

TelAlert Voice/Text-To-Speech (TTS) Server Release Notes
Version 5.6.1
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Please visit our community forums for detailed discussions of product features and fixes (<http://forums.telalert.com>). To install the TTS software, see [TTS Software Installation](#) in this document before consulting the TelAlert 5.6.1 Voice and Hardware Guide.

Introduction

While wireless devices, such as cell phones and pagers, have an almost ubiquitous reach, there is still a demand to provide an additional or alternative notification pathway. A comprehensive messaging system must have a way to deliver messages in any way a device can accept it, including in a synthesized or recorded human voice. These “Voice” messages can be in the form of simple one-way announcements or more complex interactive, password-driven menu response systems.

The *TelAlert Voice/TTS Server* can deliver natural-sounding speech in a variety of languages. Pronunciation of non-standard or technical terms and their speed of rendering can also be finely controlled.

The *TelAlert Messaging Server* can be deployed on any supported operating system and controls the *TelAlert Voice/TTS Server* via TCP/IP. The *TelAlert Voice/TTS Server* requires Microsoft Windows (see [Supported Platforms](#) below), and utilizes Intel Dialogic voice drivers and hardware to interface with a PBX or the public telephone system.

For distributed networks the *TelAlert Messaging Server(s)* and the *TelAlert Voice/TTS Server(s)* can be deployed on different machines. This provides a fault tolerant, flexible and scalable voice capability that matches the needs of today’s global business.

Contact TelAlert Support for technical issues with this software or TelAlert Sales for questions about enhancing your company’s messaging capabilities.

Supported Platforms

Server Operating System
<i>Microsoft Windows Server 2000/ 2003</i>
TelAlert Messaging Server
<i>Version 5.6.1</i>
Dialogic
<i>Intel Dialogic System Release (SR) 6.0 (recommended)</i>
<i>Intel Dialogic System Release (SR) 5.1.1 (consult OS & driver requirements of voice hardware)</i>
<i>Intel Dialogic D4PCIU/F Voice Card</i>

Checking the Voice/TTS Server Version

From a command window, type `telalertv -version` to display the program's version information. If this version of TelAlertV has been correctly installed, the output will look like this:

```
telalertv_SR6 (5.60.1): Windows 32 . . . [etc].
```

References

Online Documentation: http://www.telalert.com/products/telalert/doc.php
<i>TelAlert Voice and Hardware Guide</i>
<i>TelAlert Quick Start Guide</i>

New Features

Intel Dialogic SR6 Support

This release eliminates dependence upon Intel's now unsupported *Artisoft Visual Voice*. However, *Visual Voice* is still available as a runtime mode option for legacy compatibility.

Dial-Tone Detection

The *Dialogic SR6 API* runtime mode supports dial tone detection. Token characters are inserted into the dial string to instruct the *TelAlertV* process to wait for specific tones before dialing the subsequent digits. This improves the telephony-handling of the whole voice/speech system.

TTS Rate Control

The rate (tempo and speed) of each TTS synthesized voice can now be controlled to suit your application and audience. You may also modify TTS synthesis speed by embedding speech markup language directives in the message text, which is described in the following section.

Embedded XML Control of TTS Voice

Many aspects of TTS synthesis can be modified using Speech Synthesis markup language (SSML), Java Speech markup language (JSML) and Microsoft SAPI 5.1 markup language. However, this is an advanced topic, and we recommend that anyone who wants to use this feature contact TelAlert Technical Support for additional information and examples.

Voice Fonts

The TelAlert Voice/TTS Server now supports *AT&T Natural Voices* fonts that are encoded at 8K or 16K sample rates. The prior version also technically supported both 8K and 16K sample rates, but all previous voice fonts were distributed only in 16K format. TelAlert is now standardizing on 8K fonts for all new American English TTS installations. Users do not have to update old 16K fonts because the new software can dynamically switch between 8K and 16K fonts as necessary.

