Job Aid: Replacing the G700 Media Gateway

This job aid describes the procedures to replace an installed G700 Media Gateway with a new G700. The G700 may or may not contain an S8300 Media Server, which can be configured as a primary controller or as a local survivable processor (LSP).

Assumptions

The following items are assumed for the successful completion of this replacement procedure. If any of these assumptions do not apply to your scenario, some steps in the on-site replacement procedure may need to be modified:

- If the installed G700 contains an S8300, it may be configured as a primary controller or as an LSP
- The G700 to be replaced must be registered to a primary control, which can be an S8300, with or without LSPs, or an S8700, with or without LSPs.
- An installed S8300, if any, and any installed media modules, will be reused in the new G700
- The customer will provide a computer on the LAN for:
  - Connection to the G700's primary controller if the primary controller is remote
  - TFTP backup of G700 config and dat files. (Computer must be set up as a TFTP server.)
  - FTP backup of G700 VAL announcements, if any
- IP addresses (on the customer's LAN) are available for the following:
  - P330 stack processor
  - Media gateway processor (MGP)
  - VoIP engine on the G700 motherboard (voip-v0)
  - Primary controller (S8700 or S8300 Media Server)
  - FTP and TFTP server
- The firmware versions on the P300 stack processor and MGP in the new G700 are compatible with the software version running on the primary controller for the installed G700
- The Avaya Gateway Installation Wizard may be used for the initial configuration of the new G700 — the Gateway Installation Wizard application must be installed on the technician's laptop
- The technician is familiar with how to connect to and access the G700 and S8300, including:
  - setting up a direct connection from the laptop to the G700 Console (serial) port
  - using Hyperterm or similar serial-communications application
  - logging in to the P330 stack processor
  - setting up a direct connection from the laptop to the S8300 Services port
  - using the Web Interface

Before you go to the site

It is strongly recommended that you obtain as much information as possible that will be used in the replacement procedure before going to the customer site.

Perform the following steps before going to the customer site:

1. Obtain the IP addresses and subnet masks for the P330 stack processor, MGP, and default gateway on the G700 to be replaced (note: do not confuse the default gateway with the MGP IP address).
2. Obtain the IP address of a computer on the customer's LAN that will be used for FTP and TFTP backups. This computer must be set up as a TFPT server. Software needed to set up a TFTP server can be downloaded from the Avaya Support website (www.avaya.com/support). If needed, instructions to set up a TFTP server are given in Appendix: Set up a TFTP Server.
3. Determine whether the firmware versions installed on the processors (P330 stack processor and the MGP) on the new G700 are compatible with the software version running on the primary controller. If not, you will need the appropriate firmware files to upgrade (or downgrade) the processors. These files are available in the Software/Firmware Downloads section of the Avaya Support website. If you don't know which files you will need, you can download all the available versions of firmware for the P330 stack processor and MGP to the laptop.
4. Arrange for access to the primary controller.
   - If the primary controller is an S8300, either in the G700 to be replaced or in another G700 in the same stack or a connected stack, you will use a direct connection from your laptop's NIC card to the Services port on the S8300. Your laptop must be properly configured for the direct connection. For example, your laptop must be configured with static IP address of 192.11.13.5. For this connection, the S8300 can be accessed via telnet or web browser using the IP address 192.11.13.6.

NOTE:
See *Installation and Upgrades for the G700 Media Gateway*, 555-234-100, for detailed information about setting up connections to the G700 and S8300 and the associated laptop configurations.

   - However, if the primary controller is at a remote location, you will need to be able to access the primary controller over the customer's LAN. The customer should provide a computer connected to the LAN for this purpose. Alternatively, if the customer does not provide a computer for this purpose, you could be in contact with someone who has access to the primary controller and have them do the controller steps at the appropriate times.

In addition, if the G700 contains an S8300 (primary controller or LSP):

5. Create and download a new license file from the RFA website. The new license file must be associated with the serial number of the new G700. Save the license file on the laptop hard drive that you will use at the customer site. Do NOT download a new password file. Be sure to obtain the file with the .lic extension.

