TOSHIBA

Stratagy ES Unified Messaging
and Text-to-Speech Feature Groups

The Stratagy Enterprise Server (ES) now offers Unified Messaging (UM) and Text-to-Speech (TTS) feature groups. The UM feature enables users to retrieve their voice and fax messages, along with their e-mail messages from within an e-mail client inbox screen. The TTS feature enables users to hear their e-mail messages or selected information from a company's computer database read back to them.

Unified Messaging

The Unified Messaging (UM) Feature Group requires the Stratagy ES to communicate with multiple client computers simultaneously, so that voice and fax messages can be delivered from the Stratagy ES to a user's desktop. For this reason, Toshiba strongly recommends Stratagy ES systems that will be equipped with UM be ordered with Windows NT® Server. (See Stratagy ES Software Platform Configurations on page 8 of the *Stratagy ES General Description* for details.)

Note   Windows NT Workstation only allows up to a maximum of 10 client connections.

If the UM feature is to be installed on an existing Stratagy ES Windows NT Workstation, the system should be upgraded to a Windows NT Server. Toshiba offers an upgrade kit (SES-NTSVR-UP-KIT) that includes the Windows NT Server software package and a hard drive with NT Server preloaded on it.

To enable the UM feature, the following must be present on the Stratagy ES:

♦   Windows NT Server operating system

♦   MVP Application Suite

♦   Fax Server Feature Group and GammaLink Fax boards (for the fax element of UM). See Chapter 7 of the *Stratagy ES I&M Manual* for details.

To enable the UM feature, the following must be present on the Client PC:

♦   Stratagy ES Outlook Integration software (for Microsoft® Outlook® users)

♦   Toshiba Audio CODEC driver

In addition, the following must be electronically activated by Toshiba:

♦   The Unified Messaging Feature Group (SES-FG-UM). The UM Feature Group includes five free UM client seats.

♦   Additional UM client seats offered in increments of 25 or 50 (SES-UM-25-SEATS or SES-UM-50-SEATS). Each seat allows Unified Messaging privileges for one mailbox. These seats cannot be shared, which means each seat is permanently assigned to a mailbox. So if 25 users want UM privileges, 25 seats will be required.

Feature Description

When installed, the Stratagy ES exists as a peer Simple Message Transport Protocol (SMTP) server on a network along with the e-mail server. When new voice and fax messages arrive, the Stratagy ES generates an e-mail message that is sent to the e-mail server using the SMTP standard. The actual content of the message is dependent on the UM integration scheme that is in use (see "Microsoft Outlook Integration" on page 3 and "Internet Protocol Integration" on page 4 for details). When the user logs in to his/her e-mail account, the Stratagy ES voice and/or fax messages display in that e-mail inbox.

To communicate with an e-mail server, the Stratagy ES uses SMTP/POP3 Internet standards. By integrating solely on the principles of these standards, the Stratagy ES can incorporate a UM solution with any e-mail server that supports these same standards. In this day and age of the Internet, most e-mail server products, from Microsoft Exchange to inexpensive shareware software, is compliant to these Internet standards.

Voice File Compression

Stratagy ES voice messages are transported to the e-mail client as WAV files. A WAV file consists of a voice file with a header attachment that defines the voice compression algorithm that was used to record the voice file.

Stratagy ES Unified Messaging sends voice files with the same low frequency compression algorithm that is used to store voice messages on the system's hard drive. By default this compression algorithm is Adaptive Delta Pulse Code Modulation (ADPCM) 32K or 4 bit x 8 kilohertz.

Using a low compression algorithm means that the bandwidth of the network should not be adversely affected by the periodic transport of these WAV files. For example, a voice message lasting one minute, which is double the time of an average message, creates a voice file just under 250KB.

Components

To program the Stratagy ES for the Unified Messaging Feature Group, you must configure two components — Server and Client.

Server Components

In the Stratagy ES, you must configure a mailbox by:

♦ Designating the e-mail server location, as well as that mailbox user's account information in the e-mail server

♦ Setting a few UM System Parameters

Note Keep in mind, that every mailbox within Stratagy ES can be configured to communicate with a different e-mail server.

