CISCO SYSTEMS

Cisco 8300 Series AON Appliance Hardware Installation Guide

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C O N T E N T S

Preface

This guide describes how to install the Cisco 8300 Series AON Appliance hardware platform.

Audience

This guide is intended primarily for system administrators and other personnel familiar with installing equipment in a data center.

Conventions

This guide uses basic conventions to represent text and table information.

Note Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in the manual.

Caution Means *reader be careful*. You are capable of doing something that might result in equipment damage or loss of data.

Safety Warnings

Safety warnings appear throughout this guide in procedures that, if performed incorrectly, may harm you. A warning symbol precedes each warning statement. To see translations of the warnings that appear in this publication, see the *Regulatory Compliance and Safety Information for the Cisco 8300 Series AON Appliance* document that accompanied your router.

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. 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   **ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ**

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告   重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

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、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

주의 중요 안전 지침

이 경고 기호는 위험을 나타냅니다. 작업자가 신체 부상을 일으킬 수 있는 위험한 환경에 있습니다. 장비에 작업을 수행하기 전에 전기 회로와 관련된 위험을 숙지하고 표준 작업 관례를 숙지하여 사고를 방지하십시오. 각 경고의 마지막 부분에 있는 경고문 번호를 참조하여 이 장치와 함께 제공되는 번역된 안전 경고문에서 해당 번역문을 찾으십시오.

이 지시 사항을 보관하십시오.

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES

Advarsel VIGTIGE SIKKERHEDSANVISNINGER

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemesbeskadigelse. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER

تحذير إرشادات الأمان الهامة

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في أخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز. قم بحفظ هذه الإرشادات

Upozorenje VAŽNE SIGURNOSNE NAPOMENE

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE

Upozornění   **DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY**

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY

Προειδοποίηση   ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθεις πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.

ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ

אזהרה   **הוראות בטיחות חשובות**

סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כד לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה

Opomena   ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА
Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот.
ЧУВАЈТЕ ГИ ОВИЕ НАПАТСТВИЈА

Ostrzeżenie | **WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA**

Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.

NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ

Upozornenie | **DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY**

Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.

USCHOVAJTE SI TENTO NÁVOD

Related Documentation

The following related documentation is available:

- *Cisco Application-Oriented Networking Release Notes*
- *Regulatory Compliance and Safety Information for the Cisco 8300 Series Application-Oriented Networking Appliance*
- *Cisco 8300 Series AON Appliance Rack-Mount Template*
- *Cisco Application-Oriented Networking Installation Guide*
- *Cisco Application-Oriented Networking Administration Guide*
- *Cisco Application-Oriented Networking Development Studio User Guide*
- *Cisco Application-Oriented Networking Programming Guide*

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

http://www.cisco.com/techsupport

You can access the Cisco website at this URL:

http://www.cisco.com

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Product Documentation DVD

Cisco documentation and additional literature are available in the Product Documentation DVD package, which may have shipped with your product. The Product Documentation DVD is updated regularly and may be more current than printed documentation.

The Product Documentation DVD is a comprehensive library of technical product documentation on portable media. The DVD enables you to access multiple versions of hardware and software installation, configuration, and command guides for Cisco products and to view technical documentation in HTML. With the DVD, you have access to the same documentation that is found on the Cisco website without being connected to the Internet. Certain products also have .pdf versions of the documentation available.

The Product Documentation DVD is available as a single unit or as a subscription. Registered Cisco.com users (Cisco direct customers) can order a Product Documentation DVD (product number DOC-DOCDVD=) from Cisco Marketplace at this URL:

http://www.cisco.com/go/marketplace/

Ordering Documentation

Beginning June 30, 2005, registered Cisco.com users may order Cisco documentation at the Product Documentation Store in the Cisco Marketplace at this URL:

http://www.cisco.com/go/marketplace/

Nonregistered Cisco.com users can order technical documentation from 8:00 a.m. to 5:00 p.m. (0800 to 1700) PDT by calling 1 866 463-3487 in the United States and Canada, or elsewhere by calling 011 408 519-5055. You can also order documentation by e-mail at tech-doc-store-mkpl@external.cisco.com or by fax at 1 408 519-5001 in the United States and Canada, or elsewhere at 011 408 519-5001.

Documentation Feedback

You can rate and provide feedback about Cisco technical documents by completing the online feedback form that appears with the technical documents on Cisco.com.

You can send comments about Cisco documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you can perform these tasks:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories and notices for Cisco products is available at this URL:

http://www.cisco.com/go/psirt

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you might have identified a vulnerability in a Cisco product, contact PSIRT:

- Emergencies — security-alert@cisco.com

  An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- Nonemergencies — psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

Tip We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.*x* through 8.*x*.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page

at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

The link on this page has the current PGP key ID in use.

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Cisco Technical Support & Documentation Website

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, at this URL:

http://www.cisco.com/techsupport

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

http://tools.cisco.com/RPF/register/register.do

Note Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

http://www.cisco.com/techsupport/servicerequest

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)
EMEA: +32 2 704 55 55
USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

http://www.cisco.com/techsupport/contacts

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is "down," or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

  http://www.cisco.com/go/marketplace/

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

  http://www.ciscopress.com

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

  http://www.cisco.com/packet

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

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  or view the digital edition at this URL:

  http://ciscoiq.texterity.com/ciscoiq/sample/

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

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- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:

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- Networking Professionals Connection is an interactive website for networking professionals to share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:

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- World-class networking training is available from Cisco. You can view current offerings at this URL:

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Preparing to Install the Appliance

This chapter describes the safety and site preparation consideration with which you should be familiar before you begin to install your Cisco 8300 Series AON Appliance.

This chapter contains the following sections:

Warnings

You should observe the following safety guidelines when working with any equipment that connects to electrical power or other wiring. They can help you avoid injuring yourself or damaging the Cisco 8300 Series AON Appliance.

Warning **Read the installation instructions before connecting the system to the power source.** Statement 1004

Warning **This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.** Statement 1017

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 **This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.** Statement 1024

Warning   **Before working on a chassis or working near power supplies, unplug the power cord on AC units.** Statement 246

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

Warning   **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 120 VAC, 15A (U.S./CAN); 240 VAC, 10A (INTERNATIONAL).** Statement 1005

Warning   **Do not work on the system or connect or disconnect cables during periods of lightning activity.** Statement 1001

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

Warning   **The device is designed to work with TN power systems.** Statement 19

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

Warning   **There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.** Statement 1015

Working with Electricity

Follow these guidelines when working on electrical equipment:

- Locate the emergency power-off switch for the room in which you are working. If an electrical accident occurs, you can act quickly to turn off the system.

- Disconnect all power by powering off the system and unplugging the power cord before:
  - Installing or removing a chassis
  - Working near power supplies

- Do not work alone if potentially hazardous conditions exist.

- Never assume that power is disconnected from a circuit; always check the circuit.

- Look carefully for possible hazards in your work area, such as moist floors, underground power extension cables, frayed power cords, and missing safety grounds.

- If an electrical accident occurs:
  - Use caution: do not become a victim yourself.
  - Power off the system.
  - If possible, send another person to get medical aid. Otherwise, assess the victim's condition, then call for help.
  - Determine if the person needs rescue breathing or external cardiac compressions; then take appropriate action.

- Disconnect all power and external cables before installing or removing a chassis.

- Never install equipment that appears damaged.

- Never install telephone wiring during a lightning storm.

- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

- Always use caution when installing or modifying telephone lines.

- Never perform any action that creates a potential hazard to people or makes the equipment unsafe.

Preventing Damage from Electrostatic Discharge

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD damage occurs when electronic components are handled improperly and can result in complete or intermittent failures.

- Always follow ESD-prevention procedures when removing and replacing components. Verify that the chassis is electrically connected to earth ground. Wear an ESD-preventive wrist strap, making sure that it makes good skin contact. To safely ground EDS voltages, connect the grounding clip to the electro-static discharge connector on the front of the appliance (see the "Identifying External Components and Connectors" section on page 3-2). To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. If no wrist strap is available, ground yourself by touching a metal part of the chassis.

- Periodically check the resistance value of the antistatic strap, which should be between 1 and 10 Mohms.

Preventing EMI

When you run wires for any significant distance in an electromagnetic field, electromagnetic interference (EMI) can occur between the field and the signals on the wires.

Note that:

- Bad plant wiring can result in radio frequency interference (RFI).
- Strong EMI, especially when it is caused by lightning or radio transmitters, can destroy the signal drivers and receivers in the system, and can even create an electrical hazard by conducting power surges through lines and into the system.

To predict and remedy strong EMI, consult RFI experts.

