



## Avaya Solution & Interoperability Test Lab

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# **Application Notes for the Extreme Networks Summit X450e-24p Switch Supporting Power over Ethernet with Avaya Communication Manager, Avaya IP Office, Avaya one-X G10 Gateway and Avaya IP Telephones – Issue 1.0**

## **Abstract**

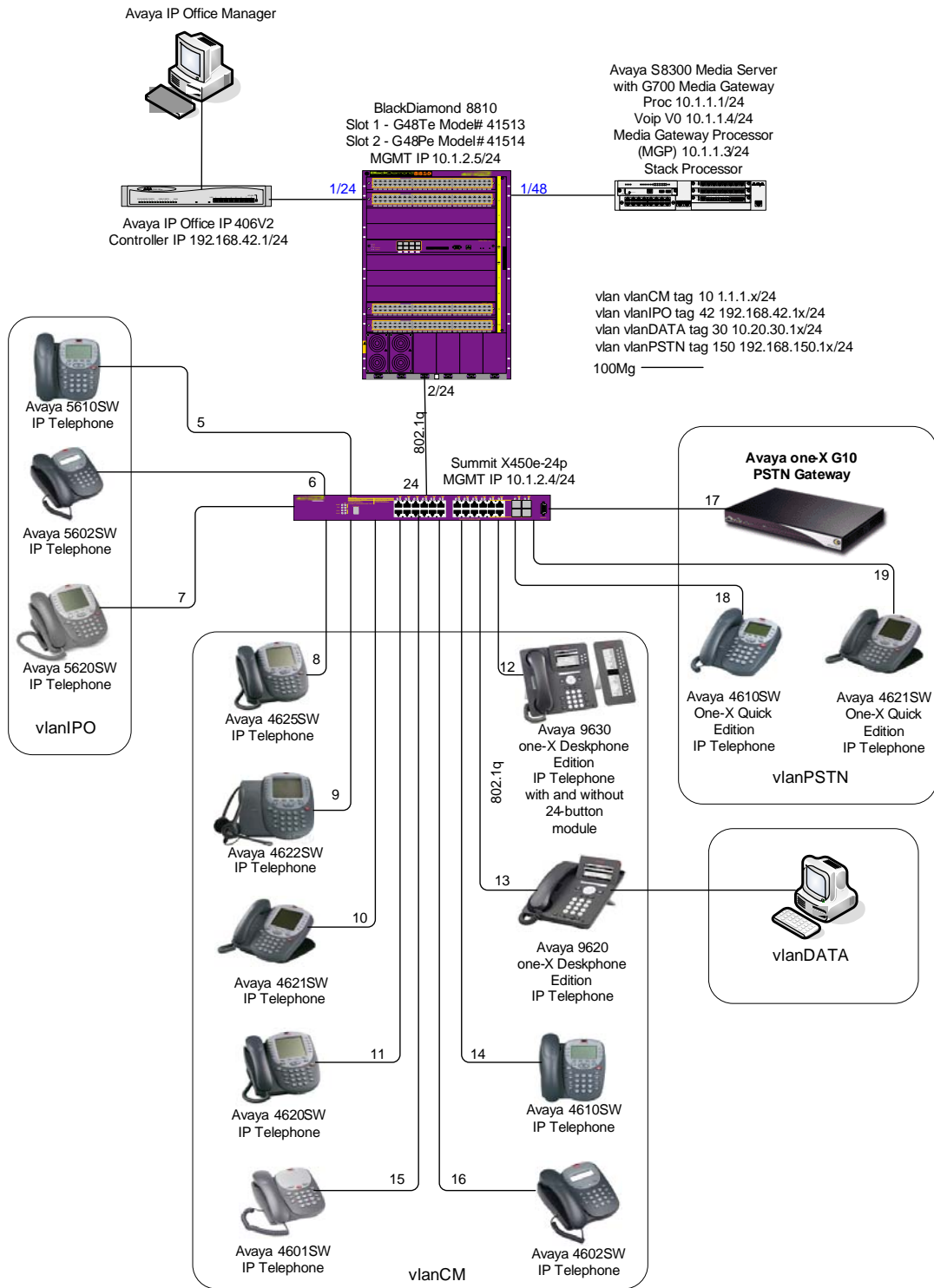
These Application Notes describe the procedures for configuring the Extreme Networks Summit X450e-24p Switch to provide inline Power over Ethernet (PoE) to Avaya 4600/5600/9600 Series IP Telephones registered to the Avaya Communication Manager, Avaya IP Office and Avaya one-X G10 PSTN Gateway. During compliance testing, Avaya IP Telephones successfully obtained power and transferred data over standard Ethernet cables from the Extreme Summit Switch. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

