

Chapter 1 POE Configuration

Switch supports POE function,the main content included is as follows:

- POE Introduction
- POE Configuration

1.1 POE Introduction

PoE (Power over Ethernet, also called remote power supply) refers to the device that remotely supply power for external powered devices(VOIP, AP, network camera) through Ethernet port by using twisted pair.

1、PoE Advantages

- ◇ Reliable: power integrated supplying power, easy backup
- ◇ Simplified connection: external power unnecessary for network terminal, just one cable enough
- ◇ Standard:IEEE 802.3af, 802.3at(adopt global power interface)
- ◇ Wide application prospect: can be used to VOIP、 AP(Access Point)、 portable device charger, imprinter, network camera, data acquisition and etc.

2、POE System Composition

- ◇ PoE system: PoE power、 PSE and PD

- ◇ PoE power
PoE power supply power for whole PoE system and is divided into to types:external power and built-in power.

- ◇ PSE
PSE(Power Sourcing Equipment) is PSE board that every PSE independently manage PoE interface on the PSE board. PSE searches for and detects PoE interface to classify PD and then supplies power for it. When detecting that PD is pulled out, PSE stops supplying power. The Ethernet interface having the capability of supplying power is called PoE interface FE and GE included.

- ◇ PD
- ◇ PD is a device that receives power supplied from PSE.It can be separated into standard PD and non-standard PD that standard PD refers to powered device complied to IEEE 802.3af and IEEE 802.3at. PD device is available to be connected to other power for power supplying then to power redundancy backup as it receive power from PoE power also.

1.2 POE Configuration

POE configuration content:

- POE Manual Configuration
- POE Policy Configuration
- PD Query Configuration

1.2.1 POE Manual Configuration

POE manual configuration commands are as follows:

- Set maximum total power
- Set PD compatibility
- Turn on/off PoE power supply on interface
- Display POE information

Command	Description	CLI Mode
poe max-power <power>	Set system maximum POE total power	Global configuration mode
poe legacy (enable disable)	Turn on/off PD compatibility	Global configuration mode
[no] poe enable	Turn on/off interface POE power supply and default interface power supply status is on.	Interface configuration mode
show poe	Display all interface POE information	User mode or privileged user mode

1.2.2 POE policy Configuration

POE policy configuration commands are as follows:

- Turn on /off POE policy on interface
- Set POE policy entry on interface
- Display POE policy information

Command	Description	CLI Mode
[no] poe policy enable	Turn on /off interface POE policy and default interface POE policy is off.	Interface configuration mode
[no] poe policy shutdown clock <clock-value> week-day <day-value>	Set or cancel interface POE policy entry and the command can be set for several times. Default has no POE policy entry. clock-value is time or time range. 24-hour system, if a value of 1 means 1 o'clock (i.e. between 1 and 2 o'clock), and 20-23 means 20 to 23 o'clock (i.e. between 20 and 0 o'clock). Day-value is the day of the week, which means a certain day or consecutive days. For example, 3 means Wednesday, and 1-7 means Monday to Sunday. POE policy can only take effect if POE policy of interface is on.	Interface configuration mode

show poe policy <if-name>	Display a certain interface POE policy information.	User mode or privileged user mode
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1.2.3 PD Query Configuration

PD query configuration commands are as follows:

- Set PD IP Address
- Set query PD time interval
- Set query PD timeout frequency
- Set PD start-up time
- Display PD information

Command	Description	CLI Mode
poe pd-ip-address <ip-address> no poe pd-ip-address	Set or clear IP address of interface connected PD, and default has no configured IP address on PD. If IP address configured on PD, the system queries the IP address. If PD doesn't respond in given times, it will restart by POE's control.	Interface configuration mode
poe pd-query-interval <interval> no poe pd-query-interval	Set query PD time interval, and default query PD time interval is 5s.	Interface configuration mode
poe pd-timeout-number <number> no poe pd-timeout-number	Set query PD timeout frequency, and default query PD timeout frequency is 3 times.	Interface configuration mode

<p>poe pd-boot-time <time> no poe pd-boot-time</p>	<p>Set PD start-up time, and default PD start-up time is set as 120s.</p>	<p>Interface configuration mode</p>
<p>show poe pd-information</p>	<p>Display all configured PD information.</p>	<p>User mode or privileged user mode</p>