Covering Empty Slots

Ensure that all cards, faceplates, and covers are in place. Blank faceplates and cover panels are used to:

- Prevent exposure to voltages and currents inside the chassis.
- Help contain EMI that might disrupt other equipment.
- Direct the flow of cooling air through the chassis.

Preparing Your Site for Installation

Make sure your site is prepared properly before beginning installation.

Environment

When planning your site layout and equipment locations, keep in mind the precautions described in this section to help avoid equipment failures and reduce the possibility of environmentally caused shutdowns. If you are currently experiencing shutdowns or unusually high errors with your existing equipment, these precautions will help you isolate the cause of failures and prevent future problems.

Use the following precautions when planning the operating environment for your Cisco 8300 Series AON Appliance:

- Always follow the ESD-prevention procedures described in the section "Preventing Damage from Electrostatic Discharge" to avoid damage to equipment. Damage from static discharge can cause immediate or intermittent equipment failure.
- Make sure the chassis cover is secure. The chassis is designed to allow cooling air to flow effectively within it. An open chassis allows air leaks, which could interrupt and redirect the flow of cooling air from internal components.
- Electrical equipment generates heat. Ambient air temperature might not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Make sure that the room in which you operate has adequate air circulation.

Choosing a Site for Installation

⚠ **Warning**   **This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.** Statement 1017

- Choose a site with a dry, clean, well-ventilated and air-conditioned area.
- Choose a site that maintains an ambient temperature of 50 to 95 degrees F (10 to 35 degrees C).

Grounding the System

⚠ **Warning**   **This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.** Statement 1024

Creating a Safe Environment

Follow these guidelines to create a safe operating environment:

- Keep tools and chassis components off the floor and away from foot traffic.
- Clear the area of possible hazards, such as moist floors, ungrounded power extension cables, and missing safety grounds.
- Keep the area around the chassis free from dust and foreign conductive material (such as metal flakes from nearby construction activity).

AC Power

Follow these guidelines when connecting the appliance to AC power.

- The Cisco 8300 Series AON Appliance is designed for connection to TN power systems. A TN power system is a power distribution system with one point connected directly to earth (ground). The exposed conductive parts of the installation are connected to that point by protective earth conductors.
- Ensure that the plug-socket combination is accessible at all times, because it serves as the main disconnecting device.

The Cisco 8300 Series AON Appliance has the following power requirements:

- Universal input: 100-120/200-240 VAC
- Frequency: 50-60HZ
- Maximum power: 1300 watts

⚠ **Warning**   **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 120 VAC, 15A (U.S./CAN); 240 VAC, 10A (INTERNATIONAL).** Statement 1005

Console Cable and Adapter

The EIA/TIA-232 console port on the Cisco 8300 Series AON Appliance is configured as data terminal equipment (DTE) and uses an RJ-45 connector. A console cable kit is provided with your Cisco 8300 Series AON Appliance to connect an ASCII terminal or a PC running terminal emulation software to the console port. The kit contains an RJ-45 to RJ-45 rollover cable and one RJ-45 to DB-9 female DTE adapter.

You can attach the two RJ-45 to DB-9 adapters to the RJ-45 to RJ-45 rollover to create a DB-9 to DB-9 null-modem cable.

The communication parameters are based on 9600-N-8-1.

Table 1-1 lists the pinouts for this configuration.

Table 1-1   Console Cable and Adapters Pinouts

Console Port (RJ-45)	Signal	Terminal (DB-9)
1	RTS	7
2	DTR	4
3	TxD	3
4	GND	5
5	GND	5
6	RxD	2
7	DSR	6
8	CTS	8

Physical Operating Specifications

Table 1-2 lists the physical operating specifications of the Cisco 8300 Series AON Appliance.

Table 1-2   CIsco 8340 Physical Operating Specifications

Size	Heat output:
Size • Rack units: 3U • Height: 5.05 in. (128.35 mm) • Depth: 28.15 in. (715 mm) • Width: 17.32 in. (440 mm) • Weight: approximately 85 lb (38.5 kg) when fully configured, or 70 lb (31.75 kg) minimum **Environment:** • Air temperature: – Server on: 50.0° to 95.0° F (10° to 35° C) Altitude: 6998.0 ft (0 to 2133m) – Server off: 50.0° to 109.4° F (10° to 43° C) Altitude: 6998.0 ft (0 to 2133m) • Humidity: – Server on: 8% to 80% – Server off: 8% to 80%	**Heat output:** Approximate heat output in British thermal units (BTU) per hour: • Minimum configuration: 1364 BTU (400 watts) • Maximum configuration: 5780 BTU (1700 watts) **Electrical input:** • Sine-wave input (50-60 Hz) required. • Input voltage low range: – Minimum: 100 VAC – Maximum: 127 VAC • Input voltage high range: – Minimum: 200 VAC – Maximum: 240 VAC • Input kilovolt-amperes (kVA), approximately: – Minimum: 0.40 kVA – Maximum: 1.6 kVA

Installing the Appliance

This chapter describes how to rack-mount a Cisco 8300 Series AON Appliance. It contains the following sections:

- General Installation Guidelines, page 2-1
- Installing the Appliance in a Rack, page 2-3

General Installation Guidelines

Follow these guidelines when installing and servicing the system.

- Disconnect all power and external cables before installing the system.
- Install the system in compliance with your local and national electrical codes:
  - United States: National Fire Protection Association (NFPA) 70; United States National Electrical Code.
  - Canada: Canadian Electrical Code, Part, I, CSA C22.1.
  - Other countries: If local and national electrical codes are not available, refer to IEC 364, Part 1 through Part 7.
- Do not work alone under potentially hazardous conditions.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.

⚠️

Warning **Before working on a chassis or working near power supplies, unplug the power cord on AC units.** Statement 246

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
- When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
- If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

Ensuring Proper Air Flow

Follow these guidelines to ensure proper air flow:

- Install the system in an open rack whenever possible. If installation in an enclosed rack is unavoidable, ensure that the rack has adequate ventilation.

- Maintain ambient air flow to ensure normal operation. If the air flow is blocked or restricted, or if the intake air is too warm, an overtemperature condition can occur.

- Allow at least 6 inches (15.24 cm) of clearance around the ventilation openings of the chassis.

- Avoid placing the system in an overly congested rack or directly next to another equipment rack. Heat exhaust from other equipment can enter the inlet air vents and cause an overtemperature condition.

- Equipment near the bottom of a rack might generate excessive heat that is drawn upward and into the intake ports of the equipment above. The warm air can cause an overtemperature condition in the equipment above.

- Ensure that cables from other equipment do not obstruct the air flow through the chassis or impair access to the power supplies or cards. Route cables away from field-replaceable components to avoid disconnecting cables unnecessarily for equipment maintenance or upgrades.

Stabilizing the System

Follow these guidelines to stabilize the equipment rack:

- Install any stabilizers that came with your equipment rack before mounting or servicing the system in the rack.

- Load the rack from the bottom to the top, with the heaviest system at the bottom.

- Do not stack the system on top of any other equipment. If the system falls, it can cause severe bodily injury and damage the equipment.

- If you are using an equipment shelf, ensure that the shelf is constructed to support the weight and dimensions of the chassis.

- If you are using a telco rack, ensure that the weight of the chassis does not make the rack unstable. Secure the telco rack with ceiling brackets if the rack is loaded with heavy equipment.

- Bolt the rack to the floor for stability.

Lifting the System

Follow these guidelines when lifting the system:

- Two people are required to safely lift the system.

- Disconnect all power and external cables before lifting the system.

- Ensure that your footing is solid and the weight of the system is evenly distributed between your feet.

- Lift the system slowly, keeping your back straight. Lift with your legs, not with your back. Bend at the knees, not at the waist.

- Do not remove the blue handles until the system has been installed in a rack. Retain the blue handles for future use.

Installing the Appliance in a Rack

Review the documentation that comes with your rack cabinet for safety and cabling information. When installing your system in a rack, consider the following:

- Two or more people are required to install the device in a rack cabinet.

- Ensure that the room air temperature is below 95°F (35°C).

- Do not block any air vents; usually 6 inches (15 cm) of space provides proper air flow.

- Do not leave open spaces above or below an installed appliance in your rack cabinet.

- To help prevent damage to appliance components, always install a blank filler panel to cover the open space and to help ensure proper air circulation.

- Install your appliance only in a rack cabinet with perforated doors.

- Plan the device installation starting from the bottom of the rack cabinet.

- Install the heaviest device in the bottom of the rack cabinet.

- Do not extend more than one device out of the rack cabinet at the same time.

- Remove the rack doors and side panels to provide easier access during installation.

- Connect the appliance to a properly grounded outlet.

- Do not overload the power outlet when installing multiple devices in the rack cabinet.

