CISCO SYSTEMS

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Release Notes for the Cisco QoS Policy Manager

The Cisco QoS Policy Manager is a software product that provides QoS policy management and configuration of Cisco devices. It allows you to define rules-based policies that are distributed across the network to control traffic flow. Using a high level graphical user interface, the user can define a QoS policy for multiple devices and interfaces, validate a policy prior to deploying it to the network, and monitor the deployment of QoS policies to network devices. QoS Policy Manager provides a network view of QoS policies deployed throughout the network and maintains an audit trail of all policy distributions.

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Introduction

The QoS Policy Manager has two GUI components and a back-end process.

GUI Components

- Policy Manager — a GUI component that allows the user to define the devices that will be managed by the policy system. Using the Policy Manager, the user defines QoS policies that can be applied to a single or to multiple devices and interfaces. The Policy Manager provides web-based reports of all QoS policies deployed in the network.

- Distribution Manager — a GUI component that allows the user to deploy saved policies to target devices. This tool maintains a history of all policy deployments including a detailed log of device configuration changes.

Back-End Process

- QoS Manager — a back-end process that is the heart of the system. QoS Manager communicates with both the Policy Manager and the Distribution Manager, stores the policy database and configures the network devices.

  The system has a distributed architecture. The GUI components may, or may not be installed on the same computer as the QoS Manager. A complete installation places all the components on one computer. A remote installation places the GUI components on a different computer from the QoS Manager. The remote installation allows the user to make, change, and distribute policies from a remote location.

- GUI Communication — GUI components installed on a remote system do communicate with the QoS Manager (the back-end process installed on a different system) about making, changing, and distributing QoS policies.

Hardware Supported

The following Devices are supported by the QoS Policy Manager – Cisco 2500, 3600, 4000, 4500, 4700, 7200, 7500, 8510, Catalyst 5000 with RSM (Router Switch Mode), Local Director v.3.1.1.

Software Versions Supported

The IOS versions supported are 11.1, 11.2, 11.3, 12.0, and 11.1cc.

QoS Features Supported

The QoS features that are supported by QoS Policy Manager (QPM), depend on the device type and IOS version. QoS Policy Manager supports these features: custom queuing, priority queuing, weighted fair queuing (WFQ), weighted random early detection (WRED), policy based routing (PBR), generic traffic shaping (GTS), committed access rate (CAR), Frame Relay traffic shaping (FRTS), weighted round robin (WRR) and packet coloring.

QoS Policy Manager supports the devices, IOS versions and QoS features listed in Table 1.

Table 1   Matrix of Supported Devices, QoS Techniques, and IOS Software Releases

Quality of Service Features	Cisco Systems Device	IOS Software Release				
		11.1	11.2	11.3	12.0	11.1(cc)
Priority Queuing (PQ), Custom Queuing (CQ)	7500, 7200	X	X	X	X	X
	RSM, 4700, 4500, 3600	X	X	X	X	
	4000, 2500	X	X	X	X	
Weighted Random Early Detection (WRED)	7500, 7200, RSM		X	X	X	
	4700, 4500, 3600		X	X	X	
	4000, 2500		X	X	X	
Weighted Fair Queuing (WFQ)	7500, 7200		X	X	X	X
	4700, 4500, RSM, 3600		X	X	X	
	4000, 2500		X	X	X	

Table 1 Matrix of Supported Devices, QoS Techniques, and IOS Software Releases

Quality of Service Features	Cisco Systems Device	IOS Software Release				
		11.1	11.2	11.3	12.0	11.1(cc)
Policy Based Routing (PBR)	7500, 7200		X	X		
	4700, 4500, RSM, 3600		X	X		
	4000, 2500		X	X	X	
Generic Traffic Shaping (GTS)	7500, 7200		X	X	X	
	4700, 4500, RSM, 3600		X	X	X	
	4000, 2500		X	X	X	
Frame Relay Traffic Shaping (FRTS)	7500, 7200		X	X	X	
	4700, 4500, RSM, 3600		X	X	X	
	4000, 2500		X	X	X	
Committed Access Rate (CAR) Classification	7500, 7200				X	X
	4700, 4500, RSM, 3600				X	
	4000, 2500					
Committed Access Rate (CAR) Rate Limit	7500, 7200				X	X
	4700, 4500, RSM, 3600				X	
	4000, 2500					
Packet Classification	LocalDirector 3.1.1					
Weighted round robin (WRR)	8510				X	

Other Cisco Products Supported

QoS Policy Manager can import device inventory information from Cisco Resource Manager Essentials (RME) 2.0 and Cisco Resource Manager 1.1.

