Installation and Configuration Note for Cisco Catalyst 4500 E-Series Supervisor Engine 9-E

Revised: September 28, 2022

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Product Numbers: WS-X45-SUP9-E, **WS-X45-SUP9-E=**(Spare), **WS-X45-SUP9-E/2**(Redundant Supervisor)

This document describes the features of the Cisco Catalyst 4500 E-Series Supervisor Engine 9-E and provides information about how to correctly install and remove or replace the module.

Table 1: WS-X45-SUP9-E Chassis Compatibility Information

Compatibility Information	Description
Chassis compatibility	Cisco Catalyst 4500 E-Series Supervisor Engine 9-E is supported on the Catalyst 4503-E, Catalyst 4506-E, and Catalyst 4507R+E, Catalyst 4510R+E switch chassis.
Minimum software requirements	Cisco IOS XE Release 3.10.0E and ROMMON IOS Version 15.1(1r)SG14. For the latest software release requirements, refer to the *Cisco IOS Release Notes for the Catalyst 4500-E Series Switches* at this location:http://www.cisco.com/c/en/us/support/switches/catalyst-4500-series-switches/products-release-notes-list.html.
Chassis slot restrictions	• Catalyst 4503-E—Slot 1 only • Catalyst 4506-E—Slot 1 only • Catalyst 4507R+E—Slot 3 and slot 4 (redundant supervisor engines supported) • Catalyst 4510R+E—Slot 5 and slot 6 (redundant supervisor engines supported)
Bandwidth per slot	48 Gbps per slot—on all supported chassis.

Statement 1071—Warning Definition

	IMPORTANT SAFETY INSTRUCTIONS
	This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071 **SAVE THESE INSTRUCTIONS**

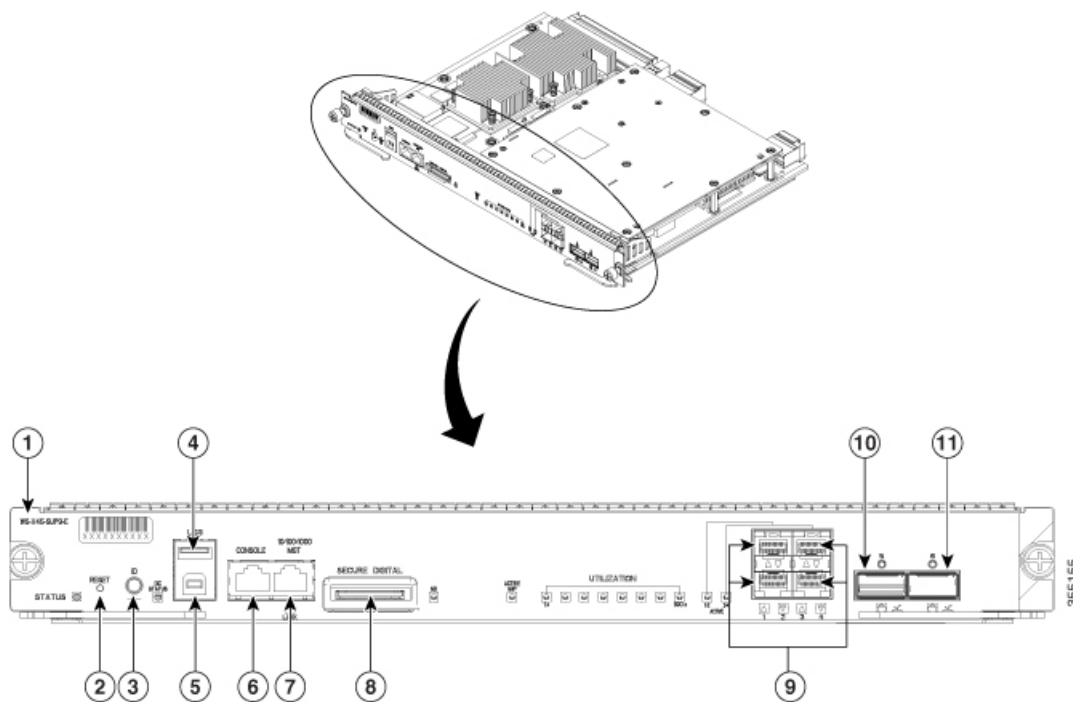| Waarschuwing	**BELANGRIJKE VEILIGHEIDSINSTRUCTIES**
	Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.
	BEWAAR DEZE INSTRUCTIES
Varoitus	**TÄRKEITÄ TURVALLISUUSOHJEITA**
	Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.
	SÄILYTÄ NÄMÄ OHJEET
Attention	**IMPORTANTES INFORMATIONS DE SÉCURITÉ**
	Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.
	CONSERVEZ CES INFORMATIONS
Warnung	**WICHTIGE SICHERHEITSHINWEISE**
	Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.
	BEWAHREN SIE DIESE HINWEISE GUT AUF.
Avvertenza	**IMPORTANTI ISTRUZIONI SULLA SICUREZZA**
	Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.
	CONSERVARE QUESTE ISTRUZIONI