- Install your appliance in a rack that meets the following requirements:

  - Minimum depth of 2.76 inches (70 mm) between the front mounting flange and inside of the front door.

  - Minimum depth of 6.18 inches (157 mm) between the rear mounting flange and inside of the rear door.

  - Minimum depth of 28.27 inches (718 mm) and maximum depth of 30 inches (762 mm) between the front and rear mounting flanges to support the use of the cable-management arm.

Rack-Mounting the Appliance

To rack-mount a Cisco 8300 Series AON Appliance, perform the following steps:

Step 1   Use Figure 2-1 or the separate template that comes with the appliance to determine the appropriate rack-mounting holes for installing the slide rails.

*Figure 2-1*   *Determining Appropriate Rack-Mounting Holes*
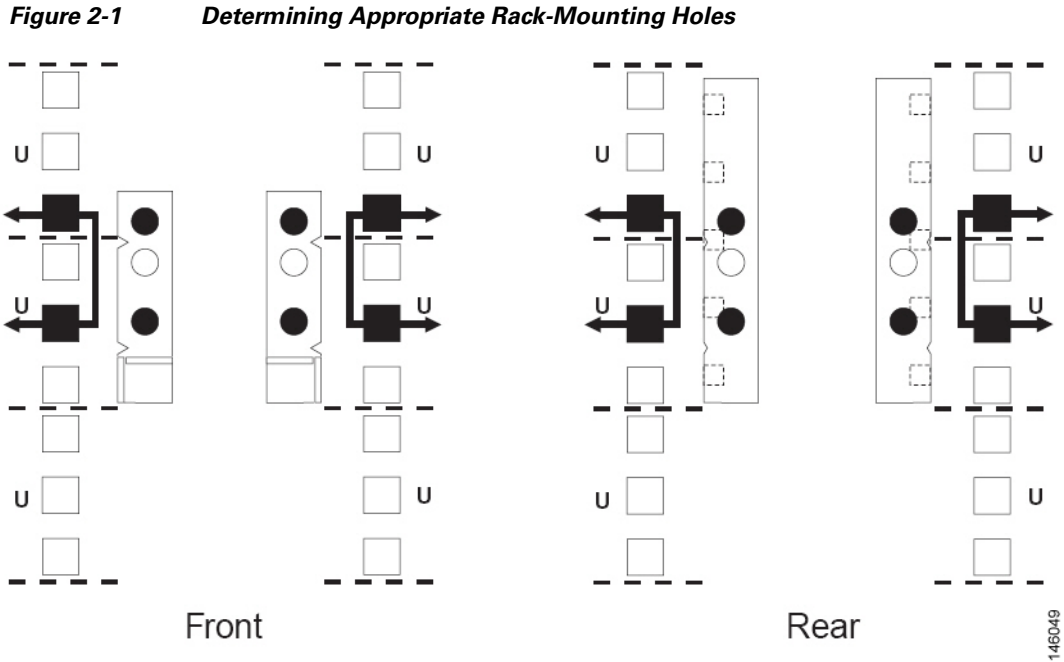
Step 2   Push outward on the slide-rail latch (Figure 2-2, Callout 1), then pull the latch back to open the slide rail. The latch will catch to stay open. Open the other end of the slide rail, then do the same for the other slide rail.

Note   If you are installing the appliance in the top of the rack or directly under another appliance or device, remove the cable-management-arm bracket from the cable-management assembly and install the cable-management-arm bracket on the slide rail. Go to Step 7 to install the cable-management-arm bracket, then continue with Step 3.

Figure 2-2   Preparing the Slide Rail for Installation
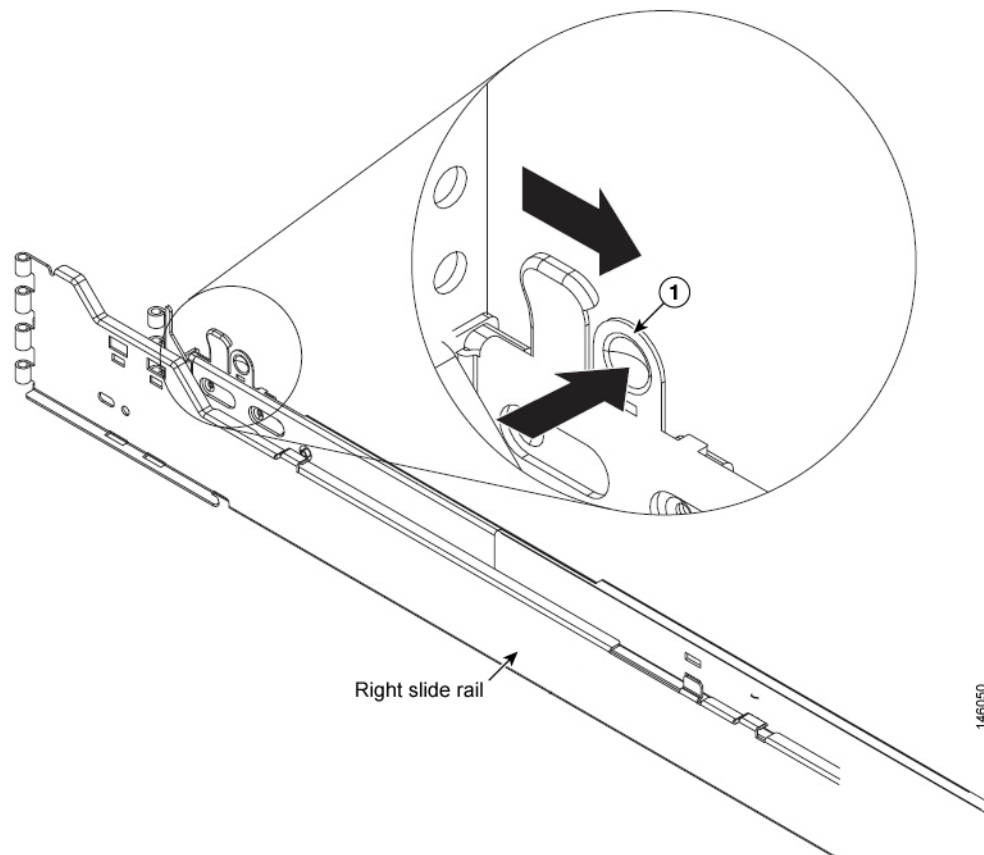
Right slide rail

Step 3   Align the left slide rail with the front mounting flange. Align the score mark (Figure 2-3, Callout 1) with the line between the top two 1-U installation positions. Push outward on the slide-rail latch to close the latch and secure the slide rail. Do the same for the right front slide rail. Align the slide rail with the rear mounting flange. Close the latches to secure the rear of both slide rails.

Make sure that the slide rails are securely seated on the mounting flanges. When secure, the slide rail pins (Figure 2-3, Callout 2) protrude through the mounting flanges and the slide rails.

Figure 2-3   Installing Slide Rails
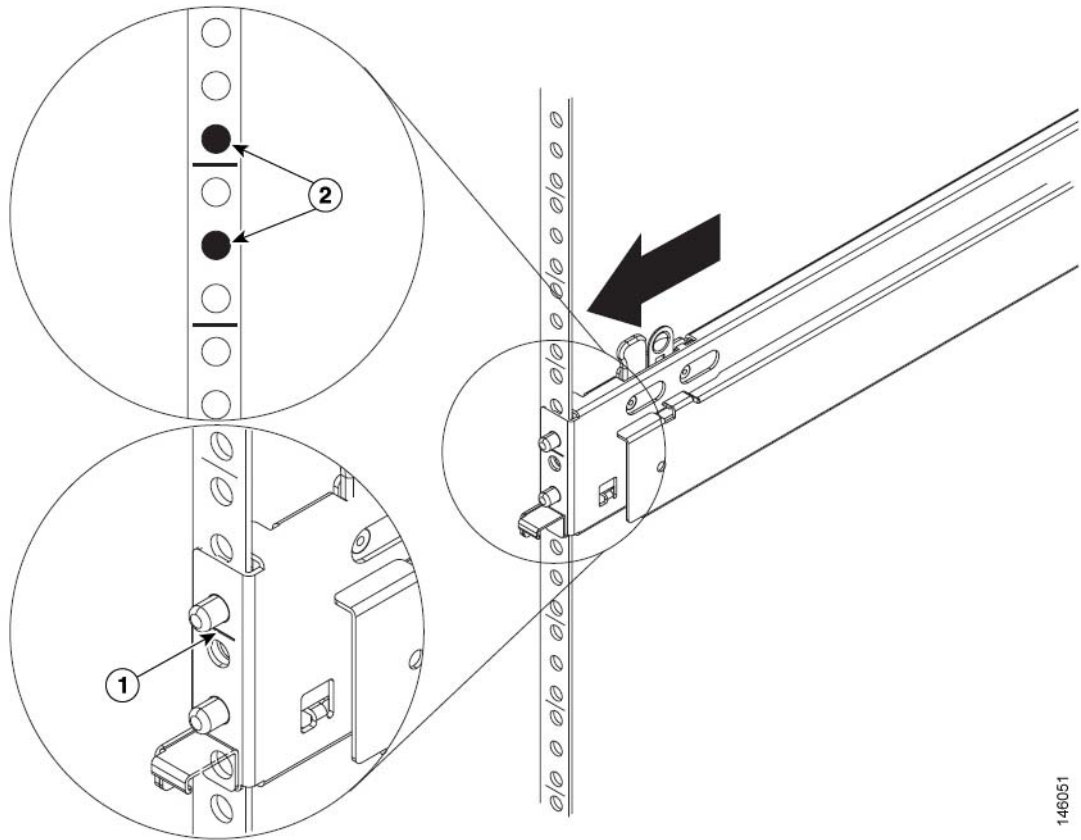
Step 4 Extend the slide rails fully from the rack until the slide rails lock. Align the tabs on the slide rails (Figure 2-4, Callout 1) with the matching inserts on the appliance and lower the appliance onto the slide rails.

