



Supervisor Engine 32 Memory Installation Note

Product Numbers: MEM-XCEF720-512M=, MEM-XCEF720-1GB=

This publication describes how to replace the dynamic random-access memory (DRAM) dual inline memory module (DIMM) on the Supervisor Engine 32.



Note

Any Supervisor Engine 32 that was shipped after May 2006 has 512 MB of DRAM as the default memory configuration.

Contents

This publication consists of these sections:

- [Safety Overview, page 2](#)
- [Installing the DRAM Memory Kit, page 6](#)
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Note

For translations of the warnings in this publication, see the [“Translated Safety Warnings” section on page 22](#).



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Safety Overview

Safety warnings appear throughout this publication in procedures that may harm you if performed incorrectly. A warning symbol precedes each warning statement.

Statement 1071—Warning Definition



Warning

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. To see translations of the warnings that appear in this publication, refer to the translated safety warnings that accompanied this device.

Note: SAVE THESE INSTRUCTIONS

Note: This documentation is to be used in conjunction with the specific product installation guide that shipped with the product. Please refer to the Installation Guide, Configuration Guide, or other enclosed additional documentation for further details.

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. Voor een vertaling van de waarschuwingen die in deze publicatie verschijnen, dient u de vertaalde veiligheidswaarschuwingen te raadplegen die bij dit apparaat worden geleverd.

Opmerking BEWAAR DEZE INSTRUCTIES.

Opmerking Deze documentatie dient gebruikt te worden in combinatie met de installatiehandleiding voor het specifieke product die bij het product wordt geleverd. Raadpleeg de installatiehandleiding, configuratiehandleiding of andere verdere ingesloten documentatie voor meer informatie.

Varoitus

TÄRKEITÄ TURVALLISUUTEEN LIITTYVIÄ OHJEITA

Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä asiakirjassa esitettyjen varoitusten käännökset löydät laitteen mukana toimitetuista ohjeista.

Huomautus SÄILYTÄ NÄMÄ OHJEET

Huomautus Tämä asiakirja on tarkoitettu käytettäväksi yhdessä tuotteen mukana tulleen asennusoppaan kanssa. Katso lisätietoja asennusoppaasta, kokoonpano-oppaasta ja muista mukana toimitetuista asiakirjoista.

Attention IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez les consignes de sécurité traduites qui accompagnent cet appareil.

Remarque CONSERVEZ CES INFORMATIONS

Remarque Cette documentation doit être utilisée avec le guide spécifique d'installation du produit qui accompagne ce dernier. Veuillez vous reporter au Guide d'installation, au Guide de configuration, ou à toute autre documentation jointe pour de plus amples renseignements.

Warnung WICHTIGE SICHERHEITSANWEISUNGEN

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewusst. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise sind im Lieferumfang des Geräts enthalten.

Hinweis BEWAHREN SIE DIESE SICHERHEITSANWEISUNGEN AUF

Hinweis Dieses Handbuch ist zum Gebrauch in Verbindung mit dem Installationshandbuch für Ihr Gerät bestimmt, das dem Gerät beiliegt. Entnehmen Sie bitte alle weiteren Informationen dem Handbuch (Installations- oder Konfigurationshandbuch o. Ä.) für Ihr spezifisches Gerät.

Figyelem! FONTOS BIZTONSÁGI ELŐÍRÁSOK

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielőtt bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található.

Megjegyzés ŐRIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Megjegyzés Ezt a dokumentációt a készülékhez mellékelt üzembe helyezési útmutatóval együtt kell használni. További tudnivalók a mellékelt Üzembe helyezési útmutatóban (Installation Guide), Konfigurációs útmutatóban (Configuration Guide) vagy más dokumentumban található.

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. Per le traduzioni delle avvertenze riportate in questo documento, vedere le avvertenze di sicurezza che accompagnano questo dispositivo.

Nota CONSERVARE QUESTE ISTRUZIONI

Nota La presente documentazione va usata congiuntamente alla guida di installazione specifica spedita con il prodotto. Per maggiori informazioni, consultare la Guida all'installazione, la Guida alla configurazione o altra documentazione acclusa.

Advarsel VIKTIGE SIKKERHETSINSTRUKSJONER

Dette varselssymbolet betyr fare. Du befinner deg i en situasjon som kan forårsake personskade. Før du utfører arbeid med utstyret, bør du være oppmerksom på farene som er forbundet med elektriske kretssystemer, og du bør være kjent med vanlig praksis for å unngå ulykker. For å se oversettelser av advarslene i denne publikasjonen, se de oversatte sikkerhetsvarslene som følger med denne enheten.

Merk TA VARE PÅ DISSE INSTRUKSJONENE

Merk Denne dokumentasjonen skal brukes i forbindelse med den spesifikke installasjonsveiledningen som fulgte med produktet. Vennligst se installasjonsveiledningen, konfigureringsveiledningen eller annen vedlagt tilleggsdokumentasjon for detaljer.

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. O utilizador encontra-se numa situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha em atenção os perigos envolvidos no manuseamento de circuitos eléctricos e familiarize-se com as práticas habituais de prevenção de acidentes. Para ver traduções dos avisos incluídos nesta publicação, consulte os avisos de segurança traduzidos que acompanham este dispositivo.

Nota GUARDE ESTAS INSTRUÇÕES

Nota Esta documentação destina-se a ser utilizada em conjunto com o manual de instalação incluído com o produto específico. Consulte o manual de instalação, o manual de configuração ou outra documentação adicional inclusa, para obter mais informações.

¡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. Vea las traducciones de las advertencias que acompañan a este dispositivo.

Nota GUARDE ESTAS INSTRUCCIONES

Nota Esta documentación está pensada para ser utilizada con la guía de instalación del producto que lo acompaña. Si necesita más detalles, consulte la Guía de instalación, la Guía de configuración o cualquier documentación adicional adjunta.

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. Se översättningarna av de varningsmeddelanden som finns i denna publikation, och se de översatta säkerhetsvarningarna som medföljer denna anordning.

OBS! SPARA DESSA ANVISNINGAR

OBS! Denna dokumentation ska användas i samband med den specifika produktinstallationshandbok som medföljde produkten. Se installationshandboken, konfigurationshandboken eller annan bifogad ytterligare dokumentation för närmare detaljer.

Предупреждение ВАЖНЫЕ СВЕДЕНИЯ ПО БЕЗОПАСНОСТИ

Этот символ предупреждает о наличии опасности. При неправильных действиях возможно получение травм. Перед началом работы с любым оборудованием необходимо ознакомиться с ситуациями, в которых возможно поражение электротоком, и со стандартными действиями для предотвращения несчастных случаев. Переведенный текст предупреждений содержится в соответствующем документе, поставляемом вместе с устройством.

Примечание СОХРАНЯЙТЕ ЭТУ ИНСТРУКЦИЮ

Примечание Эта инструкция должна использоваться вместе с руководством по установке конкретного изделия, входящим в комплект поставки. Дополнительные сведения см. в руководстве по установке, руководстве по настройке и другой документации, поставляемой с изделием.

警告 有关安全的重要说明

这个警告符号指有危险。您所处的环境可能使身体受伤。操作设备前必须意识到电流的危险性，务必熟悉操作标准，以防发生事故。如果需要了解本说明中出现的警告符号的译文，请参阅本装置所附之安全警告译文。

注意 保存这些说明

注意 本文件应与本产品附带的具体安装说明一并阅读。如欲了解详情，请参阅《安装说明》、《配置说明》或所附的其他文件。

警告 安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止対策に留意してください。このマニュアルに記載されている警告の各国語版は、装置に付属の「Translated Safety Warnings」を参照してください。

注 これらの注意事項を保管しておいてください。

注 この資料は、製品に付属のインストレーション ガイドと併用してください。詳細は、インストレーション ガイド、コンフィギュレーション ガイド、または添付されているその他のマニュアルを参照してください。

Installing the DRAM Memory Kit

This section is divided into the following topics:

- [Required Tools, page 6](#)
- [Removing the Supervisor Engine 32 from the Chassis, page 7](#)
- [Removing and Installing the DRAM DIMMs, page 9](#)
- [Installing the Supervisor Engine 32, page 13](#)



Warning

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

Required Tools

The following tools are required to perform the memory kit installation:

- Antistatic mat or foam pad to support and protect the removed supervisor engine
- 3/16-inch flat-blade screwdriver for the captive installation screws on the supervisor engine
- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares



Caution

Always use an ESD wrist strap when handling modules or coming into contact with internal components.