The following table provides a summary of available voice fonts. Fonts may be selected using either their full name or short name. Note that there are inconsistencies in the naming convention used for full names. The position of spaces must exactly match the names shown in the table when using full names to referencing a voice font.

Language	Gender	Encoding	Short Name	Full Name
American English	Male	8K	Mike	ATT DTNV1.4 Mike
American English	Female	8K	Crystal	ATT DTNV1.4 Crystal
American English	Male	16K	Mike16	ATT DTNV 1.4 Mike16
American English	Female	16K	Crystal16	ATT DTNV 1.4 Crystal16
Spanish	Male	16K	Alberto16	ATT DTNV 1.4 Alberto16
German	Male	16K	Reiner16	ATT DTNV 1.4 Reiner16
French	Male	16K	Alain16	ATT DTNV1.4 Alain16

Logging Enhancements

A terse logging level has been added to provide log output that is appropriate for administrators and technical support engineers.

Fixes in this Release

- Improved the way the TTS engine pronounces complex strings with digits and text.
- Corrected voice font selection when a substring of the full font name was specified in the configuration (for example, “crystal1” was entered instead of “crystal16”). Default fonts will now be used unless a full match is found for the specified font name.
- Fixed a problem where Dialogic ports remained off-hook when TelAlert was shutdown while ports were waiting for digits or waiting for answer detection to complete. Dialogic ports now come back on-hook during after these events.
- Fixed a problem where messages were sent incorrectly after TelAlert was started with TTS messages already waiting in the delivery queue.

Known Issues

There are no known issues.

TTS Software Installation

The media CD contains several separate installation programs. These can be used in various combinations to install or upgrade *TelAlert TTS* software on a Windows NT/2000/XP/2003 PC equipped *with Dialogic telephony interface cards*.

This Dialogic-equipped machine may also host the TelAlert messaging server software (the TelAlertE service daemon and its child processes); or this Dialogic-equipped machine may be a ‘slave’ machine running under the control of a separate machine (either Windows or Unix) that contains the TelAlert messaging server software.

TelAlert supports both synthesized speech (TTS) and pre-recorded speech (Voice) telephony technology. TTS is a superset of Voice. Therefore, the TelAlert Voice technology software must be installed before installing the TTS technology software. The Voice technology is installed automatically as part of a full installation of the TelAlert messaging server software on a Windows machine; or by a special “TelAlertV” InstallShield package on a “slave” Dialogic machine.

Detailed instructions on installing Dialogic hardware/drivers, TelAlert messaging server software, Voice technology software, and TTS technology software can be found in Chapter 3 of the *TelAlert 5.6.1 Voice and Hardware Guide* (see references). **However, it is strongly recommended that you follow these installation instructions for TTS installs and upgrades.**

Note: If you are migrating an existing Voice installation to TTS, or upgrading an existing TTS 5.6 installation to 5.60.1, modify the procedure below as follows:

- In both cases, upgrade the TelAlert software to 5.60.1 on the TelAlert server, and on the “slave” Dialogic machine (if any). Confirm that the telalert, telalerte, telalertv, and telaconfe executables are all version 5.60.1.
- For Voice to TTS migrations, start at Step 7B, “For Voice-TTS Migrations”.
- For TTS 5.6 to 5.60.1 upgrades, start at Step 9: “Install TTS software using the CD” IF you wish to change your voice fonts. No other software should be installed from the CD. If you do not want to change your voice fonts, start at Step 10B, “For all cases”.

