

Seven⁷

General Description

 **The Speech Enabled Auto Attendant
Solution from Active Voice**

ACTIVE VOICE

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Seven General Description

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PREFACE

Seven is a speech-enabled auto-attendant system that incorporates the latest innovations in speech technology. It provides a personalized front-end speech-based interface to greet and route callers, as well as manage internal calls from employee to employee or department. Unlike touch-tone driven menus, Seven easily handles complex menu options without forcing callers to listen to a litany of choices, and virtually eliminates dial-by-name and zero-out frustration.

This General Description presents Seven as an important response to enterprises' mission-critical communication needs and as an application that rapidly reduces costs and generates enhanced returns on telephony infrastructure investments.

ABOUT ACTIVE VOICE

Active Voice is a global provider of unified messaging, computer telephony, and voice messaging solutions with over 185,000 systems sold in more than 60 countries. Our innovative solutions allow people to communicate on the most convenient and efficient way possible. Our complete line of reliable communications solutions can grow with an organization to meet its changing needs. Our products fit into any business environment—from small companies with as few as 10 people, to large enterprises with thousands of employees.

By developing sophisticated technology that is easy to use and can be customized to fit any work environment, Active Voice delivers solutions that meet the needs of its customers. Unlike other proprietary systems that work with specific telephone systems, our products integrate with a variety of popular telephone systems, and are based on open industry standards.

Active Voice products are sold and supported through a global network of independent telecommunications dealers, telephone equipment manufacturers, and computer resellers. Our solutions are deployed in a variety of industries, including government, manufacturing, healthcare, hospitality, education and financial services. Technical and sales support for Active Voice products are provided from its world headquarters in Seattle, Washington, and from local offices in Australia and the Netherlands. Experienced sales managers in the United States and Canada provide regional support from Quebec to California, and from Florida to British Columbia.

At Active Voice, we understand our customers and what they want from a communications solution. That's why we've always designed products that work the way they do. Active Voice products are easy to use, flexible, and customizable so that people can work in the way that makes the most sense for them and their organization.

SYSTEM OVERVIEW

The Seven product is a Microsoft® Windows® Server™ 2003-based Automatic Speech Recognition (ASR) system that acts as a virtual telephone operator, providing callers with anytime, anywhere access to company directory information. Without having to call the receptionist, look up numbers in directories or check e-mail contact lists, callers can simply dial Seven to be connected to a person whose number is available in the directory database. Seven asks callers to say the name of the person they wish to reach, retrieves the name from a database, and then connects them to the appropriate extension.

Seven uses leading-edge OpenSpeech Recognizer™ speech recognition software and the high-quality RealSpeak™ text-to-speech engine from Nuance® for accurate name confirmation. Seven integrates seamlessly with existing digital or analog telephony infrastructures, as well as with IP networks and Centrex environments. Seven is designed to provide complete redundancy to ensure crucial business continuity. Seven supports large corporate directories and an unparalleled phonetic dictionary that contains more than one million proper nouns. This proprietary phonetic dictionary has been shown to tremendously increase performance, and significantly decrease post-installation tuning. Vital to deploying this technology to front-end your organization, advanced natural language processing accommodates the use of natural language and improves system performance.

Built upon the Windows Server 2003 platform, Seven leverages the power, reliability and scalability of the Microsoft Windows 2003 operating system. By using the Windows-based system administration console, Seven can be administered from any Windows PC on your LAN. This console is intuitively designed and is accessible via an IP connection, making system administrators more efficient when managing the Seven system.

Fully scalable, Seven can be equipped with 2 to 64 ports, allowing highly efficient speech-enabled call routing for small, medium and large enterprises. Directory entries can scale from 100 to over 100,000 entries (a maximum of 30,000 in a single menu).

Seven is available as a turnkey package, which comes completely assembled and tested with all of the software installed on a choice of different PC platforms. The optional software packages and complete documentation are included on the CD-ROM. For example, if you want to add the SpeechContacts™ module, simply purchase an upgrade code from Active Voice and the license can be upgraded on-site. (Please note that adding additional RAM may be necessary.)

COMPATIBILITY

The Seven family of products stands out with its capacity to integrate with existing equipment (including KSUs and Centrex environments), thereby protecting your infrastructure investments and improving the ROI. The following table clearly demonstrates Seven's unmatched compatibility with today's preferred telephony switches. Digital integration, most notably, offers great flexibility and makes the most out of available resources by allowing call routing via DNIS and CLID.

