



Upgrade and Service Guide for the Avaya G350 Media Gateway

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Notice

Every effort was made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

Warranty

Avaya Inc. provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language as well as information regarding support for this product, while under warranty, is available through the following Web site: <http://www.avaya.com/support>.

Preventing Toll Fraud

"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Fraud Intervention

If you suspect that you are being victimized by toll fraud and you need technical assistance or support, in the United States and Canada, call the Technical Service Center's Toll Fraud Intervention Hotline at 1-800-643-2353.

How to Get Help

For additional support telephone numbers, go to the Avaya support Web site: <http://www.avaya.com/support>. If you are:

- Within the United States, click the *Escalation Management* link. Then click the appropriate link for the type of support you need.
- Outside the United States, click the *Escalation Management* link. Then click the *International Services* link that includes telephone numbers for the international Centers of Excellence.

Providing Telecommunications Security

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of) your company's telecommunications equipment by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

Responsibility for Your Company's Telecommunications Security

The final responsibility for securing both this system and its networked equipment rests with you - Avaya's customer system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure:

- Your Avaya-provided telecommunications systems and their interfaces
- Your Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products

TCP/IP Facilities

Customers may experience differences in product performance, reliability and security depending upon network configurations/design and topologies, even when the product performs as warranted.

Standards Compliance

Avaya Inc. is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Avaya Inc. The correction of interference caused by such unauthorized modifications, substitution or attachment will be the responsibility of the user. Pursuant to Part 15 of the Federal Communications Commission (FCC) Rules, the user is cautioned that changes or modifications not expressly approved by Avaya Inc. could void the user's authority to operate this equipment.

Product Safety Standards

This product complies with and conforms to the following international Product Safety standards as applicable:

Safety of Information Technology Equipment, IEC 60950, 3rd Edition including all relevant national deviations as listed in Compliance with IEC for Electrical Equipment (IECEE) CB-96A.

Safety of Information Technology Equipment, CAN/CSA-C22.2 No. 60950-00 / UL 60950, 3rd Edition

Safety Requirements for Customer Equipment, ACA Technical Standard (TS) 001 - 1997

The equipment described in this document may contain Class 1 LASER Device(s). These devices comply with the following standards:

- EN 60825-1, Edition 1.1, 1998-01
- 21 CFR 1040.10 and CFR 1040.11.

The LASER devices operate within the following parameters:

- Maximum power output: -5 dBm to -8 dBm
- Center Wavelength: 1310 nm to 1360 nm

Luokan 1 Laserlaite

Klass 1 Laser Apparat

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposures. Contact your Avaya representative for more laser product information.

Electromagnetic Compatibility (EMC) Standards

This product complies with and conforms to the following international EMC standards and all relevant national deviations:

Limits and Methods of Measurement of Radio Interference of Information Technology Equipment, CISPR 22:1997 and EN55022:1998.

Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement, CISPR 24:1997 and EN55024:1998, including:

- Electrostatic Discharge (ESD) IEC 61000-4-2
- Radiated Immunity IEC 61000-4-3
- Electrical Fast Transient IEC 61000-4-4
- Lightning Effects IEC 61000-4-5
- Conducted Immunity IEC 61000-4-6
- Mains Frequency Magnetic Field IEC 61000-4-8
- Voltage Dips and Variations IEC 61000-4-11
- Powerline Harmonics IEC 61000-3-2
- Voltage Fluctuations and Flicker IEC 61000-3-3

Federal Communications Commission Statement

Part 15:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Part 68: Answer-Supervision Signaling

Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- answered by the called station,
- answered by the attendant, or
- routed to a recorded announcement that can be administered by the customer premises equipment (CPE) user.

This equipment returns answer-supervision signals on all direct inward dialed (DID) calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered.
- A busy tone is received.
- A reorder tone is received.

Avaya attests that this registered equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

REN Number

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

This equipment complies with Part 68 of the FCC rules. On either the rear or inside the front cover of this equipment is a label that contains, among other information, the FCC registration number, and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

For G350 and G700 Media Gateways:

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the rear of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. The digits represented by ## are the ringer equivalence number (REN) without a decimal point (for example, 03 is a REN of 0.3). If requested, this number must be provided to the telephone company.

For all media gateways:

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed 5.0. To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

REN is not required for some types of analog or digital facilities.

Means of Connection

Connection of this equipment to the telephone network is shown in the following tables.

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Off premises station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO trunk	02GS2	0.3A	RJ21X
	02LS2	0.3A	RJ21X
Tie trunk	TL31M	9.0F	RJ2GX
Basic Rate Interface	02IS5	6.0F, 6.0Y	RJ49C
1.544 digital interface	04DU9-BN	6.0F	RJ48C, RJ48M
	04DU9-IKN	6.0F	RJ48C, RJ48M
	04DU9-ISN	6.0F	RJ48C, RJ48M
120A4 channel service unit	04DU9-DN	6.0Y	RJ48C

For G350 and G700 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/A.S. Code	Network Jacks
Ground Start CO trunk	02GS2	1.0A	RJ11C
DID trunk	02RV2-T	AS.0	RJ11C
Loop Start CO trunk	02LS2	0.5A	RJ11C
1.544 digital interface	04DU9-BN	6.0Y	RJ48C
	04DU9-DN	6.0Y	RJ48C
	04DU9-IKN	6.0Y	RJ48C
	04DU9-ISN	6.0Y	RJ48C
Basic Rate Interface	02IS5	6.0F	RJ49C

For all media gateways:

If the terminal equipment (for example, the media server or media gateway) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact the Technical Service Center at 1-800-242- 2121 or contact your local Avaya representative. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. It is recommended that repairs be performed by Avaya certified technicians.

The equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

This equipment, if it uses a telephone receiver, is hearing aid compatible.

Canadian Department of Communications (DOC) Interference Information

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

Declarations of Conformity

United States FCC Part 68 Supplier's Declaration of Conformity (SDoC)

Avaya Inc. in the United States of America hereby certifies that the equipment described in this document and bearing a TIA TSB-168 label identification number complies with the FCC's Rules and Regulations 47 CFR Part 68, and the Administrative Council on Terminal Attachments (ACTA) adopted technical criteria.

Avaya further asserts that Avaya handset-equipped terminal equipment described in this document complies with Paragraph 68.316 of the FCC Rules and Regulations defining Hearing Aid Compatibility and is deemed compatible with hearing aids.

Copies of SDoCs signed by the Responsible Party in the U. S. can be obtained by contacting your local sales representative and are available on the following Web site: <http://www.avaya.com/support>.

All Avaya media servers and media gateways are compliant with FCC Part 68, but many have been registered with the FCC before the SDoC process was available. A list of all Avaya registered products may be found at: <http://www.part68.org> by conducting a search using "Avaya" as manufacturer.

European Union Declarations of Conformity



Avaya Inc. declares that the equipment specified in this document bearing the "CE" (*Conformité Européenne*) mark conforms to the European Union Radio and Telecommunications Terminal Equipment Directive (1999/5/EC), including the Electromagnetic Compatibility Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC). This equipment has been certified to meet CTR3 Basic Rate Interface (BRI) and CTR4 Primary Rate Interface (PRI) and subsets thereof in CTR12 and CTR13, as applicable.

Copies of these Declarations of Conformity (DoCs) can be obtained by contacting your local sales representative and are available on the following Web site: <http://www.avaya.com/support>.

To order copies of this and other documents:

Call: Avaya Publications Center
Voice 1.800.457.1235 or 1.207.866.6701
FAX 1.800.457.1764 or 1.207.626.7269

Write: Globalware Solutions
200 Ward Hill Avenue
Haverhill, MA 01835 USA
Attention: Avaya Account Management

E-mail: totalware@gwsmail.com

For the most current versions of documentation, go to the Avaya support Web site: <http://www.avaya.com/support>.

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About this Book

Overview

The *Upgrade and Service Guide for the Avaya G350 Media Gateway* describes how an on-site technician without specialized expertise in the Avaya G350 Media Gateway can assist a trained technician to perform system maintenance tasks, including:

- adding new telephones and fax machines
- adding new trunks
- adding data devices, such as computers
- adding media modules
- upgrading firmware and software
- assisting troubleshooting

This book describes the tasks the on-site technician must perform, such as:

- preparing hardware
- physically installing and connecting hardware
- providing connectivity
- testing configuration
- identifying faults
- responding to common problems

This book also describes the front panel of the Avaya G350 Media Gateway, including the optional media modules.

For installation instructions, refer to *Installation of the Avaya G350 Media Gateway*, 555-245-104.

Audience

The information in this book is intended for use by Tier 1 service technicians, IT managers, and users.

Downloading this book and updates from the Web

You can download the latest version of *Upgrade and Service Guide for the Avaya G350 Media Gateway* from the Avaya Web site. You must have access to the Internet, and a copy of Acrobat Reader must be installed on your personal computer.

Avaya makes every effort to ensure that the information in this book is complete and accurate. However, information can change after we publish this book. Therefore, the Avaya Web site might also contain new product information and updates to the information in this book. You can also download these updates from the Avaya Web site.

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The system displays the Product Documentation Search Results page.
- 4 Scroll down to find the latest issue number, and then click the book title that is to the right of the latest issue number.
- 5 On the next page, scroll down and click one of the following options:
 - **PDF Format** to download the book in regular PDF format
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Safety labels and security alert labels

Observe all caution, warning, and danger statements to help prevent loss of service, equipment damage, personal injury, and security problems. This book uses the following safety labels and security alert labels:



CAUTION:

A caution statement calls attention to a situation that can result in harm to software, loss of data, or an interruption in service.



WARNING:

A warning statement calls attention to a situation that can result in harm to hardware or equipment.



WARNING:

Use an ESD warning to call attention to situations that can result in ESD damage to electronic components.

 **DANGER:**

A danger statement calls attention to a situation that can result in harm to personnel.

 **SECURITY ALERT:**

A security alert calls attention to a situation that can increase the potential for unauthorized use of a telecommunications system.

Related resources

For more information on the Avaya G350 Media Gateway and related features, see the following books:

Title	Number
Overview of the Avaya G350 Media Gateway	555-245-201
Installation of the Avaya G350 Media Gateway	555-245-104
Avaya G350 Media Gateway Glossary	555-245-301

Technical assistance

Avaya provides the following resources for technical assistance.

Within the US

For help with:

- Feature administration and system applications, call the Avaya DEFINITY Helpline at 1-800-225-7585
- Maintenance and repair, call the Avaya National Customer Care Support Line at 1-800-242-2121
- Toll fraud, call Avaya Toll Fraud Intervention at 1-800-643-2353

International

For all international resources, contact your local Avaya authorized dealer.

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Westminster, CO 80234 USA
- E-mail, send your comments to:
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- Fax, send your comments to:
1-303-538-1741

Ensure that you mention the name and number of this book, *Upgrade and Service Guide for the Avaya G350 Media Gateway*, 555-245-106.

1 Introduction

The Avaya G350 Media Gateway is a converged networking device that provides the following voice and data networking services:

- Voice over IP Media Gateway
- WAN (data) connectivity and routing
- LAN Switching

The G350 is designed to meet the needs of a small branch office of a large enterprise, providing all network infrastructure needs in one box. The G350 is optimized for use in a 16-24 user environment.

The G350's internal router enables you to connect directly to an outside WAN, without additional routing equipment.

The G350 provides telephone services through a media gateway controller, or call controller, called a media server. The media server controls the routing of voice traffic through the G350. The media server can be either internal (a media module) or external (a device elsewhere on the network). The media server is managed by the Avaya Communication Manager.

Plugable media modules provide interfaces for many types of telephones and trunks. This allows you to incorporate legacy end point devices such as analog and digital telephones.

