Cisco 4221 Series Integrated Services Routers (ISR).
- New Fastlane QoS feature—You can now enable or disable Fastlane QoS for the EasyQoS application using the controller's GUI.

For detailed information about the above new features and functionality, see the *Cisco EasyQoS Application for APIC-EM User Guide*. For detailed information about the new platform support, see *Cisco EasyQoS Application for APIC-EM Supported Platforms*.

Cisco EasyQoS Supported Platforms and Software Requirements

For information about the network devices and software versions supported for this release by the EasyQoS app, see <http://www.cisco.com/c/en/us/support/cloud-systems-management/one-enterprise-network-controller/products-device-support-tables-list.html>

Installing or Upgrading EasyQoS

The EasyQoS image is built into the APIC-EM controller image. When you install or upgrade Cisco APIC-EM, the Cisco EasyQoS application is installed or upgraded as well.

After installing or upgrading the APIC-EM software, you can begin to use EasyQoS by enabling the application. For information about how to enable applications, see the *Cisco Application Policy Infrastructure Controller Enterprise Module Administration Guide*. For any of the following information, see these sources:

Table 1: Information Sources for Installing or Upgrading EasyQoS

Information	Source
Installing APIC-EM or EasyQoS	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Installation Guide</i>
Upgrading APIC-EM or EasyQoS	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Upgrade Guide</i>
Obtaining bug information about APIC-EM	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Release Notes</i>

Caveats

Open Caveats

The following table lists the open caveats for this release.

Caveat ID Number	Headline
CSCvg17773	<p>There is a behavior difference when you disable Fastlane after enabling it using EasyQoS. The following is provided as an example of this issue.</p> <p>After creating a wireless policy using EasyQoS with Fastlane enabled and that wireless policy is pushed to the WLC, the quality of service is 'Platinum' as expected. Later, Fastlane is disabled using the controller's GUI. When you then reapply the policy, log into the WLC, and run the wlan check qos command, the quality of service is 'Silver' and Fastlane is disabled. This is incorrect, with Fastlane disabled the quality of service should still be 'Platinum'.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCve50191	<p>The DSCP customization is not applied for queuing policy on MLS and Nexus 7000 QoS platforms.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCve16525	<p>Incorrect configuration sent to Cisco Catalyst 6000 switch ACCESS role with port-channel.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCve46220	<p>When rollback and re-apply are done simultaneously policy configuration does not complete.</p> <p>Workaround:</p> <p>On a policy re-apply, the policy configuration will be completed.</p>
CSCve51471	<p>Restore feature does not work for queuing policy with MLS QoS platforms.</p> <p>For MLS QoS platforms, the queuing policy is configured directly on the interface. EasyQoS may change the policy, so there is no previous configuration saved on the switch platform. Therefore, clicking on the Restore button will not restore the pre-EasyQoS queuing policy for these platforms. Note that the ingress classification and marking policy will be restored, because they use service-policy definitions applied to the interfaces.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>

Caveat ID Number	Headline
CSCuy37443	<p>The QoS statistics output "queueBandwidthbps" shows NA when configured with several commands.</p> <p>On an ISR router, configure the policy-map with the bandwidth and priority commands. Start a flow analysis with QoS statistics collection request with the ISR router in the path. This happens when configured with following commands:</p> <ul style="list-style-type: none"> • bandwidth percent • priority percent • priority (strict priority) <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCuy52361	<p>Traffic will be disrupted when applying an EasyQoS policy on a Cisco Catalyst 4500 series switch that is using port channels.</p> <p>Workaround:</p> <p>When configuring EasyQoS on a Cisco Catalyst 4500 series switch using port channels, we recommend that you apply the EasyQoS policy during a maintenance window or by changing the routing metrics (either EIGRP or OSPF) to remove traffic off of the member links during the application of the policy.</p>
CSCva39044	<p>When a Cisco 2500 Series Wireless Controller (WLC) is upgraded from version 7.4.100.0 or lower to any version that EasyQos supports, EasyQos can push a policy to the WLC, but it cannot attach the WLAN. In this scenario, EasyQos should not push the policy to the WLC. Instead, it should display a message on the EasyQos GUI similar to the following:</p> <p>"AVC is not supported with the current bootloader version (1.0.16). Please upgrade the bootloader to version 1.0.18 or Field Upgradable software version 1.8.0.0 or higher. See Cisco documentation for information about Field Upgradable software."</p> <p>This issue is specific to the Cisco 2500 Series Wireless Controller (WLC).</p> <p>Workaround:</p> <p>Upgrade the wireless controller bootloader to version 1.0.18 or higher, perform an inventory synchronization, and reapply the policy.</p>

