Job Aid: Firmware Download Procedures for the G700 Media Gateway

This document describes the procedures for upgrading the firmware on one or more of the processors and/or media modules in an Avaya G700 Media Gateway. The upgrade procedures are the same whether the G700 is controlled by an Avaya S8300, S8400, S8500, or S8700-series Media Server. This document does not cover upgrading or patching the Communication Manager software on a media server.

Note:

The step-by-step procedures below illustrate CLI commands. The Upgrade Tool performs the same procedures automatically. This tool is available on the primary controller's Web Interface and is the preferred way to do the installation step, particularly if you are upgrading more than one G700.

The Avaya Gateway Installation Wizard (IW) is another time-efficient alternative tool when a single G700 requires firmware upgrades.

Overview

This section provides introductory information and a summary of the firmware upgrade process.

Assumptions

This document was written assuming the following:

- G700 system has been installed and configured with IP addresses.
- The computer used to perform the upgrade procedures is a Windows-based PC, either a customer PC or an Avaya technician's laptop. This computer is set up as a TFTP server on the customer's LAN.
- The media server controlling the G700 is an S8300, S8400, S8500, S8700, or S8710 Media Server running Communication Manager.
- The audience for this document is familiar with Windows and basic networking concepts, and the use of ftp and telnet commands.

Terminology

The G700 Layer-2 Switching Processor is referred to as the “P330 stack processor” in this document.

The term “device” is used to refer to a G700 Media Gateway, C360 switch, or other non-G700 P330 switch or router in a P330 “stack.” When more than one G700, C360 switch, and/or other P330 devices are connected in a stack (up to 10), each device in the stack is assigned a “module number” from 1 to 10. The module number is used in certain CLI commands to refer to a particular device in the stack. The bottom device is usually assigned module number 1, and the module numbers of the devices increase from bottom to top.

Upgrade Targets

The following G700 components can be upgraded using the firmware download procedures.

Processors

- P330 stack Processor (Layer 2 switching processor)
- Media gateway processor (MGP)
- Internal VoIP processor

Media Modules

- MM710 (T1/E1)
- MM711 (Analog)
- MM712 (DCP)
- MM714 (Analog)
- MM716 (Analog)
- MM717 (DCP)
- MM720 (BRI)
- MM722 (BRI)
- MM760 (VoIP)

Summary of Upgrade Procedures

Upgrading G700 firmware may be done in two ways:

- Using your laptop as the TFTP server
- Using the S8300 (if present) as the TFTP server

Note:

The download step can be done on any computer that has access to the Internet and can connect to the TFTP server. The install step can be done on any computer that has access to the customer's LAN or that can directly connect to the G700. These procedures illustrate two specific solutions.

Using your laptop as the TFTP server

Note:

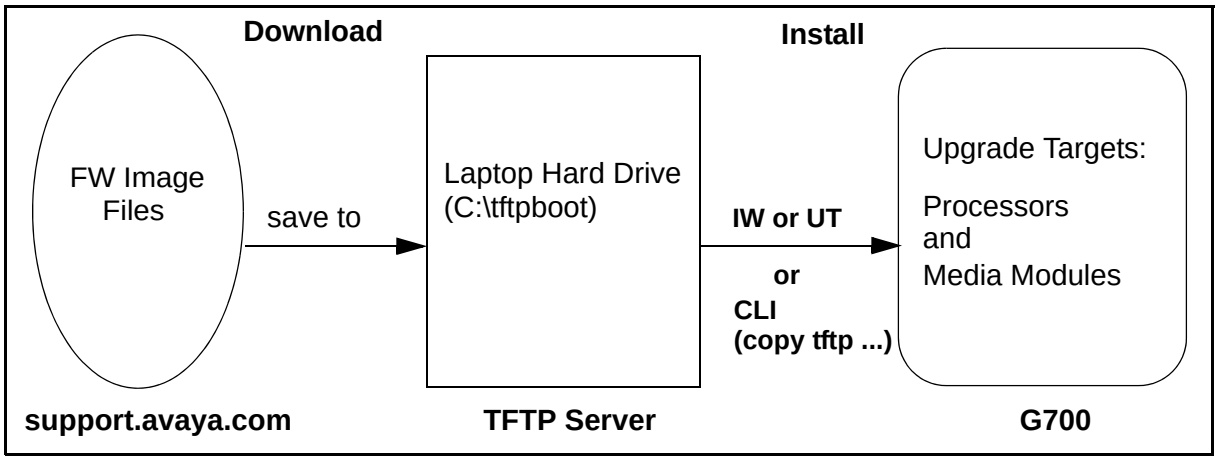
If you do not have a TFTP server installed on your laptop, see Appendix One: Setting up a TFTP Server.

