# Memory Pool—SNMP Notification Support

This feature adds CLI commands to enable SNMP notifications for the Cisco Enhanced Memory Pool MIB (CISCO-ENHANCED-MEMPOOL-MIB).

## Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table.

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

## Prerequisites for Memory Pool—SNMP Notification Support

Before you can compile CISCO-ENHANCED-MEMPOOL-MIB, you need to compile the following MIBs in the order listed:

1  SNMPv2-SM (SNMP configuration MIB)

2  SNMPv2-TC (SNMP configuration MIB)

3  SNMPv2-CONF (SNMP configuration MIB)

4   SNMP-FRAMEWORK-MIB (SNMP configuration MIB)

5   CISCO-SMI (SNMP configuration MIB)

6   ENTITY-MIB (core MIB)

7   CISCO-ENHANCED-MEMPOOL-MIB (infrastructure MIB)

All MIBs used on Cisco devices are available at http://www.cisco.com/go/mibs.

# Restrictions for Memory Pool—SNMP Notification Support

Access to the MIB is restricted to a read-only level.

# Information About Memory Pool—SNMP Notification Support

The CISCO-ENHANCED-MEMPOOL-MIB module describes SNMP objects that enable users to remotely monitor the memory pool statistics of all physical entities, such as line cards and route processors, in a managed device. This is particularly useful for high-end devices that may have a large number of line cards. Lately, the MIB has been enhanced to provide buffer pool and buffer cache statistics.

In addition to the statistics provided by the MIB, SNMP notifications (traps or informs) can be configured to be sent when the maximum number of memory buffers changes (in other words, when a new buffer peak is reached).

# How to Enable Memory Pool—SNMP Notification Support

**SUMMARY STEPS**

1.  **enable**
2.  **configure   terminal**
3.  **snmp-server enable traps memory** [**bufferpeak**]
4.  **snmp-server host** {*hostname* | *ip-address*} [**traps** | **informs**] [**version** {**1** | **2c** | **3** [**auth** | **noauth** | **priv**]}] *community-string* [**udp-port** *port*] [*notification-type*] [**vrf** *vrf-name*]
5.  **exit**

**DETAILED STEPS**

|        | Command or Action | Purpose |
|--------|-------------------|---------|
| **Step 1** | **enable**<br><br>**Example:**<br><br>`Device> enable` | Enables privileged EXEC mode.<br><br>• Enter your password if prompted. |

|  | **Command or Action** | **Purpose** |
|---|---|---|
| **Step 2** | **configure terminal**<br><br>**Example:**<br><br>Device# configure terminal | Enters global configuration mode. |
| **Step 3** | **snmp-server enable traps memory** [**bufferpeak**]<br><br>**Example:**<br><br>Device(config)# snmp-server enable traps memory bufferpeak | Enables only buffer peak notifications (traps or informs) in the CISCO-ENHANCED-MEMPOOL-MIB. |
| **Step 4** | **snmp-server host** {*hostname* \| *ip-address*} [**traps** \| **informs**] [**version** {**1** \| **2c** \| **3** [**auth** \| **noauth** \| **priv**]}] *community-string* [**udp-port** *port*] [*notification-type*] [**vrf** *vrf-name*]<br><br>**Example:**<br><br>Device(config)# snmp-server host NMS-host1.example.com community1 memory | Enables buffer peak notifications to be sent to the specified host. |
| **Step 5** | **exit**<br><br>**Example:**<br>Device(config)# exit | Exits global configuration mode and returns to privileged EXEC mode. |

# Configuration Examples for Memory Pool—SNMP Notification Support

## Enabling Memory Pool—SNMP Notification Support Example

In the following example, all available memory-related SNMP notifications are enabled and configured to be sent as informs to the host myhost.cisco.com using the community string public:

```
Device(config)# snmp-server enable traps memory bufferpeak

Device(config)# snmp-server host myhost.cisco.com informs version 3 public memory
```
Note that as of this release, only the buffer peak memory notification type is available. Additional memory notification type keywords may be added in future releases.

# Additional References

**Related Documents**

| Related Topic | Document Title |
|---|---|
| Cisco IOS commands | Cisco IOS Master Commands List, All Releases |
| Cisco IOS SNMP Support Command Reference | Cisco IOS SNMP Support Command Reference |

**Standards and RFCs**

| Standard/RFC | Title |
|---|---|
| CBC-DES (DES-56) standard | *Symmetric Encryption Protocol* |
| Standard 58 | *Structure of Management Information Version 2 (SMIv2) >* |
| RFC 1067 | *A Simple Network Management Protocol* |
| RFC 1091 | *Telnet terminal-type option* |
| RFC 1098 | *Simple Network Management Protocol (SNMP)* |
| RFC 1157 | *Simple Network Management Protocol (SNMP)* |
| RFC 1213 | *Management Information Base for Network Management of TCP/IP-based internets:MIB-II* |
| RFC 1215 | *Convention for defining traps for use with the SNMP* |
| RFC 1901 | *Introduction to Community-based SNMPv2* |
| RFC 1905 | *Common Management Information Services and Protocol over TCP/IP (CMOT)* |
| RFC 1906 | *Telnet X Display Location Option* |
| RFC 1908 | *Simple Network Management Protocol (SNMP)* |
| RFC 2104 | *HMAC: Keyed-Hashing for Message Authentication* |
| RFC 2206 | *RSVP Management Information Base using SMIv2* |
| RFC 2213 | *Integrated Services Management Information Base using SMIv2* |

| Standard/RFC | Title |
|---|---|
| RFC 2214 | *Integrated Services Management Information Base Guaranteed Service Extensions using SMIv2* |
| RFC 2233 | The Interface Group MIB using SMIv2 |
| RFC 2271 | *An Architecture for Describing SNMP Management Frameworks* |
| RFC 2570 | *Introduction to Version 3 of the Internet-standard Network Management Framework* |
| RFC 2578 | *Structure of Management Information Version 2 (SMIv2)* |
| RFC 2579 | *Textual Conventions for SMIv2* |
| RFC 2580 | *Conformance Statements for SMIv2* |
| RFC 2981 | Event MIB |
| RFC 3413 | *SNMPv3 Applications* |
| RFC 3415 | *View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)* |

**MIBs**

| MIB | MIBs Link |
|---|---|
| • Cisco SNMPv2 <br> • Ethernet-like Interfaces MIB <br> • Event MIB <br> • Expression MIB Support for Delta, Wildcarding, and Aggregation <br> • Interfaces Group MIB (IF-MIB) <br> • Interfaces Group MIB Enhancements <br> • MIB Enhancements for Universal Gateways and Access Servers | To locate and download MIBs for selected platforms, Cisco IOS XE software releases, and feature sets, use Cisco MIB Locator found at the following URL: <br><br> http://www.cisco.com/go/mibs |

**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.<br><br>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.<br><br>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password. | http://www.cisco.com/cisco/web/support/index.html |

# Feature Information for Memory Pool—SNMP Notification Support

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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

*Table 1: Feature Information for Memory Pool—SNMP Notification Support*

| Feature Name | Releases | Feature Information |
|---|---|---|
| Memory Pool—SNMP Notification Support | 12.3(4)T 12.2(22)S 12.2(33)SRA 12.2(33)SXH | This feature adds CLI commands to enable SNMP notifications for the Cisco Enhanced Memory Pool MIB (CISCO-ENHANCED-MEMPOOL-MIB). |