Implementing the Announcements Feature on The Avaya MultiVantage™ Software based Solutions - Issue 1.0

Abstract

The Application Notes attempt to describe how a certain Announcements feature is administered on different configurations of the Avaya MultiVantage™ Solution. Some of the most common configurations are listed in these Application Notes. The corresponding administration options are explained in each section.

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1.0 Introduction

The primary focus of the Application Notes document is to explain the Announcements feature of the solutions powered by Avaya MultiVantage™ Software. This Application Notes will attempt to describe how this feature is administered in different converged system configurations and how resources can be distributed across the network. Some of the most common configurations are listed below with the corresponding administration options explained in each section.

The audience of these Application Notes are primarily those concerned with understanding how to optimize the functionality provided by solutions that are powered by MultiVantage Software such as the Avaya™ S8700 Media Servers (multi-connect and IP-connect modes), the Avaya™ S8300 Media Servers and the Avaya™ G700 Media Gateways when they are placed into existing networks or as new networks.

1.1 Announcements Feature

An announcement is a recorded message a caller may hear while the call is in a queue, or if a call receives intercept treatment for some reason. An announcement is often used in conjunction with music. The source or the storage unit for announcements can be integrated in a Server or an external unit. Integrated announcements reside on a circuit pack in the switch carrier or on an Avaya G700 media gateway Virtual Announcement Board (VAB). External announcements are stored and played back from adjunct equipment that is connected in some way to the carrier.

Avaya MultiVantage Software supports multiple telephone sessions, with one session associated with each active integrated announcement circuit pack. See Section 1.1.1 for more information on announcement circuit packs that are currently supported.

Any announcement stored on a circuit pack can play through any port on that circuit pack. Any announcement (not administered for “barge-in”) can play simultaneously through multiple ports on the circuit pack. All ports can play the same announcement at the same time, and the system can connect multiple users to each of these announcements. Barge-in allows callers to listen to an announcement after the system has begun playing the message. Barge-in can be used with auxiliary trunk announcements, DS1 announcements, and integrated announcements. With barge-in, only one port plays the announcement at any one time. The system routes a call to the announcement, immediately connects the call to the port, and the caller hears the announcement as it is playing. Barge-in announcements can be set up to repeat continually while callers are connected to the port. The caller listens until the system plays the entire announcement.

There are three types of announcements:

- Delay announcement — explains the reason for the delay and encourages caller to wait
- Forced announcement — explains an emergency or service problem. Typically established when a large number of calls about a specific issue are anticipated.
- Information announcement — gives the caller instructions on how to proceed, information about the number called, or information that the caller wants.

Voice announcements are used in any Enterprise environment to announce delays, direct customers to different departments, alleviate staff from answering repetitious request for the same information, assure the accuracy of what is conveyed to the caller, and/or entertain and inform calling parties. On the Avaya G700 Media Gateway the announcement capability is standard and comes co-resident. The Avaya S8300 Media Server provides an excellent solution for enterprises

in need of a small call center. The Avaya S8300 Media Server with the Avaya G700 Media Gateway supports the following call center capabilities:
• All three Avaya call center packages: Avaya Call Center Basic, Avaya Call Center Deluxe, and Avaya Call Center Elite
• Supports up to 250 agents
• 16 ASAI links
• Avaya G700 announcement software

1.1.1 TN750C and TN2501AP Announcement Circuit Packs

The two most commonly used Announcement circuit packs are TN750C and TN2501AP. The TN2501AP has replaced the TN750C. However, the TN750C will continue to be supported in existing customer configurations but is not supported for configurations with Avaya S8700 media servers. The TN750C records and stores announcements to be played back on demand as part of a calling feature. The TN750C has sampling rates of 16, 32, or 64 kbps. The TN750C records announcement messages from on- or off-premises telephones and can store up to 128 recorded announcements and a maximum of 8 minutes, total. The TN750C has 16 channels and each can play any announcement. Up to 25 call connections can listen to each channel. This means a total simultaneous call capacity of 400 calls in MultiVantage Equivalent. 256 callers can connect to each channel in an MultiVantage Equivalent.

Equipping 10 circuit packs in a system provides a total capacity of 42.6 minutes (at 32 kbps) and 160 ports. In other words, 160 announcements can play simultaneously. The 16 kbps compression rate (adequate for VDN of origin announcements) provides a total capacity of 85.3 minutes. Use of multiple circuit packs allows a more efficient method of providing many kinds of announcements and provides improved management of integrated announcements.

The TN2501AP Voice Announcements over LAN (VAL) is an integrated announcement circuit pack that:

- offers up to 1 hour of announcement storage capacity.
- can be updated with firmware files downloaded directly over the LAN. The files are downloaded through the TN2501AP's 10/100Mb Ethernet interface, not through the TN799 C-LAN circuit pack.
- plays announcements over the TDM bus, similar to the TN750C.
- has 33 ports, including
  - 1 dedicated telephone access port for recording and playing back announcements (port number 1).
  - 1 ethernet port (port number 33).
  - 31 playback ports (ports 2–32).
- uses a 10/100 Mbps ethernet interface, allowing announcement and firmware file portability over the enterprise LAN (FTP server functions).
- uses announcement files that are in .wav format (CCITT A-Law and µ-law, 8 KHz, 8-bit mono).
- also works in Avaya Definity® G3R, G3SI, and G3CSI, Avaya S8700 Media Server, Avaya™ S8100 Media Server configurations.

Note: Announcements cannot be saved or restored to a TN2501AP circuit pack to/from a TN750C circuit pack, flash cards, tape, or magneto optical disks.

1.1.2 Avaya G700 Media Gateway Announcements

The Avaya G700 Gateway's announcement software has many of the functionalities of the TN2501AP VAL circuit pack. The table in Section 1.1.3 gives the differences between the Avaya G700 Announcement software and the VAL circuit pack.