Do the following steps:

1. If necessary, install TFTP server on your laptop.
2. Download firmware from the Avaya Support website to the *c:\tftpboot* directory on your laptop.
3. Install firmware on the G700 target component using either the IW, the Upgrade Tool, or the command line interface (CLI).

Figure 1 illustrates the firmware upgrade process using your laptop TFTP server.

Figure 1: Firmware upgrade process using laptop tftp server



Using the S8300 (if present) as the TFTP server

Do the following steps:

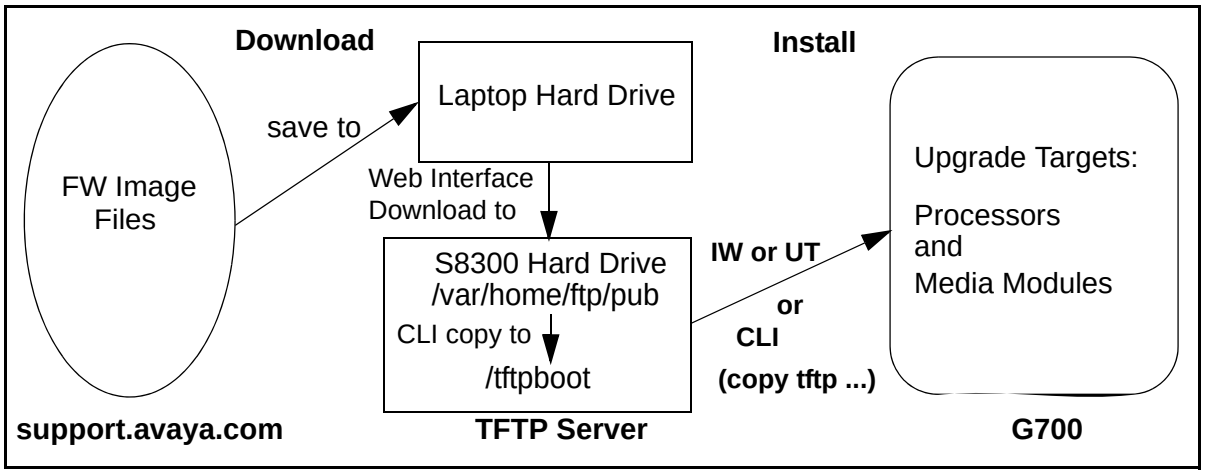
1. Download firmware from the Avaya Support website to a convenient directory on your laptop.
2. Using the Web Interface on the S8300, “download” firmware files to */var/home/ftp/pub*

   Note:

   This is the S8300 directory into which the Web Interface “Download Files” function puts firmware files. It is then necessary to use CLI commands to copy these files to the */tftpboot* directory on the S8300 prior to the installation step. For this copy procedure, see Appendix Two: Using the TFTP server on the S8300 Media Server to install firmware.
3. Install firmware on the G700 target component using either the AIW/Upgrade Tool or the command line interface (CLI).

Figure 2 illustrates the firmware upgrade process using the S8300 TFTP server.

Figure 2: Firmware upgrade process using S8300 tftp server



Connectivity

You can perform the download and install steps using any computer that is connected to the customer LAN and the Internet.

Connection for the Download Step

To download the firmware image files, connect to the Internet and point your web browser to http://support.avaya.com. Save the files to your computer's hard drive.

Connection to the S8300 for the Install Step

The Install step can be done by connecting the technician's laptop in one of the following ways:

- LAN Connection
- Direct Connect to the S8300
- Direct Connection to the G700 Serial Port

LAN Connection

To install the downloaded firmware image files, connect your laptop or PC to the customer's LAN then telnet to the P330 stack processor. If your laptop or PC is not registered on the customer's LAN, you will need to work with the LAN administrator to assign an IP address to your computer.

After connecting to the customer LAN, connect to the P330 stack processor:

1. Telnet to the P330 stack processor —

   Go to **Start > Run** and enter **`telnet <IP address>,`** where ***`<IP address>`*** is the IP address of the P330 stack processor.

2. Log in as *root* at the **`Welcome to Avaya P330`** **screen**.

Direct Connect to the S8300

If the G700 has an S8300 installed (either as the active controller or in LSP mode) you can connect a laptop to the Services port on the S8300.

The laptop must have the following TCP/IP configuration:

- IP address: 192.11.13.5
- Subnet mask: 255.255.255.252
- No DNS or WINS servers specified

To set up a direct connection to the S8300:

1. Connect a crossover cable from the network interface card (NIC) on your laptop to the services port (RJ-45 jack) in the middle of the S8300.
2. Telnet to 192.11.13.6 on the S8300.
3. Log in as *craft* or *cust*.
4. You can now telnet to the P330 stack processor.