# 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. In the compliance-tested configuration described in these Application Notes, the Extreme Networks Summit 450e24p is configured to supply inline PoE to Avaya PDs. No Extreme Network specific configuration is required on Avaya Communication Manager, Avaya IP Office and Avaya one-X G10 PSTN Gateway to support this solution. All stations are pre-assigned. Refer to <http://support.avaya.com> for station administration.

As illustrated in **Figure 1**, the Avaya PDs covered in these Application Notes include the following:

- Avaya one-X PSTN Gateway
- Avaya 9630 one-X Deskphone Edition IP Telephone with and without 24-button module
- Avaya 9620 one-X Deskphone Edition IP Telephone
- Avaya 4601SW IP Telephone
- Avaya 4602SW IP Telephone
- Avaya 4610SW IP Telephone
- Avaya 4620 IP Telephone
- Avaya 4620SW IP Telephone
- Avaya 4621SW IP Telephone
- Avaya 4622SW IP Telephone
- Avaya 4625SW IP Telephone
- Avaya 5602SW IP Telephone
- Avaya 5610SW IP Telephone
- Avaya 5620SW IP Telephone
- Avaya 4610 one-X Quick Edition IP Telephone
- Avaya 4621 one-X Quick Edition IP Telephone



**Figure 1: PoE Interoperability between Extreme Networks Summit X450e-24p, Avaya IP Telephones and Avaya G10 PSTN Gateway**

## 2. Equipment and Software Validated

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

Equipment	Software/Firmware
Avaya IP Office IP406V2	3.1(65)
Avaya S8300 Media Server with a G350 Media Gateway	3.1.2
G350 Media Gateway	25.28.0
Avaya IP Office Manager	3.1(65)
Avaya IP Office System Monitor	3.1(65)
Avaya IP Office Phone Manager Pro	3.1.15
Avaya one-X PSTN Gateway	2.0
Avaya 9630 one-X Deskphone Edition IP Telephone with and without 24-button module	1.1
Avaya 9620 one-X Deskphone Edition IP Telephone	1.1
Avaya 4601SW IP Telephone	2.3
Avaya 4602SW IP Telephone	2.3
Avaya 4610SW IP Telephone	2.3
Avaya 4620SW IP Telephone	2.3
Avaya 4621SW IP Telephone with and without 24-button module	2.3
Avaya 4622SW IP Telephone	2.3
Avaya 4625SW IP Telephone	2.3
Avaya 5602SW Telephone	2.3
Avaya 5620SW Telephone	2.3
Avaya 5602SW Telephone	2.3
Avaya 4610SW one-X Quick Edition IP Telephone	2.0
Avaya 4621SW one-X Quick Edition IP Telephone	2.0
Extreme Networks Summit X450e-24p Switch	ExtremeXOS 11.5.1.4 (FCS code)
Extreme Networks BlackDiamond 8810 Switch	ExtremeXOS 11.5.1.4 (FCS code)

### 3. Verification and Configuration of PoE on the Extreme Summit X450e-24p Switch

Inline Power over Ethernet (PoE) is supported on the Extreme Summit X450e-24p Switch. By default, PoE support is enabled on the system and on all ports.

1.	Connect to the Summit X450e-24p Switch. Log in using the appropriate <b>Login ID</b> and <b>Password</b> .  <b>Login:</b> <b>Password:</b> <b>450e-24p.1 #</b>
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To view the inline power information for the Summit X450e-24p switch enter the command **show inline-power**.

