



Release Notes for the Cisco PSTN Gateway Solution Release 11.1

1/20/06

Solution Release 11.1: January 20, 2006

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These release notes describe the features and caveats for the Cisco PSTN Gateway Solution Release 11.1:

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Introduction

The Cisco PSTN Gateway Solution provides a carrier-class infrastructure to support multiple IP-based services, including dial access, voice transit, business voice services (voice virtual private networks, PBX tandem, and service-provider hosted Cisco CallManager and IP Call Center), and H.323/SIP PSTN Gateway for residential voice services. Based on the Cisco PGW 2200 Softswitch, the solution provides a bridge between legacy PSTN and next-generation packet networks.

These notes cover the Cisco PSTN Gateway Solution Release 11.1. This release includes enhancements and adds support for the features, applications, and element management updates described in the next section.

What's New in This Release

Support for new features supported by the Cisco PGW 2200 9.6 software:

- Call Limiting, providing the ability to specify a call limit (maximum number of calls) on any interface, including PGW nodes, media gateways, and H.323 or SIP endpoints
- DPNSS calling features (BTNR188 Issue 5) for interworking with Cisco CallManager, including advanced features:
 - Basic call
 - Add-on Conference
 - Call Back When Free
 - Call Back When Next Used
 - Call Forward (also known as Call Diversion)
 - Call Hold
 - Call Redirection (also known as Call Transfer)
 - Call Waiting
 - Calling Name Display
 - Centralized Operator
 - Extension Status
 - Loop Avoidance
 - Message Waiting Indicator
 - Night Service
 - Route optimization
 - Three Party Service: Shuttle, Transfer, and Add-on



Note

When DPNSS features are interworked between a legacy DPNSS PBX network and Cisco Call Manager (and vice-versa), the given features mimic the implementation of the features in a DPNSS network. For information on exceptions, refer to [“DPNSS Limitations”](#).

- SIP REFER and unsolicited NOTIFY for Message Waiting Indicator
- Interworking of the Cisco Unity unified messaging server with DPNSS and QSIG PBXs, providing advanced voice messaging features:

- DPNSS feature support: Basic call, Call Hold, Message Waiting Indicator, Calling and Called Number ID, Auto Attendant
- QSIG feature support: Basic call, Call Hold, Message Waiting Indicator, Calling and Called Number ID, Auto Attendant

For more information, refer to the feature module documentation at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/mgcfm/96/index.htm>.

This release supports all MGCP features added to Cisco IOS gateways in Release 12.3(8)T. Refer to Cisco IOS 12.3T Release Notes at

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123relnt/xprn123t/index.htm>.

Applications and Features Supported by Previous Releases of Cisco PSTN Gateway Solution

Previous versions of Cisco PSTN Gateway Solution introduced support for additional applications and features described in the solution release notes:

- Cisco PSTN Gateway Solution Release 10.3:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrn103.htm>
- Cisco PSTN Gateway Solution Release 10.2:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrn102.htm>
- Cisco PSTN Gateway Solution Release 10.1:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrn101.htm>
- Cisco PSTN Gateway Solution Release 10:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrn10.htm>
- Cisco PSTN Gateway Solution Release 9:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrnrn9.htm>



Note

Solution Release 8 was a maintenance release supporting the same applications as Solution Release 7.

- Cisco PSTN Gateway Solution Release 7:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrnrn7.htm#244223>
- Cisco PSTN Gateway Solution Release 5:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrnrn5.htm#228816>
- Cisco PSTN Gateway Solution Release 3:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrnrn3.htm#151327>
- Cisco PSTN Gateway Solution Release 2:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrnrn2.htm#90215>
- Cisco PSTN Gateway Solution Release 1:
<http://www.cisco.com/univercd/cc/td/doc/solution/dialvoic/pstngw/relnote/pstrnrn.htm#88627>

System Requirements

Hardware and Software Components

The following table provides a list of hardware, software, and firmware requirements for the Cisco PSTN Gateway Solution.

Contact Cisco Systems Technical Assistance Center (TAC) for additional information.



Note

If you are using platform versions that are later than the ones listed in the following table, contact Cisco's Technical Assistance Center (TAC) to verify which versions are supported.

Table 1 Cisco PSTN Gateway Solution Release 11 Components

Component Type	Role	Hardware	Software Required
Cisco PGW Node	Call control	Cisco PGW 2200 Softswitch	Media Gateway Control (MGC) software Version 9.6(1), S9/P9 or later
		HSI (H.323)	Release 4.2 patch 1 or later
		Signaling Link Terminal:	
		Cisco 2611 SLT	Cisco IOS Version 12.3(8)T4
		Cisco 2651 SLT	Cisco IOS Version 12.3(8)T4
		Ethernet Switch/Router:	
		Cisco Catalyst 2900XL	Current FCS Release
		Cisco Catalyst 5500	Current FCS Release
		Cisco Catalyst 6500	Current FCS Release
		Call Manager	IP PBX and Key Switch
Cisco CallManager Express	Version 3.2		
Unified Messaging Server		Cisco Unity	Version 4.0(4) SR1
IP transfer point		Cisco ITP 2651, Cisco ITP 72xx, Cisco ITP 75xx	Cisco IOS Version 12.2(25)
Media Gateways (MGCP-controlled for PSTN trunking)		Cisco AS5300	Cisco IOS Version 12.3 mainline
		Cisco AS5350	Cisco IOS Version 12.3(8)T4
		Cisco AS5350XM	Cisco IOS Version 12.4(1)
		Cisco AS5400hpx	Cisco IOS Version 12.3(8)T4
		Cisco AS5400XM	Cisco IOS Version 12.3(8)T4
		Cisco AS5400XM	Cisco IOS Version 12.4(1)
		Cisco AS5850	Cisco IOS Version 12.3 mainline
		Cisco AS5850 with STM1 module	Cisco IOS Version 12.3(x)T