Direct Connection to the G700 Serial Port

You can connect a laptop directly to the G700 serial port on the lower right of the G700 chassis (labeled "Console").

To connect your laptop to the serial port:

1. Use the RS-232 serial cable and DB-9 adapter provided with the G700 Media Gateway.
2. Attach one end of the RS-232 cable to the serial port
3. Plug the other end of the RS-232 cable into the RJ-45 jack on the DB-9 adapter.
4. Connect the other end of the DB-9 adapter to the 9-pin serial port on your laptop.
5. With your laptop directly connected to the G700 serial port, launch HyperTerminal or similar terminal emulation program.
6. Choose **Call - Connect** or the appropriate call command for your terminal emulation program.
7. Login at the **Welcome to Avaya P330** screen as *root*.

   You are now logged-in at the Supervisor level with prompt `P330-1(super)#`.

References

The following documents are available on the Avaya Support website at For information on connectivity, initial installation procedures, and Communication Manager upgrades, see *Installing and Upgrading the Avaya G700 Media Gateway and Avaya S8300 Media Server*, 555-234-100, Issue 9, February 2006.

For information on maintenance procedures, see:

- *Maintenance Commands for Avaya Communication Manager 3.1,* 03-300431, Issue 2, February 2006.
- *Maintenance Alarms for Avaya Communication Manager 3.1,* 03-300430, Issue 2, January 2005.
- *Maintenance Procedures for Avaya Communication Manager 3.1,* 03-300432, Issue 2, January 2005.

If you encounter problems with the procedures in this document, you may find help in *S8300 and G700 Troubleshooting Guide*, which is part of the Release Notes in the G700 product documentation set.

For information about the X330 Wan Expansion Module, see *Multiservice WAN Access Router Module User's Guide*.

Download Firmware to the TFTP Server

The first step in upgrading the firmware on a G700 is to download the firmware image files from the Avaya Support website to a TFTP server. The TFTP server can be any Windows-, Unix-, or Linux-based computer connected to the customer LAN. This document assumes that the TFTP server is a Windows-based computer that you are using to perform the download and install steps, typically a technician's laptop that is connected directly to the Services port of the S8300.

To identify which G700 components need to be upgraded, you must check the vintage number of the installed firmware for each component and compare it with the vintage number of the firmware available on the Avaya Support website.

If you know which G700 components need to be upgraded, skip the next section, and proceed to Download Firmware Image Files.

Determine the Firmware to Install on the G700

Use the following procedures to check the vintage or version number of the installed firmware for the P330 stack processor, the G700 Media Gateway processor (MGP), the G700 internal VoIP engine, and the media modules. If the version number for the installed firmware is less than the latest available vintage number, the new firmware for that component should be downloaded and installed.

Note:

As you view the vintage or version numbers in the following procedure, be sure to write them down for each G700 component.

Check P330 Stack Processor Firmware Vintage

This procedure checks two image files to determine if new firmware is needed for the P330 stack processor.

1. Telnet to the P330 stack processor and login.

2. At the `P330-1(super)#` prompt, type **`dir`** to view the currently installed firmware for the P330 stack processor (referred to on the support.avaya.com Website as "P330 Device Manager").

```
M# file           ver num  file type     file        file
                                         location    description
-- -------------  -------  ------------  --------    ----------------
1  module-config  N/A      Running Conf Ram          Module Configuration
1  stack-config   N/A      Running Conf  Ram         Stack Configuration
1  EW_Archive     4.6.2    SW Web Image  Nv-Ram      WEB Download
1  Booter_Image   3.2.5    SW Boot Image Nv-Ram      Booter Image
```

3. Compare the version number (`ver num`) of the EW_Archive file with the version number (***x.x.x***) of the latest available firmware image file (p330Tweb***.x.x.x.***exe). If the current version number is less than the latest available version number, you should upgrade the p330Tweb file.
4. Type **`show image version`** to view the currently installed P330 firmware.

```
Mod    Module-Type                          Bank   Version
---    -----------                          ----   -------
1      Avaya G700 Media Gateway             A      0.0.0
1      Avaya G700 Media Gateway             B      4.1.2
```

5. Compare the version number (`Version`) of G700 Media Gateway in Bank B with the version number (***x_x_x***) of the latest available firmware image file (viisa***x_x_x.***exe) in Bank B. If the current version number is less than the latest available version number, you should upgrade the viisa file.