2.	Verify POE is enabled.  X450e-24p.17 # <b>show inline-power</b>  Inline Power System Information Configured          : Enabled Power Usage Threshold  : 70 percent Disconnect Precedence  : deny-port Budgeted  Measured Firmware Status  Power (Watts) Power (Watts) Legacy Operational      405 W      68 W      Disabled
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To view inline power information for the ports enter the command **show inline-power info ports 1-24**

**Note:** Class and power information for phones with the 24-button modules and 4620SW Class3 IP Phones that are made before 11/04 are included in **Table 1** on page 11.

3.	Show inline power for ports 1 to 24.						
	X450e-24p.2 # <b>show inline-power info ports 1-24</b>						
	Port	State	Class	Volts	Curr (mA)	Power (watts)	Fault
	1	searching	-----	0.0	0	0.0	None
	2	searching	-----	0.0	0	0.0	None
	3	searching	-----	0.0	0	0.0	None
	4	searching	-----	0.0	0	0.0	None
	5	delivering	class2	50.5	65	3.300	None
	6	delivering	class2	50.5	64	3.200	None
	7	delivering	class2	50.5	75	3.800	None
	8	delivering	class3	50.5	163	8.200	None
	9	delivering	class2	50.5	103	5.200	None
	10	delivering	class2	50.5	95	4.800	None
	11	delivering	class2	50.5	79	4.0	None
	12	delivering	class2	50.5	98	5.0	None
	13	delivering	class2	50.5	98	5.0	None
	14	delivering	class2	50.5	65	3.300	None
	15	delivering	class2	50.5	65	3.300	None
	16	delivering	class2	50.5	63	3.200	None
	17	delivering	class0	50.5	87	4.400	None
	18	delivering	class2	50.5	65	3.300	None
	19	delivering	class2	50.5	93	4.700	None
	20	searching	-----	0.0	0	0.0	None
	21	searching	-----	0.0	0	0.0	None
	22	searching	-----	0.0	0	0.0	None
	23	searching	-----	0.0	0	0.0	None
	24	searching	-----	0.0	0	0.0	None

For IEEE 802.3af classes refer to **Table 2** on page 11.

Summary output displays the following inline power information for the specified ports:

- **Port**—Indicates the port number
- **State**—Displays the port power state
- **Class**—Displays the class type of the connected PD
- **Volts**—Displays the measured voltage. A value from 0 to 2 is valid for ports that are in a searching state
- **Curr (MA)**—Displays the measured current, in milliamperes, drawn by the PD
- **Power**—Displays the measured power, in watts, supplied to the PD
- **Fault**—Displays the fault value

To verify that PoE support is enabled for one or all ports enter the command **show inline-power configuration ports <portlist>**

4.	<p>Verify inline-power configuration.</p> <p>X450e-24p.17 # <b>show inline-power configuration ports 1-24</b></p> <table border="1"><thead><tr><th>Port</th><th>Config</th><th>Operator</th><th>Limit</th><th>Priority</th><th>Label</th></tr></thead><tbody><tr><td>1</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>2</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>3</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>4</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>5</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>6</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>7</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>8</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>9</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>10</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>11</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>12</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>13</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>14</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>15</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>16</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>17</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>18</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>19</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>20</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>21</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>22</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>23</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr><tr><td>24</td><td>Enabled</td><td>15400</td><td>mw</td><td>Low</td><td></td></tr></tbody></table>	Port	Config	Operator	Limit	Priority	Label	1	Enabled	15400	mw	Low		2	Enabled	15400	mw	Low		3	Enabled	15400	mw	Low		4	Enabled	15400	mw	Low		5	Enabled	15400	mw	Low		6	Enabled	15400	mw	Low		7	Enabled	15400	mw	Low		8	Enabled	15400	mw	Low		9	Enabled	15400	mw	Low		10	Enabled	15400	mw	Low		11	Enabled	15400	mw	Low		12	Enabled	15400	mw	Low		13	Enabled	15400	mw	Low		14	Enabled	15400	mw	Low		15	Enabled	15400	mw	Low		16	Enabled	15400	mw	Low		17	Enabled	15400	mw	Low		18	Enabled	15400	mw	Low		19	Enabled	15400	mw	Low		20	Enabled	15400	mw	Low		21	Enabled	15400	mw	Low		22	Enabled	15400	mw	Low		23	Enabled	15400	mw	Low		24	Enabled	15400	mw	Low	
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To disable all or one port see example in **step 6**