Advarsel	**VIKTIGE SIKKERHETSINSTRUKSJONER** **Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.** **TA VARE PÅ DISSE INSTRUKSJONENE**
Aviso	**INSTRUÇÕES IMPORTANTES DE SEGURANÇA .** **Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo** **GUARDE ESTAS INSTRUÇÕES**
¡Advertencia!	**INSTRUCCIONES IMPORTANTES DE SEGURIDAD** **Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.** **GUARDE ESTAS INSTRUCCIONES**
Varning!	**VIKTIGA SÄKERHETSANVISNINGAR** **Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.** **SPARA DESSA ANVISNINGAR**
Figyelem	**FONTOS BIZTONSÁGI ELOÍRÁSOK** **Ez a figyelmezeto jel veszélyre utal. Sérülésveszélyt rejto helyzetben van. Mielott bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplo figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján keresheto meg.** **ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!**
Предупреждение	**Для обеспечения соответствия требованиям по предельным значениям облучения радиочастотами (РЧ) антенны данного устройства должны располагаться на расстоянии не ближе 2 м от пользователей.**
警告	如果电源出现故障或中断，您将无法使用 Voice over IP (VoIP) 服务与紧急呼叫服务。电源恢复之后，您可能需要重新设置或重新配置设备，以便重新获得进入 VoIP 与紧急呼叫服务的权限。在美国，此紧急呼叫号码是 911。您必须知道本国的紧急呼叫号码。

警告	電源障害や停電の場合、ボイス オーバー アイピー (VoIP) サービスと緊急呼出しサービスは機能しません。電源の回復後、VoIP と緊急呼出しサービスにアクセスするには機器をリセットまたは再設定する必要があります。米国内の緊急呼出し番号は 911 です。お住まいの地域の緊急呼出し番号をあらかじめ調べておいてください。

Cisco Catalyst 4500 E-Series Supervisor Engine 9-E Features

The following figure shows the front view of the supervisor engine, with the major features identified. See the corresponding callout number column in the table for a description of the feature

Figure 1: Cisco Catalyst 4500 E-Series Supervisor Engine 9-E

Call Out	Feature	Description
1	Model Number	The supervior engine model number
2	RESET switch (recessed)	The RESET switch is used to reset and restart the switch.
		Note The reset switch is recessed into the front panel. Use a paper clip or a small, pointed object to press the RESET switch.