Check MGP and Media Module Firmware Vintage

This procedure determines if new firmware is required for the G700 Media Gateway Processor (MGP), the internal VoIP engine, and the media modules.

1. At the `P330-1(super)#` prompt, type **`session mgp.`**
2. At the `MG-001-1(super)#` prompt, type **`show mg list_config`**.

Note:

The vintage numbers shown below may not be current. Check support.avaya.com for the latest versions.

```
SLOT   TYPE   CODE   SUFFIX   HW VINTAGE   FW VINTAGE   VOIP FW
----   -----  -----  ------   ----------   ----------   -------
vo     G700   DAF1   A        00           23.17.0(A)   46
v1            S8300  B        2            6            N/A
v2     DCP    MM712  A        1            5            N/A
v3     ANA    MM711  A        27           61           N/A
v4     DS1    MM710  A        1            9            N/A
```

3. Check the vintage number in the FW VINTAGE column for TYPE G700 (SLOT v0). If it is not the latest available vintage, you should install new firmware for the G700 Media Gateway processor (MGP). Also check if the vintage number contains an A or B to designate the active software bank.
4. In the same row, check the vintage number in the VOIP FW column. This is the vintage number of the VoIP processor on the motherboard. If it is not the latest available vintage, you should install new firmware for the G700 VoIP processor.

   The VoIP processor on the motherboard is upgraded using the same firmware image file as the VoIP media module; e.g., mm760v43.fdl. Compare the vintage number of the installed software found in this step with the vintage number (***x***) of the mm760v***x***.fdl file on the Support website.
5. Check the FW VINTAGE column for vintages of each of the installed media modules: MM710, MM711, MM712, MM714, MM716, MM717, MM720, MM722, and MM760 to see if they have the latest vintages. If not, you should install new firmware for these modules.

   Note:

   The firmware for the S8300 (shown in the list in SLOT v1) is upgraded using procedures not covered in this document.

Summary of Firmware Files to Compare

The following table summarizes how to find the version or vintage numbers of the installed firmware for the G700 components. The second column shows the CLI command to display the information and the third column shows where to find the version number in the display.

How to Find the Version Number of Installed Firmware			
Component	**CLI command**	**Table column with version number**	**Compare with file:**
Stack Processor	Type **show image version** at the P330-1 prompt	see `Version` for G700 Media Gateway	viisa***x_x_x***.exe
Device Manager	Type **dir** at the P330-1 prompt	see `ver num` for EW_Archive	p330Tweb.***x.x.x***.exe
Media Gateway Processor (MGP)	Type **show mg list_config** at the MG-001-1 prompt	see `FW VINTAGE` for G700, Slot v0	mgp_***x_x_x_x***.bin
VoIP Processor on motherboard		see `VOIP FW` for slot v0	mm760v***x***.fdl
Media Modules		see `FW VINTAGE` for each slot	mm7*xx*v***x***.fdl

Download Firmware Image Files

Use this procedure to download the G700 firmware image files. Download the files that have vintage (version) numbers on the website greater than the vintage numbers of the corresponding installed firmware.

1. Access the Avaya Support website at support.avaya.com.
2. At the Avaya support site, select this sequence of links (or a similar sequence):

   > **Software & Firmware Downloads**

   > G700 Media Gateway

   -or-

   > S8300 Media Server

   > Firmware Downloads

   > G350 and G700 Media Gateway Firmware Downloads

3. Scroll down the list of G700 firmware and locate the G700 components that you need to upgrade. The following table shows the link names (as they appear on the website) along with the full component name and example filenames for the firmware image files:

Link	Component	Filename Example
VIISA-Vx	P330 Firmware	viisa4_1_6.exe
P330-Vx	P330 Device Manager	p330Tweb.4.6.6.exe
MGP-Vx	MGP Firmware	mgp_24_21_0.bin
MM760-Vx	VoIP Media Module and Motherboard VoIP	mm760v57.fdl
MM710-Vx	E1/T1 Media Module	mm710v14.fdl
MM711-Vx	Analog Port/Trunk Media Module (for hardware vintage 20 only)	mm711h20v68.fdl
MM711-Vx	Analog Port/Trunk Media Module (hardware vintage 7 only)	mm711h7v24.fdl
MM711-Vx	Analog Port/Trunk Media Module only (hardware vintage 3-6 only)	mm711v17.fdl
MM712-Vx	DCP Media Module	mm712v7.fdl
MM714-Vx	Analog Port/Trunk Media Module	mm714v67.fdl
MM716-Vx	Analog Port/Trunk Media Module	mm716v2.fdl
MM717-Vx	DCP Media Module	mm717v4.fdl
MM720-Vx	BRI Media Module	mm720v6.fdl
MM722-Vx	BRI Media Module	mm722v2.fdl