Caveat ID Number	Headline
CSCvb58195	<p>An application may be omitted from the ACL due to limited TCAM resources, while higher rank applications are included in the ACL. When editing advanced settings for such NBAR applications in EasyQoS Policies window (e.g. change to bi-directional or add consumer application), it will still be omitted from the ACL in case of limited TCAM resources.</p> <p>Workaround:</p> <p>Mark the edited application as "Favorite" in the EasyQoS Application Registry screen. This will cause the application to be highly ranked and included in the ACL.</p>
CSCvb49220	<p>In the EasyQoS application page, the unassigned count includes all devices that a user has access to; although, only devices for which the user is an admin are actually displayed.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCvc79652	<p>When the destination port and IP address are not provided in an input flow, EasyQoS looks up this information in the custom application profile and should display it in the Dynamic QoS tab. However, EasyQoS does not display it.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCvc81320	<p>EasyQoS reports an error message that the QoS configuration failed due to an invalid command for Cisco Nexus devices.</p> <p>If a Cisco Nexus device has virtual device contexts (VDCs) configured, and you try to apply a QoS policy configuration with the non-default/non-admin VDC, EasyQoS fails to configure the device and reports an error.</p> <p>Workaround</p> <p>To avoid this issue, discover and perform EasyQoS operations through the default/admin VDC.</p>

Caveat ID Number	Headline
CSCvc95074	<p>When the configuration for a custom application is removed from a device, EasyQoS fails to remove all of the configuration. The remarks and ACL commands are not being removed.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCvd13950	<p>Generating a configuration for preview takes more than a minute for Cisco Catalyst 3850 stackable switches that are configured to full scale limits.</p> <p>Workaround:</p> <p>There is no workaround at this time.</p>
CSCvf98731	<p>After deleting a policy in an EasyQoS scope and then creating and applying the same policy in that scope, different configurations are generated for the policy on the Cisco Catalyst 6500 switch.</p> <p>Workaround:</p> <p>When QoS policy is deleted from a Cisco Catalyst 6500 switch, the device should be resynchronized before a new QoS policy is applied. This can be accomplished through a manual resync from the Device Inventory screen, or by waiting until after the next polling interval. The resync will ensure that APIC-EM controller and EasyQoS has the current configuration of the device before applying the new QoS policy.</p>

Resolved Caveats

The following table lists the resolved caveats for this release.



Note

For a list of caveats resolved in an earlier software release, see the Cisco APIC-EM release notes for the specific release.

Bug ID Number	Headline
CSCvg13009	<p>EasyQoS fails to push matching policies to devices with custom application queuing policies configured. This occurs in brownfield deployments.</p>
CSCve53844	<p>The policy scopes icon does not correctly reflect the policy configuration status.</p>

Bug ID Number	Headline
CSCve59932	The 'plim' QoS configurations are pushed to the Cisco Cloud Services Router 1000v.
CSCvf35118	For Cisco Catalyst 6880 switches, when you try to exclude interfaces the interface list does not load in GUI.
CSCvf36473	Custom Queuing Policies should be applied to both ingress and egress queuing for 2P4Q6T.
CSCve98296	A Monitoring and Threshold sensitivity factor higher than 50 may result in a negative health score for severe packet drops instead of a zero health score.
CSCve59932	Plim qos configurations are pushed to CSRv1000.
CSCve53844	Policy scopes icon not reflecting policy configuration status correctly for EasyQoS.

Using the Bug Search Tool

Use the Bug Search tool to search for a specific bug or to search for all bugs in this release.

Procedure

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- Step 1** Go to <http://tools.cisco.com/bugsearch>.
- Step 2** At the Log In screen, enter your registered Cisco.com username and password; then, click **Log In**. The Bug Search page opens.
- Note** If you do not have a Cisco.com username and password, you can register for them at <http://tools.cisco.com/RPF/register/register.do>.
- Step 3** To search for a specific bug, enter the bug ID in the Search For field and press **Return**.
- Step 4** To search for bugs in the current release:
- In the Search For field, enter APIC-EM and press **Return**. (Leave the other fields empty.)
 - When the search results are displayed, use the filter tools to find the types of bugs you are looking for. You can search for bugs by modified date, status, severity, and so forth.
- Note** To export the results to a spreadsheet, click the **Export Results to Excel** link.
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EasyQoS Limitations and Restrictions

The EasyQoS application has the following limitations and restrictions.



Note Refer to the other Cisco APIC-EM application release notes or Cisco APIC-EM controller release notes for information about any other application or infrastructure-specific issues.

