



Cisco VG248 Analog Phone Gateway Version 1.1(1) Release Notes

February 15, 2002

These release notes are for use with the Cisco VG248 Analog Phone Gateway with software version 1.1(1). The VG248 enables you to integrate analog telephony devices with Cisco CallManager IP telephony systems. With this release, you can also use the VG248 to integrate existing voice mail systems with Cisco CallManager using SMDI.

These release notes provide the following information:

- [New and Changed Information, page 2](#)
- [Documentation Roadmap, page 3](#)
- [Updates to Cisco CallManager Compatibility, page 4](#)
- [Fax Over IP Support, page 8](#)
- [Resolved Caveats, page 9](#)
- [Open Caveats, page 10](#)
- [Obtaining Documentation, page 20](#)
- [Obtaining Technical Assistance, page 22](#)



Corporate Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

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New and Changed Information

The following topics describe new or changed features in version 1.1(1) of the VG248 software:

- [SMDI Support for Voice Mail Integration, page 2](#)
- [Support for Italian Phones, page 2](#)
- [Call Forward Dial-Tone, page 2](#)

SMDI Support for Voice Mail Integration

You can use the VG248 with v1.1(1) software to integrate your existing voice mail systems (such as Lyrinx, Octel 200, Octel 250, Octel 300 and Octel 350) and legacy PBX systems with Cisco CallManager. See Chapter 5, “Integrating Cisco CallManager with Voice Mail Systems Using SMDI” in the *Cisco VG248 Analog Phone Gateway Software Configuration Guide* for details:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_1/sw_config/vg248smd.htm

Support for Italian Phones

The VG248 now supports the tones, cadences and telephone impedances used by standard Italian phones. Countries previously supported include: North America (USA and Canada), United Kingdom, Germany, France, Austria, and Switzerland.

Call Forward Dial-Tone

When forward all is activated, users now hear a distinctive dial tone to indicate that all calls are currently being forwarded to a different directory number.

Documentation Roadmap

Table 1 provides summaries and locations of available documents for the Cisco VG248 Analog Phone Gateway.

Table 1 Available Documentation for the Cisco VG248

Document Title	Description	Where to Find It
<i>Cisco VG248 Analog Phone Gateway Hardware Installation Guide</i>	Provides the site preparation, safety information, and hardware installation and setup instructions to safely install the VG248.	- In the box—A printed version of this document ships with the product - Online at Cisco.com—HTML and PDF versions of this document are available from Cisco.com: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_0/hard_in/index.htm - By ordering—See the “Obtaining Documentation” section on page 20 for details
<i>Cisco VG248 Analog Phone Gateway Software Configuration Guide</i>	Provides information about understanding, configuring, managing, and troubleshooting the VG248.	Online at Cisco.com—HTML and PDF versions of this document are available from Cisco.com: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_1/sw_config/index.htm
<i>Cisco VG248 Analog Phone Gateway Version 1.1(1) Release Notes</i>	Describes known caveats and any documentation errata for the VG248.	Online at Cisco.com—HTML and PDF versions of this document are available from Cisco.com: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_1/rel_note/vg248rn3.htm

Updates to Cisco CallManager Compatibility

You configure the VG248 differently depending on the version of Cisco CallManager you are using in your network. Refer to these sections for tips on using the VG248 with your version of Cisco CallManager:

- [Using Cisco CallManager Version 3.1, page 4](#)
- [Using Cisco CallManager Version 3.2, page 4](#)

Using Cisco CallManager Version 3.1

The Cisco VG248 Analog Phone Gateway Software Configuration Guide provides the information needed to use the VG248 with Cisco CallManager 3.1. Refer to the “[Documentation Roadmap](#)” [section on page 3](#) for information on obtaining this document.

To use auto-registration with the VG248 and Cisco CallManager 3.1, you must use Cisco CallManager 3.1(3a), which is available at the following location on Cisco.com: <http://www.cisco.com/cgi-bin/tablebuild.pl/callmgr-31>.

Using Cisco CallManager Version 3.2

Cisco CallManager 3.2 includes some interface changes that require you to manage the VG248 slightly differently than with Cisco CallManager 3.1. These sections provide details about these changes:

- [Changes to the Cisco CallManager Interface, page 5](#)
- [Important Caveats, page 5](#)
- [Adding the VG248 Gateway to Cisco CallManager, page 6](#)
- [Configuring VG248 Analog Ports, page 7](#)

Changes to the Cisco CallManager Interface

When using the VG248 with Cisco CallManager 3.2, you have access to new features, including:

- The addition of a VG248 gateway type

This allows you to add the device as a gateway to Cisco CallManager and configure each of the ports as VGC phone models. This consolidates each of the 48 analog or SMDI ports onto a single device. However, once you add the gateway and ports to Cisco CallManager, you still must configure these ports in the VG248 interface. See the [“Adding the VG248 Gateway to Cisco CallManager” section on page 6](#) for details.