Client Components

The Stratagy ES provides two UM client solutions, called Microsoft Outlook Integration and Internet Protocol (IP) Integration. These two solutions depend on the e-mail client that a customer is using.

Microsoft Outlook Integration

The Stratagy ES has a proprietary integration designed to work with Microsoft Outlook. With this proprietary integration, the Stratagy ES can provide custom functionality, while remaining within the Internet standards.

Note Though there is an Outlook integration for Stratagy ES UM, this does not imply that Microsoft Exchange must be the e-mail server. Stratagy ES works with any standards compliant e-mail server. In fact, Outlook itself works with any standards compliant e-mail server.

Here's how it works. When the Stratagy ES receives a voice or fax message, it sends a reference (header information) of that message to the e-mail server, not the entire message containing the voice file. This method cuts down on network traffic and e-mail server storage. When the user logs on to his/her e-mail account, the referenced message is listed in the Inbox. When the user selects a Stratagy ES message, the proprietary integration, goes directly to the Stratagy ES and requests the message be downloaded to the client, bypassing the e-mail server. Once the message has been successfully downloaded, Outlook launches the Stratagy ES proprietary Message Window or Form.

Microsoft Outlook presents messages in screen images called Forms. Microsoft Outlook enables developers to create custom Forms for specific types of messages. Toshiba uses this ability to create a proprietary Form that launches exclusively when Stratagy ES voice and fax messages are selected. This Form (see example below) contains feature buttons that enable a user to control the playback of voice messages and the launching of fax viewer programs. The proprietary Form can be configured to play the voice messages either over the client computer's multimedia speakers, or for more privacy, the Stratagy ES can call a predefined telephone number, so that messages can be played over the telephone's handset.
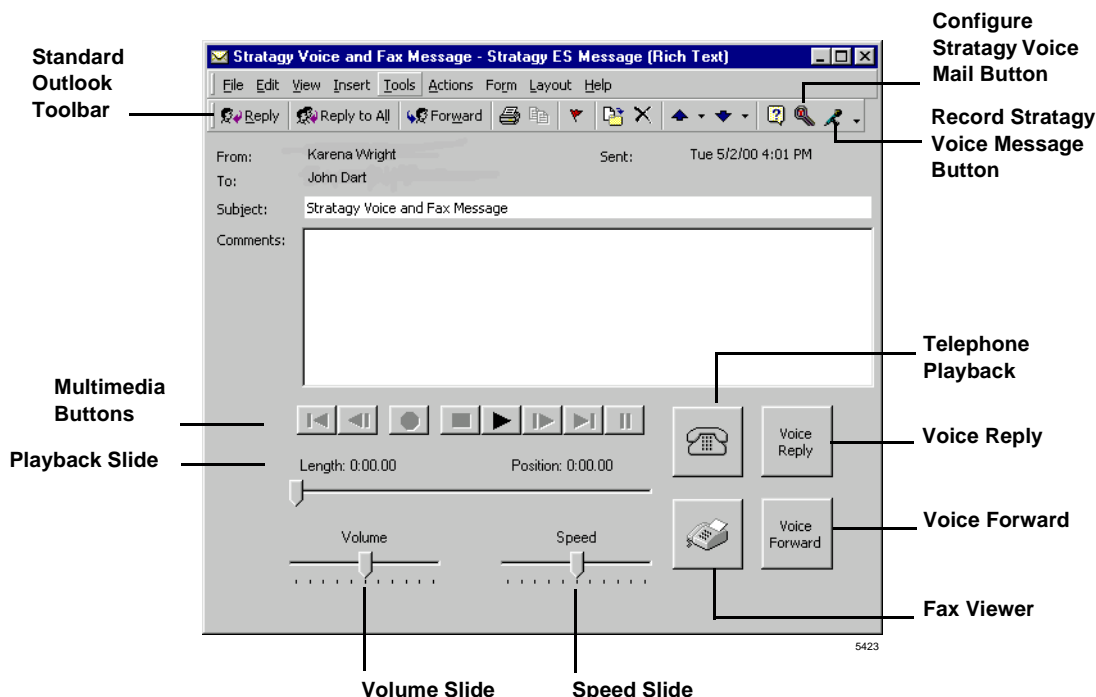
When a fax is included in the selected Stratagy ES message, the proprietary Form displays a fax button. When this button is selected, the proprietary Form launches any application that has been defined on the client computer to view files in the standard Tagged Image File Format (TIFF).