1.1.3 Announcement Capacity

Table 1 below gives the differences between the Avaya G700 Announcement software and the VAL circuit pack.

Table 1: Comparison between the Avaya G700 Announcement Software and the VAL circuit pack

Area Description	TN2501AP (VAL) circuit pack	Avaya G700 announcement Software
Requires hardware	Yes	No
Maximum storage time per board for TN750 or TN2501AP	Up to 60 minutes at 64 Kbps sample rate	Up to 20 minutes at 64 Kbps sample rate
Concurrent Calls per Announcement	50 when using a Definity G3SI or G3CSI server 1000 when using Definity G3R or Avaya™ S8700 Media Server	1,000
Backup and restore over LAN	Yes	Yes
Recording Method	Use PC or telephone	Use PC or telephone
File portability to multiple Definity or MultiVantage servers	Yes	Yes
Playback quality	Toll quality	Toll quality
Backup speed	2.6 seconds for each 60 seconds of announcement time	Network speed dependent as the backup is basically a file transfer
Reliability	High	High
Firmware downloadable	Yes	Yes
Number of boards per system	5 on the Definity G3SI or G3CSI 10 on the Definity G3R and Avaya S8700 Media Server.	Each Avaya G700 MG has the announcement functionality co-resident. Ten Avaya G700 MG can be in a stack for announcement purposes.
Announcements per board	256	256
Number of playback ports	31	15
Maximum number of announcements in a configuration	128 Definity G3SI or G3CSI 1000 Definity G3R 3000 Avaya S8700 Media Server	1000 Avaya S8300 Media Server 3000 Avaya S8700 Media Server
Format	CCITT A-law or u-law	CCITT A-law or u-law
Sample bits	Eight	Eight

Sample rate	8,000 KHz	8,000 KHz
Channels	Mono	Mono

Note: When using Avaya G700 announcements, each Avaya G700 is viewed by Avaya MultiVantage Software as one of the system's maximum of 10 announcement boards.

2.0 Announcement Administration

Announcement Tasks

The following Announcement tasks are discussed below:

- Announcement provisioning for a Circuit Pack or Virtual Announcement Board
- Announcement recording
- Announcement Storage
- Announcement Backup and Restore
- Announcement Playback
- Deleting and Erasing Announcement
- Announcement File Security

2.1 Announcement Provisioning for a Circuit Pack or a Virtual Announcement Board

Circuit Pack Provisioning

Announcement provisioning for a circuit pack involves adding data modules (for TN750C-series announcement circuit pack only), Ethernet data modules for VAL board (as shown in Figure 1 and 2 respectively) and adding announcement extensions.

To set up the announcement data module, determine the port location of the Announcement circuit pack or the Auxiliary Trunk circuit pack, which can be found on the Integrated Announcement Board screen. To set up the data module on the Announcement circuit pack type **add data-module next** and press ENTER**.** The Data modules screen (similar to that shown in Figure 1) appears.

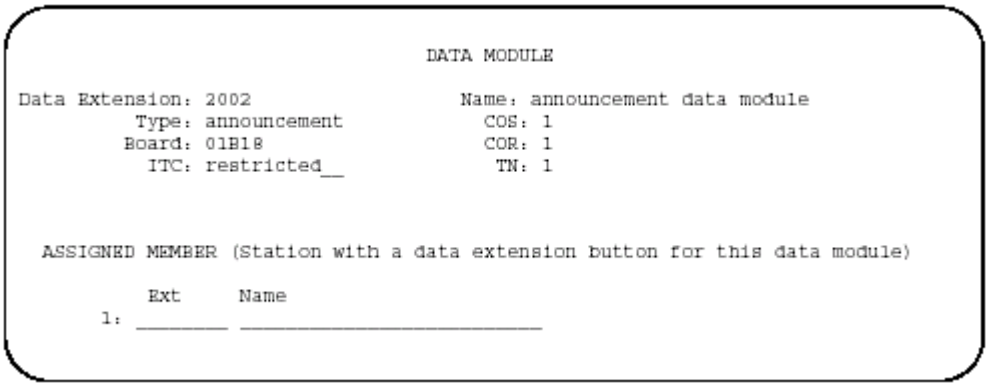

Figure 1: Data Module Screen for TN750C circuit pack

To set up the Ethernet data module on the VAL board, type **add data-module next** and press ENTER**.** The data modules screen (similar to that shown in Figure 2) appears.

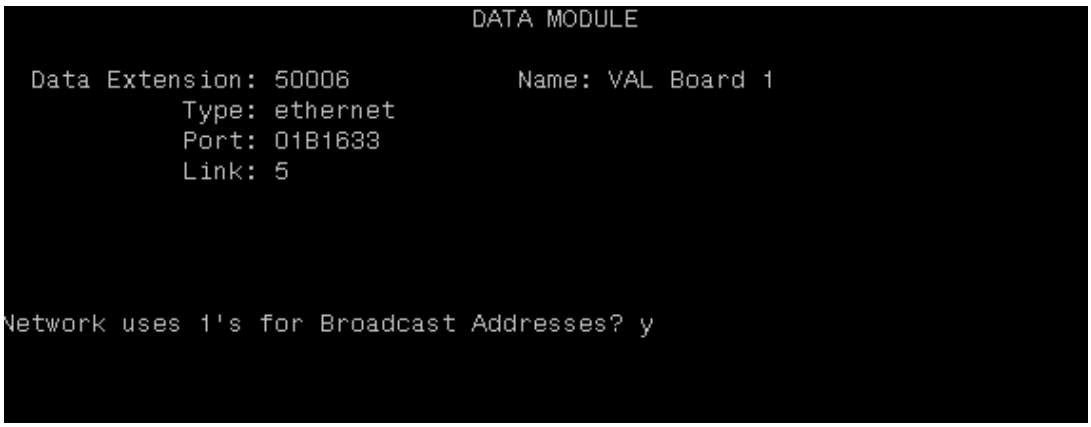

Figure 2: Data Module Screen for VAL board

The system automatically fills in the number of the next available extension. Make sure the extension conforms to the customer's dial plan. If the customer wants to assign a specific extension, they type that extension in the command instead of "next." Fill in the appropriate information in the Name, Type and Board fields and press ENTER to save the changes.