6.	<p>To disable PoE on all ports.</p> <p>X450e-24p.17 # <b>disable inline-power</b></p> <p>To disable PoE on a specific port.</p> <p>X450e-24p.17 # <b>disable inline-power ports 5</b></p>
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If the actual power range drawn on a PoE-capable port is known, then the Summit Switches may be configured to allocate power based on the actual maximum rather than the 802.3af power class of the detected PD on the port. The following commands set the **operator-limit** on port 12 to 5 Watts and instruct the X450e-24p to allocate power based on the operator-limit value on port 12. Note that any PD that draws more than 5 Watts will be denied power if connected to that port. Therefore, the operator-limit should be set to a value that accurately represents the actual power required by PDs expected to connect to that port.

7.	<p>Enable operator-limit for one or all ports.</p> <p>X450e-24p.2 # <b>configure inline-power operator-limit 5000 ports 12</b></p>																																																																																																																													
8.	<p>Verify that the limit was changed.</p> <p>X450e-24p.3 # <b>show inline-power info ports 1-24</b></p> <table border="1" data-bbox="349 821 1052 1409"> <thead> <tr> <th>Port</th> <th>Config</th> <th>Operator Limit</th> <th>Priority</th> <th>Label</th> </tr> </thead> <tbody> <tr><td>1</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>2</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>3</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>4</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>5</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>6</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>7</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>8</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>9</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>10</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>11</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>12</td><td>Enabled</td><td>5000 mw</td><td>Low</td><td></td></tr> <tr><td>13</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>14</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>15</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>16</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>17</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>18</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>19</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>20</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>21</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>22</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>23</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> <tr><td>24</td><td>Enabled</td><td>15400 mw</td><td>Low</td><td></td></tr> </tbody> </table>	Port	Config	Operator Limit	Priority	Label	1	Enabled	15400 mw	Low		2	Enabled	15400 mw	Low		3	Enabled	15400 mw	Low		4	Enabled	15400 mw	Low		5	Enabled	15400 mw	Low		6	Enabled	15400 mw	Low		7	Enabled	15400 mw	Low		8	Enabled	15400 mw	Low		9	Enabled	15400 mw	Low		10	Enabled	15400 mw	Low		11	Enabled	15400 mw	Low		12	Enabled	5000 mw	Low		13	Enabled	15400 mw	Low		14	Enabled	15400 mw	Low		15	Enabled	15400 mw	Low		16	Enabled	15400 mw	Low		17	Enabled	15400 mw	Low		18	Enabled	15400 mw	Low		19	Enabled	15400 mw	Low		20	Enabled	15400 mw	Low		21	Enabled	15400 mw	Low		22	Enabled	15400 mw	Low		23	Enabled	15400 mw	Low		24	Enabled	15400 mw	Low	
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9.	<p>Connect a PD that will exceed the 5 watt operator-limit of the port.</p>																																																																																																																													



