CHAPTER 1
Getting Started

This chapter provides a brief introduction to TFB's APM feature-set, as well as background information on the principle concepts underlying the configuration and implementation of APM features. The following topics are covered.

- What is APM?
- APM Specifications and Requirements
- Configuration Overview
- Preliminary Configuration

What is APM?

TFB's Automated Peak Manager (APM) is a robust software feature-set for call centers using NEC's NEAX2400 and NEAX2000 ACD platforms. The CTI, or 'Computer-Telephony Integration' features provided by APM are an enhancement to the familiar telephony functions you already use in your PBX/ACD. CTI isn't just IVR; it's full automation of routing, customer transactions, and outbound campaigns, integrated with your data processing and telephony environments.

By "blending" all inbound and outbound call features, integrating automated services, and dynamically managing agent activity, APM provides such benefits as:

- Improved Customer Service
- Enhanced Call Center Productivity
- Integrated Telephony/Data (CTI) Functionality
- Reduced Costs

APM software resides on CTI Server, TFB's NT-based PC platform. While APM provides the *features*, it relies on CTI Server to provide the *connectivity*, a platform for the physical IVR connections, the LAN connection, and the Infolink connection to your ACD. It's important to note that APM isn't a single product, but rather a suite of

integrated software applications. By isolating features in separate application modules, APM gives you the flexibility to add features as your needs dictate.

APM includes such sophisticated features as:

- Automated “blending” of inbound and outbound call traffic.
- Sophisticated call routing (“criteria”/ “skills”-based routing) using information from your customer database, from previous transactions with the caller, or from the caller’s interaction with other IVR features.
- Automation of repetitive transactions, such as data transcription, freeing agent time for more skill-based tasks.
- Automated Callback that provides callers the opportunity to hang up, yet remain in queue. Callback features improve the customer’s experience while simultaneously reducing inbound tolls costs.
- Automatic callback/campaign-call queuing when there’s a lull in inbound calls, distributing agent workload more efficiently.

… each integrated into your call center without impacting your existing ACD functionality. All this adds up to improved customer service, tangible savings on inbound toll costs, greater flexibility, more efficient use of agent resources, and improved customer service.

By implementing CTI features in software, APM isn’t ‘locked in’ to specific hardware configuration, so it retains the flexibility to adapt as your needs change. Need to add more agents? APM scales to accommodate as many agents as your ACD can handle. Need more IVR ports as your inbound call load increases? APM can address up to 48 ports on a single server chassis, and additional chassis can be added to provide a platform for more IVR ports. Ready to add more sophisticated automation to your call center, like skills-based routing or outbound call campaigns? Such automated APM features easily integrate functionally with existing modules such as Screen “Pop”, whether you install all features at once, or add them piecemeal.

How does installing CTI Server and APM impact your ACD configuration? APM features are *configured* directly on CTI Server, and on agent PC’s as appropriate. APM features are *enabled* in the ACD by routing calls to CTI Server from new or existing CCVs (call-control vectors). Some features also require that additional splits be defined in the ACD for dedicated use by CTI functions.

APM Feature Modules

Each APM module provides specific CTI features, and each can be individually installed and configured. Most modules install and run directly on CTI Server, although agent/supervisor tools may be run on agent PCs, or any other PC on the LAN.

Server-based Modules

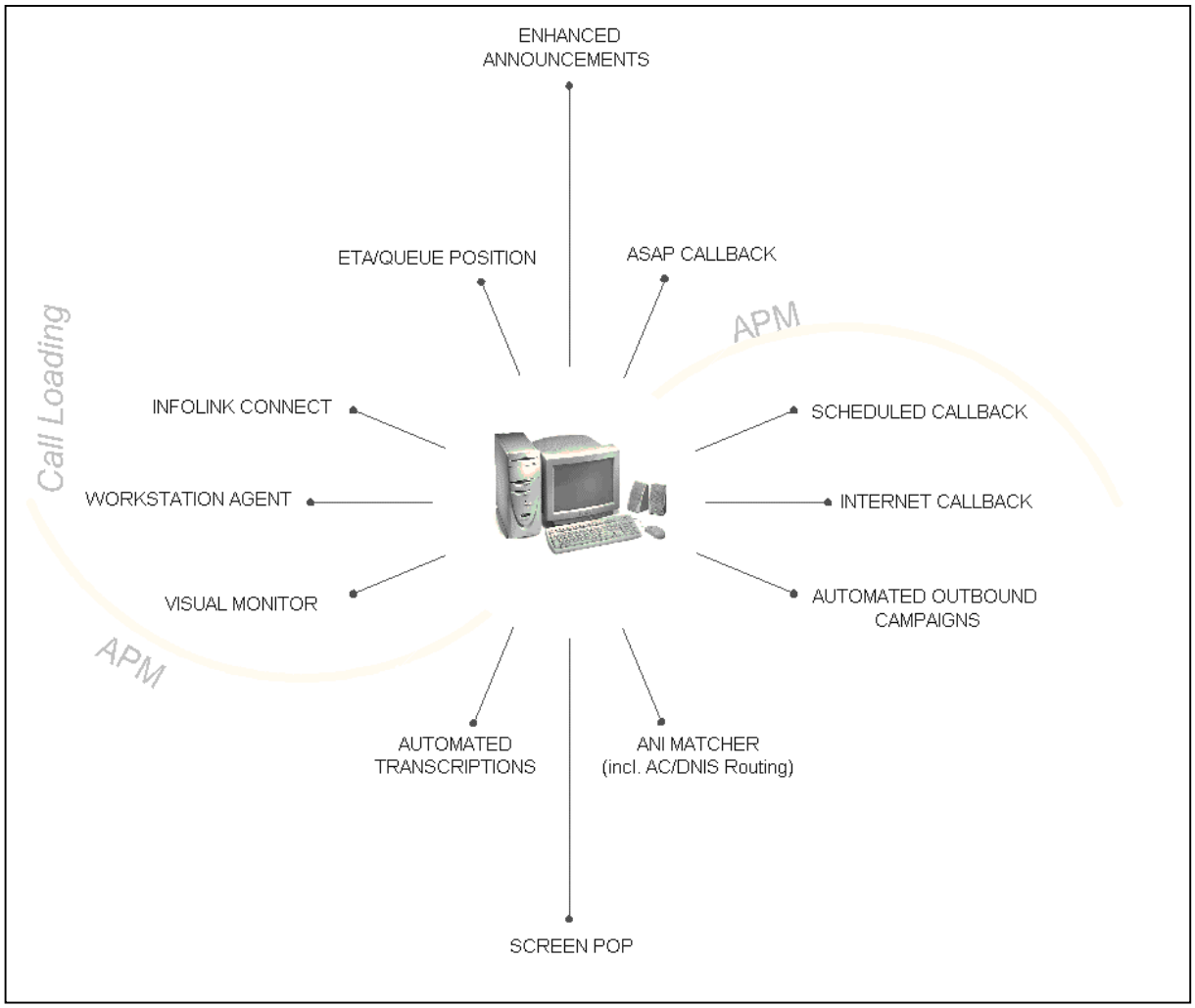
- **ETA / Queue Position –** *Announces queue position/ETA to callers in queue.*
- **Enhanced Announcements –** *Plays announcements to callers in queue.*
- **Enhanced Automated Attendant –** *A customizable, multi-level Auto Attendant.*
- **ASAP Callback –** *Allows callers to opt for callback when an agent is free.*
- **Scheduled Callback –** *Callers opt for a callback at a time of their choosing.*
- **Internet Callback –** *Web users can request a callback over the Internet.*
- **Automated Outbound Campaigns –** *Tools to implement automated call campaigns.*
- **Enhanced Call Center Routing–** *Routes calls using ANI to index routing criteria.*
- **Screen "Pop" –** *Provides caller-coordinated "pop" data on Agent workstations.*
- **Automated Transcriptions –** *Automates caller data input.*