4. To determine which files to download, compare the vintage numbers of the listed firmware files with the vintages you found for the installed firmware.
5. Read the “Special Download Instructions” section in the Readme.txt file for the firmware that you wish to download.
6. Double-click on the abbreviated component name link for the firmware that you wish to download. A **File Download** window appears.
7. Select **Save this file to disk**. and click **OK**.
8. Do one of the following steps:

   a. If using your laptop as the TFTP server:

      1. Save files to the TFTP directory on your hard drive. (e.g., *c*:*tftpboot*).
      2. Proceed to Install New Firmware on the G700 Media Gateway on page 12.

Note:

This procedure assumes that the computer you are using is set up as a TFTP server and will be used as the “source” in the install step. If you need to set up your computer as a TFTP server, see Appendix One: Setting up a TFTP Server.

b. If using the S8300 as the TFTP server:

1. Save files to your laptop hard drive.
2. Use the Web Interface on the S8300 to “Download Files” to the S8300 */var/home/ftp/pub* directory.
3. Copy files from */var/home/ftp/pub* to */tftpboot* directory.
4. Proceed to Install New Firmware on the G700 Media Gateway on page 12.

Install New Firmware on the G700 Media Gateway

Note:

The installation procedures described in this section use CLI commands. The Avaya Installation Wizard and the Upgrade Tool perform the same procedures automatically. These tools are available using the S8300 Web Interface and are the recommended way to do the installation step. Use the AIW if you are installing firmware on a single G700 with an S8300 installed; use the Upgrade Tool if you are upgrading more than one G700.

With the new firmware image files downloaded to the TFTP server, you are ready to install the new firmware.

For this step, you need to know two IP addresses:

- IP address of the P330 stack processor
- IP address of the TFTP server.

If you connect a laptop directly to the serial port of the G700, you only need the IP address of the TFTP server on the customer’s LAN.

Check Connectivity to the TFTP Server

Before executing the installation commands, you should check the connectivity to the TFTP server using the **`ping`** command.

Before upgrading the P330 stack processor

Use the **ping** and **set ip route** commands for the P330 stack processor:

1. At the P330-1(super)# prompt, type **ping *<tftp_server_address>***, where

   <tftp_server_ip_address> is the IP address (on the customer's LAN) of the TFTP server that contains the firmware image files.

   If you get a reply, the connection is OK. If you do not get a reply with the **ping** command, the TFTP server address may be on a different subnet from the address of the P330 stack processor.

   If so, you can set the default gateway with the **set ip route** command.

2. At the `P330-1(super)#` prompt, type **set ip route 0.0.0.0 *<default_gateway_address>***, where

   <default_gateway_address> is the IP address (on the customer's LAN) of the router that connects the G700's subnetwork with other networks.

Before upgrading the MGP processor and media modules

The **ping** and **set ip route** commands are a little different for the MGP processor:

1. At the `MG-001-1(configure)#` prompt, type
   ping mgp *<tftp_server_address>*
2. At the `MG-001-1(configure)#` prompt, type
   set ip route 0.0.0.0 *<subnet mask>* *<default_gateway_address>*, where

   <subnet_mask> is the mask for this subnet (for example, 255.255.255.0).

Install New Firmware on the P330 Stack Processor (P330 Device Manager)

Follow this procedure to upgrade the firmware on the P330 stack processor.

1. Telnet to the P330 stack processor and login.
2. At the `P330-1(super)#` prompt, type
   copy tftp SW_image *<image-file>* EW_Archive *<ew_file>* *<tftp_server_address>* *<Module#>*, where:

   <image-file> is the software image file with format and vintage number similar to `viisa4_0_17.exe`.

   <ew_file> is an embedded web application file with format similar to `p330Tweb.4.0.4.exe`.

Note:

If you are using a TFTP server other than an S8300 Media Server, you must enter the full path name for ***<image-file>*** and ***<ew_file>***; for example, *c:**tftpboot*\viisa4_0_17.exe, and *c:**tftpboot*\p330Tweb.4.0.4.exe.

<tftp_server_ip_address> is the IP address (on the customer's LAN) of the TFTP server that contains the firmware image files.

<Module#> is the number, 1 through 10, of the media gateway in the stack. If there is only one G700 Media Gateway, the number is 1.