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



Warning

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

Removing the Supervisor Engine 32 from the Chassis

To install the DRAM memory kit, you must first remove the Supervisor Engine 32 from the chassis.

The Supervisor Engine 32 is a required system component. If only one Supervisor Engine 32 is present, removing it while the system is operating causes the system to halt. When two Supervisor Engine 32s are installed, hot swapping allows you to remove and replace one of the supervisor engines without turning off the system power.



Warning

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself. Statement 94

To remove the Supervisor Engine 32, follow these steps:

- Step 1** Attach an ESD grounding strap to your wrist and to ground. (If you are unsure about the correct way to attach an ESD grounding strap, refer to the [“Attaching Your ESD Grounding Strap”](#) section on page 19 for instructions.)
- Step 2** If there is only one SDisconnect any interface cables attached to the supervisor engine.
- Step 3** Verify that the captive installation screws on all of the modules in the chassis are tight. This step ensures that the space created by the removed supervisor engine is maintained.



Note

If the captive installation screws are loose, the EMI gaskets on the installed modules will push the modules toward the open slot, reducing the opening size and making it difficult to reinstall the supervisor engine.

- Step 4** Loosen the two captive screws on the supervisor engine that is to be removed.
- Step 5** Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following two sets of steps:

Horizontal slots

- a. Place your thumbs on the left and right ejector levers, and simultaneously rotate the levers outward to unseat the supervisor engine from the backplane connector. (See [Figure 1](#).)
- b. Grasp the front edge of the supervisor engine, and slide the supervisor engine partially out of the slot. Place your other hand under the supervisor engine to support the weight of the module. Do not touch the module circuitry. (See [Figure 2](#).)

Vertical slots

- a. Place your thumbs on the ejector levers located at the top and bottom of the supervisor engine, and simultaneously rotate the levers outward to unseat the supervisor engine from the backplane connector.
- b. Grasp the edges of the supervisor engine, and slide the supervisor engine straight out of the slot. Do not touch the module circuitry.

- Step 6** Immediately place the supervisor engine on an antistatic mat or antistatic foam.

Figure 1 Opening the Ejector Levers (Horizontal Chassis Shown)

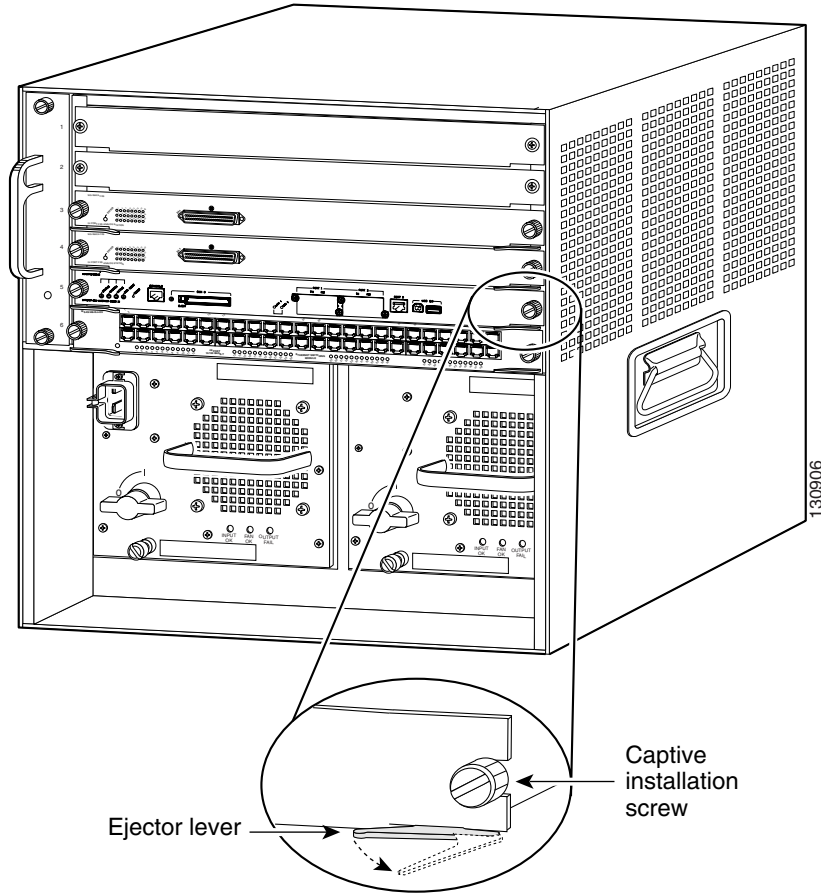
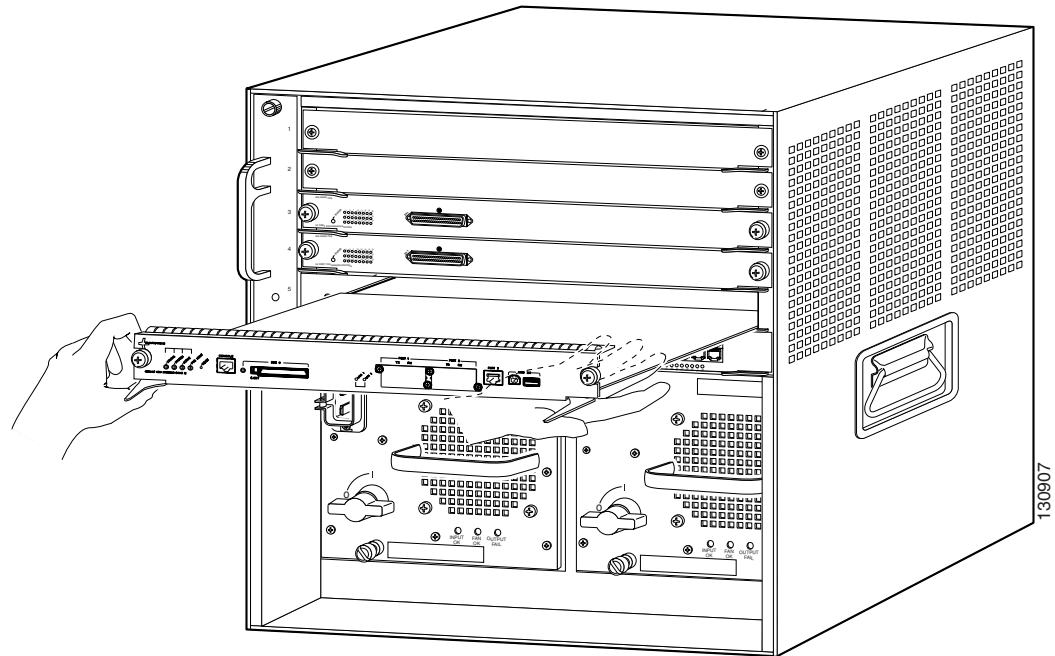


Figure 2 Removing the Supervisor Engine from the Chassis (Horizontal Chassis Shown)



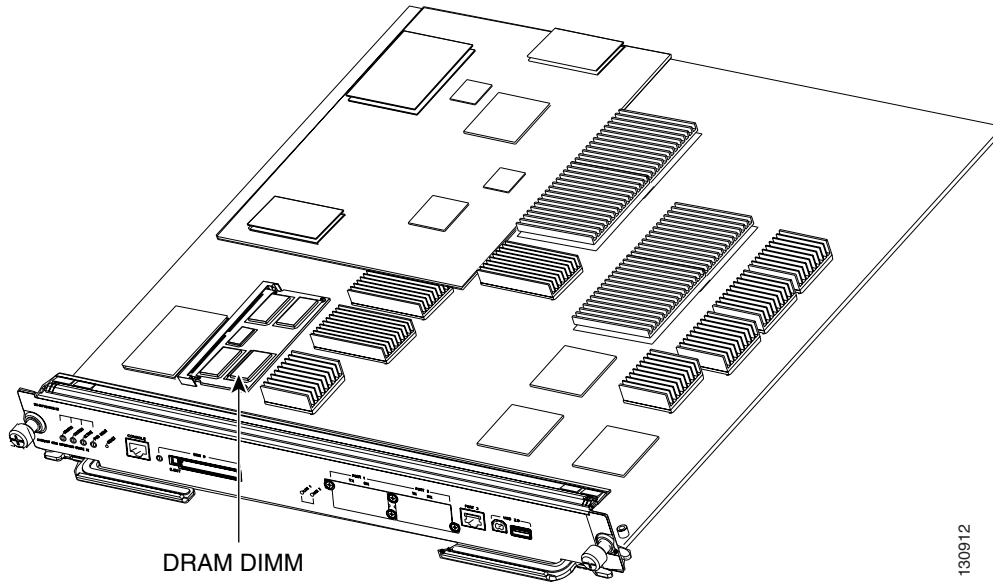
Removing and Installing the DRAM DIMMs

This section covers the removal of the DRAM DIMM and the installation of the new DRAM DIMM.