The G350 can be managed through the Avaya G350 Command Line Interface (CLI), the G350 Device Manager graphic user interface, or the centralized Avaya Integrated Management application. Some installation and upgrade configuration tasks can be performed through the Avaya Installation Wizard (AIW) or the Gateway Installation Wizard (GIW), as well as the CLI.

Features

The G350 features:

- VoIP Media Gateway services
- Survivability features for continuous voice services
- LAN connectivity
- WAN connectivity
- LAN routing
- WAN routing
- Power-over-Ethernet LAN Switching

Applications

The G350 is a modular device with multiple configuration possibilities to meet specific individual needs. Six slots in the G350 chassis can house a customized selection of media modules, which connect to different types of circuit switched phones, trunks and data devices. One of the slots can house an internal media server. A major configuration choice is which type of media server to deploy. The media server may be a media module or a standalone device.

The G350 can be deployed in one of two basic working modes:

- **Distributed Avaya Enterprise Connect.** In this mode, the G350 is controlled by an external media server. This may be a standalone media server, such as the S8500 or the S8700, or a separate media gateway in a standalone configuration. The G350 may also house an S8300 Media Server module to function as a Local Survivable Processor (LSP), which can take over control of the G350 if the external media server stops serving the G350.
- **Standalone.** In this mode, the G350 is controlled by an internally housed S8300 Media Server module.

Multiple G350s may be deployed in many remote branches of a large organization. Large branches or main offices may deploy an Avaya G700 Media Gateway, which provides similar functionality to the G350 for a larger number of users. Up to 250 G350 and G700 Media Gateways may be controlled by a single external S8700 Media Server.

2 Preparing for configuration

Most Avaya G350 Media Gateway upgrade and support tasks require both hardware and software configuration. Software configuration is performed by specially trained configuration technicians, and is beyond the scope of this manual. However, there are certain tasks that you can or must perform to enable the configuration technician to perform software configuration. This chapter describes these tasks.

This chapter includes the following sections:

- [Configuration overview](#) — explains how software configuration is performed
- [Connecting a modem](#) — explains how to connect a modem to the Avaya G350 Media Gateway so as to enable remote configuration and downloading of software or firmware upgrade files
- [Enabling the modem](#) — explains how to enable the port to which the modem is connected for modem use
- [Preparing a laptop computer](#) — explains how to connect a laptop computer to the Avaya G350 Media Gateway so as to enable local configuration

Configuration overview

When software configuration is necessary, a specially trained configuration technician performs the configuration in one of the following ways:

- Remote configuration — the technician performs the configuration via a modem connection from a remote location
- Local configuration — the technician performs the configuration at the local site, using a network connection or laptop computer connected to the G350
- Combined remote/local configuration — in some cases, a local technician performs some configuration tasks at the local site using a laptop computer while a remote technician performs other configuration tasks via a modem connection

Connecting a modem

Before a configuration technician configures a new hardware device on the Avaya G350 Media Gateway, you must connect a modem to the G350. You must also connect a modem to prepare for a software or firmware upgrade. You must connect the modem whether the technician performs the configuration or upgrade via local or remote configuration, or a combination of both.

Before connecting the modem, you may be required to enable the G350 or the S8300 Media Server for modem use. To determine whether or not you need to enable modem use, check with the project manager. See [Enabling the modem](#) on page 18.

To connect a modem:

- 1 Connect the modem to a working telephone line. Note the telephone number of the line to which you connect the modem, so that you can provide the number to the configuration technician.
- 2 Connect the modem to the Avaya G350 Media Gateway, as follows:
 - If you have an Avaya S8300 Media Server installed in your Avaya G350 Media Gateway, use a USB modem. Connect the USB modem to either of the two USB ports in the Avaya S8300 Media Server. It is recommended to use a Multitech MultiModem USB, MT5634ZBA-USB-V92.
 - If you do not have an Avaya S8300 Media Server installed in your Avaya G350 Media Gateway, use any modem with an Avaya RJ-45 serial cable. Attach the cable to the CON port on the front panel of the Avaya G350 Media Gateway. It is recommended to use a Multitech MultiModemZBA MT5634ZBA-V92.

Enabling the modem

You may be asked to enable the modem. The process for enabling the modem depends on whether the modem is connected to the Avaya S8300 Media Server or the Avaya G350 Media Gateway chassis.

- [Enabling a modem connected to the Avaya S8300 Media Server](#) — If the modem is connected to the Avaya S8300 Media Server, you can enable the modem via the Avaya Maintenance Web Interface.
- [Enabling a modem connected to the Avaya G350 Media Gateway chassis](#) — If the modem is connected to the Avaya G350 Media Gateway chassis, you can enable the CON port for modem use via the Gateway Installation Wizard (GIW).

Enabling a modem connected to the Avaya S8300 Media Server

If you plan to connect the modem to one of the USB ports on the front panel of the S8300 Media Server, you can enable the port and the modem via the Avaya Maintenance Web Interface (MWI).

To connect and enable the modem:

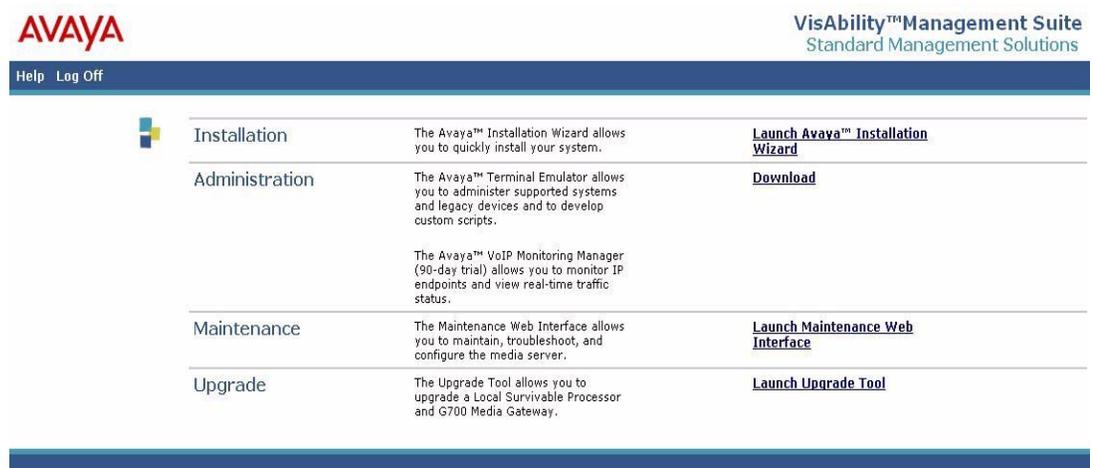
- 1 Connect the USB modem to a working telephone line.
- 2 Connect the USB modem to one of the USB ports on the S8300 module.
- 3 Connect the laptop computer to the Services port on the S8300 module.
- 4 Configure the network settings on the laptop to the following settings:
 - *TCP/IP properties*. Set the laptop's TCP/IP properties as follows:
 - IP address: **192.11.13.5**
 - Subnet mask: **255.255.255.252**
 - DNS Configuration: **Disable DNS**
 - *Browser settings*. Configure the browser for a direct connection to the Internet. Do *not* use proxies.

The names of the dialog boxes and buttons vary on different operating systems and browser releases. Use your computer's help system if needed to locate the correct place to enter this information.

- 5 Enable the modem as follows:
 - a Open the browser on the laptop.
 - b Browse to 192.11.13.6. The Avaya web pages logon screen appears.



- c Enter your S8300 initial entry username in the Logon ID box.
- d Click Logon. A Password box appears.
- e Enter your password in the password box.
- f Click Logon. The following menu appears:

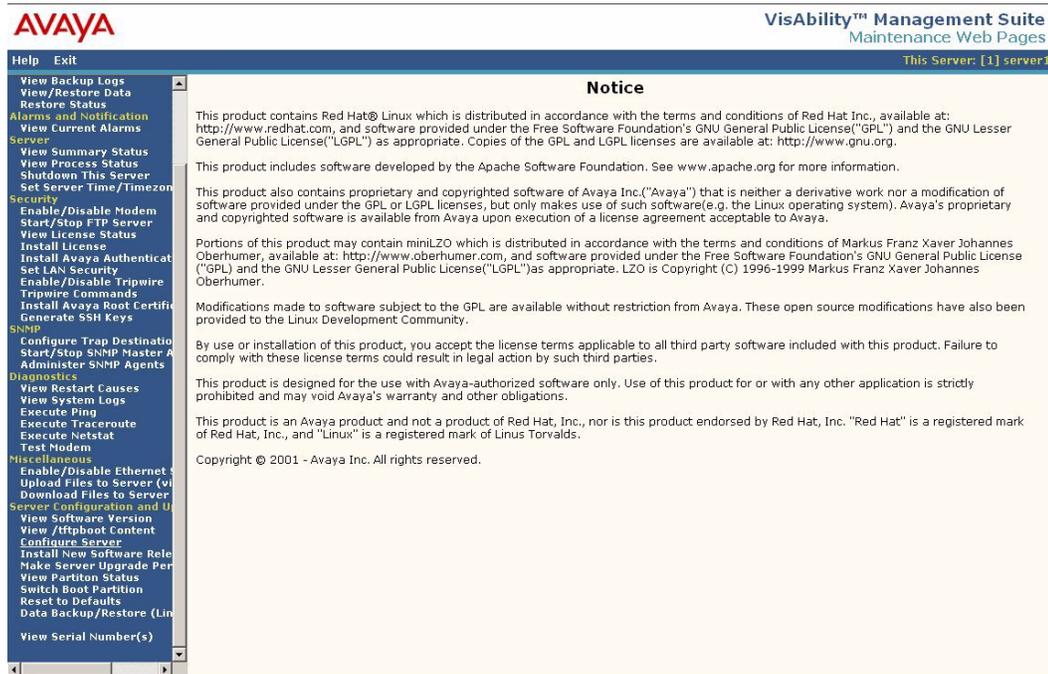


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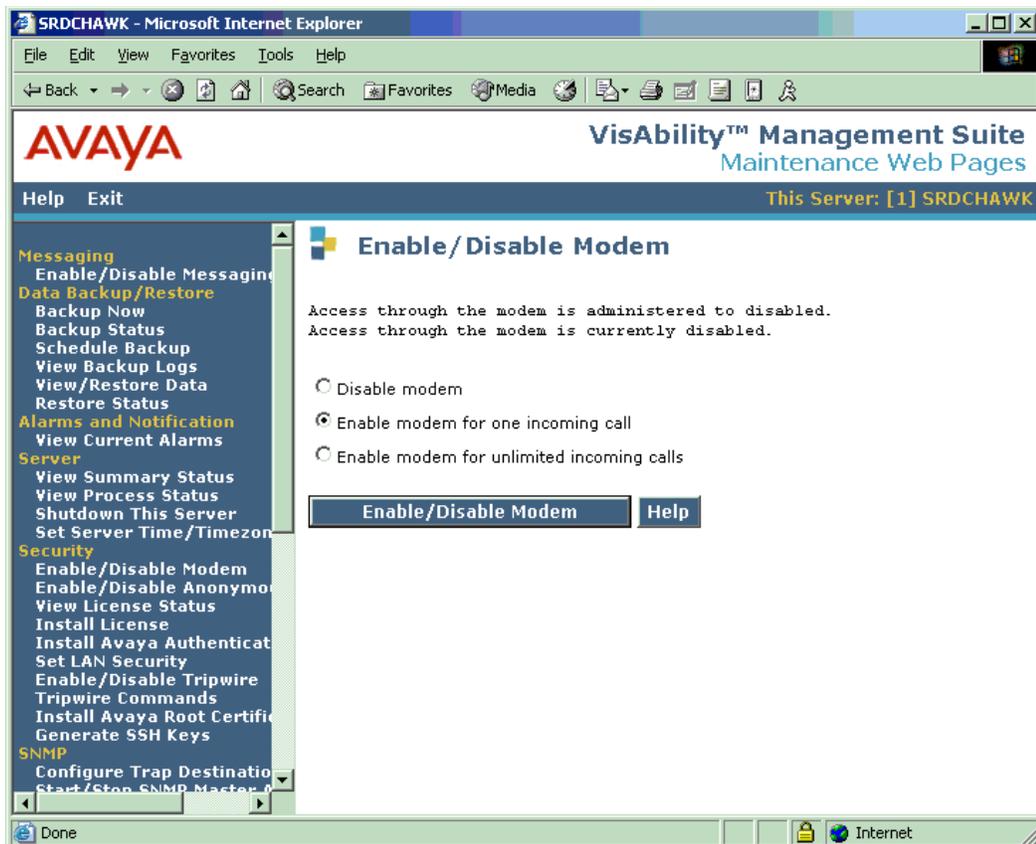
Preparing for configuration

Enabling the modem

- g Select Launch Maintenance Web Interface. The following screen appears, with the menu in the left panel:



- h Under the Security heading in the left panel, select Enable/Disable Modem. The following screen appears:



- i Select Enable for one incoming call.
- j Click Enable/Disable Modem. The modem is now enabled.