For example,
copy tftp SW_image c:\tftpboot\viisa4_0_17.exe EW_Archive c:\tftpboot\p330Tweb.4.0.4.exe 195.123.49.54 2

Note:

If there are additional G700s or other Cajun devices in the stack, install the new firmware in each of the P330 stack processors before executing the **reset** command. (See Stack Configurations on page 18). The same ***<image-file>*** and ***<ew-file>*** are used for the following Cajun devices: G700, P333T, P333T-PWR, P332MF. Other devices, such as the C360, use different image files.

3. At the P330-1(super)# prompt, type **reset *<module #>*** for a single device, or **reset stack** for multiple devices in the stack.

Note:

The reset command will interrupt service. Your telnet connection will be lost so you will need to reconnect to the P330 stack processor.

4. When the reset is complete, telnet to the P330 stack processor and verify that the download was successful.

   a. At the P330-1(super)# prompt, type **show image version *<module #>***

   Check the version number in the Version column for Bank B of the "Avaya G700 Media Gateway" Module-Type.

```
Mod    Module-Type                          Bank   Version
---    -----------                          ----   -------
1      Avaya G700 Media Gateway             A      0.0.0
1      Avaya G700 Media Gateway             B      4.0.17
```

b. At the `P330-1(super)#` prompt, type **dir *<module #>***

Check the version number in the `ver num` column for the “EW_Archive” file.

```
M# file           ver num  file type     file        file
                                         location    description
-- -------------  -------  ------------  --------    ----------------
1  module-config  N/A      Running Conf Ram          Module Configuration
1  stack-config   N/A      Running Conf  Ram         Stack Configuration
1  EW_Archive     4.0.4    SW Web Image  Nv-Ram      WEB Download
1  Booter_Image   3.2.5    SW Boot Image Nv-Ram      Booter Image
```

Install New Firmware on the G700 Media Gateway Processor

Follow this procedure to upgrade the firmware on the media gateway processor (MGP).

1. If not already connected, telnet to the P330 stack processor and login.
2. Type **session mgp** to reach the G700 Media Gateway processor.
3. At the `MG-001-1(super)#` prompt, type **configure** to enter configuration mode**.**
4. At the `MG-001-1(configure)#` prompt, type **show mgp bootimage** to determine which disk partition (bank) is Active Now.

   You will update the bank that is *not* listed as Active Now. For example, if `Bank A` is listed under `ACTIVE NOW`, you will upgrade bank B.

```
FLASH MEMORY          IMAGE VERSION
Bank A                22.16.0
Bank B                22.15.0

ACTIVE NOW             ACTIVE AFTER REBOOT
Bank A(22.16.0)       Bank A(22.16.0)
```

5. At the `MG-001-1(configure)#` prompt, type **copy tftp mgp-image *<bank>* *<image-file>* *<tftp_server_ip_address>***, where

   <bank> is the bank (A or B) that is *not* Active Now.

   <image-file> is the filename of the firmware image file; for example, `mgp_22_16_0.bin`.

Note:

If you are using a TFTP server other than an S8300 Media Server, you must enter the full path name for ***<image-file>***; for example, ***c:\tftpboot\mgp_22_16_0.bin***.

<tftp_server_ip_address> is the IP address of the TFTP server.

For example,
copy tftp mgp-image b c:\tftpboot\mgp_22_16_0.bin 195.123.49.54

The screen will show the progress.

6. After the prompt returns, type **set mgp bootimage *<bank>*** to identify the bank (A or B) that contains the new mgp image file.

   This is the bank to which you copied the image file in 5. When the system is reset, it will use the image file in this bank.

   For example,
   set mgp bootimage b

7. At the `MG-001-1(configure)#` prompt, type **reset mgp**

8. Select **Yes** to continue.

   The G700 Media Gateway processor will reset and you will loose your telnet connection. The LEDs on the G700 Media Gateway and the Media Modules will flash. These elements will each conduct a series of self-tests. When the LEDs on the Media Modules are extinguished and the active status LEDs on the G700 Media Gateway are on, the processor reset is complete.

9. Telnet back to the MGP and verify that the download was successful. At the `MG-001-1(configure)#` prompt, type **show mgp bootimage**

   Check the version number under `IMAGE VERSION` for the bank listed under **ACTIVE NOW**.

```
FLASH MEMORY          IMAGE VERSION
Bank A                22.16.0
Bank B                22.16.0

ACTIVE NOW             ACTIVE AFTER REBOOT
Bank B(22.16.0)        Bank B(22.16.0)
```

10. If there are additional G700s in the stack, install the new firmware in each of the mgp processors. (See Stack Configurations on page 18).

Install New Firmware on the Media Modules

If you are upgrading active media modules, you must first take the media modules out of service with the **busyout board** command in a SAT session on the primary controller.

Follow this procedure to upgrade the firmware on the G700 media modules.

