



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.

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.
- EEE is not supported on TenGigabit Ethernet and Multigigabit Ethernet ports.

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.

Default EEE Configuration

EEE is disabled by default.

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
Step 1	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 2	interface <i>interface-id</i> Example: Device(config)# interface gigabitethernet 1/0/1	Specifies the interface to be configured, and enter interface configuration mode.
Step 3	power efficient-ethernet auto Example: Device(config-if)# power efficient-ethernet auto	Enables EEE on the specified interface. When EEE is enabled, the device advertises and autonegotiates EEE to its link partner.
Step 4	no power efficient-ethernet auto Example: Device(config-if)# no power	Disables EEE on the specified interface.

	Command or Action	Purpose
	<code>efficient-ethernet auto</code>	
Step 5	end Example: Device(config-if)# end	Returns to privileged EXEC mode.
Step 6	copy running-config startup-config Example: Device# copy running-config startup-config	(Optional) Saves your entries in the configuration file.

Monitoring EEE

Table 1: Commands for Displaying EEE Settings

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

Following are examples of the **show eee** commands

```
Switch#show eee capabilities interface gigabitEthernet2/0/1
Gi2/0/1
EEE(efficient-ethernet): yes (100-Tx and 1000T auto)
Link Partner : yes (100-Tx and 1000T auto)

ASIC/Interface : EEE Capable/EEE Enabled

Switch#show eee status interface gigabitEthernet2/0/1
Gi2/0/1 is up
EEE(efficient-ethernet): Operational
Rx LPI Status : Low Power
Tx LPI Status : Low Power
Wake Error Count : 0

ASIC EEE STATUS
Rx LPI Status : Receiving LPI
Tx LPI Status : Transmitting LPI
Link Fault Status : Link Up
Sync Status : Code group synchronization with data stream intact

Switch#show eee counters interface gigabitEthernet2/0/1

LP Active Tx Time (10us) : 66649648
```

```

LP Transitioning Tx : 462
LP Active Rx Time (10us) : 64911682
LP Transitioning Rx : 153

```

Examples for Cataylst Digital Building Series Switches

```

Switch#show eee capabilities interface gig1/0/1
Gi1/0/1
EEE(efficient-ethernet): yes (100-Tx and 1000T auto)
Link Partner : no

```

```

Switch#show eee status int gig1/0/1
Gi1/0/1 is up
EEE(efficient-ethernet): Disagreed
Rx LPI Status : None
Tx LPI Status : None
Wake Error Count : 0

```

Configuration Examples for Configuring EEE

This example shows how to enable EEE for an interface:

```

Device# configure terminal
Device(config)# interface gigabitethernet 1/0/1
Device(config-if)# power efficient-ethernet auto

```

This example shows how to disable EEE for an interface:

```

Device# configure terminal
Device(config)# interface gigabitethernet 1/0/1
Device(config-if)# no power efficient-ethernet auto

```

Additional References for EEE

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
<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>	http://www.cisco.com/support

Feature Information for Configuring EEE

Release	Modification
Cisco IOS XE 3.2SE	This feature was introduced.