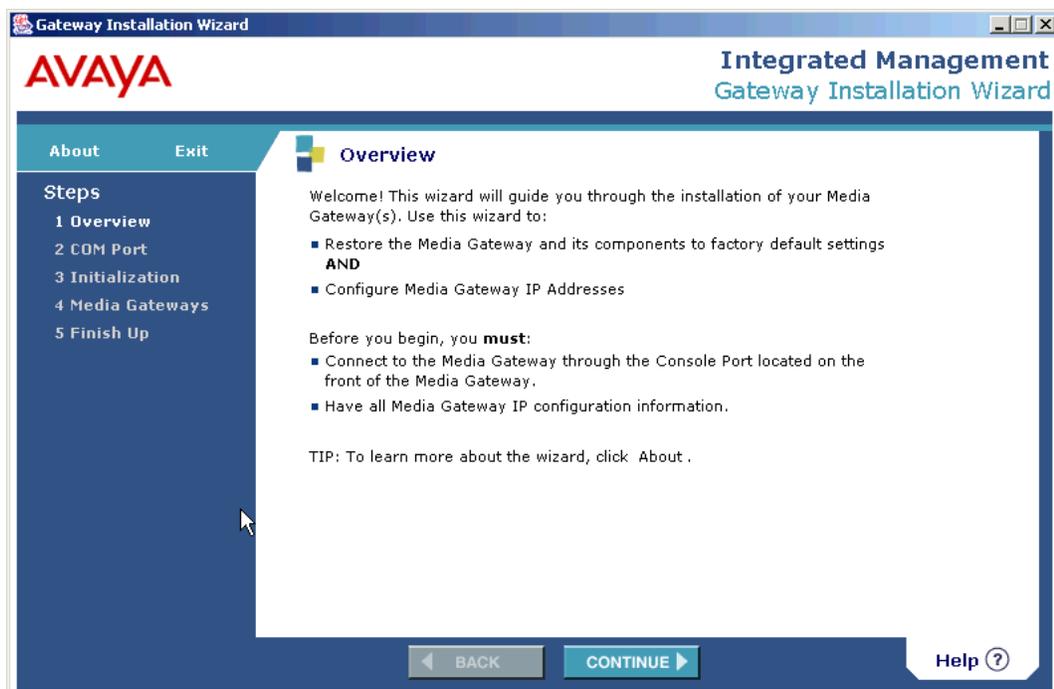
The modem is now connected and enabled.

Enabling a modem connected to the Avaya G350 Media Gateway chassis

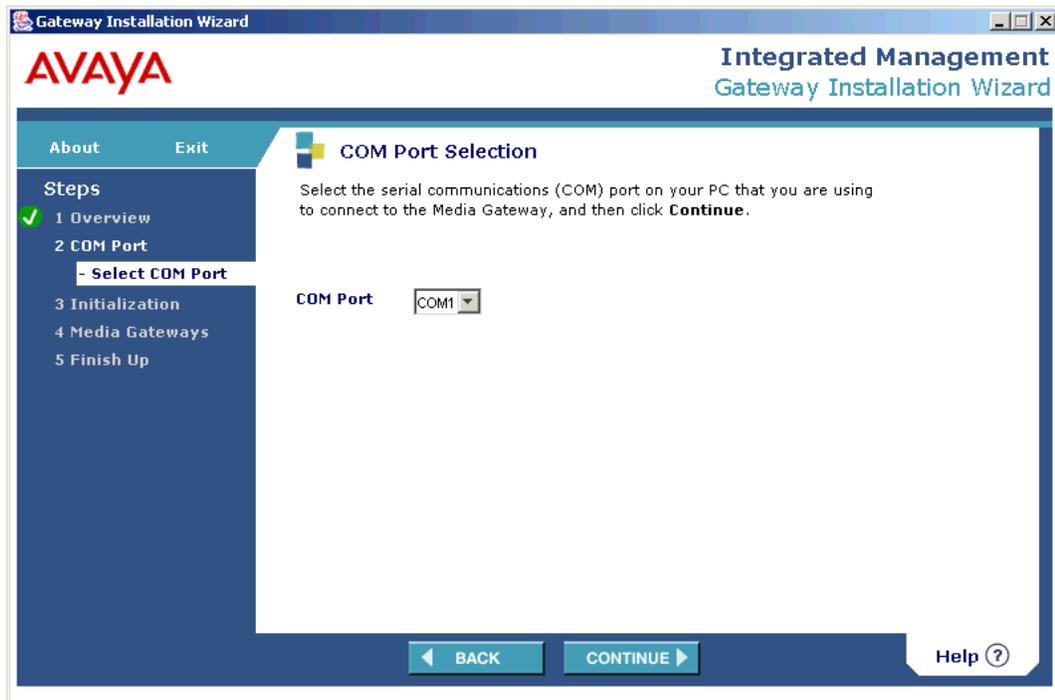
If you plan to connect the modem to the CON port of the G350 chassis, you can enable the CON port for modem use via the Gateway Installation Wizard (GIW). To enable the CON port using GIW, you need a CD containing the GIW and a laptop computer running Windows 2000 or Windows XP. You must enable the CON port before attaching the modem.

To enable the CON port:

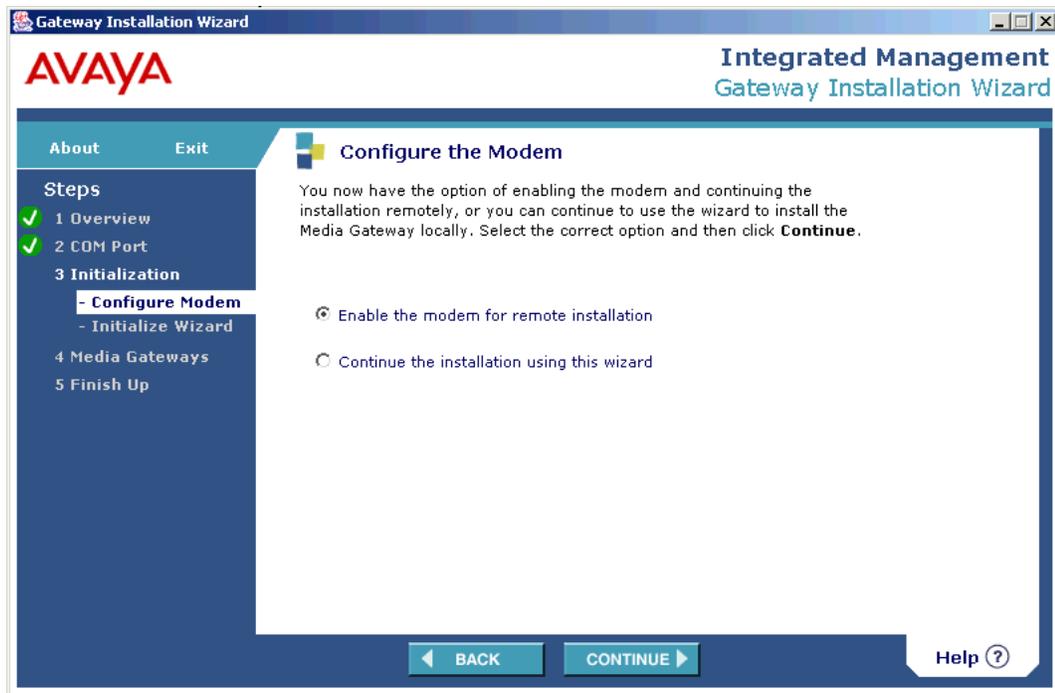
- 1 Prepare a PC with a CD-ROM drive and a TFTP server on the network. This may be needed for installing software and firmware upgrades.
- 2 Download GIW (Gateway Installation Wizard) from the Avaya website (support.avaya.com/avayaiw) to the laptop computer. The laptop should be running Windows 2000 or Windows XP to support GIW.
- 3 Plug one end of a flat RJ-45 to RJ-45 cable into a DB-9 adapter.
- 4 Plug the RJ-45 connector at the other end of the cable into the CON port of the G350.
- 5 Plug the DB-9 end of the flat cable into the COM port of the laptop computer.
- 6 From your laptop computer, double-click the GIW icon to run GIW. The opening screen appears:



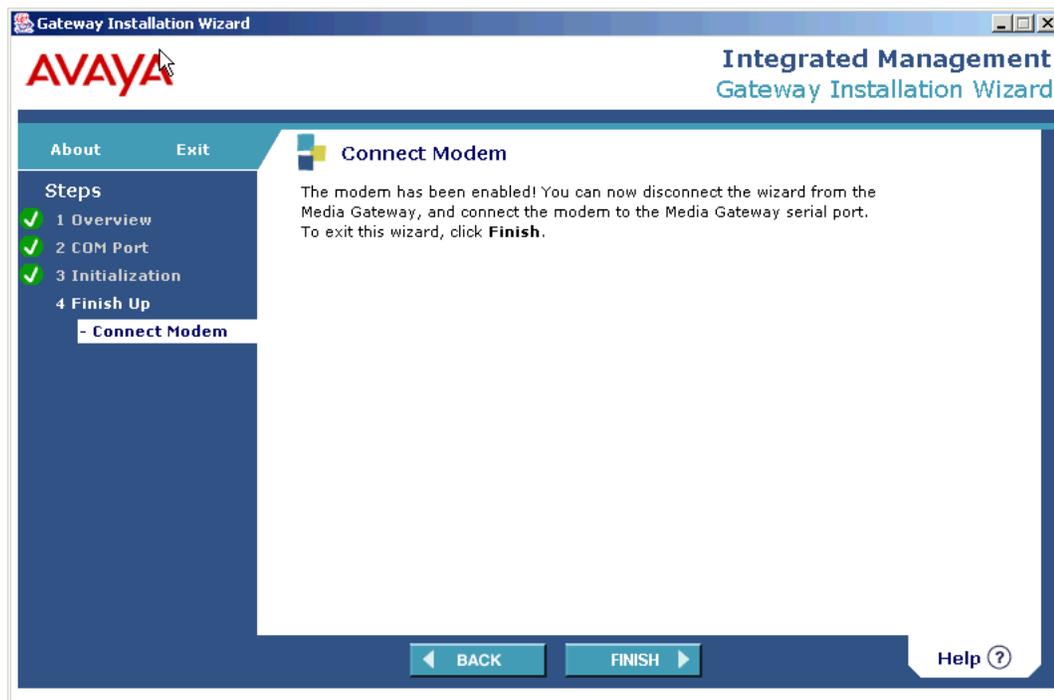
- 7 Click Continue. The COM Port Selection screen appears:



- 8 Select the COM port on the laptop that you are using the connect to the G350.
- 9 Click Continue. The Configure the Modem screen appears:



- 10 Select Enable the modem for remote configuration. The Connect the Modem screen appears:



- 11 Click Finish.
- 12 Connect a serial modem to a working telephone line.
- 13 Connect a DB-25 adapter to the modem.
- 14 Disconnect the flat cable from the COM port of the laptop computer.
- 15 Connect the flat cable to the DB-25 connector on the modem.