To add an announcement extension, type **change announcements** and press **RETURN**. An extension is assigned for each announcement that the customer wants to record. After an announcement extension has been defined, use it to record and access the announcement. Announcements can be stored on a TN2501AP circuit pack, TN750 circuit pack, Avaya G700 MG, and for Avaya S8100 Media Server only, on the Integrated Scalable Speech Processor Application (ISSPA) circuit pack.

The Announcements/Audio Sources screen (similar to that shown in Figure 3) appears.

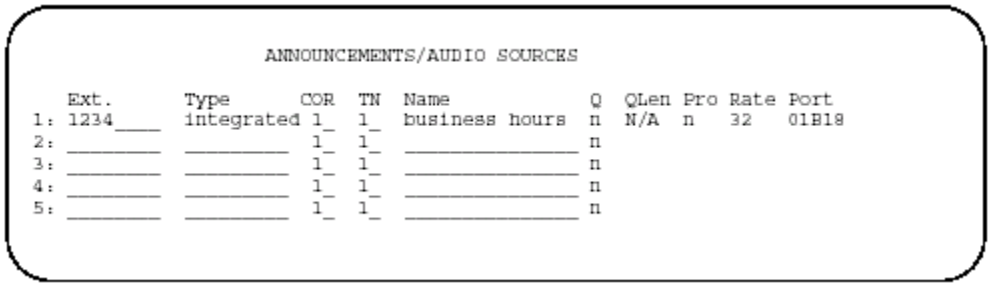

Figure 3: Announcements/Audio Sources Screen

The user must type in the information in the appropriate fields and submit to save the setup. Note that if an Avaya G700 MG, TN2501AP or Avaya S8100 Media Server ISSPA circuit pack is used, a name must be entered in the Name field. This name either becomes the filename for the announcement file when the announcement is recorded over a handset or must match the filename of the WAV file to be used for the announcement

If the Q field is set to <**y**>, then an announcement queue is setup so calls waiting in a queue will hear an announcement if all the ports on the announcement circuit pack is busy. If this field is set to <**n**>, there is no announcement queue. When all the announcement ports are busy the caller hears busy or other feedback depending upon how the announcement was accessed.

The QLen (queue length) field is set to <**N/A**> and cannot be changed for integrated announcements because they have a pre-set queue length.
If the Pro (protected) field is set to <**n**>, users with console permissions can change the announcement. If this field is set to <**y**>, the announcement cannot be changed. This field appears only if the Type field is integrated.

Avaya G700 Media Gateway Announcement Provisioning
Each Avaya G700 Media Gateway that is be used to provide announcements through the embedded VAL circuitry on the Gateway processor circuit pack must be assigned using the Media-Gateway screen, shown in Figure 4, and enabled using the **enable announcements** command before announcements can be recorded using the phone or played from that gateway. Each Avaya G700 Media Gateway when enabled is counted as a VAL circuit pack towards the system limit of 10 circuit packs.

First the Avaya G700 Media Gateway must have the V9 field assigned to **gateway-announcements** on the Media-Gateway screen before the Avaya G700 embedded VAL (VVAL) can be enabled. Then the gateway embedded VAL is enabled using the **enable announcement-board ggV9** command (where **gg** is the gateway number assigned on the Media-Gateway screen). The embedded VAL also can be disabled using the **disable announcement-board ggV9** command. This removes that gateway from the VAL circuit pack count but announcements already assigned and recorded/FTPed on that circuit pack remain but will not play.

