



**Installing and Configuring the
Avaya S8400 Media Server
Release 3.1**

03-300678
Release 3.1
February 2006
Issue 1

© 2006 Avaya Inc.
All Rights Reserved.

Notice

While reasonable efforts were made to ensure that the information in this document was complete and accurate at the time of printing, Avaya Inc. can assume no liability for any errors. Changes and corrections to the information in this document may be incorporated in future releases.

For full legal page information, please see the complete document, *Avaya Legal Page for Hardware Documentation*, document number 03-600759.

To locate this document on our Web site, simply go to <http://www.avaya.com/support> and search for the document number in the search box.

Documentation disclaimer

Avaya Inc. is not responsible for any modifications, additions, or deletions to the original published version of this documentation unless such modifications, additions, or deletions were performed by Avaya. Customer and/or End User agree to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation to the extent made by the Customer or End User.

Link disclaimer

Avaya Inc. is not responsible for the contents or reliability of any linked Web sites referenced elsewhere within this documentation, and Avaya does not necessarily endorse the products, services, or information described or offered within them. We cannot guarantee that these links will work all of the time and we have no control over the availability of the linked pages.

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>.

Copyright

Except where expressly stated otherwise, the Product is protected by copyright and other laws respecting proprietary rights. Unauthorized reproduction, transfer, and or use can be a criminal, as well as a civil, offense under the applicable law.

Avaya support

Avaya provides a telephone number for you to use to report problems or to ask questions about your product. The support telephone number is 1-800-242-2121 in the United States. For additional support telephone numbers, see the Avaya Web site: <http://www.avaya.com/support>.

Contents

Chapter 1: Introduction	7
Audience	7
How to use this documentation	8
Pre-installation: before going on site	9
Documentation	9
Verifying site readiness	9
Laptop preparation, software, and system information	10
Copying files to the laptop	10
About ASG and the unique on-site password	11
Obtaining license and Avaya authentication files	11
Pre-installation: at the site	13
Equipment specifications	13
About media server port connections	14
Ethernet ports	14
Media server cable adapter	15
Ethernet connectivity with the TN8412AP circuit pack	16
Services access port	19
About Modem connections	20
About Media Gateways	20
About Processor Ethernet	21
About SSH	22
High level overview of installation process	23
Installing and cabling the media gateways	23
Installing Avaya Communication Manager	23
Configuring the MPC	23
Configuring the media server	23
Translating the SIPI	24
Completing the installation administration	24
Testing the finished installation	24
Chapter 2: SNMP Configuration	25
Configuration of the SNMP modules in the UPS	25
Default UPS IP addresses	26
Preparing to configure the SNMP module	26
Administering the SNMP module	27
Setting selected traps (alarming)	28

Contents

Chapter 3: Communication Manager Installation	29
Clearing the ARP cache on the laptop	29
Connecting the CD/DVD drive to the media server	30
Powering up the media server	30
Accessing the media server	30
Configuring Telnet for Windows 2000/XP	31
Installing Avaya Communication Manager	32
Installing IA 770 INTUITY AUDIX Messaging	33
Chapter 4: Media server configuration.	35
Opening the Maintenance Web Interface.	35
Copying files to the media server	36
Enabling Network Time Servers	37
Using the Installation Wizard	38
Verifying MPC IP information	39
Installing MPC firmware	39
Verifying media server connection to the customer's LAN (if provided)	40
Enabling firewall settings	40
Configuring the modem	41
Chapter 5: IP interface translations	43
Starting SAT terminal emulation	44
Inputting initial system translations	44
Adding media gateways	44
Enabling SIPI	45
Adding the SIPI to the system	46
Setting alarm activation level	47
Saving translations	47
Chapter 6: IP interface configuration.	49
SIPI address configuration	49
Programming the SIPI for static addressing	50
Setting the VLAN and diffserv parameters.	52
Resetting the SIPI	53
Verifying connectivity to media server	54
Verifying that SIPI is translated	54

Upgrading the SIPI firmware version (if necessary)	54
Enabling control of SIPI	55
Verifying license status	55
Chapter 7: Post-installation administration	57
Verifying translations	57
Setting daylight savings time rules	58
Setting locations (if necessary)	59
Verifying date and time	60
Clearing and resolving alarms	60
Backing up files to the compact flash media	61
Enabling alarms to INADS via modem	61
Enabling alarms to INADS via SNMP	62
Before leaving the site.	62
Chapter 8: Installation verification	63
Testing the SIPI circuit pack	64
Testing the license file	64
TN8400AP Media Server LEDs	65
Faceplate interfaces	66
LED descriptions	67
UPS LEDs	68
TN8412AP SIPI LEDs	69
Appendix A: Media server access	73
Accessing the server's command line interface with SSH	73
Connecting to the media server directly	75
Connecting to the media server remotely over the network	76
Connecting to the media server remotely over a modem	77
Accessing the Maintenance Web Interface	78
Using the SAT command line prompt	78
Logins for Avaya technicians and Business Partners	79
Configuring the network for Windows 2000/XP	80
Setting browser options for Internet Explorer 6.0.	81

Contents

Appendix B: Installation troubleshooting	83
Troubleshooting media server hardware installation	83
Troubleshooting configuring the media server hardware	84
Troubleshooting the installation of license files and Avaya authentication files .	86
Index	87

Chapter 1: Introduction

To configure the media server, use the Avaya Installation Wizard. To configure gateways and other hardware components, use two administration interfaces:

- Maintenance Web Interface
- Command line interface, directly through, secure shell (SSH), telnet, or a terminal emulation program such as Avaya Native Configuration Manager.

You are not required to install the media server before the port networks (media gateways); however, the license file allows only 30 minutes to "see" the administered and connected IP Interface (SIPI) circuit packs.

The following information is included in this installation procedure:

- [Pre-installation: before going on site](#) on page 9
- [Configuration of the SNMP modules in the UPS](#) on page 25
- [Media server configuration](#) on page 35
- [IP interface translations](#) on page 43
- [IP interface configuration](#) on page 49
- [Post-installation administration](#) on page 57
- [Installation verification](#) on page 63
- [Media server access](#) on page 73
- [Installation troubleshooting](#) on page 83

Audience

This documentation is for the following people tasked with installing and configuring the media server components:

- Trained field installation and maintenance personnel
- Technical support personnel
- Authorized Business Partners

How to use this documentation

Use this documentation as a guide to install and configure Avaya media servers. For information about a particular task, use the index or table of contents to locate the page number where the information is described.

For an overview of the installation process, see [High level overview of installation process](#) on page 23.

Read [Pre-installation: before going on site](#) on page 9 first. This section lists the tasks that must be completed before going to the installation site. Next, read [Pre-installation: at the site](#) on page 13. This section lists the tasks that must be completed on site before beginning the installation procedures.

Technical specifications for the hardware are described in [Equipment specifications](#) on page 13.

For the physical installation and cabling of the hardware, see the *Quick Start for Hardware Installation: Avaya S8400 Media Server in an Avaya G650 Media Gateway* (03-300705). Use the remaining sections of this document in the sequence they are presented. If certain components are not to be installed, skip the procedures for those components. You install and configure the media server components using information in the following sections:

- [Configuration of the SNMP modules in the UPS](#) on page 25
- [Media server configuration](#) on page 35
- [IP interface translations](#) on page 43

Next, install the port networks and media gateways, using sections in the following documents:

- *Installing the Avaya G650 Media Gateway* (03-300144)
- *Installation and Configuration for the Avaya G150 Media Gateway* (03-300395)
- *Quick Start for Hardware Installation: Avaya G350 Media Gateway* (03-300148)
- *Installation of the Avaya G350 Media Gateway* (555-245-104)
- *Quick Start for Hardware Installation: Avaya S8300 Media Server and Avaya G700 Media Gateway* (555-233-150)
- *Installation and Upgrades for the Avaya G700 Media Gateway and Avaya S8300 Media Server* (555-234-100)

Program the IP interface using [Chapter 6: IP interface configuration](#).

Complete the installation using information in the following sections:

- [Post-installation administration](#) on page 57
- [Installation verification](#) on page 63
- [Media server access](#) on page 73

If problems occur during the installation, use [Installation troubleshooting](#) on page 83 to try to resolve them.

Pre-installation: before going on site

This section describes the steps you need to take to before going to the installation site.

Documentation

Avaya recommends that you have the following documents on hand for the installation. These are included on the *Documentation for Avaya Communication Manager, Media Gateways and Servers* CD (03-300151).

- *Quick Start for Hardware Installation: Avaya S8400 Media Server in an Avaya G650 Media Gateway* (03-300705) — a quick reference guide providing physical installation and connection information.
- Completed *Electronic Preinstallation Worksheet* — An Excel spreadsheet providing the customer's network information needed to use the Avaya Installation Wizard to configure the control network components. Get from the Avaya project manager, Avaya software technician, or customer network administrator. See the Avaya Installation Wizard Web site (<http://support.avaya.com/avayaiw>) for the blank form.
- *Job Aid: Approved Grounds* (555-245-772) — provides a description of all approved grounds.

Verifying site readiness

Before going on site, make sure the customer has:

- adequate power
- 19-in. (48-cm) 4-post data racks securely installed to EIA-310D (or equivalent) standards and grounded
- a local area network set up and running
- a network administrator available the day of the installation

If you are staging the installation at a location other than the customer's site, verify that you have all the equipment by comparing the list of items ordered against the items in the boxes. Your project manager can supply you with an inventory list. Do not rely solely on the packing slips inside the boxes.

Laptop preparation, software, and system information

Verify that:

- The services laptop has the right hardware and software. See [Connecting to the media server directly](#) on page 75 for the list of computer hardware and software specifications.
- Current Avaya Communications Manager translations are available for download.
- You have a completed *Electronic Preinstallation Worksheet* (EPW) on the services laptop. See the Avaya Installation Wizard Web site (<http://support.avaya.com/avayaiw>) for the blank form.

The EPW provides customer system information, including:

- IP addresses
- Product IDs for the media server, remote maintenance board, and IA 770 if used
- Avaya services telephone number for remote access over modem
- Avaya services IP address for alarms through the network
- You have the current Communications Manager software update, if required, on your services laptop
- You have current firmware, including for the media server BIOS. Check the Avaya Support Web site (<http://support.avaya.com>), Download Software and Firmware, for the latest software and firmware. Firmware for the SIPs, C-LAN, MedPro, and VAL circuit packs are on the software CD.
- You have License and Avaya authentication files on your services laptop.
- You have all login IDs and passwords needed to access the media server, maintenance adapter, and server complex components. This includes the unique service password for your customer's equipment.
 - To obtain the unique password for a specific media server, call ASG Conversant (1.800.248.1234 or 1.720.444.5557). You must have the IL, FL, or product ID to get the password.
 - To log in through the services port as craft after you install the Avaya authentication file, use this password, which does not require an ASG challenge or response.

Copying files to the laptop

In addition to the license and Avaya authentication files, you must copy other required files to the services laptop. This includes the filled-out *Electronic Preinstallation Worksheet* (EPW); any service packs; current firmware, including firmware for the BIOS, remote maintenance board, and programmable circuit packs.

To get a filled-out EPW, go to the project manager or customer. To get a blank EPW, go to the Avaya Installation Wizard Web site (<http://support.avaya.com/avayaiw>). Have the customer fill it out.

To get the service pack, go to the Avaya Support Web site (<http://avaya.com/support>) and select **Software & Firmware Downloads** to identify and copy the required service pack.

To get the latest firmware for the BIOS, remote maintenance board, and programmable circuit packs, go to the Avaya Support Web site at <http://avaya.com/support> and select **Software & Firmware Downloads** to identify and copy the latest firmware.

To get instructions on installing firmware, go to:

<ftp://ftp.avaya.com/incoming/Up1cku9/tsoweb/firmware/TNpackFirmwareDownloadInstructions.pdf>

About ASG and the unique on-site password

After installing the Avaya authentication files, Access Security Gateway (ASG) protects Avaya services logins to the media server. The ASG challenge/response protocol confirms the validity of each user, reducing the opportunity for unauthorized access.

If you use the craft password that is unique to the server of the customer and access the media server on site, you can use this password the next time you log in as craft. You do not need an ASG challenge/response to log in this way. Every other means of craft access still requires an ASG challenge/response.

Obtaining license and Avaya authentication files

Use Remote Feature Activation (RFA) to obtain the Communication Manager license and Avaya authentication files. RFA is a Web-based application, available to Avaya employees and authorized BusinessPartners. With RFA, you can create and deploy license files for all Communication Manager product platforms. For more information about RFA and how to generate license and Avaya authentication files, see the RFA Information page at <http://rfa.avaya.com>.

Note:

To access the RFA application, you must complete the RFA online training and have received access authorization.

To generate a license file, you need the following information:

- Your personal Single Sign-On (SSO) for the RFA Web site authentication login
- SAP order number
- Required customer information

Chapter 1: Introduction

- For a new license, the serial number of one TN2312BP Internet Protocol Server Interface (IPSI) or TN8412AP System Internet Protocol Interface (SIPI) circuit pack designated the reference IP interface.
- For an updated license, the RFA system ID (SID) for the existing media server, which is necessary to locate the existing license
- Internet access to the RFA Web page with Internet Explorer 5.0 or higher

Before arriving on site, download the license and Avaya authentication files to the services laptop. The license and Avaya authentication files are installed during the installation process.

Once the Avaya authentication files are installed, a challenge/response system called Access Security Gateway (ASG) protects Avaya services logins to the media server. The ASG challenge/response protocol confirms the validity of each user, reducing the opportunity for unauthorized access.

When finished installing the Avaya authentication file, Avaya Communication Manager has a password for the craft login. This password is unique to the server of the customer. You can use the password the next time you log in as craft, provided you access the media server through the services port. You do not need an ASG challenge/response to log in this way, even though every other means of craft access still requires an ASG challenge/response. RFA records the revised password. ASG Conversant provides this password at 1-800-248-1234 or 1-720-444-5557.

Pre-installation: at the site

Before beginning the installation, verify that you have all the equipment on site by comparing the list of items ordered against the items in the boxes. Your project manager can supply you with an inventory list. Do not rely solely on the packing slips inside the boxes.

The pre-installation team should have done the following tasks. If they were not all done, do not continue with the installation.