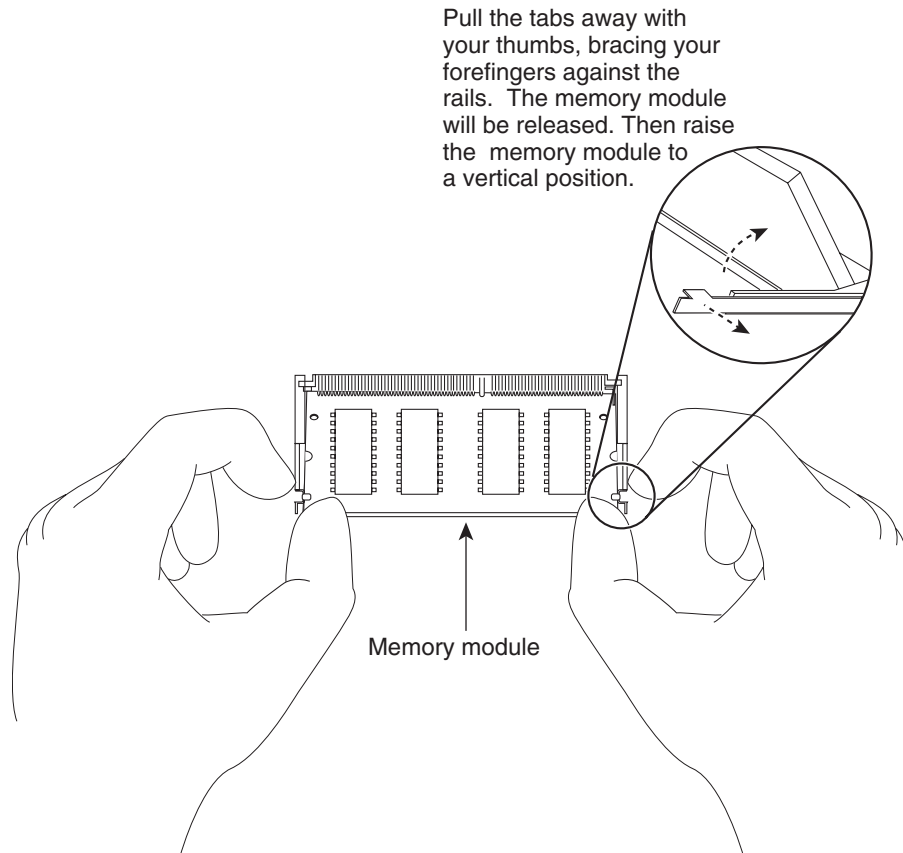
To install the DRAM DIMM kit, perform these steps:

-
- Step 1** Attach an ESD grounding strap to your wrist and to ground. (If you are unsure about the correct way to attach an ESD grounding strap, refer to the [“Attaching Your ESD Grounding Strap”](#) section on page 19 for instructions.)
 - Step 2** Locate the DRAM DIMM on the supervisor engine. (See [Figure 3.](#))

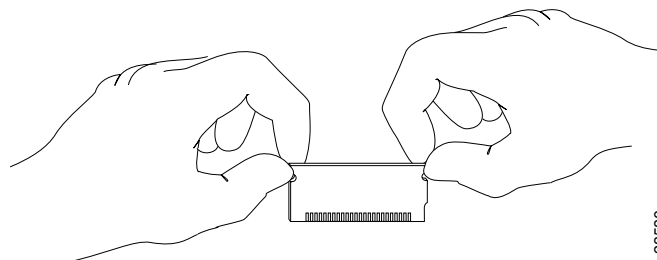
Figure 3 DRAM DIMM Location on the Supervisor Engine 32



- Step 3** Release the old DRAM DIMM from its socket by simultaneously pulling the two locking spring tabs on the socket sides outward and pivoting the DRAM DIMM free of the tabs. Be careful not to bend the locking spring tabs too far, you can break the tabs on the DIMM socket. (See [Figure 4.](#))

Figure 4 Releasing the Spring Clips

- Step 4** Holding the DIMM by its edges, (see [Figure 5](#)), gently rock and lift it to disconnect it from the DIMM socket. Immediately place the DRAM DIMM on an antistatic mat or in an antistatic bag.

Figure 5 Handling a DIMM

- Step 5** Remove the replacement DRAM DIMM from the antistatic package.
- Step 6** Holding the DIMM between your thumbs and forefingers, with the connector edge (the metal fingers) down, carefully slide the DIMM into the socket. Make sure that you fully insert the connector edge of the DIMM into the socket connector.



Note A notch (key) is located on the left connector edge of the DIMM. This notch key ensures that the DIMM is correctly oriented in the socket.



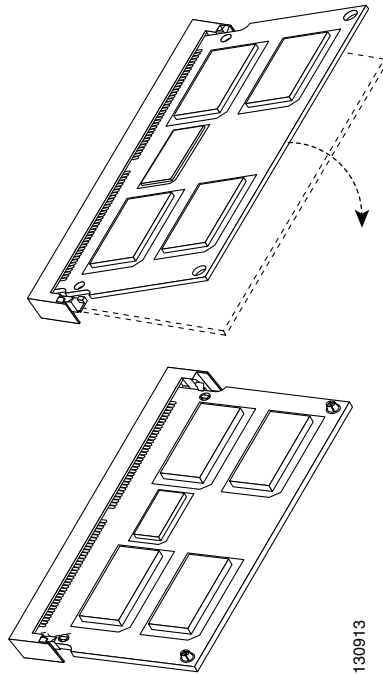
Caution

When inserting the DIMM, use firm but not excessive pressure. If you damage a socket, you will have to return the supervisor engine to Cisco for repair.

Step 7

Press down on the edges of the DIMM until the DIMM clicks into place (see [Figure 6](#)).

Figure 6 *Installing the DIMM in the Socket*



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Installing the Supervisor Engine 32

**Warning**

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself. Statement 94

To reinstall the Supervisor Engine 32 in the chassis, follow these steps:

- Step 1** Attach an ESD grounding strap to your wrist and to ground. (If you are unsure about the correct way to attach an ESD grounding strap, refer to the [“Attaching Your ESD Grounding Strap”](#) section on page 19 for instructions.)
- Step 2** Verify that the captive installation screws are tightened on all supervisor engines installed in the chassis. This action assures that the EMI gaskets on all supervisor engines are fully compressed in order to maximize the opening space for the removed supervisor engine.

**Note**

If the captive installation screws are loose, the EMI gaskets on the installed modules will push adjacent modules toward the open slot, reducing the opening size and making it difficult to install the removed supervisor engine.

- Step 3** Fully open both ejector levers on the supervisor engine being installed.

- Step 4** Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following two sets of steps:

Horizontal slots

- a. Position the supervisor engine in the slot. (See [Figure 7.](#)) Make sure that you align the sides of the module carrier with the slot guides on each side of the slot.
- b. Carefully slide the supervisor engine into the slot until the EMI gasket along the top edge of the module makes contact with the module in the slot above it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See [Figure 8.](#))
- c. Using the thumb and forefinger of each hand, grasp the two ejector levers and press down to create a small 0.040 inch (1 mm) gap between the supervisor engine's EMI gasket and the module above it. (See [Figure 8.](#))



Note Do not press down too forcefully on the levers because they will bend and be damaged.