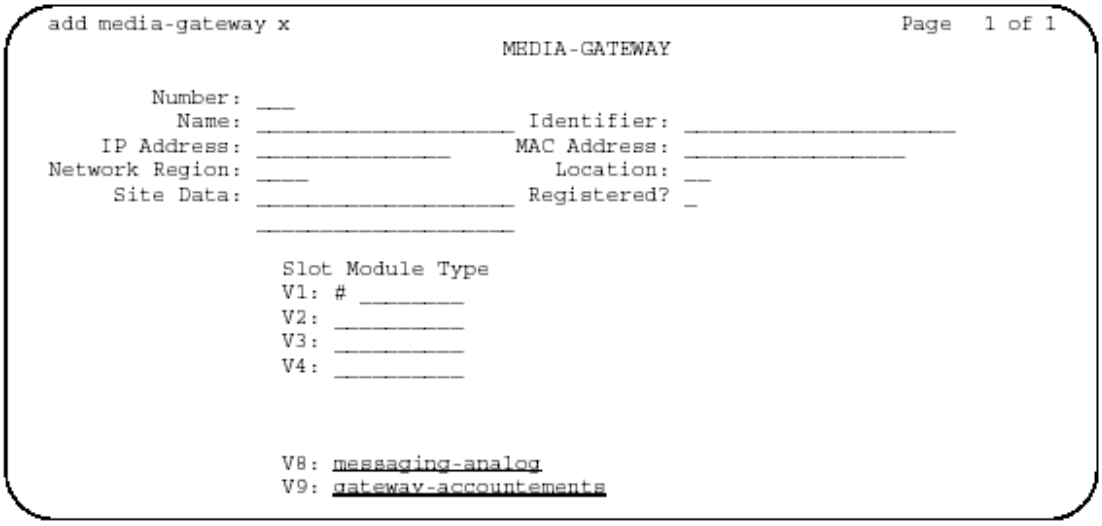

Figure 4: Media Gateway Screen

Announcements and Local Spare Processors (LSPs)
Announcements are an integral part of a system that is required for basic customer functionality; announcements must be stored in each of the Local Spare Processors (LSPs) that are defined for the system. When the link between the remote Avaya G700 MG and the main processing controller breaks or the main processing controller fails, the LSP is activated and assumes the call processing for those IP telephones and Avaya G700 MGs connected to the main processing controller that can reach the LSP. When the Avaya™ G700 MG enters fail-over mode (fail-over mode is when the MG does not receive responses to its keep alive messages it sends to the primary controller or when the socket that the MG is communicating through, closes due to a controller failure), it begins to search the list that has been administered through CLI and registers with the LSP. Similarly, when the endpoint discovers that it no longer has communication with its

primary controller, it looks at the next address on its list (list of controllers and LSPs and their IP addresses received from DHCP server) and registers with the LSP. This fail-over or taking control from the main processing controller to LSP is an automatic process and does not require human intervention. The LSP does not require a cold restart before taking control and will begin call processing when it receives the first registration from an Avaya G700 MG. Announcements stored on each LSP will only be available to stations that are local to that LSP/G700. The fail-back (control) from LSP to main processing controller is not automatic and requires a system reset on the LSP.

2.2 Announcement Recording

Enterprises can record an announcement for callers to hear when a specific extension is dialed. The same steps are used to change an existing announcement. Announcements can be recorded in many ways:

- Professional or computer recordings (stored as WAV file)
- Recording new announcements at a computer (stored as WAV file)
- Recording announcements at a system phone

For best results, the announcement administration should be completed before an announcement recording session begins.

Recording via a System Phone

To begin an announcement session, the user must dial the administered Feature Access Code (FAC) from a system phone with Console Permissions, followed by the announcement extension. If an announcement session is already in progress, or if a save or restore command is in progress, then the user hears reorder tone (fast busy). On the TN750C circuit packs announcement sessions always use port 0, which is also used for playing announcements. On the TN2501AP circuit packs announcement sessions always use port 1, which is dedicated for telephone access. With the TN2501AP circuit pack, the port is only busy if another telephone access session is active. Multiple telephone sessions are allowed, with one session associated with each active integrated announcement circuit pack.

2.3 Announcement Storage

Announcements are stored in the RAM based file system on the VAL board. That is, newly recorded or FTPed announcement reside in this RAM based file system. The VAL constantly checks to determine whether changes have been made to the file system (file added or deleted or renamed). Once a change has been detected, the VAL waits for 5 minutes of stability. After such a stable period, the VAL backs up the RAM based file system to its FLASH. The FLASH version of the file system is non-volatile and is what is restored upon reset/restart.

If the board is reset immediately after recording a new announcement, the announcement will be lost. Only files with a .wav extension in the /**annc** directly are backed up to FLASH.

2.4 Announcement Backup and Restore

Backup and Restore for TN750C

Announcements can be restored from system memory to a TN750C announcement circuit pack. System memory is a tape, disk, or memory card, depending on the system. If the customer has a duplicated system, the system always restores the announcements located on the active processor.

To restore announcements from system memory to the integrated announcement circuit pack (for a TN750C only), type **restore announcements disk** and press **RETURN**. To restore announcements from system memory to an announcement circuit pack that has built-in memory, type **restore announcements from cabinet XX. carrier B, slot Y** and press **RETURN**. Press ENTER to restore announcements.

Backup and Restore for the VAL and Avaya G700 MG

There are two reasons to move a file from the VAL circuit pack, to backup (archiving) an announcement file; or to copy an announcement to another VAL circuit pack (restoring).

Moving a file in an FTP session means copying the file from the VAL circuit pack to the FTP client's default directory. Prepare the VAL circuit pack for the FTP session, including setting the username and password by following the steps listed below:

- At the System Administration Terminal (SAT), type **enable filesystem board *board-location* login *ftp-username [3-6 characters] ftp-password [4-11 characters]*** and press **RETURN**.

When the FTP session on the circuit pack is enabled, the announcement and firmware files are available to anyone who knows the VAL circuit pack's IP address, the ftp-username, and the ftp-password. IP address used for the FTP process of uploading the announcements is the same as the MGP IP address. At the FTP client, type **ftp *val-ip-address*** and press ENTER. The IP address must match the switch-administered IP address (using **change node-names ip**).

The announcement directory on the TN2501AP circuit pack and the Avaya G700 MG is **/annc**. To backup or save an announcement from the VAL board to the client computer through an FTP session, at the FTP client, type **get *filename.wav*** and press **RETURN**. The announcement file is written to the directory from which the FTP session was initiated.

An FTP session can be terminated by logging out from the FTP client (type **bye** or **quit** and press ENTER) ***and*** typing **disable filesystem board *board-location*** at the SAT and press **RETURN** (this clears the ftp-username and ftp-password) or by letting the system time out (10 minutes of inactivity).

Note that the FTP upload or download of announcement files does not preserve the created timestamp. The file receives the current date and time when it is written to the circuit pack or on the computer.

Also, see Section 2.7 for details on announcement backup and restore using Avaya™ Voice Announcements Over LAN Manager 1.2 (VAL Manager), generally available in October 2002.

2.5 Announcement Playback

Any announcement stored on a circuit pack can play through any port on the circuit pack. Any announcement (not administered for "barge-in") can play simultaneously through multiple ports. All ports can play the same announcement at the same time, and the system can connect multiple users to each of these announcements.

