Installing Virtual Services Platform
4850GTS Series
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Chapter 1: Preface

Purpose

This guide provides information and instructions to install Extreme Networks Virtual Services Platform 4850GTS switch.

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- Broken links or usability issues.

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- Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.

- **GTAC Knowledge** – Get on-demand and tested resolutions from the GTAC Knowledgebase, or create a help case if you need more guidance.

- **The Hub** – A forum for Extreme customers to connect with one another, get questions answered, share ideas and feedback, and get problems solved. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

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- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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3. Type the name of your company.
4. Type your email address.
5. Type your job title.
6. Select the industry in which your company operates.
7. Confirm your geographic information is correct.
8. Select the products for which you would like to receive notifications.
9. Click Submit.
Chapter 2: New in this document

There are no feature-related changes for this release in *Installing the Virtual Services Platform 4850GTS Series*. 
# Chapter 3: Hardware models for VSP 4850GTS Series

The following table describes the VSP 4850GTS Series hardware.

## Table 1: Hardware

<table>
<thead>
<tr>
<th>VSP 4000 model</th>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSP 4850GTS</td>
<td>• 48 10/100/1000 Mbps RJ45 ports</td>
<td>EC4800A78-E6</td>
</tr>
<tr>
<td></td>
<td>• 2 Combo 100/1000 Mbps ports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2 1/10 Gbps SFP+ ports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Base Software License</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• one (of two) field replaceable 300W PSUs supplied with the chassis</td>
<td></td>
</tr>
<tr>
<td>VSP 4850GTS-PWR+</td>
<td>• 48 10/100/1000 Mbps 802.3at PoE+</td>
<td>EC4800A88-E6</td>
</tr>
<tr>
<td></td>
<td>• 2 Combo 100/1000 Mbps SFP ports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2 1/10 Gbps SFP+ ports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Base Software License</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• one (of two) field replaceable 1000W PSUs supplied with the chassis</td>
<td></td>
</tr>
<tr>
<td>VSP 4850GTS DC</td>
<td>• 48 10/100/1000 Mbps RJ45 ports</td>
<td>EC4800078-E6</td>
</tr>
<tr>
<td></td>
<td>• 2 Combo 1/10 Gbps SFP ports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2 1/10 Gbps SFP+ ports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• one (of two) field replaceable 300W DC PSUs supplied with the chassis</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Power cords must be ordered separately. Ensure you order the correct power cord for your region. For more information, see [Power cord types and order codes](#) on page 11.
VSP 4000 power supplies

The VSP 4000 supports both AC and DC power supplies. One power supply is installed in the system.

You can install a redundant power supply to support additional power requirements or to provide power redundancy.

The following table describes the VSP 4000-compatible AC and DC power supplies and their part numbers (order codes). All the power supplies are EUED RoHS 5/6 compliant.

**Note:**

The 300-watt and 1000-watt AC power supplies use the IEC 60320 C16 AC power cord connector.

Use the order codes to order a replacement for the primary PSU or to order a redundant PSU for your VSP 4000 system.

**Note:**

Power cords must be ordered separately. Ensure you order the correct power cord for your region. For more information, see [Power cord types and order codes](#) on page 11.

Table 2: Power supply order codes

<table>
<thead>
<tr>
<th>VSP 4000 PSU</th>
<th>Usage</th>
<th>Part number (order code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300W AC power supply</td>
<td>For use in the ERS 4626GTS, 4850GTS, VSP 4850GTS and WL8180, WL8180-16L wireless controllers.</td>
<td>AL1905A08-E5</td>
</tr>
<tr>
<td>Stackable 1000W AC PoE+ power supply</td>
<td>For use in 4X00 PWR+.</td>
<td>AL1905A21–E6</td>
</tr>
<tr>
<td>1000W AC PoE+ power supply</td>
<td>For use with VSP 4450GTX-HT-PWR+</td>
<td>EC4005A03–E6</td>
</tr>
<tr>
<td>300W DC power supply</td>
<td>For use in the VSP 4850GTS-DC, ERS5698TFD, 5650TD, and 5632FD. DC connector included.</td>
<td>AL1905005-E5</td>
</tr>
</tbody>
</table>

Power cord types and order codes

To connect AC power to the switch, you need an appropriate AC power cord as described in the following table.
Table 3: Power cords for power distribution units

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Length</th>
<th>Power supply side connector</th>
<th>Power source side connector</th>
<th>Safety Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>700512240</td>
<td>3 m</td>
<td>C15</td>
<td>C14</td>
<td>USA</td>
</tr>
<tr>
<td>700512242</td>
<td>3 m</td>
<td>C15</td>
<td>C14</td>
<td>International except Japan and Taiwan</td>
</tr>
</tbody>
</table>

Table 4: Power cords for use with C14 or C16 power supply side connector

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Description</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA0020071-E6</td>
<td>Power cord 2.5 m IEC C15 to BS1363</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>AA0020072-E6</td>
<td>Power cord 2.5 m IEC C15 to CEE 7/7</td>
<td>European Union</td>
</tr>
<tr>
<td>AA0020073-E6</td>
<td>Power cord 2.5 m IEC C15 to JIS 8303</td>
<td>Japan</td>
</tr>
<tr>
<td>AA0020074-E6</td>
<td>POWER CORD 2.0M IEC C15 TO NEMA 5-15P</td>
<td>United States/Canada</td>
</tr>
<tr>
<td>AA0020075-E6</td>
<td>Power cord 2.5 m IEC C15 to AS 3112</td>
<td>Australia</td>
</tr>
<tr>
<td>AA0020097-E6</td>
<td>Power cord 2.5 m IEC C15 to SANS 164-1 PLUG</td>
<td>South Africa</td>
</tr>
<tr>
<td>AA0020100-E6</td>
<td>Power cord 2.5 m IEC C15 to NBR 14136</td>
<td>Brazil</td>
</tr>
<tr>
<td>AA0020103-E6</td>
<td>Power cord 2.5 m IEC C15 to SEV 1011</td>
<td>Switzerland</td>
</tr>
<tr>
<td>AA0020105-E6</td>
<td>Power cord 2.5 m IEC C15 to CEI 23-16</td>
<td>Italy</td>
</tr>
<tr>
<td>AA0020106-E6</td>
<td>Power cord 2.5 m IEC C15 to SI-32</td>
<td>Israel</td>
</tr>
<tr>
<td>AA0020108-E6</td>
<td>Power cord 2.5M IEC C15 TO NEMA L6-15P Twist Lock</td>
<td>USA and Canada</td>
</tr>
<tr>
<td>AA0020109-E6</td>
<td>Power cord 2.5M IEC C15 TO BS-546</td>
<td>India</td>
</tr>
<tr>
<td>AA0020110-E6</td>
<td>Power cord 2.5M IEC C15 TO IRAM 2073</td>
<td>Argentina</td>
</tr>
</tbody>
</table>

Important operational note
This section provides information to take into consideration to prevent system operation failure.

Supported optical devices
Use optical devices to achieve high-bit-rate communications and long transmission distances.

