



Avaya Solution & Interoperability Test Lab

Configuring the Avaya B179 SIP Conference Phone for Power over Ethernet with the Avaya ERS 5520-48T-PWR Switch – Issue 1.0

Abstract

These Application Notes describe the Power over Ethernet (PoE) configuration of the Avaya B179 SIP Conference Phone with the Avaya ERS 5520-48T-PWR switch.

1. Introduction

Power over Ethernet (PoE) allows both power and data to be simultaneously carried over standard Ethernet cables. PoE-enabled Ethernet switches can supply power directly to Ethernet devices, thereby simplifying installation and removing the need for separate power supplies for those devices. The IEEE 802.3af standard defines the mechanisms for Power Sourcing Equipment (PSE), such as PoE-enabled Ethernet switches, to detect, classify, and supply power to Powered Devices (PDs), such as PoE-enabled IP telephones. The Avaya B179 SIP Conference Phone can be powered by PoE. The Avaya ERS 5520-48T-PWR switch provides 48 10/100/1000 Mbps ports that are PoE capable.

Figure 1 shows the configuration used for PoE testing.

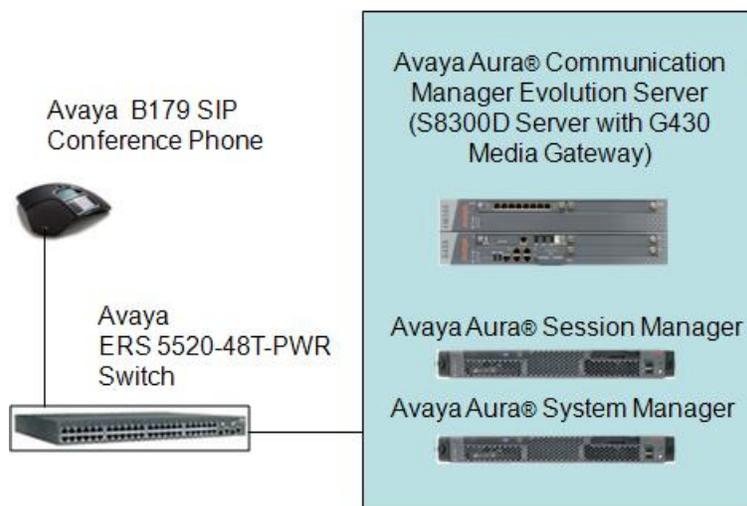


Figure 1: PoE Configuration

2. Equipment and Software Validated

The following equipment and software were used for the configuration provided:

DEVICE DESCRIPTION	VERSION TESTED
Avaya S8300D Evolution Server running Avaya Aura® Communication Manager with Avaya G430 Media Gateway	R016x.00.1.510.1
Avaya Aura® Session Manager	6.1.0.0.610023
Avaya Aura® System Manager	6.1.0 (6.1.0.4.5072 – 6.1.4.62)
Avaya B179 SIP Conference Phone	2.1.0, 2.2.1
Avaya 5520-48T-PWR Switch	V6.1.3.024

3. Configuration of the Avaya B179 SIP Conference Telephone

There is no configuration requirement on the Avaya B179 SIP Conference Phone to use PoE.

4. Configuration of the Avaya ERS 5520-48T-PWR Switch

The configuration steps below focus on the basic commands used for PoE on the 5520-48T-PWR. Additional configuration details are available in the Configuration Guide [3].

A serial port on a PC was used to connect to the serial port of the 5520-48T-PWR switch. A standard terminal emulator was running on the PC. When connected to the switch, the main screen appears and displays the switch model and software versions. The user must press “Ctrl-Y” to reach the menu screen below, and then use the arrow keys to select “Command Line Interface...” and press <Return>.

```
Ethernet Routing Switch 5520-48T-PWR Main Menu

IP Configuration/Setup...
SNMP Configuration...
System Characteristics...
Switch Configuration...
Console/Comm Port Configuration...
Display Hardware Units...
Spanning Tree Configuration...
TELNET/SNMP/Web Access Configuration...
Software Download...
Configuration File...
Display System Log...
Reset...
Reset to Default Settings...
Shutdown Command...
Command Line Interface...
Logout...

Use arrow keys to highlight option, press <Return> or <Enter> to select option.
```

The user must be in “enable” mode to execute the commands that follow.

```
5520-48T-PWR>enable
5520-48T-PWR#
```

The 5520-48T-PWR switch is enabled to provide PoE on a port by default. The “poe poe-shutdown” command can be used to disable PoE on a port. The commands below show an example to disable PoE on port 14.

```
5520-48T-PWR# config t
5520-48T-PWR(config)#interface FastEthernet 14
5520-48T-PWR(config-if)#poe poe-shutdown
```

To enable PoE on a port, the “no poe-shutdown” command can be used. The commands below show an example to enable PoE on port 14.

```
5520-48T-PWR# config t
5520-48T-PWR(config)#interface FastEthernet 14
5520-48T-PWR(config-if)#no poe-shutdown
```

5. Observations

Table 1 shows the detected class and power allocated by the 5520-48T-PWR switch. IP Telephones were connected directly to the switch. Cables of different lengths were used. Cable length and impedance affects power usage, so the measurements listed here may vary based on the cable used. The power measurements reported here are only for reference purposes, and reflect average consumption in an on-hook idle state.

Avaya Powered Device	802.3af Class	Measured Power While Idle (W)
B179 SIP Conference Phone	Class 3	5.8

Table 1

6. Verification Steps

The following commands can be used with the 5520-48T-PWR to display the device class detected and power provided.

The “show poe-main-status” command can be used to show the global PoE switch status.

```
5520-48T-PWR#show poe-main-status
PoE Main Status - Stand-alone
-----
Available DTE Power      : 320 Watts
DTE Power Status         : Normal
DTE Power Consumption    : 29 Watts
DTE Power Usage Threshold : 80 %
Traps Control Status     : Enable
PD Detect Type           : 802.3af and Legacy
Power Source Present     : AC Only
AC Power Status          : Present
DC Power Status          : Not Present
```

The “show poe-port-status” or “show poe-port-status *port*” commands can be used to show the port PoE status. The example below shows this information for port 14.

```
5520-48T-PWR#show poe-port-status 14
  Admin      Current      Limit
Port  Status  Status      Classification  (Watts)  Priority
----  -
14   Enable  Delivering Power      3          16       Low
```

The “show poe-power-measurement” or “show poe-power-measurement *port*” commands can be used to show the power used on a PoE port. The example below shows this information for port 14.

```
5520-48T-PWR#show poe-power-measurement 14
Port Volt(V) Current(mA) Power(Watt)
-----
14 48.3 120 5.796
```

7. Conclusion

These Application Notes described the configuration of the Avaya ERS 5520-48T-PWR switch to provide PoE for the Avaya B179 SIP Conference Phone. The Avaya ERS 5520-48T-PWR switch was able to provide power to the Avaya B179 SIP Conference Phone using Power over Ethernet.

8. Additional References

The Avaya product documentation is available at <http://support.avaya.com>.

[1] Avaya B179 SIP Conference Phone User Guide

[2] Avaya B179 SIP Conference Phone Installation and Administration Guide

[3] Ethernet Routing Switch 5000 Series; Configuration - System.

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