2.6 Deleting and Erasing Announcement

Individual announcement files or all announcements on a circuit pack can be deleted using the System Administration Terminal (SAT). The system denies any attempt to delete an announcement while it is playing, being transferred, or backed up to FLASH (amber LED flashes), regardless of whether the attempt is from a system phone, the SAT, or through an FTP session.

To delete individual announcement file, type **remove file board *board-location* /annc/*filename.wav*** and press RETURN. If the protected field is set to "y" in the change announcements form, then the user will not be allowed to use **remove file board *board-location* /annc/*filename.wav***

To delete all of the announcement files on the VAL circuit pack, type **busyout board *board-location*** and press **RETURN**.

To erase announcements, type **erase announcements board *board-location*** and press **RETURN**. This command deletes the specified announcement file in both RAM and FLASH memory. The board firmware ignores the protect flag (Pro field) when erasing the announcement files.

Before deleting an announcement from a TN2501AP circuit pack or from a LAN device, note down the IP address, the announcement filename that is being deleted, and the VAL circuit pack location, which is determined by using **list configuration all**.

The announcement file is only removed from volatile RAM memory. Approximately 5 minutes later, the file is removed from nonvolatile ROM flash memory.

2.7 Avaya Voice Announcements Over LAN Manager 1.2 (VAL Manager)

Many of the tasks listed in Section 2.0 can also be performed using the VAL Manager. The VAL Manager 1.2 also supports Avaya G700 MG. The VAL Manager application provides the following capabilities:

- The ability to view the current status of VAL board announcements.
- Simplified administration to add, change and remove announcements.
- The ability to copy/backup announcement files from a supported VOICE SYSTEM to the VAL Manager via a customer's LAN.
- The ability to copy/restore announcements to a supported VOICE SYSTEM from the VAL Manager via a customer's LAN.
- The ability to choose Voice Systems to be connected at the application startup
- Supports up to 7-digit dial plan

VAL Manager does not offer announcement recording or editing functionality. However, using other applications, announcement can be recorded for callers to hear when they dial a specific extension or as part of call vectoring. See Section 2.2 for more details on Announcement Recording. But the announcement's audio file can be copied to the VAL Manager computer. For more details on copying the announcement file to the VAL manager computer and other related tasks, please refer to Avaya Voice Announcements Over LAN Manager online help (Document Number 555-250-527). Backup and restore using VAL Manager is explained in this section.

The main dialog of the VAL Manager has three main areas, as shown in Figure 5. The left-hand pane is a tree showing all known Voice Systems and the VAL boards on them. The right hand side shows the files and properties of those files from the board selected on the left. These two panes are a split pane and may be resized. The lower pane is an area for status information.

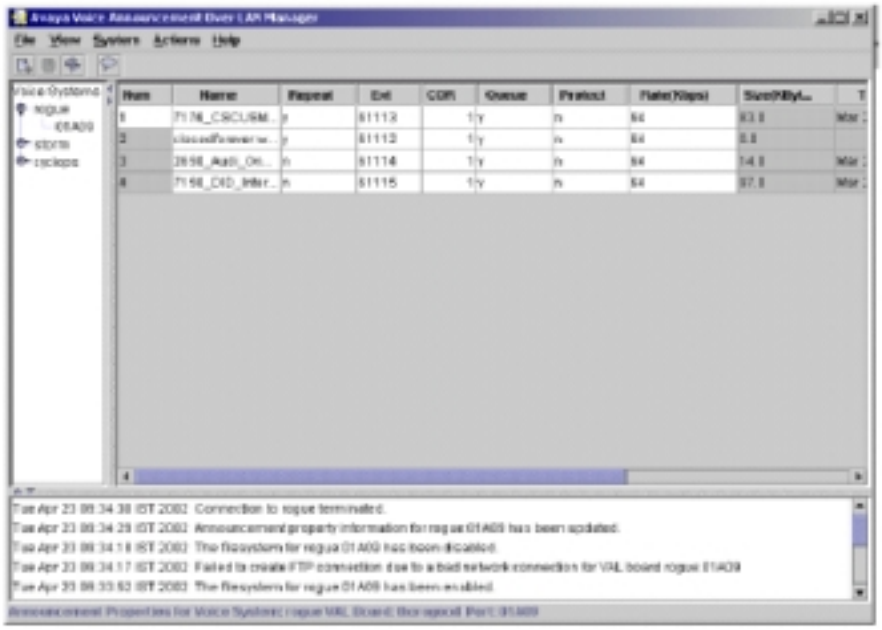

Figure 5: VAL Manager Main Dialog Screen

Backup and Restore Using VAL Manager

The user can back up announcement by right clicking on a VAL board in the tree and choosing 'Back Up' or by choosing Actions – Back Up from the menu.

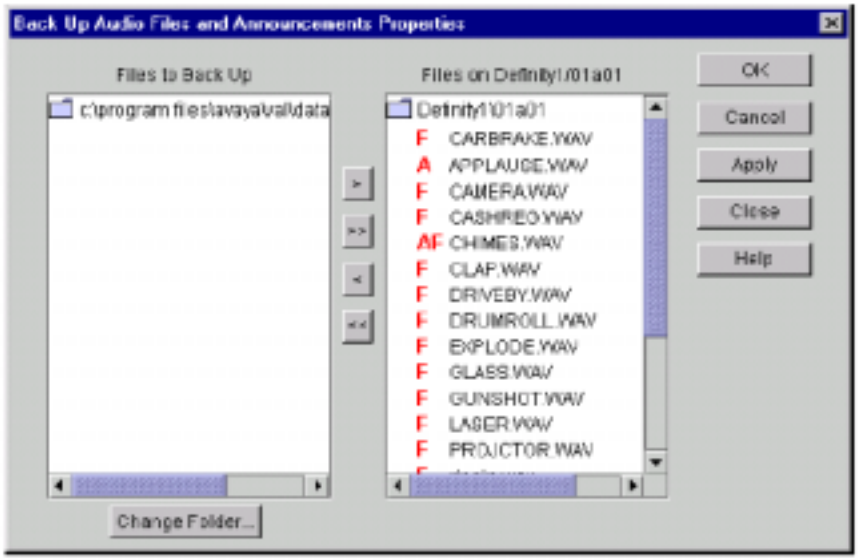

Figure 6: Back Up Audio Files and Announcement Properties Dialog Screen

The user can choose files to be selected for a back up by using the middle arrow buttons to move announcements from the right tree to the left tree. The user then chooses either **Apply** or **OK** to

complete the backup. After **Apply** or **OK** is chosen, the files are transferred via FTP to the specified folder, and the announcement properties are copied to the workstation