Small Form Factor Pluggable (SFP) transceivers
SFPs are hot-swappable input and output enhancement components designed to allow gigabit Ethernet ports to link with other gigabit Ethernet ports over various media types.

You can use various SFP (1 Gbps) and SFP+ (10 Gbps) to attain different line rates and reaches. The following table describes the SFPs including the reach provided by various SFPs.
Important:
The attainable cable length can vary depending on the quality of the fiber-optic cable used.

Small Form Factor Pluggable plus (SFP+) transceivers
SFP+ transceivers are hot-swappable input and output enhancement components that allow 10 gigabit connections. All Extreme Networks SFP+ transceivers use Lucent connectors (LC) to provide precision keying and low interface losses.

Compatible transceivers

Important:
It is recommended to use Extreme Networks-branded SFP and SFP+ transceivers as they have been through extensive qualification and testing. Extreme Networks will not be responsible for issues related to non-Extreme Networks branded transceivers.

- The VSP 4850GTS operates in forgiving mode for SFP, and for coarse wave digital multiplexing (CWDM) and dense wave digital multiplexing (DWDM) SFP+ transceivers. This means that the switch will bring up the port operationally when using non-Extreme Networks SFP, or SFP+ transceivers. Extreme Networks does not provide support for operational issues related to these transceivers, but they will operate and the port link will come up. The switch logs the device as an unsupported or unknown device.

For more information about SFP and SFP+ transceivers, including technical specifications and installation instructions, see Installing Transceivers and Optical Components on VSP Operating System Software.

Optical power considerations
When you connect the device to collocated equipment, ensure that enough optical attenuation exists to avoid overloading the receivers of each device. You must consider the minimum attenuation requirement based on the specifications of third-party equipment. For more information about minimum insertion losses for optical products, see Installing Transceivers and Optical Components on VSP Operating System Software.
### Chapter 4: Preinstallation checklist

Before you install the VSP 4850GTS, VSP 4850GTS-DC, and VSP 4850GTS-PWR+, make sure that you complete the tasks in the preinstallation checklist.

<table>
<thead>
<tr>
<th>No.</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Review the technical specification for the switch. Make sure that the area where you install the switch and where it will operate meet the requirements.</td>
<td>For the physical, electrical, and environmental specifications, see <a href="#">Technical specifications</a> on page 20.</td>
</tr>
<tr>
<td>2.</td>
<td>Verify the power supply unit (PSU) specifications. Optionally order a redundant PSU to provide redundancy and load sharing.</td>
<td>See <a href="#">AC power supply specifications</a> on page 32 or <a href="#">DC power supply specifications</a> on page 32. To order redundant PSUs, see <a href="#">Hardware models for VSP 4850GTS Series</a> on page 10 for part numbers.</td>
</tr>
</tbody>
</table>
| 3.  | Make sure that you have the following tools and cables:  
  - Phillips #2 screwdriver  
  - RJ45 console port cable  
  - ESD cable | See [Cable requirements for the Virtual Services Platform 4000](#) on page 26. |
| 4.  | Unpack the equipment. | Observe ESD precautions when you unpack the equipment. See [Electrostatic discharge](#) on page 19. |
| 5.  | Verify the contents of the shipped package. | See [Package contents](#) on page 22 for a description of the components that are provided with the switch. If any components are missing, contact support at [http://www.extremenetworks.com/support](http://www.extremenetworks.com/support). |
| 6.  | Make sure that the power cord has the correct country-specific termination. |  |
| 7.  | Prepare the rack. | Ensure that there is enough rack space to accommodate a 2RU switch (8.8 cm). Ensure that the rack is bolted to the floor and braced if necessary. |

*Table continues…*
<table>
<thead>
<tr>
<th>No.</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ensure that the rack is grounded to the same grounding electrode used by the power service in the area. The ground path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.</td>
</tr>
</tbody>
</table>
Chapter 5: Installing the VSP 4000 4850GTS Series

Installation checklist

Use this checklist to install the VSP 4850GTS series.

<table>
<thead>
<tr>
<th>No.</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Install the VSP 4850GTS series.</td>
<td>You can install the switch in two ways:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Installing the Virtual Services Platform 4000 on a table or shelf on page 23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Installing the Virtual Services Platform 4000 in an equipment rack on page 24</td>
</tr>
<tr>
<td>2.</td>
<td>Install the primary or redundant power supply.</td>
<td>For the procedure to install the power supply,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>see Installing the Virtual Services Platform 4000 power supply on page 30.</td>
</tr>
<tr>
<td></td>
<td>Important:</td>
<td>Extreme Networks does not support a combination of AC-input and DC-input power supplies in the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>same chassis.</td>
</tr>
<tr>
<td>4.</td>
<td>Check the LEDs to verify the installation.</td>
<td>For a description of the LEDs, see LED state definitions on page 36.</td>
</tr>
</tbody>
</table>

Installation fundamentals

The following section describes the installation fundamentals for the VSP 4850GTS series.

The VSP 4850GTS series consists of the following models:

- VSP 4850GTS
- VSP 4850GTS DC
- VSP 4850GTS-PWR+
**VSP 4850GTS series models**

The VSP 4850GTS series models consist of:

- 48 10/100/1000 Mbps ports
  - RJ45 for the VSP 4850GTS and VSP 4850GTS DC models
  - 802.3at PoE+ for the VSP 4850GTS-PWR+ model
- Two Combo 1000/1000 Mbps SFP ports
  - These ports support copper and fiber on the same switch port. Only one medium type can be active at any time.
  - There is an RJ45 connector and an SFP slot for each Combo port. A cable can be inserted into either or both medium types.
  - Fiber connections take precedence over copper.
  - Configuration for the port is applicable to both medium types. For example, auto-negotiation configuration applies to both the copper and fiber ports.
- Two 1/10 Gbps SFP+ ports

---

**Figure 1: VSP 4850GTS**

1. VSP 4000 USB device with USB device cover

Caution:

To ensure proper operation, the USB FLASH drive must remain inserted in all models of VSP 4850 (factory built and converted from ERS 4850), with the cover installed for additional protection against removal. The USB FLASH drive on the VSP 4850 switch is uniquely bound to the system it was first used on and cannot be transferred to a different switch.

2. Switch LEDs
3. 10/100/1000 Mbps ports (LEDs above ports)
4. Combo 100/1000 Mbps SFP slots. Supports Extreme Networks 1 Gbps SFPs and 100 Mbps low speed SFPs.
5. 1/10 Gbps SFP+ slots. Supports Extreme Networks 1 Gbps SFPs and 10 Gbps SFP+s.
6. Console port
Converting ERS 4850 to VSP 4000

This section lists information on Extreme Networks switch conversion supported in this release.

🚨 Important:

Switch conversion is applicable only to the Virtual Services Platform 4000 Series. Currently, only the conversion of an ERS 4850 switch to a VSP 4000 switch is supported.

ERS 4850 and VSP 4000 quick conversion

🚨 Note:

ERS 4850 and VSP 4000 conversion kit (part number EC4810003–3.0) has reached End-Of-Sale; however, it is still supported for anyone who has purchased it.