- An additional port, port 00[VMI] appears on the VG248 Gateway Configuration window.

This port appears if you are using the VG248 to integrate analog or SMDI devices. However, the VG248 uses this port only when setting or clearing MWIs on phones using SMDI. See the [“Configuring VG248 Analog Ports” section on page 7](#) for details on configuring ports.

Important Caveats

When using the VG248 with Cisco CallManager 3.2, these important caveats apply:

- You cannot use auto-registration to add a VG248 to Cisco CallManager 3.2. You must add the VG248 to Cisco CallManager manually. See the [“Adding the VG248 Gateway to Cisco CallManager” section on page 6](#) for details.
- If you are upgrading to Cisco CallManager 3.2 from Cisco CallManager 3.1, and you already have a VG248 configured in the database, the information is retained.

During the upgrade process, Cisco CallManager automatically creates a new VG248 gateway device based on the port information you entered in Cisco CallManager 3.1

- On the VG248 gateway configuration page in Cisco CallManager, the Reset Device button does not work.

- When configuring the VG248 ports as VGC phone models, additional fields that are not used by the VG248 appear, including:
 - Auto Answer
 - Line text label
 - MW lamp policy

You can ignore these fields; they are not used by the VG248.

- If you perform a search for the VG248 gateway type (from **Device > Gateway** in Cisco CallManager Administration) the results indicate “Device Not Found”.

Although you cannot locate the device using the gateway search, you can search for the VGC phone model.

- After configuring one port (VGC phone) on the VG248, Cisco CallManager provides the option to “Configure all ports like Port 1”.

If you use this option, Cisco CallManager automatically configures 49 ports, rather than 48. You can delete port 49; it is not functional.

Adding the VG248 Gateway to Cisco CallManager

With Cisco CallManager 3.2, you must manually add the VG248 as a gateway following this procedure:

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- Step 1** In Cisco CallManager, choose **Devices > Add a New Device > Cisco VG248 Gateway**.
- Step 2** Enter this information for the gateway:
- **MAC Address**—Enter the last 10 digits of the Media Access Control (MAC) address for the VG248.
- Only one MAC address exists for the Cisco VG248 Analog Phone Gateway, but Cisco CallManager requires unique MAC addresses for all devices. By entering only 10 digits of the MAC address, Cisco CallManager is able to use the MAC address for the gateway and append additional information to it to create the MAC addresses for the VGC phones. See the [“Configuring VG248 Analog Ports” section on page 7](#) for details.
- **Description**—Enter the purpose of the device, such as VG248 gateway.
- Step 3** Click **Insert**.

- Step 4** Choose 48_PORTS from the Installed Ports section.
- Step 5** Click on a port to configure.
- Step 6** Configure each port as described in the “[Configuring VG248 Analog Ports](#)” section on page 7.
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Configuring VG248 Analog Ports

Each port on the VG248 corresponds to an analog or SMDI device in your IP telephony network. To manage these devices using Cisco CallManager you must add each port to the Cisco CallManager database. To Cisco CallManager, each port is recognized and handled as a phone. For example, if you have 48 devices connected to the VG248, you must add and configure 48 ports to Cisco CallManager. Cisco CallManager recognizes 48 separate phones connected to it.



Note

Ports 1-48 are available for use with analog devices or for SMDI connections. If you are using the VG248 with SMDI, port 00 is used to transmit and receive voice mail messages to Cisco CallManager. If you are using the VG248 for analog devices only, this port appears, but it is not functional.

Before You Begin

This procedure is identical in Cisco CallManager 3.1 and 3.2 and is also described in the *Cisco VG248 Analog Phone Gateway Software Configuration Guide*. It is included here for your convenience.