| Call Out	Feature	Description
3	UID switch and LED	A combination push button switch and LED indicator. The blue LED can be turned on either by pressing the UID switch on the front panel or through software. The main purpose of the beacon LED is to enable identification from a remote location during configuration or troubleshooting. The ability to turn on/off the LED by pressing a switch allows you to walk to the other side of a fully populated rack and identify the switch. Pressing the blue beacon LED switch toggles the beacon LED on and off.
4	USB Type A Host Port	This USB port is a host port for an external USB disk drive. It supports USB version 2.0. **Note** Only a FAT32 formatted USB drive is supported.
5	USB mini Type B Console Port	This USB connector is used as a console port allowing attachment to PCs that are not equipped with an RS-232 interface. For more information about console ports, see Console Ports, on page 13
6	Console port (RJ-45 connector)	This is a 10/100/1000 port that provides an RS-232 serial or console port for system management. For more information about console ports, see Console Ports, on page 13
7	10/100/1000 Ethernet Management Port (RJ-45 connector)	The Ethernet management port is a Layer 3 host port to which you can connect a PC. By default, the Ethernet management port is enabled. You can use the Ethernet management port instead of the switch console port for network management. This port is not active while the switch is operating normally. **Note** When connecting a PC to the Ethernet management port, you must assign an IP address. The port has a LINK LED to indicate port status. See Cisco Catalyst 4500 E-Series Supervisor Engine 9-E LEDs, on page 7 For more information about the management port, see Ethernet Management Port, on page 13
8	SECURE DIGITAL slot	A standard Secure Data (SD) memory card interface is provided on the front panel The port has an LED that indicates if a card is inserted. See Cisco Catalyst 4500 E-Series Supervisor Engine 9-E LEDs, on page 7
9	1-Gigabit Ethernet (GE) or 10-GE uplink ports	The supervisor engine has four 1-GE or 10-GE ports. These ports require either small form-factor pluggable (SFP) or SFP+ transceivers. Ports are numbered 1 to 4 and have individual uplink status LEDs. The ports also have ACTIVE LEDs that indicate the active port set. See Cisco Catalyst 4500 E-Series Supervisor Engine 9-E LEDs, on page 7 For more information about uplink ports, see Uplink Ports, on page 14

Call Out	Feature	Description
10 and 11	40-GE uplink ports	The supervisor engine has two 40-GE ports. These ports use QSFP+ transceivers.
		Ports are numbered 1 and 2 and have individual LEDs that indicate uplink status.
		The ports also have individual ACTIVE LEDs that indicate the active port. See Cisco Catalyst 4500 E-Series Supervisor Engine 9-E LEDs, on page 7
		For more information about uplink ports, see Uplink Ports, on page 14

For physical and environmental specifications of the Supervisor Engine 9-E, refer to data sheet at the following URL:https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-4500-series-switches/nb-09-cat-4500e-sup-engine-ds-cte-en.html

Cisco Catalyst 4500 E-Series Supervisor Engine 9-E LEDs

The following figure shows the front view of the supervisor engine, with the LEDs identified. See the corresponding callout number column in the table for a description of the LED.

Figure 2: Cisco Catalyst 4500 E-Series Supervisor Engine 9-ELEDs
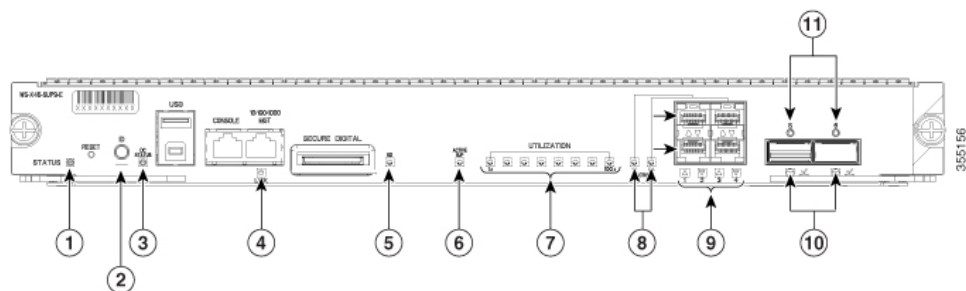
Call Out	LED	LED Position or Color	Meaning
1	STATUS Indicates the status of the supervisor engine.	Green	All diagniostic tests have passed after correct image booting
		Orange	System boot or a diagnostic test is in progress. This is the redundant supervisor engine (in redundant configurations).
		Red	A diagnostic test failed.
		Off	The supervisor engine is disabled or is not powered up.