- Verify that the open, customer-supplied, EIA-310D (or equivalent) standard 19-in. (48-cm) 4-post equipment rack(s) is(are) properly installed and solidly secured. Make sure that the screws that come with the racks are there. If using a rack cabinet, make sure it has adequate ventilation.
- Verify that the rail kit to support the media server is available for installation.
- Verify that the rail kit, required to support the very heavy UPS, is installed on the rack or available for installation. For information on installing the rails, see the documentation that comes with the rail kit.
- Verify that the equipment rack(s) is(are) grounded per local code. See *Job Aid: Approved Grounds* (555-245-772).
- Verify that the customer provides AC power to the rack from a nonswitched outlet.
- Verify that cabling between the TN8400AP and the TN8412AP (SIPI) circuit packs is in place.

Equipment specifications

The S8400 Media Server control network components consist of a G650 Media Gateway with a TN8400AP circuit pack installed in slot 2, a TN8412AP (SIPI) installed in slot1, and one UPS. See [Table 1: Control network components specifications](#).

Table 1: Control network components specifications

Component	Dimensions English (in.)	Metric (cm)	U (height)	Weight (lb/kg)
Media Gateway: G650	14h x 17.5w x 22d	30h x 56w x 48d	8	39/18
UPS: 700 VA	3.5h x 17w x 19d	9h x 43w x 48d	2	34/15
1500 VA	3.5h x 17w x 24d	9h x 43w x 61d	2	50/23

The internal room temperature must not exceed 104° F (40° C).

[TN8400AP features and specifications](#) on page 14 outlines the features and specifications of the TN8400AP circuit pack.

Note:

Some values are shown at maximum configuration. Avaya values may be lower than the maximum.

Table 2: TN8400AP features and specifications¹

Feature	Specifications
Microprocessor	One Intel Celeron M (600 MHz)
Memory	512 MB RAM
Storage	Single IDE SSD, 2 Gbyte Single IDE hard drive.
Environment: Air Temperature	Media server on: 41.0° to 104.0° F (5° to 40° C) altitude: -1,257 to 10,617 feet (-383 below sea level to 3,286 meters above sea level)
Environment: Humidity	10% to 90%
Voltage and Current Requirements	+5 VAC, 10 A

1. Values of some parameters may change with future versions of the TN8400S.

About media server port connections

The following section provides information on connecting the Ethernet ports on the back of the media server.

Ethernet ports

All S8400 Media Server backplane Ethernet ports on the backplane I/O adapter can connect to the customer LAN.

For control and adjunct connectivity, the S8400 Media Server supports the internal processor ethernet or separate C-LAN. Messaging and administration use the customer link. If LAN connectivity is required only for administration, processor ethernet is not required.

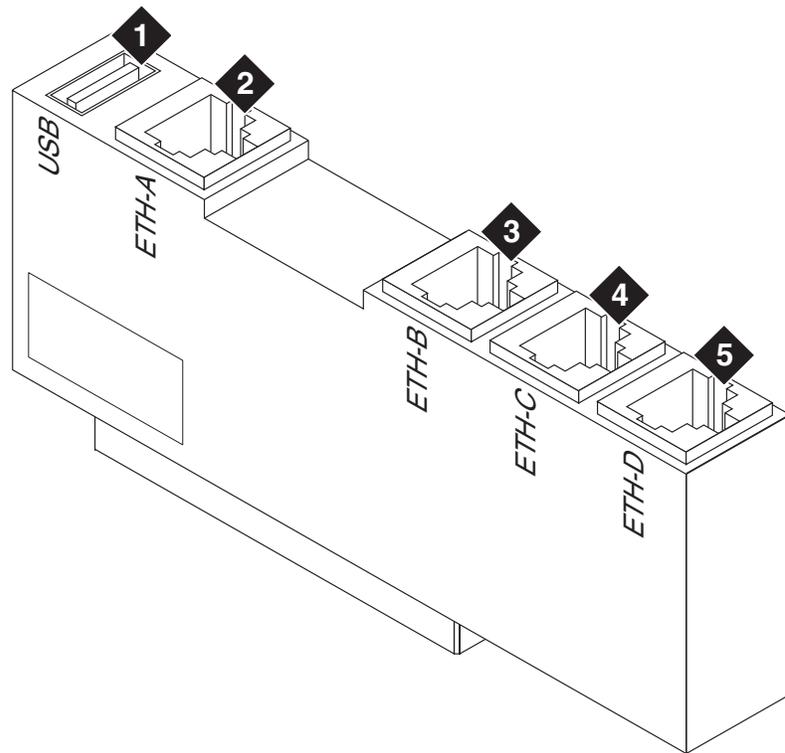
Media server cable adapter

The media server cable adapter is mounted on the rear of the TN8400AP Media Server circuit pack. The media server cable adapter provides the connection between the backplane pins and RJ-45 connectors for:

- four backplane Ethernet ports
- one backplane USB port

See [Figure 1: Media server cable adapter](#) on page 15.

Figure 1: Media server cable adapter



addp84bk LAO 112905

Figure notes:

- | | |
|--|-------------|
| 1. USB modem connector | 4. Not used |
| 2. Connection to TN8412AP circuit pack | 5. Not used |
| 3. Connection to LAN | |

[Table 3: Media server cable adapter port labeling](#) on page 16 describes the connections for the media server cable adapter.

Table 3: Media server cable adapter port labeling

Location (counting from the top of the adapter)	Port Name	Adapter Label	Function
USB	Backplane USB modem port	USB	Provides power to the USB modem, can hard reset the USB modem, provides a USB modem interface to support Services remote alarming and access.
Top Ethernet	Ethernet connectivity with the TN8412AP circuit pack	ETH-A	10/100Base T Mbps Ethernet Interface for the control links - uses crossover cable to connect directly to the SIPI.
Second Ethernet	Ethernet connectivity with the LAN	ETH-B	10/100Base T Mbps Ethernet Interface to the customer LAN. Messaging over IP. Connections to adjuncts and IP endpoints. Remote administration over IP.
Third Ethernet	Future	ETH-C	Not used
Bottom Ethernet	Future	ETH-D	Not used

Ethernet connectivity with the TN8412AP circuit pack

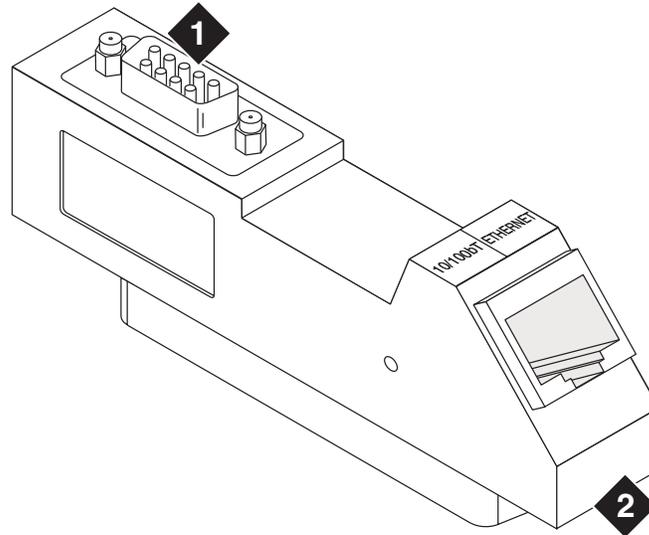
The S8400 Media Server supports connectivity with the TN8412AP (SIPI) circuit pack through a 10/100 BaseT Ethernet twisted pair on the IPSI-2 cable adapter. This interface is for control only - no bearer traffic is carried over this connection. This Ethernet is connected to the Communication Manager Processor complex. The IPSI-2 cable adapter is mounted on the rear of the TN8412AP SIPI circuit pack.

The physical connection between the TN8412AP and the TN8400 circuit packs is made by either:

1. Using a 10/100 Base T Ethernet crossover cable that directly interconnects the appropriate backplane pins of the two circuit packs. This cable plugs into the TN8400AP cable adapter RJ45 ETH-A port and the TN8412AP IPSI-2 adapter RJ45 control port.
2. Connection to the customer LAN.

[IPSI-2 cable adapter](#) on page 17 shows the IPSI-2 cable adapter for the S8412AP SIPI circuit pack.

Figure 1: IPSI-2 cable adapter



addipsi LAO 112905

Figure notes:

- 1. D9 connector
- 2. RJ45 for connection to the TN8400 or LAN

[Figure 2: Cable adapters on TN8412AP and TN8400AP circuit packs in a G650](#) on page 18 shows the location of the two backplane adapters on a G650.

Figure 2: Cable adapters on TN8412AP and TN8400AP circuit packs in a G650

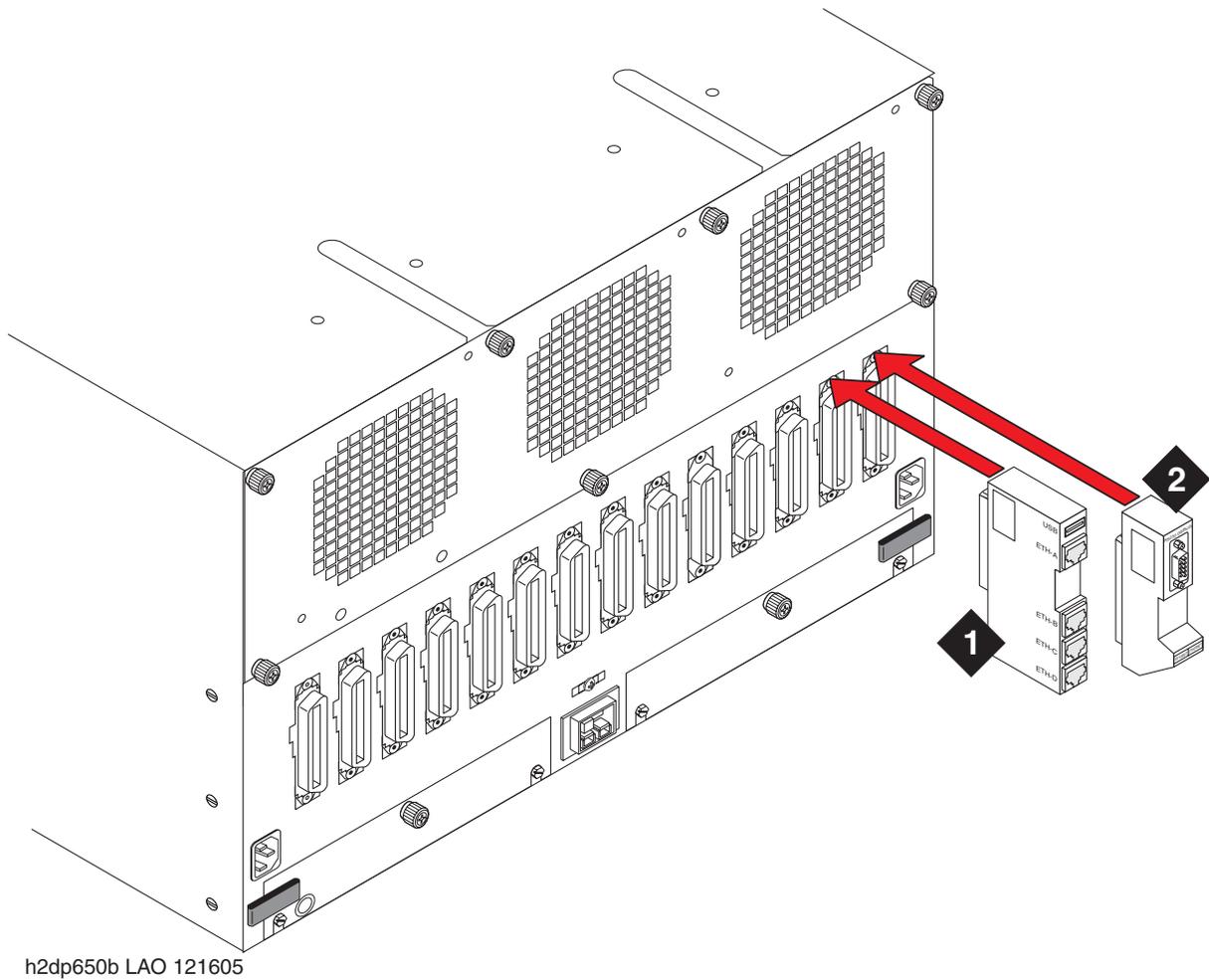


Figure notes:

- | | |
|---|---|
| 1. Media server cable adapter on the TN8400AP Media Server circuit pack | 2. IPSI-2 cable adapter on the TN8412AP SIPI circuit pack |
|---|---|

Services access port

The S8400 Media Server has one Services laptop access port that is off the Maintenance Processor. Use this port to access the MPC and the media server on the S8400AP circuit pack.

[Table 4: Services access on the MPC](#) on page 19 lists the Services access protocols. The MPC receives Service requests on only two TCP ports: 10022 (Secure Shell access) and 10443 (Secure Web access).

Table 4: Services access on the MPC

Access Method	Service Requested	IP Address	TCP Port	Service Granted
Services laptop	SSH	192.11.13.6	10022	Secure Shell access to MPC
Services laptop	HTTPS	192.11.13.6	10443	Secure Web access to MPC
Services laptop	SSH	192.11.13.6	22	Secure Shell access to media server
Services laptop	HTTPS	192.11.13.6	443	Secure Web access to media server
Services laptop	Telnet	192.11.13.6	23	Access to media server
Services laptop	Telnet	192.11.13.6	5023	Access to SAT on media server
Modem dial-in	ppp>SSH	Modem IP address	10022	Secure Shell access to MPC
Modem dial-in	ppp>HTTPS	Modem IP address	10443	Web https access to MPC
Modem dial-in	ppp>SSH	Modem IP address	22	Secure Shell access to media server
Modem dial-in	ppp>HTTPS	Modem IP address	443	Secure Web access to media server
Modem dial-in	ppp>Telnet	Modem IP address	23	Access to media server
Modem dial-in	ppp>Telnet	Modem IP address	5023	Access to SAT on media server
Modem dial-in	ppp>SSH	Modem IP address	5022	Secure access to SAT on media server

About Modem connections

Note:

USB modems cannot connect to rotary lines. A Touch Tone line is required.

The TN8400AP Media Server circuit pack supports a USB modem. The modem communicates directly to the maintenance processor or tunnels through to the Communication Manager processor application. The modem provides Avaya Services with remote alarming and dial-in and dial-out access.