Browsers Supported

Use either Netscape Navigator (version 4.0 or higher) or Microsoft Internet Explorer (version 4.0 or higher).

Hardware and Software Requirements

These are the hardware and software requirements for installing QoS Policy Manager:

Table 2   Hardware and Software Requirements

Complete QoS Policy Manager	Remote QoS Policy Manager
Pentium 166 MHz processor or better recommended. Works on single or multiple processor machines.	Pentium 100 MHz processor or better. Works on single or multiple processor machines.
Windows NT Workstation or Server with the latest service pack (SP3 or SP4).	Windows 95 or Windows NT Workstation or Server with the latest service pack (SP3 or SP4).
64MB RAM or more recommended.	32MB RAM or more recommended.
20MB or more free hard disk space.	20MB or more free hard disk space.

Installation Notes

For the installation procedure, see the Installing QoS Policy Manager section in the manual "Using QoS Policy Manager."

Uninstalling QoS Policy Manager

For the uninstall instructions, see the Uninstall section in the manual "Using QoS Policy Manager."

Uninstall removes all databases saved under the QoS Policy Manager directory structure. If you do not want your database deleted, move it to a different directory.

Limitations and Restrictions

1 When configuring frame relay sub-interfaces through QoS Policy Manager, you should also configure the parent (next higher order) interface through QoS Policy Manager. If other configuration methods are used for the parent interface there could be a conflict in configuration.

2 When printing the .pdf file from the Help browser, the Netscape 4.03 may crash. This is a Netscape anomaly and does not always occur. If this does occur, use Netscape 4.5 or Microsoft Internet Explorer 4.0, or above.

3 Erroneous error message occasionally occurs when applying an GTS traffic shaping group policy to a router interface. Reapplying the policy meets with a success.

Similarly an erroneous write memory warning, "Attempting to overwrite on NVRAM configuration previously written by a different version of the system image. Overwrite the previous NVRAM configuration?" A YES response shows the Building configuration OK on the router prompt. Reapplying the policy meets with success.

These messages come from the same source. QoS Policy Manager (QPM) decides that a configuration was successful from the fact that it got a "clean" prompt on the telnet session. Any message that is generated by the device as a result of the configuration, will make the QPM show FAILED on that device, even though it the message was sent at the end of the configuration process. This has nothing to do with the CLI commands put on the router. Actually the configuration process was successful. For the next release the messages that are not an error will be filtered out.

Caveats For Release 1.0

The following Caveats have been detected in the QoS Policy Manager 1.0 release.

Table 3   List of Known Bugs

Bug Identification	Symptom / Description	Explanation / Workaround
CSCdm09157	Shaping policies for BRIO interfaces are not accepted.	Although you can define a QoS policy on a BRIO interface, the router does not accept the shaping policy. A CLI error is displayed.
CSCdm09644	Occasionally only the last shaping statement is configured even though multiple shaping statements were issued.	Multiple shaping statements may be defined and can be issued. The router accepts the multiple policy statements, but only the last one may be retained. The ACLs of the other shaping policies may remain, but without any actionable policy. However, the status shows a successful configuration.
CSCdm12159	A CLI error message may be issued for the committed interface rate (CIR) for Frame Relay interfaces.	QoS Policy Manager uses the interface rate which may have been manually set on by the bandwidth command. If the number is greater than 2048 Kbits, trailing zeroes must be put to this number in the frame relay CIR command. If not, a CLI error is issued. WORKAROUND: Give the right CIR in the frame relay parameters, or configure the correct rate in the bandwidth command.
CSCdm13935	The DNS host name defined for LocalDirector does not translate to an IP address.	DNS host names for LocalDirector devices will not resolve to IP addresses, and no error message is given. WORKAROUND: Use an actual IP address.
CSCdm13936	Changing the coloring policy on a LocalDirector issues an error message.	Changing the coloring policy on a LocalDirector results in an error message and the change is not made. WORKAROUND: Delete the original policy statement, then redefine it as a new policy statement.
CSCdm15312	In Windows-95, Telnet can not be launched through the GUI icon or menu.	Telnet can not be launched from the GUI in Windows-95. WORKAROUND: Launch Telnet from the Windows desktop.