The user can restore the announcement by right clicking on a VAL board in the tree and choosing 'Restore' or by choosing Actions – Restore from the menu.

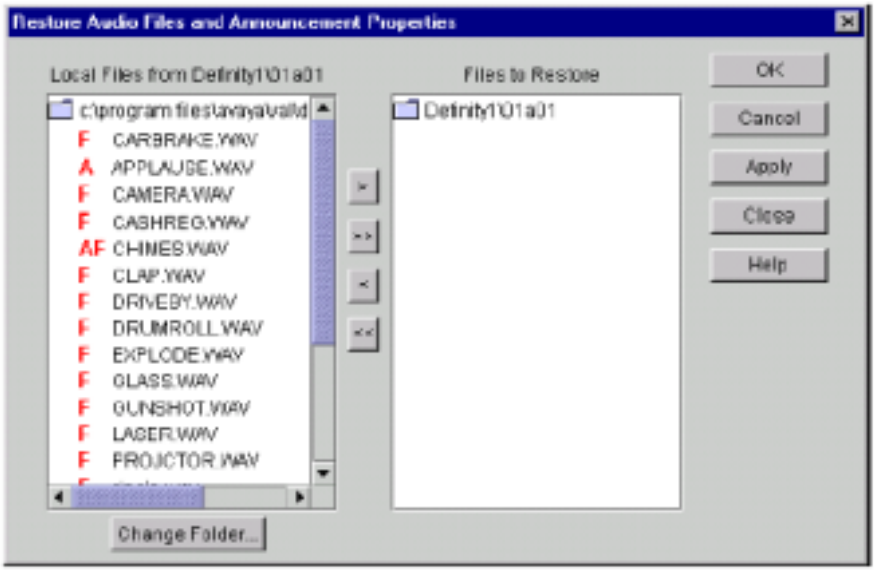

Figure 7: Restore Audio Files and Announcement Properties Dialog Screen

The user can choose files to be selected for a restore by using the middle arrow buttons to move files from the left tree to the right tree. The user then chooses either the **Apply** button or **OK** to complete the backup. After **Apply** or **OK** is chosen, the files are transferred via FTP to the board, and the announcement properties are copied to the Voice System.

If the protected field is set to yes in the properties for this audio file, the user will have the option to overwrite the file. If the user chooses to overwrite it, the VAL Manager will change the protected field to no, ftp the file, and then change the protected field back to yes.

3.0 MultiVantage Software Version

The solution is based on MultiVantage Software Release 1.1 and will be supported on all future MultiVantage Software Releases.

4.0 Announcement Implementation

Two different configurations are discussed below. The announcement implementation is very similar (almost identical) in these two configurations, as can be seen from the next few sections.

1. MG1 with internal MEDIA GATEWAY CONTROLLER (MGC) and MG2 without internal MGC and using DCP and Analog Media Modules
2. MGC with an S8700 Server as an external MGC and using T1/E1 Media Modules

The following procedures can be followed for any of the above-mentioned scenarios:

- Dial the FAC for announcements – the FAC is administered differently in different scenarios, as shown in the next few sections.
- Enter the announcement extension to be recorded, rerecorded, deleted, or played back.
- Enter a "1" to record or rerecord an announcement (or)
- Enter a "2" to playback the announcement (or)
- Enter "3" to delete the announcement
- If recording or rerecording, speak the announcement, press the # sign and hang up.

4.1. MG1 with internal Media Gateway Controller (MGC) and MG2 without internal MGC

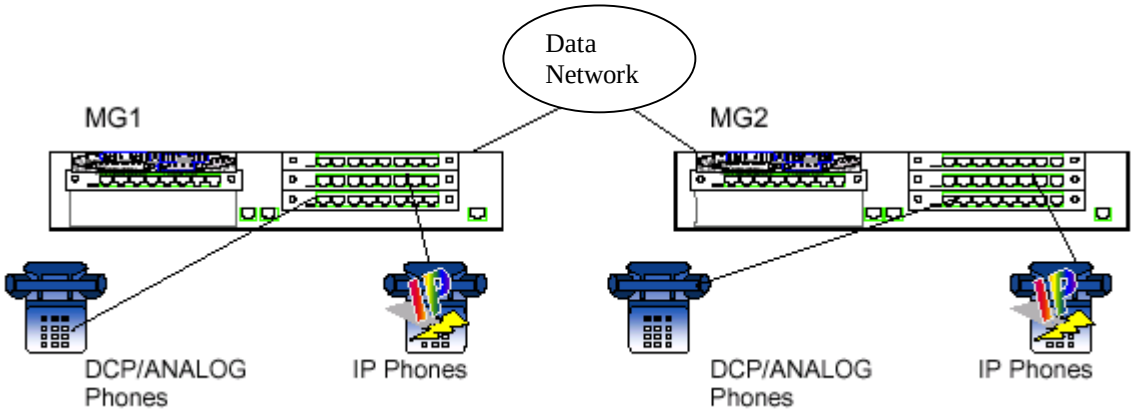

Figure 8: MG1 with internal MGC, MG2 without internal MGC (DCP & Analog MM)

Announcements can be recorded, deleted, and rerecorded using DCP, IP, and analog endpoints on MGs with internal MGC when accessed via FAC, direct extension, VDN, and intercept.