You can convert an ERS 4850 switch to a VSP 4000 switch, if there is a network requirement.
USB considerations for factory supplied and converted VSP 4000 switches

⚠️ Warning:

The USB FLASH drive on all models of VSP 4850 (factory built and converted from ERS 4850) must be treated as a permanent non-removable part of the switch and must NEVER be removed from the switch to ensure proper operation. Additionally, the USB cover must be installed to ensure additional protection against removal. The USB FLASH drive on the VSP 4850 switch is uniquely and permanently bound to the operating system of the switch it is first used on and cannot be transferred to a different switch. Removal (and reinsertion) of the USB FLASH drive from the switch is not supported as it can permanently compromise the switch functionality and render it non-functional.

On a converted VSP 4000 switch, you can also use the CLI to perform a conversion back to the ERS 4850.

For the conversion to be successful, you must ensure that you have satisfied the hardware and software criteria on the system being converted. For more information, see ERS 4850 to VSP 4000 Quick Conversion.

Electrostatic discharge

This section provides information and procedures to prevent electrostatic discharge during installation.

Preventing electrostatic discharge damage

Electrostatic discharge (ESD) is a discharge of stored static electricity that can damage equipment and impair electrical circuitry. Electrostatic voltages can result from friction including, pulling cabling through conduits, walking across carpeted areas, and building static charge in clothing. When you improperly handle electronic components, ESD damage occurs and can result in complete or intermittent failures. While networking equipment is commonly designed and tested to withstand common mode ESD events, voltage can sometimes discharge to some connector pins, which can potentially damage the networking equipment.

⚠️ Caution:

To protect the VSP 4000 against ESD damage, take the following measures before you connect data cables to the device:

- Always use antistatic wrist straps. Make sure you adjust the strap to provide good skin contact.
- Ensure that you properly ground work surfaces and equipment racks for protection against electrostatic discharge. You must connect the common point to the building ground wire. In a properly wired building, the nearest reliable ground is typically at the electrical outlet.
• Avoid contact between equipment and clothing. The wrist or ankle strap protects only the equipment from ESD voltages on the body; ESD voltages on clothing can still cause damage.

• Avoid touching any connector pins.

• Do not remove the wrist or ankle strap until the installation is complete.

### Preventing electrostatic damage in new cable installations

With new cable installations, you are recommended to use an ESD discharge cable to reduce the potential for damage from static, that can build up in cables. The following figure illustrates an ESD cable.

![Figure 3: Job aid](image)

To install the ESD discharge cable, perform this procedure.

1. Connect the ground lug on the ESD discharge cable to a safe and suitable earth ground.
2. Connect all RJ45 cable connectors to the female RJ45 connector of the ESD discharge cable for at least 5 seconds, and then connect each RJ45 cable connector to the switch.
3. Leave cables connected to the networking equipment. After you connect cables to networking equipment, the cables do not build up charge.

### Technical specifications

The following table provides the technical specifications for the individual switches in this series. Ensure that the area where you install the switch and where it operates meets these requirements.
Warning:

To avoid bodily injury from hazardous electrical shock and current, never remove the top of the device. No user-serviceable components are inside.

Table 5: Physical specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>4850GTS</th>
<th>4850GTS-DC</th>
<th>4850GTS-PWR+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>4.4 cm. – 1RU</td>
<td>4.4 cm. – 1RU</td>
<td>4.4 cm. – 1RU</td>
</tr>
<tr>
<td>Width</td>
<td>44 cm.</td>
<td>44 cm.</td>
<td>44 cm.</td>
</tr>
<tr>
<td>Depth</td>
<td>43.68 cm.</td>
<td>43.68 cm.</td>
<td>43.68 cm.</td>
</tr>
<tr>
<td>Weight</td>
<td>11.48 Kg</td>
<td>11.48 Kg</td>
<td>11.98 Kg</td>
</tr>
<tr>
<td>MTBF rating</td>
<td>chassis – 311,104 hours, 300 W AC power supply – 1,929,349 hours</td>
<td>chassis – 311,104 hours, 300 W DC power supply – 782,296 hours</td>
<td>chassis – 214,542 hours, 1000 W AC power supply – 860,175 hours</td>
</tr>
</tbody>
</table>

Environmental requirements

The following table provides the environmental requirements for the individual switches in this series. Ensure that the area where you install the switch and where it operates meets these requirements.

Table 6: Virtual Services Platform 4000 environmental requirements

<table>
<thead>
<tr>
<th>Environmental requirement</th>
<th>Virtual Services Platform 4000 models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>0°C to 50°C (32°F to 122°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
</tr>
<tr>
<td>Operating and Storage Humidity</td>
<td>0 to 95 percent noncondensing</td>
</tr>
<tr>
<td>Maximum Operating Altitude</td>
<td>3,048m (10 000 feet) above sea level</td>
</tr>
<tr>
<td>Altitude</td>
<td>0 to 3,048m (0 to 10,000ft) above sea level</td>
</tr>
<tr>
<td>Storage Altitude</td>
<td>0 to 12,192m (0 to 40,000ft) above sea level</td>
</tr>
<tr>
<td>Acoustic Noise</td>
<td>Less than or equal to 45 db at 35°C and less than or equal to 57 db at 50°C. The temperature is allowed to have ±3.5°C deviation around the threshold of 35°C, (measurement methods based on ISO 7779).</td>
</tr>
<tr>
<td>Miscellaneous Operating</td>
<td>• No heat sources such as hot air vents or direct sunlight near the switch.</td>
</tr>
<tr>
<td>Considerations</td>
<td>• No sources of severe electromagnetic interference near the switch.</td>
</tr>
<tr>
<td></td>
<td>• No excessive dust in the environment.</td>
</tr>
</tbody>
</table>
### Environmental requirement

<table>
<thead>
<tr>
<th>Environmental requirement</th>
<th>Virtual Services Platform 4000 models</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• An adequate power source is within 6 feet (1.83 meters) of the switch. One 15-amp circuit is required for each power supply.</td>
</tr>
<tr>
<td></td>
<td>• At least 2 inches (5.08 centimeters) of clearance on each side of the switch unit for ventilation.</td>
</tr>
<tr>
<td></td>
<td>• Adequate clearance at the front and rear of the switch for access to cables.</td>
</tr>
</tbody>
</table>

⚠️ **Warning:**

To avoid bodily injury from hazardous electrical shock and current, never remove the top of the device. No user-serviceable components are inside. For a translation of this statement, see [Translations of safety messages](#) on page 43.

---

### Airflow direction

Airflow direction in the VSP 4850GTS, the VSP 4850GTS DC, and the VSP 4850GTS-PWR+ is from left to right (as viewed from the front). Cool air enters the chassis through an air inlet at the left of the chassis, which cools the device. Warm air exits through the exhaust at the right.

---

### Package contents

The following describes the components that are provided with each switch. If any components are missing, contact the switch vendor.