- d. While pressing down, simultaneously close the left and right ejector levers to fully seat the supervisor engine in the backplane connector. The ejector levers are fully closed when they are flush with the module faceplate. (See [Figure 8.](#))



Note Failure to fully seat the module in the backplane connector can result in error messages.

- e. Tighten the two captive installation screws on the supervisor engine.



Note Make sure that the ejector levers are fully closed before tightening the captive installation screws.

- f. If the chassis is powered down, power-up the chassis.

Verify that the STATUS LED is lit. Periodically check the STATUS LED. If the STATUS LED changes from orange to green, the supervisor engine has successfully completed the boot process and is now online. If the STATUS LED remains orange or turns red, the supervisor engine has not successfully completed the boot process and may have encountered an error.

Figure 7 Positioning the Module in a Horizontal Slot Chassis

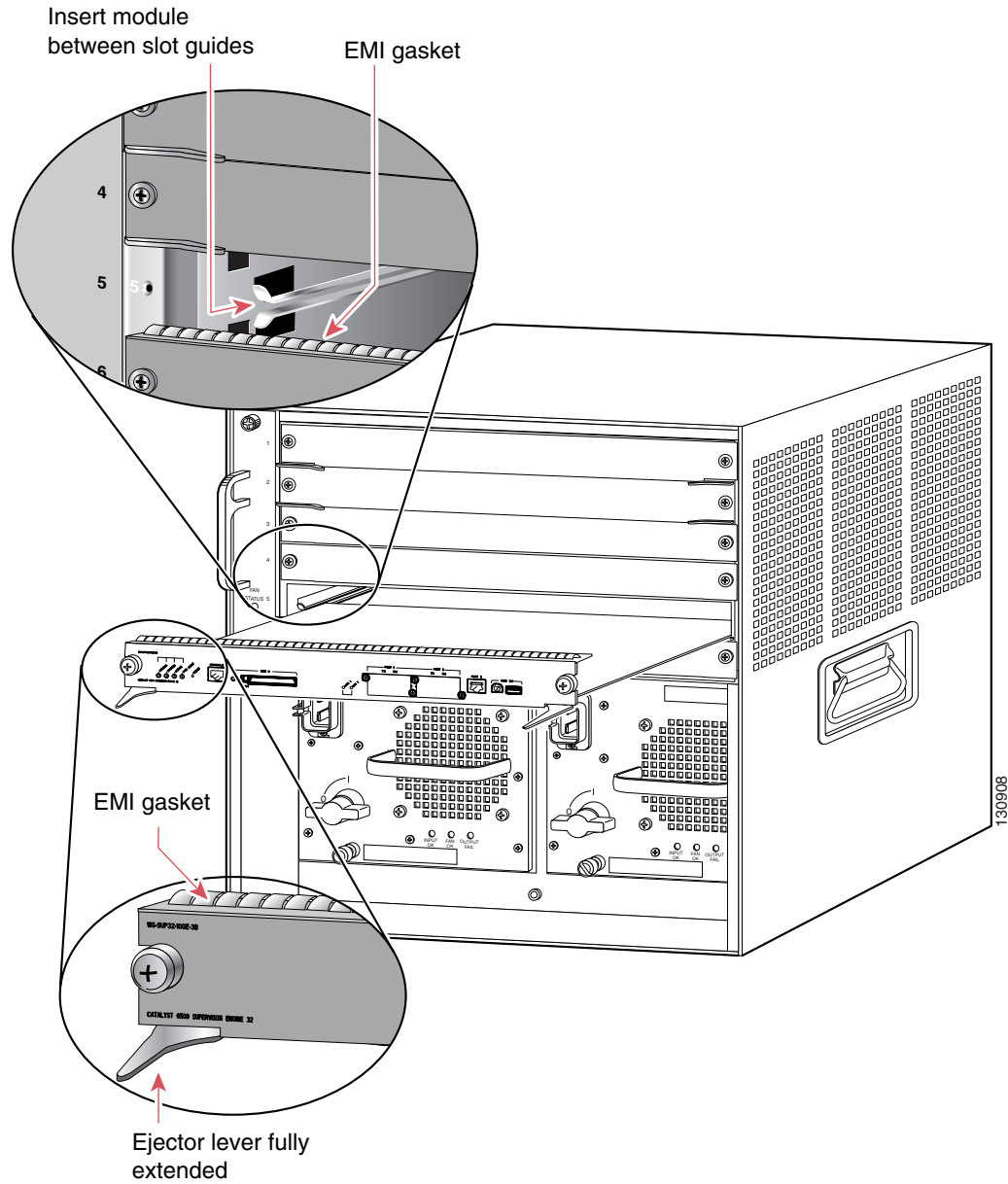
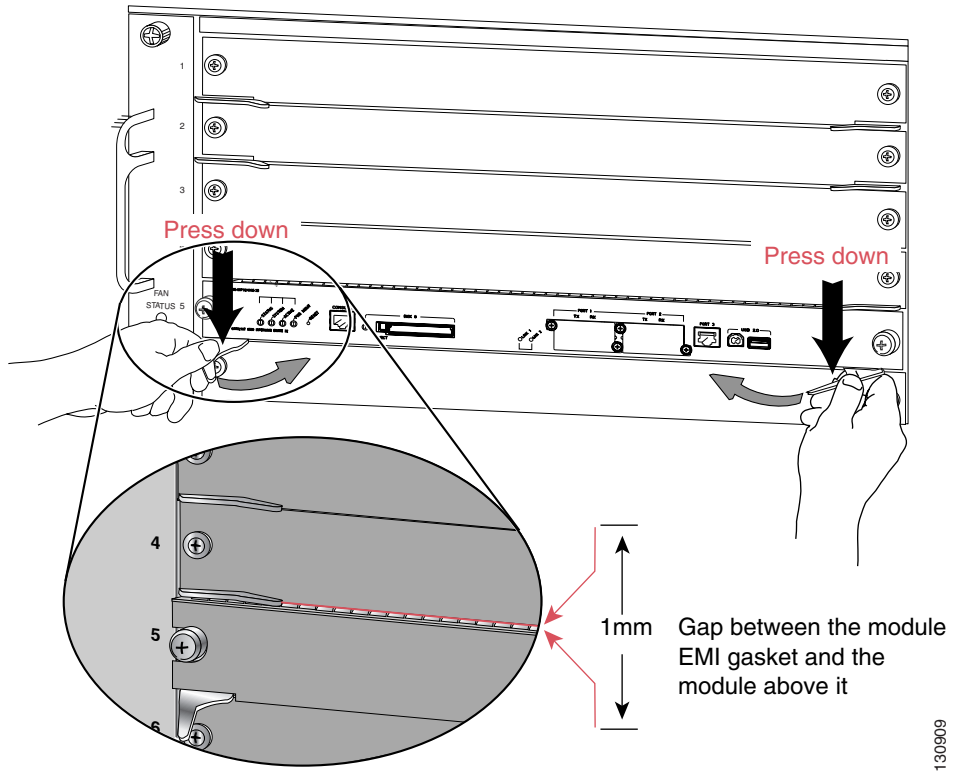


Figure 8 Clearing the EMI Gasket in a Horizontal Slot Chassis



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Vertical slots

- Position the supervisor engine in the slot. (See [Figure 9](#).) Make sure that you align the sides of the module carrier with the slot guides on the top and bottom of the slot.
- Carefully slide the supervisor engine into the slot until the EMI gasket along the right edge of the module makes contact with the module in the slot adjacent to it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See [Figure 10](#).)