Make sure that each slide-rail tab is inserted in the matching insert on the appliance and that the appliance is resting on the top edge of the slide rails.

*Figure 2-4   Positioning Appliance on the Slide Rails*
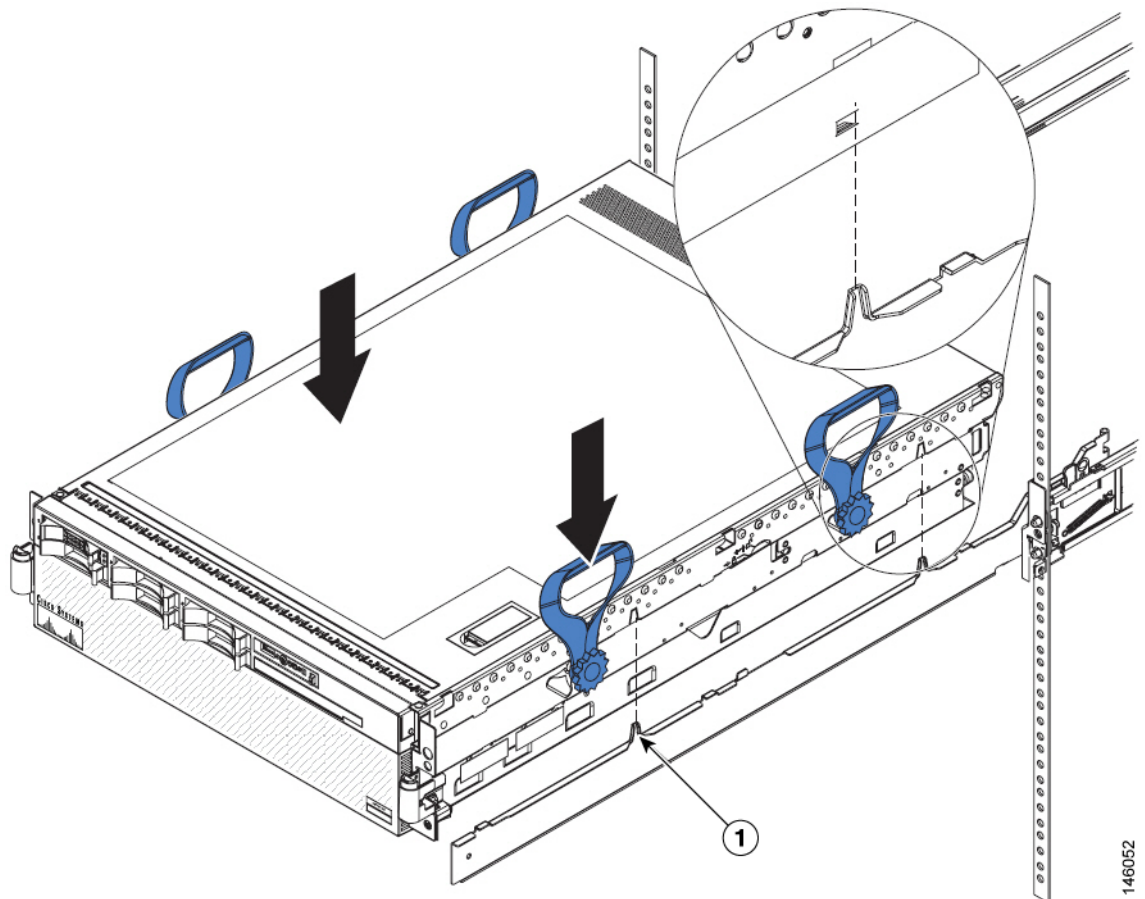
Step 5   Carefully slide the appliance along the slide rails approximately one inch toward the rack to lock the appliance on the slide rails, as shown in Figure 2-5.

✎

Note   When the appliance is locked in position, an indicator (Figure 2-5, Callout 1) is visible on each side of the appliance. Make sure that the appliance is securely attached to the slide rail hooks (Callout 2). To remove the appliance from the rack, lift up on the indicator and slide the appliance forward, then use the handles to lift the appliance out of the rack.

Figure 2-5   Ensuring Appliance Is Securely Attached

Rear view

146053
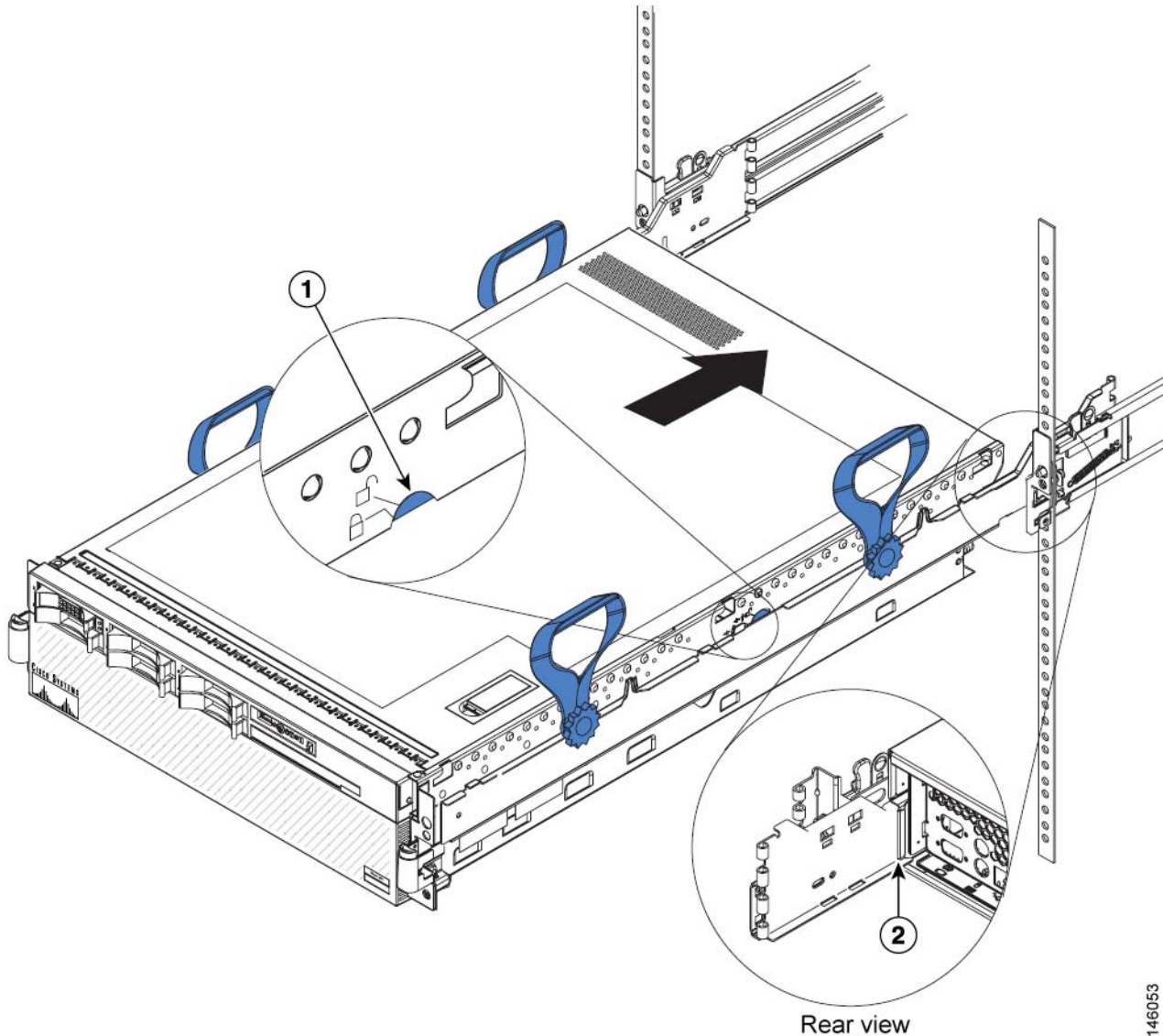
Step 6   Remove the blue handles, then slide the blue latches (Figure 2-6, Callout 1) on the slide rails in either direction and slide the appliance into the rack until it extends approximately 4 inches.