1. VSP 4850GTS switch with one power supply installed.
2. Rack-mounting hardware that includes:
   - Rack-mount brackets
   - Screws to attach brackets to the switch
   - Screws to attach the switch to the equipment rack
3. Rubber footpads.
4. Documentation that includes the following:
   a. *Locating the latest software and product release notes for Virtual Services Platform 4000 Series*
   b. *Virtual Services Platform 4000 Series Regulatory Guide*
   c. *Virtual Services Platform 4850GTS Series Quick Install Guide*
   d. The China RoHS paper
Installing the Virtual Services Platform 4000 on a table or shelf

You can install a single VSP 4000 switch on any flat surface. The surface must support the combined weight of the switch and attached cables (from 15 and 20 pounds [7 to 9 kilograms]).

To install an VSP 4000 on a table or shelf, perform this procedure.

⚠️ Caution:

Do not place an Extreme Networks Ethernet Power Supply Unit or Ethernet Redundant Power Supply on top of an VSP 4000. The switch housing of an VSP 4000 cannot support the weight of these units. For a translation of this statement, see Translations of safety messages on page 43.

1. Remove the screws that hold the USB cover but do not remove the USB cover.

   ⚠️ Caution:

   To ensure proper operation, the USB FLASH drive must remain inserted in all models of VSP 4850 (factory built and converted from ERS 4850), with the cover installed for additional protection against removal. The USB FLASH drive on the VSP 4850 switch is uniquely bound to the system it was first used on and cannot be transferred to a different switch.

2. Attach the included rubber footpads on the bottom of the switch at the locations indicated.
3. Set the switch on a table or shelf as illustrated below. Allow at least 2 inches (5.1 centimeters) on each side for proper ventilation and at least 5 inches (12.7 centimeters) at the back for power cord clearance.

---

Installing Virtual Services Platform 4000 in an equipment rack

To install an VSP 4000 switch in an equipment rack, perform this procedure.
Prerequisites for installing the Virtual Services Platform 4000 in an equipment rack:

- Ensure that you have a space of 1.75 inches (4.45 centimeters) in height for each switch in an EIA or IEC-standard 19-inch (48.2-centimeter) equipment rack.
- The rack is bolted to the floor and braced if necessary.
- The rack is grounded to the same grounding electrode used by the power service in the area. The ground path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.

**Caution:**

When you mount the device in a rack, do not stack units directly on top of one another. You must secure each unit to the rack with the appropriate mounting brackets. Mounting brackets cannot support multiple units. For a translation of this statement, see Translations of safety messages on page 43.

1. Remove the screws that hold the USB cover but do not remove the USB cover.

   **Caution:**

   To ensure proper operation, the USB FLASH drive must remain inserted in all models of VSP 4850 (factory built and converted from ERS 4850), with the cover installed for additional protection against removal. The USB FLASH drive on the VSP4850 switch is uniquely bound to the system it was first used on and cannot be transferred to a different switch.

2. Attach the L-bracket to each side of the switch using a #2 Phillips screwdriver as illustrated below.

   **Important:**

   On a factory-supplied 4850GTS series switch, ensure that the L-bracket goes over the USB cover.

3. Slide the switch into the rack as illustrated.
4. Insert and tighten the rack-mount screws.

### Cable requirements for the Virtual Services Platform 4000

The following table describes the cables required for the VSP 4000 switch.

**Table 7: Switch cable requirements**

<table>
<thead>
<tr>
<th>Required Cable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/100/1000BASE-T Ports</td>
<td>The interconnect cabling must conform to the Cat5e, Cat6, or Cat6e specification of the Commercial Building Telecommunications Cabling Standard, ANSI/TIA/EIA 568-B fitted with an RJ45 Module jack.</td>
</tr>
<tr>
<td>10/100BASE-TX Ports</td>
<td>The interconnect cabling for 10BASE-T Ethernet must conform to Cat3, Cat4, Cat5 (or better) UTP cabling for distances up to 100 meters.</td>
</tr>
<tr>
<td></td>
<td>The interconnect cabling for 100BASE-TX Fast Ethernet must conform to Cat5 (or better) UTP cabling for distances up to 100 meters.</td>
</tr>
<tr>
<td>100BASE-FX Ports</td>
<td>The interconnect cabling must conform to 50/125 or 62.5/125 micron multimode fiber-optic cabling for distances up to 3 kilometers.</td>
</tr>
</tbody>
</table>
Installation and removal of Small Form Factor Pluggable (SFP) transceivers

The following section describes how to install and remove Small Form Factor Pluggable (SFP) transceivers in the Virtual Services Platform 4000 Series switches. For more information about SFP transceiver use and designation, see Installing Transceivers and Optical Components on VSP Operating System Software.

Installing SFP transceivers

Install SFP transceivers by performing this procedure.

1. Remove the transceiver from the protective packaging.
2. Verify that the transceiver is the correct model for the network configuration.
3. Grasp the transceiver between your thumb and forefinger.
4. Insert the transceiver into the proper module on the switch. Apply a light pressure to the transceiver until it clicks and locks into position in the module.
5. Remove the dust cover from the transceiver optical bores.

Removing SFP transceivers

Remove SFP transceivers by performing this procedure.

1. Disconnect the network fiber cable from the transceiver.
2. Use the locking mechanism on the transceiver to release it. The locking mechanism varies from model to model as illustrated below.

<table>
<thead>
<tr>
<th>Required Cable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Note:</strong></td>
<td>100BASE-FX Transceivers are supported in SFP ports only, and not in SFP+ ports.</td>
</tr>
<tr>
<td>Console Port</td>
<td>Varies depending on the user device. The VSP 4000 has an RJ45 female connector, so a serial cable with RJ45 connectors, or a serial cable with a DB-9 female connector on one end and an RJ45 on the other is appropriate. The maximum length for the console port cable is 25 feet (8.3 meters).</td>
</tr>
<tr>
<td>SFP Transceiver Ports</td>
<td>Varies with the installed SFP transceiver. See the documentation shipped with the SFP transceiver for specifications.</td>
</tr>
<tr>
<td>USB Port</td>
<td>The USB port is usable with a USB drive for file transfer of config files, log files and software images.</td>
</tr>
</tbody>
</table>
3. Slide the transceiver from the module slot.

4. If the transceiver does not slide easily from the module slot, use a gentle side-to-side rocking motion while firmly pulling the transceiver from the slot.

5. Attach a dust cover over the fiber-optic bores and store the transceiver in a safe place until you need it.

⚠️ Important:
Discard transceivers in accordance with the proper laws and regulations.

---

## RJ45 connector pin assignments

The following section describes the connector pin assignments for the RJ45 connectors in the Virtual Services Platform 4000 Series switches.

### Connector pin assignments for VSP 4000 switches 4850GTS-PWR+ and 4450GSX-PWR+

The following table describes the Power over Ethernet Plus RJ45 connector pin assignments in the VSP 4000 4850GTS-PWR+ and the VSP 4000 4450GSX-PWR+.

#### Table 8: PWR+ RJ-45 connector pin assignments

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin Number</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RX+/power–</td>
<td>Receive Data+/power–</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RX–/power–</td>
<td>Receive Data–/power–</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>TX+/power+</td>
<td>Transmit Data+/power+</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>TX–/power+</td>
<td>Transmit Data–/power+</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>
**Important:**
The VSP 4000 PWR+ models use pins 1, 2, 3, and 6 for PoE+, and is compliant with Type 2 (MDI-X) in IEEE802.3at.