At the customer site

In the following procedures, you will use your laptop to access both the G700 (via a direct serial connection) and the primary controller (either via a direct connection or over the LAN). You will need to alternate between these two connections several times.

Perform the following procedures at the customer site:

1. Set up connections to the G700 and primary controller:
   - **a** Direct connection to the G700 — using a serial cable, connect a serial cable from your ***laptop*** to the Console port on the G700.
   - **b** Connection to the primary controller —
     - — If the primary controller is a local S8300 or S8700 Media Server, connect a crossover cable from your ***laptop*** to the Services port on the server.
     - — If the primary controller is at a remote location, set up a LAN connection to the primary controller on a ***customer computer***.
   - **c** Connection to the LSP — if the G700 contains an S8300 configured as an LSP — after the LSP is reinserted into the new G700, connect a crossover cable from your laptop to the Services port on the S8300. This connection is needed only in Step 16 to install the new license file.

NOTE:
If the primary controller is an S8700 or an S8300 on a different G700 that is not being replaced, you do not need to save translations at this point.

2. If the primary controller is an S8300 on the G700 to be replaced, use the SAT interface to save translations. Verify that translations were saved successfully.
3. Back up the G700 configuration files to a TFTP server. (The TFPT server must be on the customer LAN and the G700 must be connected to the LAN through one of the Ethernet ports, EXT1 or EXT2):
   - **a** Using the serial connection, open a Hyperterm session and log in to the P330 stack processor.
   - **b** At the P330 prompt, type
     `copy stack-config tftp <stack-filename> <ip-address>`
     and
     `copy module-config tftp <module-filename> <ip-address> <module #>`

     where,

     `<stack-filename>` is a name you choose for the backed up stack-config file; for example, the G700 stack module number followed by "stack": ***1stack***.

     `<module-filename>` is a name you choose for the module-config file; for example, the G700 stack module number followed by "module": ***1module***.

     (Write down these file names for later use).

     `<ip-address>` is the ip address of the destination TFTP server

     `<module #>` is the stack module number of the G700 (1–10).

c Session to the MGP: type
session mgp

d Type **configure** to change to the configure mode.

e At the MGP(configure) prompt, type
copy mgp-config tftp tffs.dat *<ip-address>*

where,
<ip-address> is the ip address of the destination TFTP server

NOTE:
If there are no VAL announcements on the G700, skip to Step 5. Backing up the VAL announcements can most easily be done using VAL Manager, if available, instead of Step 4.

4 Backup G700 VAL announcements (if gateway announcements are present on the G700).

a Enable file system for the G700:

— Telnet to the primary server and start a SAT session.

On your laptop, click **Start** > **Run** and enter **telnet *<server-ip-address>***
Log in as **craft**
Type **SAT**
Log in as **craft**

— At the SAT prompt, type
enable filesystem board *<nn>*v9 login *<ftp-username>* *<ftp-password>*
where,
<nn> is the media gateway number administered for the G700
<ftp-username> is a 3–6 character user ID for the FTP session
<ftp-password> is a 7–11 character password for the FTP session

b Log in to a computer connected to the customer LAN. This computer will be used as an "FTP client" to temporarily store the G700 VAL announcements.

c Copy the existing announcement files from the G700 to the FTP client.

— At the command prompt on the FTP client, type
ftp *<ip-address>*
where ***<ip-address>*** is the IP address of the media gateway processor (MGP) on the G700.

— At the user prompt, type the ftp-username you set up in Step a**.**

— At the password prompt, type the ftp-password you set up in Step a**.**

— At the `ftp>` prompt, type **bin** to change to binary mode.

— At the `ftp>` prompt, type **dir** to view the contents of the /annc directory.

— At the `ftp>` prompt, type
get *<filename>*.wav
where ***<filename>*** is the file name of an announcement file that you want to back up.
(The **get** command copies the announcement file to the directory from which you initiated the FTP session on the FTP client.)

— Repeat the **get** command for each announcement file you want to back up.

d Type **bye** to close the ftp session.

5 Ensure that all cables (connected to the G700 and media modules) are adequately marked for later reinstallation in the same locations.