Important! *Stratagy ES proprietary Microsoft Outlook integration is only supported on Windows® 98 or higher, and Outlook 98 and Outlook 2000.*

Due to the nature of the communication between the Stratagy ES and the Outlook Client, this solution may not be workable for some remote users. To encompass security concerns, remote users will need to be set up in a Virtual Private Network (VPN). If this type of connection is not available, remote user's mailboxes should be configured for Internet Protocol (IP) integration. The IP Integration should also be selected for users retrieving e-mail via Microsoft's Outlook Web Access.

Internet Protocol Integration

In addition to the Microsoft Outlook integration, the Stratagy ES offers UM features to any e-mail client that supports the Internet standards (e.g. Eudora Pro™, Netscape Messenger). This is called Internet Protocol Integration.

Since there is a wide range of Internet compliant e-mail clients, not all of the proprietary integration features can be used. Though not as proficient as the Microsoft Outlook Integration, the Internet Protocol Integration provides limited UM capabilities for users who wish to use an e-mail client other than Microsoft Outlook.

Some of the more substantial differences between the Microsoft Outlook and Internet Protocol integrations are:

Outlook Integration	Internet Protocol Integration
Only a reference of a message is sent to the e-mail server by the Stratagy ES. The actual message is sent directly to the client PC.	The entire message is sent to the e-mail server by the Stratagy ES.
Message selection launches Stratagy ES proprietary Form.	Message selection launches the e-mail client's standard message screen with an audio (voice message) and/or image (fax) file attachment.
Provides embedded control keys for voice message playback.	A separate multimedia program must be launched to play the voice message.
Messages can optionally be played over a telephone.	Messages can only be played over multimedia speakers.
Provides an additional Address Book for Outlook that synchronizes with Stratagy ES mailbox directory.	Individual user must manually add addresses to an Address Book.
Automatically loads audio driver to enable Playback of 32K ADPCM WAV files.	Audio driver must be manually installed.

Installation

See Chapter 9 – Unified Messaging in the *Stratagy ES I&M Manual, Version C* (SES-MA-IN/MT-VC).

Text-to-Speech (TTS)

TTS is the term for converting text to computer-generated speech. It enables selected information from a computer database or e-mail messages to be read back to users.

TTS for MVP – TTS/Email Feature Group

The TTS/Email Feature Group enables e-mail messages to be read back to users via the Telephone User Interface (TUI). The TTS/Email Feature Group requires the Stratagy ES to be equipped with MVP and the UM Feature Group.

With the TTS/Email Feature Group, individual mailbox users that have e-mail addresses can have their e-mail messages read to them. Each mailbox can be configured independently to query any e-mail service compatible with SMTP/POP3 for messages. If messages are present, Stratagy ES announces how many e-mail messages there are and if any of them contain attachments.

This gives users that do not have immediate access to their local network, the Internet, or even a computer, the ability to check for important e-mail messages from anywhere in the world. All that is required is a telephone.

MVP TTS/Email Configuration

MVP TTS/Email Feature Group is only supported as a host-based application. The host-based TTS/Email uses the native CPU of the Stratagy ES to provide the processing power required, no additional speech-related hardware is required. A maximum of four channels of TTS can be invoked simultaneously when using the minimum processor speeds recommended, leaving enough CPU capacity for normal Stratagy ES functionality.

Important!