Agent/Supervisor (client-based) Modules

- **Visual ACD Supervisor –** *Desktop drag-and-drop control of calls in queue.*
- **Workstation Agent –** *Desktop productivity tools for agents and supervisors.*
- **Visual Queue Report –** *Real time, desktop reports on queue statistics, also features sophisticated alarm and graphing functions.*
- **Visual Agent Report –** *Real time, desktop reports on agent statistics, also features sophisticated alarm and graphing functions.*

The chapters that follow detail the functionality, configuration, and use of each product listed above.

Automated Peak Manager Features



Frequently Asked Questions (FAQs)

Installation of CTI systems typically generates questions from both telephony and MIS staff, whose responsibility it is to ensure smooth operation of their respective departments. CTI Server and APM modules are designed to integrate seamlessly into both the call center and MIS environments, without significant disruption of pre-existing configuration. For reference, the following are questions commonly asked by customers prior to the initial installation and configuration.

What happens if APM, CTI Server, or Infolink goes down? Does the call center go off-line too?

In the unlikely event that any CTI component goes down, APM is designed to allow continued ACD functioning, *without* detrimental reliance on any CTI components for call handling. Only the features directly provided by CTI become unavailable. Why is this true? Calls are typically routed to APM from inside your ACD CCV steps. When APM is properly configured and a CTI problem occurs, calls drop through to default handling steps in the ACD. This ensures that callers always remain in queue, and can be handled by agents, even if they were originally routed to a CTI module.

As we add more systems from multiple vendors, and more layers of complexity to the call center, how do we determine who is responsible when there's a technical problem with calls in queue?

When mission-critical systems go down, the last thing you need to hear is that "it's the other guy's fault". Fortunately, Infolink messaging provides detailed ACD information not available on other ACD platforms. The emergency troubleshooting guide in the CTI Server Technical Manual can help you read server and Infolink messages, and find the source of a problem quickly. TFB can also help by logging onto your system remotely, and tracing Infolink transactions for you. Even if CTI Server is not at fault, we can usually help you determine which system is!

Can we configure APM to follow the schedules already set up in the ACD?

APM is designed to *enhance* your existing ACD features, not replace them. This approach is called "passive enhancement", and it means that calls are routed to APM features only as your ACD week schedules permit. Similarly, calls are routed to your after-hours pilots as per your ACD-side configuration, and are only routed to CTI Server during appropriate periods.

We need to integrate APM features with our existing customer database, but our current MIS workload is a concern. How much MIS participation is required to integrate our customer data with Screen "Pop", ANI Matching, and Outbound call campaign features?

While the need for MIS involvement is driven by your mission requirements, TFB provides a variety of turnkey and custom solutions for integrating your current data with APM routing and customer information systems. APM features transmit and receive data for screen pop and outbound call campaigns in simple ASCII formats that can easily be accommodated by custom applications. APM communicates with other platforms on the LAN via TCP/IP, and can talk to any ODBC-enabled database. This built-in functionality speeds development of custom applications that must interface with your pre-existing database environment. Even if your existing data is established in an older mainframe system, APM can be integrated through a combination of off-the-shelf and custom coding solutions. In many cases you can be up and running with APM, using your existing data, in a matter of hours.

Does APM interfere with ACD reporting functions?

APM's "passive enhancement" architecture is designed to enhance ACD functionality, and does not interfere with normal ACD operation. In fact, because APM simply makes use of dedicated splits/queues in the ACD for many of its CTI features, you can actually use existing ACD reporting functions to track caller interaction with APM modules.

How do we ensure the integrity of APM as we add more IVR ports and agent positions?

APM is designed to grow and adapt as your business grows. You need only purchase additional modules to add features, not to add agent positions! Although additional Windows NT licenses may be required for new workstations, the APM application suite scales effortlessly when you need it to.

What level of expertise is required to configure and maintain APM modules?