Manufacturer	Analog	Digital	IP	ISDN PRI
Nortel Networks	✓	✓ (Meridian 1) (Norstar)		✓ (SL100, DMS 100, and DMS 250)
Avaya	✓	✓ (Definity G3)		5ESS
Mitel	✓	✓ (SX200 and SX2000)		
NEC	✓	✓ (NEAX 2000) (NEAX 2400)		
Cisco			✓ (TAPI)	
Alcatel	✓			
Most others	✓			

Since all ports can be made available to a specific application, there is no need to dedicate them to a single use.

Low priority applications can be linked to specific ports and high priority applications can run using all available ports.

Because ports may be shared between applications, you can transparently share a single system with a subsidiary site.

BENEFITS

Increase Productivity

- **From the desktop.** The internal directory service has been made redundant so that callers can simply dial Seven and be transferred to the appropriate extension. Users no longer need to search for directory information from the telephone or to browse the Intranet for a colleague's name and number.
- **From the home office.** For home workers who might have a slow dial-up connection, to the office or no company directory access from the telephone, Seven is ideal. Seven can easily connect a user working from home to any colleague in the company directory.
- **From a mobile telephone.** Seven is a perfect fit for "mobile" people who are away from the office. Between hallways and office corridors where no internal directory service or Intranet is available, Seven will connect people with ease and accuracy. Callers on the road are easily transferred without any additional manual input. In addition, employees can redirect their calls to desired destinations using simple voice commands
- **No more DTMF frustration.** Seven eliminates callers' frustration with DTMF attendants, reduces "zeroing-out" and decreases the operator's call load.
- **Secure access to telephony resources.** The Seven system offers increased security and confidentiality; state-of-the-art voice biometrics technology provides secure speech-dialing and access to telephony resources.
- **Speech access to personal contacts.** Users can set up personal directories (via a Web browser) using existing Microsoft Outlook® or other personal contacts.
- **Multilingual capabilities.** In multilingual environments, Seven provides service in the caller's preferred language.

Lower Overall Costs

- **Robust PBX integration.** Seven is compatible with today's preferred analog, digital, ISDN, and IP switches. Depending on the phone system and the integration method, Seven can provide dynamic call routing to offer personalized service and route calls directly to the appropriate menu based on the dialed number (DNIS) or the calling line identification (CLID).
- **Eliminate costs of phone directories.** Seven can benefit organizations by eliminating the need for costly directory services because it gives every caller easy access to the person they need to reach. Businesses no longer need to spend valuable resources on updating and publishing lengthy company directories when using Seven. The names and telephone numbers of an organization's employees are stored within a database, which can be imported from and regularly synchronized with a standard CSV file or LDAP-compatible directory, such as Microsoft Exchange®.
- **Utilize valuable operator time.** Employees often rely on the telephone operator to transfer their calls. Internal calls increase the workload and disrupt the operator's real job of helping

customers. The system diverts internal and inbound calls away from live operators, who are then available for more value-added tasks.

- **Fewer DID lines required.** Seven reduces the need for (and the cost of) DID lines since calls are routed automatically.
- **Calls answered 24/7, 365 days a year.** Providing company information is a critical task; callers get answers to frequently asked questions, such as directions and office hours, without taking up valuable operator time through the use of audiotext boxes.

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SEVEN KEY FEATURES

Seven offers many powerful features to facilitate the ease of transferring to an internal or external number using the caller's own voice. At the core of Seven are the following tried and tested features that have made Active Voice a global provider of speech telephony solutions.