- The Postgres service for the Cisco APIC-EM controller restarted on a scale setup with 10,000 devices which was idle for 24-36 hours.
- When entering characters in the EasyQoS GUI for a URL field while adding a custom application, Cisco EasyQoS supports up to 30 characters. The following Cisco IOS versions support only 29 characters in the URL field:
 - 15.5(03)S3.16
 - 15.5(03)M3.1
 - 15.6(3)M1
 - 16.3.2

If your device is running one of the above Cisco IOS versions, then only enter up to 29 characters in the URL field.

- Custom apps created using the EasyQoS GUI application require an IP address (mandatory field). Custom apps created using the API do not require an IP address (optional field). Custom apps created without an IP address using the API will fail when applied to a NBAR router. NBAR routers do not support applications without an IP address. To apply the policy on NBAR routers, please remove the custom app from the list.
- When removing a network device from a scope in EasyQoS, options that permit you to restore to the original policy or delete the policy are not triggered. Additionally, unlike the option in EasyQoS that permits you to reapply a policy, there are no options to restore an original policy or to delete a policy when a policy fails on the network devices.
- For the EasyQoS application, the maximum number of devices that can be configured for a scope is 2000.
- Cisco EasyQoS is not supported on the Cisco ASR 1000 series router running Cisco IOS XE 16.3.1.
- Within the EasyQoS application, Dynamic QoS is a beta functionality for this release.
- The DSCP-to-UP mappings provisioned by EasyQoS to WLC platforms are not changed, regardless of whether the network administrator has modified the DSCP marking assigned to a given traffic-class. This could result in sub-optimal QoS. This may occur if the traffic-class is assigned a DSCP marking which maps to the wrong IEEE 802.11 user priority (UP). For example, if a network administrator assigns the Multimedia-Streaming video traffic-class a DSCP value that maps to a UP that belongs to the Best Effort 802.11 access category (AC), then Multimedia-Streaming traffic will receive Best Effort service across the wireless medium.
- When rolling back an APIC-EM 1.5 policy involving WLC platforms, EasyQoS will remove the AVC Profile from the WLAN/SSID, and will change the QoS Profile to Silver (Best Effort). EasyQoS will leave Fastlane enabled for the WLAN/SSID, although there is no AVC Profile associated with Fastlane and the QoS Profile associated with the WLAN/SSID has been changed from Platinum (the default with Fastlane) to Silver.
- The Cisco EasyQoS application does not support multilink interfaces.

- At present, the EasyQoS application does not support devices with a cellular interface. This functionality may be added in a later release.
- The application does not support configuring Quality of Service in a port-channel interface for ISR 4000 routers.
- If the name of the sub-interface exceeds 64 characters, then complete the following steps:
 1. Run the following command on the device.


```
snmp ifmib ifalias long
```
 2. Resync the device in APIC-EM. Confirm that the change has been applied.
 3. Reapply the QoS policy.

**Important**

For specific EasyQoS feature support and restrictions by platform and line card, see *Supported Platforms for the Cisco Application Policy Infrastructure Controller Enterprise Module*.

Service and Support

Troubleshooting

See the *Cisco Application Policy Infrastructure Controller Enterprise Module Troubleshooting Guide*, for troubleshooting procedures.

Related Documentation

The following publications are available for the Cisco APIC-EM:

Cisco APIC-EM Controller Documentation

For this type of information...	See this document...
Release information, including new features, system requirements, and open and resolved caveats.	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Release Notes</i>
Installation and configuration of the controller, including post-installation tasks.	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Installation Guide</i>
Introduction to the Cisco APIC-EM GUI and its applications.	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Quick Start Guide</i> ¹
Configuration of user accounts, RBAC scope, security certificates, authentication and password policies, and global discovery settings. Monitoring and managing Cisco APIC-EM services. Backup and restore. Cisco APIC-EM APIs.	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Administrator Guide</i>

For this type of information...	See this document...
Troubleshooting the controller, including the installation, services, and passwords. Developer console. How to contact the Cisco Technical Assistance Center (TAC).	<i>Cisco Application Infrastructure Controller Enterprise Module Troubleshooting Guide</i>
Tasks to perform before updating the controller to the latest version. Software update instructions. Tasks to perform after an update.	<i>Cisco Application Infrastructure Controller Enterprise Module Upgrade Guide</i>

¹ Available from the APIC-EM controller **System Info** window.