Preparing a laptop computer

When the configuration technician performs configuration tasks at the local site, you should have a laptop computer available. Even when configuration tasks are performed from a remote site, it is recommended to have a laptop computer available in case you are called upon to assist the remote technician by performing configuration tasks locally. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device. Do not attach the laptop to the Avaya G350 Media Gateway or attempt to perform local configuration except according to instructions from the configuration technician.

Preparing for configuration

Preparing a laptop computer

3 Adding telephones

This chapter tells you how to connect a new telephone and assist the configuration technician to configure the telephone. Adding a telephone requires you to perform the following tasks:

- [Connecting the telephone](#)
- Connecting a modem — see [Connecting a modem](#) on page 17
- Preparing a laptop computer — see [Preparing a laptop computer](#) on page 23
- [Preparing for configuration](#)
- [Testing](#)

The following sections explain how to perform these tasks for each type of telephone that you can add to the Avaya G350 Media Gateway.

 **WARNING:**

To reduce the risk of fire, use only 26 AWG or larger telecommunication line cords when installing telephones or adjuncts.

 **WARNING:**

Attention: Pour réduire les risques d'incendie, utiliser uniquement des conductors de télécommunications 26 AWG ou de section supérieure.

Connecting the telephone

This section explains how to connect a telephone to the Avaya G350 Media Gateway. There are some differences in how to connect a telephone, depending on the type of telephone you are connecting. This section provides separate instructions for connecting various types of telephones, as follows:

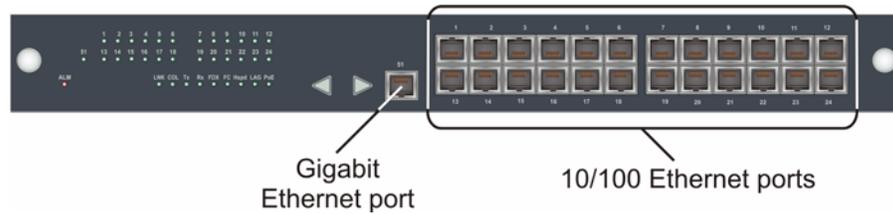
- [Connecting an IP telephone](#)
- [Connecting a DCP telephone](#)
- [Connecting an analog telephone or fax machine](#)

Connecting an IP telephone

This section explains how to connect an IP telephone. The main difference between an IP and non-IP telephone is that IP telephones store their extension numbers in the telephone itself, similar to a computer. Thus, you can plug an IP telephone into any data port with no change to the telephone's extension.

To connect the new IP telephone, plug the telephone into a network port. If the telephone is a PoE telephone, use a network jack that is directly connected to a 10/100 Ethernet port on the MM314 Media Module. You do not need to plug a PoE telephone into a power supply, since the telephone receives power from the network. If the jack is not yet wired to the MM314 Media Module, you must connect the jack. The MM314 Media Module is located in slot 6 of the Avaya G350 Media Gateway. The MM314's 24 10/100 Ethernet ports are located on the right side of the front panel and are labeled 1 through 24. If your Avaya G350 Media Gateway does not have an MM314 Media Module, you must add it. See [Adding a media module](#) on page 35.

Figure 1: The MM314 media module



Alternatively, you can connect the telephone to an external Avaya Ethernet switch, including a P333T, P333PWR, P130, or P130PWR. This switch must be connected to the LAN port on the Avaya G350 Media Gateway. This port is labeled 10/3.

If the telephone is not a PoE telephone, you can connect it to any port on the network switch. Note the slot and port number on the Avaya G350 Media Gateway to which you connect the telephone.

NOTE:

You must also plug the telephone into a power supply, since the network does not provide power to non-PoE telephones.

Connecting a DCP telephone

This section explains how to add a DCP telephone. With a DCP telephone, the physical port to which you connect the telephone determines the telephone's extension number.

To connect the new DCP telephone, plug the telephone into a network jack in the wall. The jack must be wired to a DCP telephone port on the Avaya G350 Media Gateway.

- If the project manager gave you a preassigned port, connect the telephone to the preassigned port.
- If you do not have a preassigned port, note the extension and port number of the port to which you connect the telephone.

If the network jack is not yet wired to the Avaya G350 Media Gateway, you must connect it. The following media modules contain DCP telephone ports:

- Avaya MM312 — 24 DCP ports
- Avaya MM712 — 8 DCP ports

Figure 2: The MM312 media module



Figure 3: The MM712 media module



If you do not have either of these modules, you must install at least one of them in order to add a DCP telephone. See [Adding a media module](#) on page 35.

Connecting an analog telephone or fax machine

This section explains how to connect an analog telephone or fax machine. With an analog telephone, the physical port to which you connect the telephone determines the telephone's extension number.

To connect the new analog telephone or fax machine, plug the telephone or fax machine into a network jack in the wall. The jack must be wired to an analog port on the Avaya G350 Media Gateway.

- If the project manager gave you a preassigned port, connect the telephone or fax machine to the preassigned port.
- If you do not have a preassigned port, note the extension and port number of the port to which you connect the telephone or fax machine.

If the network jack is not yet wired to the Avaya G350 Media Gateway, you must connect it. The Avaya G350 Media Gateway front panel contains two analog line ports. These ports are marked LINE above each port, and 2 and 3 beneath each port, respectively.

NOTE:

The leftmost LINE analog telephone port on the G350 front panel forms a mechanical analog relay with the TRK port next to it. This relay can be configured to provide emergency transferred telephone service in the case of a power outage or disconnection from an external media server. Therefore, the analog telephone connected to LINE is usually installed for this emergency purpose. Regular analog telephones on the network are usually connected to other analog ports.

In addition, the following Avaya media modules contain analog ports:

- Avaya MM711 - contains eight analog ports that you can use for either telephone and fax lines or trunk lines
- Avaya MM714 - contains four analog line ports and four analog trunk ports

Figure 4: The MM711 media module



Figure 5: The MM714 media module



If you do not have either of these modules, and you do not have a free analog line port on the front panel of the Avaya G350 Media Gateway, you must install at least one of these modules in order to add an analog telephone or fax machine. See [Adding a media module](#) on page 35.

Preparing for configuration

Before the software configuration for the new telephone takes place, gather the following information:

- name and location of the owner of the telephone
- model number of the telephone
- extension of the telephone
- slot and port number on the Avaya G350 Media Gateway to which the telephone connects

In addition, you may need to connect a modem or a laptop computer to the Avaya G350 Media Gateway. See [Preparing for configuration](#) on page 17.

Be ready to assist the configuration technician during the configuration.

Testing

After installation and configuration of the telephone is complete, test the telephone. To test the telephone, perform the following two steps:

- 1** Make outgoing calls from the telephone. Make sure you hear a dial tone when you pick up the receiver. Make sure you can make both an internal (within the local network) and an external (outside of the local network) call.
- 2** Make a call to the telephone from both within the network and outside of the network.

4 Adding trunks

This chapter tells you how to connect a trunk and assist the configuration technician to configure the trunk. Adding a trunk requires you to perform the following tasks:

- [Ordering the trunk](#)
- [Connecting the trunk](#)
- Connecting a modem — see [Connecting a modem](#) on page 17
- Preparing a laptop computer — see [Preparing a laptop computer](#) on page 23
- [Preparing for configuration](#)
- [Testing](#)

Ordering the trunk

When you order the trunk:

- Make sure to install the trunk near the physical location of the Avaya G350 Media Gateway.
- Make sure that the telephone service provider installs the trunk and verifies that the trunk is working properly before you contact the configuration technician.
- Note the telephone number of the trunk.

Special considerations when ordering an analog trunk

When you order an analog trunk, it is recommended to order a loop-start trunk in order to better ensure proper functioning of the Emergency Transfer Relay feature.

Connecting the trunk

This section explains how to connect a trunk to the Avaya G350 Media Gateway. There are some differences in how to connect a trunk, depending on the type of trunk you are connecting. This section provides separate instructions for connecting various types of trunks, as follows:

- [Connecting an analog trunk](#)
- [Connecting an ISDN BRI trunk](#)
- [Connecting an E1/T1 trunk](#)

Connecting an analog trunk

To connect an analog trunk, plug the trunk line into an analog trunk port on the Avaya G350 Media Gateway. The Avaya G350 Media Gateway front panel contains an analog trunk port. This port is marked TRK. Use an RJ-11 cable to connect the trunk to the port.

NOTE:

The TRK analog telephone port on the G350 front panel forms a mechanical analog relay with the LINE port next to it. This relay can be configured to provide emergency transferred telephone service in the case of a power outage or disconnection from an external media server. The TRK port is usually used in this emergency scenario to channel all incoming calls to LINE and to send all outgoing calls from LINE to an outside line.

In addition, the following Avaya media modules contain analog trunk ports:

- Avaya MM711 — contains eight analog ports that you can use for either telephone and fax lines or trunk lines.
- Avaya MM714 — contains four analog line ports and four analog trunk ports.

If you do not have either of these modules, and the analog trunk port on the front panel of the Avaya G350 Media Gateway is already in use, you must install at least one of these modules in order to add an analog trunk. See [Adding a media module](#) on page 35.

Connecting an ISDN BRI trunk

To connect an ISDN BRI trunk, plug the trunk line into an ISDN BRI port on the Avaya G350 Media Gateway. Use an RJ-11 cable to connect the trunk to the port.

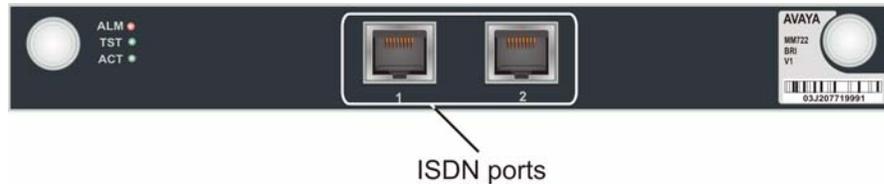
The following Avaya media modules contain ISDN BRI ports:

- Avaya MM720 — contains eight ISDN BRI ports.
- Avaya MM722 — contains two ISDN BRI ports.

Figure 6: The MM720 media module



Figure 7: The MM722 media module



If you do not have either of these modules, you must install at least one of these modules in order to add an ISDN BRI trunk. See [Adding a media module](#) on page 35.

Connecting an E1/T1 trunk

To connect an E1/T1 trunk, plug the trunk line into the E1/T1 port in the Avaya MM710 media module. Make sure the SIG LED lights.

Figure 8: The MM710 media module



If you do not have an Avaya MM710 media module, you must install it. See [Adding a media module](#) on page 35.

Preparing for configuration

Before the software configuration for the new trunk takes place, gather the following information:

- slot and port number on the Avaya G350 Media Gateway to which the trunk connects
- telephone number of the trunk

In addition, you may need to connect a modem or a laptop computer to the Avaya G350 Media Gateway. See [Preparing for configuration](#) on page 17.

Be ready to assist the configuration technician during the configuration.

Testing

After installation and configuration of the trunk is complete, test the trunk. To test the trunk:

- 1** Make outgoing calls from the trunk. Ask the configuration technician for instructions how to access the trunk. Make sure you can make both an internal (within the local network) and an external (outside of the local network) call.
- 2** Use a cellular telephone to make a call into the G350 trunk line.

5 Adding a WAN link

This chapter tells you how to connect a WAN link and assist the configuration technician to configure the interface. There are three types of WAN interfaces you can add to the Avaya G350 Media Gateway:

- USP WAN interface
- E1/T1 WAN interface
- Ethernet WAN interface

Each of these types of WAN interface connects to a different Avaya G350 Media Gateway media module.