APM features are typically managed from CCVs in the ACD, and configured in simple, point and click forms on CTI Server. An extensive programming background is not required unless you plan to write your own applications through TFB's own application interface, TFBAPI.

Our agents have various levels of experience with CTI and computer-related tools. Is there a steep learning curve for using Workstations Agent tools, or handling outbound APM calls?

No. While some computer literacy may help, APM features are easy to use. The APM Agent User's Guide contains step by step instructions for handling calls in conjunction with each feature. Ultimately, using APM features will make it easier for agents to be effective.

If Agents don't have PC workstations at their position, what other options are there for providing screen "pop" and spoken information in coordination with calls?

Many call centers don't have dedicated PCs for each agent. Some have only 'dumb' mainframe terminals at agent positions, and in many cases, only a telephone set. TFB has experience providing solutions that can supply call-coordinated information to agents in almost any environment, using the telephone display, or coordinating caller information with the display on legacy systems.

Our organization requires extensive documentation and reporting on all call center activity. Why does APM fewer reports than the ACD does?

APM is not an ACD, it's an ACD enhancement, and it uses splits and pilots defined within your existing telephony system. Because of this, you can obtain reporting information on APM features from NEC's Navigator. When you dedicate any split or pilot to a particular APM feature, Navigator provides the same reporting functions as it does on any other split. APM only provides reporting functions that are not already available from Navigator.

APM Specifications and Requirements

The following APM specifications are configuration-independent.

Min. required HD space on CTI Server	10.0 Megabytes + HD space for announcement files as required
Min. required HD space on Agent Workstations	2.0 Megabytes
Operating Systems Supported	▪ Windows NT 3.51 OR ▪ Windows NT 4.0 (with SP 4)
ACD Platform Support	▪ NEC NEAX2400 IMX OR ▪ NEC NEAX2000 IVS
ACD Version Support	▪ NEC ACD III OR ▪ NEC ACD IV
Maximum Agent Positions supported	500*
Maximum Agent Personal Pilots	500*
Maximum Agent Logon Ids	500*
Agent screen update Interval	10 seconds
WS Communications Protocol	TCP/IP (on Ethernet LAN)
ACD Communications Protocol	▪ Infolink via TCP/IP (ACD IV *only*) OR ▪ Infolink via RS232 (ACD III and IV)
Maximum IVR Ports supported	256 (48 ports maximum per node)

*500 agents is the ACD limit for simultaneous login.

TECH

APM Configuration Overview

Before discussing APM configuration in detail, it's worth looking at a few tasks that provide the background necessary for configuring and implementing APM features.

- **How are APM Features Configured?**
- **Custom Recorded Messages**
- **Editing TFB Configuration files**
- **Assigning *IVR Announcement* Numbers**
- **Using the TFB Configuration Forms**

This section provides important information that informs configuration-related tasks. As you implement specific APM features, you may find it useful to refer back to this section for additional help with these topics.

How Are APM Features Configured?

APM products are *configured* on CTI Server in configuration forms and configuration text files, then they are *enabled* in the ACD by sending an *@IVR Announcement n* from the CCVs (call control vectors) of the desired pilots.

Important Configuration Concepts

The configuration and maintenance of most APM features can be made surprisingly simple by first reviewing a few key concepts that are the basis of APM's design. These concepts inform the way calls get routed to CTI Server (and hence to APM), and the way features are configured, as detailed in the following list.

1 APM features respond to *@IVR Announcement n* commands from ACD CCVs. This means that,

- Only the Pilots associated with CCVs that include the appropriate *@IVR Announcement n* statement will be routed to that feature.
- APM features can automatically be activated according to your ACD week schedules by directing calls to the appropriate pilots.
- APM features can be easily managed from the ACD CCVs.

2 APM features are configured on CTI Server in either or both of these two ways:

- In the appropriate configuration forms accessed from desktop icons.
- In standard ACSII text files with a .cfg extension. These can be modified using a standard text editor, including the Windows NotePad.

3 After changing any APM configuration file or form, you MUST close and restart the CTI Server window for your configuration changes to take effect.

4 Many APM features are configurable by pilot. Options can be enabled or inhibited based on the pilot number of the call when routed to CTI Server.

5 APM is not an ACD, it's an ACD enhancement, and it uses splits and pilots defined within your existing telephony system. Because of this, you can obtain reporting information on APM features from NEC's Navigator. When you dedicate any split or pilot to a particular APM feature, Navigator provides the same reporting functions as it does on any other split. APM only provides reporting functions that are not already available from Navigator.

The Configuration Process

There are essentially six steps common to configuration of each APM product.

Step 1 On CTI Server: Enter configuration data in the appropriate configuration forms

Step 2 On CTI Server: Using a standard text editor, define additional parameters in the appropriate configuration text files (*.cfg).

Step 3 PBX/ACD: Configure any dedicated splits required by the feature. These are defined just as you would define any other split in the ACD.

Step 4 PBX/ACD: Configure pilot numbers required by the feature.

Step 5 PBX/ACD: Configure a secondary UCD group for any first-person (agent) functions provided by the feature.

Step 6 PBX/ACD: Activate the feature by including an @IVR Announcement n in the CCVs for any pilots that will use the feature.

Custom Recorded Messages

Several APM products have the ability to play custom recorded messages to callers in queue. Queue/ETA, ASAP Callback, Scheduled Callback, Enhanced Automated Attendant, and Outbound Call Campaign can all play messages for callers in predesignated situations. Messages can also be played specifically to prompt agents just prior to presentation of an *outbound* call.

Regardless of the application, the spoken messages played by APM features can be recorded from any telephone, using the TFB Recording Utility. Access the Recording Utility by dialing the designated Recording Pilot (see CTI Server Configuration). The only practical limit to the length of your recordings is the available hard disk space on CTI Server.

Although messages are used in different contexts depending on which feature plays them, the recording process is essentially the same for each. See ‘To record a custom message’ later in this chapter when you’re ready to record.