✎
Note   Retain the blue handles for future use in case the appliance needs to be removed from the rack.

*Figure 2-6*   *Removing Handles and Sliding Appliance into Rack*
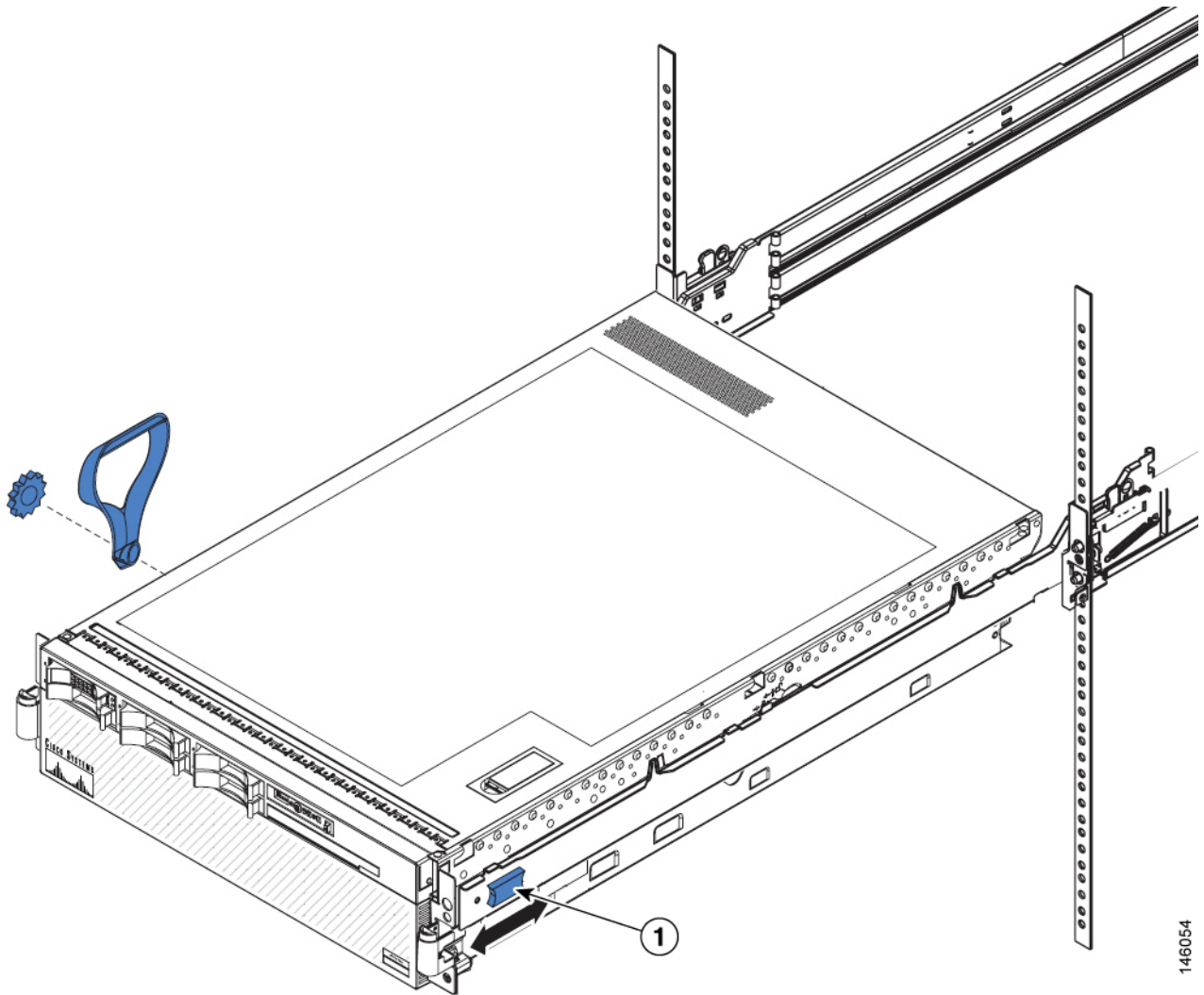
Step 7   Attach the cable-management assembly to the rear of the slide rail using a hinge pin (Figure 2-7, Callout 1). Attach the free end of the cable-management assembly to the slide rail using the second hinge pin (Callout 2).

> ✎
> **Note**   If you installed the cable-management-arm bracket in Step 2, complete the installation of the cable management assembly.

Figure 2-7   ***Attaching Cable Management Assembly***
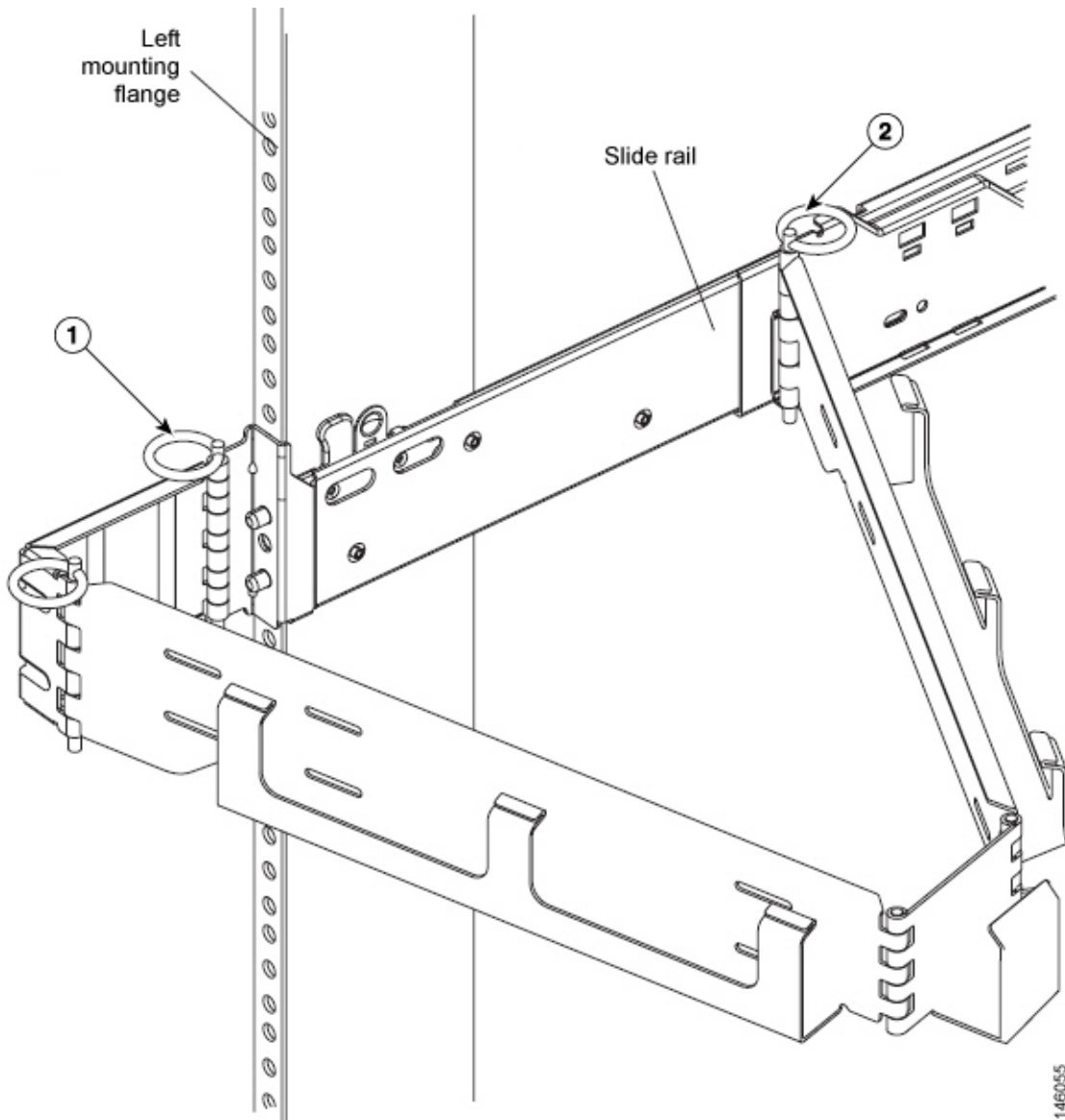
Step 8   Attach the power, data, and serial cables to the rear of the appliance. Secure the cable-restraint bracket (Figure 2-8, Callout 2) to the slide rail. If necessary, see the "Bringing the Appliance Online" section on page 3-1 to identify connectors on the rear panel.