Connect the USB modem to port labeled *USB* on the media server cable adapter. The adapter is mounted on the rear of the TN8400AP Media Server circuit pack.

Modem options are set when you configure the media server. No options are set on the modems themselves.

About Media Gateways

In a new installation, the S8400 Media Server is installed only in the Avaya G650 Media Gateway.

In a migration the media server is installed only in the following Avaya Media Gateways:

- G600
- CMC1

In addition, the media servers work with Avaya G150, G250, G350, and G700 Media Gateways. These gateways register with the S8400 either through the S8400 Processor Ethernet interface or through a TN799DP C-LAN circuit pack.

About Processor Ethernet

Like a C-LAN board, Processor Ethernet provides connectivity to IP endpoints, gateways, and adjuncts. The PE interface is a logical connection in the Communication Manager software that uses a port on the NIC in the server. There is no additional hardware needed to implement PE.

Starting with release 3.1 of Communication Manager, the PE interface is enabled on the S8400 Media Server allowing enhanced flexibility for connectivity to gateways, endpoints, and adjuncts.

[Table 5](#) lists the possible uses of the PE interface for an S8400.

Table 5: Use of the PE interface on the S8400 Media Server

Possible functions of the PE interface	Status of the function on the server	Administration needed
Registration	The PE interface is always enabled for registration.	No. The use of the PE interface for registration is enabled automatically by the Communication Manager software.
H.248 gateway registration	H.248 gateway registration is enabled by default on the S8400 Media Server	The H.248 gateway enabled field on the ip-interface procr form defaults to a yes on an S8400 Media Server. You can disable the H.248 registration by changing the H.248 gateway enabled field on the ip-interfaces procr form to a no.
H.323 endpoint registration	H.323 registration is enabled by default on the S8400 Media Server.	The H.323 endpoint enabled field on the ip-interface procr form defaults to a yes on an S8400 Media Server. You can disable H.323 endpoint registration by changing the H.323 enabled field on the ip-interfaces procr form to a no.
Adjunct connectivity	Connectivity of adjunct is enabled by default on the S8400 Media Server.	Yes. Adjuncts must be administered on the S8400 Media Server.

About SSH

Secure Shell (SSH) is both a computer program and an associated network protocol designed for logging into and executing commands on a networked computer. SSH provides secure encrypted communications between two untrusted hosts over an insecure network. Avaya recommends using SSH instead of Telnet for most interactive connections to the Avaya media servers and other devices on a customer's network.

To use SSH, a third-party SSH client must be installed on your computer. PuTTY is one such client available for download from <http://www.putty.nl/download.html>.

Devices that can be accessed with SSH include:

- Media servers on Release 3.1 of Communication Manager: S8300, S8400, S8500, S8700-series
May include port number reference 5022 for direct SAT access.
- Server Availability Management Processor (SAMP) (used with S8500 Media Server)
May include port number reference 10022 for direct access
- Maintenance Processor Complex (MPC) (used with S8400 Media Server)
May include port number reference 10022 for direct access
- TN2312BP IPSI running firmware version 20 or higher
- TN8412AP SIPI
- TN2602 IP Media Resource 360 running firmware version 212 or higher
- Expanded Meet-Me Conferencing (EMMC) and the S6100 Media Server
- SIP server
- G250 and G350 media gateways
- C360 Ethernet switches



Important:

G700 does not allow the use of SSH. From within a media server's Linux command line, you can use SSH to access the G250 and G350, but you must use telnet to access the G700. In this case, the server is the SSH client, not PuTTY.

High level overview of installation process

The installation process is completed in stages. Some stages can be completed in parallel, and others require that certain tasks be accomplished before the stages can be completed. The order that the particular stages are completed depends on local practice and the personnel available. The high level stages are listed below.

Installing and cabling the media gateways

Install and connect the media gateways before installing and configuring the S8400 Media Server. The media gateways must be installed and powered up to effectively complete many of the other stages. A powered-up media gateway is required for software installation and configuration on the S8400 Media Server and programming of the SIPI circuit pack. See the Quick Start documentation for your system for instructions.

Installing Avaya Communication Manager

A new S8400 Media Server comes with a blank hard drive and a blank solid state device (SSD). Use the bootable software distribution CD-ROM to install the Linux operating system and Avaya Communication Manager.

Configuring the MPC

The Maintenance Processor Complex (MPC) monitors various components and environmental on the media server. The board comes installed from the factory with Avaya defaults but must be configured to fit your specific installation. The MPC is administered automatically through the Avaya Installation Wizard.

Configuring the media server

Use the Avaya Installation Wizard to configure the media server. You must have the filled-out *Electronic Preinstallation Worksheet* (EPW) that provides the customer's network information needed for configuring the network components. As part of the Wizard, you install the license and Avaya authentication files. This stage is done after installing the software.

Translating the SIPI

When configuring the media server (or both media servers in a duplicated system), the Avaya Installation Wizard installs the license file. The SIPI circuit packs must be translated within 30 minutes after the license file is installed.

Completing the installation administration

Finish the media server installation by clearing alarms, enabling alarm reporting, backing up the server files, and registering the configuration.

Testing the finished installation

This stage verifies the complete configuration operation and is the last task.

Chapter 2: SNMP Configuration

After the control network equipment is installed and connected, configure the SNMP modules to send alarms (traps) to the media servers.

Configure:

- the SNMP modules in each UPS (if supplied by Avaya)
- the SNMP Subagent in the Avaya Ethernet switch (if supplied by Avaya)

First configure the SNMP agents. Then install Avaya Communication Manager on the media server, configure the media server, and verify its operation. In a duplicated system, install Avaya Communication Manger on the first media server and verify its operation before you repeat the process on the second media server.

This section covers [Configuration of the SNMP modules in the UPS](#) on page 25

Configuration of the SNMP modules in the UPS

Note:

These instruction apply only if using a new, Avaya-supplied uninterruptible power supply (UPS) with a simple network management protocol (SNMP) module. Do not use these procedures to set traps on a non-Avaya-supplied UPS.

The SNMP module in the UPS must be administered so it reports alarms to the media server when the hardware experiences problems. The module reports the loss of commercial power and the depletion of battery resources.

For the SNMP module to properly report alarms, a unique IP address for the UPS must be configured on both the SNMP module and the media server. This IP address can be a customer-provided one or the Avaya-provided default one. At a minimum, the following items must be configured:

- IP address
- Subnet mask
- Gateway IP address
- Trap receiver IP address
- Community string (get, set, trap)

Because the SNMP module is manufactured by a third party, we do not know which brand, model, or firmware load the factory is shipping. Therefore, we cannot provide specific instructions in this document on how to connect to and configure the SNMP module. See the documentation that comes with the SNMP module. The default password and the configuration commands are in the local configuration section of the User Guide.

Default UPS IP addresses

Administer the SNMP module in the UPS following the steps in [Administering the SNMP module](#) on page 27. The default IP addresses for the UPS are shown in the table.

IP address for UPS	198.152.254.239
Subnet mask for UPS	255.255.255.0
Gateway address for UPS	198.152.254.201
IP address for Trap receiver (media server)	customer provided

Preparing to configure the SNMP module

Before you configure the SNMP module, make sure you have the hardware connected correctly and all the information you need.

- Ensure you are plugged into the correct administration port on the SNMP module.
- Ensure the UPS is plugged into a nonswitched electrical outlet.

Note:

Avaya Terminal Emulation and HyperTerminal are supported terminal emulation applications.

- When using your terminal emulation application, ensure that your laptop communication protocol has the following port settings:
 - 9600 baud
 - No parity
 - 8 data bits
 - 1 stop bit
 - No flow control

- If a Network Management System (NMS) is going to monitor the UPS, coordinate the assignment of community names with the network administrator.

If an NMS is not going to monitor the UPS, set the community names to unique string values.

 **SECURITY ALERT:**

The Get and Set, community name strings are initially configured with default values of Public and Private, respectively. These community name strings function as passwords for their respective SNMP operation. It is always a good idea to change these community name strings to something other than the default values. If the defaults are left in place, they could result in a serious security issue.

See [Setting selected traps \(alarming\)](#) on page 28 for information on which traps to set.

- If the control network is nondedicated (going over the customer's network), make sure that the 162/udp port for input to server is enabled (the default is disabled). Otherwise, the media server cannot receive the traps from the UPS(s). See [Enabling firewall settings](#) on page 40.

Administering the SNMP module

Note:

Use the default addresses in the tables.

1. Connect the services laptop computer (RS-232 serial port) to the DB-9 connector on the back of the SNMP module for UPS1 using the DB-9 to DB-9 serial cable supplied with the SNMP module.
2. Open a VT-100 terminal emulation session on the services laptop.
3. Set the IP address for the UPS.
4. Set the subnet mask for the UPS.
5. Set the gateway address for the UPS.
6. Set the IP address of the trap receiver (media server) for the UPS.
7. Set the SNMP community name string for Get, Set, and Trap. See [Setting selected traps \(alarming\)](#) on page 28 for information on which traps to set.
8. When completed, disconnect the services laptop computer from the UPS.
9. Connect one end of a CAT5 straight-through cable to the RJ45 connector on the UPS SNMP module and the other end to the next available port on the Ethernet switch for Control Network A (CNA).

For a connectivity guide, see the *Quick Start for Hardware Installation: Avaya S8400 Media Server in an Avaya G650 Media Gateway* (03-300705).

Setting selected traps (alarming)

The default is to set all traps, which can result in large log entries. However, only a few traps need to be set. See the User Guide that comes with the SNMP module for the menus and commands for setting these traps.

Set the following traps:

- UPS on Battery—Indicates AC fail with pending shutdown based on battery reserve available
- UPS in Bypass—Failure either Failed UPS or overload
- Replace battery—Failure of periodic (28-day) battery test indicating battery needs to be replaced.

Chapter 3: Communication Manager Installation

A new media server comes with a blank hard drive and a blank solid state device (SSD). Use the bootable software distribution CD-ROM to install the Linux operating system and Avaya Communication Manager.

This chapter covers the following tasks:

- [Clearing the ARP cache on the laptop](#) on page 29
- [Connecting the CD/DVD drive to the media server](#) on page 30
- [Powering up the media server](#) on page 30
- [Accessing the media server](#) on page 30
- [Configuring Telnet for Windows 2000/XP](#) on page 31
- [Installing Avaya Communication Manager](#) on page 32

Clearing the ARP cache on the laptop

Depending on the operating system on the Services laptop computer, you might need to clear the Address Resolution Protocol (ARP) cache before entering a new IP address. If you enter an IP address and your computer cannot connect, try clearing the cache.

1. On your laptop computer, click **Start** > **Run** to open the Run dialog box.
2. Type `command` and press **Enter** to open a MS-DOS Command Line window.
3. Type `arp -d 192.11.13.6` and press **Enter** to clear the Address Resolution Protocol (ARP) cache in the laptop.
 - The command line prompt appears when the cache is cleared.
 - The phrase **The specified entry was not found** appears when the ARP cache does not contain the specified IP address.

Connecting the CD/DVD drive to the media server

Connecting the CD/DVD drive to the media server

Note:

The CD or DVD drive must be placed with 5 degrees of level.

1. When using the DVD drive,
 - a. Plug one end of the power cord into the DVD drive and plug the other end into an electrical outlet.
 - b. Set the small switch on the side of the DVD drive to "EXT."
2. Connect the USB cable to the USB port on the faceplate of the S8400 Media Server.
3. When using the DVD drive, connect the other end of the USB cable to the DVD drive. (The USB cable is not detachable from the CD drive).

Note:

Immediately place the Avaya Communication Manager CD into the external CD-ROM drive.

Powering up the media server

Note:

The G650 media gateway must have power.

1. Pull the TN8400 circuit pack out far enough to extinguish all LEDs.
2. Carefully slide the circuit pack back in to reboot the system.

Accessing the media server

1. Connect the laptop to the services port on the faceplate of the media server using a crossover cable.
2. Wait at least 3 minutes after powering up before starting a Telnet session to access the information on the CD.

Configuring Telnet for Windows 2000/XP

You can set the Microsoft Telnet application to send a carriage return (CR) and line feed (LF) whenever you press Enter. The installation program sees this as 2 key presses. If you are running Windows 2000/XP, correct this before you copy the Remaster Program to the SDD.

To configure telnet for Windows 2000/XP:

1. Click **Start > Run** to open the Run dialog box.
2. Type `telnet` and press **Enter** to open a Microsoft Telnet session.
3. Type `display` and press **Enter** to see the current settings.
 - Close the dialog box if the **Line feed mode - Causes return key to send CR** appears.
 - Continue if **New line mode - Causes return key to send CR & LF** appears.
4. Type `unset crlf` and press **Enter**.
5. Type `display` and press **Enter** to verify that **Line feed mode - Causes return key to send CR** appears.
6. Close the dialog box.

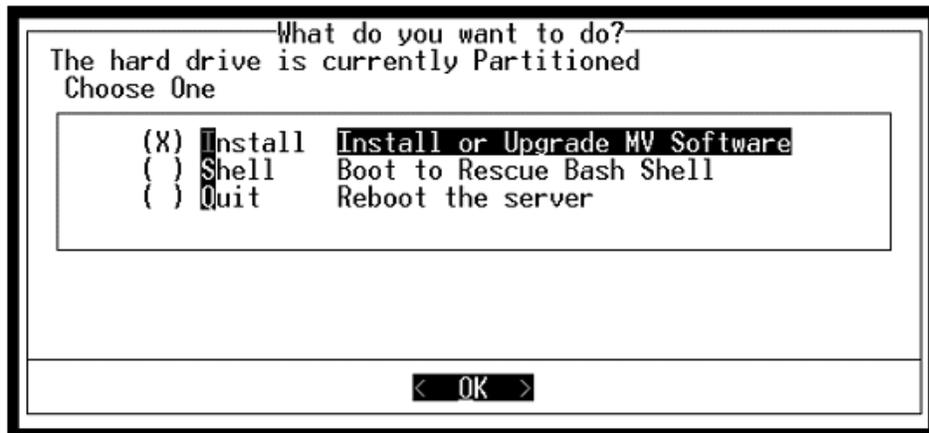
Installing Avaya Communication Manager

Install Avaya Communication Manager on the media server using the following steps.

Note:

Use a telnet session to access the information on the CD.