- **High-performance ASR Technology** Seven utilizes Nuance's OpenSpeech Recognizer, a voice recognition software application that provides exceptional results, especially with large directories (over 7500 entries).
- **Phone Directory** The Seven phone directory is capable of supporting a large directory of entries typically associated with Fortune 1000 organizations and large institutions. It contains all the entries in your application. There are three different types of entries: menu, transfer, and audiotext. A single transfer entry can contain up to eight phone numbers: office, alternate office, voice mail, home, cell phone, alternate cell phone, pager, and temporary. A single entry can also have menu, transfer, and audiotext behaviors defined concurrently in the phone directory. It can therefore belong to more than one menu with different behaviors.
- **Dictionary and Grammars** The Seven dictionary is a database containing the different pronunciations of nearly one million words. The system recognizes all of these words regardless of how they are pronounced. Words that are specific to your organization constitute your *site dictionary*. The Seven grammar determines which words callers can say in a given context and how those words can be combined to produce valid utterances. This proprietary dictionary ensures optimal performance in today's growing multilingual, multi-accented environments, increasing the accuracy of the interaction, and making the system virtually maintenance-free.
- **Database Validation** Seven supports the ability to check the directory entries against the dictionary to identify different types of issues that might be present, such as: words missing, invalid translations, compound last names, multiple first names, and homophones. The issues are identified in a validation report, which the system administrator can use to resolve prior to going live instead of relying on feedback from the users.
- **Multi-level Menu Structure** Seven offers an unlimited number of menus and submenus that are easily managed by means of an intuitive graphical user interface. Callers can then quickly and easily "speech navigate" through menus to more efficiently reach their destination. For example, a submenu called *Cell Phones* can be created in which only a list of employee's cell phones is stored.
- **Standard Text-to-Speech (TTS)** Seven uses standard text-to-speech to generate temporary digital audio files for each new phone directory entry, system prompts, greetings, and audio text that have not been recorded by a human voice. Seven also offers the optional RealSpeak text-to-speech module for a more natural sounding voice.
- **Speaker Independence** Seven does not need to be trained to the speech patterns of callers. It recognizes virtually any accent or voice tone.

- **Continuous Speech Recognition** Years of research lets callers speak as they would in a normal conversation when prompted by the Seven system, elevating the caller experience, and system performance. This ease of use and friendly interaction with the system results in increased caller satisfaction and immediate adoption and acceptance of the system. Seven recognizes utterances spoken naturally, whether they consist of complete sentences or keywords. For example:

Seven: Welcome to XYZ Corporation. Which person or service would you like to reach?

Caller: I would like to speak to John Smith please.
(or simply: "John Smith")

Seven: Thank you. Transferring your call to John Smith.

- **Barge-in** This feature allows experienced callers to save time by speaking over Seven greetings and prompts. For example:

Seven: Welcome to XYZ Corporation. Which person or ser . . .

Caller: John Smith please.

Seven: Thank you. Transferring your call to John Smith.

- **Noise and "Out of Vocabulary" (OOV) Rejection** Seven filters all received utterances in order to react appropriately. When the system "hears" something that is not part of its "vocabulary," it simply asks the caller to repeat the request rather than wasting time proposing names.
- **Dynamic Call Routing** Available on certain PBXs only, this feature allows Seven to offer personalized service and route calls directly to the appropriate menu based on the dialed number (DNIS) or the calling line identification (CLID). For example, different entry points could be created for:
 - West Coast, Midwest and New England customers
 - PC vs. Mac users
 - Spanish/English-speaking people
 - Employees vs. external callers

It is also possible to create a special entry point for callers located in noisy environments (with the barge-in function disabled) and another one for an organization's toll-free number. Dynamic call routing is available on all digital PBXs; it is also available with certain analog systems, but only based on the CLID.

- **DTMF Compatibility** Sevens routes calls on voice command, but it can also do so on DTMF command. Callers can therefore make their request verbally or dial the extension of the person they want to reach.
- **Recording Tools** Seven has two recording tools. One enables employees to record their names using a telephone. The other, reserved for system administrators with access to the administration console, makes it possible to record and import entry names, greetings, prompts, and other messages.

- **Disambiguation Procedure and Homophone Resolution** Seven can apply three different methods to distinguish requests corresponding to several people:

- With the **Operator** method, each time a homophone is requested, Seven plays a message saying that there is more than one person with that name, then transfers the call to the operator.
- With the **Name** method, the recording associated with each homophone entry must contain a distinctive element in addition the person's name. When a homophone is requested, the system suggests one of the homophones using the recording. If the caller rejects the first suggestion, Seven suggests the second homophone. The following is a sample scenario:

Seven: Welcome to XYZ. Which person or . . .
Caller: John Smith
Seven: Did you say << John Smith>>?
Caller: Yes!
Seven: There are several people with that name. Do you wish to talk to *John Smith, sales manager?*
Caller: Yes!
Seven: Thank you! Transferring your call.