> **Note**   Allow slack in all cables to avoid tension in the cables. Use cable clamps (Figure 2-8, Callout 3) to secure the cables across the rear of the appliance. Attach the thinner cables to the cable-restraint bracket (Callout 2) on the slide rail. Route the cables along the cable-management arm channel, securing them with cable straps (Callout 1).

Figure 2-8   Attaching Cables to the Appliance
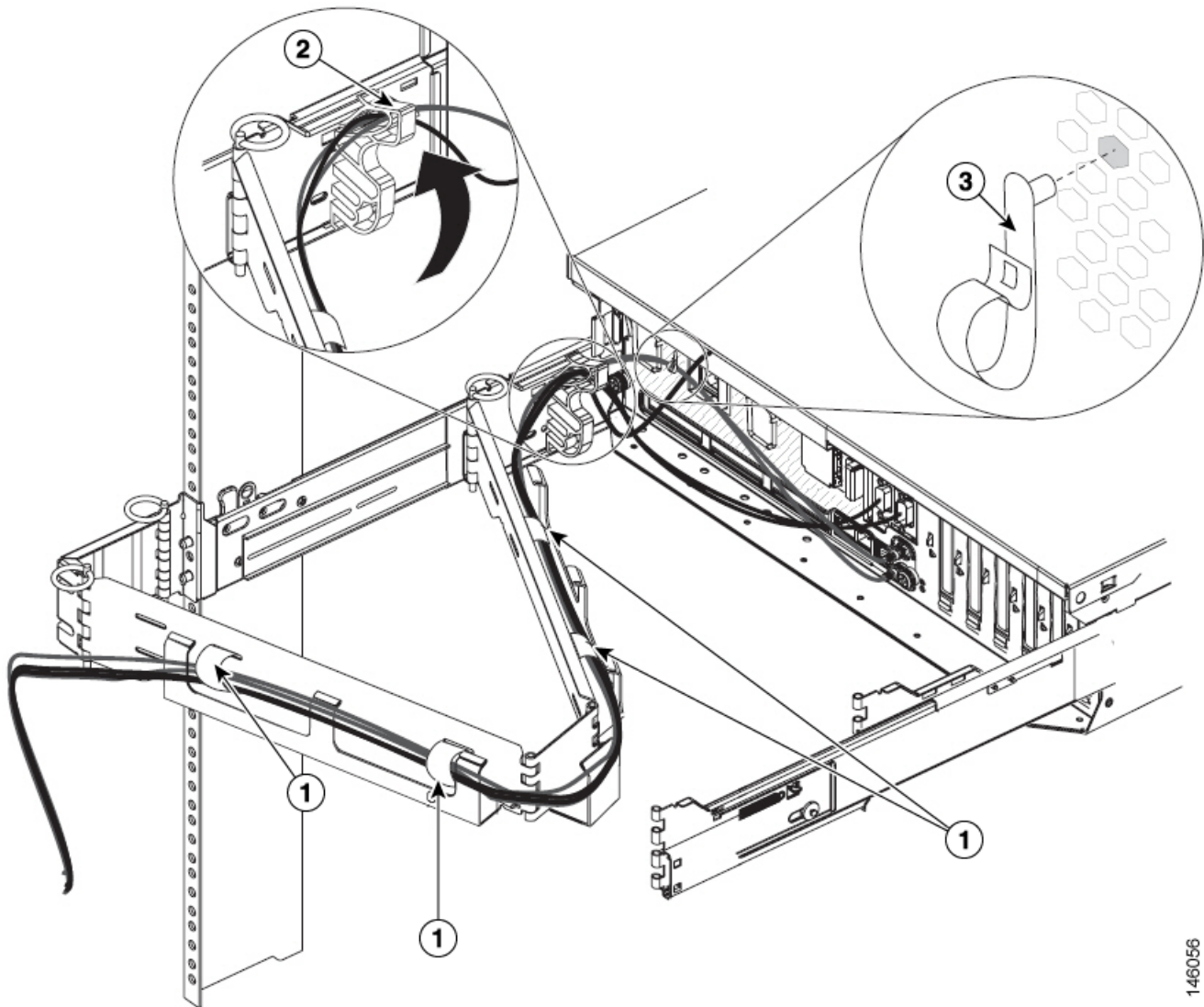
Step 9   Slide the appliance into the rack cabinet until the release latches (Figure 2-9, Callout 1) lock into place. To slide the appliance out of the rack, press on the release latches.

✎

Note   Insert the optional M6 screws (Figure 2-9, Callout 2) in both sides of the front and rear of the appliance when moving the rack cabinet or if you install the rack cabinet in a vibration-prone area.

Figure 2-9   *Sliding Rack into Place and Inserting Optional Screws*

3
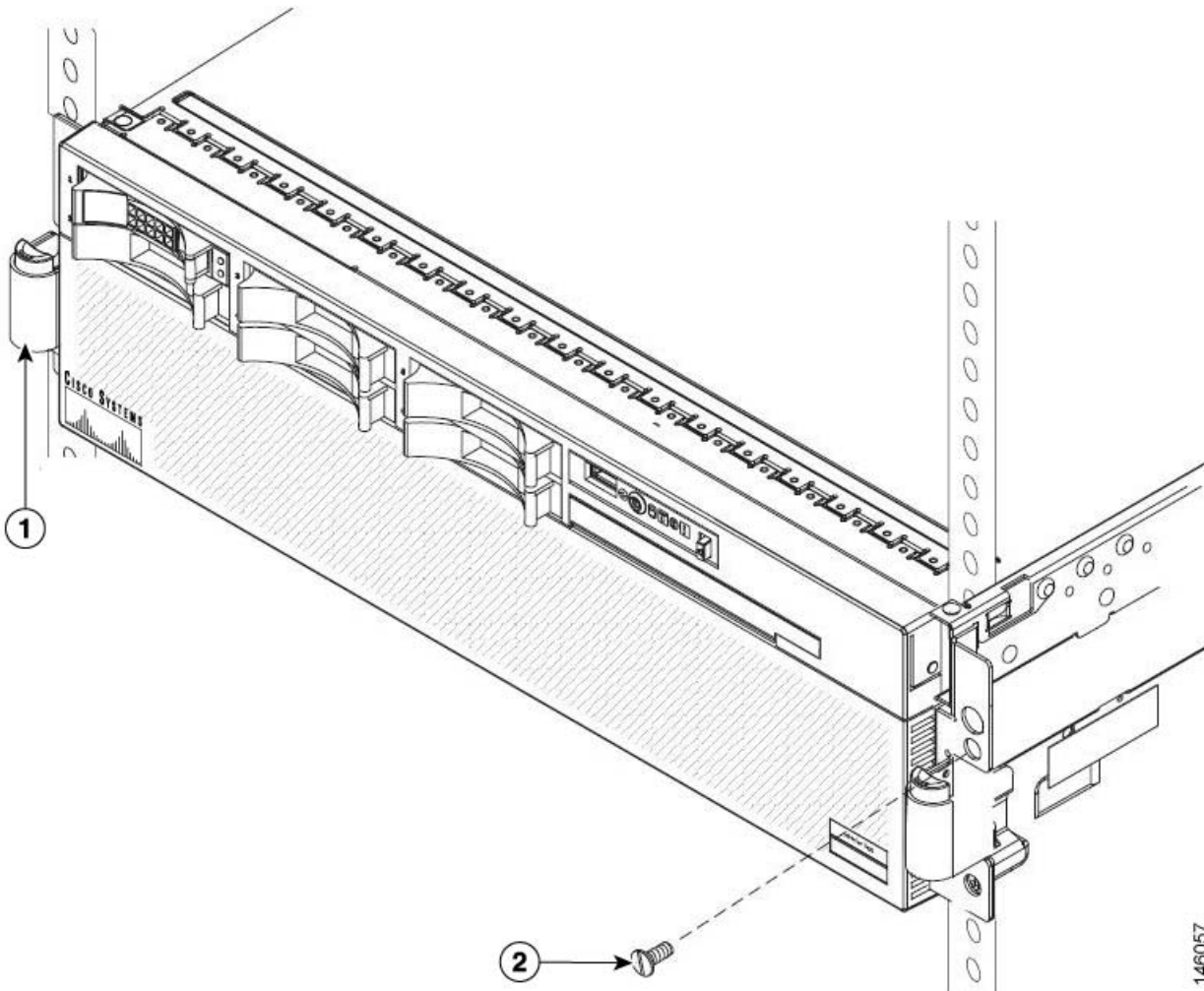
Operating the Appliance

This chapter describes how to identify the components and other hardware features of the Cisco 8300 Series AON Appliance. It also provides information to help you troubleshoot hardware problems. It contains the following sections:

- Bringing the Appliance Online, page 3-1
- Troubleshooting Hardware Problems, page 3-4

Note This chapter covers only hardware-related topics. For pointers to detailed information on configuring software on the Cisco 8300 Series AON Appliance, see the "Related Documentation" section on page xi.

