



About This Book

This preface describes who should read the *Cisco Content Services Gateway Installation and Configuration Guide*, how it is organized, and its document conventions.

This publication does not contain the instructions to install the Catalyst 6000 series switch or Cisco 7600 series router. For information on installing the switch or router, see the *Installation Guide* that came with your switch or router.



Note

For translations of the warnings in this publication, see the “[Safety Overview](#)” section on page 17.

Document Revision History

The following table lists the major changes made to this document each release, with the most recent changes listed first.

Revision	Date	Change Summary
OL-7283-01	May 16, 2005	Introduced the following features with Cisco IOS 12.2(18)SXE [3.1(3)C6(2)]: <ul style="list-style-type: none">• CSG Interface Awareness, page 1-2• Quota Push, page 1-2• Tariff Switch, page 1-2• Prepaid Support for POP3, page 1-3• Prepaid Support for IMAP, page 1-3• Transaction Support for IMAP, page 1-3• Enhanced Interoperability with Cisco Service-Aware GGSN, page 1-5• CSG RADIUS Proxy Enhancements, page 1-6• Supplemental Usage Reports, page 1-6• Quota Balance Replacement, page 1-7• Delayed Quota Reauthorization, page 1-7• Configurable Reauthorization Threshold, page 1-7
OL-7283-01	May 16, 2005	Consolidated the descriptions of CDR support into one section: <ul style="list-style-type: none">• CDR Support, page 1-10

Revision	Date	Change Summary
OL-7283-01	May 16, 2005	Consolidated the descriptions of Advice of Charge (AoC) features into one section: <ul style="list-style-type: none">• Advice of Charge and Related Features, page 1-13
OL-7283-01	May 16, 2005	Consolidated the descriptions of RADIUS features into one section: <ul style="list-style-type: none">• RADIUS Features, page 1-17
OL-7283-01	May 16, 2005	Consolidated the descriptions of HTTP features into one section: <ul style="list-style-type: none">• HTTP Features, page 1-22
OL-7283-01	May 16, 2005	Consolidated the descriptions of WAP features into one section: <ul style="list-style-type: none">• WAP Features, page 1-23
OL-7283-01	May 16, 2005	Added the following new commands to the Command Reference: <ul style="list-style-type: none">• meter imap• radius ack error• report usage• table (module CSG VLAN)
OL-7283-01	May 16, 2005	Changed the following existing commands in the Command Reference: <ul style="list-style-type: none">• quota server• radius endpoint• radius proxy• retcode• show module csg accounting• variable (module csg)

Revision	Date	Change Summary
OL-6028-02	December 15, 2004	<p>Introduced the following features with Cisco IOS 12.2(18)SXD [3.1(3)C5(5)]:</p> <ul style="list-style-type: none"> • Advice of Charge and Related Features, page 1-13 • HTTP Pipelining and Chunked Transfer Encoding, page 1-22 • URL Rewriting, page 1-15 • Service Verification, page 1-16 • RADIUS Handoff, page 1-21 • Fixed CDR Support for HTTP, page 1-10 • Fixed CDR Support for RTSP, page 1-11 • Single CDR Support for WAP Connectionless and HTTP, page 1-12 • Fixed CDR Support for IMAP, page 1-11 • Prepaid/Envelope Support for SMTP, page 1-12 • SMTP Content Authorization, page 1-16 • POP3 Support, page 1-31 • RADIUS Packet of Disconnect, page 1-21 • RADIUS Endpoint, page 1-20 • RADIUS Proxy, page 1-20 • Service-Level CDR Summarization, page 1-12 • Passthrough Mode and the Default Quota, page 1-32 • Fragment Support, page 1-44 • Connection Duration Billing, page 1-35 • Header Mapping and URL Mapping, page 1-32 (RTSP URL Mapping) • Postpaid Service Tagging, page 1-36 • Stateful Redundancy and Failover, page 1-36 • “Default” Policy, page 1-37 <p>Documentation of these new features includes feature descriptions, configuration tasks, configuration examples, and all associated new and changed commands.</p>
OL-6028-02	December 15, 2004	<p>Moved prepaid configuration tasks into a separate chapter:</p> <ul style="list-style-type: none"> • Configuring Prepaid Support, page 6-1
OL-6028-02	December 15, 2004	<p>Documented protocol compliance statements in a new appendix:</p> <ul style="list-style-type: none"> • Protocol Compliance Statements for the CSG 3.1(3)C6(2), page D-1

Revision	Date	Change Summary
OL-6028-02	December 15, 2004	<p>Added the following new commands to the Command Reference:</p> <ul style="list-style-type: none"> • activation • ip csg snmp timer • next-hop • passthrough • pending • radius endpoint • radius handoff • radius pod attribute • radius pod nas • radius pod timeout • records granularity • verify • verify confirmation
OL-6028-02	December 15, 2004	<p>Changed the following existing commands in the Command Reference:</p> <ul style="list-style-type: none"> • accounting (CSG policy) • aoc confirmation • basis • client (CSG content) • debug ip csg • flags • match (header map) • match (URL map) • mode • radius proxy • records format • show module csg tech-support • show module csg variable • variable (module csg)

Audience

This publication is designed for network administrators and other people who are responsible for setting up, installing, configuring, and operating the CSG.

