



Configuring EEE

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Prerequisites for EEE

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.

Restrictions for EEE

Changing the Energy Efficient Ethernet (EEE) configuration resets the interface because the device has to restart Layer 1 autonegotiation.

Information About EEE

EEE Overview

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 by default.

How to Configure EEE

Enabling or Disabling EEE

You can enable or disable EEE on an interface that is connected to an EEE-capable link partner. Starting in the Privileged EXEC mode, complete the following steps to enable 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. Enter the no form of the command to disable EEE.
Step 4	end Example: Device(config-if)# end	Returns to privileged EXEC mode.
Step 5	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
show eee capabilities interface <i>interface-id</i>	Displays EEE capabilities for the specified interface.
show eee status interface <i>interface-id</i>	Displays EEE status information for the specified interface.

The following are sample outputs of the **show eee** commands:

```
Device# show eee capabilities interface gigabitethernet 1/0/1
Gi0/1
EEE(efficient-ethernet): yes (100-Tx and 1000T auto)
Link Partner : yes (100-Tx and 1000T auto)
```

```
ASIC/Interface : EEE Capable/EEE Enabled
```

```
Device# show eee status interface gigabitethernet 1/0/1
Gi0/1 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
```

Configuration Examples for EEE

The following example shows how to disable EEE on an interface:

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

Feature History and Information for EEE

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 the 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.

Feature Name	Release	Feature Information
Energy Efficient Ethernet (EEE)	Cisco IOS Release 15.2(7)E2a	This feature was introduced Energy Efficient Ethernet (EEE) is an IEEE 802.3az standard that is designed to reduce power consumption in Ethernet networks during idle periods.