Call Out	LED	LED Position or Color	Meaning
2	UID LED and switch combination	Blue	A combination push button switch and LED indicator. The blue LED can be turned on either by pressing the UID switch on the front panel or through software. The main purpose of the beacon LED is to enable identification from a remote location during configuration or troubleshooting. The ability to turn on/off the LED by pressing a switch allows you to walk to the other side of a fully populated rack and identify the switch. Pressing the blue beacon LED switch toggles the beacon LED on and off.
3	DC STATUS The DC status LED indicates the current status of the wireless daughter card.	Green	Normal operation
		Blinking Green	The daughter card is booting
		Blinking Orange	The system is waiting for user input
		Orange	A diagnostic test failed
		Off	No power to the daughter card
4	LINK Indicates the status of the 10/100/1000BASE-T Ethernet management port.	Green	The link is operational
		Off	No signal is detected.
5	SD Indicates the status of the secure digital port.	Green	SD card is inserted
		Off	SD card has been removed, or the SD card is bad
6	ACTIVE SUP The active supervisor engine LED indicates whether the supervisor engine is active or in standby mode in redundant supervisor engine configurations.	Green	Supervisor engine is active (in redundant supervisor engine configurations)
		Off	Supervisor engine is in standby mode (in redundant supervisor engine configurations)
7	UTILIZATION	Green	When the switch is operational, the eight CPU utilization LEDs indicate the current traffic load over the backplane as an approximate percentage value. Each LED lit green indicates approximately 12.5 percent of load.
8	UPLINK ACTIVE Indicates if uplink ports 1 to 4 are active	Green	1-2 ACTIVE indicates ports 1 and 2 are active 3-4 ACTIVE indicates ports 3 and 4 are active
		Off	Ports are not active

Call Out	LED	LED Position or Color	Meaning
9	UPLINK STATUS Indicates the status of uplink ports 1 to 4.	Green	The link is operational
		Orange	The link is disabled by user
		Flashing Orange	The power-on self-test indicates a faulty port
		Off	No signal is detected or there is a link configuration failure
10	UPLINKS ACTIVE Indicates if the QSFP+ uplink ports 1 and 2 are active	Green	Port is active
		Off	Port is not active
11	UPLINK STATUS Indicates the status of the QSFP+ uplink ports 1 and 2.	Green	The link is operational
		Orange	The link is disabled by user
		Flashing Orange	The power-on self-test indicates a faulty port
		Off	No signal is detected or there is a link configuration failure

Removing and Installing the Supervisor Module

All Catalyst 4500E Series Switches support hot swapping, which lets you install, remove, replace, and rearrange supervisor engines and switching modules without powering the system off. When the system detects that a switching module has been installed or removed, it runs diagnostic and discovery routines automatically, acknowledges the presence or absence of the module, and resumes system operation with no operator intervention.

Warning   Only trained and qualified personnel should be allowed to install, replace, or service this equipment. **Statement 1030**

Warning   Ultimate disposal of this product should be handled according to all national laws and regulations. **Statement 1040**

Required Tools

These tools are required to perform the installation or removal of :

- Antistatic mat or foam pad to support the removed supervisor engine.

- 3/16-inch flat-blade screwdriver for the .

- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares.

Removing the Supervisor Engine

⚠

Warning   Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. **Statement 1034**

⚠

Warning   Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. **Statement 1051**

⚠

Caution   To prevent ESD damage, handle supervisor engines by the carrier edges only.

Before you begin

You will need a blank module filler plate if the module slot is to remain empty.

Procedure

Step 1   Take the necessary precautions, to prevent ESD damage. Wear a grounded ESD wrist strap while handling the modules, and keep them in ESD-protective bags when they are not installed in a chassis.

Step 2   Disconnect any network interface cables attached to the ports on the supervisor engine that you intend to remove.

Step 3   If the module is equipped with removable optical transceivers, immediately install dust plugs into the transceiver's optical bores. This prevents possible dust contamination, which can affect port performance.

Step 4   Loosen the two captive installation screws on either end of the supervisor engine faceplate.

Step 5   Grasp the left and right ejector levers at either end of the supervisor engine faceplate and simultaneously pivot the levers outward to disengage the supervisor engine from the backplane connector.

Step 6   Grasp the front panel of the supervisor engine with one hand and place your other hand under the carrier to support and guide it out of the slot. Do not touch the printed circuit boards or connector pins.

Step 7   Carefully slide the supervisor engine straight out of the slot, keeping your other hand under the carrier to guide it.

Step 8   Place the supervisor engine on an antistatic mat or in an antistatic bag, or immediately install the supervisor engine in another chassis slot.

Step 9   In a chassis configured with redundant supervisor engines, if the chassis slot is to remain empty, you must install a blank slot cover.

> **Warning**   Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place. **Statement 1029**

What to do next

Install the blank slot cover or a replacement supervisor engine.

Installing the Supervisor Engine

⚠️

Warning Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. **Statement 1034**

⚠️

Caution To prevent ESD damage, handle supervisor module by the carrier edges only.

Before you begin

- Verify chassis compatibility and slot restrictions.