Adding a WAN link requires you to perform the following tasks:

- [Ordering the line](#)
- [Connecting the WAN](#)
- Connecting a modem — see [Connecting a modem](#) on page 17
- Preparing a laptop computer — see [Preparing a laptop computer](#) on page 23
- [Preparing for configuration](#)
- [Testing](#)

The following sections explain how to perform these tasks for each type of WAN line that you can add to the Avaya G350 Media Gateway.

Ordering the line

If you need to order the WAN line:

- Make sure to install the line near the physical location of the Avaya G350 Media Gateway.
- Make sure that the service provider installs the line and verifies that the line is working properly before you contact the configuration technician.

Connecting the WAN

This section explains how to connect a WAN to the Avaya G350 Media Gateway. There are some differences in how to connect the WAN, depending on the type of WAN link you are connecting. This section provides separate instructions for connecting various types of WAN links, as follows:

- [Connecting a USP WAN link](#)
- [Connecting an E1/T1 WAN link](#)
- [Connecting an Ethernet WAN link](#)

Connecting a USP WAN link

You must connect the USP WAN link to the Avaya MM342 media module. To connect the WAN link, plug the WAN line into the USP port on the MM342 media module. This port is marked USP. To connect the WAN line to the port, use one of the following cable types depending on the service provider's equipment:

- V.35
- X.21

If your Avaya G350 Media Gateway does not include an MM342 media module, you must add it. See [Adding a media module](#) on page 35.

Connecting an E1/T1 WAN link

You must connect the E1 or T1 WAN line to the Avaya MM340 media module. To connect the WAN line, plug the WAN line into the E1/T1 port on the MM340 media module. This port is marked E1/T1. Use an RJ-48 cable to connect the WAN line to the port.

If your Avaya G350 Media Gateway does not include an MM340 media module, you must add it. See [Adding a media module](#) on page 35.

Connecting an Ethernet WAN link

You must connect the Ethernet WAN line (BSL, firewall, etc.) to the WAN Ethernet port on the front panel of the Avaya G350 Media Gateway chassis. This port is marked WAN ETH. Use an RJ-45 cable to connect the WAN line to the port.

Preparing for configuration

Before the software configuration for the new WAN line takes place, note the slot and port number on the Avaya G350 Media Gateway to which the WAN line connects. In addition, you may need to connect a modem or a laptop computer to the Avaya G350 Media Gateway. See [Preparing for configuration](#) on page 17.

Be ready to assist the configuration technician during the configuration.

Testing

After installation and of the WAN line is complete, test the link by verifying that the SIG LED for the port to which the link connects is lit.

6 Adding a media module

This chapter provides instructions how to add media modules to the Avaya G350 Media Gateway and includes the following topics:

- [General instructions and precautions](#) — describes impermissible combinations of media modules and slot allocations for each type of media module
- [Module types](#) — describes voice and data media modules, and which are hot-swappable and hot-insertable
- [Inserting media modules](#) — instructions for inserting media modules in the G350 chassis

General instructions and precautions

Before inserting media modules into the G350 chassis, make sure:

- not to install an unsupported combination of media modules. See [Combination limitations](#) on page 35.
- to allocate a permissible slot to each media module. See [Allocating slots](#) on page 35.

WARNING:

The Avaya G350 Media Gateway must not be operated with any slots open. Failure to cover empty slots with the supplied blank plates can cause overheating due to inadequate air distribution.

Combination limitations

The following combinations of media modules are not supported by the G350:

- More than one MM710 media module.
- More than two of any of the following voice media modules:MM711, MM720, MM714, MM722.
- More than two WAN media modules, which are MM340 and MM342.
- One or more MM712 media module with an MM312 media module.
- One MM312 media module with more than one MM711, MM714, or MM722 media module.
- More than one MM712 media module.

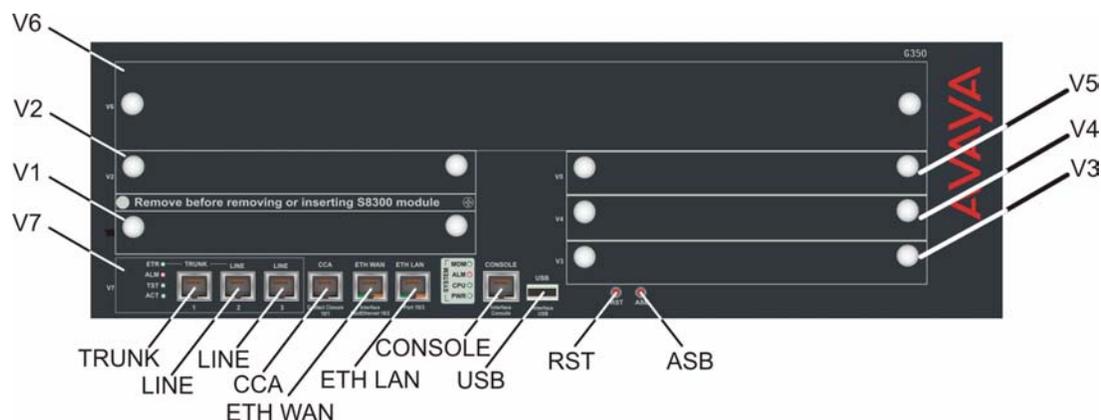
CAUTION:

Do not install an unsupported combination of media modules in the G350. Installation of an unsupported media module combination could result in malfunction.

Allocating slots

You insert media modules into the slots marked V1, V2, ..., V5, and V6 on the G350 front panel, shown in Figure 4 below.

Figure 9: The G350 front panel ports and slots



The following table describes which media modules can be inserted into which slots:

Table 1: Permitted slots for media modules

Media module	Permitted slots
MM312	V6
MM314	V6
MM340	V2, V3, V4, V5
MM342	V2, V3, V4, V5
MM710	V1, V2, V3, V4, V5
MM711	V1, V2, V3, V4, V5
MM712	V1, V2, V3, V4, V5
MM714	V1, V2, V3, V4, V5
MM720	V1, V2, V3, V4, V5
MM722	V1, V2, V3, V4, V5
S8300	V1

Module types

There are two basic types of Avaya media modules:

- Voice modules — support telephones, fax machines, and PSTN WAN lines
- Data modules — support WAN lines, PoE IP telephones, and data devices

In addition, some Avaya G350 Media Gateway configurations include an S8300 Media Gateway. Adding the S8300 Media Server is beyond the scope of this manual. Only a trained technician should add or remove an S8300. For more information on the S8300 Media Server, see [The front panel of the Avaya S8300 Media Server](#) on page 56.

Voice modules

You can hot-swap voice modules. This means you can add a voice module to the Avaya G350 Media Gateway while the system is running, without any disruption to your network. Configuration of the G350 is not necessary when you add a voice module. Configuration is only necessary when you add telephones, fax machines, and trunks to the new module. See [Adding telephones](#) on page 25 and [Adding trunks](#) on page 29.

Some configuration of the Avaya Communication Manager is necessary when you install an MM710, MM720, or MM722 media module. This configuration is performed by a specially trained technician, either remotely or on-site.

The G350 supports the following Avaya voice media modules:

Table 2: Supported voice media modules

Media module	Description
MM312	Provides 24 ports for connecting DCP telephones.
MM710	Provides one E1/T1 trunk port for connecting an E1/T1 telephone trunk.
MM711	Provides eight universal analog ports for connecting analog telephones or trunks.
MM712	Provides eight ports for connecting DCP telephones.
MM714	Provides four analog ports for analog telephones and four analog ports for analog trunks.
MM720	Provides eight ports for connecting ISDN trunks.
MM722	Provides two ports for connecting ISDN trunks.
S8300	Media Server

Data modules

You can hot-insert data modules. This means you can add a data module to the Avaya G350 Media Gateway while the system is running, but the G350 resets when you add the module. There is no configuration necessary when you add a data module. Configuration is only necessary when you add telephones, WAN lines, and data devices to the new module. See [Adding telephones](#) on page 25, [Adding a WAN link](#) on page 33, and [Adding data devices](#) on page 41.

The G350 supports the following Avaya data media modules:

Table 3: Supported media modules

Media module	Description
MM314	Provides one Gigabit Ethernet port and 24 10/100 Ethernet ports for connecting data devices. The 24 10/100 Ethernet ports can provide power to connected devices using Power over Ethernet (PoE).
MM340	Provides one E1/T1 WAN port for connecting to a WAN endpoint device.
MM342	Provides one USP WAN port for connecting to a WAN endpoint device.

Inserting media modules

The following instructions explain how to insert media modules other than the S8300 Media Server. Make sure to insert media modules in a permissible slot for the type of module you are installing. For information about which slots to allocate to which modules, see [Allocating slots](#) on page 35.



CAUTION:

Hold media modules only by the edges to avoid damage from static electricity. Do not touch the top or bottom of the circuit board. If possible, wear a wrist-strap and use an anti-static bag.



CAUTION:

The connector pins can be bent or damaged if the module is handled roughly, or if misaligned and then forced into position.



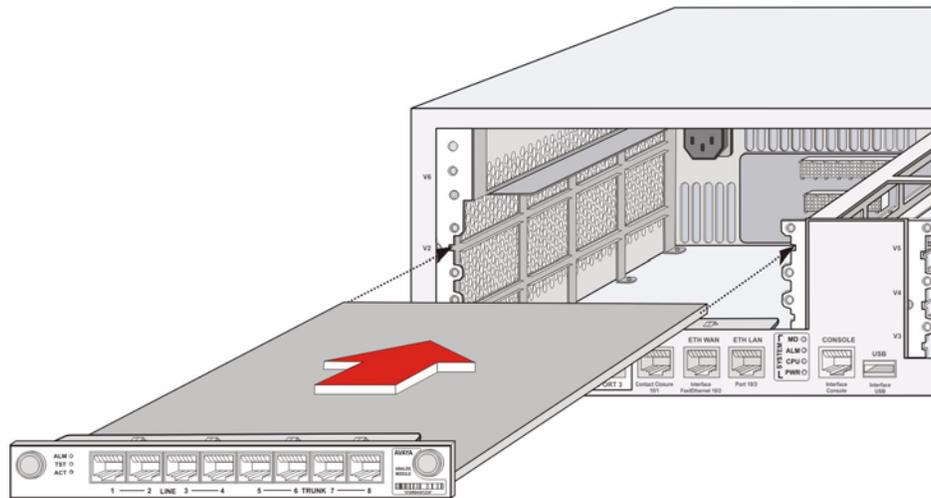
CAUTION:

Separate ESD paths to the chassis ground connect to the media modules at the spring-loaded captive screws. Use a screw driver to ensure the captive screws are securely tightened to prevent damage to the equipment.

To insert a media module:

- 1 Remove the blank plate from the empty slot.
- 2 Position the media module squarely before the selected slot on the front of the G350 chassis and engage both sides of the module in the interior guides.
- 3 Slide the module slowly into the chassis, maintaining an even pressure to assure that the module does not become twisted or disengaged from the guides.

Figure 10: Inserting a media module



- 4 Apply firm pressure to engage the connectors.

NOTE:

The media module connector has different length pins. The long pins engage first to provide grounding. Medium length and short pins provide power and signal.

- 5 Lock the media module into the chassis by tightening the spring-loaded captive screws on the front of the module.

WARNING:

To prevent access to electrical hazards by unauthorized personnel and to ensure continued compliance to international radiated emissions requirements, all captive screws must be securely tightened such that they cannot be loosened without the use of a tool.

WARNING:

After you have connected telephones to the various media modules, be sure to add circuit protection to the lines. See [Over-Voltage and Sneak-Current Protection](#) on page 39.