♦ *The Stratagy ES TTS/Email requires the D41ESC (part # SES-DL-P4-SC) voice board to provide echo cancellation. The other Dialogic voice boards available for the Stratagy ES do not provide echo cancelling and cannot be used.*

♦ *Since the resident processor within the computer provides the processing power for TTS, Toshiba suggests that when adding other processor intensive applications (such as ASR AA) you use the enhanced 400 MHz CPU platform (SES-MVP-SVR-RAC).*

The following requirements apply for TTS with the MVP Application Suite:

♦ the Stratagy Activation Module (SAM) must be activated for the feature by placing an order for the TTS Feature Group (part number SES-FG-TTS-EMH). Includes first two channels.

♦ D/41ESC voice board from TSD (part number SES-DL-P4-SC)

♦ Dialogic's TextTalk™ conversion software

MVP Hardware/Software Requirements

The following requirements apply for TTS with the MVP Application Suite:

♦ the Stratagy Activation Module (SAM) must be activated for the feature by placing an order for the TTS Feature Group (part number SES-FG-TTS-EMH). Includes first two channels.

♦ D/41ESC voice board from TSD (part number SES-DL-P4-SC)

♦ Dialogic's TextTalk™ software

TTS for IVR Applications

TTS for the IVR Application Suite enables your Toshiba IVR application to "read" selected information from a computer database to the IVR users.

For example, XYZ Company has an IVR system with several IVR applications. For it's order entry application, an XYZ customer calls the Order Entry IVR system, enters his/her account and purchase order number, any of several thousand possible part numbers and quantities. XYZ's IVR system, equipped with TTS confirms the Customer Name and Address plus the actual part descriptions. No one has to record the customer names, addresses, or part descriptions. The IVR system simply "reads" the information to the caller.

Sample IVR applications:

♦ Database look up and retrieval

♦ Helpdesk and technical support lines

♦ Telephony-based catalog sales

♦ Real estate listings

♦ Electronic bulletin boards/Web pages

♦ Telemarketing/call center

♦ Notifications systems

♦ On-line data entry/query

IVR TTS Configurations

There are two TTS configurations – host-based and Antares-based. Though the host-based method may be more cost effective (the Antares board is not required), consideration must be given to how TTS will impact the processing power of the Stratagy ES as it performs other voice processing functions.

Antares-based TTS can not share the same Antares card as Antares-based ASR. ASR and TTS can alternate as resources, but can not be used at the exact same time on the same voice port.

Important!

♦ *Only the IVR basic system 400 MHz processor can be used for Antares-based configurations.*

♦ *IVR systems using the host or Antares-based ASR or TTS feature group require an additional 128MB RAM.*

Host (or CPU)-based TTS

Host-based TTS uses the Stratagy ES's native CPU to provide the processing power required, no additional speech-related hardware is required. A maximum of four channels of host-based TTS can be invoked simultaneously when using the minimum processor speeds recommended, leaving enough CPU capacity to run your application. The Stratagy ES host-based TTS requires the D41ESC voice board.

Note   Host-based TTS is not configurable with the ProLine/2V, Dialog/4, or D/160SC-LS voice boards.

The following requirements apply for host-based TTS with the IVR Application Suite:

♦ TTS feature group software plus two-port license (part number SES-FG-TTS-IVH)

♦ D/41ESC voice board from TSD (part number SES-DL-P4-SC)

♦ Dialogic's TextTalk™ TTS Enablement Package

♦ An additional 128MB system memory

Antares-based TTS

The Antares-based TTS requires either a Dialogic D/41ESC or D/160SC-LS voice board and an Antares board. With Antares-based TTS, the processors located on the Dialogic Antares resource board, instead of the native CPU, provide the power. This configuration provides up to 12 channels of simultaneous TTS per each installed Antares board.

The following requirements apply for Antares-based TTS with the IVR Application Suite:

♦ TTS Feature Group software (SES-FG-TTS-IVR)

♦ Antares resource board from TSD (part number SES-ANT-2000/50)

♦ D/160SC-LS or D/41ESC voice board (part number SG-DL-P16 or SES-DL-P4-SC)

♦ Dialogic's TruVoice™ Text-to-Speech Kit for Antares

♦ Additional 128MB system memory

♦ IVR Basic System with 400 MHz processor (SES-IVR-SVR-UPG or SES-IVR-SVR-RAC)

IVR Hardware/Software Requirements

The following requirements apply for TTS with the IVR Application Suite:

♦ TTS feature group software plus two-port license (part number SES-FG-TTS-IVH)

♦ D/41ESC voice board from TSD (part number SES-DL-P4-SC)

♦ Dialogic's TextTalk™ TTS Enablement Package

Note   The host-based TTS provides up to four channels of TTS resources.