- With the **Department** method, the department to which each homophone employee belongs should be specified in their respective entries. When a homophone is created, Seven suggests one of the homophones using the requested name plus that person's department. The following is a sample scenario:

Seven: Welcome to XYZ. Which person or . . .
Caller: Tony Campbell!
Seven: Did you say << Tony Campbell >>?
Caller: Yes!
Seven: There are several people with that name. Do you wish to talk to *Tony Campbell, Finance Department?*
Caller: Yes!
Seven: Thank you! Transferring your call.

- **Call ReDirect™** Using voice commands, company employees can forward their calls to any of eight selected destination numbers—mobile phones, pagers, home phones—specified in their directory entry. For example:

Seven: Welcome to XYZ Corporation. Which person or ser . . .
Caller: Call ReDirect.
Seven: Please identify yourself.
Caller: My name is Sarah Essary.
Seven: Call ReDirect for Sarah Essary. Where do you want your calls to be redirected?
Caller: To my cell phone.
Seven: Thank you. From now on, unless you change it, your calls will be directed to your cell phone.

- **Personal Administration Mode (PAM)** Accessible by telephone, the PAM allows employees to:
 - Record their names
 - Create their voiceprints
 - Modify their PINs
 - Redirect their calls to one of their alternate phone numbers

- **Self-Service Information** Using text-to-speech or a recorded voice, audio text information can be created to answer frequently asked questions about office hours, directions, current promotions and so on, 24 hours a day, 7 days a week. This allows enterprise-specific messages to be easily and efficiently disseminated via voice navigation, alleviating operators from this repetitive task.

- **Multiple Operation Schedules** Seven can vary its messages and transfer calls to different locations, depending on the date and time. It can even play special messages or transfer calls to different extensions during holidays. The operation schedule and holidays are defined in the schedule editor.

- **Alternate Names** Seven allows the system administrator to define alternate names for users within each user record individually. In addition, Seven supports the ability to add alternate names to the system's predefined list of alternate names for uniformity throughout the database. This allows Seven to ask if the system administrator wants to add a predefined alternate name to the master list. For example, if a new user is created with the name Robert Brown, Seven will ask the system administrator via dialog box, "Do you want to add the alternate name Bob to the user's list?" Additional boxes will appear for each alternate name that applies to that name. This speeds the process of configuring the database.

- **Abbreviations** Seven provides a utility that allows the system administrator to define how abbreviations should be recognized. For example, the system administrator can define the abbreviation "ER" to be recognized as Emergency Room, Department of Emergency Medicine, and Emergency Department. If a caller states any one of those choices, they will be transferred to the "ER" extension.

- **Password Protection** Seven supports the ability to password protect system menus from unauthorized use. Standard protection consists of a DTMF security code that can be enabled. Enhanced voice biometric protection can be enabled using the optional SpeechAuthenticator™ module.

- **"Never Propose Name" Feature** Seven supports a "Never Propose Name" feature, which allows callers to ask for and transfer to a user via speech, but if Seven does not understand the request, it won't list the name back to the caller for confirmation. For instance, the system administrator might want to allow callers to transfer to the company's CEO, but never have Seven suggest the name.

- **Announce Destination Number** Seven can announce the destination number when it transfers the caller.

- **Conversation Templates** Seven supports various conversation templates, which contain various industry specific terms, such as Doctor for the medical community or Lieutenant for the military community.

ADDITIONAL FEATURE PACKAGES

- **SpeechContacts™ Module** The SpeechContacts option allows the creation of personal directories, or small databases that can contain the personal contact information of selected individuals. Employees can add contacts directly to their personal directory or can import their Microsoft Outlook contacts. Once their directory is created, these individuals, or directory owners, can access their personal contacts just as they would any other person or service included in the Seven directory.

Adding or importing contacts is facilitated through a Web page, giving users access while on the road. Personal directories can be protected via the use of PIN numbers, voice verification, or a combination of both.

The number of personal directories you can create and the total number of contacts they contain is specified in the license.

- **SpeechAuthenticator Module** The SpeechAuthenticator option allows the use of voice biometrics to provide secure access to certain menus and features. Biometrics is based on the recognition of physical characteristics. Human body characteristics used in biometrics, such as fingerprints, eye retinas and irises, facial and voice patterns, offer irrefutable proof of a person's identity, since they are unique biological characteristics that distinguish one person from another and cannot be associated with more than one person.