Administer the announcement FAC on the MG using the "change feature-access-codes" form.

Consider the following scenarios:

1. Announcement and endpoint (caller) are located on the same MG. The announcement is applied as a signal to the caller's termination. Please follow the steps outlined in Section 4.1 for announcement recording or re-recording, announcement playback and announcement deletion.

2. Announcement and endpoint (caller) located on different MGs. The announcement is applied as a signal to the internal MGC for the call that is located in the announcement's MG. Please follow the steps outlined in Section 4.1 for announcement recording or re-recording, announcement playback and announcement deletion.

4.2 MGC with S8700 as an external MGC

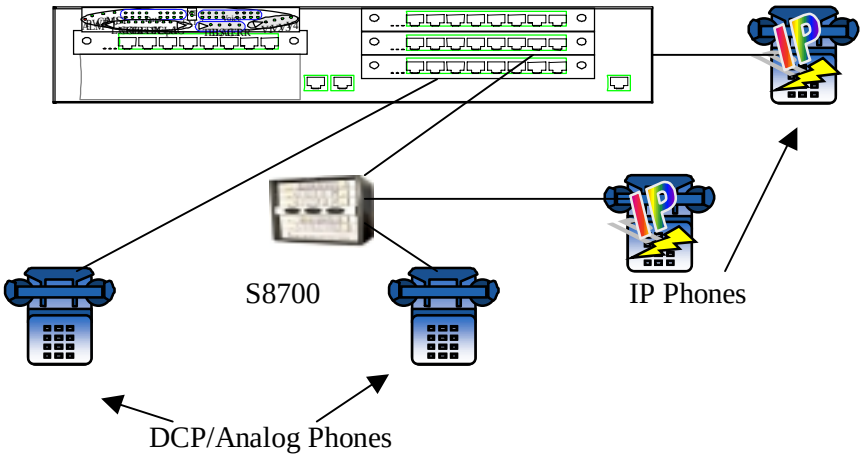

Figure 9: MGC with S8700 as an external MGC and using T1/E1 Media Modules

Administer the announcement FAC on MG and an announcement extension using the "change announcements" form.

Consider the following scenarios:

1. Announcement and the endpoint (caller) are located on the MG
2. Announcement on the MG and the caller on the S8700

In either of these two scenarios, from a station on MG, dial the announcement FAC, the S8700 announcement extension to be recorded, a "1", then speak an announcement, press "#" and hang up. The announcement can be heard by dialing the announcement extension from an analog station on S8700 Server.

Announcements can be accessed via VDN/vector across IP or E1/T1 or DIOD trunk. Administer a VDN on the MG that points to a vector with an announcement step in it. Set up trunks from G3r or S8700 external MGC to MG as required. Then follow the process, as it exists today.

To access announcements via intercept treatment across IP or E1/T1 or DIOD trunk, administer an announcement extension in the "DID/Tie/ISDN Intercept Treatment" field of the "System-Parameter Features" form. Then follow the process, as it exists today. This is true for different platforms such as G3r external MGC or S8700 external MGC.

To access announcements via VOA across ISDN BRI trunk and from a DCP station or T1/E1 trunk, and from a DCP or analog or IP station on a G3r or S8700 external MGC, administer an announcement on the MG on a VDN form in the "VDN of Origin Announcement" field.

To access announcement via a hunt group queuing across an analog CO trunk or T1/E1 Tie trunk or an ISDN-PRI trunk, call the VDN, by administering a VDN on the MG that points to a vector with a route step that terminates to a vector controlled hunt group. Also, administer the "First Announcement Extension" and "Second Announcement Extension" fields on the hunt group form with the extension of previously recorded announcements. Make sure that the only member of the hunt group is active on a call.

5.0 Summary

An announcement is a recorded message a caller may hear while the call is in a queue, or if a call receives intercept treatment for some reason. Voice announcements are used in any Enterprise environment to announce delays, direct customers to different departments, alleviate staff from answering repetitious request for the same information, assure the accuracy of what is conveyed to the caller, and/or entertain and inform calling parties.

The two most commonly used Announcement circuit packs are TN750C and TN2501AP. The TN2501AP has replaced the TN750C. However, the TN750C will continue to be supported in existing customer configurations. Avaya G700 Media Gateway announcement software is similar to the TN2501AP VAL board firmware.

The TN 750C provides:

- 4 minutes of record time at 32 Kbps record rate
- 16 ports for general playback

The TN2501AP Voice Announcement over the LAN (VAL) board provides

- 60 minutes of record time at 64 Kbps record rate.
- 31 ports for general playback of announcements.
- LAN backup and restore of announcement files and the use of customer provided waveform (WAV) files.

The Avaya G700 Media Gateway provides:

- 20 minutes of record time at 64 Kbps record rate.
- 15 ports for general playback
- LAN backup and restore of announcement files and the use of customer provided waveform (WAV) files.

More than one Avaya G700s can be used together to have access to more than 20 minutes of voice announcements. For example, three Avaya G700s can be used together to have access to a total of 60 minutes of voice announcements (20 min each from each Avaya G700). However, When the Avaya G700 MG enters fail-over mode the voice announcements located on that Avaya G700 will only be available to stations that are local to that Avaya G700.

One of the major functions of the VAL board is the playing and recording of announcements over the TDM bus. Announcements will be played through the TDM bus connectivity to minimize loss of voice quality and delays. Announcements will not be played over the LAN.