Bringing the Appliance Online

Once you have installed the Cisco 8300 Series AON Appliance in a rack, use the sections that follow to complete the installation and bring the appliance online:

- Identifying External Components and Connectors, page 3-2
- Connecting to AC Power, page 3-3
- Connecting to a Network, page 3-3
- Connecting a Serial Cable, page 3-4
- Where to Go Next, page 3-4

Identifying External Components and Connectors

Figure 3-1 shows the indicators and controls on the front panel of the appliance.

Figure 3-1   Front Panel
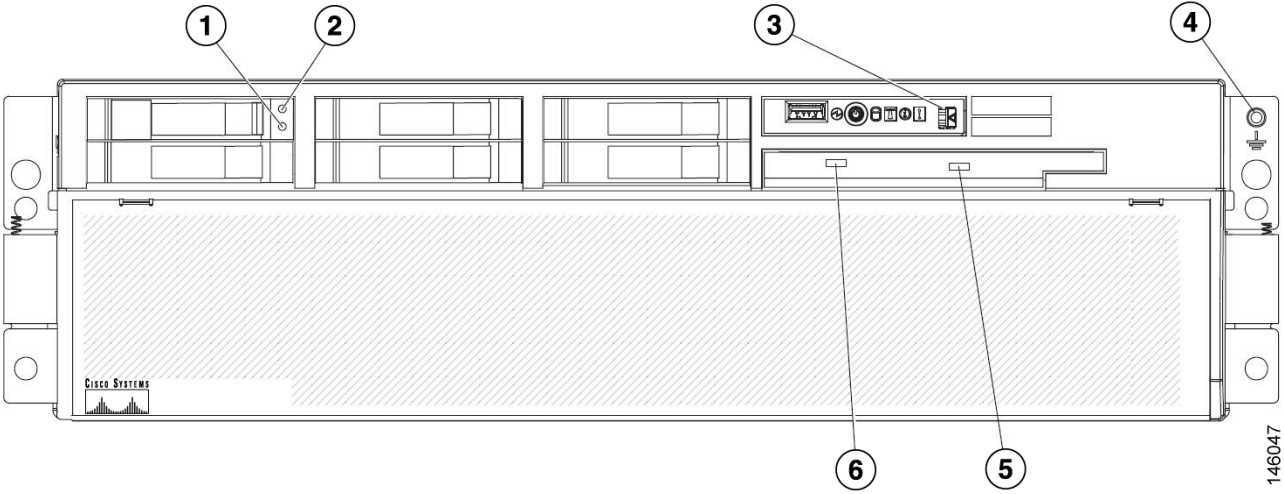
1	Hard disk drive status LED	4	Electrostatic-discharge connector
2	Hard disk drive activity LED	5	DVD drive activity LED
3	Operator information panel and latch for Light Path Diagnostics	6	DVD-eject button

Figure 3-2 shows the indicators on the operator information panel located on the front of the appliance.

Figure 3-2   Operator Information Panel
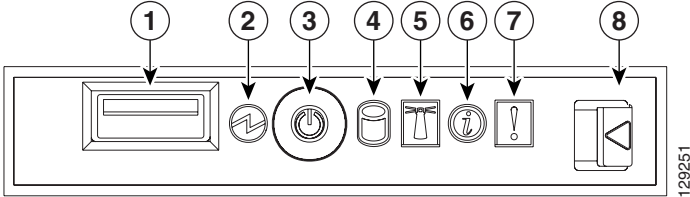
1	USB connector	5	Location LED (blue)
2	Power LED (green)	6	Information LED (amber)
3	Power control button	7	System-error LED (amber)
4	Hard disk drive activity LED (green)	8	Release latch for Light Path Diagnostics

Figure 3-3 shows the I/O and power connectors on the rear panel of the appliance.

Figure 3-3   ***Rear Panel I/O and Power Connectors***
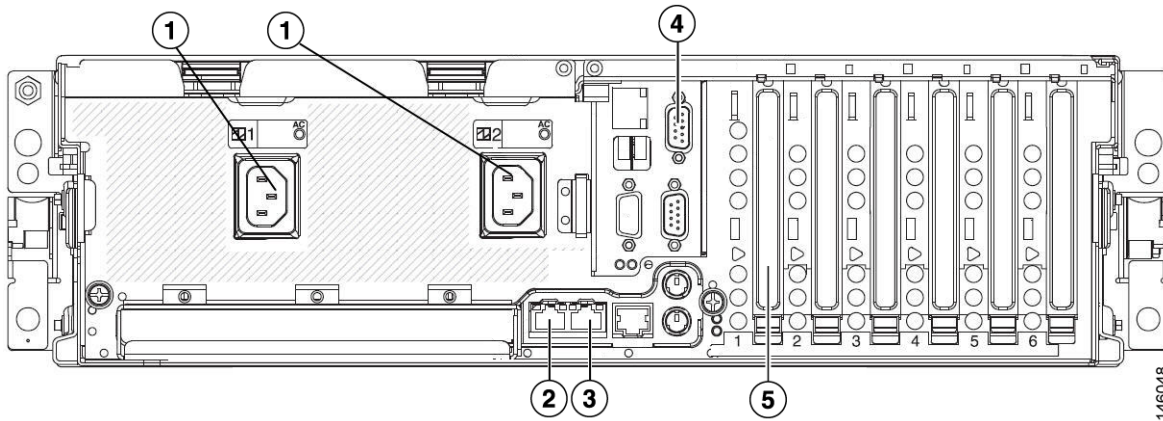
1	Power supplies	**4**	Console serial port
2	Gigabit Ethernet 1	**5**	Gigabit Ethernet 3
3	Gigabit Ethernet 2		

Note   Only the four connectors listed above are used by the Cisco 8300 Series AON Appliance. Do not connect devices to other ports or connectors.

Connecting to AC Power

Connect the each of the appliance's two power supplies to a 15 A, 120 VAC (10 A, 240 VAC) circuit with overcurrent protection.

Warning   **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 15A, 120VAC (10A, 240VAC).** Statement 1005

Connecting to a Network

The Cisco 8300 Series AON Appliance has three Gigabit Ethernet connections. Connect an RJ-45 cable to Gigabit Ethernet 1.

Note   Gigabit Ethernet 1 is the primary interface for network and management traffic. The other Ethernet interfaces are not enabled in some AON software releases. See the *Cisco Application-Oriented Networking Administration Guide* for information related to Ethernet interfaces and your AON software release.

Connecting a Serial Cable

The appliance has a serial console port (RJ-45). Depending on the cable and the adapter used, this port appears as a DTE or DCE device at the end of the cable.

For connection to a PC running terminal emulation software, use the RJ-45 to DB-9 adapter cable that shipped with your appliance. Connect the included serial cable to the appropriate port, as shown in Figure 3-3 on page 3-3. Then configure your terminal application with the following settings:

- 9600 baud
- 8 data bit
- N (no) parity
- 1 stop bit

Note Terminal emulation software must use ANSI display and ANSI keyboard settings to connect to the appliance.

Where to Go Next

See the following documents to complete the configuration of the Cisco 8300 Series AON Appliance:

- *Cisco Application-Oriented Networking Installation Guide*
- *Cisco Application-Oriented Networking Administration Guide*

See the "Obtaining Documentation" section on page xi for information on how to obtain documentation.

Troubleshooting Hardware Problems

Use Light Path Diagnostics to diagnose system errors. The Light Path Diagnostics panel is inside the operator information panel, on the right front of the appliance (see Figure 3-1 on page 3-2). To access the Light Path Diagnostics panel, slide the latch to the left on the front of the Light Path Diagnostics drawer.

Figure 3-4 shows the controls and LEDs on the Light Path Diagnostics panel.