10	<p>Verify that when the limit is exceeded, the port will shutdown.</p> <p>X450e-24p.3 # <b>show inline-power info ports 1-24</b></p> <table border="1"> <thead> <tr> <th>Port</th> <th>State</th> <th>Class</th> <th>Volts</th> <th>Curr (mA)</th> <th>Power (watts)</th> <th>Fault</th> </tr> </thead> <tbody> <tr><td>1</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>2</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>3</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>4</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>5</td><td>delivering</td><td>class2</td><td>50.5</td><td>67</td><td>3.400</td><td>None</td></tr> <tr><td>6</td><td>delivering</td><td>class2</td><td>50.5</td><td>64</td><td>3.200</td><td>None</td></tr> <tr><td>7</td><td>delivering</td><td>class2</td><td>50.5</td><td>75</td><td>3.800</td><td>None</td></tr> <tr><td>8</td><td>delivering</td><td>class3</td><td>50.5</td><td>158</td><td>8.0</td><td>None</td></tr> <tr><td>9</td><td>delivering</td><td>class2</td><td>50.5</td><td>103</td><td>5.200</td><td>None</td></tr> <tr><td>10</td><td>delivering</td><td>class2</td><td>50.5</td><td>112</td><td>5.600</td><td>None</td></tr> <tr><td>11</td><td>delivering</td><td>class2</td><td>50.5</td><td>81</td><td>4.100</td><td>None</td></tr> <tr><td>12</td><td>faulted</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>Operator Limit violation</td></tr> <tr><td>13</td><td>delivering</td><td>class3</td><td>50.5</td><td>163</td><td>8.200</td><td>None</td></tr> <tr><td>14</td><td>delivering</td><td>class2</td><td>50.5</td><td>64</td><td>3.200</td><td>None</td></tr> <tr><td>15</td><td>delivering</td><td>class2</td><td>50.5</td><td>65</td><td>3.300</td><td>None</td></tr> <tr><td>16</td><td>delivering</td><td>class2</td><td>50.6</td><td>96</td><td>4.800</td><td>None</td></tr> <tr><td>17</td><td>delivering</td><td>class0</td><td>50.5</td><td>87</td><td>4.400</td><td>None</td></tr> <tr><td>18</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>19</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>20</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>21</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>22</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>23</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> <tr><td>24</td><td>searching</td><td>-----</td><td>0.0</td><td>0</td><td>0.0</td><td>None</td></tr> </tbody> </table>	Port	State	Class	Volts	Curr (mA)	Power (watts)	Fault	1	searching	-----	0.0	0	0.0	None	2	searching	-----	0.0	0	0.0	None	3	searching	-----	0.0	0	0.0	None	4	searching	-----	0.0	0	0.0	None	5	delivering	class2	50.5	67	3.400	None	6	delivering	class2	50.5	64	3.200	None	7	delivering	class2	50.5	75	3.800	None	8	delivering	class3	50.5	158	8.0	None	9	delivering	class2	50.5	103	5.200	None	10	delivering	class2	50.5	112	5.600	None	11	delivering	class2	50.5	81	4.100	None	12	faulted	-----	0.0	0	0.0	Operator Limit violation	13	delivering	class3	50.5	163	8.200	None	14	delivering	class2	50.5	64	3.200	None	15	delivering	class2	50.5	65	3.300	None	16	delivering	class2	50.6	96	4.800	None	17	delivering	class0	50.5	87	4.400	None	18	searching	-----	0.0	0	0.0	None	19	searching	-----	0.0	0	0.0	None	20	searching	-----	0.0	0	0.0	None	21	searching	-----	0.0	0	0.0	None	22	searching	-----	0.0	0	0.0	None	23	searching	-----	0.0	0	0.0	None	24	searching	-----	0.0	0	0.0	None
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11	<p>To recover the port after the Operator Limit is Exceeded.</p> <p>Unplug the PD or change the <b>inline-power operator-limit</b> to be able to handle the PD</p> <p><b>configure inline-power operator-limit 50000 ports 12</b></p>																																																																																																																																																																															

For more detailed inline power information for one or more ports, enter the command **show inline-power info detail ports <portlist>**.

## 4. Interoperability Compliance Testing

The interoperability testing focused on verifying PoE interoperability between the Extreme Networks Summit X450e-24p Switch, Avaya IP Telephones and the Avaya one-X G10 PSTN Gateway.

The power tests included verification of the following after the powered device was connected to the switch:

- Successful boot operation.
- For Avaya IP Telephones, successful registration with Avaya Communication Manager or Avaya IP Office (the Avaya 5600-Series IP Telephones are only supported on IP Office).
- Completion of a test call, and raising speakerphone volume to maximum value.
- Connecting a mix of Avaya IP Telephones Point to the switch, power cycling the switch and verifying successful boot operation and registration of the devices to the Avaya Communication Manager.