Over-Voltage and Sneak-Current Protection

Out-of-building installations of telephones or other standard (tip/ring) devices or terminals that connect to the G350 media modules require over-voltage and sneak current protection at both building entry points. Sneak current protectors must have a maximum of 350 mA and a minimum voltage rating of 600V. The following devices have been evaluated or tested and approved to protect the media modules from over-voltages and sneak current protection:

- Avaya MM712 DCP: either 146E IROB (In-Range Out-of-Building) or 4C3S-75 solid state protectors for surge and sneak current.
- Avaya MM710 T1/E1: over-voltage and sneak protection for the Avaya MM710 T1/E1 media module is provided on the Media Module itself.

Adding a media module

Inserting media modules

- Avaya MM711 Analog: analog trunks use the 507B or 110-SCP-9 sneak current protectors. Over-voltage protection is normally provided by the local telephone company. Analog voice terminals use one of the following types of combined over-voltage and sneak current protection:
 - Gas tube with heat coil: 4B1E-W
 - Solid state with heat coil: 4C1S
 - IROB: 146C (4-lines) or 146F (25-lines)

 **WARNING:**

Only service-trained personnel should install these circuit protection devices.

7 Adding data devices

This chapter tells you how to connect a data device and assist the configuration technician to configure the device. This chapter includes instructions for adding the following types of data devices:

- Computers
- Servers
- Switches

Adding a data device requires you to perform the following tasks:

- [Connecting the data device](#)
- Connecting a modem for remote configuration — see [Connecting a modem](#) on page 17
- Preparing a laptop computer for local configuration — see [Preparing a laptop computer](#) on page 23
- [Preparing for configuration](#)
- [Testing](#)

The following sections explain how to perform these tasks for each type of data device that you can add to the Avaya G350 Media Gateway.

Connecting the data device

This section explains how to connect a data device to the G350. There are some differences in how to connect a data device, depending on the type of data device you are connecting. This section provides instructions for connecting various types of data devices, as follows:

- [Connecting a computer](#)
- [Connecting a server](#)
- [Connecting a switch](#)

Connecting a computer

There are several possible ways to connect a computer to the G350. You can connect a new computer directly to the G350, to a switch connected to the G350, or to the data port of an IP telephone connected to a PoE port on the G350. The connection is determined by your network topology. Follow instructions from your project manager, who determines where you should connect the computer.

The following are the most typical options for connecting your computer to the G350.

Direct Connection to a port on the MM314 media module

If your Avaya G350 Media Gateway includes an MM314 media module, you might be asked to connect the computer to one of several data ports in this module. These are:

- 24 Ethernet 10/100 Base-T Ethernet access ports with inline Power over Ethernet (PoE)
- the Gigabit port, labelled 6/51

You can also connect the computer to the following ports on the front panel of the Avaya G350 Media Gateway chassis:

- the LAN port, labelled 10/3
- the Fast Ethernet port, labelled 10/2

To connect the computer to any of these ports except the LAN port, you can use a standard network cable with an RJ-45 connector, or a crossover cable with an RJ-45 connector. To connect the computer to the LAN port, use a crossover cable with an RJ-45 connector.

Connection to any switch

You can connect the computer to any switch that is connected to the Avaya G350 Media Gateway. Ask the project manager where the switch is located.

Connection to an IP telephone

Your network may include IP telephones. If so, you may be asked to connect the computer to the data port in the IP telephone.

Connecting a server

There are several possible ways to connect a server to the Avaya G350 Media Gateway. You can connect a server directly to the Avaya G350 Media Gateway or to a switch connected to the Avaya G350 Media Gateway. The connection is determined by your network topology. Follow instructions from the project manager, who determines where you should connect the server.

The following are the most typical options for connecting a server to the Avaya G350 Media Gateway.

Direct Connection to a port on the MM314 media module

If your Avaya G350 Media Gateway includes an MM314 media module, you might be asked to connect the server to one of several data ports in this module. These are:

- 24 Ethernet 10/100 Base-T Ethernet access ports with inline Power over Ethernet (PoE).
- the Gigabit port, labelled 6/51.

You can also connect the computer to the following ports on the front panel of the Avaya G350 Media Gateway chassis:

- the LAN port, labelled 10/3
- the Fast Ethernet port, labelled 10/2

To connect the server to any of these ports except the LAN port, you can use a standard network cable with an RJ-45 connector, or a crossover cable with an RJ-45 connector. To connect the server to the LAN port, use a crossover cable with an RJ-45 connector.

Connection to any switch

You can connect the computer to any switch that is connected to the Avaya G350 Media Gateway. Ask the project manager where the switch is located.

Connecting a switch

You can connect a new switch to any network port on the Avaya G350 Media Gateway. The most preferable option is often to connect the switch to the LAN port. Most network topologies do not provide for a switch to be connected to the WAN port. A switch with a Gigabit uplink port can be connected to the Gigabit port.

To connect the switch to any of these ports, you can use a standard network cable with an RJ-45 connector, or a crossover cable with an RJ-45 connector.

Preparing for configuration

Before software configuration for the new data device takes place, gather the following information:

- the name and location of the owner of or person responsible for the data device
- the slot and port number on the Avaya G350 Media Gateway to which the data device connects. If the data device is connected to an IP telephone, be ready to provide the extension of the telephone to which the data device connects, and the slot and port number on the G350 to which the telephone connects.

In addition, you may need to connect a modem or a laptop computer to the G350. See [Preparing for configuration](#) on page 17.

Be ready to assist the configuration technician with the configuration.

Testing

After installation and configuration of the data device is complete, request the technician who performed the configuration to ping the IP address of the device to test the device's connectivity with the network and outside the network.

8 Upgrading the G350 firmware

Firmware is the software that runs the Avaya G350 Media Gateway. Upgrading the firmware can be performed by a configuration technician in one of the following several ways:

- Remote configuration via telnet — a remote technician upgrades the firmware via Telnet. In this scenario, a modem is required at the local site. You should have a laptop computer available to provide on-site assistance if the remote technician requires assistance.
- Local configuration without S8300 Media Gateway — a configuration technician upgrades the firmware at the local site, using a laptop computer.
- Local configuration with S8300 Media Gateway — a configuration technician upgrades the firmware at the local site, using a laptop computer and a CD-ROM drive connected to the S8300 Media Gateway.

This chapter explains how you can assist the configuration technician to upgrade the firmware either with or without an Avaya S8300 Media Server.

Upgrading the G350 firmware with an S8300

If your Avaya G350 Media Gateway includes an Avaya S8300 Media Server, the configuration technician usually installs the upgrade firmware from a CD-ROM drive connected to the S8300. If the upgrade is performed locally, you might need to provide a laptop and a USB CD-ROM drive. If the upgrade is performed from a remote location, you must connect a USB CD-ROM drive to the S8300 and insert the upgrade CD-ROM in the CD-ROM drive. You also might need to connect a modem. This depends on the exact method by which the configuration technician performs the upgrade.

Connecting a modem

For a firmware upgrade on an Avaya G350 Media Gateway with an S8300 Media Server, use a USB modem. It is recommended to use a Multitech MultiModem USB, MT5634ZBA-USB-V92. To connect the modem, perform the following steps:

- 1 Connect the modem to a working telephone line. Note the telephone number of the line to which you connect the modem, so that you can provide the number to the configuration technician.
- 2 Connect the USB modem to either of the two USB ports in the Avaya S8300 Media Server.

You may be required to enable the modem and port. For instructions on enabling the modem, see [Enabling a modem connected to the Avaya S8300 Media Server](#) on page 18.

Preparing a laptop computer

If the firmware upgrade is performed remotely, make sure to have a laptop computer available in case you must perform configuration tasks directly at your local site. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device. Do not attach the laptop to the Avaya G350 Media Gateway or attempt to perform local configuration except according to instructions from the configuration technician.

If the firmware upgrade is performed locally, the configuration technician will probably bring a laptop to perform the upgrade. If the technician requests you to prepare a laptop, prepare the laptop according to the technician's instructions. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device.

Assisting the upgrade

Be prepared to assist the configuration technician by providing information, such as the IP address of the Avaya G350 Media Gateway.

Upgrading the G350 firmware without an S8300

If your Avaya G350 Media Gateway does not include an Avaya S8300 Media Server, the configuration technician downloads the upgrade firmware or installs it from a laptop computer. If the upgrade is performed locally, you might need to provide a laptop. If the upgrade is performed from a remote location, you might need to connect a modem. This depends on the exact method by which the configuration technician performs the upgrade.

Connecting a modem

For a firmware upgrade on an Avaya G350 Media Gateway that does not have an S8300 Media Server, use any modem with an Avaya RJ-45 serial cable. It is recommended to use a Multitech MultiModemZBA MT5634ZBA-V92. To connect the modem, perform the following steps:

- 1** Connect the modem to a working telephone line. Note the telephone number of the line to which you connect the modem, so that you can provide the number to the configuration technician.
- 2** Attach the cable to the CON port on the front panel of the Avaya G350 Media Gateway.

You may be required to enable the CON port for modem use. For instructions on enabling the CON port, see [Enabling a modem connected to the Avaya G350 Media Gateway chassis](#) on page 21.

Preparing a Laptop Computer

If the firmware upgrade is performed remotely, make sure to have a laptop computer available in case you must perform configuration tasks directly at your local site. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device. Do not attach the laptop to the Avaya G350 Media Gateway or attempt to perform local configuration except according to instructions from the configuration technician.

If the firmware upgrade is performed locally, the configuration technician will probably bring a laptop to perform the upgrade. If the technician requests you to prepare a laptop, prepare the laptop according to the technician's instructions. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device.

Assisting the upgrade

Be prepared to assist the configuration technician by providing information, such as the IP address of the Avaya G350 Media Gateway.

Upgrading the G350 firmware
Upgrading the G350 firmware without an S8300

9 Upgrading the Avaya Communication Manager software

If your Avaya G350 Media Gateway includes an Avaya S8300 Media Server, it might be necessary to upgrade the Avaya Communication Manager software. Upgrading the software can be performed by a specially trained technician in one of the following several ways:

- Remote configuration via Telnet — a remote technician upgrades the software via Telnet. In this scenario, a modem is required at the local site. You should have a laptop computer available to provide on-site assistance if the remote technician requires assistance.
- Remote configuration via network — a remote technician upgrades the software via a network connection. In this scenario, the entire configuration can generally be performed by the remote technician.
- Local configuration with S8300 Media Gateway — a specially trained technician upgrades the software at the local site, using a laptop computer and a CD-ROM drive connected to the S8300 Media Gateway.

This chapter explains how you can assist the configuration technician to upgrade the software either with or without an Avaya S8300 Media Server.

Upgrading the software using a CD-ROM drive

For both a local and a remote upgrade, the upgrade software is usually installed from a CD-ROM drive connected to the S8300. If the upgrade is performed locally, you might need to provide a laptop and a USB CD-ROM drive. If the upgrade is performed from a remote location, you must connect a USB CD-ROM drive to the S8300 and insert the upgrade CD-ROM in the CD-ROM drive. You also might need to connect a modem. This depends on the exact method by which the configuration technician performs the upgrade.

Connecting a modem

For a software upgrade on an Avaya G350 Media Gateway with an S8300 Media Server, use a USB modem. It is recommended to use a Multitech MultiModem USB, MT5634ZBA-USB-V92. To connect the modem, perform the following steps:

- 1 Connect the modem to a working telephone line. Note the telephone number of the line to which you connect the modem, so that you can provide the number to the configuration technician.
- 2 Connect the USB modem to either of the two USB ports in the Avaya S8300 Media Server.

You may be required to enable the modem and port. For instructions on enabling the modem, see [Enabling a modem connected to the Avaya S8300 Media Server](#) on page 18.