---

## Console port pin assignments

The following table describes the console port pin assignments in the VSP 4000.

**Important:**
VSP 4000 supports only CLI Quickstart use on the console port.

### Table 9: DB–9 Console port pin assignments

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin Number</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Carrier detect (not used)</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Transmit Data (TXD)</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Receive Data (RXD)</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Data terminal ready (not used)</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Signal ground (GND)</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Not used</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Request to send (not used)</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Not used</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>Ring indicator (not used)</td>
</tr>
</tbody>
</table>

### Table 10: RJ45 Console port pin assignments

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin Number</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Ready to send (RTS) — optional</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Data terminal ready (DTR) — optional, can swap or link with pin 8</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Transmit data (TXD) — mandatory</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Carrier detect (DCD) — optional</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Ground (GND) — mandatory</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Receive data (RXD) — mandatory</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Data set ready (DSR) — optional</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Clear to send (CTS) — optional, can swap or link with pin 1</td>
</tr>
</tbody>
</table>
Installing the Virtual Services Platform 4000 power supply

You must install at least one power supply before using the switch. VSP 4000 models support two field replaceable external power supplies. If supported, you can install an optional second power supply for redundancy, load sharing, or to provide additional PoE+ power budget.

About this task

Perform the following procedure to install an external power supply into your switch.

Important:

Extreme Networks does not support installing a combination of AC-input and DC-input power supplies in the same chassis.

Procedure

1. If a blanking plate covers the required power supply slot, remove the blanking plate before attempting to insert the power supply.
2. Insert each power supply into a rear power supply slot.
3. Verify that each power supply is fully seated in the slot. Secure the power supply with the two thumb screws.
4. After you install a power supply, you can proceed with connecting AC power.

Important:

You can hot swap power supplies while the switch is operational. One power supply is required for continued switch operation. PoE+ load reductions can occur if you remove one power supply while the switch is operating with dual power supplies.

Related links

VSP 4000 power supply power specification on page 31
VSP 4000 power supply power specification

The VSP 4000 supports two external field-replaceable power supplies. One power supply ships with the chassis. You can install a secondary power supply to provide redundancy and load sharing, and to add Power over Ethernet Plus (PoE+) power budget on PWR+ models.

300 W AC power supply

The VSP 4850GTS supports 300 W AC power supplies.

Figure 4: 300 W AC power supply

Connector

The 300 W and 1000 W AC power supplies use an IEC 60320 C16 AC power cord connector. The AC power cord is in close proximity to the hot-air exhaust, and supports high operating temperatures.

The 1000 W AC power supplies use an IEC 60320 C16 AC power cord connector. The AC power cord is in close proximity to the hot-air exhaust, and supports high operating temperatures.

Figure 5: IEC 60320 C16 connector
Power over Ethernet Plus specifications

Table 11: VSP 4850GTS and 4850GTS-PWR+ models

<table>
<thead>
<tr>
<th>Maximum PoE+ W</th>
<th>Average PoE+ W on 50 port model</th>
</tr>
</thead>
<tbody>
<tr>
<td>855 W with one power supply</td>
<td>15.4 W (802.3af)</td>
</tr>
<tr>
<td>1855 W with two power supplies</td>
<td>17.8 W (802.3.at) — One power supply</td>
</tr>
<tr>
<td></td>
<td>32.4 W (802.3at) — Two power supplies</td>
</tr>
</tbody>
</table>

- VSP 4850GTS-PWR+ can support 802.3af 15.4 W on each port with one power supply installed. You can add a second power supply for redundancy.
- VSP 4850GTS-PWR+ can support 802.3at 32.4 W on each port with two power supplies installed. PoE+ power reduces to an average of 17.8W on each port with one power supply.

Table 12: VSP 4450GSX-PWR+ model

<table>
<thead>
<tr>
<th>Maximum PoE+ W</th>
<th>Average PoE+ W on 12 ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>835 W with one power supply</td>
<td>17.8 W or 32.4 W (802.3.at) — One power supply</td>
</tr>
<tr>
<td>1835 W with two power supplies</td>
<td></td>
</tr>
</tbody>
</table>

AC power supply specifications

The following table describes the regulatory AC power specifications for the Virtual Services Platform 4000 Series 4850GTS and 4850GTS-PWR+ switches. The regulatory power specifications are based on the maximum rated capacity of the power supplies and are not based on typical power consumption which is lower.

Table 13: AC power specifications for 4850GTS series

<table>
<thead>
<tr>
<th>Specifications</th>
<th>4850GTS</th>
<th>4850GTS-PWR+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Current</td>
<td>5A/2.5 A</td>
<td>12A/6A</td>
</tr>
<tr>
<td>Input Voltage (rms)</td>
<td>100 to 240 VAC at 50 to 60 Hz</td>
<td>100 to 240 VAC at 50 to 60 Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>94.6 W maximum</td>
<td>248 W maximum</td>
</tr>
<tr>
<td>Thermal Rating</td>
<td>323 BTU/hr maximum</td>
<td>508 BTU/hr maximum</td>
</tr>
<tr>
<td>Inrush Current</td>
<td>40 A maximum</td>
<td>70 A maximum</td>
</tr>
<tr>
<td>Turn on Condition</td>
<td>1 second maximum after application of AC power</td>
<td>1 second maximum after application of AC power</td>
</tr>
</tbody>
</table>

Important:
12-volt output rise time, from 10 to 90 percent, must be the maximum of 50 ms and monotonic under all defined input and output conditions.

| Efficiency | 70 percent minimum | 70 percent minimum |

DC power supply specifications

The following table describes the DC power supply specifications for the 4850GTS-DC model.
Connect AC power

This section explains power cord specifications and how to connect AC power.

Power cord specifications

To connect AC power to the switch, you need an appropriate AC power cord as described in the following table, also see the following table for plug specifications.

Table 15: International power cord specifications

<table>
<thead>
<tr>
<th>Country and Plug Specification</th>
<th>Specifications</th>
<th>Typical Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continental Europe:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• CEE7 standard VII male plug</td>
<td>• 220 or 230VAC</td>
<td><img src="image" alt="CEE7 Plug" /></td>
</tr>
<tr>
<td>• Harmonized cord (HAR marking on the outside of the cord jacket to comply with the CENELEC Harmonized Document HD-21)</td>
<td>• 50 Hz</td>
<td>Single phase</td>
</tr>
<tr>
<td>United States of America, Canada, and Japan:</td>
<td></td>
<td><img src="image" alt="NEMA5-15P Plug" /></td>
</tr>
<tr>
<td>• NEMA5-15P male plug</td>
<td>• 100 or 120VAC</td>
<td>Single phase</td>
</tr>
<tr>
<td>• UL-recognized (UL stamped on cord jacket)</td>
<td>• 50–60 Hz</td>
<td>Single phase</td>
</tr>
<tr>
<td>• CSA-certified (CSA label secured to the cord)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom:</td>
<td></td>
<td><img src="image" alt="BS1363 Plug" /></td>
</tr>
<tr>
<td>• BS1363 male plug with fuse</td>
<td>• 240VAC</td>
<td>Single phase</td>
</tr>
<tr>
<td>• Harmonized cord</td>
<td>• 50 Hz</td>
<td></td>
</tr>
<tr>
<td>Australia:</td>
<td></td>
<td><img src="image" alt="AS3112-1981 Plug" /></td>
</tr>
<tr>
<td>• AS3112-1981 male plug</td>
<td>• 240VAC</td>
<td>Single phase</td>
</tr>
<tr>
<td></td>
<td>• 50 Hz</td>
<td></td>
</tr>
</tbody>
</table>
Danger:

Using power cords with a proper grounding path

Use only power cords that have a grounding path. Without a proper ground, a person who touches the switch is in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions. For a translation of this statement, see Translations of safety messages on page 43.