However, this procedure describes the process for adding analog ports to Cisco CallManager. If you are using the VG248 to integrate SMDI devices with Cisco CallManager, you must refer to the detailed procedures included in the software guide. See Chapter 5, “Integrating Cisco CallManager with Voice Mail Systems Using SMDI” in the *Cisco VG248 Analog Phone Gateway Software Configuration Guide* for details:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_1/sw_config/vg248smd.htm

Procedure

-
- Step 1** Enter the appropriate fields, following these recommendations:
- The MAC address automatically appears based on the MAC address of the VG248, according to these guidelines:
 - The first two digits of the MAC address are dropped.
 - The number is shifted two places to the left.
 - The two-digit port number is added to the right.
 - Use the host name or other name for the **Description** for each port. For ease of administration, use a similar name for ports configured on the same VG248.
 - Consider adding a descriptive line to the **Display** field, such as “Analog phone.”
- Step 2** Click **Insert**.
- Step 3** To add a directory number to this phone, click **OK** and enter the appropriate settings.

If you need assistance entering the directory number information, refer to the documentation and online help included with Cisco CallManager for details.

Fax Over IP Support

The VG248 supports fax pass-through and Cisco fax relay using the Skinny Client Control Protocol (SCCP). For detailed information about fax support on this and other Cisco voice gateways, refer to the *Implementing Fax Over IP on Cisco Voice Gateways* document available from Cisco.com at the following location:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/fxmdmnt.htm

Resolved Caveats

[Table 2](#) includes the list of caveats from the VG248 1.0(2) that have been resolved with this software update (1.1(1)).

Table 2 **VG248 1.1(1) Resolved Caveats**

Bug ID	Summary	Explanation
CSCdw08369	Incorrect value returned for ciscoMemoryPoolLargestFree object in Cisco Memory Pool MIB	A software fault in the VG248 causes the incorrect value to be returned for this object. A code change to the VG248 software corrects this behavior
CSCdw08376	Out of range values returned for some Cisco Process MIB objects	The allowable range for several of these objects is 1-100. However, 0 might be returned for a process that is inactive or if the VG248 as a whole is very lightly loaded. A code change to the VG248 software corrects this behavior.
CSCdw18092	Ethernet interface's ifOperStatus MIB object always appears to be “down.”	The per-interface object ifOperStatus defined in the RFC 1213 MIB and the Interfaces MIB derived from RFC 1573 should return “up” for the Ethernet interface. However, a software fault means that the resulting status is always “down.” A code change to the VG248 software corrects this behavior

Open Caveats

Open caveats are unexpected behaviors or defects in the software releases for a product. Table 3 contains information about known problems for the VG248.

If you have a Cisco.com account, you can search for known problems on the Cisco bug tracking system tool, called Bug Toolkit. To access Bug Toolkit do one of the following tasks using a web browser:

- Enter http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.
- Log in to Cisco.com and choose **Service & Support > Technical Support Help-Cisco TAC > Tool Index > Software Bug Toolkit**.

Table 3 *VG248 Open Caveats*

Bug ID	Summary	Explanation
CSCdu44880	Audio volume is reduced on extensions with a Ringer Equivalence Number (REN) of three.	The VG248 supports a maximum REN of three per port. This means that as many as three devices, each with a REN of one, can be connected as extensions to a single VG248 port. The VG248 allows a maximum of two devices to be off hook at any time. The VG248 will not be damaged if devices with a total REN greater than two are off hook at the same time on a single port, but users on these extensions might experience quieter audio than normal, and possibly no audio at all. To work around this problem, ensure that no more than two extensions on a single port are off hook at the same time. To, do this, restrict the total REN of all extensions on a port to two. For more information, refer to the section “Connecting Too Many Phones to the VG248” in the <i>Cisco VG248 Analog Phone Gateway Software Configuration Guide</i>: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_0/soft_con/vg248swt.htm#xtocid154706

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCdu54384	VG248 loses audio during excess broadcast network traffic.	If the VG248 is attached to a network on which a large amount of broadcast traffic occurs, this traffic might have adverse effects on the operation of the VG248. These effects include reduced audio quality and, in extreme circumstances, loss of Cisco CallManager registration for some ports. If the latter situation arises, a large number of discarded packets are reported (both for receive and transmit) on the VG248 Network Statistics screen. To get to the Network Statistics screen from the Main screen, select Display > Network statistics. These situations would occur only if the broadcast traffic were to exceed several Megabits per second. This is far higher than the normal rate and likely would cause other network problems. The workaround is to identify the source of the broadcast data and prevent it from generating excessive amounts of network traffic. The VG248 will recover and recommence normal operation once the excessive broadcast condition ceases.
CSCdu57118	FTP sessions to the VG248 will be disconnected after 10 minutes of inactivity.	When an FTP connection has been established to the VG248 (typically for the purposes of performing a software upgrade), and has been left idle for 10 minutes, the VG248 automatically disconnects that session.