Table 1 Cisco PSTN Gateway Solution Release 11 Components (continued)

Component Type	Role	Hardware	Software Required
		Cisco MGX 8000 Voice Gateway (VISM-PR)	Release 3.3.0
		Cisco MGX 8880 Voice Gateway (Cisco VXSM)	Release 5.2.0.200 (VXSM 2.0)
Media Gateways (MGCP-controlled for PBX access)		Cisco 2651XM, 2691XM, 36xx, 37xx	Cisco IOS Version 12.3(8)T
		BRI backhaul: Cisco 1721 1751, 1751v, 1761, 1761v 2612	Cisco IOS Version 12.3(X)xc
		PRI/Q.931 backhaul for call agents: Cisco 2691	Cisco IOS Version 12.3(7)T1
Firewall		Cisco PIX 515, 525, or 535 Security Appliance	7.0
Network Management		Cisco Billing and Measurement Server (BAMS)	Version 3.20
		Cisco MGW Node Manager (MNM)	Version 2.6(1)
		Cisco VSPT	Version 2.6(1)
		Cisco Media Gateway Manager for Cisco VXSM/VISM	Version 5.0
		Network management for AS5xx0: CiscoWorks LMS	Version 2.2
		Cisco Signaling Gateway Manager (SGM) for ITP	Version 3.2
		CiscoView	Version 5.4
Optional Software		Cisco Internetwork Performance Monitor (IPM)	Version 2.3
		Cisco Info Center (CIC)	Version 3.5

Determining Software Release Versions

Cisco IOS

To determine the release version of Cisco IOS software currently running, log in to the router and enter the show version EXEC command. The following sample output from the show version command indicates the version number on the second output line:

```
Router> show version
Cisco Internetwork Operating System Software
IOS (tm) 12.2 Software c5300-i-mz, Version 12.2(1)T3, RELEASE SOFTWARE
```

Cisco PGW 2200

To determine the release version of the Cisco MGC software currently running, enter the following MML command on the Cisco Media Gateway Controller (MGC):

```
mml> rtrv-ne
Media Gateway Controller 2004-03-29 14:15:22
M RTRV
"Type:"MGC""
"Hardware platform:sun4u sparc SUNW,Netra-440"
"Vendor:"Cisco Systems, Inc.""
"Location:Media Gateway Controller"
"Version:"9.6(1)""
"Platform State:ACTIVE"
```

Limitations and Restrictions

DPNSS Limitations

The following supplementary service features have limitations.

Table 2 DPNSS Limitations

Feature	Limitation
Call Back When Free Call Back When Next Used	These features are not supported on non-XML IP phones. Also not supported: <ul style="list-style-type: none"> • Directory numbers with multiple or shared lines • Directory numbers with multiple partitions • Call from a DPNSS phone to an IP phone that has been forwarded • Call to a DPNSS phone that has been set for Call Forward-Immediate (also known as Call Diversion-Immediate)
Call Forward No Answer (also known as Call Diversion-No Reply)	Limitation: This feature does not work with a call from an IP Phone user to a DPNSS phone with the default Media Gateway "Trigger for SDP Transmit to H.323" setting of Address Complete . For this feature to work, set the trigger to Answer .
Call Offer	Cisco PGW 2200 maps call offer to call waiting. With call waiting, the Cisco IP phone user receives an audible inband tone and Caller ID information on the phone display. If all the lines on the Cisco IP phone are being used, the Call Offer is rejected with Busy.
Call Redirection	Not supported from Cisco CallManager to DPNSS PBX
Centralized Operator	Supported from DPNSS to Cisco CallManager IP, but not from Cisco CallManager to DPNSS. Not supported: Executive intrusion and Series Call
Extension Status	Not supported from an IP operator in the Cisco CallManager domain to a DPNSS extension.

