Configuring System MTU

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 at the end of this module.

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

Restrictions for System MTU

When configuring the system MTU values, follow these guidelines:

- The switch does not support the MTU on a per-interface basis.
- If you enter the **system mtu** *bytes* global configuration command, the command does not take effect on the switch. This command only affects the system MTU size on Fast Ethernet switch ports.
- The **system mtu**, **system mtu jumbo**, and **system mtu routing** global configuration commands do not take effect in these cases:
  - When you enter the **system mtu** command on a switch without Fast Ethernet ports
  - In a mixed stack when you enter the **system mtu jumbo** command for the Fast Ethernet ports on a member switch.
  - When you enter the **system mtu routing** command on a switch on which only Layer 2 ports are configured

Note This command is not supported on switches running the LAN Base image.

- When you use the **system mtu** *bytes* or **system mtu jumbo** *bytes* command to change the system MTU or system jumbo MTU size, you must reset the switch before the new configuration takes effect. The **system mtu routing** command does not require a switch reset to take effect.

The system MTU setting is saved in the switch environmental variable in NVRAM and becomes effective when the switch reloads. Unlike the system MTU routing configuration, the MTU settings you enter with the **system mtu** and **system mtu jumbo** commands are not saved in the switch Cisco IOS configuration file, even if you enter the **copy running-config startup-config** privileged EXEC command. Therefore, if you use TFTP to configure a new switch by using a backup configuration file and want the system MTU to be other than the default, you must explicitly configure the **system mtu** and **system mtu jumbo** settings on the new switch and then reload the switch.

Related Topics

Configuring the System MTU, on page 3

Information about the MTU

The default maximum transmission unit (MTU) size for frames received and sent on all switch interfaces is 1500 bytes. You can change the MTU size to support switched jumbo frames on all Gigabit Ethernet and 10-Gigabit Ethernet interfaces and to support routed frames on all routed ports.

Related Topics

Configuring the System MTU, on page 3

System MTU Values

The following MTU values can be configured:

- System Jumbo MTU--This value applies to switched packets on the Gigabit Ethernet and 10-Gigabit Ethernet ports of the switch. Use the **system mtu jumbo** *bytes* global configuration command to specify the system jumbo MTU value.
- System Routing MTU--This value applies only to routed packets on all routed ports of the switch or switch stack. Use the **system mtu routing** global configuration command to specify the system routing MTU value.

Related Topics

Configuring the System MTU, on page 3

How to Configure System MTU

Configuring the System MTU

Follow these steps to change the MTU size for switchedand routed packets:

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Switch> enable`	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Switch# configure terminal`	Enters global configuration mode.
Step 3	**system mtu** *bytes* **Example:** `Switch(config)# system mtu 1900`	(Optional) Changes the MTU size for all Fast Ethernet interfaces. The range is 1500 to 1998 bytes; the default is 1500 bytes.
Step 4	**system mtu jumbo** *bytes* **Example:** `Switch(config)# system mtu jumbo 7500`	(Optional) Changes the MTU size for all Gigabit Ethernet and 10-Gigabit Ethernet interfaces.The range is 1500 to 9000 bytes; the default is 1500 bytes.
Step 5	**system mtu routing** *bytes* **Example:** `Switch(config)# system mtu routing 2000`	(Optional) Changes the system MTU for routed ports. You can also set the maximum MTU to be advertised by the routing protocols that support the configured MTU size. The system routing MTU is the maximum MTU for routed packets and is also the maximum MTU that the switch advertises in routing updates for protocols such as OSPF. **Note** This command is not supported on switches running the LAN Base image.
Step 6	**end** **Example:** `Switch(config)# end`	Returns to privileged EXEC mode.

	Command or Action	Purpose
Step 7	**copy running-config startup-config** **Example:** `Switch# copy running-config startup-config`	Saves your entries in the configuration file.
Step 8	**reload** **Example:** `Switch# reload`	Reloads the operating system.
Step 9	**show system mtu** **Example:** `Switch# show system mtu`	Verifies your settings.

Related Topics

Information about the MTU, on page 2
System MTU Values, on page 2
Restrictions for System MTU, on page 1

Configuration Examples for System MTU

This example shows how to set the maximum packet size for a Gigabit Ethernet port to 7500 bytes:

```
Switch(config)# system mtu 1900
Switch(config)# system mtu jumbo 7500
Switch(config)# exit
```

If you enter a value that is outside the allowed range for the specific type of interface, the value is not accepted. This example shows the response when you try to set Gigabit Ethernet interfaces to an out-of-range number:

```
Switch(config)# system mtu jumbo 25000
                                    ^
% Invalid input detected at '^' marker.
```

This is an example of output from the **show system mtu** command:

```
Switch# show system mtu
Global Ethernet MTU is 1500 bytes.
```

Additional References for System MTU

Error Message Decoder

Description	Link
To help you research and resolve system error messages in this release, use the Error Message Decoder tool.	https://www.cisco.com/cgi-bin/Support/Errordecoder/index.cgi

MIBs

MIB	MIBs Link
All supported MIBs for this release.	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

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/support