The SpeechAuthenticator:

- Controls access to specific menus, information and directories
- Is a cost-effective alternative to calling cards; provides next generation security for call accounting and tele-management
- Performs toll control by regulating access to long-distance calls

For people to be able to identify themselves using voice biometrics, their user record must be enabled for voice biometrics, and they must have created a voiceprint. The maximum number of voice biometric accounts is established in the license. People without voice biometric accounts or who have not created voiceprints can nonetheless access certain protected features using their PIN.

- **Enhanced RealSpeak Text-to-Speech Module** Seven provides a standard text-to-speech engine to play name confirmations, prompts, greetings, and audio text that has not been recorded by a human voice. As an alternative to the standard TTS engine, you can purchase the enhanced RealSpeak TTS engine for a higher quality, nearly real-sounding voice.
- **Multilingual Languages** Seven is available in any of the following languages:
 - English (US, UK, Australian)
 - French (Canadian, France)
 - Spanish (Latin American)
 - German
 - Dutch

With the Seven Multilingual module, the system can support bilingual US English/Spanish and US English/Canadian French.

- **MultiAdmin Module** Designed for enterprises with multiple sites or a sizeable workforce, this option allows several people to share Seven administrative tasks. Administrators can be granted different access rights, but all can access the application simultaneously from their workstations via the IP network. The number of administrators granted access rights is specified in the license.
- **Seven Interface** This option allows Seven to import data from a CVS file or an LDAP server, including Microsoft Exchange® to create or update entries. Automatic synchronization can be scheduled with the source file to ensure accurate and up-to-date database information.

MAINTENANCE

Seven is designed to be as easy to maintain as possible. All system hardware requires minimal maintenance. Software maintenance, including backup and restore, is designed to be virtually foolproof. Most of the system's administrative tasks can be performed via the Seven Admin Tools window. In addition, remote administration can be accomplished using the optional MultiAdmin module.

- **Seven Phone Directory and Menu Editor** By using the Windows-based system administration console, Seven can be administered from any Windows PC on your LAN. This console is intuitively designed and is accessible via an IP connection, making system administrators more efficient when managing the Seven system.
 - **System Administrator Privileges** The privileges attributed to administrators determine which tasks they can perform. Update rights allow administrators to create and modify entries. View rights allow administrators to access an entry's contents, but not modify them. These rights can be defined for the entire company, or for each group to which an administrator belongs. That way, a person can be authorized to modify certain entries, but only to view others. In addition, an administrator can be given rights to configure ports and entry points, import voice files, define schedules, etc.
- **System Monitor** Use the system monitor utility to monitor the Seven system as it answers and routes calls. Using colored dots and icons, the monitor indicates what is happening on each port of the system, as well as received information about each call. In addition, specific ports can be restarted.
- **Prompt Recorder** Use the prompt recorder utility to record greetings, prompts, and messages as well as entry names.
- **Interface Configuration** Data can be imported from a corporate database or LDAP server to perform the initial load of the Seven directory. You can even import contacts in personal directories if your application includes the SpeechContacts optional module. With the corporate directory interface option, you can activate data transfers at regular intervals. This helps you keep directory and menu entries up-to-date, and eliminates the redundancy of managing multiple directories.
- **Report Generator** Seven can provide a great deal of information regarding an organization's incoming telephone calls and transfer rate. The information, which is generated in "reports," can be used to help make decisions about the organization, such as staffing levels, productivity, and telephone equipment needs. Reports can be viewed on the screen or printed on a printer connected to the system. Reports can also be copied to files and imported into many word processing, database, and spreadsheet programs. There are five types of on-line reports:
 - **Average Navigation Time** This reports indicates the number of seconds it takes, on average, to complete a navigation step; that is, to get transferred, access an audio text message, or reach a sub-menu, during each day of the specified period.

