



# Readme File for QPM 2.1.2 Patch

---

This readme contains information about all the new features and QoS support that have been added since QPM 2.1:

- [Description, page 1](#)
- [Related Documentation, page 2](#)
- [Downloading and Installing the Patch, page 2](#)
- [QoS Support for Additional Devices, page 3](#)
- [New Features, page 3](#)
- [Resolved Problems, page 21](#)
- [Known Problems, page 22](#)

## Description

QPM 2.1.2 contains new features, and QoS support for additional devices, as well as all the features and support that were included in the QPM 2.1.1 patch. This patch enhances the functionality of QoS Policy Manager 2.1 by providing:

- QoS support for additional devices
- Additional features, including new and improved voice templates
- Bug fixes



---

Corporate Headquarters:  
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Copyright © 2001. Cisco Systems, Inc. All rights reserved.

## Related Documentation

Detailed documentation for QPM 2.1 can be found at:

<http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/qos/qpm21/index.htm>

## Downloading and Installing the Patch

The following sections list the requirements for installing the patch and provide installation instructions:

- [Hardware and Software Requirements](#)
- [Installation Procedure](#)

## Hardware and Software Requirements

- QoS Policy Manager 2.1 must be installed before you install this patch.
- This patch needs to be installed on both your remote and complete installations.



Note

---

This release installs all features in the QPM 2.1.1 patch.

---

## Installation Procedure

Use the following procedure to download and install the patch.

### Procedure

1. Go to the following location on Cisco.com:  
<http://www.cisco.com/cgi-bin/tablebuild.pl/qos-patches>
2. Click on QoSPolicyManager-Patch2.1.2.exe to download the patch to your hard drive.

3. If you have the Policy Manager or Distribution Manager windows open, you are recommended to close them.
4. Locate the downloaded file on your hard drive and double-click it. This will start the installation on your system. Before replacing files, the installation will stop the Cisco QoS Manager service and will restart it after the installation completes.

## QoS Support for Additional Devices

QPM 2.1.2 provides support for the following additional devices:

*Table 1 Additional Device Support in QPM 2.1.2*

Device Support Added	First release
Catalyst 4000 Layer 2	QPM 2.1.1
Catalyst 6000 with PFC2 (running CatOS)	QPM 2.1.1
Catalyst 6000 with PFC2 (running IOS)	QPM 2.1.1
Catalyst 6000 with no PFC	QPM 2.1.1
VG200	QPM 2.1.1
GGSN	QPM 2.1.2

**Note** For detailed information about QPM 2.1.2 device and QoS feature support, go to:  
<http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/qos/qpm21/qpm21dev/index.htm>

## New Features

QPM 2.1.2 provides the following new features since QPM 2.1:

*Table 2 New Features*

New Feature	First Release
<a href="#">CoS Mapping and Default CoS on Catalyst 4000 Layer 2</a>	QPM 2.1.1
<a href="#">Dual-Rate Aggregate Limiting on Catalyst 6000 with PFC2</a>	QPM 2.1.1

Table 2 *New Features (continued)*

New Feature	First Release
<a href="#">New and Modified Voice Templates, page 6</a>	QPM 2.1.1 and QPM 2.1.2
<a href="#">Cross-Database Duplication of New or Updated Device Groups, page 12</a>	QPM 2.1.1
<a href="#">Microflow and Aggregate/Cross-Interface Aggregate Limiting on the Same ACL on Catalyst 6000 Devices Running CatOS, page 15</a>	QPM 2.1.1
<a href="#">Default ACL on Catalyst 6000 Devices (CatOS), page 15</a>	QPM 2.1.1
<a href="#">Support for Import of RME Version 2 Device Inventory Files, page 15</a>	QPM 2.1.1
<a href="#">MPLS Experimental Bit Classification, page 16</a>	QPM 2.1.2
<a href="#">Frame Relay DE Bit, page 17</a>	QPM 2.1.2
<a href="#">Support for GGSN QoS Properties, page 17</a>	QPM 2.1.2
<a href="#">LLQ Burst Parameter, page 18</a>	QPM 2.1.2
<a href="#">Tx-Ring Limit Adjustment, page 18</a>	QPM 2.1.2
<a href="#">CoS Marking, page 19</a>	QPM 2.1.2
<a href="#">XML Export Utility, page 20</a>	QPM 2.1.2