Table 3   List of Known Bugs

Bug Identification	Symptom / Description	Explanation / Workaround
CSCdm15901	Windows-95 version toolbar icons and menus may not appear properly after defining policy statements.	When using the Windows-95 version, the toolbar icon titles may disappear after defining a policy statement. When selecting a submenu, it may remain even when the next menu is selected. This condition may not occur after every policy statement.
CSCdm15961	When cancelling a CRM import session after a successful device detection sometimes causes a Windows-NT exception message.	The import detection was successful, but no devices were transferred to the database. No changes were made to the database and the Policy Manager proceeds as normal.
CSCdm15966	When no default browser is defined, opening Help causes an access violation.	An access violation occurs when the online Help is selected if no browser is designated as the default browser.
		WORKAROUND: Define a default browser.
CSCdm17353	A wrong device status is displayed if the QoS Manager and the Distribution Manager were disconnected and reconnected.	In the Distribution Manager if the QoS Manager is not connected when issuing the Apply command. Upon reconnection with the QoS Manager, the status displays "In progress" rather than "Completed", even though the job is properly completed.
		WORKAROUND: Close the Distribution Manager, and reopen it. The status will be properly displayed.
CSCdm18170	Custom Queuing (CQ) and Priority Queuing (PQ) are not available on a 7500 with a VIP interface.	On a 7500 with a VIP interface, CQ and PQ are selectable in the interface properties dialog box, even though they are not supported on that interface.
CSCdm18172	Weighted Fair Queuing (WFQ) is configured as Fair Queuing (FQ) on VIP interfaces.	When selecting WFQ on a VIP interface, FQ is actually configured on the VIP interface. Only flow-based FQ is supported on VIP interfaces, not class-based WFQ.
CSCdm18181	Configuring Weighted Random Early Detection (WRED) on a VIP interface will fail if distributed Cisco Expedited Forwarding (CEF) is not enabled.	QoS Policy Manager does not verify that distibuted CEF is enabled. If distributed CEF is not enabled, configuring WRED on a VIP interface will fail.

Table 3   List of Known Bugs

Bug Identification	Symptom / Description	Explanation / Workaround
CSCdm18681	QoS Policy Manager does not support ACLs higher than 200 in IOS 12.0	QoS Policy Manager (QPM) does not support extended IP ACLs in the range of 2000 - 2699 that are available to IOS 12.0. Only ACLs in the range of 100 - 200 are supported. Further more, an existing QoS configuration on a router that is introduced to the QPM, and runs IOS 12.0, should not use ACLs from the 2000 - 2699 range.

For other information about IOS and other caveats, see the QoS Policy Manager Planner Page. The URL to this page is:

URL GOES HERE.

Troubleshooting

- No QoS Manager connection

  Ensure that there is a network connection for the QoS Manager. If so, make sure that the QoS Manager is running.

- No policy distribution to network devices

  Make sure that there is a network connection from the QoS Manager to the devices.

Diagnostics

Use Showtech to generate a system report. Showtech is located in the installation *bin* directory of QoS Policy Manager. Click to generate a report. The report will be opened in your browser.

Related Documentation

- Using QoS Policy Manager — user guide that provides step-by-step instructions to install and operate the QoS Policy manager.

Service and Support

Use the Beta Web Site at:
http://beta.betasphere.com/project_zilla/Client/protected/cgi-scripts/client.cgi.

For a display of all bugs discovered during testing use the link on the Planner Page at:
http://berserker/kobayash/sw-center/netmgmt/nr/qos.html.

Cisco Connection Online

Cisco Connection On-line (CCO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: http://www.cisco.com

- WWW: http://www-europe.cisco.com

- WWW: http://www-china.cisco.com

- Telnet: cco.cisco.com

- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

> **Note**   If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

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