---

Connect power to the rear panel

Connect the AC power cord to the rear of the switch, and then connect the cord to an AC power outlet. The following figure shows how to connect the AC power cord to the switch rear panel.

Important:

The VSP 4000 series has no AC power switch. When you connect the power cord to a suitable, energized AC power outlet, the switch powers up immediately.

![Figure 6: Connecting AC power to the rear panel](image)

Warning:

Disconnecting the AC power cord is the only way to turn off AC power to the VSP 4000. Always connect the AC power cord in a quickly and safely accessible location in case of an emergency. For a translation of this statement, see Translations of safety messages on page 43.
Caution:

Before you unplug the AC power cord, always perform the following shutdown procedure. This procedure flushes any pending data to ensure data integrity.

1. Enter the Privileged EXEC command mode:
   
   ```
   enable
   ```

2. Shutdown the VSP 4000:
   
   ```
   sys shutdown
   ```

3. When prompted, enter y to confirm system shut down.

4. Before you unplug the power cord, wait until you see the following message:
   
   System Halted, OK to turn off power.

Example

VSP-4450GSX-PWR+:1>enable
VSP-4450GSX-PWR+:1#sys shutdown
Are you sure you want shutdown the system? Y/N (y/n) ? y

CP1 [03/24/14 18:39:04.932:UTC] 0x00010813 00000000 GlobalRouter HW INFO
System shutdown initiated from CLI

CP1 [03/24/14 18:39:06.000] LifeCycle: INFO: Stopping all processes

CP1 [03/24/14 18:39:08.000] LifeCycle: INFO: All processes have stopped

CP1 [03/24/14 18:39:08.000] LifeCycle: INFO: All applications shutdown, starting power down sequence

INIT: Sending processes the TERM signal

Stopping OpenBSD Secure Shell server: sshdno /usr/sbin/sshd found; none killed

cat: can't open '/proc/mtd': No such file or directory
cat: can't open '/proc/mtd': No such file or directory

Stopping vsp...

mount: no /proc/mounts

mount: can't find /mnt/cfgfs/ in /etc/fstab

/etc/rc0.d/K25vsp: line 441: /mnt/cfgfs/timestamp: Read-only file system

umount: can't open '/proc/mounts'

sed: /proc/mounts: No such file or directory

sed: /proc/mounts: No such file or directory

sed: /proc/mounts: No such file or directory

Deconfiguring network interfaces... done.
LED state definitions

The figures and tables in the following sections describe the LEDs on the Virtual Services Platform 4000 Series switches. The tables describe LED operation for a switch that finishes the power-on self-test.

Related links

- Front panel LEDs on page 36
- Switch LED state indicators on page 38
- Port LED state indicators on page 39

Front panel LEDs

The following diagrams illustrate the components on the front panels of the VSP 4000 switches.

For detailed explanations of the states indicated by each front panel LED type, see the following sections:

- Port LED state indicators on page 39.
- Switch LED state indicators on page 38.
Figure 7: VSP 4850GTS

1. VSP 4000 USB drive with USB cover
2. Switch LEDs
3. 10/100/1000 Mbps ports (LEDs above ports)
4. Combo 100/1000 Mbps SFP slots. Supports Extreme Networks 1 Gbps SFPs and 100 Mbps low-speed SFPs.
5. 1/10 Gbps SFP+ slots. Supports Extreme Networks 1 Gbps SFPs and 10 Gbps SFP+s.
6. Console port

Figure 8: VSP 4850GTS-PWR+

1. VSP 4000 USB drive with USB cover
2. Switch LEDs
3. 10/100/1000 Mbps PoE+ ports (LEDs above ports)
4. Combo 100/1000 Mbps SFP slots. Supports Extreme Networks 1 Gbps SFPs and 100 Mbps low-speed SFPs.
5. 1/10 Gbps slots. Supports Extreme Networks 1 Gbps SFPs and 10 Gbps SFP+s.
6. Console port

⚠️ Warning:

Fiber optic equipment can emit laser or infrared light that can injure your eyes. Never look into an optical fiber or connector port. Always assume that fiber-optic cables are connected to a light source. For a translation of this statement, see Translations of safety messages on page 43.
Related links

LED state definitions on page 36

Switch LED state indicators

The following table describes the main switch LED state indications provided by LED color and fluctuation cues.

🌟 Note:

Indicator states are applicable to all models of VSP 4000 switches.

Table 16: Switch LED state indicators

<table>
<thead>
<tr>
<th>Label</th>
<th>Color and Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR</td>
<td>Green (solid)</td>
<td>The switch is receiving power either from the primary or secondary power supply. Normal operation.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>The switch is not receiving power and not operating.</td>
</tr>
<tr>
<td>Status</td>
<td>Green (solid)</td>
<td>• During start-up: The power-on self-test (POST) is complete and the switch is operating normally.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• After start-up: The switch is running the agent code successfully.</td>
</tr>
<tr>
<td></td>
<td>Green (blinking)</td>
<td>The switch is loading the agent software code.</td>
</tr>
<tr>
<td></td>
<td>Amber (solid)</td>
<td>The switch encountered an error when running the diagnostic software.</td>
</tr>
<tr>
<td></td>
<td>Amber (blinking)</td>
<td>The switch is booting and running diagnostic software. Normal activity during boot process.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>The switch failed the power-on self-test (POST) or failed to load the agent code.</td>
</tr>
<tr>
<td>RPS</td>
<td>Green (solid)</td>
<td>The switch is connected to a redundant power supply unit (RPS) or a secondary external power supply, and is operating normally.</td>
</tr>
<tr>
<td></td>
<td>Green (blinking)</td>
<td>The switch is connected to a secondary power supply, but the power input is disconnected.</td>
</tr>
<tr>
<td></td>
<td>Amber (solid)</td>
<td>The power supply in slot 1 or slot 2 was removed after operating.</td>
</tr>
<tr>
<td></td>
<td>Amber (blinking)</td>
<td>The power supply in slot 1 or slot 2 is present, but not supplying power to the switch.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>No power to secondary power supply. The switch is not connected to an RPS or secondary power supply. The RPS is not supplying power, or the DC/DC module is not supplying power.</td>
</tr>
</tbody>
</table>
Related links

LED state definitions on page 36

Port LED state indicators

This section describes the port LED state indicators by color and fluctuation cues.

**Note:**

Indicator states are applicable to all models of VSP 4000 switches.