1. From the laptop Start menu, click **Start > Run** to open the Run dialog box.
2. Type `telnet 192.11.13.6` and press **Enter** to view the first screen.



Note:

To navigate on these screens, use the arrow keys to move to an option, then press the space bar to select the option. Press **Enter** to submit the screen.

3. Select **Install**, ensure that **<OK>** is highlighted, and press **Enter**.

4. On the Select Release Version screen, ensure that the Build line and <OK> is highlighted. Press **Enter** to partition the hard disk drive and reformat the partitions.

Once the drive is properly configured, the program starts the installation process and reports the progress.

```

21:26:38 | copying iputils-20020124-8.i386.rpm
21:26:38 | copying libattr-2.0.8-3.i386.rpm
21:26:38 | copying libcap-1.10-12.i386.rpm
21:26:39 | copying libelf-0.8.2-2.i386.rpm
21:26:39 | copying libgcc-3.2-7.i386.rpm
21:26:39 | copying libjpeg-6b-21.i386.rpm
21:26:39 | copying libtermcap-2.0.8-31.i386.rpm
21:26:39 | copying libtool-libs-1.4.2-12.i386.rpm
21:26:39 | copying losetup-2.11r-10.i386.rpm
21:26:39 | copying lrzsz-0.12.20-14.i386.rpm
21:26:39 | copying lsof-4.63-2.i386.rpm
21:26:39 | copying ltrace-0.3.10-12.i386.rpm
21:26:39 | copying mailx-8.1.1-26.i386.rpm
21:26:39 | copying mingetty-1.00-3.i386.rpm
21:26:39 | copying mktemp-1.5-16.i386.rpm
21:26:39 | copying ncompress-4.2.4-31.i386.rpm
21:26:39 | copying net-tools-1.60-7.i386.rpm
21:26:40 | copying patch-2.5.4-14.i386.rpm
21:26:40 | copying pcre-3.9-5.i386.rpm
21:26:40 | copying popt-1.8-0.69AV1.i386.rpm
21:26:40 | copying rdate-1.2-5.i386.rpm
21:26:40 | copying rusers-0.17-21.i386.rpm
21:26:40 | copying setserial-2.17-9.i386.rpm

```

These processes can take up to 20 minutes. When the media server is ready to reboot, the CD-ROM drive drawer opens. You must remove the CD from the drive at this time.

The reboot can take up to 3 minutes. The telnet session drops automatically.

Installing IA 770 INTUITY AUDIX Messaging

See *IA 770 INTUITY AUDIX Installation, Upgrades, and Troubleshooting* for information on installing the optional IA 770 messaging software.

Chapter 4: Media server configuration

After installing the Communication Manager software, you must configure the media server using the Avaya Installation Wizard.

This section covers the following tasks:

- [Opening the Maintenance Web Interface](#) on page 35
- [Copying files to the media server](#) on page 36
- [Enabling Network Time Servers](#) on page 37
- [Using the Installation Wizard](#) on page 38
- [Configuring the modem](#) on page 41

Note:

Make sure you have the filled-out *Electronic Preinstallation Worksheet (EPW)* before beginning this process.

Note:

Make sure your networking and Web browser settings are correct. In [Appendix A: Media server access](#), see [Configuring the network for Windows 2000/XP](#) on page 80.

Opening the Maintenance Web Interface

You can use the Maintenance Web Interface to copy files from the Services laptop to the media server, and to perform other configuration tasks.

To access the media server and open the Maintenance Web Interface:

1. Launch a Web browser.
2. In the **Address** field, type `192.11.13.6` and press **Enter** to bring up the login Web page.

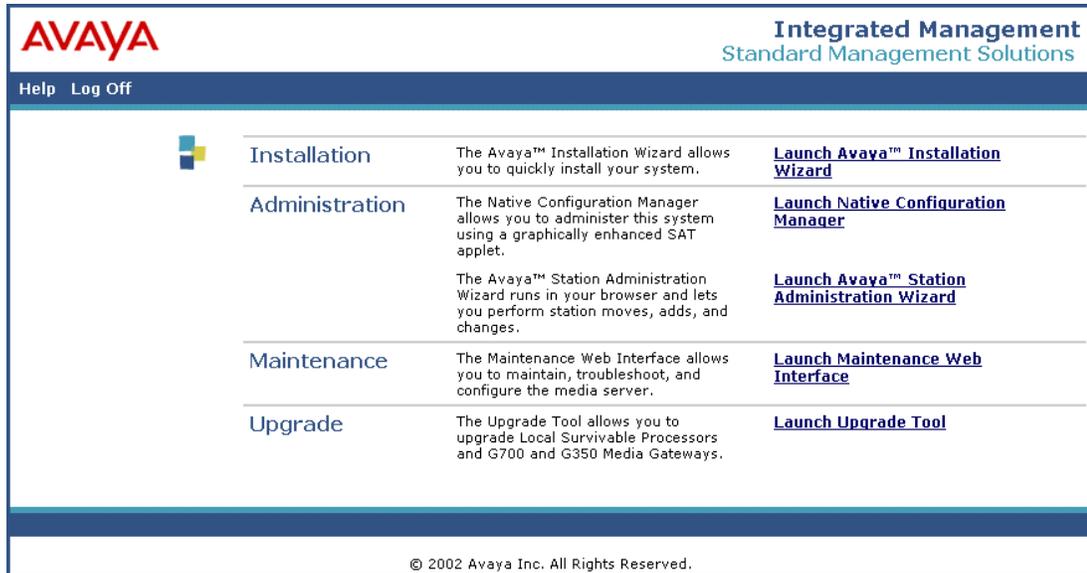
Note:

The first time you attempt to log in, you get a Web page asking you to install a security certificate. Follow the instructions for your particular browser to accept the certificate. You can also install the certificate on your services laptop computer by following the instructions in your browser's online help.

3. Log in as `craft` and use the initial craft password.
4. When asked **Do you want to suppress alarms?**, select **Yes**.

Note:

On the initial Web page, some items may not appear at first. These include Launch Avaya Station Administration Wizard in the Administration section and the Upgrade section including Launch Upgrade Tool.



5. Click **Launch Maintenance Web Interface**.

Copying files to the media server

You can use the Maintenance Web Interface to copy license and authentication files, service packs, and MPCupdate files from the Services laptop to the media server.

1. On the Maintenance Web Interface, under **Miscellaneous**, select **Download Files**.
2. Select **File(s) to download from the machine I'm using to connect to the server**.
3. Click **Browse** next to the top field to open the Choose File window on your computer. Find the files that you need to copy to the media server.
4. Click **Download** to copy the file(s) to the media server.

The files are automatically copied to the default file location.

Enabling Network Time Servers

Important:

Avaya strongly recommends enabling Network Time Protocol (NTP) and configuring at least one network time server. If a network time server is not used, the Date/Time settings on the media server should be reset regularly (at least monthly), using the Maintenance Web Interface. The network time strategy should be determined by the network administrator.

Enabling Network Time Protocol allows you to specify one, two, or three network time servers to provide accurate time-of-day data to the clocks on the media servers. The network time servers, in turn, get their source timing from one of several available, highly accurate, time services on the Internet.

To use a network time server, the NTP service must be enabled. The Avaya Installation Wizard prompts for enabling the NTP service.

If you are not using the Installation Wizard, follow these steps:

1. Open the Maintenance Web Interface
2. Select **Configure Server** under Server Configuration
3. Select Configure individual services and go to Configure Time Server
4. Enter the NTS information on the Configure Time Server screen and click **Change**
5. Click on the **Firewall** link under Security.
6. Enable **ntp 123/udp** in the "Output from Server" column by clicking on the checkbox.

Note:

It is not necessary to enable the "Input to Server" ntp service but if it is already enabled, you don't have to disable it.

In the next section, [Using the Installation Wizard](#) on page 38, the Avaya Installation Wizard prompts for information about network time servers. When prompted, enter the DNS name or IP address for the primary (and secondary and tertiary, if any) network time server. If you enter a DNS name instead of an IP address for the network time server, the DNS server IP address must be specified. You are prompted for this information by the Installation Wizard.

If you are not using the Installation Wizard, the network time servers can be configured using the Configure Server function on the Maintenance Web Interface.

For detailed information about NTP, see RFC 958.

Using the Installation Wizard

Use the Avaya Installation Wizard (IW) to automatically:

- Configure the media server
- Configure the Maintenance Processor Complex
- Install the license file

Note:

You can install the license file without being physically connected to the reference SIPI. However, you have only 30 minutes before it checks the serial number on the SIPI. To get another 30 minutes, you can restart the clock by restarting the media server. In a SAT session, type `reset system 1`.

- Install the Avaya authentication files
- Install software updates

You can use the IW in two ways:

- You can import the data from the filled-out *Electronic Preinstallation Worksheet* (EPW). When the IW prompts to import the Preinstallation Worksheet, click **Import EPW** and browse to the location of the EPW file on your laptop. The IW will open the EPW and upload the configuration data.
- You can type in the information manually using the filled-out EPW as a guide. The IW will prompt you to enter the configuration data for each step in the Configure Server section.

To run the Avaya Installation Wizard:

1. Launch the Web browser.
2. Enter `192.11.13.6` and press **Enter** to bring up the login Web page.
3. Log in as `craft` and use the initial craft password.
4. Click **Launch Avaya Installation Wizard**.
5. Follow the Wizard prompts, using Help on each page for more information.

Verifying MPC IP information

The Maintenance Processor Complex (MPC) page is under **Optional Services** in the Wizard configuration process. Verify that the IP information was retrieved from the EPW. If the information is not there, manually complete all fields.

To allow services access to the remote maintenance board through a crossover cable, verify the information in these fields:

For services laptop access:

- **IP Address** field - **192.11.13.6**
- **Subnet Mask** field - **255.255.255.252**

If the information is not there, fill in the fields manually.

Installing MPC firmware

See *Maintenance Procedures for Avaya Communications Manager 3.1, Media Gateways and Servers* for additional details on updating MPC firmware.

The MPC firmware may need to be updated, depending on the currently installed version. The versions that require updates should be included in your project planning information.

To update the firmware version:

1. Check the firmware version.
 - Use SSH to access the media server and login.
 - Enter `sampcmd samp-update status`.
 - Check the firmware version displayed.
2. If the firmware needs to be updated, use Download Files from the Maintenance Web Interface to copy the firmware file to the media server.
3. Use SSH to access the media server and login.
4. Enter `sampupdate` to initiate the update process.

The update process takes approximately 5 minutes.
5. Enter `y` in response to the question, `Commit this software?`

Verifying media server connection to the customer's LAN (if provided)

1. Under Diagnostics, click **Ping**.
2. Select **Host Name Or IP Address** and type in the IP address of a computer on the network.
3. Click **Execute Ping**.
4. Verify that the ping was successful, indicating that the media server is connected to the customer's network.
5. If DNS is administered, type in the host name of a computer on the network.
6. Click **Execute Ping**.
7. Verify that the ping was successful, indicating that DNS is working.

If possible, have a customer representative do the following test from a computer on the network:

1. Click **Start > Run** to open the Run dialog box.
2. Type `command` and click **OK** to open an MS-DOS command window.
3. Type `ping serveripaddress` and click **OK**, where *serveripaddress* is the IP address of the media server.
4. Verify that the ping was successful.
5. If DNS is administered, type `ping servername` and press **Enter**, where *servername* is the host name of the media server.
6. Verify that the ping was successful.

Enabling firewall settings

For the media server to receive SNMP traps from the UPS and Avaya Ethernet switch, you must enable the snmptrap, 162/udp port. The default is disabled.

1. Under Security, click **Firewall**.
2. Click **Advanced Settings . . .** to view the second page.
3. Scroll down until you see snmptrap, port 162/udp.
4. Select the box in the **Input to Server** column (far left) next to it.

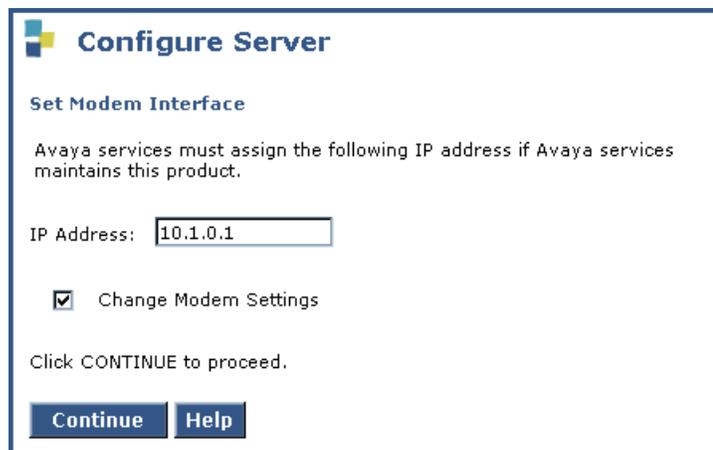
Configuring the modem

1. Under Server Configuration click **Configure Server**.
2. Click until you get to the **Specify how you want to use this wizard** page.



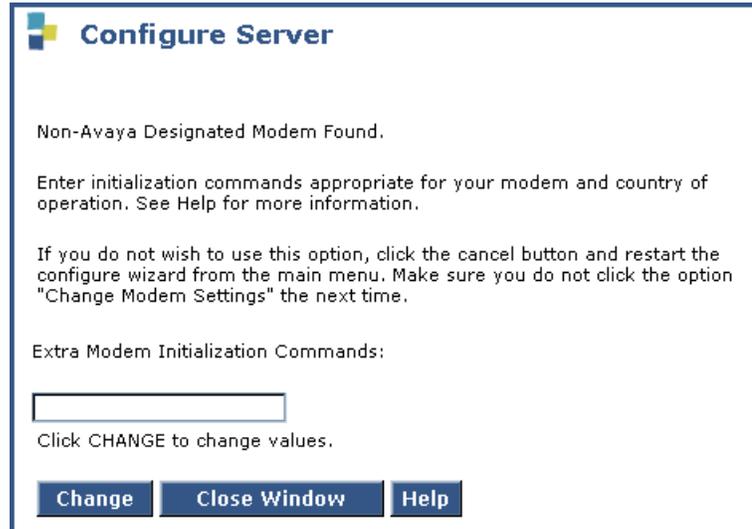
The screenshot shows the 'Configure Server' wizard interface. On the left, a vertical list of steps is shown: Review Notices, Set Identities, Configure Interfaces, Configure Switches, Set DNS/DHCP, Set Static Routes, Configure Time Server, Set Modem Interface, Configure RSA, and Update System. The 'Set Modem Interface' step is highlighted. To the right, under the heading 'Specify how you want to use this wizard', there are two radio button options: 'Configure all services using the wizard' and 'Configure individual services'. Below these options is the instruction 'Click CONTINUE to proceed.' and two buttons: 'Continue' and 'Help'.