More Information – How do you set up the recording utility? Simply designate an unused pilot in the ACD, and insert the instruction *@IVR Announcement 99* in the CCV for that pilot. When you dial your recording pilot, the IVR Announcement automatically routes your call to the recording utility on CTI Server. For more on configuring the recording pilot, see *Chapter 2, “Configuring CTI Server”*, in the CTI Server Manual.

Selecting Message Numbers and the Type of Message

Before recording a message, you need to know two things: the *type of message* you want to record, and a specific *message number*. The Recording Utility prompts you to enter a type from 1 to 5, and the message number prior to recording. The range of valid message numbers varies with each *type* of message, as shown in the following chart. The type of message is determined by which APM module will play it, and in what context.

TFB Recorded Message Numbers by Type

Msg. Type #	Type of Message	Valid Message Numbers	Related TFB Product
1	**Prompts**	1000-9998	Canned (prerecorded) prompts and custom applications prompts (See *Appendix D*)
2	**Announcements**	0001-1000	Any *configured-by-pilot** feature – Callback, ETA/Queue Position
		1010-1098	Enhanced Announcements played to callers in queue.
3	**Auto Transcription Announcements**	0001-9998	Auto Transcription customer questions, agent prompts
4	**Auto Attendant Announcements**	0000-9998	Enhanced Automated Attendant menu prompts and error messages.
5	**'Variables'**	0000-9998	Single word numbers, denominations, etc. for concatenation (See *Appendix D*)

*-Any APM feature activated by routing calls with IVR Announcement 9 is "configured-by-pilot". ASAP Callback, Scheduled Callback, and Queue/ETA are examples.

For example, to record a message to be played by Auto Attendant, you would enter '4' when prompted by the Recording Utility for the type of message, then enter the desired message number from 0-9998.

Aside from actually recording messages, for types 2,3, and 4, you must also typically specify which messages you want to play, by number, when you configure a given APM module. For instance, *configured-by-pilot* features, such as ASAP Callback, allow you to play an introductory announcement prior to the callback offer. These announcements are recorded by selecting type '2' in the Recording Utility. The message number (1-1000) is specified along with other Callback parameters in the TFB Pilot Parameters form. The

feature-specific documentation shows you exactly how to configure and play announcements in the manner appropriate to each APM module.

A word about canned messages: Prompts and 'Variables'

Message types '1' (canned prompts) and '5' (variables) are not specifiable as part of any feature configuration. Rather, they are played *automatically* by APM in specific, pre-determined situations, in association with a variety of features. Type-1 messages are prompts used in pre-designated conditions for a variety of features. Type-5 messages are single-word 'variables', such as numbers and commonly used words. Variables are usually spoken in series (concatenated) to produce spoken information based on data that changes in real time, like account numbers, ETA announcements, and so on. For example, if APM is configured to speak a caller's account number in the agent headset, 'variables' are used to speak individual digits that form the complete account number.

TFB has professionally prerecorded all the required canned prompts and variables for you (see Appendix D), so they will work right out of the box. Although you can't change which message number is played in a particular situation (for types 1 and 5), you can change the actual content of the recording. This may be appropriate when you want to customize the content of certain messages to match your requirements, or when you just want to change the pre-recorded voice to aesthetically match other messages played for callers.

To illustrate the difference between configurable messages (types 2,3, and 4), and non-configurable messages (types 1 and 5), let's use Callback as an example. Callback allows you to specify and record a message to be used as an introductory announcement, played just prior to the callback offer. This announcement is typically a "Thanks for calling, all agents are busy…", or similar type of message. This is a *configurable* message. It's recorded by selecting messages type '2' in the Recording Utility, and as you will see, it's specified in the Pilot Parameters configuration form. After this introductory announcement, Callback *automatically* plays a pre-designated message of the callback offer, and a series of other prompts asking the caller to enter callback information. These messages are *non-configurable*, 'canned prompts'. Then, when the caller enters their callback number, it's 'variables' that are used to speak the number back to the caller for confirmation. Since you can't select a different prompt to play in place of those designated for a callback transaction, you must re-record on top of the existing ones in order to change what the caller hears.

Appendix D contains a complete list of all canned prompts and variables. To record over any non-configurable message, select the message type in the Recording Utility, and enter the appropriate message number as listed in 'Appendix D'. It's a good idea to

backup these directories (dvps\prompts and dvps\spk) prior to re-recording. The product-specific documentation notes the related configurable and non-configurable messages for each product.

Recorded Message File Directories

All messages are stored in files on CTI Server, in the *dvps* (digital voice passages) directory, under the following sub-directories.

Directory…	Use…
\tfb\dvps	TFB Parent directory for Recordings
\tfb\dvps\aa	TFB Enhanced Automated Attendant Prompts
\tfb\dvps\prompts	TFB Prompts directory (Type '1')
\tfb\dvps\prompts\0	TFB Prompts 0000 - 0999
\tfb\dvps\prompts\1	TFB Prompts 1000 - 1999
\tfb\dvps\prompts\2	TFB Prompts 2000 - 2999
\tfb\dvps\prompts\3	TFB Prompts 3000 - 3999
\tfb\dvps\prompts\4	TFB Prompts 4000 - 4999
\tfb\dvps\prompts\5	TFB Prompts 5000 - 5999
\tfb\dvps\prompts\6	TFB Prompts 6000 - 6999
\tfb\dvps\prompts\7	TFB Prompts 7000 - 7999
\tfb\dvps\prompts\8	TFB Prompts 8000 - 8999
\tfb\dvps\prompts\9	TFB Prompts 9000 - 9999
\tfb\dvps\ann	TFB Enhanced Announcements (Type '2')
\tfb\dvps\at	TFB Auto Transcription messages(Type '3')
\tfb\dvps\rec	TFB Callback Recordings
\tfb\dvps\spk(\work)	TFB 'canned' variables to speak English numbers, dates, etc. (Type '5')
\tfb\dvps\spk\L1(\work)	TFB 'canned' variables in Spanish
\tfb\dvps\spk\L2(\work)	TFB 'canned' variables in French
\tfb\dvps\spk\L3(\work)	TFB 'canned' variables in Portugese
\tfb\dvps\spk\L4(\work)	TFB 'canned' variables in Creole

Note that each distinct type of message has its own dedicated sub-directory. You can manually backup any of these directories as desired, although all message files are 'zipped-up' automatically when you perform a backup from the CTI Server **Config** menu.