Preparing to Install the TTS Software

1. Install Dialogic hardware.
2. After booting the server, cancel out of the Windows “Found new hardware” wizard, if Windows started the wizard.
3. Install Dialogic driver software from a separate Dialogic CD.
Note: Several different driver software versions are available: You must use the correct version for your Dialogic card model and Windows version. The Dialogic installer will suggest installing the software on the “Windows System” drive, which is the drive specified by the “SystemDrive” environment variable (it may or may not be drive C:\). We have experienced driver problems if the software is installed on any other drive, so we strongly recommend accepting the installer’s suggested location. Some versions of the installer will offer to install optional tools and documentation; the minimum install option is adequate for TelAlert.
4. Use the Intel *Dialogic Configuration Manager (DCM)* program you just installed to configure the Dialogic card(s), configure the drivers to auto-start when Windows boots, and start the drivers for the first time.
5. If this machine will host the TelAlert messaging server software, install it (if it is not already installed). Make sure the license is either an evaluation license, or a permanent license with a non-zero number of allowed TTSPorts. (The TelAlert messaging server software is not included on the CD.)
6. If the TelAlert messaging server software will be on another machine, do the following:
 - A. Install the TelAlert messaging server software on the other machine (if it is not already installed). Make sure the license is either an evaluation license, or a permanent license with a non-zero number of allowed TTSPorts. (The TelAlert messaging server software is not included on the CD.)

- B. Install the “slave” linking software on this machine so that the TelAlert messaging server machine can control this machine. Run the TelAlertV560.exe InstallShield package located in the TelAlertBin directory on the CD. (This InstallShield package is NOT accessible through the AUTORUN menu on the CD.) The InstallShield process will create some data files which must be transferred to the separate TelAlert messaging server machine, see the Voice/Hardware Guide for details.
7. Initial Access and Port setup.
 - A. For new installations, using whichever administrative method you have chosen for configuring the TelAlert messaging server (editing telalert.ini files, using the TADesktop GUI, or using the TelaWeb GUI):
 - i. Configure the *Access* section to accept incoming calls (*VoiceDialInAccess=True*) using Voice technology (*VoiceDialInTTS=False*). This is to verify underlying Voice functionality before continuing to the superset of TTS functionality..
 - ii. Create and activate a *Port* paragraph of “Model=TTS.” The *Types* keyword value should include *Voice*, *TTS*, *InteractiveVoice*, and *InteractiveTTS*.
 - B. For Voice-TTS migrations:
 - i. Confirm the *Access* section settings detailed above.
 - ii. You must change your existing Port(s) from Model=Voice to Model=TTS. If you administer TelAlert by editing telalert.ini, this is a simple change. However, neither the TADesktop GUI nor the TelaWeb GUI allow you to change the Model of an existing Port definition. You will need to record the details of your existing Port definitions, delete the existing definitions, and then recreate the definitions. In the new Definitions, use the new *Model=TTS* setting; expand the *Types* setting to include *Voice*, *TTS*, *InteractiveVoice*, and *InteractiveTTS*; and have all other settings match the old values you recorded. The command “telalert –read port XXX –hold” (where you replace XXX with the name of your Port) will list the non-default detail settings of your existing Port definition(s).
 8. Make sure a phone line is connected to the Dialogic hardware. Make a phone call to the associated Dialogic port, verify the Port is answered using (non-TTS) Voice technology.
 9. Install TTS software using the provided CD (for details, see [Installing the TTS Software Contained on the CD](#)). If the “Autoplay” menu does not appear when the CD is inserted, do either of the following:
 - Right-click on the CD drive in Windows Explorer, and select Autoplay.
 - Run the InstallTTS.exe program in the CD’s root directory. The Autoplay menu contains four separate installation steps. Perform the steps in the order shown. As you click on each step, a separate installer will launch on top of the Autoplay menu. When each installer completes, go back to the Autoplay menu and select the next installer.

When all installers have been run, close the Autoplay menu. More detail on each of these separate software installations is given in the next section of this document.