3. Select **Configure individual services** and click **Continue**.
4. In the left menu click **Set Modem Interface**.



The screenshot shows the 'Set Modem Interface' step of the wizard. It features the heading 'Set Modem Interface' and a note: 'Avaya services must assign the following IP address if Avaya services maintains this product.' Below this, there is a text input field for 'IP Address' containing the value '10.1.0.1'. A checkbox labeled 'Change Modem Settings' is checked. At the bottom, there is the instruction 'Click CONTINUE to proceed.' and two buttons: 'Continue' and 'Help'.

5. Select the **Change Modem Setting** and click **Continue**.



6. In the **AT String** field, type the initialization commands appropriate for your modem and country of operation. Click Help for guidance on what to enter.
For example, to change the country code to Japan, type **AT%T19,0,10**.
7. Click **Change**.
The system responds with a message indicating a successfully added modem route.
8. Click **Close Window**.

Chapter 5: IP interface translations

To administer SIPI circuit packs, issue Communication Manager SAT commands on a terminal emulation program.

For Communication Manager terminal emulation, use a program such as Avaya Native Configuration Manager, Avaya Terminal Emulation, or HyperTerminal.

You also can use Avaya Site Administration (ASA) to issue SAT commands. You must use ASA Release 2.1, update 1, or a later version to administer new features in Release 3.0 of Avaya Communication Manager.

Perform these tasks to administer SIPI circuit packs:

- [Starting SAT terminal emulation](#) on page 44
- [Inputting initial system translations](#) on page 44
- [Adding media gateways](#) on page 44
- [Enabling SIPI](#) on page 45
- [Adding the SIPI to the system](#) on page 46
- [Setting alarm activation level](#) on page 47
- [Saving translations](#) on page 47

Starting SAT terminal emulation

For Communication Manager SAT terminal emulation, use a program such as Avaya Native Configuration Manager or HyperTerminal. You also can use Avaya Site Administration to issue SAT commands.

1. On the services laptop, open a VT-100 terminal emulation session.
2. If using a serial modem connection, administer the terminal emulation port settings:
 - 9600 baud
 - No parity
 - 8 data bits
 - 1 stop bit
 - No flow control
 - 5023 for the port
3. Log into the media server as **craft**.

Inputting initial system translations

If system translations were prepared offsite, input the translations and reset the media server. If the translations are not available, enter minimal translations to verify connectivity to the port networks.

1. Type `save translation` and press **Enter** to save the translations to the hard drive.
2. Type `reset system 4` and press **Enter** to have the software read the copied translations.

Adding media gateways

Note:

If system translations have been loaded on the media server, media gateways do not need to be added in order to administer the SIPI.

1. Type `add cabinet n` (where *n* is the cabinet number) and press **Enter** for each stack of Media Gateways controlled by one TN8412AP SIPI circuit pack.

A cabinet is defined as up to five G650 Media Gateways mounted in a rack and TDM-connected.

2. Fill in the location and carrier type for media gateways 2(B), 3(C), 4(D), and 5(E).

```

add cabinet 1                                     Page 1 of 1
                                         CABINET
CABINET DESCRIPTION
  Cabinet: 1
  Cabinet Layout: G650-rack-mount-stack
  Cabinet Type: expansion-portnetwork
Number of Portnetworks: 1
Survivable Remote EPN? n
  Location: 1          IP Network Region:1
  Cabinet Holdover: A-carrier-only
  Room:                Floor:                Building:
CARRIER DESCRIPTION
Carrier      Carrier Type      Number
E           not-used        PN 09
D           not-used        PN 09
C           not-used        PN 09
B           G650-port      PN 09
A           G650-port      PN 09

```

Enabling SIPI

These steps enable the SIPI circuit pack and allow the SIPI to control the port network.

1. Type `change system-parameters ipserver-interface` and press **Enter**.
2. On the IP Server Interface System Parameters screen, verify that the Primary Control Subnet Address is correct.

The subnet address must match the most significant 3 octets (the first 3 groups of digits in the subnet address) of the Media Gateway's Server IP address (the server that controls the port network). Use `configure server` on the Maintenance Web Interface to see the IP address to match.

An asterisk (*) to the right of the **Subnet Address** field means that the subnet address displayed is not the correct one. Avaya Communication Manager does not have the subnet information.

3. If the information in the **Subnet Address** field is not correct, use the Maintenance Web Interface to change the media server configuration to match the Server IP address in **configure server**. Under Server Configuration and Upgrades, click **Configure Server** to change the media server configuration. Then return to this procedure.
4. Set the **Switch Identifier** field to the switch ID letter (A through J; A is the default setting).
5. Set the **IPSI Control of Port Networks** field to **enabled**.
6. Press **Enter** to save the translations.

Adding the SIPI to the system

The information on this screen differs, depending on whether the SIPI IP addresses are static, or assigned automatically through DHCP.

1. Type `add ipserver-interface PNnumber` and press **Enter**.
2. In the **Host** field, enter the IP address for the SIPI in the port network listed in the **Location** field.

```
add ipserver-interface 8
      IP SERVER INTERFACE (IPSI) ADMINISTRATION - PORT NETWORK 8

                                IP Control? y          Socket Encryption? n
Ignore Connectivity in Server Arbitration? n          Enable QoS? n

Primary IPSI                                QoS Parameters
-----
Location: 1A01                                Call Control 802.1p: 6
      Host: 172.22.22.174                       Call Control DiffServ: 46
      DHCP ID: ipsi-A01a
```

3. Set the **IP Control** field to **y**.
4. Verify that all the other fields are populated.
5. Press **Enter** to save translations.
6. Repeat steps 1 through 5 for each port network.

Setting alarm activation level

1. Type `change system-parameters maintenance` and press **Enter**.
2. In the **CPE Alarm Activation Level** field, select **none**, **warning**, **minor**, or **major**, according to customer request, and press **Enter**.

Saving translations

Type `save translation` and press **Enter** to save the translations to the hard drive.

Chapter 6: IP interface configuration

This chapter covers the following tasks:

- [Programming the SIPI for static addressing](#) on page 50
- [Verifying that SIPI is translated](#) on page 54
- [Verifying connectivity to media server](#) on page 54
- [Upgrading the SIPI firmware version \(if necessary\)](#) on page 54
- [Enabling control of SIPI](#) on page 55
- [Verifying license status](#) on page 55

You must program the TN8412AP Server IP Interface (SIPI) to avoid going into No License Mode.

SIPI address configuration

The SIPI circuit pack normally uses static IP addressing only.

Perform the task in [Programming the SIPI for static addressing](#) on page 50.

Programming the SIPI for static addressing

You administer the static IP address for the circuit pack directly through the Ethernet port connection on the faceplate. For more information, see [Figure 3](#).

Figure 3: Connecting the laptop directly to the SIPI

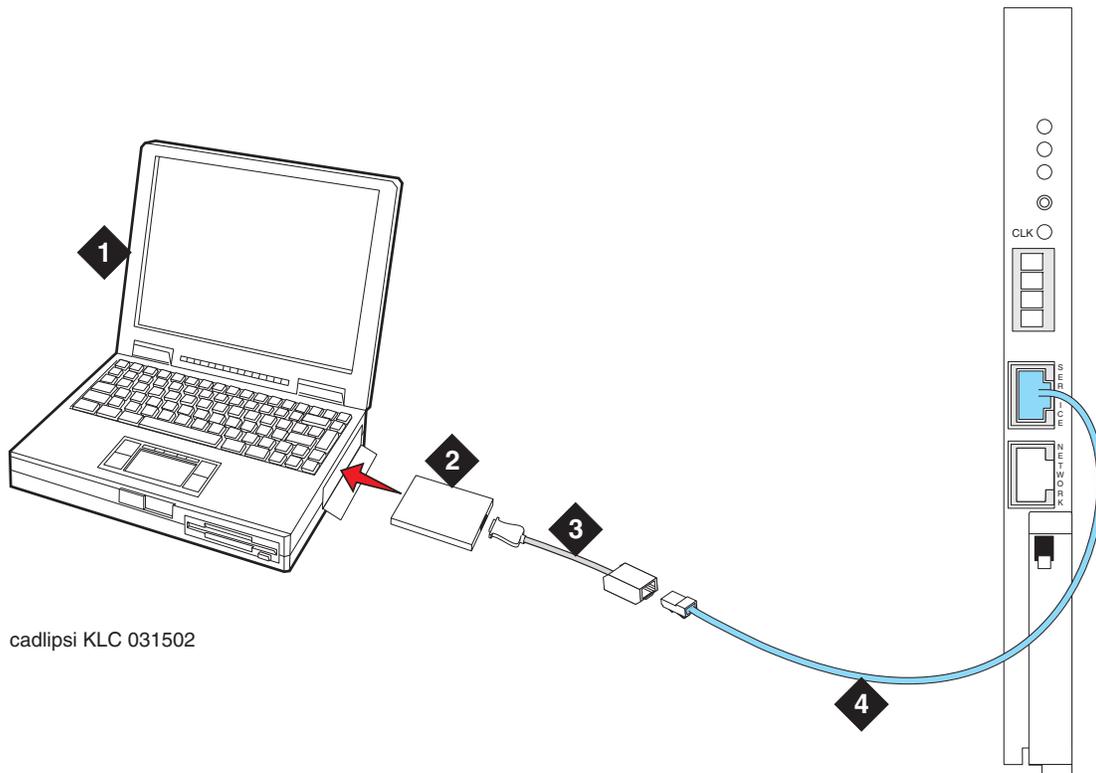


Figure notes:

- | | |
|--|-------------------------------------|
| 1. Services laptop | 3. NIC adapter cable (if necessary) |
| 2. PCMCIA Network Interface Card (NIC) | 4. CAT5 crossover cable to SIPI |

Note:

Ensure that you have the password before proceeding.

Depending on the operating system on the Services laptop computer, you might need to clear the Address Resolution Protocol (ARP) cache before entering a new IP address. If you enter an IP address and your computer cannot connect, try clearing the cache.

1. On your laptop computer, click **Start > Run** to open the Run dialog box.
2. Type `command` and press **Enter** to open a MS-DOS Command Line window.

3. Type `arp -d 192.11.13.6` and press **Enter** to clear the Address Resolution Protocol (ARP) cache in the laptop.
 - The command line prompt appears when the cache is cleared.
 - The phrase **The specified entry was not found** appears when the ARP cache does not contain the specified IP address.
4. To log into the SIPI, type `telnet 192.11.13.6` and press **Enter**.
 Prompt = [IPSI]:

Note:
 While connected to the SIPI, type `help` or `?` to obtain online help. Most commands have two or three letter abbreviations.
5. Type `ipsilogin` and press **Enter**. The abbreviated command is `il`.

Note:
 The *craft* login used on the SIPI has a different password than the *craft* login used on the media servers.
6. Log in as `craft`.
 Prompt = [IPADMIN]:
7. Enter `show control interface` and then enter `show port 1` to see the current control interface settings.
8. To set the control interface, type `set control interface ipaddr netmask` and press **Enter**, where *ipaddr* is the customer-provided IP address and *netmask* is the customer provided subnet mask.

```

TN2312 IPSI IP Admin Utility
Copyright Avaya Inc, 2000, 2001, All Rights Reserved

[IPSI]: ipsilogin

Login: craft
Password:

[IPADMIN]: set control interface 135.9.70.77 255.255.255.0

WARNING!! The control network interface will change upon exiting IPADMIN

[IPADMIN]: show control interface

Control Network IP Address = 135.9.70.77
Control Network Subnetmask = 255.255.255.0
Control Network Default Gateway = None
IPSI is not configured for DHCP IP address administration

[IPADMIN]: █

```

9. Enter `quit` to save the changes and exit the IPSI session.

10. Telnet to **192.11.13.6** and login.
11. Enter `show control interface`.
The IP address, subnet mask, and default gateway information is displayed.
Verify that the proper information was entered.
12. If a default gateway is used, enter the gateway IP address with
`set control gateway gatewayaddr`, where *gatewayaddr* is the customer-provided IP address for their gateway.
13. Enter `quit` to save the changes and exit the IPSI session.
14. Telnet to **192.11.13.6** and login.
15. Use `show control interface` to verify the administration.
16. Type `exit` and press **Enter** to see the changes.

Setting the VLAN and diffserv parameters

1. Log in as `craft`.
2. Enter `show qos` to display the quality of service values.
3. If necessary, use the following commands to set the VLAN and diffserv parameters to the recommended values shown.

Note:

Use **Help** to obtain syntax guidelines for these commands.

- Enter `set vlan priority 6`
 - Enter `set diffserv 46`
 - Enter `set vlan tag on`
 - Enter `set port negotiation 1 disable`
 - Enter `set port duplex 1 full`
 - Enter `set port speed 1 100`
4. Enter `show qos` to check the administered values.
 5. Enter `quit` to exit.



Important:

Ensure that the port settings on the Ethernet switches are set to the same values as shown above in these `set port` commands. Log in to the Ethernet switch and enter `show qos`.

Resetting the SIPI

1. Type `reset` and press **Enter**
Answer **Y** to the warning.

Note:

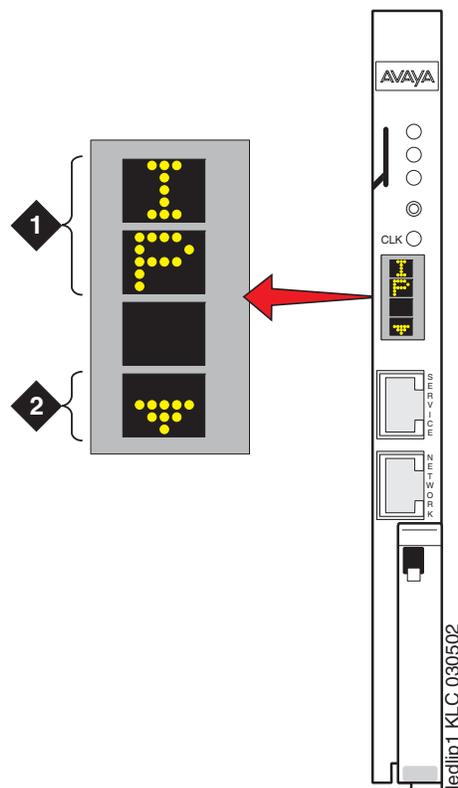
Resetting the SIPI terminates the administration session. If further administration is required, start a new telnet session.