Figure 3-4   **Light Path Diagnostics Panel**
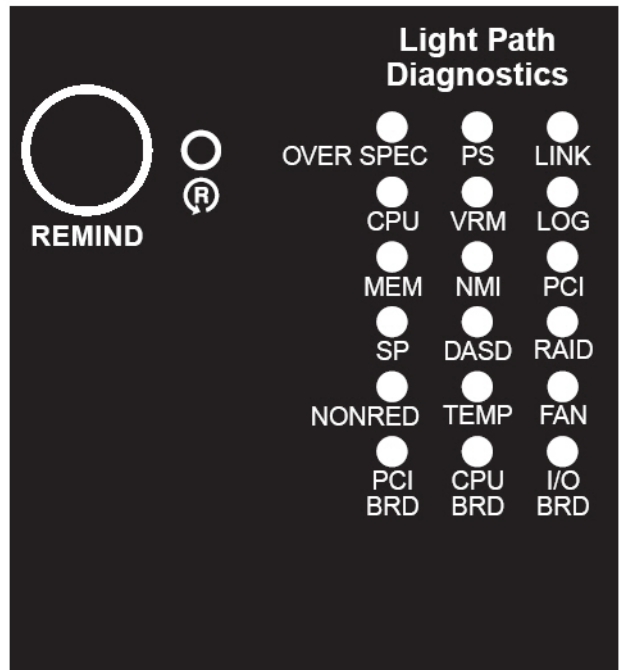
To acknowledge a system error but not take immediate action, press the Remind button and place Light Path Diagnostics in remind mode. When the appliance is in remind mode, the system-error LED on the front of the appliance flashes. If a new failure occurs, the system-error LED is lit again.

Press the Reset button to reset the appliance and run the power-on self-test (POST). You might have to use a pen or the end of a straightened paper clip to press the button.

The appliance is designed so that LEDs remain lit when the appliance is connected to an AC power source but is not turned on, provided that the power supply is operating correctly. This feature helps you to isolate the problem when the operating system is shut down.

Any memory, microprocessor, and VRM LED can be lit again without AC power after you remove the microprocessor tray so that you can isolate a problem. After AC power has been removed from the appliance, power remains available to these LEDs for up to 24 hours.

To view the memory, microprocessor, and VRM LEDs, press and hold the Light Path Diagnostics button on the memory card or microprocessor board to light the error LEDs. The LEDs that were lit while the appliance was running will be lit again while the button is pressed.

Using LEDs to Identify Problems

LEDs in three locations on the appliance are available to help you diagnose problems that might occur during installation and operation of the Cisco 8300 Series AON Appliance. Use them in the following order:

1. **Operator information panel**—Look at this panel first. If an error has occurred, the information LED or the system-error LED is lit.

2. **Light Path Diagnostics panel**—Move the latch on the right front of the operator information panel to access the light path diagnostics panel. Note any LEDs that are lit, and then close the panel. For LED locations, see Figure 3-4 on page 3-5.

3. **LEDs inside the appliance**—To identify the component that is causing the error, note the lit LED beside or on the component.

Note Cisco does not support field replacement of most components. Only hard disk drives can be replaced in the field. Contact your Cisco support representative for other hardware issues.

Table 3-1 describes the LED indicators on the Light Path Diagnostics panel.

Table 3-1   Light Path Diagnostics Panel

Light Path Diagnostics LED	Description
OVERSPEC	There is insufficient power to power the system. NON RED and LOG might also be lit.
PS	A power supply has failed or has been removed. **Note** In redundant power configuration, the AC power LED on one power supply may be off.
LINK	Not used.
CPU	A CPU has failed, is missing, or has been improperly installed. Contact your Cisco support representative.
VRM	A voltage regulator module has failed or is missing.
LOG	Not used.
MEM	A memory module has failed. The error LED on the memory card should also be lit.
NMI	A hardware error has occurred. The PCI or MEM LED may also be lit.
PCI	Not used.
SP	Not used.
DASD	A hard disk has failed or has been removed. The error LED on the failing disk drive is also lit. See the "Replacing Hard Disk Drives" section on page 3-7.
RAID	The RAID adapter (ServeRAID 8i) has indicated a fault.
NONRED	The system is operating without redundant power. If a power supply or its AC power source should fail, the OVERSPEC LED will light.
TEMP	The system or a component has exceeded temperature specifications. The FAN LED might also be lit.
FAN	A fan has failed or has been removed. A failing fan can also cause the TEMP LED to light.
PCI BRD	Not used.
CPU BRD	The microprocessor tray has failed.
I/O BRD	The I/O board has failed.

Replacing Hard Disk Drives

Complete the following steps to replace a hard disk drive:

Step 1   Read the "Warnings" section on page 1-1 to ensure safety and to prevent equipment damage.

Step 2   Remove the defective hard disc drive from its hot-swap bay.

Step 3   Wait at least two minutes to allow time for the existing hard disk drive to spin to a stable state.

Step 4   Make sure that the tray handle on the new drive is open, then install the drive in the hot-swap bay, as shown in Figure 3-5.

Step 5   Repeat steps 2-4 for each additional hard drive that you want to replace.

Figure 3-5   Installing a Hard Disk Drive

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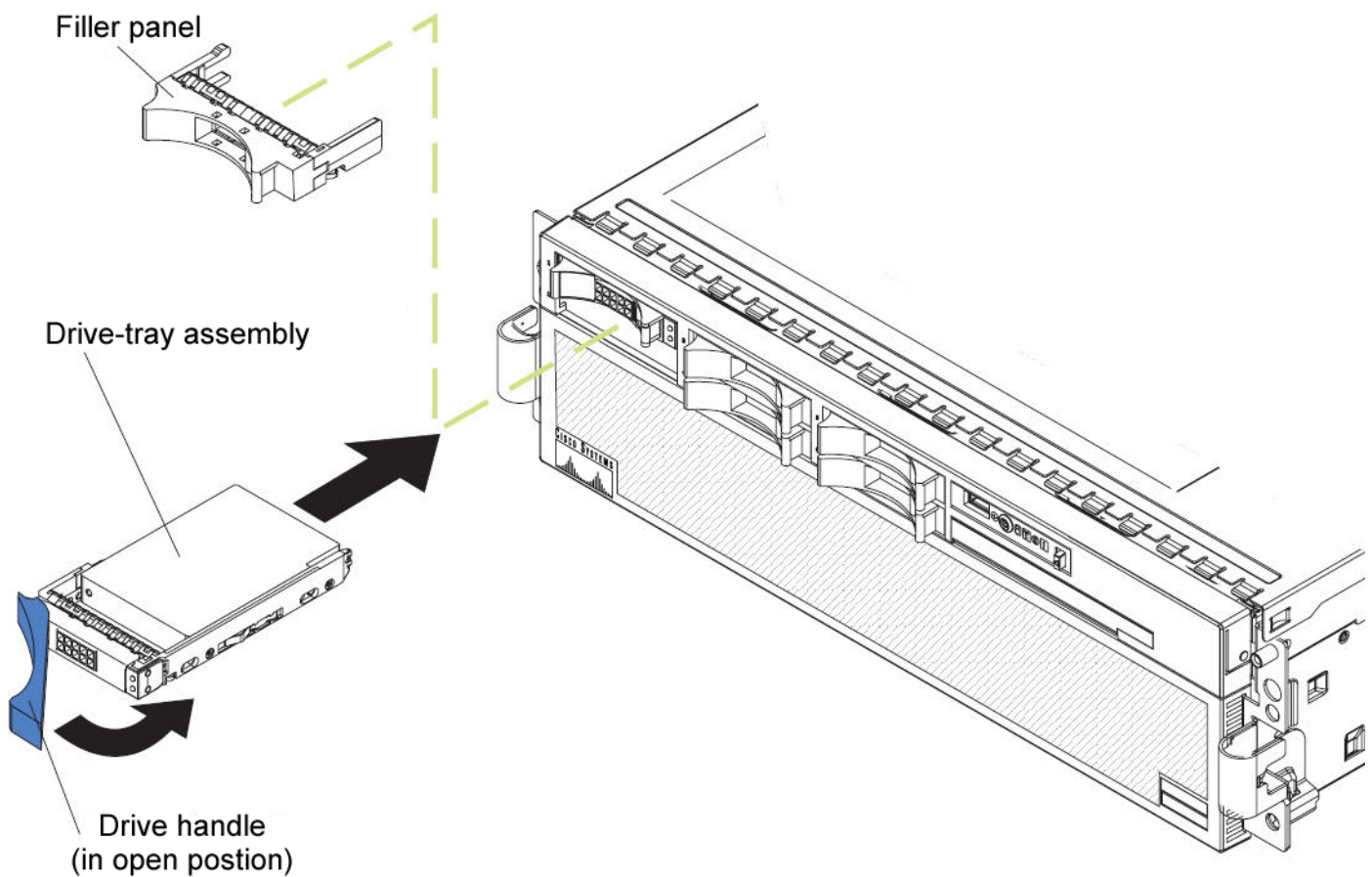
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