10. Using your normal administrative method:

- For new TTS installs and Voice-TTS migrations, change the *Access* section to use TTS when answering incoming calls (*VoiceDialInTTS=True*).
- For all cases (new TTS installs, Voice-TTS migrations, TTS 5.6 to 5.60.1 upgrades), set the TTS voice name (*TTSDialInVoiceName*) in the *Access* section to your preferred value selected from the voice font(s) you have installed (the TTS 5.6 practice of leaving this keyword blank to select the “default” voice is obsolete, this keyword should always have a nonblank value in 5.60.1). For more information on the various voice font names for instance, there are differences between the names of the fonts normally installed with 5.6 and those normally installed with 5.60.1; and there are both “Short Name” and “Full Name” values for each font, see the table of “Available Voice Fonts” later in this document. Also note that this keyword can optionally specify a “rate” (speed, tempo) for this voice; see “TTS Rate Control” under “New Features” later in this document.
- For TTS 5.6 to 5.60.1 migrations, you must also update each existing *Configuration* of *Type=TTS* or *InteractiveTTS* to have a nonblank value for the *TTSVoiceName* keyword; this keyword also supports an optional rate setting.
- For all cases, remember to set *TTSVoiceName* in all new *Configurations* of *Type=TTS* or *InteractiveTTS* that you create.

11. Make a phone call to the associated Dialogic port, and verify that the Port is answered using TTS technology.

Installing the TTS Software Contained on the CD

The following instructions provide more detail to Step 9 “Install TTS software using the CD” listed above.

The CD contains installers for the following TTS software components:

1. *TelAlert TTS Driver*, includes *Microsoft Speech API (SAPI)*
2. *Text-To-Speech Software (AT&T Natural Voices Runtime TTS Engine)*
3. *American English Male Voice Font (AT&T Natural Voices 8K Mike voice font)* and *Female Voice Font (AT&T Natural Voices 8K Crystal voice font)*

These installation programs should be run sequentially in the order listed above.

Login to Windows as “Administrator” before running these programs.

The total disk space required by the four installation programs is approximately 685 MB.

It is only necessary to install one of the voice fonts. However, you can install multiple voice fonts. If you do, configure each voice port to answer using a specific voice font. Specific fonts for outgoing messages may be assigned in either Configuration or Destination paragraphs. Additional fonts are available. Each additional font requires a separate runtime license.

STEP 1: Install the TelAlert TTS Driver

This step will install *Microsoft Speech API (SAPI)* runtime support (if it is not already installed) and will also install the *TelAlert TTS Driver*.

This step will require approximately 60K of disk space in the TELALERTBIN directory; and up to 2.7 MB of disk space in the Windows System directory, depending on whether any Microsoft SAPI components are already installed.

Purpose

Microsoft SAPI provides a standard way for TTS software to interface with applications. The *TelAlert TTS Driver* is used by the *TelAlertV* process to interface the *AT&T Natural Voices Runtime Software* with the *Dialog* integration. The *TelAlert TTS Driver* and *TelAlertV* process use *SAPI* to communicate with the *AT&T Natural Voices Runtime Software*.

Installation Steps

1. Click the “*Install TelAlert Text-To-Speech Drivers*” option on the *TTS Install splash screen* to launch the installer. This installer may also be launched by running the “*Setup*” program that is located in the “*TelAlert TTS Drivers*” directory of the TTS installation CD.
2. The “*Select Installation Folder*” page of the installation wizard will prompt for an install location. This is the location where TelAlert’s binary executables are installed, and is the path listed in the TELALERTBIN Environment variable. The default *TelAlert* location (“C:\Program Files\TelAlert\”) should be used in most cases.
3. Click the “*Next*” button on each subsequent wizard page to accept defaults, then press the “*Finish*” button of the final page. Click “*Close*” to exit after installation completes.

Result

A “*Speech*” icon is added to the *Windows Control Panel* as a result of *Microsoft SAPI runtime* installation. A library named “*SAPIVStream.dll*” is installed in the TELALERTBIN directory as a result of the *TelAlert TTS Driver* installation.

STEP 2: Install the TTS Software

Purpose

This step will install the *AT&T Natural Voices Runtime Software* that converts text to speech using one or more AT&T voice fonts. This step will also install a “*Dictionary Editor*” program (named “*WinDictEdit.exe*”) that is used to modify the pronunciation of specific words or acronyms.