- **Call Summary** This report indicates the number and proportion of transferred calls versus hang-ups, either per menu or entry point, during the specified period.
 - **Navigation Detail** This report shows the number of cases corresponding to the outcomes of a number of various transfer scenarios, such as caller transferred to the operator after the initial greeting, or caller was successfully transferred after the second interaction.
 - **Number of Calls per Hour** This report indicates the total number of calls received during the specified period, for each hour of the day. With this information, you will be able to determine when the system is most busy, and when it is hardly busy at all.
 - **Number of Call per Port** This report indicates the number of calls handled by each port during the specified period. It enables you to verify whether there are enough ports to handle the amount of calls received by the systems.
 - **Performance Summary** This report includes seven graphs illustrating different aspects of the system performance, for each week of the selected period. These include Transfer Success Rate, Average Number of Interactions, Unidentified Requests, Invalid Numbers Dialed, Hang-ups after Possible Problems, Trial Calls, and Number of Calls per Week.
 - **Port Occupancy** This report indicates how many times only one port was busy, two ports were simultaneously busy, or three ports were simultaneously busy, etc, during the specified period. This information can help you determine whether enough ports are dedicated to Seven, notably if the ports were programmed as an ACD queue or if the hunting method is rotary rather than sequential.
 - **Number of Requests per Extension** This report displays the number of calls forwarded to each internal extension or phone number included into directory entries during the specified period.
 - **Statistical Analysis** This table brings together – on a single page – various information about system use during the selected period.
 - **Transfer Success Rate** This report indicates, for every day of the period specified, the proportion of calls transferred by Seven, by either voice or DTMF command.
- **Call Analyzer** All calls received by Seven are recorded in log files and grouped according to date and time. The call analyzer function enables you to listen to them, which is especially useful when problems have been reported.
 - **Remote Maintenance** With Seven's remote maintenance feature, support and problem solving can be provided without an on-site visit. Resellers use remote maintenance to link a customer's Seven system to an off-site PC.

When the off-site computer and the customer's Seven system have been linked by a pair of modems and the remote maintenance software, both screens display exactly the same information. Keystrokes entered on either keyboard affect the displays of both. In addition, with the remote maintenance software it is possible to transfer files between the off-site

computer and the customer's system, print files stored on the system with a printer connected to the off-site computer, and more. Simply put, remote maintenance allows the off-site computer to monitor or make adds, moves and changes from anywhere.

- **Online and Offline Backup** Using online backup, the system administrator can backup Seven at any time without taking the system down. This is beneficial for organizations that require constant voice messaging capabilities.

FUNCTIONALITY

Seven is a fully functional speech enabled directory dialer. Its main function is to connect callers whose numbers are available in the directory database. There are several benefits to using the Seven application, including making 'paper copy' telephone directories redundant, saving valuable operator time, and providing directory service to mobile phone users and telecommuters.

Seven interfaces with the user in several ways. It utilizes Nuance's OpenSpeech Recognizer ASR software to recognize the speech of the caller and to search the directory database. Seven uses the Nuance RealSpeak text-to-speech engine for name confirmation and retrieval, and the playing of prompts, greetings, and audiotext as an alternative to a voice recording.

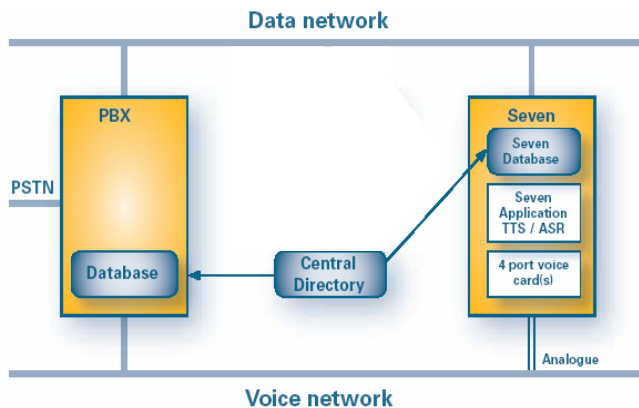
- **Application**

Seven runs on a Microsoft Windows Server 2003-based platform. Intel® Dialogic® voice boards are installed in the PC interface with the PBX. The directory information Seven requires is stored in an internal database. The PBX directory or other corporate directory can be easily imported into Seven and synchronized on a regular basis, making deployment easy and reliable. While Seven features a dictionary of over one million names, the system administrator is also able to add alternate names to the system's predefined list of alternate names for uniformity throughout the database.