## CoS Mapping and Default CoS on Catalyst 4000 Layer 2

On Catalyst 4000 Layer 2 switches, you can:

- **Map CoS values to transmit queues**—This feature applies to 2q1t queuing. Each pair of CoS values is associated with either queue 1 or queue 2.
- **Configure the default CoS value for the switch**—This default value will be assigned to any unclassified frames received on any port on the switch.

Access these features as follows:

1. In the Device Properties dialog box for the switch, click **QoS Property**.
2. In the displayed Properties of Cat4000 Queuing dialog box, select the **Enable Custom CoS Mapping** check box.

3. **CoS Mapping:** For each pair of CoS values, select the queue to which packets with those CoS values will be directed.
4. **Default CoS Value:** In the Default CoS Value field, select the required value from the dropdown list.
5. Click **OK** to return to the Device Properties dialog box.

## Dual-Rate Aggregate Limiting on Catalyst 6000 with PFC2

On Catalyst 6000 devices with PFC2, you can create a dual-rate aggregate limiting (policing) rule with a normal rate and an excess rate.

The parameters that can be defined for an aggregate limiting policy (or a cross-interface aggregate limiting policy on a device group) are the same as for the Catalyst 6000 device, with the following additions:

- **Excess Rate**—The maximum rate for traffic that is in excess of the normal rate.
- **Violate Action**—The action to be performed for traffic that exceeds the Excess Rate, either none, markdown or drop. If the action is markdown, you can define the markdown values in the Excess Rate tab in the DSCP Markdown Table, accessed from the Device Properties window. If you do not define these values, the default values will be used.



**Note**

---

For Catalyst 6000 PFC2 devices running IOS, the Violate Action cannot be less severe than the Exceed Action.

---



**Note**

---

For Catalyst 6000 PFC2 devices running CatOS, if the Excess Rate and Violate Action parameters are used, the Exceed Action will always be Markdown (policed-dscp).

---

## New and Modified Voice Templates

New voice templates have been added to the IP\_Telephony\_Template database, and some existing voice templates have been changed, to provide improved support for QoS configuration for IP telephony networks. (Most of these templates were added in QPM 2.1.1. New templates in QPM 2.1.2 are indicated.)



### Note

---

After you install the patch, you need to make sure that your voice templates are up to date in all relevant databases. To copy the new and updated templates to your databases, open the IP\_Telephony\_Template database and follow the procedure in [Copying All Device Groups in a Database to Other Databases](#), page 14.

---

### Catalyst 6000 Switches with a PFC2 Card

The following new voice templates have been added for ports on Catalyst 6000 switches with a PFC2 card:

#### IP Phone Ports

- **AccPFC2=>IP-Phones**—This device group has the same properties and policies as the Acc6000=>IP-Phones, except for the model, which is Cat6000(PFC2).
- **AccDistPFC2VoiceVLAN**—This device group has the same properties and policies as the AccDist6K-VoiceVLAN, except for the model, which is Cat6000(PFC2).

#### SoftPhone Ports

- **AccPFC2=>SoftPhones**—This device group has the same properties and policies as the Acc6000=>SoftPhones, except for the model, which is Cat6000(PFC2).

#### CallManager and Voice Gateway Ready Ports

- **AccPFC2-VOIPControl**—This device group has the same properties and policies as the Acc6000=>VOIPControl, except for the model, which is Cat6000(PFC2).

### Uplink Ports (from Access to Distribution or Core)

- **AccPFC2\_GE=>Dist**—This device group has the same properties and policies as the Acc6000\_GE=>Dist, except for the model, which is Cat6000(PFC2).

### Downlink Ports (from Distribution or Core to Access Layer Catalyst 6000)

- **DistPFC2=>Acc6k-PFC**—This device group has the same properties and policies as the Dist=>Acc6K-PFC, except for the model, which is Cat6000(PFC2).
- **DistIOSPFC2=>6k-PFC**—This device group has the same properties and policies as the Dist(IOC)=>6K-PFC, except for the model, which is Cat6000(PFC2-IOC).

