SNMP—IP Precedence and DSCP Support

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The SNMP—IP Precedence and DSCP Support feature provides the ability to set the Quality of Service (QoS) for locally generated Simple Network Management Protocol (SNMP) traffic. You classify SNMP traffic based on either the IP Precedence or IP Differentiated Services Code Point (DSCP) value. The IP Precedence or IP DSCP code point value is used to determine how packets are handled in Weighted Random Early Detection (WRED).

Finding Feature Information in This Module

Your Cisco IOS software release may not support all of the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the "Feature Information for SNMP—IP Precedence and DSCP Support" section on page 7.

Finding Support Information for Platforms and Cisco IOS and Catalyst OS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

Contents

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Prerequisites for SNMP—IP Precedence and DSCP Support

The tasks for this feature assume that SNMP is configured.

Information About SNMP—IP Precedence and DSCP Support

The SNMP—IP Precedence and DSCP Support feature delivers QoS specifically for SNMP traffic. This feature allows you to change the priority setting so that SNMP traffic generated in a router is assigned a specific QoS class. The IP Precedence or IP DSCP code point value is used to determine how packets are handled in WRED.

After IP Precedence or DSCP is set for the SNMP traffic generated in a router, different QoS classes cannot be assigned to different types of SNMP traffic in that router.

The IP Precedence value is the first three bits in the Type of Service (ToS) byte of an IP header. The IP DSCP code point value is the first six bits of the Differentiate Services (DiffServ Field) byte. You can configure up to eight different IP Precedence markings or 64 different IP DSCP markings.

How to Configure SNMP—IP Precedence and DSCP Support

To configure the SNMP—IP Precedence and DSCP Support feature, perform the following task:

Configuring IP Precedence or IP DSCP for SNMP Traffic, page 2 (required)

Configuring IP Precedence or IP DSCP for SNMP Traffic

Perform this task to configure IP Precedence or IP DSCP for SNMP traffic.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **snmp-server ip precedence** *value*
   or
   snmp-server ip dscp *value*
4. **exit**
5. **copy running-config startup-config**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.

Step 3	**snmp-server ip precedence** *value*
	or
	snmp-server ip dscp *value*
	
	Example:
	`Router(config)# snmp-server ip precedence 7`
	or
	
	Example:
	`Router(config)# snmp-server ip dscp 45`
		Configures an IP Precedence value for SNMP traffic.
		or
		Configures an IP DSCP value for SNMP traffic.

Step 4	**exit** **Example:** `Router(config)# exit`	Exits global configuration mode, and returns the router to privileged EXEC mode.
Step 5	**copy running-config startup-config** **Example:** `Router# copy running-config startup-config`	Save the configuration file to your startup configuration.

Configuration Examples for SNMP—IP Precedence and DSCP Support

This section contains the following configuration examples:

- Setting an IP Precedence Value for SNMP Traffic: Example, page 3
- Setting an IP DSCP Value for SNMP Traffic: Example, page 4

Setting an IP Precedence Value for SNMP Traffic: Example

The following example shows how to set the SNMP IP Precedence value to 7:

Router> **enable**

```
Router# configure terminal
Router(config)# snmp-server ip precedence 7
Router(config)# exit
```

```
Router# copy running-config startup-config
```

Setting an IP DSCP Value for SNMP Traffic: Example

The following example shows how to set the IP DSCP value of SNMP traffic to 45:

```
Router> enable
Router# configure terminal
Router(config)# snmp-server ip dscp 45
Router(config)# exit
Router# copy running-config startup-config
```

Additional References

The following sections provide references related to the SNMP—IP Precedence and DSCP Support feature.

Related Documents

Related Topic	Document Title
QoS IP Configuration Tasks	*Cisco IOS Quality of Service Configuration Guide*, Release 12.4
SNMP	*Cisco IOS Configuration Fundamentals Configuration Guide*, Release 12.0
QoS policies	*Cisco IOS Configuration Fundamentals Configuration Guide*, Release 12.0

Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
RFC 2474	*Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers*
RFC 2475	*An Architecture for Differentiated Services*
RFC 2597	*Assured Forwarding PHB Group*
RFC 2598	*An Expedited Forwarding PHB*

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/techsupport

Command Reference

The following commands are introduced or modified in the feature or features documented in this module. For information about these commands, see the *Cisco IOS Network Management Command Reference* at http://www.cisco.com/en/US/docs/ios/netmgmt/command/reference/nm_book.html. For information about all Cisco IOS commands, use the Command Lookup Tool at http://tools.cisco.com/Support/CLILookup or the *Cisco IOS Master Command List, All Releases*, at http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all_book.html.

- **snmp-server ip dscp**
- **snmp-server ip precedence**

Feature Information for SNMP—IP Precedence and DSCP Support

Table 1 lists the release history for this feature.

Table 1 lists the features in this module and provides links to specific configuration information. Only features that were introduced or modified in Cisco IOS Release 12.0(26)S or a later release appear in the table.

For information on a feature in this technology that is not documented here, see the other available documentation for your Cisco IOS release.

Note Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for SNMP—IP Precedence and DSCP Support

Feature Name	Releases	Feature Information
SNMP—IP Precedence and DSCP Support	12.0(26)S 12.2(7)S 12.4(21)M	The SNMP—IP Precedence and DSCP Support feature provides the ability to set the Quality of Service (QoS) for locally generated Simple Network Management Protocol (SNMP) traffic. The following commands were introduced or modified: **snmp-server ip precedence**, **snmp-server ip dscp**.