- **Operation**

When a caller dials Seven, the application will play a welcome message. During or after this welcome message, the caller can say the name of the person, department or service he or she wants to speak to. It is possible to create multiple menus within Seven to help guide callers. Seven will look up the directory number and connect the caller. If Seven is unsure of the name, it will ask for a confirmation. When multiple results are found for the same name, Seven will use a homophone resolution method to try to get the right match for the caller.

Standard configuration with PBX directory:

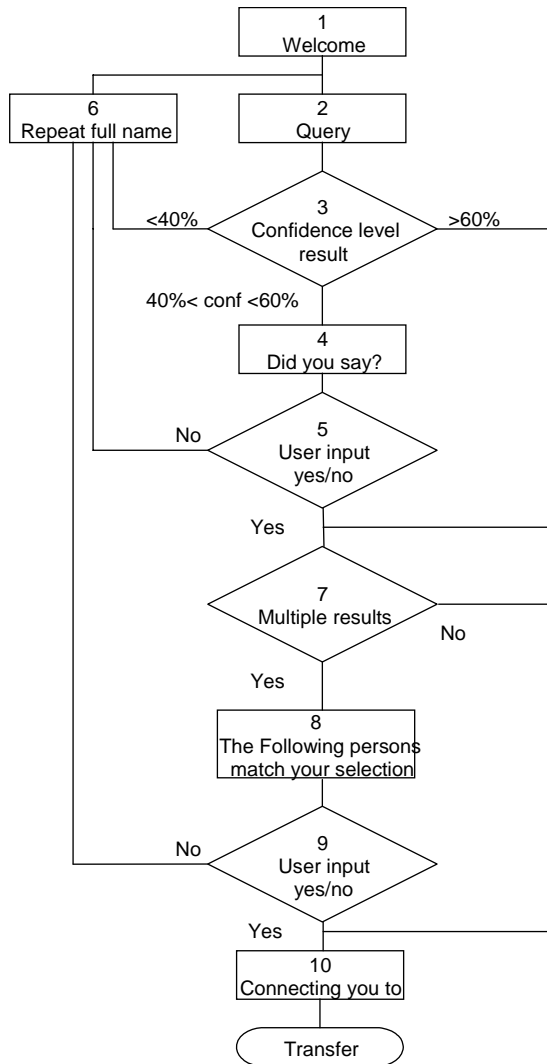


SYSTEM CALL FLOW

Seven uses system prompts and greetings to tell the caller what to say next. Prompts, and greetings can be customized over the phone or in a studio to meet your organization's specific needs. As an alternative, prompts, greetings, recorded names, and audio text can be converted to text-to-speech.

Seven requires prompts to be in Intel Dialogic ADPCM 8kHz 8 bit mono format. Seven offers U.S. English, U.K. English, Australian English, Dutch, French Canadian, German, European French, and Latin American Spanish system prompts.

Below is an example of a Seven call flow (see table on next page for explanation of call flow steps):



Call Flow	Action	System prompt	Remark
1	Play welcomes text	"Hi, this is " Seven," please say the name of the person you would like to speak to."	Barge-in is supported. User can say the name of the person, department or service during the welcome text and does not have to wait until the end of the prompt. It is possible to change the text of this message. In the case of alternative language such as Spanish, the system will start the call flow in Spanish and will also recognize Spanish speakers.
2	Look up the name or service		Seven will look up the name, department or service.
3	Based on confidence level of the retrieved result, action will be taken		Default settings: <input type="checkbox"/> Confidence threshold < 40% Seven will ask the caller to say the name again <input type="checkbox"/> 40% < Confidence threshold < 60% Seven will ask the caller for a confirmation <input type="checkbox"/> Confidence threshold > 60% Seven will transfer the caller direct
4	Ask caller to confirm the result	"Did you say <NAME>"	The caller can confirm by saying, "Yes." Any other reply will force the caller to repeat the request. After three trials, the caller will be transferred to the operator. Seven will use a homophone resolution method as defined by the system administrator to distinguish between persons with the same name.
5	Based on reply of caller, action will be taken		If the caller doesn't say, "Yes," the look-up process starts over again.