Installation Steps

1. Click the “*Install Text-To-Speech Software*” option on the *TTS Install splash screen* to launch the installer. This installer may also be launched by running the “*Setup*” program that is located in the “*ATT NaturalVoices Runtime*” directory of the TTS installation CD
2. Click the “*Next*” button on each subsequent wizard page to accept defaults, then press the “*Finish*” button of the final page. Click “*Close*” to exit after installation completes.

Result

The *AT&T Natural Voices Runtime Software* is installed. A new sub-menu named “*AT&T Natural Voices 1.4*” is added to the *Windows Start menu*. This submenu contains a shortcut to the “*Dictionary Editor*” program.

STEP 3: Install American English Voice Font(s)

Purpose

The *ATT NaturalVoices Runtime* software can generate speech using a variety of distinctive voices varying in gender; intonation/pitch [tenor, baritone], and language. An individual combination of gender, intonation/pitch, and language is referred to as a voice font. This step will install the selected voice font(s).

Note: This step will take more time than the previous steps, due to the amount of data copied from the CD to your hard disk. The voice font installation will require approximately 190 MB of disk space for each installed voice font.

Installation Instructions

1. Click the “*Install American English Male Voice Font (Mike)*” option or the “*Install American English Female Voice Font (Crystal)*” option from the *TTS Install splash screen* to launch the installer. At least one Voice Font must be installed. Additional fonts are available, but are not included on the CD.
2. Click the “*Next*” button on each subsequent wizard page to accept defaults, then press the “*Finish*” button of the final page.

Result

The selected voice font(s) will be available for use. The voice font installation can be verified by launching the properties dialog from the Windows Control Panel and selecting the “*Text To Speech*” tab. The full name for the “*Mike*” font is “*ATT DTNV1.4 Mike*”. This name should be listed in the “*Voice selection*” combo box. The “*Voice selection*” combo box may be used for testing the voice using the PC’s audio device (sound card and speaker, IF the PC has audio hardware installed. It is not necessary for the PC to have audio hardware for TTS to work; and it is not possible to use the Dialogic card for testing through the Control Panel). Any settings you make to test voice in this way (default voice font, speech rate) will not affect the *TelAlert* TTS voice settings.

The voice font can be played on the PC’s audio device (sound card) by pressing the “*Preview Voice*” button. The “*Audio Output...*” can be used to select a specific output device for testing; this button has no effect when using *TelAlert* is running.

Note: This dialog will not function properly while *TelAlert* is started with TTS ports enabled because *TelAlert* will take control of the PC’s voice resources.

Configuring a Custom TTS Dictionary

In general, the AT&T NaturalVoices voice font data contains extremely detailed rules for pronouncing words; that’s why the “8K” voice font files average 190MB, and the “16K” files average 600MB. Therefore, customization of pronunciation is usually not necessary. However, your installation may have a few words (proper names for people or equipment locations, or acronyms such as the name of your company) whose pronunciation you wish to “fine-tune”. This section provides instructions for setting up a dictionary that is used to customize such pronunciation. A summary of the steps is as follows:

1. Change the configuration file to enable a dictionary. Do this only once.
2. Create an empty formatted dictionary file. Do this only once.
3. Edit the dictionary to customize pronunciations. Do this as often as needed.

STEP 1: Change the Configuration File to Enable a Dictionary

The *AT&T Natural Voices Runtime Software* uses a configuration file named “*tts.cfg*” to store TTS software configuration data. This data includes both properties associated with specific voice fonts, and properties that apply to all fonts for a specific “language dialect”, such as “English-USA”. This configuration file can be found in the following default location:

```
x:\Program Files\ATTNaturalVoices\TTS1.4\Desktop\data\
```

This step describes how to make a one-time change of the AT&T configuration file to specify that one or more “user” exception dictionaries will be used (a separate dictionary is required for each language dialect). This configuration file change can be done via a TelAlert-provided program, or by manual editing of the `tts.cfg` file.