### Downlink Ports (from Distribution or Core to Access Layer Catalyst 3500 or Catalyst 4000)

- **DistPFC2=>6KNonPFC**—This device group has the same properties and policies as the Dist=>AccNon6KPFC, except for the model, which is Cat6000(PFC2).



**Note** Because the QoS style in this template is VLAN based, you should also use the AccDistPFC2VoiceVLAN template.

- **DistIOSPFC2=>NonPFC**—This device group has the same properties and policies as the Dist(IOC)=>Non6KPFC, except for the model, which is Cat6000(PFC2-IOC).
- **DistIOSPFC2VoiceVLAN**—This device group has the same properties and policies as the Dist(IOC)-VoiceVLAN, except for the model, which is Cat6000(PFC2-IOC).

### Interface from Distribution or Core Switch to WAN Router

- **DistPFC2=>Router-WAN**—This device group has the same properties and policies as the Dist=Router-WAN, except for the model, which is Cat6000(PFC2).
- **DistPFC2\_GE=>RoutWAN**—This device group has the same properties and policies as the Dist\_GE=Router-WAN, except for the model, which is Cat6000(PFC2).

- **DistIOSPFC2=>RoutWAN**—This device group has the same properties and policies as the Dist(IOS)=RouterWAN, except for the model, which is Cat6000(PFC2-IOS).

**Note**


---

For more information about the corresponding voice templates for the Catalyst 6000, see the user guide for QoS Policy Manager 2.1, Chapter 9, Configuring QoS for IP Telephony.

---

## Catalyst 6000 Layer 2 Switches without a PFC Card

The following new voice templates have been added for ports on Catalyst 6000 Layer 2 switches without a PFC card:

### IP Phone Ports

- **Acc6kL2=>IP-Phones**

The following device group properties are configured for this template:

- Model: Cat6000L2
- Mapped Software Version: 5.5
- Group Contains Interfaces, Type: ethernet, Card Type: Non-VIP
- QoS Property: 2Q2T/1P2Q2T
- Trust State: Trust CoS, Trust-ext: Untrusted

The following QoS policies are configured for this template:

- Trust-ext untrusted
- Trust CoS

### Uplink Ports (from Access to Distribution or Core)

- **Acc6kL2=>Dist**

The following device group properties are configured for this template:

- Model: Cat6000L2
- Mapped Software Version: 5.5
- Group Contains Interfaces, Type: gigabitEthernet, Card Type: Non-VIP
- QoS Property: 2Q2T/1P2Q2T



- Trust State: Trust CoS, Trust-ext: None

The following QoS policies are configured for this template:

- Trust CoS from the distribution layer

## Catalyst 4000 WS-X4232 with Layer 3 Capabilities

The following new voice template has been added for ports on Catalyst 4000 WS-X4232 with layer 3 capabilities:

### IP Phone Ports

- **Acc4000-L3=>Dist**

The following device group properties are configured for this template:

- Model: Cat4000-L3
- Mapped Software Version: 12.1
- Group Contains Interfaces, Type: Any, Card Type: Non-VIP
- QoS Property: WRR

The following QoS policies are configured for this template:

- Prioritize VOIP and VOIP control by weighting the WRR queues, 1,3,4,2

## Point to Point WAN Links on VIP Cards

The following new templates have been added for high speed point-to-point WAN links on VIP cards. These templates are similar to the corresponding group for non VIP cards, but use Distributed Low Latency Queuing (dLLQ) instead of LLQ.