How Are Recorded Message Files Named?

Message files are *automatically* named and saved in the appropriate directory by the Recording Utility. The file names are identical to the associated message number, and have no extension. For example, if you record an Auto Attendant message number of '6000', the literal filename will be '6000', saved to the *\tfb\dvps\aa* directory.

Recording Messages

The feature-specific documentation will help you identify the correct *type* of message for any given context, but how do you know which message *number* to use? The chosen

message number depends largely upon the type of announcement. When you record canned variables or prompts (non-configurable messages) you must always record to the exact message number played in the situation you want your new message played in. First look up the desired message in Appendix D, then listen to it with the recording utility to be sure your new recording matches the meaning and context of the existing one. When you record messages to be used as announcements for auto attendant menus, or introductory announcements for ETA/Queue Position or Callback, look up the allowable message numbers in the table on page 12. You can use any valid, unused message number provided you then specify that number in the appropriate field on the configuration form. This process is detailed in the configuration procedure for each specific APM module.

To record a custom message

1 Dial the recording pilot to start the TFB Recording Utility. This is the pilot configured to send *@IVR Announcement* 99 from its CCV.

2 On the touchtone pad, enter '1234#' when prompted for a password.

3 Enter '1' for *English* or '2' for *Spanish* when prompted to select the language (language-enabled systems only). If your system has extended language capabilities, you can also select from French (3), Portugese (4), and Creole (5).

4 Enter '1' to record for immediate activation, '2' to listen to a previous recording, or '6' to record *and* review prior to activation.

5 Enter the message type to record/listen to:

'1' for "canned" prompts, and custom IVR prompts
'2' for Enhanced Announcements.
(see *Chapter 3, Enhanced Announcements*)
'3' for Auto Transcription Announcements.
(see *Chapter 11, Automated Transcriptions*)
'4' for Auto Attendant Announcements.
(see *Chapter 4, Enhanced Auto Attendant*)
'5' for 'Variables'
(see *Appendix D, Enhanced Auto Attendant*)
'6' for Dial by Name recordings
'8' for the 'Variable Excerciser'

6 Enter the message number to record/listen to, followed by the '#' sign. Valid message numbers depend on the type of announcement you're recording. Consult

the documentation on each product for details. See also, *"Selecting Announcement Numbers"* earlier in this section.

7 If your selected a recording function by pressing '1' or '6' in step 4 above, record the passage at the tone.

The recording stops and your message saved when silence is detected. The recording is then automatically replayed for your review.

IMPORTANT The recording process is a real time update for all message types *except* variables! If there's an existing message with the same number, it will be over-written by the new recording. Also, any live APM application configured to play the message will *immediately* begin using the new recording! Variables are recorded to the 'work' directory just under the target directory. After recording a variable you must copy it from its work directory to the target directory as noted in the Recorded Message File Directories section on page 14.

To replay any recording, or to check the existing content of a message prior to recording, just enter '2' in ***Step 4*** above. Because recording updates are instantaneous, it's a good idea to check newly recorded messages for satisfactory clarity, level, and content. Note that you must have configured a dedicated pilot that sends an *IVR Announcement 99* before you can use the Recording Utility. More Information – For more on configuring the recording pilot, see *Chapter 2, "Configuring CTI Server"*, in the CTI Server Manual.

Editing Recorded Messages

The audio quality of your messages can frequently be improved after recording by doing some simple waveform editing to remove unwanted silence, or high frequency 'hiss'. For this purpose, TFB bundles an off-the-shelf voice prompt editor (*VFEdit*™) with all CTI systems. Using *VFEdit*, you can trim silence off your messages, add effects, and perform other useful editing functions. Regardless of the message type, all custom recordings are saved in the same file format, and can be modified with *VFEdit*.

More Information – See the *VFEdit User's Manual*.

Editing TFB Configuration (.cfg) Files

Many APM features are partially configured using one or more text files with a *.*cfg* extension. *Cfg* files are stored in the *'tfb/data'* directory on CTI Server. These files contain ASCII data in various formats, and can be modified and saved with a standard text editor (such as the Windows Notepad). If you use a word processor, be sure to save modified *.cfg* files in ASCII text format.

Even when you click certain options on the CTI Server **Config** menu, the appropriate *.cfg* file is opened in a Notepad window, instead of a traditional dialog box. After editing any *.cfg* file in Notepad, save your changes by clicking **File** | **Save**.

It's important to note that simply modifying a *.cfg* file does not activate your changes. To reduce disk access time and ensure adequate processing speed, APM stores all configuration data in RAM, and reads data from configuration files *only* on startup. Consequently, after you make changes to any *.cfg* files, you *must* close and restart the CTI Server window to allow APM to read the new configuration.

The documentation will guide you through the particular *.cfg* files associated with each product, but be sure to follow these general guidelines,

Guidelines for Editing .cfg Files

- Edit all .cfg files in a standard text editor, and save them in ASCII text format
- Include a carriage-return/line-feed at the end of each file
- Restart the CTI Server window to reinitialize APM with changes made in any .cfg file
- Consult Appendix n, "Configuration Files" for detailed file format information

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IMPORTANT Configuration files must have a carriage-return/line-feed after the last item of data in the file! With a file open in your text editor, move the cursor to the very end of the last line of data in the file, and hit the RETURN key. Doing so will insert the necessary carriage-return. You should do this after completing modifications to the file, and just before saving.