Cisco Active Advisor Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco Active Advisor application.	<i>Cisco Active Advisor for APIC-EM Release Notes</i>

Cisco EasyQoS Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco EasyQoS application.	<i>Cisco EasyQoS Application for APIC-EM Release Notes</i>
Supported platforms and software releases.	<i>Cisco EasyQoS Application for APIC-EM Supported Platforms</i>
Installation of the application. (This application is installed as part of the Cisco APIC-EM controller software.)	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Installation Guide</i>
Configuration of quality of service policies on the network devices in your network.	<i>Cisco EasyQoS Application for APIC-EM User Guide</i>
Development of an overall Cisco EasyQoS solution for your network and Cisco devices.	https://www.cisco.com/c/en/us/solutions/enterprise/design-zone-campus/design-guide-listing.html

Cisco Integrity Verification Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco Integrity Verification application.	<i>Cisco Integrity Verification Application (Beta) on APIC-EM Release Notes</i>

For this type of information...	See this document...
Using the Cisco Integrity Verification application.	<i>Cisco Integrity Verification Application (Beta) on APIC-EM User Guide</i>

Cisco Network Plug and Play Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco Plug and Play application. Supported Cisco devices for Cisco Network Plug and Play.	<i>Release Notes for Cisco Network Plug and Play</i>
Configuration of devices using Cisco Network Plug and Play.	<i>Configuration Guide for Cisco Network Plug and Play on Cisco APIC-EM</i> <i>Cisco Network Plug and Play Agent Configuration Guide</i> or <i>Cisco Open Plug-n-Play Agent Configuration Guide</i> (depending on the Cisco IOS XE release)
Cisco Network Plug and Play solution overview. Main workflows used with the Cisco Network Plug and Play solution. Deployment of the Cisco Network Plug and Play solution. Tasks for using proxies with the Cisco Network Plug and Play solution. Configuration of a DHCP server for APIC-EM controller auto-discovery. Troubleshooting procedures for the Cisco Network Plug and Play solution.	<i>Solution Guide for Cisco Network Plug and Play</i>
Information about using the Cisco Plug and Play Mobile App.	<i>Mobile Application User Guide for Cisco Network Plug and Play</i> (also accessible in the app through Help)

Cisco IWAN Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco IWAN application.	<i>Cisco IWAN Application on APIC-EM Release Notes</i>
Using the Cisco IWAN application.	<i>Cisco IWAN Application on APIC-EM User Guide</i>

Cisco Network Visibility Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco Network Visibility application.	<i>Cisco Network Visibility Application for APIC-EM Release Notes</i>
Supported platforms and software releases.	<i>Cisco Network Visibility Application for APIC-EM Supported Platforms</i>
Installation of the application. (This application is installed as part of the Cisco APIC-EM controller software.)	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Installation Guide</i>
Network discovery, device and host management, topology maps.	<i>Cisco Network Visibility Application for APIC-EM User Guide</i>

Cisco Path Trace Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Path Trace application.	<i>Cisco Path Trace Application for APIC-EM Release Notes</i>
Supported platforms and software releases.	<i>Cisco Path Trace Application for APIC-EM Supported Platforms</i>
Installation of the application. (This application is installed as part of the Cisco APIC-EM controller software.)	<i>Cisco Application Policy Infrastructure Controller Enterprise Module Installation Guide</i>
Procedures for performing path traces and information about how to understand the path trace results.	<i>Cisco Path Trace Application for APIC-EM User Guide</i>

Cisco Remote Troubleshooter Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco Remote Troubleshooter application.	<i>Cisco Remote Troubleshooter Application on APIC-EM Release Notes</i>
Using the Cisco Remote Troubleshooter application.	<i>Cisco Remote Troubleshooter Application on APIC-EM User Guide</i>

Cisco Wide Area Bonjour Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco Wide Area Bonjour application.	<i>Cisco Wide Area Bonjour Application for APIC-EM Release Notes</i>

For this type of information...	See this document...
Installation, configuration, troubleshooting, and usage of the application.	<i>Cisco Wide Area Bonjour Application for APIC-EM User Guide</i>

Cisco Remote Troubleshooter Application Documentation

For this type of information...	See this document...
Release information, including open and resolved caveats for the Cisco Remote Troubleshooter application.	<i>Cisco Remote Troubleshooter Application on APIC-EM Release Notes</i>
Using the Cisco Remote Troubleshooter application.	<i>Cisco Remote Troubleshooter Application on APIC-EM User Guide</i>

Cisco APIC-EM Developer Documentation

The [Cisco APIC-EM developer website](#) is located on the [Cisco DevNet](#) website

For this type of information...	See this document...
API functions, parameters, and responses.	APIC-EM API Reference Guide
Tutorial introduction to controller GUI, DevNet sandboxes and APIC-EM NB REST API.	Getting Started with Cisco Application Policy Infrastructure Controller Enterprise Module (APIC-EM)
Hands-on coding experience calling APIC-EM NB REST API from Python.	APIC-EM Learning Labs

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).

You can also subscribe to the *What's New in Cisco Product Documentation* RSS feed, which delivers lists and content of new and revised Cisco technical documentation directly to your desktop, using any RSS reader application. This RSS feed is a free service.