Figure 9 Positioning the Module in a Vertical Slot Chassis

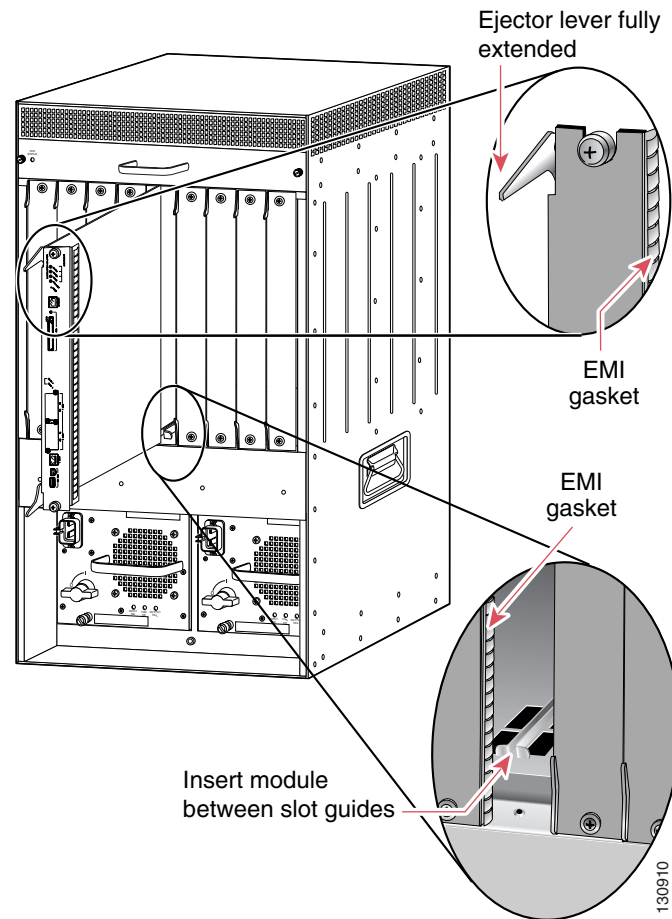
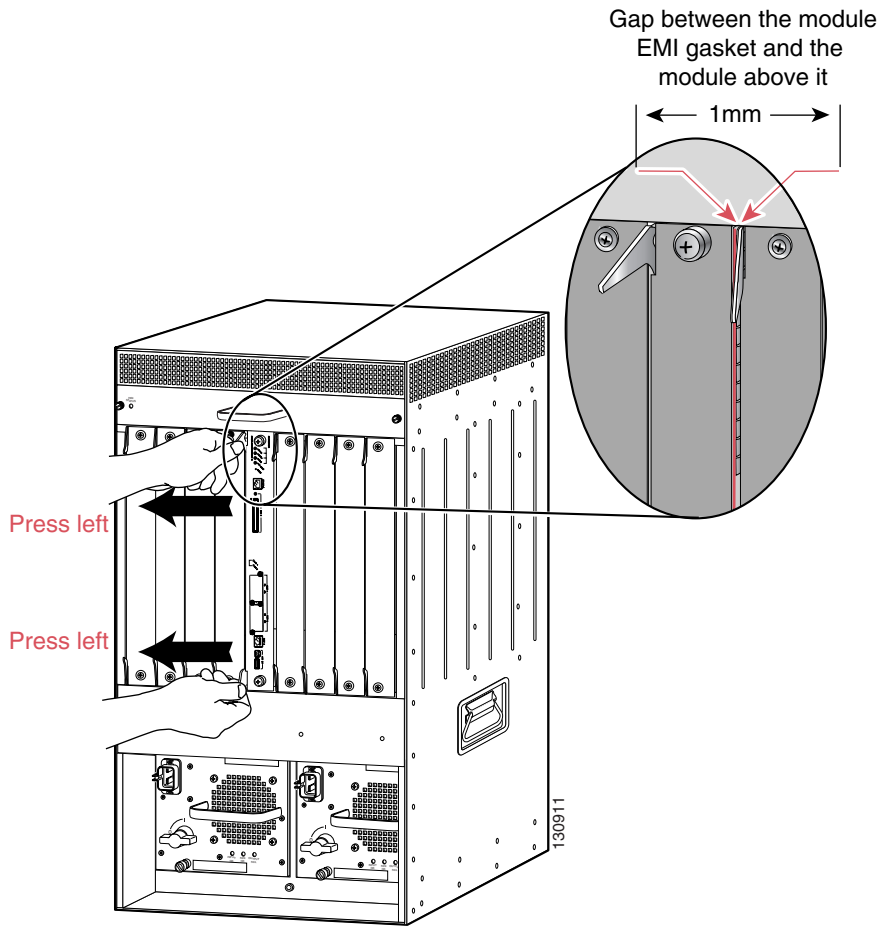


Figure 10 Clearing the EMI Gasket in a Vertical Slot Chassis



- c. Using the thumb and forefinger of each hand, grasp the two ejector levers and exert a slight pressure to the left, deflecting it approximately 0.040 inches (1 mm) creating a small gap between the supervisor engine's EMI gasket and the module adjacent to it. (See [Figure 10](#).)



Note Do not exert too much pressure on the ejector levers because they will bend and be damaged.

- d. While pressing down on the ejector levers, simultaneously close the levers to fully seat the supervisor engine in the backplane connector. The ejector levers are fully closed when they are flush with the supervisor engine faceplate.

- e. Tighten the two captive installation screws on the supervisor engine.



Note Make sure that the ejector levers are fully closed before tightening the captive installation screws.

- f. If the chassis is powered down, power-up the chassis.
 - g. Verify that the STATUS LED is lit. Periodically check the STATUS LED. If the STATUS LED changes from orange to green, the supervisor engine has successfully completed the boot process and is now online. If the STATUS LED remains orange or turns red, the supervisor engine has not successfully completed the boot process and may have encountered an error.
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Attaching Your ESD Grounding Strap

Electrostatic discharge (ESD) damage, which can occur when modules or other FRUs are improperly handled, results in intermittent or complete failures. Modules consist of printed circuit boards that are fixed in metal carriers. Electromagnetic interference (EMI) shielding and connectors are integral components of the carrier. Although the metal carrier helps to protect the board from ESD, always use an ESD grounding strap when handling modules.

Follow these guidelines for preventing ESD damage:

- Always use an ESD wrist strap and ensure that it makes maximum contact with bare skin. ESD grounding straps are available with banana plugs, metal spring clips, or alligator clips. All Catalyst 6500 series chassis and Cisco 7600 series routers are equipped with a banana plug connector (identified by the ground symbol next to the connector) somewhere on the front panel. If you have an older chassis equipped with a plastic banana plug connector, we recommend that you use either the supplied ESD grounding wrist strap (with a metal clip) or an ESD grounding wrist strap equipped with an alligator clip. If you have a newer chassis that has a bare metal hole as the banana plug connector (also identified by the ground symbol next to the connector), we recommend that you use a personal ESD grounding strap equipped with a banana plug.
- If you choose to use the disposable ESD wrist strap supplied with most FRUs or an ESD wrist strap equipped with an alligator clip, you must attach the system ground lug to the chassis in order to provide a proper grounding point for the ESD wrist strap.



Note This system ground is also referred to as the network equipment building system (NEBS) ground.

- If your chassis does not have the system ground attached, you must install the system ground lug. Refer to the your chassis installation documentation for the procedure.



Note You do not need to attach a supplemental system ground wire to the system ground lug; the lug provides a direct path to the bare metal of the chassis

After you install the system ground lug, follow these steps to correctly attach the ESD wrist strap:

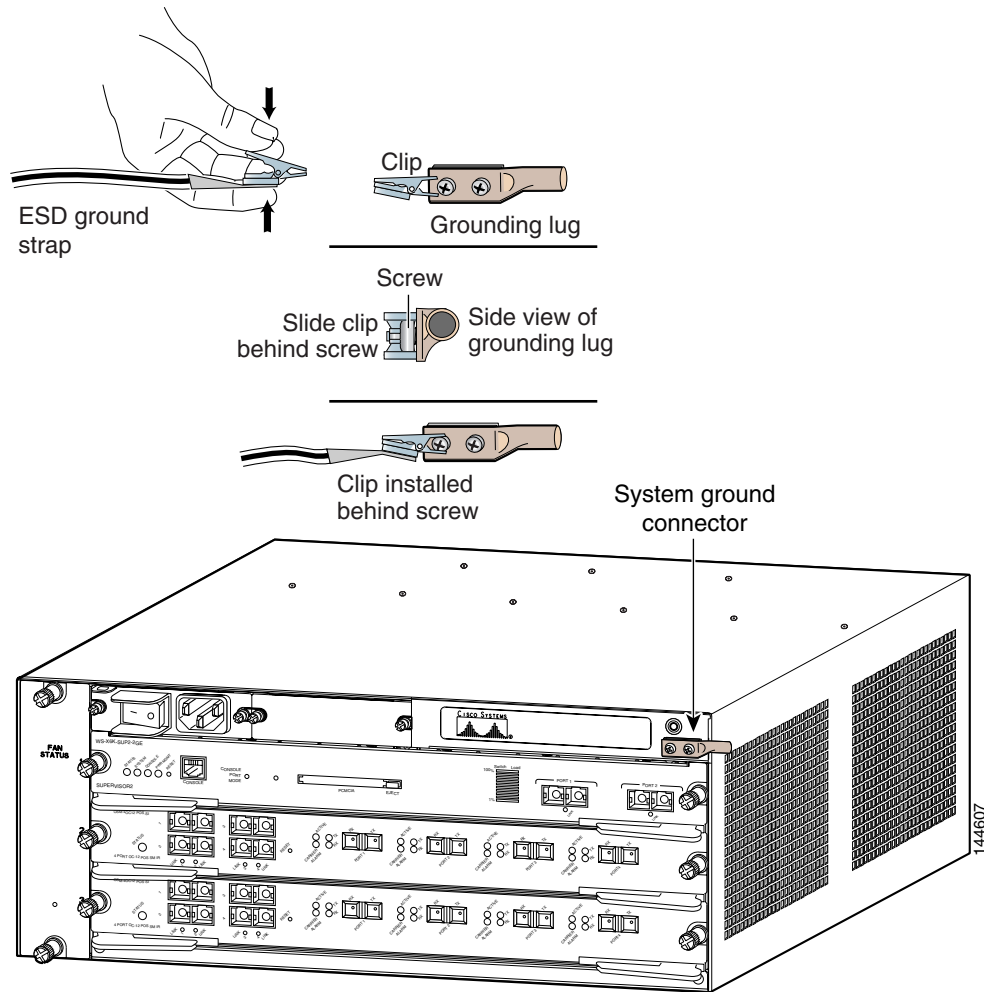
-
- Step 1** Attach the ESD wrist strap to bare skin as follows:
- a. If you are using the ESD wrist strap supplied with the FRUs, open the wrist strap package and unwrap the ESD wrist strap. Place the black conductive loop over your wrist and tighten the strap so that it makes good contact with your bare skin.
 - b. If you are using an ESD wrist strap equipped with an alligator clip, open the package and remove the ESD wrist strap. Locate the end of the wrist strap that attaches to your body and secure it to your bare skin.
- Step 2** Grasp the spring or alligator clip on the ESD wrist strap and momentarily touch the clip to a bare metal spot (unpainted surface) on the rack. We recommend that you touch the clip to an unpainted rack rail so that any built-up static charge is then safely dissipated to the entire rack.
- Step 3** Attach either the spring clip or the alligator clip to the ground lug screw as follows (See [Figure 11](#)):
- a. If you are using the ESD wrist strap that is supplied with the FRUs, squeeze the spring clip jaws open, position the spring clip to one side of the system ground lug screw head, and slide the spring clip over the lug screw head so that the spring clip jaws close behind the lug screw head.



Note The spring clip jaws do not open wide enough to fit directly over the head of the lug screw or the lug barrel.

- b. If you are using an ESD wrist strap that is equipped with an alligator clip, attach the alligator clip directly over the head of the system ground lug screw or to the system ground lug barrel.

Figure 11 Attaching the ESD Wrist Strap Clip to the System Ground Lug Screw



In addition, follow these guidelines when handling modules:

- Handle carriers by available handles or edges only; avoid touching the printed circuit boards or connectors.
- Place a removed component board-side-up on an antistatic surface or in a static shielding container. If you plan to return the component to the factory, immediately place it in a static shielding container.
- Never attempt to remove the printed circuit board from the metal carrier.



Caution

For safety, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohm (Mohm).

Translated Safety Warnings

This section repeats in multiple languages the basic warnings that appear in this publication.

Statement 1030—Equipment Installation



Warning

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

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door bevoegd geschoold personeel.

Varoitus

Tämän laitteen saa asentaa, vaihtaa tai huoltaa ainoastaan koulutettu ja laitteen tunteva henkilökunta.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

Avvertenza

Questo apparato può essere installato, sostituito o mantenuto unicamente da un personale competente.

Advarsel

Bare opplært og kvalifisert personell skal foreta installasjoner, utskiftninger eller service på dette utstyret.

Aviso

Apenas pessoal treinado e qualificado deve ser autorizado a instalar, substituir ou fazer a revisão deste equipamento.

¡Advertencia!

Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.

Varning!

Endast utbildad och kvalificerad personal bör få tillåtelse att installera, byta ut eller reparera denna utrustning.

A berendezést csak szakképzett személyek helyezhetik üzembe, cserélhetik és tarthatják karban.

Предупреждение

Установку, замену и обслуживание этого оборудования может осуществлять только специально обученный квалифицированный персонал.

警告

只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告

この装置の設置、交換、保守は、訓練を受けた相応の資格のある人が行ってください。

주의	교육을 받고 자격을 갖춘 사람만 이 장비를 설치, 교체, 또는 서비스를 수행해야 합니다.
Aviso	Somente uma equipe treinada e qualificada tem permissão para instalar, substituir ou dar manutenção a este equipamento.
Advarsel	Kun uddannede personer må installere, udskifte komponenter i eller servicere dette udstyr.
تحذير	يسمح للفنيين المتخصصين فقط بتركيب المعدة أو استبدالها أو إجراء الصيانة عليها.
Upozorenje	Uređaj smije ugrađivati, mijenjati i servisirati samo za to obučeno i osposobljeno servisno osoblje.
Upozornění	Instalaci, výměnu nebo opravu tohoto zařízení smějí provádět pouze proškolené a kvalifikované osoby.
Προειδοποίηση	Η τοποθέτηση, η αντικατάσταση και η συντήρηση του εξοπλισμού επιτρέπεται να γίνονται μόνο από καταρτισμένο προσωπικό με τα κατάλληλα προσόντα.
אזהרה	רק עובדים מיומנים ומוסמכים רשאים להתקין, להחליף, או לטפל בציד זה.
Оромена	Местењето, заменувањето и сервисирањето на оваа опрема треба да му биде дозволено само на обучен и квалификуван персонал.
Ostrzeżenie	Do instalacji, wymiany i serwisowania tych urządzeń mogą być dopuszczone wyłącznie osoby wykwalifikowane i przeszkolone.
Upozornenie	Inštaláciu, výmenu alebo opravu tohto zariadenia smú vykonávať iba vyškolené a kvalifikované osoby.

Statement 1029—Blank Faceplates and Cover Panels



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.

Waarschuwing

Lege vlakplaten en afdekpanelen vervullen drie belangrijke functies: ze voorkomen blootstelling aan gevaarlijke voltages en stroom binnenin het frame, ze bevatten elektromagnetische storing (EMI) hetgeen andere apparaten kan verstoren en ze leiden de stroom van koellucht door het frame. Het systeem niet bedienen tenzij alle kaarten, vlakplaten en afdekkingen aan de voor- en achterkant zich op hun plaats bevinden.

Varoitus

Tyhjillä tasolaikoilla ja suoja-paneeleilla on kolme tärkeää käyttötarkoitusta: Ne suojaavat asennuspohjan sisäisille vaarallisille jännitteille ja sähkövirralle altistumiselta; ne pitävät sisälläan elektromagneettisen häiriön (EMI), joka voi häiritä muita laitteita; ja ne suuntaavat tuuletusilman asennuspohjan läpi. Järjestelmää ei saa käyttää, elleivät kaikki tasolaikat, etukannet ja takakannet ole kunnolla paikoillaan.

Attention

Ne jamais faire fonctionner le système sans que l'intégralité des cartes, des plaques métalliques et des panneaux avant et arrière ne soient fixés à leur emplacement. Ceux-ci remplissent trois fonctions essentielles : ils évitent tout risque de contact avec des tensions et des courants dangereux à l'intérieur du châssis, ils évitent toute diffusion d'interférences électromagnétiques qui pourraient perturber le fonctionnement des autres équipements, et ils canalisent le flux d'air de refroidissement dans le châssis.