Note:

Control network settings (IP address, subnet mask, and gateway) become effective when you exit the IPADMIN session.

2. Disconnect the laptop from the faceplate.
3. Check the LCD. Verify that it has an I P with a filled-in V that shows at the bottom. For more information, see [Figure 4](#).

Figure 4: SIPI LED display for static address

**Figure notes:**

1. SIPI has a static IP address
 2. SIPI has connectivity and an IP address
-

Verifying connectivity to media server

1. If not already open, open and log in to Maintenance Web Interface as **craft**.
2. Under Diagnostics, click **Ping** and select **Other server(s), All IPSIs, UPS(s), Ethernet switches** to verify connectivity to these units.
3. Click **Execute Ping**.
4. Verify that all endpoints respond correctly.

Verifying that SIPI is translated

1. Open a SAT session on the media server.
2. Type `list ipserver-interface` and press **Enter**.
3. Verify that the SIPI circuit pack is translated.

Upgrading the SIPI firmware version (if necessary)

You may need to upgrade the firmware on the SIPI.

1. On the Maintenance Web Interface under IPSI Firmware Upgrades, click **IPSI Version**.
2. Select **Query All** and click **View IPSI Version**.
3. Verify the firmware release for the SIPI.
4. If an upgrade is required, follow the procedures in *Firmware Download Procedures*, which can be accessed from:

<ftp://ftp.avaya.com/incoming/Up1cku9/tsoweb/firmware/TNpackFirmwareDownloadInstructions.pdf>

Enabling control of SIPI

Ensure that the SIPI has the same, current firmware.

1. On the SAT, type `change system-parameters ipserver-interface` and press **Enter**.
2. Make sure the **IPSI Control of Port Networks:** field is set to **enabled**.
3. Press **Enter** to effect the changes.

Verifying license status

On the Maintenance Web Interface, under Security, click **License File** and verify that the license mode is now normal.

Chapter 7: Post-installation administration

This section covers the following tasks:

- [Verifying translations](#) on page 57
- [Setting daylight savings time rules](#) on page 58
- [Setting locations \(if necessary\)](#) on page 59
- [Verifying date and time](#) on page 60
- [Clearing and resolving alarms](#) on page 60
- [Backing up files to the compact flash media](#) on page 61
- [Enabling alarms to INADS via modem](#) on page 61
- [Enabling alarms to INADS via SNMP](#) on page 62
- [Before leaving the site](#) on page 62

Verifying translations

1. Open a SAT session on the media server.
2. Type `list configuration all` and press **Enter** to view all the administered circuit packs in the system.
3. IPSI Refer to your planning documents and check the administration status on the following items:
 - `list station`
 - `list trunk-group`
 - `list hunt-group`

Setting daylight savings time rules

Even though you set the date, time, and time zone through the Web interface on the media server, you also must set the daylight savings time rules through SAT commands.

1. Type `change daylight-savings-rules` and press **Enter**.

```
change daylight-savings-rules                                     Page 1 of 2
                        DAYLIGHT SAVINGS RULES

Rule          Change Day          Month  Date  Time      Increment

0: No Daylight Savings

1: Start: first Sunday    on or after April      1  at 02:00  01:00
   Stop: first Sunday    on or after October   25 at 02:00

2: Start: first          on or after           at :      :
   Stop: first          on or after           at :      :

3: Start: first          on or after           at :      :
   Stop: first          on or after           at :      :

4: Start: first          on or after           at :      :
   Stop: first          on or after           at :      :

5: Start: first          on or after           at :      :
   Stop: first          on or after           at :      :

6: Start: first          on or after           at :      :
   Stop: first          on or after           at :      :

7: Start: first          on or after           at :      :
   Stop: first          on or after           at :      :
```

2. In the **Change Day**, **Month**, **Date**, **Time**, and **Increment** columns, type the appropriate Start and Stop information for each rule. For example, **1:00** in the **Increment** field means to move the clock forward or back by one hour at the transition point.

You can set up to 15 customized daylight savings time rules. If you have media gateways in several different time zones, you can set up rules for them on a per-location basis. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition.

Note:

The default daylight savings rule is **0**, meaning no daylight savings transition. You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the Locations or Date and Time screens.

3. When done, press **Enter** to effect the changes.

Setting locations (if necessary)

After you set the daylight savings rules, you must set the locations for all media gateways (cabinets). It is possible to have media gateways in different time zones. Even though you set the date, time, and time zone through the Web interface on the media server, you also must set locations through SAT commands.

1. Type **change locations** and press **Enter**.

```
change locations                                     Page 1 of 5
                                                    LOCATIONS
                                                    ARS Prefix 1 Required For 10-Digit NANP Calls? y
Number  Name           Timezone  Daylight-Savings  Number Plan
        Name           Offset    Rule              Area Code
  1     Main           + 00:00  0
  2     CA             - 02:00  0
  3
  4
  5
  6
  7
  8
  9
 10
 11
```

2. In the **ARS Prefix 1 Required for 10-Digit NANP Calls?** field, type **y**.
3. Type the information in the various fields for each media gateway.

Note:

In the **Name** field for location 1, call the media gateway (cabinet) **Main**.

4. Press **Enter** to effect the changes.

Verifying date and time

Even though you set the date, time, and time zone through the Web interface on the media server, you also must verify the date and time through SAT commands.

1. Type `display time` and press **Enter**.

```
display time                                     Page 1 of 1
                                         DATE AND TIME
DATE
    Day of the Week: Friday           Month: November
    Day of the Month: 8               Year: 2002
TIME
    Hour: 14 Minute: 19 Second: 36   Type: Standard
    Daylight Savings Rule: 0
WARNING: Changing the date or time may impact BCMS, CDR, SCHEDULED
```

2. Verify that the date and time are correct.
3. Verify that the correct rule (number) is displayed in the **Daylight Savings Rule** field.
4. If correct, press **Cancel**.
5. If not, go to the Maintenance Web Interface.
6. Under Server, click **Set Server Time/Timezone**.
7. Verify that the date and time are correct. If not, set it here.
8. Repeat steps 1 through 3.

Clearing and resolving alarms

1. On the Maintenance Web Interface, under Alarms, click **Current Alarms**.
You can only resolve alarms on the *active* media server.
2. Select the server alarms to be cleared and click **Clear**.
3. Resolve any major alarms using SAT commands or other standard troubleshooting procedures.

Backing up files to the compact flash media

Note:

The industrial grade compact flash media provides improved data integrity and reliability, enhanced durability, and extreme endurance. For these reasons Avaya requires the use of an industrial grade compact flash. To read more about the industrial grade compact flash, see the *Hardware Description and Reference for Avaya Communication Manager (555-245-207)*.

1. Insert a 128-Mb compact flash media into the compact flash slot on the media server faceplate.
2. On the Maintenance Web Interface, under Data Backup/Restore, click **Backup Now**.
3. Select all applicable data sets.
4. Select Local Compact Flash Card back up the data onto the compact flash card. Optionally, select Format Compact Flash to format a new card.

Note:

The compact flash card needs to be formatted only before the first use.

5. Click **Start Backup**. You are notified when the format is completed (approximately 10 seconds).

Note:

Clicking on **Start Backup** without media in the compact flash drive results in an error. In this case, repeat the previous steps.

6. Click **Backup Status** to view the status of the backup.

Enabling alarms to INADS via modem

Note:

Enable alarms on both media servers on a duplicated system.

1. Start a telnet session on the media server.
2. Type `almenable -d b` and press **Enter**.
3. Type `almenable` and press **Enter** to verify that the alarms are enabled.

Enabling alarms to INADS via SNMP

Note:

Do these steps only if a Secure Service Gateway (SSG) is being installed.

Enable alarms on both media servers on a duplicated system.

1. Start a telnet session.
2. Type `almsnmpconf -d ipaddress -c communityname` and press **Enter**, where *ipaddress* is the trap receiver address for the SSG device and *communityname* is the community string name required by the SSG device.
3. Type `almsnmpconf` and press **Enter**.
Verify that the correct information was entered.
4. At the prompt, type `almenable -s y` and press **Enter**.
5. Type `almenable` and press **Enter**.
Verify that the SNMP alarm origination is enabled. If used, verify that alarm origination via modem is still enabled.
6. Log off.

Before leaving the site

Provide the default LAN security settings to the customer.

Ensure that the customer knows that remote access to the media server is available only if the the following services are enabled Maintenance Web Interface Firewall screen:

- **telnet** must be enabled to access Telnet
- **https** must be enabled to access the Maintenance Web Interface
- **def-sat** must be enabled to access the SAT commands
- **162/udp** must be enabled to receive SNMP traps from the UPS and Avaya Ethernet switch

Chapter 8: Installation verification

This chapter provides information for testing the media server installation, including:

- Reviewing the status of the control network configuration
- Testing the SIPI circuit packs
- LED status indicators
 - Media servers
 - Uninterruptible power supplies (UPSs)
 - Circuit packs

Perform these tasks to test the configuration:

- [Testing the SIPI circuit pack](#) on page 64
- [Testing the license file](#) on page 64

Testing the SIPI circuit pack

These steps test all the clock and packet interface components within the TN8412AP SIPI circuit pack.

1. In a SAT command line, enter `test ipserver-interface <UUC>`, where `<UUC>` is the cabinet and carrier in which the circuit pack is located.
2. Verify that the Test Results screen shows PASS in the results column.

Testing the license file



Important:

Wait at least 30 minutes after you install the Communication Manager license before you run the test.

1. On a SAT command line, type `test license` and press **Enter**.
2. Verify that the Test Results screen shows PASS in the results column.

For more detailed information on LEDs, see Maintenance Procedures for Avaya Communication Manager, Media Gateways and Servers, 03-300432.

TN8400AP Media Server LEDs

[Figure 5](#) shows the faceplate of the TN8400AP Media Server circuit pack.

Figure 5: TN8400AP Media Server faceplate

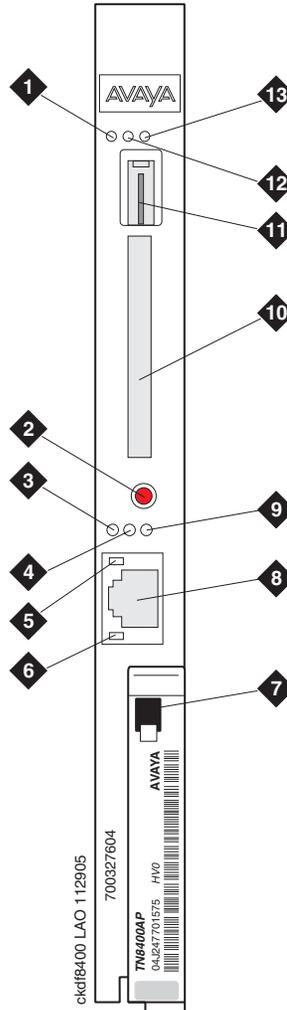


Figure notes:

- | | |
|--------------------------------------|--|
| 1. TN8400 Circuit Pack Failure LED | 8. Services RJ45 connection to the Services laptop |
| 2. Shutdown button | 9. Compact Flash in Use LED |
| 3. OK to Remove circuit pack LED | 10. Compact Flash slot |
| 4. Major Alarm Status LED | 11. USB port for the USB CD-ROM drive |
| 5. Not used | 12. Application Up/Test LED |
| 6. Services Ethernet Link Status LED | 13. Server Active LED |
| 7. Removal latch | |

Faceplate interfaces

The TN8400AP Media Server maintenance complex has the following faceplate interfaces as shown in [Figure 5: TN8400AP Media Server faceplate](#) on page 65:

- [TN8400 Circuit Pack Failure LED](#) - This solid red LED is lit when there is a detected TN8400AP Media Server circuit pack failure.
 - Solid red during a turn on sequence and during a reset. When turn on or reset is complete and there are no failures, the LED turns off.
 - Solid red indicates that there is a failure on the TN8400AP Media Server circuit pack.
- [Shutdown button](#) - Hold in the shutdown button for 2 seconds to start a shutdown. The Communication Manager Processor Complex remains in a shutdown state until power is removed and then reapplied. This switch gracefully turns off the operating system and file system so as to not destroy data and require a disk recovery process.
- [OK to Remove circuit pack LED](#) - This green LED provides a visual status of the shutdown process.
 - LED off indicates the system is operational.
 - Flashing indicates that the shutdown is in progress.
 - Solid indicates It is safe to remove the TN8400AP Media Server circuit pack from the carrier or turn off the carrier where the TN8400AP Media Server circuit pack resides.
- [Major Alarm Status LED](#) - This red LED indicates that a major alarm condition is detected.
- [Services Ethernet Link Status LED](#) - This green LED shows the status of the Services Ethernet link. The LED is on when the link is up. The LED flashes any time data transitions are detected.
- [Services RJ45 connection to the Services laptop](#) - This Ethernet port provides access to a single 10/100 BaseT Ethernet interface by an RJ-45 connector. This port is connected to the Services laptop, and is used for on-site Services access to the system.
- [Compact Flash in Use LED](#) - This yellow LED indicates that the Compact Flash memory is being accessed.
- [Compact Flash slot](#) - This slot provides access for storage of translations and selection application data.
- [USB port for the USB CD-ROM drive](#) - Used to communicate with peripheral equipment such as a USB CD/DVD ROM for software/firmware updates. Do not connect the modem to this port.
- [Server Active LED](#) - This green LED:
 - The LED is on when the Maintenance Processor detects that the primary application of the Communication Manager Processor is loaded and running.
 - The LED is off during a power-on reset or when the system is shutting down.
 - The LED flashes when a diagnostic /self test is running.

- [Application Up/Test LED](#) - This yellow LED indicates that the S8400 has an active communication path interactively communicating with its SIPI (TN8412).

LED descriptions

[Table 6: Avaya S8400 Media Server LED descriptions](#) on page 67 lists the description of each LED on the faceplate of the S8400 Media Server and its function.