More Information – See *Appendix D, "Configuration Files"*

Assigning IVR Announcement Numbers

Typically, APM features require that you route calls to CTI Server by sending specific *IVR Announcement numbers* across *Infolink*. CTI Server uses *IVR Announcements* to send calls to various APM features, including Automated Attendant, Enhanced Announcements, ASAP Callback, Scheduled Callback, and ETA/Queue Position. When you include an *"IVR Announcement n"* line (n = 9 to 99) in the appropriate ACD routing steps (CCVs), calls on the associated pilots are routed as shown in the following chart:

IVR Announcement Number Assignments

IVR Announcement #	Usage
1 thru 8	Reserved by the ACD
9	Routes calls to CTI Server for **Queue/ETA** *and* **Callback features**, which are configured by pilot in the TFB Pilot Parameters form.
10 thru 98	Routes calls to **Auto Attendant** touchtone menus, to **Enhanced Announcements** *, and to Custom applications.
99	Reserved by TFB. Routes calls to TFB Recording Utility

* - If an IVR number is assigned both to an Automated Attendant menu, and an Enhanced Announcement, callers will be routed to the menu only, and will not hear the announcement. IVR Announcement no.s 10-98 must be assigned uniquely.

Sending any IVR Announcement number from 10 through 98, routes calls from the ACD to Auto Attendant Menus, Enhanced Announcements, or custom IVR applications configured to react to those numbers. It's the specific *IVR Announcement number* that determines which Menu, announcement, or application the calls on the associated pilot are routed to. APM features that use only *IVR Announcement 9* handle calls based on the incoming pilot (called *configured-by-pilot* features), and are configured in the TFB Pilot Parameters Configuration form. To enable some APM products, the *only* ACD configuration required is to define CCVs that send appropriate *IVR Announcement* numbers! The documentation will take you through the specific implementation required to enable each product.

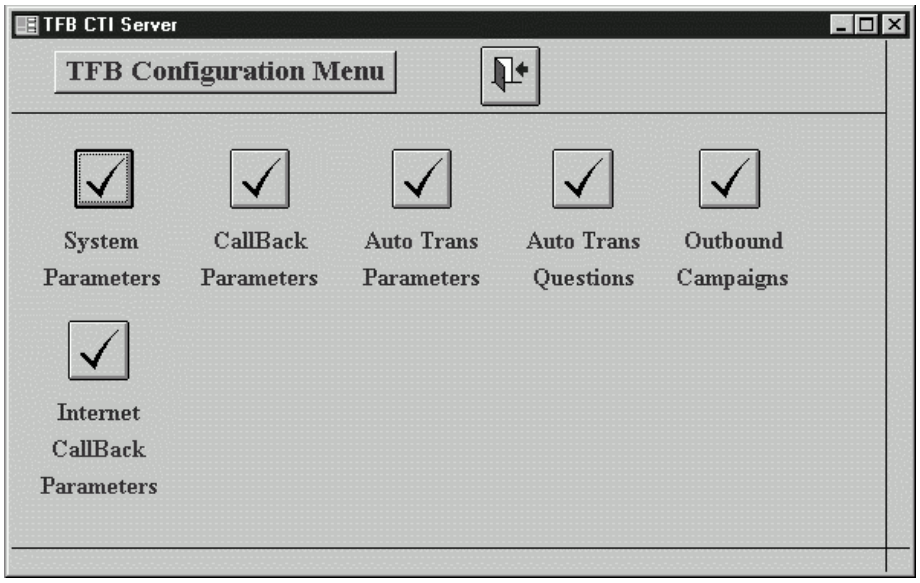
IMPORTANT TFB uses *IVR Announcement* numbers (10-98) to route calls to multiple features. Take care not to assign the same IVR number to more than one feature. Typically, using IVR's 10-20 for Automated Attendant and custom applications, and using IVR's 21-98 to play Enhanced Announcements, provides adequate range for all features.

Using the TFB Configuration Forms

As noted in the previous section, several APM products require that calls be routed to them by sending *IVR Announcement 9* from the ACD. These features are *configured by pilot*, which means that calls can be handled uniquely based on the associated incoming pilot number. Configured-by-pilot features are set up in the TFB Configuration forms. ETA/Queue Position, Automated Transcriptions, Automated Outbound Campaigns, ASAP Callback, Internet Callback, and Scheduled Callback are all configured from these forms.

To open the TFB Configuration Forms

- Click the TFB APM icon on the server desktop 
TFB Configuration
- Click the **Config** button 
Config
- The TFB Configuration Menu appears,



From this menu, you can access the configuration forms required for the setup of Queue/ETA, all variations of callback, Auto Transcriptions, Outbound Call Campaigns, and global APM system parameters. The documentation will guide you through the necessary configuration for each APM product. Just as with *.cfg* files, you must restart the CTI Server window for any TFB configuration changes to take effect.

Preliminary APM Configuration

Having reviewed the configuration methodology in the previous section, there are some global paramters that should be set up prio to the configuration of individual features. This section takes you through the following topics.

- Preliminary CTI Server Configuration
- Preliminary ACD Configuration
- Preliminary Configuration of Agent Positions

The tasks detailed in this section are best completed prior to configurating of any individual APM module.

First, make sure that both CTI Server is properly installed and connected to the ACD and the LAN. Ensure also that you've followed the software installation procedures in the APM Installation Guide, and that APM components are installed both on CTI Server and on agent PCs (if applicable).

Refer to the checklist in the CTI Server Installation guide, and run the suggested connectivity tests to ensure that the server is on the LAN and talking to the ACD. Your preliminary ACD configuration should also be complete prior to configuring APM features. Define all splits, DNs, and pilots in the ACD before proceeding.

Preliminary CTI Server Configuration

APM system parameters should be configured first, followed by outbound dialing properties.

Configuring Global TFB System Parameters

Ensure that global parameters, which are referenced by almost every APM feature, are properly specified.