1. If not already connected, telnet to the P330 stack processor and login.
2. At the `P330-1(super)#` prompt, type **session mgp**
3. At the `MG-001-1(super)#` prompt, type **configure** to reach the configuration level of the command line interface.
4. At the `MG-001-1(configure)#` prompt, type
   copy tftp mm-image v*<slot #>* *<filename mm>* *<tftp_server_ip_address>*, where

   <slot #> is the slot of the media module being upgraded,

   <filename mm> is the firmware image filename; for example, mm712v5.fdl,

   Note:

   If you are using a TFTP server other than an S8300 Media Server, you must enter the full path name for ***<filename mm>*** (for example, ***c:\tftpboot\mm712v5.fdl***).

   <tftp_server_ip_address> is the IP address of the TFTP server.

   For example,
   copy tftp mm-image v2 c:\tftpboot\mm712v5.fdl 195.123.49.54

   Most upgrades will take two or three minutes. The VoIP Media Module upgrade takes approximately 5 minutes. The media module is reset automatically after the firmware transfer is complete. Several status parameters are displayed during the transfer and reset. The `MG-001-1(configure)#` prompt will appear when the reset is complete.

   Note:

   The VoIP processor on the motherboard is upgraded using the same firmware image file as the VoIP media module, mm760v43.fdl. The only difference is that v0 is used for the slot number in the **copy tftp mm-image** command.
5. At the `MG-001-1(configure)#` prompt, type **show mg list_config** to display the list of G700 firmware.

Note:

The vintage numbers shown below may not be current. Check support.avaya.com for the latest versions.

```
SLOT   TYPE   CODE   SUFFIX   HW VINTAGE   FW VINTAGE   VOIP FW
----   -----  -----  ------   ----------   ----------   -------
vo     G700   DAF1   A        00           22.16.0(A)   43
v1            S8300  B        2            6            N/A
v2     DCP    MM712  A        1            5            N/A
v3     ANA    MM711  A        20           60           N/A
v4     DS1    MM710  A        1            9            N/A
```

6. In the TYPE column, find the particular media module (v1 through v4), then check the matching field in the FW VINTAGE column to see if it is the correct vintage number. Note that slot v1 can contain either a media module or the S8300 Media Server, which is Type "ICC."
7. Check the VOIP FW column and row for slot v0 to see if it is the correct vintage number.
8. When the reset is complete, verify that the system comes back up with the new firmware image.

   Type **show mm** to show the media module information.
9. If you busied out the media module, you need to release it in a SAT session on the primary controller.

   Enter the **release board** command.
10. If there are additional G700s in the stack, install the new firmware in the media modules for each of the G700s. (See Stack Configurations on page 18).

Stack Configurations

If the customer has multiple G700 media gateways connected in a stack, you need to check the firmware on the components of all the G700s in the stack and update the firmware as required.

Stack Master

In a stack configuration, one of the media gateways is designated as the stack master. Usually, the devices in a stack are configured as follows:

- The device at the bottom of the stack is assigned "module" number one and is the stack master
- The "module" numbers increase from bottom to top

However, it is possible, but unusual, to arrange the devices in the stack such that the bottom device is not number one and/or is not the stack master.

You can identify the stack master by typing the **session** command at the P330-1(super)# prompt. The system lists all devices in the stack and their "Slot" numbers (the Slot number is the same as the module number). The example below shows an output of the **session** command. The stack master can be identified by an asterisk.

```
P330-1(super)# session
G700 (*) In Slot 1
G700 In Slot 2
G700 In Slot 3
P330-1 (super)#
```

If you are on site, you can identify the stack master by the LED panel on the upper left of each G700, C360, or P330 device in the stack. The LEDs signal as follows:

- On the G700 Media Gateway: a lit **MSTR** LED indicates that this unit is the stack master.
- On the P330 device: a lit **SYS** LED indicates that this unit is the stack master.
- On the C360 switch: a lit **SYS** LED indicates that this unit is the stack master.

Moving between devices

You can connect to the P330 stack processor in the master media gateway and move to the processors in the other media gateways using the **session** command:

1. At the P330-1(super)# prompt, type **session *<module #>***, where

   <module #> is the module number for another G700, C360, or P330 device in the stack.

   For example, **session 2** will take you to the P330-2(super)# prompt on module 2.
2. To move to the MGP for module 2, type **session mgp**.
3. To move to module 3, type **session stack** or **exit**, followed by **session 3**.

Upgrade all components in the configuration

Repeat the firmware upgrade steps to upgrade the components for each G700 in the stack. Also upgrade the stack processor in each non-G700 device, if necessary.