Table 6: Avaya S8400 Media Server LED descriptions

LED Name	Color	Power on Reset	BIOS Boot	OS and SW Boot	OS Up*	App Active	Shutdown in Progress	Shutdown Complete
TN8400 Circuit Pack Failure†	Red	On	On	On	Off - SW‡	Maintains current status	Maintains current status	Maintains current status
OK to Remove	Green	Off	Off	Off	Off	Off	Flash	On
Major Alarm Status	Red	On	On	Off - SW	Off - SW	Maintains current status	Maintains current status	Maintains current status
Services Ethernet Link Status	Green	Off	N/A	N/A	Link Status	Link Status	Unknown	Off
CompactFlash in Use	Yellow	On	On	Off	Off§ - SW	Off*	Off*	Maintains current status
Application is Up/Test	Green	On¶	Off	Off	Off	When CM is up, LED is on	Off - SW	Off
Server Active**	Yellow	Off	Off	Off	On when communication is established with the SIPI	Maintains current status	Off	Off

*. The Communication Manager Processor complex is running with its operating system.

†. LED lights when on-board hardware or software detects an S8400 failure or during a Communication Manager Processor reboot.

‡. The Maintenance Processor turns on the S8400 Circuit Pack Failure LED when it detects that the Communication Manager Processor is booting. When the Communication Manager Processor completes the boot activities, the processor sends the Maintenance Processor a message requesting that the S8400 Circuit Pack Failure LED be turned off. This LED is turned off unless the hardware or software detects a failure on the circuit pack.

§. LED is turned on by the software when the Compact Flash is accessed.

¶. The LED is on during its power-up self tests.

** The Server LED is on when the S8400 has an active communication path interactively communicating with its SIPI (TN8412AP).

UPS LEDs

The UPS LEDs flash briefly after the UPS is plugged in. The Normal mode LED flashes after a self-test, indicating that the UPS is in Standby mode.

For more information, see the UPS user's guide that comes with the Powerware UPS.

Figure 6: LEDs on Powerware 9125 UPS

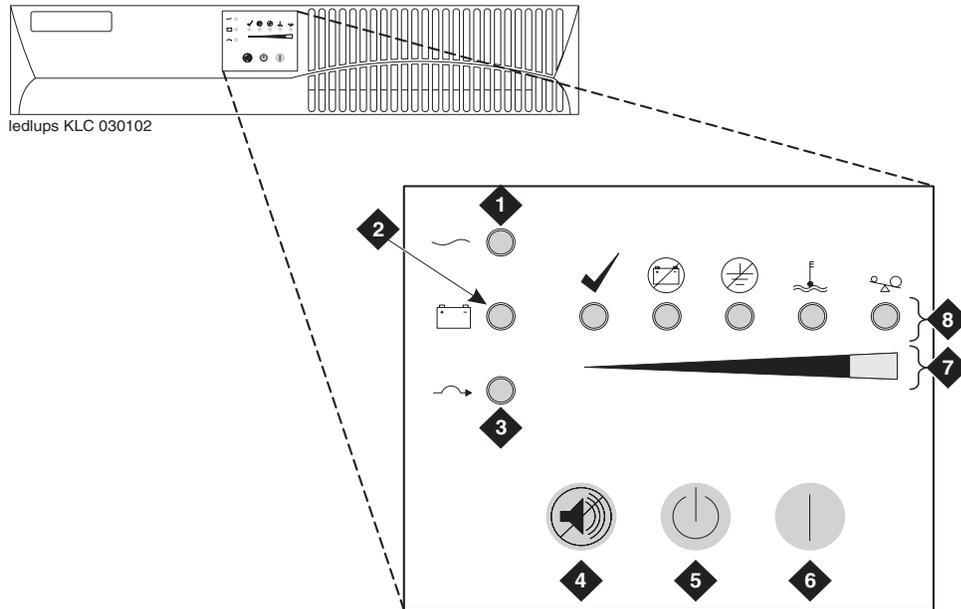


Figure notes:

- | | |
|----------------------------|-------------------------|
| 1. Normal mode indicator | 5. Off button |
| 2. Battery mode indicator | 6. On button |
| 3. Bypass mode indicator | 7. Bar graph indicators |
| 4. Test/Alarm reset button | 8. Alarm indicators |

TN8412AP SIPI LEDs

Note:

The TN8412AP SIPI faceplate is the same as the TN2312BP IPSI faceplate.

TN8412AP Server IP Interface (SIPI) circuit pack LEDs include:

- standard LEDs and connector slots ([TN8412AP SIPI circuit pack faceplate \(graphic shows IPSI\)](#) on page 70)
- programmable LED display, which indicates
 - type of IPSI IP address: static (shows I P)
 - connectivity

Figure 7: TN8412AP SIPI circuit pack faceplate (graphic shows IPSI)

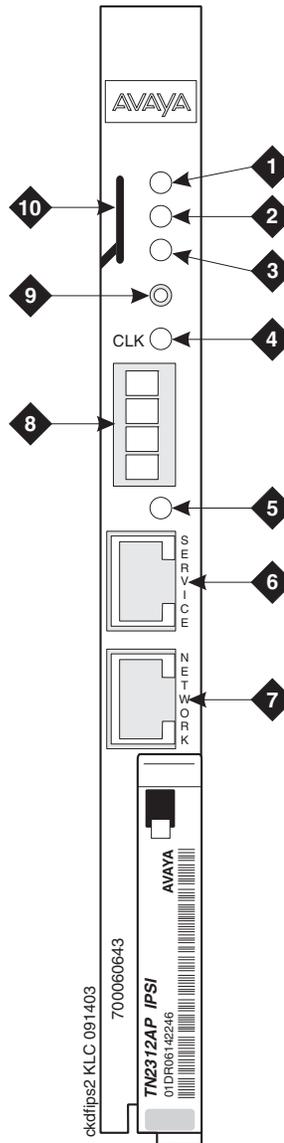


Figure notes:

- | | |
|-----------------------------------|-----------------------------------|
| 1. Red LED | 6. Services RJ45 connector |
| 2. Green LED | 7. Network Control RJ45 connector |
| 3. Amber LED | 8. 4-character LED display |
| 4. Yellow LED (Tone Clock status) | 9. Pushbutton switch |
| 5. Emergency Transfer LED | 10. Slot for maintenance cable |

Figure 8: SIPI LED display for static address

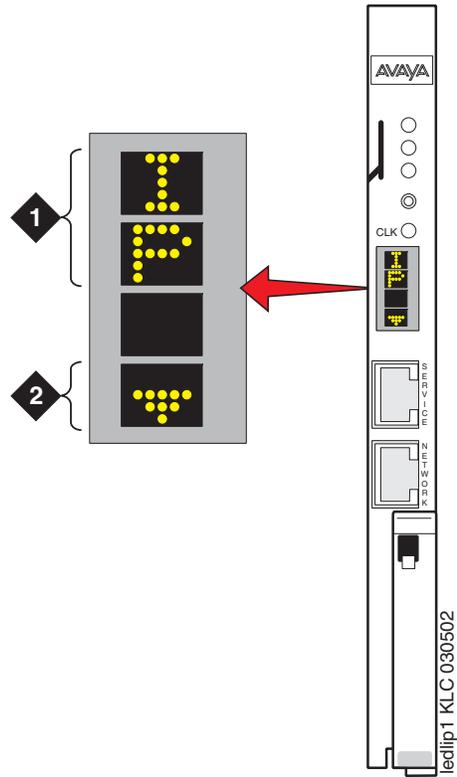


Figure notes:

1. SIPI has a static IP address
2. SIPI has connectivity and an IP address

Appendix A: Media server access

Use a personal computer or services laptop computer equipped with a network interface card (NIC), a terminal emulation program, and a Web browser to access a media server for initial configuration, aftermarket additions, and continuing maintenance.

Access the media server:

- directly (recommended method)
- remotely over the customer's network (recommended method)
- remotely over a modem (Avaya maintenance access only)

Steps to access a media server include:

- [Connecting to the media server directly](#) on page 75
- [Connecting to the media server remotely over the network](#) on page 76
- [Connecting to the media server remotely over a modem](#) on page 77
- [Logins for Avaya technicians and Business Partners](#) on page 79
- [Configuring the network for Windows 2000/XP](#) on page 80

Accessing the server's command line interface with SSH

The procedure described in this section shows how to log into the media server from a services laptop using SSH. To use this procedure with a cable connection from the laptop to the services port, you must configure the laptop for the network connection.

To use SSH, a third-party SSH client must be installed on your computer. PuTTY is one such client available for download from <http://www.putty.nl/download.html>. The following procedure describes, as an example of SSH access, how to log into the server command line with PuTTY.

Note:

A version of PuTTY that is defaulted for SSH server access is available for Avaya services personnel only. In this version, some values below have already been pre-selected.

Note:

While a variety of Avaya products support access using SSH, Avaya does not provide support for third-party clients used for SSH access. Any problems with an SSH client, including PuTTY, are the responsibility of the user or the SSH client vendor.

Appendix A: Media server access

1. On your computer, click on the **PuTTY** desktop link or select **Start > Programs > PuTTY > PuTTY**.

The system displays the PuTTY Configuration window, with the Session dialog box open.

2. In the Host Name (or IP address) field, type **192.11.13.6** if connecting to the services port. Otherwise, for access over the LAN/WAN, type the IP address or the host name of the server.
3. In the Port field, type **22**.
4. Under Protocol, select **SSH**.
5. In the PuTTY menu on the left, click **Connection > SSH**
6. In the Preferred SSH protocol version field, select **2**.
7. In the Encryption options window, use the up and down arrows to set AES (SSH-2) as the top option and 3DES as the second option.

Note:

You can also customize the PuTTY tool with other settings, such as for color. For documentation on PuTTY, see <http://www.putty.nl/docs.html>.

8. Click **Open**.

Note:

If you have not connected to this particular server before, SSH prompts you to accept the server's host key. If you save this key when prompted, you will not be prompted if you connect again later. If you do not save the key, PuTTY prompts you the next time you connect to this server.

When connecting through the services laptop interface, if you save the host key, the host is identified as 192.11.13.6. If you later connect to a different server through its laptop interface, this new host also shows as 192.11.13.6, but it has a different key. You get a prompt in this case because it appears that the host key has changed.

9. If necessary, click **Yes** to accept the server's host key.

The system displays the PuTTY window.

10. Log in as **craft**.

Connecting to the media server directly

To access the media server directly, use a computer with the following minimum specifications:

- Windows 2000/XP operating system
- 32-MB RAM
- 40-MB available disk space
- RS-232 port connector
- Network interface card (NIC) with a 10/100BaseT Ethernet interface
- 10/100 BaseT Ethernet, category 5 (or better), crossover cable with an RJ45 connector on each end (MDI to MDI-X)
- CD-ROM drive

1. Plug one end of the CAT5 cable into the services access port on the media server faceplate.

See [Services laptop computer connected directly to the S8400 Media Server](#) on page 76.

2. Plug one end of the CAT5 cable into the NIC on your computer. Use a NIC adapter if necessary.
3. Configure your network connection
 - IP address: 192.11.13.5
 - Subnet mask: 255.255.255.252

For specific information, see [Configuring the network for Windows 2000/XP](#) on page 80.

Once connected, use a terminal emulation program or a Web browser to administer the media server.

Figure 9: Services laptop computer connected directly to the S8400 Media Server

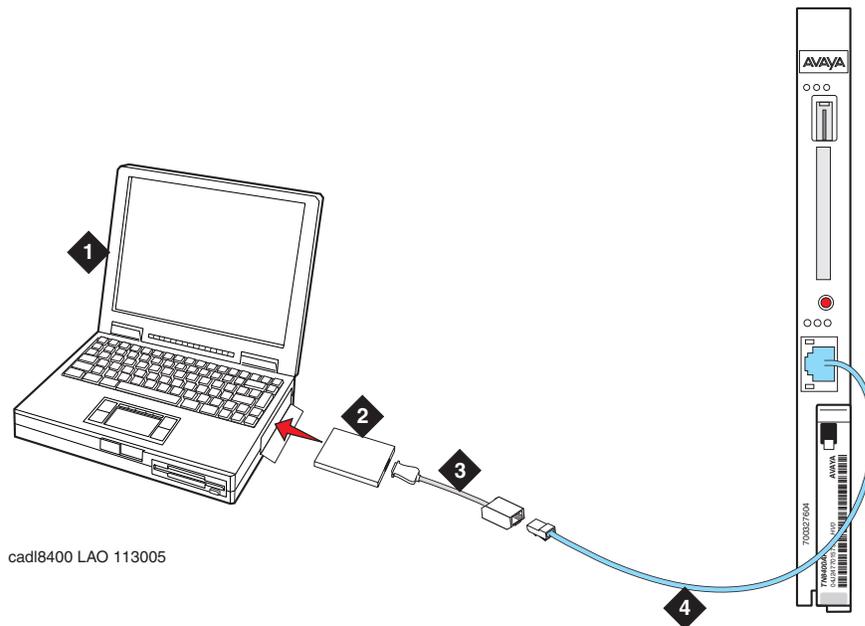


Figure notes:

- | | |
|---------------------------------|-------------------------------------|
| 1. Services laptop | 3. NIC adapter cable (if necessary) |
| 2. Network interface card (NIC) | 4. Black CAT5 crossover cable |

Connecting to the media server remotely over the network

You can use any computer to connect to the media server through a LAN. The security settings on the LAN must allow remote access.

1. Open a Web browser or a terminal emulation application.
2. In the address field, enter the IP address or DNS host name assigned to the media server you want to access.

Connecting to the media server remotely over a modem

Note:

Remote access over a modem is for Avaya services support access only and not for routine administration. Because the media server uses the same modem line to report alarms, it cannot report new alarms while the line is in use.

You can access the media server through an analog modem. The remote connection requires a minimum data speed of 33.5 kilobits per second.