To configure TFB system parameters

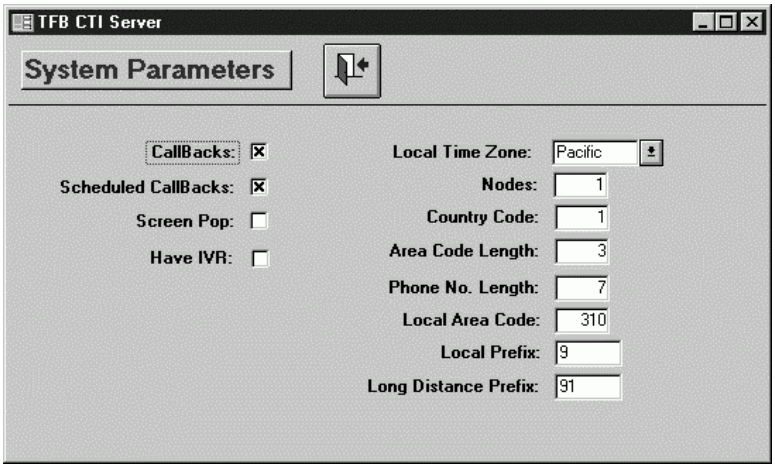
1 Double-click the TFB Configuration  on the CTI Server desktop.

TFB Configuration

2 Click the **Config** button.

3 Click the **System Parameters** button 

4 The system parameters form opens.



5 Select your call center's time zone from **Local Time Zone** list box.

6 Enter your call center's 3-digit area code in **Local Area Code.**

7 In **Local Prefix**, enter PBX numbers required to dial local numbers.

8 In **Long Distance Prefix**, enter PBX numbers required to dial long distance numbers.

9 Set the system clock correctly by double-clicking the clock display in the Windows task bar.

The check boxes on the left are for TFB use only, and do not affect your callback, screen "pop" or IVR configuration.

ALL OTHER FIELDS ON THIS FORM ARE RESERVED FOR INTERNATIONAL USE ONLY.

Configuring Outbound Dialing Parameters

If you plan to use any outbound dialing functions such as ASAP Callback, Scheduled Callback, Internet Callback, or Automated Outbound Campaigns, it's important to first configure outbound dialing parameters. This will enable APM's outbound dialer to automatically accommodate any special-case outbound dialing patterns, and restricted area codes.

Outbound dialing patterns are configured in two ASCII text files on CTI Server: *'lld.cfg'* and *'exchange.cfg'*. Normally, APM dials phone numbers by omitting the area code for local calls, and adding a '1' prefix to calls outside the local area code. However, there may be *exceptions* to those dialing patterns that apply to particular area codes and exchanges in your area. When APM initiates an outbound campaign call, it first checks those configuration files for the area code and/or exchange it is dialing. If it finds a match, the number is dialed according to the rule associated with that.*cfg* file, as detailed below. It's important that these files contain complete and accurate information in order to avoid incomplete calls caused by incorrect dialing.

Allowable area codes are listed in *restrict.cfg*. If this file is left blank, all area code/exchange combinations are assumed to be valid. Otherwise, only those listed explicitly in this file will be dialed by APM and allowed by callback features.

Using a standard text editor or the Windows Notepad, modify each file as your requirements dictate.

To edit local long-distance dialing patterns

- Click **Config.** | **Local Long Distance** in the CTI Server window. This opens lld.cfg in Windows Notepad.

  OR

  - Open *tfb/data/lld.cfg* directly using a standard text editor.

- "Lld.cfg" is a list of area codes and exchanges that *don't* require a '1' prefix to be dialed, so add any areacode/prefix combinations that apply. If any outbound number contains an area code/exchange combination that appears in this list, APM will omit the standard '1' prefix when dialing.

- Click **File** | **Save** when done. If you're using a text editor, be sure to specify text format when saving the file.

To edit exchange-related dialing patterns

- Click **Config.** | **Exchanges** in the CTI Server window.

  OR

- Open tfb/data/*exchange.cfg* directly using a standard text editor.

- *"Exchange.cfg"* contains a list of exchanges that require inclusion of the local area code when dialed, so add all the exchanges in your area code that apply. If an outbound number contains an exchange that appears in this list, APM will include the local area code when dialing.

- Click **File** | **Save** when done. If you're using a text editor, be sure to specify text format when saving the file.

More Information – For more details on the file formats, or if you need help modifying these files, see Appendix B, "Configuration Files".

TIP *Exchange.cfg* can alternatively be a list of exchanges that *DON'T* require inclusion of a local area code when dialed. To configure APM to use the file in this way, open tfb.cfg in a standard text editor, and set the 'EXCHANGES_ARE_LOCAL' boolean to FALSE. Also, ensure that 'HAVE_EXCHANGE_FILE' is set to TRUE. **DO NOT MODIFY ANY OTHER PARAMETERS IN THIS FILE.**

To restrict area code/exchange combinations from outbound dialing

- Click **Config.** | **Callback Restrictions** in the CTI Server window.

  OR

- Open tfb/data/*restrict.cfg* directly using a standard text editor.

- *Restrict.cfg* contains a list of *allowable* area codes for Callback. If a callback number does *not* have an area code in this list, APM notifies the caller, and the callback is automatically refused. If this file is left blank, all area codes will be considered permissible.

- Click **File** | **Save** when done. If you're using a text editor, be sure to specify text format when saving the file.

Preliminary ACD Configuration

It's worth noting that calls are typically routed from the ACD to specific CTI features by inserting an *IVR Announcement n* into the CCV for the desired pilots. The value of *n* determines which CTI feature the call is routed to. However, no CCV modification is required as part of preliminary configuration.

Configuring Outbound IVR Ports

Because IVR ports are used for both caller and agent interaction, you must set up a second, smaller UCD group for speaking prompts and outbound calling information to agents. APM features automatically use the next sequential port after your first IVR port for this function. You must reserve at least 2 ports for this group. It's also recommended that this group be configured to overflow into Group 1 when all Group 2 ports are busy.