The following list describes the three port LEDs:

- Activity indicates the level of activity on the link.
- Link indicates the presence of an Ethernet link.
- Speed indicates the port speed (for example, 10 Mbps, 100 Mbps, 1000 Mbps).

**Table 17: RJ45 Port LED state indicators**

<table>
<thead>
<tr>
<th>Label</th>
<th>Color and Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed/PoE+</td>
<td>Green, Blink</td>
<td>The port is set to operate at 1000 Mbps with PoE.</td>
</tr>
<tr>
<td></td>
<td>Green, Steady</td>
<td>The port is set to operate at 1000 Mbps without PoE+.</td>
</tr>
<tr>
<td></td>
<td>Amber, Blink</td>
<td>The port is set to operate at 100 Mbps with PoE+.</td>
</tr>
<tr>
<td></td>
<td>Amber, Steady</td>
<td>The port is set to operate at 100 Mbps without PoE+.</td>
</tr>
<tr>
<td></td>
<td>Amber, Green Pulse</td>
<td>The port is experiencing a PoE+ error.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>When the Link/Activity LED is green and the Speed LED is off, the port is set to operate at 10 Mbps for all models.</td>
</tr>
<tr>
<td>Link / Activity</td>
<td>Green, Steady</td>
<td>The link established but no data activity exists.</td>
</tr>
<tr>
<td></td>
<td>Green, Blink</td>
<td>The link is established and data activity exists (the blink rate indicates the level of activity).</td>
</tr>
<tr>
<td></td>
<td>Green, Slow Blink</td>
<td>The port is administratively disabled.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Local/remote fault.</td>
</tr>
</tbody>
</table>

**Table 18: SFP/SFP+ transceiver Port LED state indicators**

<table>
<thead>
<tr>
<th>Label</th>
<th>Color and Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Use</td>
<td>Green, Blink</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>Green, Steady</td>
<td>The SFP port and the transmit port are active.</td>
</tr>
<tr>
<td></td>
<td>Amber, Blink</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Table continues…
### Label | Color and Status | Description
--- | --- | ---
Amber, Steady | SFP Installed—TX Port Inactive
Off | No SFP transceiver is present.

### Link / Activity

| Color and Status | Description |
--- | ---|
Green, Blink | Activity exists on the port. |
Green, Slow Blink | Software disabled this port. |
Green, Steady | The link is operating normally. |
Off | No link exists. |

**Note:**

- If you connect two ports explicitly set for different speeds (for example one configured as 10BASE-T and the other as 100BASE-TX) the port link LED may indicate a link, but the switch does not establish a link. Connect ports using the same set speed or use auto-negotiation on each switch.

- The port Link/Activity LEDs graphically represented in EDM are always steady once a link is established. They do not blink to reflect port traffic activity.

**Note:**

When you remove an optic or a copper or fiber cable from Combo ports (47 and 48) in VSP 4850GTS or VSP 4850GTS-PWR, the port Link/Activity LEDs graphically represented in EDM do not reflect the correct LED status on the switch. The port Link/Activity LEDs in EDM remain solid green even after an automatic refresh of EDM. You must logout and login to EDM to see the correct LED status.

**Related links**

- [LED state definitions](#) on page 36

### Viewing hardware information

**About this task**

Perform the following procedure to view system status and technical information about the VSP 4850GTS hardware components. You can view information about the switch (such as location), chassis (type, serial number, and base MAC address), temperature, power supplies, fans, cards, system errors, port locks, topology status, and message control information.

**Procedure**

1. Log on to the switch to enter User EXEC mode.
2. View hardware information:
   
   ```
   show sys-info [card | fan | led | power | temperature | uboot | usb]
   ```
Example

Viewing hardware information on VSP 4850GTS-PWR+ switch:

VSP-4850GTS-PWR+:1>show sys-info

General Info:
- SysDescr : VSP-4850GTS-PWR+ (w.x.y.z)  HW Base: ERS 4850
- SysName : VSP-4850GTS-PWR+
- SysUpTime : 0 day(s), 00:04:19
- SysContact : http://www.extremenetworks.com/contact/
- SysLocation : 9 Northeastern Blvd, Salem, NH. 03079

Chassis Info:
- Chassis : 4850GTS-PWR+
- ModelName : 4850GTS-PWR+
- BrandName : Extreme Networks.
- Serial# : 12JP442H70GH
- H/W Revision : 10
- H/W Config : none
- Part Number : AL4800A88-E6
- NumPorts : 50
- BaseMacAddr : 24:d9:21:dd:44:00
- MacAddrCapacity : 256
- System MTU : 1950

Card Info:
<table>
<thead>
<tr>
<th>Slot#</th>
<th>CardType</th>
<th>Serial#</th>
<th>Part#</th>
<th>Oper Status</th>
<th>Admin Status</th>
<th>Power State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4850GTS-PWR+</td>
<td>12JP442H70GH</td>
<td>AL4800A88-E6</td>
<td>up</td>
<td>up</td>
<td>on</td>
</tr>
</tbody>
</table>

Temperature Info:
- Chassis Temperature : 34

Power Supply Info:
- Ps#1 Status : UP
- Ps#1 Type : AC
- Ps#1 Description : AC-DC-54V-1000W
- Ps#1 Serial Number : LBNYNMDT200NPC
- Ps#1 Version : --
- Ps#1 Part Number : 325220-A.01
- Ps#2 Status : empty

Total Power Available : 1000 watts
Total Power Usage : 145 watts

Fan Info:
- Description | OperStatus | OperSpeed | AirflowDir
  - Tray 1 Fan 1 | up | mediumSpeed | left-right
  - Tray 1 Fan 2 | up | mediumSpeed | left-right
  - Tray 1 Fan 3 | up | mediumSpeed | left-right

LED Info:
- LED#1 Label : PWR
- LED#1 Status : GreenSteady
- LED#2 Label : Status
- LED#2 Status : GreenSteady
- LED#3 Label : Rps
- LED#3 Status : Off
- LED#4 Label : Up
- LED#4 Status : UnSupported
LED#5 Label : Down
LED#5 Status : UnSupported

LED#6 Label : Base
LED#6 Status : UnSupported

USB Info :

  Vendor Id     : 196d
  Manufacturer  : InnoDisk
  Product Id    : 0201
  Product Name  : Nano
  Rev           : 02.50
  Serial Number : 000000000077
  Max Current   : 500 mA

System Error Info :

  Send Login Success Trap   : false
  Send Authentication Trap  : false
  Error Code                : 0
  Error Severity            : 0

Port Lock Info :

  Status       : off
  LockedPorts  :

Message Control Info :

  Action                 : suppress-msg
  Control-Interval       : 5
  Max-msg-num            : 5
  Status                 : disable

Configuration Operation Info Since Boot Up:
Last Change: 0 day(s), 00:02:26
Last Vlan Change: 0 day(s), 00:02:26
Last Statistic Reset: 0 day(s), 00:00:00

Current Uboot Info :
---------------------------------------------------------------
VU-Boot 2012.04-00001-g6a10a19 (Apr 18 2014 - 16:22:07)MPC83XX

--- Variable definitions ---

Use data in the following table to use the `show sys-info` command.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>card</td>
<td>Displays information about the device. Includes type, serial number, and assembly date.</td>
</tr>
<tr>
<td>fan</td>
<td>Displays information about installed cooling ports.</td>
</tr>
<tr>
<td>led</td>
<td>Displays LED information in detail.</td>
</tr>
<tr>
<td>power</td>
<td>Displays information about installed power supplies.</td>
</tr>
<tr>
<td>temperature</td>
<td>Displays temperature information.</td>
</tr>
<tr>
<td>uboot</td>
<td>Displays uboot details.</td>
</tr>
<tr>
<td>usb</td>
<td>Displays USB information.</td>
</tr>
</tbody>
</table>
Chapter 6: Translations of safety messages

⚠️ Caution:
When you mount this device in a rack, do not stack units directly on top of one another. You must secure each unit to the rack with appropriate mounting brackets. Mounting brackets cannot support multiple units.