Preparing a Laptop Computer

If the software upgrade is performed remotely, make sure to have a laptop computer available in case you must perform configuration tasks directly at your local site. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device. Do not attach the laptop to the Avaya G350 Media Gateway or attempt to perform local configuration except according to instructions from the configuration technician.

If the software upgrade is performed locally, the configuration technician will probably bring a laptop to perform the upgrade. If the technician requests you to prepare a laptop, prepare the laptop according to the technician's instructions. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device.

Connecting a CD-ROM drive

Connect a USB CD-ROM drive to the free USB port on the Avaya S8300 Media Server. Then, insert the CD-ROM provided by Avaya into the CD-ROM drive.

Assisting the upgrade

Be prepared to assist the configuration technician by providing information, such as the IP address of the Avaya G350 Media Gateway.

Upgrading the software without a CD-ROM drive

You can upgrade the Avaya Communication Manager software without a CD-ROM drive by downloading the upgrade software or installing it from a laptop computer. If the upgrade is performed locally, you might need to provide a laptop. If the upgrade is performed from a remote location, you might need to connect a modem. This depends on the exact method by which the configuration technician performs the upgrade.

Preparing a Laptop Computer

If the software upgrade is performed remotely, make sure to have a laptop computer available in case you must perform configuration tasks directly at your local site. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device. Do not attach the laptop to the Avaya G350 Media Gateway or attempt to perform local configuration except according to instructions from the configuration technician.

If the software upgrade is performed locally, the configuration technician may bring a laptop to perform the upgrade. If the technician requests you to prepare a laptop, prepare it according to the technician's instructions. The laptop must have an Avaya RJ-45 serial cable configured to be a CON device.

Assisting the upgrade

Be prepared to assist the configuration technician by providing information, such as the IP address of the Avaya G350 Media Gateway.

10 Using the front panel

You can use the front panel of the Avaya G350 Media Gateway to:

- Connect devices
- Add media modules
- View LEDs
- Reset the device
- Reset and recover from the alternate bank

The first section in this chapter describes the front panel of the Avaya G350 Media Gateway chassis, without any media modules. The subsequent sections describe the front panels of the modules that you can insert in the Avaya G350 Media Gateway.

NOTE:

The chassis is sometimes referred to as V7.

The front panel of the Avaya G350 Media Gateway chassis

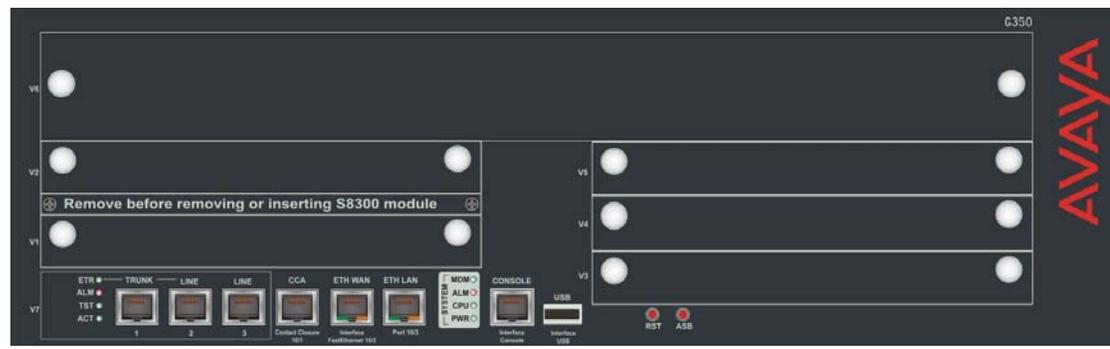
The chassis of the Avaya G350 Media Gateway consists of:

- One high-density media module slot (V6)
- Five standard media module slots (V1 through V5)
- Integrated analog telephone ports and LEDs (V7 - chassis)
- Contact closure port (CCA)
- Router port (ETH WAN)
- Switch port (ETH LAN)
- System LEDs
- Console port (CON)
- Reset (RST) and Alternate Software Bank (ASB) buttons

The G350 chassis

The following figure shows the G350 chassis:

Figure 11: G350 chassis



Fixed ports and buttons on the chassis front panel

The following tables describe the functions of the fixed ports and buttons on the G350 front panel.

Table 4: Fixed ports on the G350 front panel

Port	Description
TRUNK	An analog trunk port. Part of an integrated analog media module.
LINE	Two analog telephone ports of the integrated analog media module. An analog relay between TRUNK and the first LINE port provides the Emergency Transfer Relay (ETR) feature. This feature provides an emergency link between the telephone connected to LINE (port 2) and the trunk connected to the TRUNK port if power is disconnected from the G350 or if the G350 becomes unregistered from its Media Gateway Controller (MGC).
CCA	RJ-45 port for partner contact closure adjunct box, model 950A1, part number 107881435.
ETH WAN	RJ-45 10/100 Base TX Ethernet port, connected to the G350's internal router.
ETH LAN	RJ-45 Ethernet LAN switch port.
CON	Console port for direct connection of CLI console or modem. RJ-45s connector with P330/P460 pin assignment.
USB	Reserved for future releases.

Table 5: Buttons on the G350 front panel

Button	Description
RST	Reset button. Resets chassis configuration.
ASB	Alternate Software Bank button. Reboots the G350 with a software image in the opposite bank.

High-density media module slot (V6)

V6 is a slot for a high-density media module. If your G350 includes an MM312 or MM314 media module, this module goes in slot V6.

Media module slots (V1 through V5)

V1 through V5 are slots for standard media modules. You can insert any standard media module into any of slots V1 through V5, with the following exceptions:

- Insert the Avaya S8300 Media Server only into slot V1.
- Insert WAN media modules (MM340 and MM342) into any slot except slot V1.

For more information about adding media modules, see [Adding a media module](#) on page 35.

System LEDs

The system LEDs show the status of the Avaya G350 Media Gateway. The following table shows the meaning of the system LEDs when they are lit:

Table 6: System LEDs

LED	Name	Color	Meaning
MDM	Modem Detected	Green	A modem is connected to the CON port
ALM	Alarm	Red	An alarm is present in the system
CPU	CPU	Green	OFF — A test is in progress ON — Normal operation
PWR	Power	Green	OFF — No power BLINKING — Problem with power ON — Normal operation

Analog telephone ports and LEDs

The analog telephone ports are standard RJ-11 telephone network ports.

- TRUNK is a trunk port.
- The two LINE ports (ports 2 and 3) are analog telephone ports.

The analog telephone port LEDs show the status of the analog telephone ports.

The following table shows the meaning of the analog telephone LEDs when they are lit:

Table 7: Analog telephone port LEDs

LED	Name	Color	Meaning
ETR	Emergency Transfer	Green	The Emergency Transfer Relay (ETR) feature has been activated. This feature provides an emergency link between the telephone connected to the first LINE port (port 2) and the trunk connected to the TRUNK port if power is disconnected from the G350 or if the G350 becomes unregistered from its Media Gateway Controller (MGC).
ALM	Alarm	Red	An alarm is present on the board
TST	Test	Green	A test is in progress
ACT	Activity	Yellow	A call is in progress

Contact closure port (CCA)

The contact closure port (CCA) is a standard RJ-11 network port used to support the G350's Contact Closure feature. The Contact Closure feature is a controllable relay providing dry contacts for various applications. To implement the Contact Closure feature, connect an Avaya Partner System Contact Closure Adjunct™ box to the CCA port. The adjunct box provides two contact closures that can be operated in either a normally closed or normally open state. The contact closures can control devices such as devices that automatically lock or unlock doors or voice recording units. The CCA port can be configured so that the connected devices can be controlled by an end device, such as a telephone. For example, a user can unlock a door by keying a sequence into a telephone keypad. For more information on Contact Closure, see *Installation of the Avaya G350 Media Gateway*, 555-245-104.

Router port (ETH WAN)

ETH WAN is a standard RJ-45 network port. Use ETH WAN to connect a data device to the internal router through a 10/100 mbps Ethernet port. The G350 serves as a router for the WAN.

Switch port (ETH LAN)

ETH LAN is a standard RJ-45 network port. Use ETH LAN to connect a data device to the switch through a 10/100 mbps Ethernet port. You can connect an external LAN to ETH LAN.

Console port (CON)

CON is a standard RJ-11 network port. Use the CON port to connect a console device or modem to the G350.

Reset (RST) and Alternate Software Bank (ASB) buttons

RST is the reset button. ASB is the Alternate Software Bank button.

The Avaya G350 Media Gateway has two firmware banks:

- Bank A
- Bank B

Each firmware bank contains a version of the G350 firmware. These may be different versions. The purpose of this feature is to provide software redundancy. If one of the versions becomes corrupted, you can reset the G350 using the other version. This is particularly important when uploading new versions.

By default, when you turn on or reset the G350, the G350 loads firmware from Bank B. This default setting can be changed by the system administrator.

You can use the ASB button on the front panel to load firmware from the bank other than the default bank during startup:

- 1** Press and hold the reset button.
- 2** Press and hold the ASB button.
- 3** Release the reset button.
- 4** Release the ASB button.

For example, if the G350 is configured to load firmware from Bank B, use the steps listed above to reset the G350 to load the firmware from Bank A instead.

The front panel of the Avaya S8300 Media Server

The S8300 Media Server is a Pentium-based processor that runs on a Linux operating system. The S8300 runs Avaya Communication Manager (ACM) to provide call control services to the G350 and other Avaya gateway devices.

The front panel of the S8300 includes:

- 10/100BaseT Fast Ethernet port
- Two USB ports for modem connections

Figure 12: The S8300 Media Server



Ports

The S8300's 10/100BaseT Fast Ethernet port is labeled SERVICES, and is located in the center of the front panel. The S8300's two USB ports are labeled USB 1 and USB 2. They are located towards the right of the front panel.

Port LEDs

The following table shows the meaning of the S8300's LEDs when they are lit:

LED	Name	Color	Meaning
ALM	Alarm	Red	An alarm is present
TST	Test	Green	A test is in progress
ACT	Activity	Yellow	A call is in progress

In addition, the front panel of the S8300 has a LED labeled OK TO REMOVE, which is connected to a button labeled SHUT DOWN. This LED indicates that the S8300 has been shut down, and can be removed from the G350 chassis. Do not attempt to remove the S8300 without instructions from a specially trained technician.

The front panel of the Avaya MM312 media module

The MM312 DCP media module front panel has 24 Digital Communications Protocol (DCP) ports with RJ-45 network ports. The MM312 supports simultaneous operation of all 24 ports. Each port can be connected to a two-wire DCP telephone. The MM312 does not support four-wire DCP telephones.

Figure 13: The MM312 media module front panel



Ports

The MM312's 24 DCP ports are labeled 1 through 24.

LEDs

The following table shows the meaning of the MM312's LEDs when they are lit:

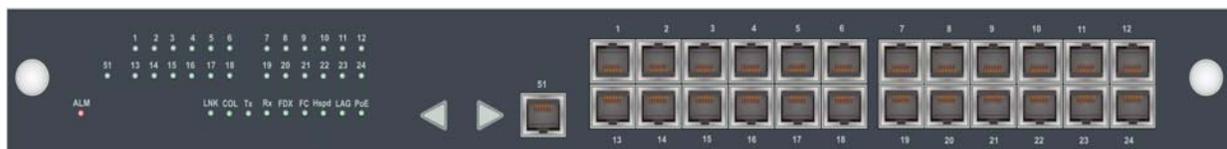
LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up

The front panel of the Avaya MM314 media module

The MM314 media module is a LAN media module that provides:

- 24 10/100 Base-T Ethernet access ports with inline Power over Ethernet (PoE)
- One Gigabit Ethernet 1000 uplink/access port

Figure 14: The MM314 media module front panel



Ports

The MM314's 24 10/100 Base-T Ethernet ports are located on the right side of the front panel and are labeled 1 through 24. The MM314's Gigabit Ethernet port is located in the center of the front panel and is labeled 51.