- **WAN-VIP7500HDLC-High**

The following device group properties are configured for this template:

- Model: 7500
- Mapped Software Version: 12.2
- Group Contains Interfaces, Type: propPointToPointSerial, Card Type: VIP
- QoS Property: Class Based QoS

The following QoS policies are configured for this template:

- Set queuing for voice traffic—Bandwidth=40%, LLQ enabled

- Set queuing for control traffic—Drop mechanism is TAIL, Bandwidth=10%
- Set queuing for class-default—Drop mechanism is TAIL, queuing is WFQ
- **WAN-VIP6kIosHdlcHigh**  
The following device group properties are configured for this template:
  - Model: Cat6000(IOS)
  - Mapped Software Version: 12.1(6)E
  - Group Contains Interfaces, Type: propPointToPointSerial, Card Type: VIP
  - QoS Property: Class Based QoS
 The following QoS policies are configured for this template:
  - Set queuing for voice traffic—Bandwidth=40%, LLQ enabled
  - Set queuing for control traffic—Drop mechanism is TAIL, Bandwidth=10%
  - Set queuing for class-default—Drop mechanism is TAIL, queuing is WFQ
- **WAN-VIP6kIosPfc2Hdlc**—This template has the same properties and policies as WAN-VIP6kIosHdlcHigh except that the model is Cat6000(PFC2-IOS)

### High Speed WAN Links on ATM Interfaces (New in QPM 2.1.2)

The following new template has been added for high speed ATM interfaces:

- **WAN-ATM-High(>768k)**  
The following device group properties are configured for this template:
  - Model: IOS\_Family
  - Mapped Software Version: 12.2
  - Group Contains Interfaces, Type: aa15, Card Type: non VIP
  - QoS Property: Class Based QoS
 The following QoS policies are configured for this template:
  - Set queuing for voice traffic—Bandwidth=40%, LLQ enabled

- Set queuing for control traffic—Drop mechanism is TAIL, Bandwidth=5%
- Set queuing for class-default—Drop mechanism is TAIL, queuing is WFQ

**Note**


---

When you use this template, it is recommended to adjust the TX-ring limit according to the interface rate. See [Tx-Ring Limit Adjustment, page 18](#) for more details.

---

### Interfaces from a Router to Layer 2 Switch (New in QPM 2.1.2)

The following new template has been added for router interfaces that support L3 to L2 mapping, and are configured with 802.1q, or ISL:

- **Router=>Non6KPRC-CoS**

The following device group properties are configured for this template:

- Model: IOS\_Family
- Mapped Software Version: 12.2
- Group Contains Interfaces, Type: Any, Card Type: non VIP
- QoS Property: Class Based QoS

The following QoS policies are configured for this template:

- Color inbound control traffic DSCP=26
- Filter voice traffic and leave the color as set by the IP phone at IP Precedence=5
- Color outbound voice traffic CoS=5
- Color outbound control traffic CoS=3

### Modified Templates

- The WAN-PPP-High(>768k) template has been renamed and is now the WAN-HDLC-High(>768k) template.

## Per Device Scheduling

QoS scheduling properties and CoS to DSCP mapping for Catalyst switches are configured on a device basis, and therefore cannot be included in the QoS templates. These QoS properties are set automatically by QPM when the device is added to the IP Telephony QoS database.

The following properties have been added for the Catalyst 4000 devices:

- All traffic with CoS values of 3 through 7 are placed in queue number 2, which is the highest priority queue.



---

**Note**

For more information about the QPM voice templates, see the user guide for QoS Policy Manager 2.1, Chapter 9, Configuring QoS for IP Telephony.

---

## Cross-Database Duplication of New or Updated Device Groups

This feature enables you to copy device groups from one QPM database to other QPM databases. In addition, if you have the same device group in several databases, you can update the device group once, and then apply your updates in all other databases in which the device group is present.



---

**Note**

In the QPM 2.1.2 patch, new IP telephony templates have been added and some existing templates have been modified. Therefore, after you install the patch, you are recommended to use this feature to make sure that your voice templates are up-to-date in all the relevant databases.

---

## Copying a New or Updated Device Group to Other Databases

After you have created a new device group in one database, you can copy the device group (including its name, QoS properties and QoS policies) to other databases. You can also copy updates you have made to an existing device group

to the same device group in other databases, as long as the device group has the identical name and constraints (device model, software version, interface type, card type, interfaces/sub-interfaces and QoS property).

**Note**

---

Device groups with policies that use application services or host groups in their filters, cannot be added or updated to other databases.