If additional G700 media gateways are supported in the configuration, but they are not attached as a stack, then you must connect to each of these G700s separately, check firmware, and update the firmware as required.

Appendix One: Setting up a TFTP Server

Set Up the TFTP Server on Your Laptop or on a Customer PC

To install new firmware on the G700 Media Gateway, you must first place the files in a directory on a server with TFTP configured. The TFTP server can be on any computer that can be networked to the G700. The instructions in this Appendix describe how to configure a Windows-based computer as a TFTP server.

Set up a TFTP Server

Follow these steps to configure a computer as a TFTP server.

1. On the hard drive of the computer, create a directory into which you will load the G700 firmware image files. Avaya recommends using a directory called *C:\tftpboot*.
2. Access the Avaya support website at on the Internet to copy the following file to the PC/ laptop: **iptel_avaya_tftp.exe**.
3. At the Avaya support site, select the following sequence of links:

   >**Software & Firmware Downloads**

   Scroll down to "Telephones and End-User Devices" in the right panel and select:

   >**4600 Series IP Telephones**

   >**Software Downloads**
4. Select **AVAYA 4630/4630W IP Telephone Rx.xx and TFTP Server**, where **Rx.xx** is the latest release.
5. Scroll to bottom of page to find **iptel_avaya_tftp.exe**.
6. Click on the program and download it to any convenient temporary directory.

   You may also wish to download the file **iptel.pdf**, which provides instructions on installing iptel_avaya_tftp.exe on Windows systems.
7. Go to the directory containing the **iptel_avaya_tftp.exe** file, double-click on the filename and follow the installation wizard instructions to install it.

   The default installation directory is *c:\Program Files\Walusoft\TFTPSuite* — you can accept this default or specify a different one.

8. Go to the directory where the TFTP software was installed and double-click on the program **tftpserver32.exe**.

   The **TFTP Server** window appears. The IP address of the computer, plus port 69, is indicated in the upper border of the window.

9. Enable the TFTP server as follows:

   a. Click on **System** from the menu bar and select **setup**.

      The server option window appears.

   b. Select the **Outbound** tab, and enter the full path to the tftp directory that you created earlier (e.g., *C:\tftpboot*) in the **Outbound file path** window.

   c. Select the **Inbound** tab, and enter the full path to the tftp directory that you created earlier (e.g., *C:\tftpboot*) in the **Inbound file path** window.

   d. Under Options tab, enter **69** in the **Use Port** field (default).

   e. Select **No Incoming** (default). However, if you wish to copy files as a backup prior to performing an upgrade of software, leave this field unchecked.

   f. Click **OK**.

Appendix Two: Using the TFTP server on the S8300 Media Server to install firmware

Instead of using a separately configured TFTP server on the customer's LAN, you can use the TFTP server capability of an S8300 Media Server to stage the firmware for installation by the G700/G350 Media Gateway. To do this, you must copy the individual firmware files to the */var/home/ftp/pub* directory on the S8300 Media Server using the Download files Web page on the S8300 Media Server. Then you must copy the files to the */tftpboot* directory of the S8300 Media Server (see Copying firmware files to the /tftpboot directory of the S8300 Media Server.

After the files are in the */tftpboot* directory, you can install the files on the G700/G350 Media Gateway or its media modules by specifying, in the Gateway Installation Wizard or on the Upgrade Tool, the S8300 Media Server's IP address as the TFTP server holding the firmware files you want to install.

Copying firmware files to the /tftpboot directory of the S8300 Media Server

To copy firmware files to the */tftpboot* directory of an S8300 Media Server, do the following:

1. Use telnet, Avaya Site Administration, or another tool to access the S8300 Media Server command line.
2. Log in as *craft*.
3. At the Linux prompt, type **`cd /var/home/ftp/pub,`** and press **Enter**.

   The Linux prompt reappears. The current directory has changed to */var/home/ftp/pub*.
4. At the Linux prompt, type **`cp <`*`firmware_filename`*`> /tftpboot`**, and press **Enter** to copy a single firmware file to the */tftpboot* directory.

   To copy multiple firmware files (most firmware files have an .fdl suffix), use the command **`cp *.fdl /tftpboot`**

   The Linux prompt reappears. The firmware file or files have been copied to the */tftpboot* directory.
5. Repeat step 4, if necessary, for other firmware files you want to install.
6. At the Linux prompt, type **`cd /tftpboot`**.

   The Linux prompt reappears. The current directory has changed to */tftpboot*.
7. At the Linux prompt, type **`ls`**, and press **Enter**.

   A list of files in the directory appears.
8. Check the directory to make sure the firmware files you want to install are listed.