    - Catalyst 4503-E—Slot 1 only

    - Catalyst 4506-E—Slot 1 only

    - Catalyst 4507R+E—Slot 3 and slot 4 (redundant supervisor engines supported)

    - Catalyst 4510R+E—Slot 5 and slot 6 (redundant supervisor engines supported)

- Verify that both the supervisor engines (in a redundant configuration) are of the same type.

Procedure

Step 1	Take the necessary precautions, to prevent ESD damage. Wear a grounded ESD wrist strap while handling the modules, and keep them in ESD-protective bags when they are not installed in a chassis.
Step 2	Ensure that you have enough clearance to accommodate any interface equipment that you will connect directly to the supervisor module ports.
Step 3	Remove the existing module • If a switching module filler plate is present, loosen the two captive installation screws that secure the switching-module filler plate and remove it. Save it for future use. • If you are removing an existing supervisor engine, see Removing the Supervisor Engine, on page 10. **Note** In a redundant configuration, if you are replacing both supervisors with a different model, remove both supervisor engines before installing either one of the new models.
Step 4	Remove the new supervisor module from the shipping packaging, being careful to handle the module using only the module's metal tray or the front panel. Do not touch the printed circuit board or the connector pins.
Step 5	Pivot the two module ejector levers out and away from the faceplate

Figure 3: Installing the Supervisor Engine in the Chassis (Catalyst 4507R+E Shown)
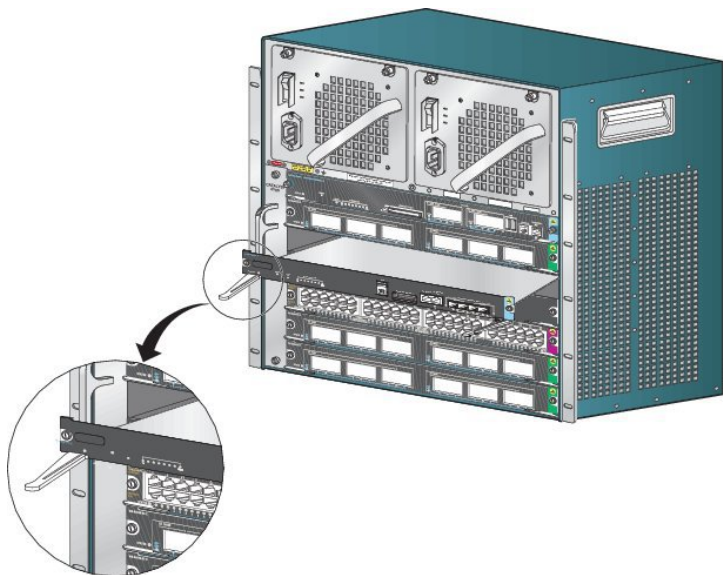
Step 6   Grasp the switching module's front panel with one hand and place your other hand under the carrier to support the supervisor module.

Step 7   Position the new module in the slot. Make sure that you align the sides of the module carrier with the slot guides on each side of the chassis slot.

Step 8   Carefully slide the supervisor module into the slot. Pivot both ejector levers in simultaneously.

When installed correctly

- The notches on both the ejector levers engage the chassis sides.

- Both the ejector levers are parallel with the supervisor module faceplate to fully seat the module in the backplane connector.

    Note   Always use the ejector levers when installing or removing a supervisor module. A module that is partially seated in the backplane will not function correctly.

Step 9   Use a screwdriver to tighten the two captive installation screws on the supervisor module. Do not over tighten the captive installation screws.

Step 10   Check the status of the module:

a) Verify that the supervisor module STATUS LED is lit.
b) Periodically check the STATUS LED.

    If the STATUS LED changes from amber to green, it means that the supervisor module has completed the boot process successfully, and is now online.

    If the STATUS LED remains amber or turns red, it means that the supervisor module has not completed the boot process successfully, and may have encountered an error.

c) When the switch is online, enter the **show module** command. Verify that the system acknowledges the new supervisor module and that the module status is OK.
d) If the module is not operational, reseat it. If the module is still not operational, contact your Cisco customer service representative.

What to do next

Install blank slot cover in empty slots, if any, to maintain consistent airflow through the switch chassis.