---

**Procedure**

1. Right-click on the device group in the tree view pane or select **Devices>Device Groups**.
2. Select the relevant option, either **Add Device Group to Other Databases** or **Update Device Group In Other Databases**. A message is displayed requesting confirmation of this action for each of your existing databases in turn.
3. Click **Yes** to confirm that you want to add the selected device group to the specified database. Click **Yes to All** to add the device group to all your databases.

**Note**

---

If you are adding a device group to other databases and a device group with the same name exists in any of the databases, the device group will not be copied to that database and you will receive a message informing you of this.

---

**Note**

---

QPM 2.1.2 cannot read databases from previous QPM versions. If any of your target databases is from an older version, you will be prompted to upgrade the database, otherwise the device group will not be added/updated to that database.

---

## Copying All Device Groups in a Database to Other Databases

You can copy all the device groups in a database to other databases. All new device groups will be added to other databases as long as no device group with the same name exists in the other databases. Modifications made to device groups will be copied to device groups with the identical name and constraints in other databases.



### Note

---

Device groups with policies that use application services or host groups in their filters, cannot be added or updated to other databases.

---

### Procedure

1. Right-click anywhere in the tree view pane or select **Devices>Device Groups**.
2. Select the relevant option, either **Add All Device Groups To Other Databases** or **Update All Device Groups In Other Databases**. A message is displayed requesting confirmation of this action for each of your existing databases in turn.
3. Click **Yes** to confirm that you want to add all the device groups to the specified database. Click **Yes to All** to add all the device groups to all your databases.

## Restoring the Previous Database Version

When you add/update device groups in other databases, QPM makes a backup copy of each database before it is changed by your action. This backup file is located in the Database directory under the QPM root directory (for example, new\_database.epd.bak).

To go back to the previous version of a database, delete the current .epd file and rename the .epd.bak file.

## Microflow and Aggregate/Cross-Interface Aggregate Limiting on the Same ACL on Catalyst 6000 Devices Running CatOS

On Catalyst 6000 devices, you can define a single limiting policy, with a single filter, that includes both microflow and aggregate limiting (or cross-interface aggregate limiting for device groups).

The Limiting page of the Policy Wizard provides two columns of fields, one for microflow limiting and one for aggregate limiting. Select the check box(es) at the top of the column(s) to enable the fields, and fill in the values accordingly.



### Note

---

You can define cross-interface aggregate limiting on device groups by selecting **Cross-Int Aggregate** in the Limiting Type field.

---

## Default ACL on Catalyst 6000 Devices (CatOS)

You can define a default ACL on a Catalyst 6000 device running CatOS, to be used for traffic that does not match any named ACL on the device. You can color this traffic with a DSCP value, or you can trust it by CoS, DSCP or IP Precedence.

To use this feature:

1. Click the **Default ACL** button in the Device Properties dialog box.
2. Select the **Enable Default ACL** check box.
3. Select the action to be performed on the traffic.
4. Click **OK** to return to the Device Properties dialog box.

## Support for Import of RME Version 2 Device Inventory Files

QPM now supports the import of CSV or DIF Version 2.0 files from RME.

## MPLS Experimental Bit Classification

The Multiprotocol Label Switching (MPLS) experimental value defines the priority for packets as they travel through the MPLS network. The MPLS experimental value does not overwrite the IP precedence value in the IP header. There are eight experimental values (0-7).

You can now filter by MPLS experimental value on devices with IOS versions that support this feature.

To filter by MPLS experimental value:

1. Open the Filter page of the Policy wizard, and select the MPLS tab.
2. Select the MPLS experimental value by which you want to filter.



## Frame Relay DE Bit

The discard eligibility (DE) bit in the address field of a frame relay frame is used as a method for prioritizing the discarding of frames in congested frame relay networks. The frame relay DE bit has only one bit and can therefore only have two settings, 0 or 1. If congestion occurs in a frame relay network, frames with the DE bit set at 1 are discarded before frames with the DE bit set at 0. Therefore, important traffic should have the DE bit set at 0 while less important traffic should be forwarded with the DE bit set at 1.

