Configuring Perpetual PoE and Fast POE

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Restrictions for Perpetual and Fast PoE

The following restrictions apply to perpetual and fast PoE:

- Configuration of Fast PoE or Perpetual PoE has to be done before physically connecting any endpoint. Alternatively do a manual shut/no-shut of the ports drawing power.
- Power to the ports will be interrupted in case of MCU firmware upgrade and ports will be back up immediately after the upgrade.
- When the switches are power-stacked, perpetual and fast PoE functionalities may not work as expected. This is due to power budget shortage.
- The CREE light powered device (PD) may flap at regular intervals if not configured with IP assigned from the DHCP server.
- If the PD does not support LLDP user can configure with either static or 2-event to receive required power as per the PD specification.

Note Perpetual PoE and Fast PoE are not supported on the following Cisco Catalyst 9300 SKUs:

- C9300-24S
- C9300-48S

Information About Perpetual PoE

Perpetual PoE provides uninterrupted power to connected powered device even when a power sourcing equipment (PSE) switch is starting after a reload from executing the Cisco IOS software **reload** command.

Caution Power to the ports will be interrupted in case of M3 or PSE firmware upgrade, and power to the ports will be backed up after Cisco IOS software starts.

Fast POE

This feature remembers the last power drawn from a particular PSE port and switches on power the moment AC power is plugged in (within 15 to 20 seconds of switching on power) without waiting for IOS to boot up. When **poe-ha** is enabled on a particular port, the switch on a recovery after power failure, provides power to the connected endpoint devices within short duration before even the IOS forwarding starts up.

Note In case of UPOE, even though Fast POE is available on the switch side, the PD endpoints may not be able to take advantage of the same, due to the reliance on LLDP to signal the UPOE power availability. This reliance on LLDP requires that the PD endpoint still needs to wait till the IOS comes up and LLDP packet exchanges can happen, signaling the availability of UPOE power.

Configuring Perpetual and Fast PoE

To configure perpetual and Fast PoE, perform the following steps.

Before you begin

Configure the **perpetual-poe-ha** command before connecting the powered device, or manually shut or unshut the port after configuring **poe-ha** command.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

	Command or Action	Purpose
Step 3	**interface** *interface-id* **Example:** `Device(config)# interface gigabitethernet 2/0/1`	Specifies the physical port to be configured, and enters interface configuration mode.
Step 4	**power inline port perpetual-poe-ha** **Example:** `Device(config-if)# power inline port perpetual-poe-ha`	Configures perpetual PoE. When you configure perpetual PoE on a port connected to a powered device, the powered device remains powered on during reload.
Step 5	**power inline port poe-ha** **Example:** `Device(config-if)# power inline port poe-ha`	Configures Fast PoE. When you configure Fast PoE, if the switch is power cycled, PD device is powered on within 10-15 seconds of plugging into a power source without waiting for IOS to boot up. **Note** You should configure perpetual PoE using **power inline port perpetual-poe-ha** command before configuring Fast PoE using **power inline port poe-ha** command.
Step 6	**end** **Example:** `Device(config-if)# end`	Returns to privileged EXEC mode.

Example: Configuring Perpetual and Fast PoE

This example shows how you can configure perpetual PoE on a switch:

```
Device> enable
Device# configure terminal
Device(config)# interface gigabitethernet2/0/1
Device(config-if)# power inline port perpetual-poe-ha
Device(config-if)# end
```

This example shows how you can configure fast PoE on the switch:

```
Device> enable
Device# configure terminal
Device(config)# interface gigabitethernet2/0/1
Device(config-if)# power inline port perpetual-poe-ha
Device(config-if)# power inline port poe-ha
Device(config-if)# end
```

This example shows what happens if you configure fast PoE before configuring perpetual PoE:

```
Device> enable
Device# configure terminal
```

```
Device(config)# interface gigabitethernet2/0/1
Device(config-if)# power inline port poe-ha
Interface Gi2/0/1:INFO: Please execute "power inline port perpetual-poe-ha"
 configuration command when "power inline port poe-ha" is configured on
the interface to enable fast poe
Device(config-if)# power inline port perpetual-poe-ha
Device(config-if)# end
```

This example shows what happens when you disable perpetual PoE without disabling fast PoE on the interface:

```
Device> enable
Device# configure terminal
Device(config)# interface gigabitethernet2/0/1
Device(config-if)# power inline port poe-ha
Interface Gi2/0/1:INFO: Please execute "power inline port perpetual-poe-ha"
 configuration command when "power inline port poe-ha" is configured on
the interface to enable fast poe
Device(config-if)# power inline port perpetual-poe-ha
Device(config-if)# no power inline port poe-ha
Device(config-if)# power inline port poe-ha
Device(config-if)# no power inline port perpetual-poe-ha
Interface Gi2/0/1:INFO: Please execute "no power inline port poe-ha"
configuration command, as fast poe has no effect without "power inline
port perpetual-poe-ha" configuration on the interface
Device(config-if)# end
```

Feature History for Perpetual PoE and Fast PoE

This table provides release and related information for the features explained in this module.

These features are available in all the releases subsequent to the one they were introduced in, unless noted otherwise.

Table 1: Feature History for Perpetual PoE and Fast PoE

Releases	Feature	Feature Information
Cisco IOS XE Everest 16.5.1a	Perpetual and Fast PoE	Perpetual PoE provides uninterrupted power to a connected powered device even when the PSE switch is booting. Fast PoE remembers the last power drawn from a particular PSE port and switches on power without waiting for IOS to boot up.

Use the Cisco Feature Navigator to find information about platform and software image support. To access Cisco Feature Navigator, go to Cisco Feature Navigator.