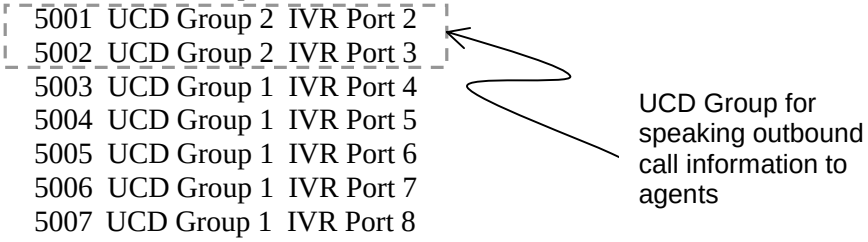
To set up a UCD group for outbound calling functions

- Create a callback UCD Group with **Pilot number** = **IVR pilot** + 1.

  For example,
  ```
  Main IVR UCD Group    5000
  First analog port     5000
  Callback UCD Pilot    5001
  ```

  UCD Groups for an 8 port system

  5000 UCD Group 1 IVR Port 1
  5001 UCD Group 2 IVR Port 2
  5002 UCD Group 2 IVR Port 3
  5003 UCD Group 1 IVR Port 4
  5004 UCD Group 1 IVR Port 5
  5005 UCD Group 1 IVR Port 6
  5006 UCD Group 1 IVR Port 7
  5007 UCD Group 1 IVR Port 8

  APM automatically uses the group defined at **IVR Pilot + 1** to play agent prompts for outbound calling functions.

Configuring the TFB Recording Utility

To record custom announcements you must set up a dedicated pilot that routes incoming calls to the Recording Utility that's built-in to CTI Server. If you haven't yet done this, do so now by simply inserting an *@IVR Announcement 99* in the CCV for any unused pilot you designate.

To set up the TFB Recording Utility

- Insert the line “@IVR Announcement 99” into the CCV for the pilot you wish to dedicate as the recording pilot.

The following example shows a CCV that routes calls to a recording utility.

EXAMPLE 1-2 CCV to route calls to the recording pilot

```
1) @IVR Announcement 99 // route to recording utility CTI Server
2) End
```

Testing and troubleshooting the Recording Utility

Dial the assigned recording pilot to ensure that the recording utility starts properly. You should hear the Recording Utility prompts you to enter the “recording password”. If you are routed elsewhere, or the line continues to ring without picking up, the call is not being properly routed to the recording utility. The problem is likely to be a simple oversight in ACD configuration. Doublecheck the following items.

☑ The correct pilot was dialed.

☑ The CCV for THAT pilot contains an IVR Announcement 99.

☑ The CCV with IVR Announcement 99 is referenced by your pilot in the ACD.

☑ The CTI Server window is open on the CTI Server desktop.

☑ The recording pilot is operating properly within the ACD.

That completes pre-configuration of the ACD

Preliminary Configuration of Agent Positions

Prior to APM feature configuration, it's important to ensure that agent/supervisor phone sets and PCs are appropriately prepared for the APM features you plan to use. There are two major elements to each agent position:

1. **Agent PC**

   Ensure that agent PCs, and other PC's on the LAN that will run agent tools, meet the minimum hardware and oprating system requirements.

2. **Agent Phone Set**

   Agent phone sets also have minor configuration requirements that may determine certain ACD settings.

Agent PC Configuration

The agent/supervisor-related APM modules are designed such that they can be used from any PC on the LAN. These are,

- Workstation Agent
- Virtual Agent Set
- Visual ACD Supervisor
- Visual Queue Report
- Visual Agent Report

If you plan to use any of these features, ensure that the target PC's meet the following requirements.

- At least 32 MB RAM
- 16 MB available HD space
- VGA or better graphics adaptor
- Windows '95, Windows '98, or Workstation NT 4.0
- Ethernet Adaptor
- Optional: Soundblaster-compatible Sound Card and speakers

Agent Phone Set Configuration

Certain agent phone settings can impede the proper functioning of outbound dialing features related to any type of callback or Automated Outbound Campaigns. If you plan to use any of these features, three important aspects of agent telephone configuration should be noted.

- **Outbound Dialing Restrictions**
- **ACD Line Assignments**
- **ACD Split Configurations that may affect phone behavior**

Be sure to review the following topics to ensure that agent phones are properly configured to allow outbound calling.

Can cause outbound calls to fail!

Agent Phones: Outbound dialing restrictions

When a Callback is generated, the call is literally made from the agent's ACD line, just as if the agent dialed an outbound call manually. This means that any restrictions placed on outbound dialing at an agent's position will also affect Callback. To avoid failed callbacks because of phone restrictions, ensure that agent phone hardware is configured to permit outbound calls as desired.

Agent Phones: ACD Line Assignments

To account for design idiosyncrasies, ACD lines should be assigned only to the top two rows of NEC 24-button phones. Assigning ACD lines below the top two rows may cause Callback features to work improperly.

Agent Phones: Split configuration

The ACD allows you to configure split parameters such that certain phone characteristics are altered when logged into particular splits. Be aware, for instance, that when an agent phone changes mode automatically after a Callback, that it may be the result of the way the designated callback split is configured in the ACD. APM applications cannot directly affect phone settings, but related ACD configuration might.

Pre-Configuration Summary

If you followed all procedures in this chapter carefully, you should be ready to configure specific APM features.

Review the following checklist to ensure that pre-configuration is complete.

APM Pre-Configuration Checklist

☑ CTI Server – functioning correctly.

☑ CTI Server – Global APM parameters have been configured.

☑ CTI Server – Outbound dialing parameters have been set.

☑ ACD – A second UCD group is defined for IVR STNs beginning at IVR Pilot + 1.

☑ ACD – A recording pilot has been designated and configured.

☑ Agent phone sets – configured to allow outbound dialing as desired.

Each chapter that follows will guide you through the complete configuration process for each APM module.