You can now use the frame relay DE bit marking to prioritize frames in a frame relay network on devices with IOS versions that support this feature. The default DE bit setting is 0.

To change the DE Bit setting:

1. In the Policy Wizard, choose **DE Bit** in the left pane. The DE Bit page opens.
2. In the DE Bit page, select the **Set DE Bit** check box.

## Support for GGSN QoS Properties

QPM 2.1.2 recognizes routers that are configured as a Gateway General Packet Radio Service (GPRS) Service Node (GGSN). You can map GPRS QoS settings to IP ToS values.

To configure GGSN QoS properties:

1. In the Device Properties dialog box, click GGSN Properties. The GGSN Properties dialog box opens displaying the default mappings.
2. Select the **Enable GPRS QoS** check box.
3. To change the default settings, select the **Delay Class Mapping** radio button, and enter ToS values to which the GPRS delay classes should be mapped. The mapped ToS value for a delay class should be greater than the mapped ToS value for the next delay class.
4. To configure the GGSN to set its default QoS values in the response message exactly as requested in the create PDP context request message, select the **Default Response Requested** radio button.

## LLQ Burst Parameter

You can now specify a burst parameter when you define Priority (LLQ) queuing with CBWFQ.

To define an LLQ burst parameter:

1. In the Policy Wizard, choose **CBWFQ** in the left pane. The Queuing Properties page opens.
2. Select the **Queuing Properties** check box.
3. Select the **Priority** check box. The Burst Parameter field appears.
4. Enter a value for the burst (between 32 and 2000000).

## Tx-Ring Limit Adjustment

On ATM subinterfaces, you can configure the size of the transmit rings (Tx-ring), which are buffer control structures for transmitting packets.

The primary reason to adjust the transmit ring is to reduce latency caused by queuing. When configuring the transmit ring, consider the following:

- On any network interface, queuing forces a choice between latency and the amount of burst that the interface can sustain. Larger queue sizes sustain longer bursts while increasing delay. Tune the size of a queue when you feel the VC's traffic is experiencing unnecessary delay.
- Consider the packet size. Configure a Tx-ring limit value that accommodates four packets. For example, if your packets are 1500 bytes, set a Tx-ring limit value of  $16 = 4 \text{ (packets)} \times 4 \text{ (particles)}$ .
- Ensure the transmit credit is large enough to support one MTU-sized packet and/or the number of cells equal to the maximum burst size (MBS) for a VBR-nrt PVC.
- Configure a low value with low-bandwidth VCs, such as a 128 kbps SCR. For example, on a low-speed VC with an SCR of 160 kbps, a Tx-ring limit of ten is relatively high and can lead to significant latency (for example, hundreds of milliseconds) in the driver-level queue. Tune the Tx-ring limit down to its minimum value in this configuration.

- Configure higher values for high-speed VCs. Selecting a value of less than four may inhibit the VC from transmitting at its configured rate if the PA-A3 implements back pressure too aggressively and the transmit ring does not have a ready supply of packets waiting to be transmitted. Ensure that a low value does not affect VC throughput.

In other words, the size of the transmit ring needs to be small enough to avoid introducing latency due to queueing, and it needs to be large enough to avoid drops and a resulting impact to TCP-based flows.



#### Note

---

This feature is currently available only for PA-A3 port adapters.

---

To configure Tx-ring limit on ATM PVCs that are defined as subinterfaces:

1. In the Interface Properties dialog box, select Class Based QoS in the **QoS Property** list box. The Tx-ring limit option appears.
2. Click on the plus sign by **Tx-ring limit**, to expand the Tx-ring limit field.
3. Select the Enable Tx-ring limit check box.
4. In the Tx-ring limit text box, enter a value for the Tx-ring limit between 3 and 6000.

## CoS Marking

You can now create policies to color traffic with a CoS value, on devices with IOS versions that support this feature.

To color traffic with a CoS value:

1. In the Policy Wizard, choose **Coloring** in the left pane. The Coloring Properties page opens.
2. Select the **Coloring Properties** check box.
3. In the Coloring Mechanism list box, select **CoS**.
4. Choose a CoS value in the CoS list box.