6 Shutdown the S8300, if any:

Click **Shutdown This Server** under Server on the Maintenance Web Interface. Or, press and hold down the Shutdown button (on the faceplate of the S8300) until the OK to Remove LED starts blinking. In either case, when the OK to Remove LED is on steady, you can safely power down the system.

7 Power down the G700 (unplug power cord).

8 Remove all cables. Remove the old G700 from the rack. Mount the new G700 in the rack.

9 Transfer the media modules and the S8300, if any, from the old G700 to the new G700, maintaining the original slot locations.

10 Reconnect cables in the same locations as on the old G700.

11 Power up the G700 (plug in power cord).

12 Provision the new G700 (MGP, P330, IP Routes):

a Connect a serial cable from your laptop's serial port to the Console port on the G700

b Using a serial-communications application such as Hyperterm, access the P330 stack processor and log in.

NOTE:
The following steps, **c**–**m**, can alternatively be completed using the Gateway Installation Wizard. To use the wizard, the GIW application must be installed on your laptop.

c Initialize nvram: at the P330 prompt, type
nvram initialize

If necessary, re-start the Hyperterm session and log in.

d Provision IP address of the P330 stack processor: at the P330 prompt, type
set interface inband *<vlan>* *<ip-address>* *<netmask>*
where,

<vlan> is the vlan number
<ip-address> is the IP address of the P330 stack processor
<netmask> is the subnet mask

e Reset the P330 stack processor: type
reset *<module-number>*
where ***<module-number>*** is the module number of the G700 in the stack.

If necessary, re-start the Hyperterm session and log in.

f Set up an IP route through the default gateway. At the P330 prompt, type

set ip route 0.0.0.0 *<default-gateway-ip-address>*
where,

<default-gateway-ip-address> is the IP address of the router or switch that handles packets addressed to destinations outside of the subnet.

g Session to the MGP and change to the configure mode: type
session mgp
configure

h Re-initialize the MGP. At the MGP(configure) prompt, type
nvram initialize

If necessary, re-start the Hyperterm session and log in.

i Session to the MGP and change to the configure mode: type
session mgp
configure

j Provision the IP address of the media gateway processor: at the MGP(configure) prompt, type
set interface mgp 1 ***<ip-address> <netmask>***
where,
<ip-address> is the IP address of the media gateway processor (MGP)
<netmask> is the subnet mask.

k Reset the MGP: type
reset mgp

After the reset, the P330 login prompt will appear. Log in.

l Session to the MGP and change to the configure mode: type
session mgp
configure

m Set up an IP route through the default gateway: type

set ip route 0.0.0.0 0.0.0.0 ***<default-gateway-ip-address>***
where,

<default-gateway-ip-address> is the IP address of the router or switch that handles packets addressed to destinations outside of the subnet.

Note that the "0.0.0.0 0.0.0.0" is two all-zero IP addresses separated by a space.

13 Restore the configuration backup files:

a Type **exit** twice to return to the P330 stack processor. At the P330 prompt, type
copy tftp stack-config ***<stack-filename> <ip-address>***
and
copy tftp module-config ***<module-filename> <ip-address>***
where,

<stack-filename> is a name you chose in Step 3 for the backed up stack-config file; for example, ***1stack***.

<module-filename> is a name you chose in Step 3 for the module-config file; for example, ***1module***.

<ip-address> is the IP address of the TFTP server

b Session to the MGP and change to the configure mode: type
session mgp
configure

c At the MGP(configure) prompt, type
copy tftp mgp-config tffs.dat ***<ip-address>***

where,
<ip-address> is the ip address of the TFTP server

d Reset the MGP: type
reset mgp

14 Reconnect to the primary server.

15 Restore the announcement files.

NOTE:
If you did not back up VAL announcements in Step 4, skip this step. This step can be done using VAL Manager, if available.

a Repeat Step a in Step 4 to enable an FTP session on the S8300.

b Copy the backed-up announcement files from the FTP client to the G700.