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCdu59990	Successive VG248 ports are not guaranteed to obtain sequential directory numbers when registering with Cisco CallManager in auto-registration mode.	On start up, the VG248 attempts to register all its enabled ports with Cisco CallManager in numerical order. However, this numerical registration of directories is not guaranteed. One reason numerical registration might not be successful is that there might not be large enough contiguous blocks of directory numbers available. To work around this problem, manually create the ports in Cisco CallManager before enabling them on the VG248. You must know the device name that the VG248 will give to each port; this name is normally derived from the VG248 MAC address. You can then explicitly assign directory numbers to ports, thus following any desired pattern. For more information, refer to the chapter “Configuring Analog Phones Using Cisco CallManager” in the <i>Cisco VG248 Analog Phone Gateway Software Configuration Guide</i>: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_0/soft_con/vg248swp.htm

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCdu60375	VG248 port status shows up as “Not Found” in Cisco CallManager.	The VG248 requires Cisco CallManager versions 3.1(1) or greater. However, Cisco CallManager versions prior to 3.1(2) do not contain support for the VG248 within the Real-time Information Service, which is used to collect information for display through the Cisco CallManager web interface. Therefore, the current status of VG248 port registrations is not available for Cisco CallManager versions prior to 3.1(2). This is solely a display problem; VG248 ports are able to register successfully with version 3.1(1). Their ability to perform all required telephony operations is not affected by the lack of support by the Real-time Information Service. To work around this issue, upgrade to Cisco CallManager 3.1(2) or greater.
CSCdu62479	Loss of functionality due to insufficient network bandwidth.	Cisco recommends that you connect the VG248 to a switch or router port capable of full duplex operation. In addition, Cisco recommends that this port be capable of running at 100 Mbps. If there is insufficient network bandwidth available, reduced audio quality is likely to occur. Also, some ports might lose their Cisco CallManager registrations. The bandwidth requirement does not apply only to the connection between the VG248 and the Ethernet port to which the VG248 is attached. The same capacity is potentially required at each intermediate connection in the path to remote endpoints or gateways. For example, if the route to the rest of the VoIP network involves a 1.5-Mbps T1 link, this is likely to result in losses of functionality on all but the most lightly loaded VG248.

Table 3 VG248 Open Caveats (continued)

Bug ID	Summary	Explanation
CSCdu79519	Voltage might be too low for Message Waiting Indication (MWI) lamps on some phones.	Some older phones that use MWI lamps might not light up, even if the VG248 port is configured to indicate Message Waiting with the Lamp setting. To check this setting, choose Telephony > Port specific parameters > MWI type go to the from the Main screen: This problem arises because MWI lamps require a line voltage greater than the maximum voltage that the VG248 can supply. If you suspect that your MWI lamp should be lit, check the configuration of the port and the status of the messages in your mailbox. If the configuration is correct and you have a waiting message, you should try replacing the phone with one of a similar type to confirm that your phone is not faulty. If the lamp still does not light, you probably have a phone that cannot have its MWI lamp lit by the VG248. Other phone functionality is not impaired by the lamp deficiency. The only workaround to this problem is to consider replacing your phone. Test the new phone before committing to a large purchase.

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCdu84588	Interrupted FTP put operation might leave a partial file present on the VG248 filing system.	If you are using an FTP put operation to write a file to the VG248 internal filing system, and the operation is interrupted, a portion of the file might remain on the VG248 system. In such a scenario, if the partial file is a software build-image file, the VG248 will probably fail when restarted. To work around this problem, always check the size of the file after the transfer to make sure it is the same size as the original file. If it is not the same size, re-attempt the file transfer. For more information, refer to the “Resolving an Incomplete Upgrade” section in the <i>Cisco VG248 Analog Phone Gateway Software Configuration Guide</i>: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_0/soft_con/vg248swt.htm#xtocid1547015
CSCdv36727	Silence suppression is always reported as off .	When a call is in progress, the VG248 per-port status screen displays the codec in use and indicates whether silence suppression is active. Silence suppression, which is configurable in Cisco CallManager, means that no media packets will be transmitted if they contain silence. Transmission will resume once the user commences speaking. The VG248 does not support the silence-suppression feature; therefore this setting will always be off. However, the VG248 can communicate with parties performing silence suppression, so you can allow this feature to remain enabled in Cisco CallManager.