## XML Export Utility

You can export the contents of a database to an XML file. The XML file will be required if you want to import information from QPM 2.x databases into future versions of QPM.

The XML file contains all the device and policy information in the database.

To export a database to an XML file:

1. Choose **File > Export Database to XML File**. The Export Database to XML File dialog box opens. QPM assigns a default name to the XML file based on the database name.
2. Navigate to the folder in which you want to save the XML file. Change the default name, if required.
3. Click **Save**. A message appears in the Status bar when the database has been exported to the XML file.

You can view the XML file in your browser.

# Resolved Problems

The following problems that existed in QPM 2.1, have been resolved.

**Table 3** *Resolved Problems from QPM 2.1*

Bug ID	Summary	Additional Information	Resolved in release
CSCdu57179	If the QoS property on a Catalyst 6000 (IOS) device was changed to Do Not Change, QPM only removed the policies on the current interface, and did not remove the policies on the rest of the interfaces in the ASIC group.	QPM now removes all policies on all the interfaces in the ASIC group, if the QoS property is changed to Do Not Change, since the policies are no longer valid.	QPM2.1.1
CSCdu36423	QPM did not recognize PBR coloring policy on a subinterface without FRTS.	You no longer need to configure FRTS on the subinterface or upgrade the IOS software on the device to a version that supports CAR coloring (IOS 12.0 and higher) to work around this problem.	QPM2.1.1
CSCdu39495	FRF bandwidth percentage was calculated according to interface rate and not minCIR.	You can now leave the Minimum Rate field in the Interface Properties dialog box blank if you want to use the default minCIR value.	QPM2.1.1
CSCdu39627	QPM uploaded trust policies on Catalyst 6000(IOS) with Trust CoS, even if the policies specified Trust DSCP or Trust IP Precedence.	None.	QPM2.1.1
CSCdu39744	QPM deployed adjusted rate values for limiting policies on Catalyst 4000-L3 devices	None.	QPM2.1.1
CSCdu39761	Duplicate class-map naming on device groups with FRTS and Class Based QoS.	You can now define policies with different directions on this device group.	QPM2.1.1

*Table 3 Resolved Problems from QPM 2.1 (continued)*

Bug ID	Summary	Additional Information	Resolved in release
CSCdu40749	QPM did not upload dFRF on a 7500 VIP device with 12.1(6)E and CBWFQ.	None.	QPM2.1.1
CSCdv29919	Uploading the device configuration on Catalyst 6000 devices without PFC does not show Trust state.	Uploading the device configuration now works correctly on Catalyst 6000 devices without PFC.	QPM2.1.2
CSCdv29924	Default ACL is not uploaded on Catalyst 6000 devices.	Uploading the device configuration now works correctly on Catalyst 6000 devices.	QPM2.1.2

## Known Problems

The following problems are known to exist in QPM 2.1.2.

You can track problems using the Cisco bug tracking tool, Bug Navigator II. To access Bug Navigator II, log into Cisco.com and select **Service & Support > Technical Support Help—Cisco TAC > Tools > Software Bug Toolkit > Bug Navigator II**, or enter the following URL in your web browser:  
[http://www.cisco.com/cgi-bin/Support/Bugtool/launch\\_bugtool.pl](http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl)

*Table 4 QPM 2.1.2 Known Problems*

Bug ID	Summary	Explanation
CSCdu72386	Access Violation error when saving a DB with Cat8K device.	Attempts to save a database that contains a Catalyst 8500 device may be unsuccessful and the policy configurations in that database may be lost.  <b>Workaround:</b> Save Catalyst 8500 devices in a separate database.
CSCdv20264	Deploy error on Cat6K-IOS/PFC2 DGs with QoS property “Defined by Interface.”	If the QoS Property for Catalyst 6000 (IOS) or Catalyst 6000 (PFC2-IOS) device groups is Defined by Interface and you edit a policy and redeploy, the deployment fails.  <b>Workaround:</b> Do not use Defined by Interface as the QoS Property for these device groups.

