



## Configuring EEE

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## Restrictions for EEE

Energy Efficient Ethernet (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.

## 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

## 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

## SUMMARY STEPS

1. **configure terminal**
2. **interface *interface-id***
3. **power efficient-ethernet auto**
4. **no power efficient-ethernet auto**
5. **end**
6. **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b> <b>Example:</b> Device# <b>configure terminal</b>	Enters global configuration mode.
<b>Step 2</b>	<b>interface <i>interface-id</i></b> <b>Example:</b> Device(config)# <b>interface gigabitethernet 1/0/1</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> Device(config-if)# <b>power efficient-ethernet auto</b>	Enables EEE on the specified interface. When EEE is enabled, the device advertises and autonegotiates EEE to its link partner.
<b>Step 4</b>	<b>no power efficient-ethernet auto</b> <b>Example:</b> Device(config-if)# <b>no power efficient-ethernet auto</b>	Disables EEE on the specified interface.
<b>Step 5</b>	<b>end</b> <b>Example:</b> Device(config-if)# <b>end</b>	Returns to privileged EXEC mode.
<b>Step 6</b>	<b>copy running-config startup-config</b> <b>Example:</b>	(Optional) Saves your entries in the configuration file.

Command or Action	Purpose
Device# <code>copy running-config startup-config</code>	

## 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
```

## 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
```