The VAL board provided integrated announcements can function with all features and functions that can be assigned announcements via the extension number:

- Assignment to hunt groups (first announcement, repeating delay announcement)
- Coverage – an announcement can be specified as a coverage point
- Trunk groups – an announcement can be specified as an incoming destination
- Call Vectoring (announcement, wait hearing extension, collect digits, route-to announcement and disconnect commands)
- VDN of Origin announcements
- Hospitality Automatic Wakeup
- Direct Agent Delay announcement

- Security Violation Notification
- Announcement as a night service destination
- Intercept Announcements
- Automated Attendant
- Attendant Vectoring

Summary of announcement feature:

- Announcement files can be transferred to and from the announcement board over the LAN. The speed of announcement backup and restore is affected by the customer's LAN traffic.
- Announcements can be copied from extension to extension and from board to board. Announcement can be created at one location and can have that announcement downloaded to all locations in a multi-site environment.
- An announcement can be played simultaneously as many times as necessary.
- Announcements can be played and recorded from a remote location.
- Announcements can be recorded directly to the announcement board without being blocked by
- Announcements can be played on a particular VAL board while announcements are being backed up via the LAN.
- Announcements can be played on a board while announcements are being recorded to that board or during a restore operation to that board.

APPENDIX

Simple Announcement Equipment Connections

The connection for recorded announcement features when the announcement source is Federal Communications Commission (FCC) registered (or equivalent) is shown below.

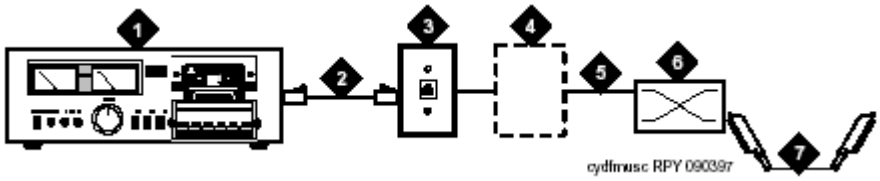

Figure 10: Typical Registered Equipment Connections (Auxiliary Access)

1. Announcement Source
2. 4-pair modular cord
3. 103A or modular wall jack
4. 122A music adapter (if required) primarily France
5. Tip (green) and ring (red)
6. Part of main distribution frame
7. A25D 25 pair cable (male-to-male) to auxiliary trunk circuit pack.

Note: If the music source is registered, the system side of the MDF connects directly to the system. If the music source is not registered, the system side of the MDF connects to a 909A/B universal coupler.

The connection for recorded announcement features when the announcement source is non-registered is shown below.

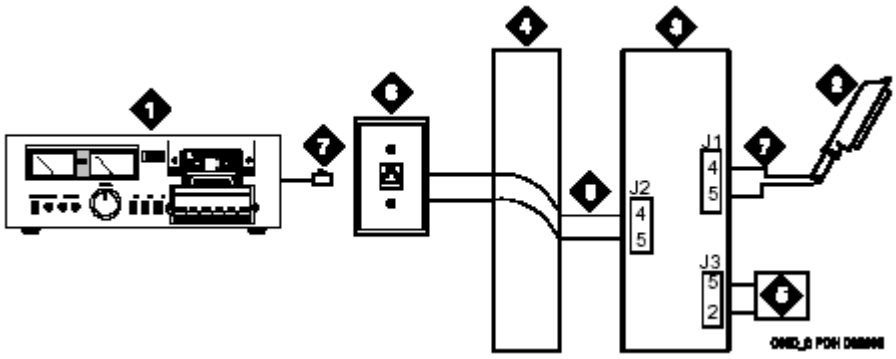

Figure 11: Typical Non-registered Equipment Connections (Auxiliary Access)

1. Customer-supplied music source
2. A25D 25-pair cable to auxiliary trunk circuit pack
3. 909A/B universal coupler
4. Part of main distribution frame
5. Power supply for universal coupler
6. 103A or modular wall jack
7. 4-pair modular cord
8. Tip and ring wires

Terminology

CLI	Command line interface. A simple terminal interface as might be provided via telnet or a serial port providing management functions.
DHCP	Dynamic Host Configuration Protocol, an IETF protocol, RFCs 951, 1534, 1542, 2131 & 2132.
DID	Direct Inward Dialing
DIOD	Direct Inward and Outward Dialing
E1	E1 (or E-1) is a European digital transmission format - equivalent of the North American T-carrier system format.
FAC	Feature Access Code
Flash memory	Non-volatile memory that can be erased and reprogrammed by the microprocessor they are connected to. Used as program storage for the Angel Processor.
FTP	File Transfer Protocol – an Internet Protocol Standard for copying files from one computer to another.
ISDN – BRI	Integrated Services Digital Network – Basic rate Interface
ISDN – PRI	Integrated Services Digital Network - Primary Rate Interface
LSP	Local Spare Processor
MG	Media Gateway
MGC	Media Gateway Controller
MGP	Media Gateway Processor - the 860T processor on the Media Gateway motherboard running VxWorks and the Media Gateway application software
SAT	System Access Terminal. The craftsperson interface into the system for administrative and maintenance functions.
T1	The T1 (or T-1) carrier is the most commonly used digital line in the United States, Canada, and Japan - it carries 24 pulse code modulation signals using Time-Division Multiplexing at an overall rate of 1.544 megabit per second.
VAL	Voice Announcements over the LAN. This is an extension to the announcement board to allow save/restore of announcements over an IP network.
VAL Manager	Voice Announcement Over LAN Manager – a GUI interface to manage announcements.
VDN	Vector Directory Number

Please e-mail any questions or comments pertaining to these Application Notes along with the full title and filename, located in the lower right corner, directly to the Avaya Solution & Interoperability Test Lab at interoplabnotes@list.avaya.com