



A sample Power over Ethernet configuration between an Avaya™ P333T-PWR Inline Power Layer 2 Workgroup Switch and Avaya™ 4600 Series IP Telephones equipped with a 30A Ethernet Switch Base - Issue 1.0

Abstract

These Application Notes provide instructions on how to configure the Avaya P333T-PWR switch to provide inline DC power over any of its 24 10/100 Base-T Ethernet ports for devices such as the Avaya 4600 Series Telephones. A sample configuration has been provided to help implement this capability.

1. Introduction

These Application Notes describe how to configure the Avaya P333T-PWR switch to provide inline DC power over Ethernet for devices such as the Avaya 4600 Series of IP Telephones. Although the P333T-PWR switch is pre-configured to provide power, this document provides instructions on the P333T-PWR switch Power over Ethernet (PoE) configuration and management including prioritizing power delivery to specific ports when overall switch power limits are exceeded.

The Avaya P333T-PWR switch provides power over standard Category 3 and Category 5 UTP cables. It can receive inline power from one of two sources: an internal – 48VDC power supply or an external DC power supply. The internal power supply delivers a maximum of 200W for all 24 10/100 Base-T ports. Total power can be increased beyond this limit by attaching a DC power supply. Each port can supply up to 16.5W by default. If the power draw exceeds the allowed upper limit, power is denied on the port requesting power and an “overcurrent” warning is issued. Similarly, if the power drops below the lower limit, power is denied to that port and an “undercurrent” warning is issued. Inline power is not supported on the expansion slot.

Figure 1 illustrates a sample switch configuration consisting of an Avaya P333T-PWR switch, an Avaya™ IP600 Internet Protocol Communication Server, an Avaya™ 4612 IP Telephone, an Avaya™ 4624 IP Telephone, and a Microsoft Windows NT 4.0 Server. Both IP Telephones were equipped with an Avaya™ 30A Ethernet Switch Base.

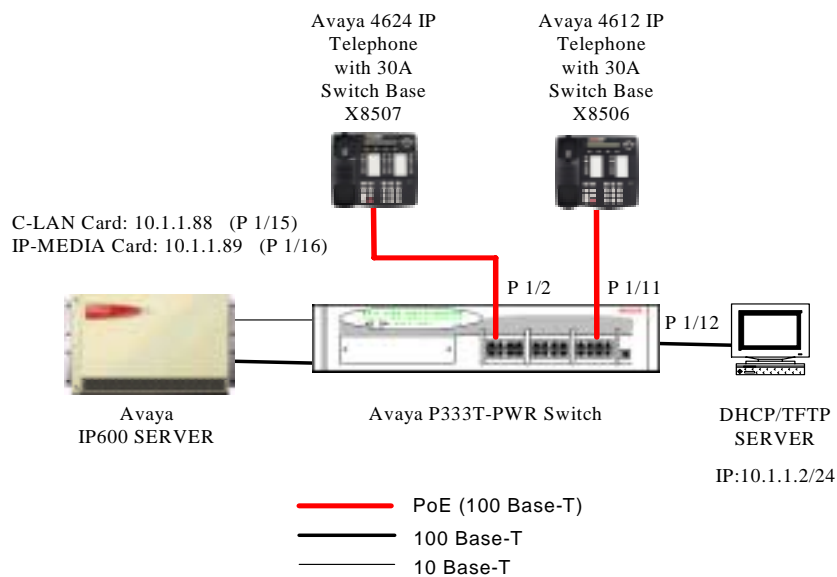


Figure 1: Sample Avaya P333T-PWR Network Configuration

This document assumes the layer 2 network and the IP600 Server configuration depicted in **Figure 1** is already in place. Please consult the appropriate User Guides for more information on how to setup this network. The P333T-PWR switch configuration was done through the command line interface (CLI) and is shown in Section 3. User input commands are in bold.

2. Equipment and Software Validated

Equipment	Version
Avaya™ P333T-PWR Switch	
• P330 Image	3.8.2
• Inline Power Image	1.3.20
Avaya™ IP600 Server	R010c.01.0.034.0
Avaya™ 4612 IP Telephone	1.6
Avaya™ 4624 IP Telephone	1.6
Avaya™ 30A Ethernet Switch Base	Issue 1
Microsoft Windows NT 4.0 Server	Build 1381: SP6

3. P333T-PWR Switch Power over Ethernet Configuration

Although a new P333T-PWR switch is pre-configured to provide power out of the box, the following commands are shown to illustrate how load detection can be enabled on ports attached to PoE capable devices.

To enable load detection on the P333T-PWR ports connected to the Avaya™ IP Telephones issue the following commands:

```
Cajun_P330-1(super)# set port powerinline 1/2 enable
Port 1/2 powerinline enable.

Cajun_P330-1(super)# set port powerinline 1/11 enable
Port 1/11 powerinline enable.
```

Note 1: To disable load detection on a P333T-PWR port issue the following command: "*set port powerinline <module#/port#> disable*".

Note 2: The configuration depicted in **Figure 1** was verified using the P333T-PWR switch – 48 VDC internal power supply. When an external power supply is used, users are allowed to set the maximum power allocated by the external power supply by issuing the following command: "*set powerinline external <module#> <power in Watts>*".

4. P333T-PWR Switch Port Power Priority Level Configuration

The P333T-PWR Switch can be configured to set the priority level for powering a port. The possible values are: critical, high, and low. All ports are set to “low” priority by default. In this sample configuration, the priority level to power the ports attached to the IP Telephones were set

to “high”, thus giving them higher priority in case the power draw exceeds the allowed upper limit on the P333T-PWR switch.

To set the P333T-PWR ports connected to the IP Telephones to power priority level “high” issue the following commands:

```
Cajun_P330-1(super)# set port powerinline priority 1/2 high
Port 1/2 powerinline priority was set to High.

Cajun_P330-1(super)# set port powerinline priority 1/11 high
Port 1/11 powerinline priority was set to High.
```

5. P333T-PWR Switch Inline Power Status

Show the inline power status on the entire P333T-PWR module:

```
Cajun_P330-1(super)# show powerinline 1

External power supply is 200 Watts.
External power is not active
Actual power consumption is 8 W.

Port      Inline Operational Status      Power Allocated class      Powering Priority
-----
1/1       fault
1/2       delivering power
1/3       fault
1/4       fault
1/5       fault
1/6       fault
1/7       fault
1/8       fault
1/9       fault
1/10      fault
1/11      delivering power
1/12      fault
1/13      fault
1/14      fault
1/15      fault
1/16      fault
1/17      fault
1/18      fault
1/19      fault
1/20      fault
1/21      fault
1/22      fault
1/23      fault
1/24      fault
```

NOTE: The “fault” Inline Operational Status means the port is not delivering power.

6. Conclusion

When using an Avaya™ P333T-PWR switch the default settings provide power to each Ethernet port. The management options on the device enable monitoring of load on each port and the establishment of power delivery prioritization. These management capabilities are useful for managing the power levels drawn from the P333T-PWR switch and in the event of an overdraw of power, the ports established as “high or critical” would maintain power delivery to the devices they connect.

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