6	Ask caller to say name again	"Can you please repeat the full name?"	
7	Based on number of results returned by the speech engine action will be taken		
8	In case of multiple results, the caller will be asked to make a selection based on the homophone resolution method selected by the system administrator	"There are several people with that name. Do you wish to talk to <Name 1> in <Department>?"	
9	Based on reply of caller, action will be taken		If the caller doesn't say, "Yes," the next person is presented based on the homophone resolution method.
10	Play confirmation text	"Thank you. Transferring your call to <NAME>"	System administrator option to set confirmation On or Off

HARDWARE REQUIREMENTS

Seven is available in different sizes and (number of) languages:

Voice ports: 2 – 64
 Number of names in database: 100 – 100,000
 Languages: 1 or 2 languages per server

Seven is available in two different packages. The Seven Small Business Edition package is a 4-port, 200-entry system that comes bundled with RealSpeak text-to-speech. This package is priced to address the needs of the entry-level market with an all-in-one solution. The optional SpeechContacts module and Language module can be added the SBE package.

The Seven Standard Edition package scales between 2 and 64 ports and between 100 and 100,000 database entries. All of the optional feature packages can be added to the Standard Edition package to create a feature-rich and powerful solution.

- **PC Platform**

Seven operates on a Windows Server 2003 platform. Processor speed and available internal memory influence the performance of the application. A maximum of 16 ports is supported per server. When configurations of more than 16 ports are needed, an additional server is required. Full redundancy between servers can be configured.

The following table shows the hardware requirements based upon port size, number of entries, and optional features:

RAM and CPU Requirements							
Ports	Platform	Optional Features	0 -1,000 Entries	1,001-4,999 Entries	5,000-9,999 Entries	10,000-20,000 Entries	20,000-30,000 Entries
4	Dell PowerEdge 830	None	1GB RAM 1 CPU	Not Supported	Not Supported	Not Supported	Not Supported
		RealSpeak Enhanced TTS	1.5GB RAM 1 CPU	Not Supported	Not Supported	Not Supported	Not Supported
	Dell PowerEdge 2800	None	1GB RAM 1 CPU	1.5GB RAM 1 CPU	1.5GB RAM 2 CPUs	2GB RAM 2 CPUs	2GB RAM 2 CPUs
		RealSpeak Enhanced TTS	1.5GB RAM 1 CPU	1.5GB RAM 1 CPU	2GB RAM 2 CPUs	2GB RAM 2 CPUs	4GB RAM 2 CPUs
5 – 8	Dell PowerEdge 2800	None	1GB RAM 1 CPU	1.5GB RAM 1 CPU	1.5GB RAM 2 CPUs	2GB RAM 2 CPUs	2GB RAM 2 CPUs
		RealSpeak Enhanced TTS	1.5GB RAM 1 CPU	1.5GB RAM 1 CPU	2GB RAM 2 CPUs	2GB RAM 2 CPUs	4GB RAM 2 CPUs
12	Dell PowerEdge 2800	None	1.5GB RAM 2 CPUs	1.5GB RAM 2 CPUs	2GB RAM 2 CPUs	2GB RAM 2 CPUs	4GB RAM 2 CPUs
		RealSpeak Enhanced TTS	2GB RAM 2 CPUs	2GB RAM 2 CPUs	2GB RAM 2 CPUs	2GB RAM 2 CPUs	4GB RAM 2 CPUs
16	Dell PowerEdge 2800	None	2GB RAM 2 CPU	2GB RAM 2 CPUs	2GB RAM 2 CPUs	2GB RAM 2 CPUs	4GB RAM 2 CPUs
		RealSpeak Enhanced TTS	2GB RAM 2 CPU	2GB RAM 2 CPUs	2GB RAM 2 CPUs	2GB RAM 2 CPUs	4GB RAM 2 CPUs

- **Voice Boards**

Seven supports an analog interface to the PBX using Intel Dialogic D/41JCT-LS and D/120JCT-LS boards. It also supports a digital interface to certain PBXs using Intel Dialogic D/42JCT-LS and D/82JCT-LS voice boards. An important feature of the voice board is its “barge in” support. This allows the caller to say the name before the announcement text has finished. Without this function, a caller has to wait for the “beep” before saying the name.

- **System Key**

The system key holds the information about the number of ports, names and languages that are licensed. The system key (dongle) is connected to the USB port of the PC on which the Seven application is running. License changes are software upgradeable.

For More Information

For more information about the Seven product, please visit the Active Voice Web site at:
<http://www.activevoice.com/reseller/seven/>.

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