1. Launch the dial-up connection program, which varies depending on your operating system. Generally, you can access the program through My Computer or Control Panel folders. See your computer's help system for specific information.
2. Double-click **Make New Connection** to open the New Connection wizard.
3. Within the wizard, depending on your operating system, you may be asked to:
 - Assign a name to the connection.
 - Select dial-up to the network for the network connection type.
 - Select the modem you will be using for the dial-up connection.
 - Enter the appropriate telephone number to access the active server. See the completed job aid titled *Electronic Preinstallation Worksheet* for the customer-supplied telephone number(s).
 - Under Advanced, select **PPP** and log on manually. You may have to type in a user name and password, depending on whether or not the media server you are dialing into has a non-null CHAP secret key. Use **craft** (ignore the password field).
4. Click the connection name or icon, if created. Wait for connection.
5. When prompted, enter your remote access login name and password.
6. When the **Start PPP now** message appears, click **Done**. When you see the Connection Complete dialog box, your computer is connected to the media server.
7. To open a Telnet session, click **Start > Run** to open the **Run** dialog box.
8. In the Run dialog box, type `telnet IPaddress` and click **OK**, where *IPaddress* is the address of the active media server.

Accessing the Maintenance Web Interface

You can administer the media server through the Maintenance Web Interface. Access the Maintenance Web Interface when connected:

- over the customer's network, using MS Internet Explorer 5.5 or 6.0.
- directly to the services port on the media server (see [Services laptop computer connected directly to the S8400 Media Server](#) on page 76)

To access the Maintenance Web Interface, you must first bypass any proxy servers.

1. In Internet Explorer 5.5 or 6.0, Click **Tools > Internet Options**.
2. Select the **Connection** tab.
3. In the LAN Settings box (lower righthand), click Advanced.
4. In the Exceptions box after the last entry, type **192.11.13.6**
5. Click **OK**, then **OK**, then **OK** again to close the dialog boxes.
6. Open the MS Internet Explorer Web browser to access the Maintenance Web Interface.
 - If connected directly, in the **Address** field, type **192.11.13.6**.
 - If connected remotely through a modem, in the **Address** field, type in the IP address or DNS host name of the media server.
7. When prompted, log in.

Using the SAT command line prompt

Use a direct connection to Communication Manager or a remote Secure Shell (SSH) or Telnet session to access the SAT (System Administration Terminal) command line prompt.

SSH: To open a SSH session.

See [Accessing the server's command line interface with SSH](#) on page 73

Telnet: To open a Telnet window session.

1. Click **Start > Run** to open the **Run** dialog box.
 - On a direct connection, type `telnet 192.11.13.6` and click **OK**.
 - On a remote connection to the media server, type in the IP address of the media server.
2. Login at the prompt.

Terminal Emulation: To use a command line interface in a terminal emulation window, open your terminal emulation application. Configure the terminal emulation program port settings as follows:

- 115200 baud
- No parity
- 8 data bits
- 1 stop bit
- No flow control

Note:

Avaya Native Configuration Manager, Avaya Terminal Emulation, and HyperTerminal are the only terminal emulation programs supported.

Logins for Avaya technicians and Business Partners

Avaya field technicians and Business Partners must use a services login such as craft or dadmin to perform initial configuration and upgrades. An Avaya field technician can use a unique password assigned to the customer's system.

After the Avaya authentication file is installed, Avaya Communication Manager has a password for the craft login that is unique to the customer's system and available when connected directly to the media server. Log in as craft and use this password to bypass the ASG challenge and response. Every other means of craft access requires an ASG challenge and response. The revised password is recorded by RFA and is obtained from ASG Conversant at 1-800-248-1234 or 1-720-444-5557.

Customers can set up their own logins for accessing Avaya's media servers. See the *Avaya Communication Manager Basic Administration Quick Reference* (03-300363) for specific information. You must have superuser permission to create or change logins and passwords.

Note:

Do not start login IDs with a number.

Configuring the network for Windows 2000/XP

 **Important:**

Write down the original settings in case you need to change them back.

To configure the network for Windows 2000/XP:

1. On your computer desktop, right-click **My Network Places** and left-click **Properties** to display the Network Connections window.
Windows 2000/XP should automatically detect the Ethernet card in your system and create a LAN connection for you. More than one connection may appear.
2. Right-click on the correct **Local Area Connection** and left-click **Properties** to display the Local Area Connection Properties dialog box.
3. Select **Internet Protocol (TCP/IP)**.
4. Click **Properties** to display the Internet Protocol (TCP/IP) Properties dialog box.
5. On the General tab, select **Use the following IP address**.
6. Make a note of any IP addresses or other entries that you have to clear. You may need to restore them later to connect to another network

Enter the following:

- IP address: 192 . 11 . 13 . 5
- Subnet mask: 255 . 255 . 255 . 252

7. Select **Use the following DNS server addresses**.
The entries for Preferred DNS server and Alternate DNS server should both be blank.
8. Click **Advanced** at the bottom of the dialog box to display the Advanced TCP/IP Settings dialog box.
9. Click the **DNS** tab.
Ensure no DNS server is administered. The address field should be blank.
10. Click **OK**, **OK**, and **Close** to close all the windows.

Setting browser options for Internet Explorer 6.0.

A connection session to a media server tends to time out when connected through a proxy server. Add the media servers' host names or IP addresses to the list of host names and IP addresses to avoid having the media server time out during a session.

To set browser options for Internet Explorer 6.0:

1. In Internet Explorer 6.0, click **Tools > Internet Options**.
2. Select the **Connection** tab.
3. Click on **LAN settings**, then **Advanced**.
4. In the **Do not use proxy server for addresses beginning with** field, type in the IP address for each media server you intend to access remotely.

If the IP addresses have the first or first and second octets the same, you can shorten the addresses to xxx.xxx.* (example, 135.9.*).

5. Click **OK**, then **OK**, then **OK** to close all the dialog boxes.

Appendix B: Installation troubleshooting

This section provides some simple strategies for troubleshooting an installation of a media server. It focuses on possible problems when

- [Troubleshooting media server hardware installation](#) on page 83
- [Troubleshooting configuring the media server hardware](#) on page 84
- [Troubleshooting the installation of license files and Avaya authentication files](#) on page 86

Troubleshooting media server hardware installation

Troubleshooting media server hardware installation

Problem	Possible solution
No power to the UPS	<ul style="list-style-type: none">● Make sure the UPS is plugged into the outlet.● Make sure the outlet has power.● See the user guide that comes with UPS for other solutions.
No power to the media server	<ul style="list-style-type: none">● Make sure the circuit pack is seated.● Make sure the media gateway is plugged into the UPS.● Make sure the UPS has power.
SIPI LEDs flash	<ul style="list-style-type: none">● Make sure it is in the correct slot: (slot 1 for G650 Media Gateway, slot 2 for G600 Media Gateway, Tone-Clock slot for all others).● Ping SIPI from server.● Ping server from SIPI (it is connected to the Services port on the SIPI).

Troubleshooting configuring the media server hardware

Troubleshooting for media server hardware configuration

Problem	Possible solution
Cannot log into UPS subagent	<ul style="list-style-type: none"> ● Make sure the SNMP Subagent is installed in the UPS. ● Make sure you are connected to the correct Ethernet port. ● Make sure you have the correct login ID and password. See the user's guide that comes with the SNMP Subagent. ● Make sure the network card on the laptop is configured correctly.
Cannot log into media server	<ul style="list-style-type: none"> ● Check the link LED — if off, there is a cable or hardware problem. ● Make sure you are connected to the Services Ethernet port. ● Make sure you are using a crossover cable between the laptop and server. ● Make sure the ARP cache is cleared on the laptop. In an MS-DOS window, type <code>arp -d 192.11.13.6</code> and press Enter. ● Make sure you have connectivity. In an MS-DOS window, type <code>ping 192.11.13.6</code> and type Enter. ● Make sure the NIC on the laptop is configured correctly.
Cannot access Avaya Installation Wizard	<ul style="list-style-type: none"> ● Make sure you are plugged into the Services port. ● Make sure you are using the correct IP address: 192.11.13.6 ● Make sure you are using the correct login and password. ● Make sure the NIC on the laptop is configured correctly.
Cannot use SAT commands	<ul style="list-style-type: none"> ● Make sure you are using the correct IP address: 192.11.13.6 and port 5023 ● Make sure you are using the correct login and password.
Cannot ping out to customer's network	<ul style="list-style-type: none"> ● Make sure that in the LAN security settings that "output from server" for icmp is enabled.
Cannot ping media server from customer's network	<ul style="list-style-type: none"> ● Make sure that in the LAN security settings that "input to server" for icmp is enabled.
Cannot access media server remotely	<ul style="list-style-type: none"> ● Make sure that in the LAN security settings that "input to server" is checked for SSH or telnet (Linux commands), https (Web access), and def-sat (SAT commands access). Change the LAN security settings on the Web interface with a direct connection to the media server.
1 of 2	

Troubleshooting for media server hardware configuration (continued)

Problem	Possible solution
LED display on SIPI is flashing	<ul style="list-style-type: none"> ● SIPI LED has not had an IP address assigned to it (static IP addressing)
Cannot access SIPI for static addressing	<ul style="list-style-type: none"> ● Make sure you are plugged into the Services (top) port on the SIPI. ● Make sure the ARP cache is cleared on the laptop. In an MS-DOS command window, type <code>arp -d 192.11.13.6</code> and press Enter.
No "V" on SIPI LED	<ul style="list-style-type: none"> ● SIPI is not connected to Ethernet switch or network. Connect crossover cable between the RJ45 SIPI adapter and Eth-A on the S8400 adapter, or, connect cable to bottom port on faceplate and to the Ethernet switch or the customer's network.
"V" on SIPI LED is not filled in	<ul style="list-style-type: none"> ● SIPI does not have an IP address assigned to it. ● SIPI has not been administered.
Get alarm when first connect to SIPI	<ul style="list-style-type: none"> ● SIPI does not have current firmware. Upgrade firmware.
2 of 2	

Troubleshooting the installation of license files and Avaya authentication files

Troubleshooting the installation of license files and Avaya authentication files

Problem	Possible solution
Cannot get files from RFA site	<ul style="list-style-type: none"> ● Provide the correct SAP number. ● Provide the serial number for the SIPI
License file does not install	<ul style="list-style-type: none"> ● Make sure there are not two license files on the server. If so, delete one of them. ● May have corrupt file. Download file again from RFA site. ● Upload using binary mode.
Media server is in no license mode	<ul style="list-style-type: none"> ● Normal situation when license file is first installed because it cannot see the SIPI; it does not have IP address yet. ● After 30 minutes, license has not located SIPI. In a SAT session, type <code>reset system 1</code> and press Enter to reset the 30-minute clock.
Cannot use administration commands	<ul style="list-style-type: none"> ● May be in No License Mode because 30-minute timer has lapsed. In a SAT session, type <code>reset system 1</code> and press Enter to reset the 30-minute clock.
ASG does not work	<ul style="list-style-type: none"> ● Re-install Avaya authentication files.

Index

A

- access media server
 - directly [75](#)
 - remotely over modem [77](#)
 - remotely over network [76](#)
- accessing Maintenance Web Interface [78](#)
- accessing the media server [30](#)
- add
 - IP interface information [46](#)
 - media gateways [44](#)
- AIW. See Avaya Installation Wizard
- alarm activation level
 - setting [47](#)
- alarms
 - enabling to INADS via SNMP [62](#)
 - setting selected traps [28](#)
 - viewing. [60](#)
- ARP cache, clearing [29](#)
- Avaya Installation Wizard, using [38](#)

C

- clearing ARP cache [29](#)
- command line interface. [78](#)
- Communication Manager
 - installing software. [29](#)
- configure
 - media server [35](#), [43](#)
 - modem. [41](#)
 - MPC [39](#)
 - UPS [25](#)
- connect to customer network [14](#)
- connection to LAN, verifying [40](#)
- customer network, connecting to [14](#)

D

- date and time, verifying. [60](#)
- daylight savings rules
 - location [59](#)
 - setting [58](#)
- direct access to media server. [75](#)
- downloading files [10](#)

F

- faceplate
 - S8400 interfaces [66](#)
 - TN8400AP circuit pack [65](#)
 - TN8412AP circuit pack [69](#)
- firewall settings. [40](#)

I

- IA 770 installation. [33](#)
- inputting translations [44](#)
- installation
 - process, high-level overview [23](#)
 - troubleshooting [83](#)
 - using the Wizard [38](#)
- installing
 - Communication Manager software [32](#)
 - MPC firmware. [39](#)
 - translation file [47](#)
- IP address
 - set static [50](#)
- IP address, set static [50](#)
- IP interface
 - enabling control [55](#)
 - LEDs [69](#)
 - upgrading firmware version [54](#)
 - verify translations [54](#)
- IP interface information
 - adding to translations [46](#)

L

- LEDs
 - IP interface [69](#)
 - S8400 [67](#)
 - UPS [68](#)
- license file, testing [64](#)
- license, verifying status [55](#)
- location
 - daylight savings rules [59](#)
 - setting [59](#)

M

- Maintenance Processor Complex. See MPC
- Maintenance Web Interface, accessing [78](#)

Index

media gateways, adding	44
media server	
accessing	30
configuring	35 , 43
powering up	30
verify connectivity.	54
verifying LAN connection	40
modem	
access to media server	77
configuring	41
connect to media server.	20
MPC, configuring	39

N

network time server (NTP), enabling	37
---	--------------------

O

overview of installation process	23
--	--------------------

P

powering up media server	30
pre-installation	
before going to the installation site	9
Processor Ethernet	21
PuTTY, SSH client	73

R

remote access to media server	
over modem	77
over network	76

S

saving translations	44 , 47
set	
alarm activation level	47
daylight savings rules	58
location	59
selected traps (alarming)	28
static IP address	50
set static IP address	50
SIPI	
programming a static address	50
software, installing Communication Manager	32
SSH	
about	22
access with.	73
static IP addressing	
setting	50
static IP addressing, setting.	50

T

Telnet	
configuring for Win2000/XP	31
terminal emulation	78
starting	44
testing	
license file	64
media server installation	63
TN2312BP	64
TN2312BP, testing	64
TN8400AP	
faceplate	65
LEDs	65 , 67
TN8412AP	
faceplate	69
LEDs	69
translation file	
installing	47
translations	
inputting	44
IP interface	43
saving	44 , 47
verifying	57
troubleshooting, media server installation	83

U

upgrading	
IP interface firmware version	54
UPS	
LEDs	68
security alert	25
SNMP module	25
UPS, configuring	25
using this documentation	8

V

verify	
connectivity to media servers.	54
date and time	60
IP interface translated	54
license status	55
media server connection to LAN	40
translations	57
view alarms	60

W

Wizard, installation	38
--------------------------------	--------------------