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCdv37478	Unable to achieve modem connection speeds greater than 33.6 kbps per second.	Running a modem connection through a VG248 port involves complex conversions between the VG248 and the far end-modem. Therefore, normal modem speeds might range from 28.8 to 33.6 kbps. Some modems might run at speeds slower than 28.8 kbps per second. For best performance, Cisco recommends that ports intended for use with modems are configured with Cisco CallManager to use only G.711 media.
CSCdv87437	Failure to connect with Cisco CallManager in auto registration mode	The VG248 should be able to connect to Cisco CallManager using auto-registration or manual registration. However, auto-registration might not work with some versions of Cisco CallManager 3.1(2c). To avoid this problem, configure the VG248 ports in Cisco CallManager before enabling them on the VG248 itself. For more information, refer to the “Configuring Analog Phones Using Cisco CallManager” section in the <i>Cisco VG248 Analog Phone Gateway Software Configuration Guide</i>: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_access/apg/vg248/v1_0/soft_con/vg248.swp.htm

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCdw25272	Async LEDs light even if serial settings are incorrect	An analog voice mail system or PBX attached to one of the Async ports on the VG248 via a serial connection must have its own serial interface running with settings matching those on the VG248. Specifically, these are settings are: 9600 baud, 8 data bits, no parity, 1 stop bit and no flow control. When the Async 1 or Async 2 port has a serial connection to a voice mail system or PBX, the corresponding LED on the VG248 front panel should light, indicating the link is established at the hardware level. However, the a lit LED not necessarily indicate that the speed and parity settings are correctly matched. If you experience problems using SMDI, check that the necessary Async 1 or Async 2 LEDs are lit, and then check the serial interface settings of the voice mail system or PBX.
CSCuk25852	FTP directory listing on VG248 does not show correct date information.	When you issue a directory listing command in an FTP session, the date stamp for each file is shown as “Jan 1, 1900.” This is because the VG248 filing system does not store a date or time for its files. However, because some FTP client programs normally show such information in directory listings, the VG248 displays a fixed date value for those clients for compatibility reasons.

Table 3 *VG248 Open Caveats (continued)*

Bug ID	Summary	Explanation
CSCuk27560	Message Waiting Indication might cause some modems connected to VG248 to erroneously detect ringing.	If a VG248 port is configured to indicate Message Waiting with the Lamp setting configured, and there is a message waiting, then a modem connected to this port might falsely detect a ringing condition. If the modem is configured to auto-answer, it might also attempt to answer the call. In some cases, this situation can prevent the modem from making an outgoing call (even if auto-answer is not configured). Navigate the following path from the Main screen to see this setting: Telephony > Port specific parameters > MWI type Not all modems detect the lamp Message Waiting Indication (MWI) as ringing, and those that do are typically not prevented from making outgoing calls altogether, although some attempts might fail. The workaround for this problem is to disable the Lamp MWI for this port (ideally disable MWI altogether). If this is not possible or is impractical, then the problem might be cleared by retrieving the waiting message, then cancelling the MWI. Furthermore, you should disable auto-answer on modems connected to VG248 ports that have the Lamp MWI setting configured.

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCuk27613	Fax machines connected to the VG248 might return to the on-hook condition immediately after answering an incoming call.	When the VG248 receives an incoming call, Caller Identification (CID) is sent along with the signal in order for the called device to ring. In some countries, CID information is sent between the first and second rings, while in other countries it is sent just before the first ring. In cases where the CID information arrives before the first ring, some fax machines answer the call but immediately hang up. To work around this problem, disable Caller Identification for VG248 ports to which a fax machine is connected. This is done in Cisco CallManager.
CSCuk27761	Message Waiting Indicator (MWI) might not behave as expected after a configuration change.	The VG248 supports three methods of Message Waiting Indication (MWI): • Lamp • Caller ID • stutter You can select any of these three methods, pairings of the methods, or no MWI at all (from the main screen select Telephony > Port specific parameters > MWI type). The display on the phone will not necessarily be updated to reflect configuration changes you make. The MWI Caller ID (CID) option is affected by whether incoming call Caller Identification is enabled or disabled for a port. To work around these issues, clear all Caller Identification information before changing the MWI configuration for a given port. Then, manually check for waiting messages once the configuration is finalized.

Table 3 **VG248 Open Caveats (continued)**

Bug ID	Summary	Explanation
CSCuk28977	Inability to resume a held call from a shared line in some circumstances.	You cannot perform some functions using phones with a shared directroy number. For example, if a call is answered on one telephone and subsequently put on hold by that handset, it is not always possible to resume that call from a phone (connected to another VG248 port) that shares the directory number.

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

<http://www.cisco.com>

Translated documentation is available at the following URL:

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

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

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

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

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<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

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

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

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

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

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