Note: Whether you use `AddWinDict.exe` or manually edit `tts.cfg`, do this step only once, prior to the first time you run the `WinDictEdit.exe` program.

To change the configuration file using the TelAlert-provided, do the following:

1. Locate the `AddWinDict.exe` program in the TELALERTBIN directory.
2. Launch `AddWinDict.exe` and select the language dialect that you want to associate with the custom dictionary.
3. Do one of the following:
 - If a dictionary is already assigned for the selected language dialect, the current dictionary path and name will appear in the edit box labeled *Dictionary name*. In this case, you can exit `AddWinDict.exe` without needing to make any changes.
 - If no dictionary is already assigned, press the ‘*Set default*’ button to set the *Dictionary path\name* to a value that is appropriate for the selected language (For example: `en_us\tts_en_us.dict`. Notice that this path is RELATIVE to the path for the location of the `tts.cfg` file).
4. Press the ‘*Apply*’ button to save the dictionary name, and then exit `AddWinDict` using the red “X” icon in the upper right corner; or press the ‘*OK*’ button to simultaneously save the name and exit the application.

Instead of using the `AddWinDict.exe` program, the `tts.cfg` file can optionally be manually edited to enable custom dictionaries. The following is an example of the `tts.cfg` file contents in a system that has the *Mike8* voice font installed.

```
Language                en_us
LanguageLocale          en_us
LanguageDictionary      en_us\en_us.dict att_darpabet_english
LanguageTextAnalysis    en_us\fe_en_us.dll

UserDictionary          en_us\tts_en_us.dict

Voice                   mike_8k
VoiceName               Mike
VoiceData               en_us\mike\mike.dat
VoiceAudio              en_us\mike\dbg711uc archive
VoiceLanguage           en_us
VoiceDefault            true
```

The “**UserDictionary**” definition in the above example needs to be inserted into the file to enable the custom dictionary. Use any text editor (such as Windows Notepad) to add this line to the file.

STEP 2: Create an Empty Formatted Dictionary File

This procedure describes how to create a specially-formatted disk exception dictionary file for each language. To do so, you use the *AT&T Natural Voices Dictionary Editor* (*WinDictEdit.exe*) that is installed by *AT&T Natural Voices Runtime Software* installer. The following procedure describes how to create an empty dictionary file:

Note: TelAlert TTS ports must not be active while using the “*Dictionary Editor*” program (either stop TelAlert or Deactivate TTS ports while using the program).

1. Launch the “*Dictionary Editor*” program from the *AT&T Natural Voices 1.4/Desktop* sub-menu of the Windows Start menu. If your Start menu does not have an entry for this program, locate the *x:\Program Files\ATTNaturalVoices\TTS1.4\Desktop\bin* directory, and run “*WinDictEdit.exe*” located in that directory.
2. Select the “Save” option from the File menu. This will display the “Save As” dialog.
3. Use the “Save in” combo box to navigate to the language specific subdirectory associated with the dictionary (example: “en_us”).
4. Type the dictionary name in the “*File name*” edit box. This is the name that was specified in the *Dictionary name* edit box of the *AddWinDict* application, or that you manually added when editing *tts.cfg* (example: *tts_en_us.dict*)
5. Press the Save button to create the dictionary file.

STEP 3: Edit the Dictionary to Customize Pronunciations

As often as needed, edit the dictionary to customize pronunciations. This is also done by using the “*Dictionary Editor*” program (“*WinDictEdit.exe*”) that is installed by the *AT&T Natural Voices Runtime Software* installer.

The “*Dictionary Editor’s*” help system provides instructions for changing the pronunciation of a word. The help file is named *wdehelp.chm* and is located in the same directory as *WinDictEdit.exe*.