⚠️ Important:
Achtung:

⚠️ Important:
Si vous installez le module dans une baie, ne l'empilez pas directement sur un autre. Chaque module doit être fixé à sa propre baie à l'aide des supports de montage appropriés. Ces supports ne sont pas conçus pour résister à plusieurs modules.

⚠️ Important:
Precaución:
Cuando monte este dispositivo en un bastidor, no apile las unidades directamente una encima de otra. Cada unidad debe fijarse en el bastidor con las abrazaderas de montaje adecuadas. Las abrazaderas de montaje no están diseñadas para sostener varias unidades.

⚠️ Important:
Se il dispositivo viene installato in un rack, non impilare le unità direttamente una sull'altra. Ogni unità deve essere fissata al rack con le staffe di montaggio appropriate. Le staffe di montaggio non sono state progettate per supportare più unità.

⚠️ 警告：在机架中安装此设备时，请勿将多个部件叠放在机架中。必须用合适的安装托架将各个部件固定在机架中。安装托架无法支撑多个部件。

⚠️ 注意：この装置をラックに設置する場合は、ラック内のユニットを直接積み重ねないようにしてください。各ユニットは専用の取り付けブラケットでラックに固定することがあります。取り付けブラケットは複数のユニットを支えるように設計されています。
Caution:
If you are not installing a module in the slot, be sure to keep the metal cover plate in place over the slot. Removing the cover plate impedes airflow and proper cooling of the unit.

Important:

Achtung:
Wenn Sie kein Modul im Schacht verwenden, muß die Metallabdeckung über dem Schacht montiert sein. Eine Entfernung der Abdeckung führt zu einer Verschlechterung der Luftzirkulation und damit zu einer nicht ausreichenden Kühlung der Einheit.

Important:

Si vous n'installez pas le module dans une baie, veillez à laisser la plaque métallique sur la baie. Si vous la retirez, l'aération du module ne peut pas s'effectuer correctement.

Important:

Precaution:
Si no instala ningún módulo en la ranura, asegúrese de mantener la placa de la cubierta de metal en la misma. Si la retira, impedirá que el aire circule y la unidad se refrigere adecuadamente.

Important:

Attenzione:
Se nello slot non vengono installati moduli, assicurarsi di mantenere la piastra di copertura metallica in sede sopra lo slot. La rimozione della piastra impedisce la ventilazione e il corretto raffreddamento dell'unità.
Warning:

Disconnecting the AC power cord is the only way to turn off AC power to this device. Always connect the AC power cord in a quickly and safely accessible location in case of an emergency.

Important:

Warnung:

Das Gerät kann nur durch Ziehen des Netzsteckers ausgeschaltet werden. Schließen Sie das Netzkabel an einer Steckdose an, die in Notfällen schnell und sicher zugänglich ist.

Important:

Avertissement:

Pour mettre le module hors tension, vous devez impérativement déconnecter le cordon d'alimentation. En outre, vous devez dégager un espace minimal dans la zone de câblage pour pouvoir y accéder facilement en cas d'urgence.

Important:

Advertencia:

Para apagar el dispositivo debe desenchufar el cable. Conecte siempre el cable de alimentación a una toma segura y de fácil acceso por si se produjera alguna situación de emergencia.

Important:

Avviso:

L'unico modo per disattivare questo dispositivo consiste nello scollegare il cavo di alimentazione. Collegare sempre il cavo di alimentazione ad una presa che sia facilmente e rapidamente accessibile in caso di emergenza.

Danger:

Use only power cords that have a grounding path. Without a proper ground, a person who touches the switch is in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

Important:

Vorsicht:
Verwenden Sie nur Netzkabel mit Schutzerdung. Ohne ordnungsgemäße Schutzerdung besteht für Personen, die den Switch berühren, die Gefahr eines elektrischen Schlages. Eine nichtvorhandene Schutzerdung kann zu sehr starken Abstrahlungen führen.

⚠️ **Danger:**

N'utilisez que des cordons d'alimentation équipés de trajet de mise à la terre. Sans mise à la terre adaptée, vous risquez de recevoir une décharge électrique en touchant le commutateur. Par ailleurs, l'absence de trajet de mise à la terre peut générer des émissions excessives.

⚠️ **Important:**

Peligro:

Utilice únicamente cables de alimentación con toma de tierra. De lo contrario, al tocar el interruptor puede recibir una descarga eléctrica. Si no hay un circuito de toma de tierra en el enchufe, puede producirse un exceso de emisiones.

⚠️ **Important:**

Pericolo:

Utilizzare esclusivamente cavi di alimentazione dotati di un percorso per la messa a terra. Senza un'adeguaata messa a terra, chiunque tocchi lo switch corre il rischio di ricevere una scossa elettrica. L'assenza di un percorso per la messa a terra verso lo switch può comportare un eccesso di emissioni.

⚠️ **Warning:**

The lithium battery is not field replaceable. It must only be removed and replaced by authorized personnel. Contact Extreme Networks Technical Support for assistance if the battery requires replacement.

⚠️ **Important:**

Warnung:


⚠️ **Important:**

Avertissement:

La batterie au lithium n'est pas remplaçable sur site. Elle ne peut être enlevée et remplacée que par du personnel qualifié. Veuillez prendre contact avec le support technique d'Extreme Networks si la batterie doit être remplacée.
Important:

警告：

锂池不支持更，只有授权人员才能进行拆卸和更换。如果您需要更换池，联系Extreme Networks 技术支持部寻求帮助。

Important:

Advertencia:

La batería de litio no puede sustituirse en campo. La extracción y sustitución debe ser realizada exclusivamente por personal autorizado. Comuníquese con el Soporte técnico de Extreme Networks si necesita asistencia para cambiar la batería.

Important:

Aviso:

A bateria de lítio não é substituível em campo. Só deve ser removida e substituída por pessoal autorizado. Entre em contato com o Suporte Técnico da Extreme Networks para obter assistência, se a bateria precisar de substituição.

Important:

Предупреждение:

Литиевые аккумуляторы не подлежат самостоятельной замене в условиях эксплуатации. Их может извлекать и заменять только аттестованный персонал. Если требуется замена аккумулятора, обратитесь в службу технической поддержки Extreme Networks.