### 4.1. General Test Approach

The general test approach was to:

- Connect the Avaya IP Telephones and Avaya one-X G10 PSTN Gateway to ports on the Summit X450e-24p and verify that they successfully boot.
- Calls were made with background data to verify that power and data can be simultaneously carried on the PoE connections. Phone calls were made from the IP Telephones with data traffic also being generated.

### 4.2. Test Results

All Power over Ethernet test cases completed successfully. The Extreme Summit X450e-24p Switch successfully provided inline power to all of the Avaya IP telephones and G10 PSTN Gateway.

**Table 1** below lists the IEEE 802.3af class, allocated power, and measured power of the Avaya IP Telephones and Avaya one-X G10 PSTN Gateway when connected to the Extreme Summit X450e-24p. The power listed as measured by the Extreme PoE switch is for an idle phone. Cable length and impedance affects power usage, so the measurements listed here may vary based on the cable used.

Avaya Powered Device	802.3af Class	Volts	Measured Power (W) (Idle)
4601SW	2	50.5	3.3
4602SW	2	50.5	3.2
4610SW	2	50.5	3.2
4620	3	50.6	7.3
4620SW (class3) (*)	3	50.6	5.4
4620SW (class2) (*)	2	50.5	5.3
4621SW	2	50.5	4.1
4622SW	2	50.5	5.6
4625SW	3	50.5	7.9
5602SW	2	50.5	3.2
5610SW	2	50.5	3.3
5620SW	2	50.5	3.8
9620	2	50.5	5.0
9630	2	50.5	5.0
9630 with 24-button module	2	50.6	5.1
one-X 4610SW	2	50.5	3.2
one-X 4621SW	2	50.5	4.9
one-X G10 PSTN gateway	0	50.5	4.5

**Table 1**

**Note:** To tell the difference between a 4620SW Class3 IP Phone that was made before 11/04 and a 4620SW Class2 IP Phone made after 11/04, look at the bottom right corner of the phone at the mic input. The Class2 phones have one hole and the Class3 phones have two holes.

**Table 2** below summarizes the IEEE 802.3af classes.

Class	PSE Output Max. Power (W)
0	15.4
1	4.0
2	7.0
3	15.4
4	Treat as Class 0

**Table 2**

## 5. Verification Steps

The following steps may be used to verify the configuration for Power over Ethernet:

- Ensure that PoE has been enabled on the system or the ports that serve the PDs.
- Connect the Avaya PD to a PoE enabled port on the Extreme Summit Switch and verify that the PD powers on successfully. If the PD does not power on, enter the command **show inline-power info detail ports <portlist>**.
- For the Avaya 4600/5600/9600 Series IP Telephone, verify that it successfully registers with Avaya IP Office and completes phone calls to other phones (assumes the IP telephone has been configured with the correct IP and call control information).

## 6. Troubleshooting

- If the PD does not power up check the inline power settings. Enter **show inline-power info ports 1-24**.
- If the PD does not power up check the inline power configuration, **show inline-power configuration ports 1-24**. Check to see if there is a limit setting on the port.
- If the output shows that the “Inline Power State” is “denied”, then there is insufficient available power to power the PD.

## 7. Support

For technical support on Extreme Networks products, consult the support pages at <http://www.extremenetworks.com/services> or contact the Extreme Networks Worldwide TAC at:

- Toll free: 800-998-2408
- Phone: 408-579-2826
- E-mail: [support@extremenetworks.com](mailto:support@extremenetworks.com)

## 8. Conclusion

These Application Notes describe the steps for configuring the Extreme Networks Summit X450e-24p to provide inline Power over Ethernet (PoE) to the Avaya PDs, Avaya 9600 Series IP Telephones, Avaya 4600 Series IP Telephones, Avaya G10 PSTN Gateway and Avaya 5600 Series IP Telephones.

## 9. Additional References

This section references the Avaya and Extreme Networks product documentation that are relevant to these Application Notes.

The Avaya product documentation can be found at:

<http://support.avaya.com>

The Extreme Networks product documentation can be found at:

<http://www.extremenetworks.com/services>

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