— At the FTP client command prompt, type
ftp *<ip-address>*
where ***<ip-address>*** is the ip address of the MGP

— At the user prompt, type the ftp-username you set up in Step a**.**

— At the password prompt, type the ftp-password you set up in Step a**.**

— At the `ftp>` prompt, type **`bin`** to change to binary mode.

— At the `ftp>` prompt, type **`dir`** to view the contents of the /annc directory.

— At the `ftp>` prompt, type
`put <filename>.wav`
where***<filename>*** is the name of an announcement file you want to restore. (The **`put`** command copies the announcement file from the FTP client to the /annc directory on the G700.)

— Repeat the **`put`** command to restore each announcement file that you backed up in Step 4.

c Type **`bye`** to close the ftp session.

NOTE:
Skip Step 16 if there is no S8300 in the new G700. You need to install a new license file *only* on an S8300 in the new G700. You do not need to install a new license file on any server that is not in the new G700.

16 If there is an S8300 (primary controller or LSP) in the new G700, use the Maintenance Web Interface to install the new RFA license on the S8300.

a If the S8300 in the new G700 is an LSP, connect the crossover cable from your laptop to the Services port on the LSP. (If the S8300 in the new G700 is the primary controller, the crossover cable should already be connected to it).

b Open the Maintenance Web Interface. Under "Miscellaneous," select **Upload Files to Server (via browser)** and enter, or browse to, the full-path filename of the license file on you laptop. Click on **Load File**.

c Under "Security," select **Install License**. Check the "Install new license" radio button and click on **Install License**.

d Under "Security," select **View License Status** to ensure the status is normal.

17 Provision the new G700.

a On the primary controller, open a SAT session

b At the SAT prompt, type
change media-gateway *<mg-number>*
where ***<mg-number>*** is the number assigned to this G700

c Type the serial number of the new G700 in the Identifier field and submit the screen.

d Verify that the new G700 registers with Communication Manager:

— Open a SAT session and type
list media-gateway

The `Registered?` column (last column on the right) should have **y** for the new G700.

18 Check and reconcile the firmware versions installed on the P330 stack processor and MGP.

a At the MGP prompt, type
show mgp bootimage

b At the `P330(configure)` prompt, type
show image version

c If the version for either the P330 stack processor or the MGP is not compatible with the version of Communication Manager running on the primary controller, you must upgrade (or downgrade) the firmware on these processors.

For detailed instructions on upgrading G700 firmware, see the Job Aid, *Installation Instructions for the G700 Firmware*, on the G700 Firmware Download section of the Avaya Support website.

19 Save translations on the primary controller.

20 Test as appropriate — for example, make station calls from/to the replaced G700, check for and resolve any new alarms.

Appendix: Set up a TFTP Server

The following instructions describe how to configure a Windows-based computer as a TFTP server. A TFTP server is needed for the **`copy tftp`** commands, which backup the configuration files and install firmware on the G700. The TFTP server can be on any computer that can be networked to the G700.

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 copy the G700 configuration files or load the G700 firmware image files; for example, C:\tftpboot.
2. Access the Avaya support website at http://www.avaya.com/support. 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 then **Software Downloads**
4. Select **AVAYA 4630 IP Telephone Rx.xx and TFTP Server**.
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 **tftpserver32.exe**.
9. The system displays the TFTP Server window. The IP address of the computer, plus port 69, is indicated in the upper border of the window.
10. Enable the TFTP server as follows:
    a. Click on **System** from the menu bar and select **Setup**. The system displays the server option window.
    b. Select the **Inbound** tab and enter the full path to the tftp directory that you created in Step 1 (e.g., C:\tftpboot) in the "Inbound file path" window. Check "Allow Inbound Paths" and "Create paths as needed".
    c. Select the **Outbound** tab and enter the full path to the tftp directory that you created in Step 1 (e.g., C:\tftpboot) in the "Outbound file path" window. Check "Enable Paths".
    d. Select the **Options** tab and enter **69** in the "Use Port" window (default). Since you will be using the TFTP server to backup the configuration files, be sure that the "No Outbound" and "No Incoming" boxes are ***not*** checked. Otherwise, leave the defaults for the check boxes.
    e. Click **OK** to save and exit setup.

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