Module Interfaces

The supervisor module has the following interfaces or ports: USB ports, console port, management port, and uplink ports.

⚠️

Warning   To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables. **Statement 1021**

Console Ports

The supervisor engine front panel provides two types of console ports:

- USB Console Port—This is the USB mini Type B Console Port.

- 10/100/1000 or RJ45 Console Port—This console port allows you to access the switch either locally (through a console terminal) or remotely (through a modem). The console is an EIA/TIA-232 asynchronous, serial connection with hardware flow control and an RJ-45 connector.

Only one of the consoles is active at a time. When a USB host (PC) is plugged into the USB console port the hardware automatically switches over to use the USB console. Only a PC which has the necessary USB console device driver causes the USB console to become active. Plugging in a PC that does not have the USB console driver support does not cause a switchover. When the USB Cable is removed or the PC deactivates the USB connection, or a host is not detected on the USB console, the hardware automatically switches to the RJ45 console port.

The console port allows you to perform the following functions:

- Configure the switch from the CLI

- Monitor network statistics and errors

- Configure SNMP agent parameters

Ethernet Management Port

The supervisor module provides a standard 10/100/1000 BASET Ethernet management port. When managing a switch, connect the PC to the Ethernet management port of a Cisco Catalyst 4500E Series switch supervisor engine.

The Ethernet management port can be used (in ROMMON mode only) to recover a switch software image that has been corrupted or destroyed due to a network catastrophe.

The specific implementation of Ethernet management port depends on the redundancy model you are applying.

The switch cannot route packets from the Ethernet management port to a network port, and from the network port to the Ethernet port. To obtain these, the Fa1 interface is automatically placed in a separate routing domain (or VRF domain), called mgmtVrf. (Observe the ip Vrf forwarding mgmtVrf line in the running configuration when you boot.)

Uplink Ports

The supervisor engine has four uplink ports that use small form-factor pluggable (SFP) transceivers or SFP+ transceivers and two uplink ports that use Quad Small Form-Factor Pluggable Plus (QSFP+) transceivers.

These ports can be used to provide additional port capacity for a fully configured switch or can reduce the need to use a chassis slot for a module. These ports use hot-swappable optical transceivers.

SFP and SFP+ Ports

Ports are numbered 1 to 4.

These ports can be configured with either SFP transceivers for 1-GE operations or SFP+ transceivers for 10-GE operations. 1 and 10-GE uplink ports operate in full-duplex mode only. Both transceivers use LC-type connectors (optical) or RJ-45 (copper). The SFP transceivers have LC connectors to interface with multimode fiber (MMF) cable and single-mode fiber (SMF) cable and RJ-45 connectors for the copper interfaces.

Each SFP module has an internal serial EEPROM that is encoded with security information. This encoding provides a way for Cisco to identify and validate that the SFP module meets the requirements for the device.

QSFP+ Ports

Ports are numbered 1 and 2.

These ports use QSFP+ transceivers for 40-GE operations. QSFP+ transceivers use LC, copper, or MPO-12 connectors.

The 40-GE QSFP+ transceiver module is a hot-swappable, parallel fiber-optical module with four independent optical transmit and receive channels. These channels terminate in a 40-GE QSFP+ transceiver.

> **Note**   The QSFP+ ports do not support breakout cables.

Installing Transceiver Modules and Cables

Use only Cisco modules on your Cisco device.

Supported Transceiver Media

For supported transceiver media types, refer to these documents on Cisco.com:

- Cisco Gigabit Ethernet Transceiver Modules Compatibility Matrix
- Cisco 10-Gigabit Ethernet Transceiver Modules Compatibility Matrix
- Cisco 40-Gigabit Ethernet Transceiver Modules Compatibility Matrix

Transceiver Cabling and Installation

Each port must match the wave-length specifications on the other end of the cable, and the cable must not exceed the stipulated cable length. For cabling specifications and installation information, refer to these documents on Cisco.com:

- Cisco SFP and SFP+ Transceiver Module Installation Notes
- Cisco 40-Gigabit QSFP+ Transceiver Modules Installation Note

Related Reference Installation Information

- Cisco Mode-Conditioning Patch Cord Installation Note

- Inspection and Cleaning Procedures for Fiber-Optic Connections

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html

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Cisco Website at www.cisco.com/go/offices.