Warnung

Blanke Faceplates und Abdeckungen haben drei wichtigen Funktionen: (1) Sie schützen vor gefährlichen Spannungen und Strom innerhalb des Chassis; (2) sie halten elektromagnetische Interferenzen (EMI) zurück, die andere Geräte stören könnten; (3) sie lenken den kühlenden Luftstrom durch das Chassis. Das System darf nur betrieben werden, wenn alle Karten, Faceplates, Vorder- und Rückabdeckungen an Ort und Stelle sind.

Avvertenza

Le piattaforme bianche e i pannelli di protezione hanno tre funzioni importanti: Evitano l'esposizione a voltaggi e correnti elettriche pericolose nello chassis, trattengono le interferenze elettromagnetiche (EMI) che potrebbero scombussolare altri apparati e dirigono il flusso di aria per il raffreddamento attraverso lo chassis. Non mettete in funzione il sistema se le schede, le piattaforme, i pannelli frontali e posteriori non sono in posizione.

Advarsel

Blanke ytterplater og deksler sørger for tre viktige funksjoner: de forhindrer utsettelse for farlig spenning og strøm inni kabinettet; de inneholder elektromagnetisk forstyrrelse (EMI) som kan avbryte annet utstyr, og de dirigerer luftavkjølingsstrømmen gjennom kabinettet. Betjen ikke systemet med mindre alle kort, ytterplater, frontdeksler og bakdeksler sitter på plass.

Aviso

As faces furadas e os painéis de protecção desempenham três importantes funções: previnem contra uma exposição perigosa a voltagens e correntes existentes no interior do chassis; previnem contra interferência electromagnética (EMI) que poderá danificar outro equipamento; e canalizam o fluxo do ar de refrigeração através do chassis. Não deverá operar o sistema sem que todas as placas, faces, protecções anteriores e posteriores estejam nos seus lugares.

- ¡Advertencia!** Las placas frontales y los paneles de relleno cumplen tres funciones importantes: evitan la exposición a niveles peligrosos de voltaje y corriente dentro del chasis; reducen la interferencia electromagnética (EMI) que podría perturbar la operación de otros equipos y dirigen el flujo de aire de enfriamiento a través del chasis. No haga funcionar el sistema a menos que todas las tarjetas, placas frontales, cubiertas frontales y cubiertas traseras estén en su lugar.
- Varning!** Tomma framplattor och skyddspaneler har tre viktiga funktioner: de förhindrar att personer utsätts för farlig spänning och ström som finns inuti chassit; de innehåller elektromagnetisk interferens (EMI) som kan störa annan utrustning; och de styr riktningen på kylflödet genom chassit. Använd inte systemet om inte alla kort, framplattor, fram- och bakskydd är på plats.
- Az előlapok és burkolópanelek három fontos funkciót töltenek be: biztosítják a veszélyes feszültségű és áramerősségű területek érintésvédelmét; elnyelik a más berendezések működésében működési zavarokat okozó elektromágneses interferenciát (EMI); a gépházon belül terelik a hűtőlevegőt. Csak úgy működtesse a rendszert, ha minden kártya, lemez, elülső és hátulsó burkolat a helyén van.**
- Предупреждение** Заглушки передней панели и защитные панели выполняют три важные функции: помогают избежать поражения электротоком высокого напряжения при прикосновении к внутренним элементам, экранируют электромагнитное излучение, которое может нарушить работу другого оборудования, а также направляют охлаждающий воздушный поток внутри корпуса. Не пользуйтесь устройством со снятыми крышками, заглушками, передними и задними защитными панелями.
- 警告** 空白面板和盖板具有三个重要的功能：它们可以防止接触到底盘内危险的电压和电流；它们将可能破坏其它设备的电磁干扰 (EMI) 封闭起来；它们可以使冷气流从底盘通过。请勿在全部卡、面板、前盖和后盖未安装完毕时操作系统。
- 警告** ブランクの前面プレートおよびカバー パネルは、3つの重要な役割を果たします。シャーシ内部の危険な電圧および電流に接触しないように防御の役割を果たします。他の機器に悪影響を与えるEMI(電磁波干渉)を外に出しません。さらに、シャーシ全体に冷却用の空気を流します。カード、前面プレート、前面カバー、および背面カバーがすべて取り付けられてから、システムを稼働させてください。
- 주의** 비어있는 전면케이스 커버와 커버 패널은 다음과 같은 세가지 중요한 역할을 합니다. 새시 내부의 위험한 전압 및 전류에 노출되는 것을 방지, 기타 장비에 영향을 끼칠 수 있는 전자파 간섭(EMI)을 포함, 냉각 공기를 새시로 유입. 모든 카드, 전면케이스 커버, 전면 및 후면 커버가 장착되어 있지 않은 경우, 시스템을 작동하지 마십시오.
- Aviso** Plaquetas vazias e painéis de proteção têm três funções importantes: impedem a exposição a tensões e correntes elétricas perigosas dentro do chassi; apresentam interferência eletromagnética (EMI) que pode danificar outros equipamentos: direcionam o fluxo do ar refrigerado pelo chassi. Não opere o sistema a menos que todas as placas, plaquetas, tampas frontais e tampas traseiras estejam em seu devido lugar.
- Advarsel** Blanke frontplader og sidepaneler tjener tre vigtige formål: de forhindrer udsættelse for farlig spænding og strøm inde i chassiset, de isolerer elektromagnetisk interferens (EMI), der kan forstyrre andet udstyr, og de leder en strøm af kølig luft gennem chassiset. Betjen ikke systemet medmindre alle kort, frontplader, sidepaneler og bagpaneler er på plads.

تحذير	تؤدي كل من الواجهات الفارغة ولوحات التغطية ثلاث وظائف هامة: الحيلولة دون التعرض للجهد الكهربائي الخطير والتيارات الموجودة في الهيكل المعدني، حيث يحتوي كلاً منهما على واجهة كهرومغناطيسية () والتي قد تعيق عمل الأجهزة الأخرى كما يقوم بتوجيه تيار التبريد داخل الهيكل المعدني. لا تحاول تشغيل النظام إلا إذا كانت كافة البطاقات والواجهات والأغطية الأمامية والخلفية موضوعة في مكانها.
Upozorenje	Prazna prednja ploča i pokrovne ploče imaju tri važne funkcije: sprječavaju izlaganje opasnome visokom naponu i struji unutar kućišta, proizvode elektromagnetnu interferenciju koja može ometati rad ostalih uređaja, te usmjeravaju protok rashladnog zraka kroz kućište. Sustav nemojte koristiti ako sve kartice, te prednje, pokrovne i stražnje ploče nisu pravilno ugrađene.
Upozornění	Prázdné líčové desky a krycí panely mají tři důležité funkce: zabraňují odkrytí nebezpečného napětí a proudu uvnitř skříně; obsahují elektromagnetické rušení, které může rušit jiná zařízení; směřují proud chladícího vzduchu skříní. Nepoužívejte systém, pokud nejsou všechny karty, líčové desky, přední kryty a zadní kryty na svém místě.
Προειδοποίηση	Οι κενές προσόψεις και τα κενά πλαίσια καλύμματος χρησιμεύουν για τρεις σημαντικές λειτουργίες: Αποκλείουν την έκθεση σε επικίνδυνες τάσεις και ρεύματα στο εσωτερικό του σασί, περικλείουν τις ηλεκτρομαγνητικές παρεμβολές (EMI) που ενδέχεται να προκαλέσουν προβλήματα σε άλλο εξοπλισμό και κατευθύνουν τη ροή του αέρα ψύξης μέσα στο σασί. Μην θέτετε το σύστημα σε λειτουργία αν δεν βρίσκονται στη θέση τους όλες οι κάρτες, οι μπροστινές πλάκες, οι προσόψεις και οι πλάτες.
אזהרה	לוחות כיסוי ריקים ולוחות כיסוי משמשים לשלוש פונקציות חשובות: הם מונעים חשיפה למתחים ומסוכנים ולזרם בתוך התושבת; הם מכילים הפרעות אלקטרומגנטיות (EMI) העלולות לשבש ציוד אחר; והם מכוונים את זרימת האוויר המצנן דרך התושבת. אל תפעיל את המערכת אלא אם כל הכרטיסים, לוחות הכיסוי, הלוחות הקדמיים והכיסויים האחוריים נמצאים במקומם.
Opomena	Празните предни плочи и плочите за покривање служат за три важни функции: го спречуваат изложувањето на ризични напони и струи во куќиштето; содржат електромагнетни интерференции (EMI) што можат да попречуваат друга опрема; и го насочуваат протокот на воздухот за разладување низ куќиштето. Не работете со системот ако сите картички, предни плочи, предни капаци и задни капаци не се на своите места.
Ostrzeżenie	Zaślepki i panele osłonowe pełnią trzy ważne funkcje: zapobiegają kontaktowi użytkownika z niebezpiecznymi napięciami i prądami występującymi wewnątrz obudowy; pochłaniają zakłócenia elektromagnetyczne, które mogłyby negatywnie wpływać na działanie innych urządzeń; kierują przepływem powietrza chłodzącego wewnątrz obudowy. System można eksploatować wyłącznie wtedy, gdy zamontowane są wszystkie karty, zaślepki oraz przednie i tylne osłony.
Upozornenie	Prázdné líčové dosky a krycie panely majú tri dôležité funkcie: zabraňujú odkrytiu nebezpečného napätia a prúdu vnútri skrine; obsahujú elektromagnetické rušenie, ktoré môže rušiť iné zariadenia; smerujú prúd chladiaceho vzduchu cez skriňu. Nepoužívajte systém, pokiaľ nie sú všetky karty, líčové dosky, predné kryty a zadné kryty na svojom mieste.