Only trained and qualified service personnel (as defined in IEC 60950 and AS/NZS3260) should install, replace, or service the equipment described in this publication.

Organization

This publication is organized as follows:

Chapter	Description
Chapter 1, “Overview”	Presents an overview of the Cisco Content Services Gateway (CSG).
Chapter 2, “Installing the Hardware”	Describes how to install the CSG.
Chapter 3, “Configuring the Content Services Gateway”	Describes how to configure VLANs, virtual servers, billing, and other configuration tasks on the CSG.
Chapter 4, “Configuring Secure (Router) Mode, Redundancy, Fault Tolerance, and HSRP”	Describes how to configure secure router mode, redundancy, fault tolerance, and Hot Standby Router Protocol (HSRP) on the CSG.
Chapter 5, “Configuring RADIUS Support: Learning Who the Subscriber Is”	Describes RADIUS configuration details and features.
Chapter 6, “Configuring Prepaid Support”	Describes prepaid configuration details and features.
Appendix A, “PSD Configuration for the CSG”	Describes how to configure the CSG to communicate with the PSD.
Appendix B, “Command Reference”	Describes the commands that allow you to set up and monitor content billing on the CSG.
Appendix C, “Standards Compliance Specifications”	Lists the standards with which Catalyst 6000 series switches or Cisco 7600 series routers comply, when installed in a system.
Appendix D, “Protocol Compliance Statements for the CSG 3.1(3)C6(2)”	Provides protocol compliance statements for the CSG 3.1(3)C6(2).
Appendix E, “Translated Safety Warnings”	Provides translated safety warnings for the CSG.

Conventions

This publication uses the following conventions:

Convention	Description
boldface font	Commands and keywords are in boldface .
<i>italic font</i>	Arguments for which you supply values are in <i>italics</i> .
[]	Elements in square brackets are optional.
{x y z}	Alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
screen font	Terminal sessions and information the system displays are in <code>screen font</code> .
boldface screen font	Information you must enter is in <code>boldface screen font</code> .

Convention	Description
<i>italic screen font</i>	Arguments for which you supply values are in <i>italic screen font</i> .
^	The symbol ^ represents the key labeled Control—for example, the key combination ^D in a screen display means hold down the Control key while you press the D key.
< >	Nonprinting characters, such as passwords are in angle brackets.

Notes use the following conventions:

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

Tips use the following conventions:

**Tip**

Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information.

Cautions use the following conventions:

**Caution**

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Safety Overview

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



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**FONTOS BIZTONSÁGI ELOÍRÁSOK**

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; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető 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 legemeskadedigelse. 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 للصدمة الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في آخر 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 במגעלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה**Opomena VAŽNI BEZBEDNOSNI NAPATSTVIJA**

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 ОБИЕ 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 DŮLEŽITÉ 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

For more detailed installation and configuration information, see the following publications:

- *Site Preparation and Safety Guide*
- *Regulatory Compliance and Safety Information for the Catalyst 6500 Series Switches*
- *Catalyst 6500 Series Switch Installation Guide*
- *Catalyst 6500 Series Quick Software Configuration*
- *Catalyst 6500 Series Switch Module Installation Guide*
- *Catalyst 6500 Series Software Configuration Guide*
- *Catalyst 6500 Series Command Reference*
- *Catalyst 6000 Family IOS Software Configuration Guide*
- *Catalyst 6500 Series Cisco IOS Command Reference*
- *Catalyst 6000 Family Flash Card Install Note*
- *ATM Configuration and Command Reference—Cisco Catalyst 6500 Series Switches*
- *System Message Guide - Catalyst Family Switches—Cisco Catalyst 6500 Series Switches*
- *Regulatory Compliance and Safety Information for the Cisco 7600 Series Routers*
- *Cisco 7609 Router Installation Guide*
- *Cisco 7600 Series Cisco IOS Software Configuration Guide*
- *Cisco 7600 Series Cisco IOS Command Reference*

- For information about MIBs, see:
<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>
- *Release Notes for Cisco Content Services Gateway*, Release 3.1(3)C6(2)
- Cisco IOS Configuration Guides and Command References, Release 12.1—Use these publications to help you configure the Cisco IOS software that runs on the MSFC and on the MSM and ATM modules.

Obtaining Documentation and Submitting a Service Request

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

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