



## Configuring EEE

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## 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.

## Information About EEE

### EEE Overview

Energy Efficient Ethernet (EEE) is an IEEE 802.3az standard that is designed to reduce power consumption in Ethernet networks during idle periods.

EEE can be enabled on devices that support low power idle (LPI) mode. Such devices can save power by entering LPI mode during periods of low utilization. In LPI mode, systems on both ends of the link can save

power by shutting down certain services. EEE provides the protocol needed to transition into and out of LPI mode in a way that is transparent to upper layer protocols and applications.

## Default EEE Configuration

EEE is enabled by default.

## Restrictions for EEE

EEE has the following restrictions:

- Changing the EEE configuration resets the interface because the device has to restart Layer 1 autonegotiation.
- You might want to enable the Link Layer Discovery Protocol (LLDP) for devices that require longer wakeup times before they are able to accept data on their receive paths. Doing so enables the device to negotiate for extended system wakeup times from the transmitting link partner.

## How to Configure EEE

You can enable or disable EEE on an interface that is connected to an EEE-capable link partner.

## Enabling or Disabling EEE

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b>  <b>Example:</b> Switch# <b>configure terminal</b>	Enters global configuration mode.
<b>Step 2</b>	<b>interface <i>interface-id</i></b>  <b>Example:</b> Switch(config)# <b>interface</b> <b>gigabitethernet1/0/1</b>	Specifies the interface to be configured, and enter interface configuration mode.
<b>Step 3</b>	<b>power efficient-ethernet auto</b>  <b>Example:</b> Switch(config-if)# <b>power</b> <b>efficient-ethernet auto</b>	Enables EEE on the specified interface. When EEE is enabled, the device advertises and autonegotiates EEE to its link partner.

	Command or Action	Purpose
<b>Step 4</b>	<b>no power efficient-ethernet auto</b>  <b>Example:</b> <pre>Switch(config-if) # no power efficient-ethernet auto</pre>	Disables EEE on the specified interface.
<b>Step 5</b>	<b>end</b>  <b>Example:</b> <pre>Switch(config-if) # end</pre>	Returns to privileged EXEC mode.
<b>Step 6</b>	<b>copy running-config startup-config</b>  <b>Example:</b> <pre>Switch# copy running-config startup-config</pre>	(Optional) Saves your entries in the configuration file.

## Monitoring EEE

*Table 1: Commands for Displaying EEE Settings*

Command	Purpose
<b>show eee capabilities interface <i>interface-id</i></b>	Displays EEE capabilities for the specified interface.
<b>show eee status interface <i>interface-id</i></b>	Displays EEE status information for the specified interface.

## Configuration Examples for Configuring EEE

This example shows how to enable EEE for an interface:

```
Switch# configure terminal
Switch(config)# interface gigabitethernet1/0/1
Switch(config-if)# power efficient-ethernet auto
```

This example shows how to disable EEE for an interface:

```
Switch# configure terminal
Switch(config)# interface gigabitethernet1/0/1
Switch(config-if)# no power efficient-ethernet auto
```

## Additional References

### Error Message Decoder

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

### 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:  <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

### Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>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.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	<a href="http://www.cisco.com/support">http://www.cisco.com/support</a>

## Feature History and Information for Configuring EEE

Release	Modification
Cisco IOS 15.0(2)EX1	This feature was introduced.