Statement 1034—Backplane Voltage



Warning

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

Waarschuwing

Er is gevaarlijke spanning of energie aanwezig op de achterplaat wanneer het systeem bediend wordt. Wees voorzichtig bij het onderhoud.

Varoitus

Kun laite on toiminnassa, taustalevyyn muodostuu vaarallista jännitettä. Ole varovainen huoltaessasi laitetta.

Attention

Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.

Warnung

Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.

Avvertenza

Quando il sistema è in funzione, il pannello posteriore è sotto tensione pericolosa. Prestare attenzione quando si lavora sul sistema.

Advarsel

Farlig spenning er til stede på bakpanelet når systemet kjøres. Utvis forsiktighet under service.

Aviso

Há presença de voltagem perigosa ou de energia na placa traseira quando o sistema está em operação. Tenha cuidado ao fazer a manutenção.

¡Advertencia!

Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.

Varning!

Farlig spänning föreligger på bakplattan när systemet körs. Var försiktig vid service.

A rendszer működése közben veszélyes feszültség vagy energia van jelen a hátlapon. Karbantartás közben óvatosan járjon el!

Предупреждение

При работе оборудования на разъемах задней панели присутствует высокое напряжение. Будьте внимательны при работе с оборудованием.

警告

当系统正在运行时，背板上有很危险的电压或能量。进行维修时务必小心。

警告

システムの稼働中は、バックプレーンに危険な電圧またはエネルギーがかかっています。保守作業を行うときは注意してください。

주의

시스템이 가동 중일 때 뒷면에서 위험한 전압 또는 에너지가 발생합니다. 서비스 수행시 주의하십시오.

Aviso

O sistema em funcionamento emite tensão ou energia elétrica perigosa no painel traseiro. Seja cauteloso ao fazer a manutenção.

Advarsel	Der er farlig spænding og energi på bagpladen når systemet er i brug. Vær forsigtig under servicering.
تحذير	عند تشغيل النظام، يوجد قدر كبير من الجهد الكهربائي الخطير في الجزء الخلفي. كن حريصاً عند إجراء الصيانة.
Upozorenje	Kad sustav radi, na stražnjoj je ploči prisutan opasan visoki napon ili energija. Budite oprezni kod servisiranja.
Upozornění	Při provozu systému je na zadní desce nebezpečné napětí nebo energie. Při opravě dbejte opatrnosti.
Προειδοποίηση	Όταν το σύστημα λειτουργεί, στην πίσω πλάκα συνδέσεων είναι παρούσα επικίνδυνη τάση ή ενέργεια. Να είστε προσεκτικοί κατά τις εργασίες συντήρησης.
אזהרה	מתח מסוכן וחשמל קיימים בלוח האחורי כאשר המערכת פעילה. נקוט זהירות בעת הטיפול.
Opomena	На задната плоча има ризичен напон или енергија кога системот работи. Бидете претпазливи при сервисирањето.
Ostrzeżenie	Podczas pracy systemu na płycie interfejsu magistrali występują niebezpieczne napięcia lub energia elektryczna. Przy wykonywaniu czynności serwisowych należy zachować ostrożność.
Upozornenie	Počas prevádzky systému je na zadnej doske nebezpečné napätie alebo energia. Pri oprave buďte opatrní.

Statement 94—Wrist Strap Warning



Warning

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.

Waarschuwing

Draag tijdens deze procedure aardingspolsbanden om te vermijden dat de kaart beschadigd wordt door elektrostatische ontlading. Raak het achterbord niet rechtstreeks aan met uw hand of met een metalen werktuig, omdat u anders een elektrische schok zou kunnen oplopen.

Varoitus

Käytä tämän toimenpiteen aikana maadoitettuja rannesuojia estääksesi kortin vaurioitumisen sähköstaattisen purkauksen vuoksi. Älä kosketa taustalevyä suoraan kädelläsi tai metallisella työkalulla sähköiskuvaaran takia.

Attention	Lors de cette procédure, toujours porter des bracelets antistatiques pour éviter que des décharges électriques n'endommagent la carte. Pour éviter l'électrocution, ne pas toucher le fond de panier directement avec la main ni avec un outil métallique.
Warnung	Zur Vermeidung einer Beschädigung der Karte durch elektrostatische Entladung während dieses Verfahrens ein Erdungsband am Handgelenk tragen. Bei Berührung der Rückwand mit der Hand oder einem metallenen Werkzeug besteht Elektroschockgefahr.
Avvertenza	Durante questa procedura, indossare bracciali antistatici per evitare danni alla scheda causati da un'eventuale scarica elettrostatica. Non toccare direttamente il pannello delle connessioni, né con le mani né con un qualsiasi utensile metallico, perché esiste il pericolo di folgorazione.
Advarsel	Bruk jordingsarmbånd under prosedyren for å unngå ESD-skader på kortet. Unngå direkte berøring av bakplanet med hånden eller metallverktøy, slik at di ikke får elektrisk støt.
Aviso	Durante este procedimento e para evitar danos ESD causados à placa, use fitas de ligação à terra para os pulsos. Para evitar o risco de choque eléctrico, não toque directamente na parte posterior com a mão ou com qualquer ferramenta metálica.
¡Advertencia!	Usartiras conectadas a tierra en las muñecas durante este procedimiento para evitar daños en la tarjeta causados por descargas electrostáticas. No tocar el plano posterior con las manos ni con ninguna herramienta metálica, ya que podría producir un choque eléctrico.
Varning!	Använd jordade armbandsremmar under denna procedur för att förhindra elektrostatisk skada på kortet. Rör inte vid baksidan med handen eller metallverktyg då detta kan orsaka elektrisk stöt.
	Az elektromos kisülés okozta meghibásodás elkerülése érdekében az eljárás során viseljen földelő csuklópántot. Se kézzel, se fém eszközzel ne érjen hozzá a kártya hátlapjához, mert különben áramütést szenvedhet.
Предупреждение	При выполнении данной процедуры наденьте заземленные браслеты, чтобы избежать повреждения платы электростатическим разрядом. Не дотрагивайтесь до задней панели рукой или металлическим предметом, поскольку это может привести к поражению электрическим током.
警告	在此过程中，请佩戴接地腕带以避免ESD损坏插卡。请勿用手或任何金属工具直接接触后面板，否则您可能受到电击。
警告	この手順を行う際には、ESDによるカードの損傷を防ぐため、静電気防止用リストストラップを着用してください。電気ショックを防ぐために、装置の背面を直接手や金属で触らないようにします。

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