Table 2 *DPNSS Limitations*

Feature	Limitation
Loop Avoidance	<p>Loop avoidance counter values cannot be passed to Cisco CallManager.</p> <p>Loop avoidance is not supported for calls that go from or are transferred from a DPNSS PBX to Cisco CallManager and on to another DPNSS PBX (such “hairpinned” calls are not detected).</p> <p>Note Loop avoidance can be enabled or disabled on a per call basis.</p>
Message Waiting Indicator	Only DPNSS TDM-based voicemail is supported.
Night Service	Only a DPNSS extension can serve as the night service target extension.
Route optimization	<p>Route optimization within the DPNSS network is supported: A call from DPNSS PBX A to DPNSS PBX B which is then transferred to Cisco CallManager will be optimized if DPNSS PBX A has a trunk to Cisco CallManager.</p> <p>Route optimization from Cisco CallManager to a PBX to Cisco CallManager and route optimization from PBX to Cisco CallManager to PBX is not supported.</p>

Table 3 *Cisco Unity DPNSS or QSIG Limitations*

Feature	Limitation
(DPNSS or QSIG) Auto Attendant	Supervised Transfer option is not supported.

Caveats

Caveats for Cisco Media Gateway Controller Software Release 9.6(1)

Known issues and operational recommendations for the Cisco Media Gateway Controller Software Release 9.6(1) are described at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/relnote/rn961.htm>.

Open and resolved caveats are no longer listed in the release notes. Use the Bug Toolkit to query defects (you must be logged in to Cisco.com). The tool is located at the following url:

http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl

Caveats for Other Software

To view caveats for software for other supported platforms, please refer to the relevant Release Notes listed in [Release Notes](#).

Related Documentation

Release Notes

The following component release notes are available for the Cisco PSTN Gateway Solution:

Table 4 *Cisco PSTN Gateway Platform Release Notes*

Component	Location
Cisco MGC, Release 9.6(1) Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/re1note/rn961.htm
Catalyst 2900XL Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/index.htm
Catalyst 6500 Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/re1notes/index.htm
Catalyst 5000 Family Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/lan/cat5000/c5krn/index.htm
Cisco CallManager, Version 4.1 Release Notes	http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_release_note09186a00802b434f.html
Cisco H.323 Signaling Interface, Version 4.2 Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/hsi_41/hsi41rn.htm
Cisco Internetwork Performance Monitor 2.3	http://www.cisco.com/en/US/products/sw/cscowork/ps1008/prod_release_note09186a008007fb4d.html
Cisco IOS 12.2(15)ZJ (used with Cisco 3745)	http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/prod_release_note09186a008021e9bb.html
Cisco IOS 12.3 Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123re1nt/xprn123/index.htm
Cisco IOS 12.3(x)T (used with Cisco AS5850 with STM1 module)	http://www.cisco.com/en/US/products/sw/iosswrel/ps5207/prod_release_notes_list.html
Cisco IOS 12.3T Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123re1nt/xprn123t/index.htm
Cisco PGW 2200 Billing and Measurement Server (BAMS), Version 3.2 Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/bams320/320rn
Cisco PIX Firewall Software Release Notes	http://www.cisco.com/kobayashi/sw-center/ciscosecure/pix.shtml
Cisco Signaling Link Terminal Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/access/sc/slt/sltrns/index.htm
Cisco Unity 4.0(4)	http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_release_note09186a008022e04d.html
Cisco Voice Interworking Service Module Release 3.3 Release Notes	http://www.cisco.com/en/US/products/hw/switches/ps1938/prod_release_note09186a00802daef1.html
Cisco VXSM 5.2.00 Release Notes	http://www.cisco.com/univercd/cc/td/doc/product/wanbu/mgx8880/re1note/528880.htm
CiscoView, Version 5.4	http://www.cisco.com/en/US/products/sw/cscowork/ps4565/prod_release_note09186a00800e3f0c.html

Table 4 *Cisco PSTN Gateway Platform Release Notes*

Component	Location
CiscoWorks LAN Management Solution 2.2	http://www.cisco.com/en/US/products/sw/cscowork/ps2425/prod_release_notes_list.html
Cisco Media Gateway Node Manager Release 2.6(1)	http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/cmm261/index.htm
Cisco Voice Services Provisioning Tool Release 2.6(1)	http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/vspt261/index.htm
Cisco Media Gateway Manager 5.0	http://www.cisco.com/en/US/products/sw/netmgsw/ps1920/prod_release_note_chapter09186a00802745b0.html
Cisco Signaling Gateway Manager 3.2	http://www.cisco.com/en/US/products/sw/wirelssw/ps2153/prod_release_note09186a0080203b3d.html

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

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

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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 will find information about how to:

- 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, security notices, and security responses for Cisco products is available at this URL:

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

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at 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 have identified a vulnerability in a Cisco product, contact PSIRT:

- For Emergencies only—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.

- For Nonemergencies—psirt@cisco.com

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

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



We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.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.

If you do not have or use PGP, contact PSIRT at the aforementioned e-mail addresses or phone numbers before sending any sensitive material to find other means of encrypting the data.

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)—An existing 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 operations 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 the network is impaired, while 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.

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

- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco offerings. To order and find out more about the Cisco Product Quick Reference Guide, go to this URL:

<http://www.cisco.com/go/guide>

- 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:

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- *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:

<http://www.cisco.com/go/iqmagazine>

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:

<http://www.cisco.com/ipj>

- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:
<http://www.cisco.com/en/US/products/index.html>
- 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:
<http://www.cisco.com/discuss/networking>
- World-class networking training is available from Cisco. You can view current offerings at this URL:
<http://www.cisco.com/en/US/learning/index.html>

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