Alarm LED

The MM314's alarm (ALM) LED is located on the lower left corner of the front panel. The ALM LED indicates that an alarm is present in the module.

Port LEDs

On the left side of the MM314's front panel are numbered LEDs that correspond to each of the MM314's network ports. Underneath these LEDs is a row of LEDs that indicate particular functions. The function LED that is lit indicates which function the network port LEDs are reporting. For example, if the LNK LED is lit, the port LEDs indicate whether the network links for the specific ports are functioning properly.

To the right of the function LEDs are two push buttons. Use these buttons to select the function you want the port LEDs to report. For example, if the COL LED is lit, all the port LEDs are reporting the Collision status of their respective port. The following table shows each of these functions:

LED	Name	Meaning
LNK	Link	If the port LED is lit, the port is enabled and the link is working properly.
COL	Collision	If the port LED is off, there has been no collision on line. If this LED is flashing, there are collisions occurring.
Tx	Transmit to line	If the port LED is lit, data is being transmitted.
Rx	Receive from line	If the port LED is lit, data is being received from the line.
FDX	Half/Full Duplex	If the port LED is lit, the line is operating in Full Duplex mode. If the port LED is off, the line is operating in Half Duplex mode.
FC	Symmetric Flow Control	If the port LED is lit, the port is operating in Full Duplex and Flow Control mode. If the port LED is off, the port's Flow Control mode is disabled, or the port is operating in Half Duplex mode.
Hspd	High Speed	If the LED is lit, the port is operating at the higher of its possible speeds.
LAG	Link Aggregation Trunking	If the LED is lit, the port belongs to a LAG.
PoE	Power over Ethernet	If the LED is lit, the port is operating in PoE mode.

The front panel of the Avaya MM340 media module

The MM340 media module provides one WAN access port for the connection of an E1 or T1 WAN line. The following figure shows the MM340 media module front panel.

Figure 15: The MM340 media module front panel



Ports

The MM340's E1/T1 WAN access port is marked E1/T1. This port is located in the center of the front panel.

LEDs

The following table shows the meaning of the MM340's LEDs when they are lit:

LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up
SIG	Signal	Green	The physical connection is up

The front panel of the Avaya MM342 media module

The MM342 media module provides one USP WAN access port and supports the following WAN interface types:

- EIA530
- V.35/ RS449
- X.21

The following figure shows the MM342 media module front panel.

Using the front panel

The front panel of the Avaya MM710 media module

Figure 16: The MM342 media module front panel



Ports

The MM342 contains one WAN SCSI access port.

LEDs

The following table shows the meaning of the MM342's LEDs when they are lit:

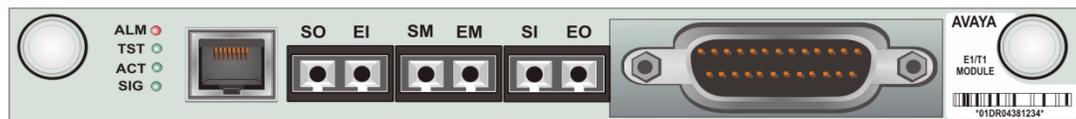
LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up
CON	Connection	Green	The physical connection is up

The front panel of the Avaya MM710 media module

The MM710 T1/E1 media module terminates a T1 or E1 trunk. The MM710 has a built-in Channel Service Unit (CSU), so an external CSU is not necessary. The CSU is only used for the T1 circuit.

The following figure shows the MM710 media module front panel.

Figure 17: The MM710 media module front panel



NOTE:

The six ports in the middle of the front panel are used for testing.

Ports

The MM710 contains an E1/T1 port.

LEDs

The following table shows the meaning of the MM710's LEDs when they are lit:

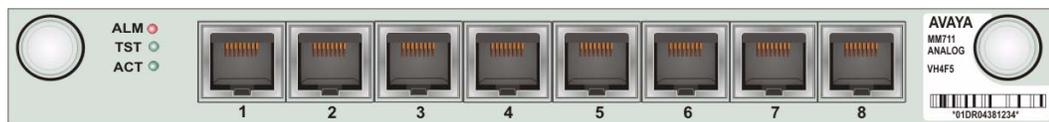
LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up
SIG	Signal	Green	The physical connection is up

The front panel of the Avaya MM711 media module

The MM711 media module provides analog line, trunk and telephone features and functionality. The MM711 front panel includes eight universal analog ports. These ports can be used for analog telephone or fax machines, or for analog trunks.

The following figure shows the MM711 front panel.

Figure 18: The MM711 media module front panel



Ports

The MM711's eight universal analog ports are labeled 1 through 8.

Using the front panel

The front panel of the Avaya MM712 media module

LEDs

The following table shows the meaning of the MM711's LEDs when they are lit:

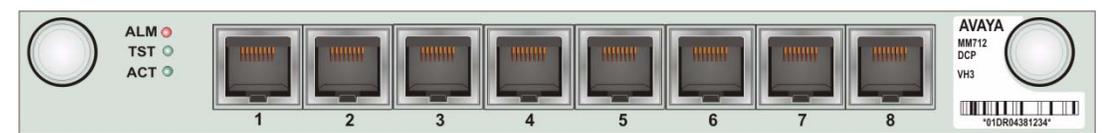
LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up

The front panel of the Avaya MM712 media module

The MM712 DCP media module includes eight DCP telephone ports. The ports support two-wire DCP telephones.

The following figure shows the MM712 front panel.

Figure 19: The MM712 media module front panel



Ports

The MM712's eight DCP telephone ports are labeled 1 through 8.

LEDs

The following table shows the meaning of the MM712's LEDs when they are lit:

LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up

The front panel of the Avaya MM714 media module

The MM714 analog media module includes four analog telephone ports and four analog trunk ports.

The following figure shows the MM714 front panel.

Figure 20: The MM714 media module front panel



Ports

The MM714's four analog telephone ports are labeled 1 through 4. These ports can also be used for DID trunks.

The MM714's four analog trunk ports are labeled 5 through 8.

LEDs

The following table shows the meaning of the MM714's LEDs when they are lit:

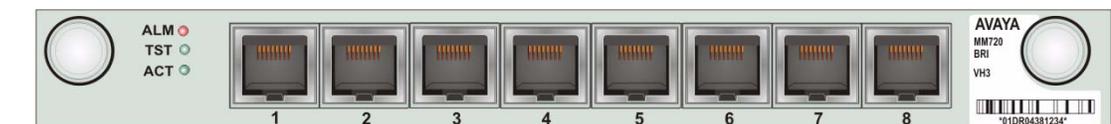
LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up

The front panel of the Avaya MM720 media module

The MM720 ISDN BRI media module contains eight ISDN BRI ports. These ports interface to the central office at the ISDN T reference point.

The following figure shows the MM720 front panel.

Figure 21: The MM720 media module front panel



Ports

The MM720's eight ISDN BRI ports are labeled 1 through 8.

LEDs

The following table shows the meaning of the MM720's LEDs when they are lit:

LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up

The front panel of the Avaya MM722 media module

The MM722 ISDN BRI media module provides two 4 wire S/T ISDN BRI (Basic Rate Interface) 2B+D access ports with RJ-45 jacks.

Figure 22: The MM722 media module front panel



Ports

The MM722 contains two ISDN BRI ports.

LEDs

The following table shows the meaning of the MM722's LEDs when they are lit:

LED	Name	Color	Meaning
ALM	Alarm	Red	The module type is not the type configured in the MSG for the slot
TST	Test	Green	A loopback is present
ACT	Activity	Yellow	The line protocol is up

Using the front panel

The front panel of the Avaya MM722 media module

11 Troubleshooting

This chapter provides basic troubleshooting information. The purpose of this chapter is to give Tier 1 technicians enough information to identify and fix simple problems and to provide their project managers with enough information so that they can identify and fix more complex problems.

One telephone stops working

If one telephone in the network stops working, but the other telephones and data devices continue to work normally, the problem is probably with the telephone itself. There could also be a problem with the telephone's connection to the Avaya G350 Media Gateway. Take the following steps to identify the problem:

- 1 Replace the telephone with a different telephone. If the new telephone works, the problem is with the telephone itself. If the new telephone does not work, go on to the next step.
- 2 Connect the telephone to a different power supply. If the telephone works, the problem is with the original power supply. If the telephone still does not work, go on to the next step.
- 3 Connect the telephone to a different network port. If the telephone works, the problem is with the original network port. If the telephone still does not work, go on to the next step.
- 4 Check the module on the Avaya G350 Media Gateway to which the telephone is connected. Check whether the physical connection is loose, and tighten the connection if necessary. If the telephone still does not work, go on to the next step.
- 5 Check the LEDs on the module to which the telephone connects. Make sure the LED for the port to which the telephone is connected is lit. If it is not lit, the problem may be with the port or the module. If the ALM LED is lit, this is also an indication that there is a problem with the port or the module. Note the port and module and contact your project manager. For information on the various modules and their LEDs, see [Using the front panel](#) on page 51.

Several telephones stop working

If some telephones in the network stop working, but others continue to work, the problem is probably with a trunk or one of the modules in the Avaya G350 Media Gateway. Take the following steps to identify the problem:

- 1 Determine whether all the telephones that are affected connect to the same switch or port. If they do, the problem is probably with that switch or port. If they do not, go on to the next step.
- 2 Consult your network topology to determine whether all the telephones that are affected connect to the same trunk. If they do, the problem is probably with that trunk. If they do not, go on to the next step.
- 3 Determine whether all the telephones that are affected connected to the same module. If they do, check the LEDs on that module. If the ALM LED is lit, there may be a problem with the module. Contact your project manager. If not, go on to the next step. For information on the various modules and their LEDs, see [Using the front panel](#) on page 51.

- 4 Check the ALM LED on the Avaya G350 Media Gateway chassis. If it is lit, there may be a system wide problem. Contact your project manager. For information on the chassis, see [The front panel of the Avaya G350 Media Gateway chassis](#) on page 51.

No power on the G350

If there is no power at all on the Avaya G350 Media Gateway, take the following steps to identify the problem:

- 1 Check the AC power source with a voltmeter.
- 2 Connect the Avaya G350 Media Gateway to a different AC power source. If the network has power, the problem is with the original power source. If the network still does not work, go on to the next step.
- 3 Check the ALM LED on the Avaya G350 Media Gateway chassis. If it is lit, there may be a system wide problem. Contact your project manager. See [The front panel of the Avaya G350 Media Gateway chassis](#) on page 51.

A trunk stops working

If a trunk stops working, take the following steps to identify the problem:

- 1 Check the connection between the trunk and the Avaya G350 Media Gateway. If the physical connection is loose, tighten the connection. If the trunk still does not work, go on to the next step.
- 2 Check the ALM LED on the module to which the trunk connects. If it is lit, there may be a problem with the module. Contact your project manager. If not, go on to the next step. For information on the various modules and their LEDs, see [Using the front panel](#) on page 51.
- 3 Check the ALM LED on the Avaya G350 Media Gateway chassis. If it is lit, there may be a system wide problem. Contact your project manager. See [The front panel of the Avaya G350 Media Gateway chassis](#) on page 51.

A WAN line stops working

If a WAN line stops working, take the following steps to identify the problem:

- 1 Check the connection between the WAN line and the Avaya G350 Media Gateway. If the physical connection is loose, tighten the connection. If the line still does not work, go on to the next step.
- 2 Check the ALM LED on the module to which the WAN line connects. If it is lit, there may be a problem with the module. Contact your project manager. If not, go on to the next step. For information on the various modules and their LEDs, see [Using the front panel](#) on page 51.
- 3 Check the ALM LED on the Avaya G350 Media Gateway chassis. If it is lit, there may be a system wide problem. Contact your project manager. See [The front panel of the Avaya G350 Media Gateway chassis](#) on page 51.

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