♦ Dialogic's TruVoice™ Text-to-Speech Kit for Antares

Installation

See Chapter 10 – Text-to-Speech in the *Stratagy ES I&M Manual, Version C* (SES-MA-IN/MT-VC).

Hardware Update

All Stratagy ES systems shipped after December 1, 2000, are equipped with 15GB hard drives that have been formatted and offer a maximum voice storage capacity of 900 hours. Available voice and/or data application storage is dependent upon hard drive size, installed software to support some Feature Groups (e.g., Fax Server, ASR) and customer applications.

The Stratagy ES is also available as a rack-mountable chassis (part numbers SES-MVP-SVR-RAC and SES-IVR-SVR-RAC) equipped with a Pentium II, 400 MHz CPU, three PCI slots and six ISA slots. This configuration is recommended when your system will be supporting multiple CPU-hosted features, i.e., ASR and TTS.

The Stratagy ES IVR Model A system can be upgraded with a Pentium II, 400 MHz SBC (part number SES-IVR-SVR-UPG) for use with Antares-based ASR or TTS configurations.

Upgrade Stratagy ES Software

With this upgrade for Release 2 software, labeled *Production Release 022301*, all Stratagy ES systems (both MVP and IVR platform applications) can be configured for UM and TTS Feature Groups.

To upgrade existing Stratagy ES systems with these new features see the installation instructions found in Chapter 15–Maintenance and Upgrades in the *Stratagy ES I&M Manual*. The installation includes loading the Software Component Update 26 (or higher) found on the Stratagy ES Software CD-ROM.

New Stratagy ES Software Release Identification

Beginning with this new release, all Stratagy ES Software disks will be labelled with the major release version number plus a six-digit number corresponding to the date Toshiba compiled the software. For example, this software release is labeled "Release 2 - Production Release 022301," indicating a compilation date of February 23, 2001.

This numbering scheme will enable technicians to quickly identify the age of any particular Stratagy ES software disk. Toshiba will also use this number to track the different versions of system and feature software contained on the disk. Any disk dated later than 022301 should be considered a newer version of Stratagy ES software.

Documentation

Note   Some documents listed here may appear in different versions on the CD-ROM, FYI, or in print. To find the most current version, check the version/date in the Publication Information on the back of the document's title page.

♦   Stratagy Enterprise Server User Guide, Version B (SES-UG-SYSR2-VB)

♦   Stratagy Enterprise Server Quick Reference Guide, Version B (SES-QR-SYSR2-VB)

♦   Stratagy Enterprise Server Installation and Maintenance Manual, Version C (SES-MA-IN/MT-VC)

♦   Stratagy Enterprise Server System Administrator Guide, Version A (SES-AG-ADMR2-VA)

♦   Stratagy Enterprise Server Library CD-ROM, Version C (SES-CD-LIBRY-VC)

For *authorized users*, Internet site FYI (http://fyi.tsd.toshiba.com) contains all current Stratagy ES documentation and enables you to view, print, and download current publications.

Stratagy ES Advisor CD-ROM

A new release of the end-user tutorial called Stratagy ES Advisor is available on CD-ROM and is packaged with every Stratagy ES shipped. The tutorial can be used as a learning tool for the new user or as a refresher course for existing Stratagy ES users.

The Stratagy ES Advisor program covers general topics—such as play messages, send messages, etc.—that are applicable to all models of Stratagy ES systems. The tutorial is separated into two sections: the Telephone User Interface (TUI) and Unified Messaging. Both presentations interact with the viewer in order to provide a better understanding of how the Stratagy ES works.

Additional copies of Stratagy ES Advisor can be purchased from your Dealer Sales Representative.