GENESYS
AN ALCATEL·LUCENT COMPANY

VoiceGenie 7.2.2

Installation Guide

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Introduction

This document is intended to act as a guide for new installations of VoiceGenie and related third-party software products on the various operating systems supported by VoiceGenie. Note that this document does not contain instructions for upgrades. User looking to upgrade their existing VoiceGenie installation should refer to the *VoiceGenie Upgrade Guide.*

This document includes a high level description of the software products available from VoiceGenie, a discussion about the architecture of a VoiceGenie deployment, as well as information on how to install and configure VoiceGenie and related third-party software.

Before attempting an installation please read Prerequisites to get an understanding of the various VoiceGenie software products and how they interact, as well as the install order that is required to properly setup and configure the software.

Chapter

2 Prerequisites

This section outlines the prerequisites required to install and correctly configure the various software components of the VoiceGenie product offering. This section covers the following topics:

- 2.1 VoiceGenie Software Overview
- 2.2 Deployment Architecture
- 2.3 Installation Considerations
- 2.4 Hardware Considerations
- 2.5 Software Considerations
- 2.6 Contacts for Further Information

2.1 VoiceGenie Software Overview

The following table outlines the VoiceGenie software product offering:

Product	Description	Purpose
OA&M Framework and System Management Console (SMC)	The underlying software used to monitor, manage, install, configure, and administer all VoiceGenie software. This software must be installed on all computers that will be part of the VoiceGenie deployment.	Core component required on all VoiceGenie Servers.
VoiceXML Platform (a.k.a. Media Platform, Phoneweb)	The core VoiceGenie product that processes VoiceXML applications and connects to various telephony and Voice-over-IP interfaces. The package name for this component is phoneweb.	Core component required on all VoiceGenie servers that do VoiceXML application processing.

Product	Description	Purpose
Speech Resource Manager (SRM) Server	The software used by the VoiceXML Platform to connect natively (that is, not using MRCP only) to the various third-party ASR (automated speech recognition) and TTS (text-to-speech) engines.	Optional component that is only required for ASR or TTS servers that are integrated using MRCP-Native (as opposed to MRCP-Direct).
Speech Resource Manager (SRM) Proxy (also known as MRCP Proxy)	Software that can be deployed in a VoiceGenie system to provide load balancing and resource sharing for distributed ASR and TTS resources using MRCP.	Optional component use to load balance across multiple ASR or TTS resources.
CCXML Platform	The CCXML Platform provides a CCXML Interpreter that integrates with existing VoiceGenie infrastructure such as the Media Platform and SIP Proxy. The underlying network protocol for CCXML Platform is SIP; this means that CCXML Platform can interoperate with other conferencing servers or dialog servers.	Optional component, only used for environments that use CCXML.
ICM Connector	A connector that can be used in addition to the VoiceXML Platform to allow CTI (computer telephony integration) with Cisco ICM.	Optional component, only used for interoperability with ICM.
SIP Proxy	Software that can be used to provide load balancing and call routing in Voice-over-IP networks using SIP. Note that the SIP Proxy is not required in most deployments, it is only required if you wish to load balance SIP traffic over multiple VoiceGenie or other SIP capable device.	Optional component, only used for load balancing across multiple SIP devices.
Tools Framework (Call Analyst and Quality Advisor)	The Call Analyst is a multifaceted tool that provides insight into the performance and usability of applications running on the VoiceGenie platform. The Quality Advisor provides statistics on the service quality of VoiceGenie platform deployments. Service quality is a measurement of the quality of a speech application deployment from the user's perspective.	Optional component, only used when additional call statistics are desired.

For more information regarding VoiceGenie's product offering please contact Genesys Support or your Genesys Account Representative.

2.2 Deployment Architecture

Before proceeding with the installation, users should decide upon the architecture that is desired for their deployment. The servers within a VoiceGenie deployment can be deployed in various configurations. These servers can be broken down into 3 types based on their role within the deployment. The following table outlines these types:

Server Type	Description
Database Server (for example, MySQL)	A deployment must have one Database Server. This server is used by the OA&M Framework and SMC to store configuration and business data. Note that two Database Servers with replication can be installed for high availability.
Management Server (for example, CMP Server)	A deployment must have at least one Management Server. Note that the Database Server and Management Server can reside on one physical computers. Also, Management Servers can be deployed in a redundant pair configuration for high availability requirements.
Other (for example, VoiceXML Platform, ASR Server, TTS Server, and so on)	A deployment can have many other types of servers depending on the requirements of that deployment. Note that it is not desirable to combine the Database and Management Server with other VoiceGenie software (for example, the VoiceXML Platform). Combining all on one server is recommended only in a lab setting, for testing purposes.

The following sections describe some of the various architectures for a VoiceGenie deployment. Note that all possibilities are not presented.

2.2.1 All-in-One

In this configuration the Database Server, Management Server and other VoiceGenie software (for example, VoiceXML Platform) are located on one computer. This architecture is not approved for deployment purposes and should only be used in a lab or trial basis. This architecture is not recommended for production, because database maintenance or large database queries can affect real-time call processing and degrade user experience.

```
+------------------------+
| +--------------------+ |
| |     Database       | |
| |     Server         | |
| +--------------------+ |
|          XX            |
| +--------------------+ |
| |    Management      | |
| |     Server         | |
| +--------------------+ |
|          XX            |
| +--------------------+ |
| |   Other Server     | |
| |   (VoiceXML        | |
| |    Platform,       | |
| |    ASR/TTS         | |
| |    Server)         | |
| +--------------------+ |
+------------------------+
```
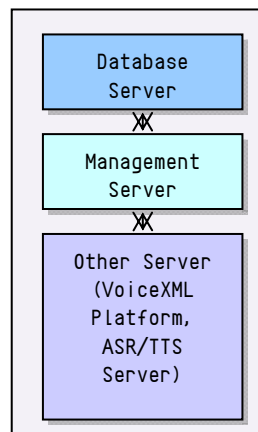
2.2.2 One Management/Database Server

In this configuration, the Database Server (MySQL) and Management Server (CMP Server) are located on one computer. This one computer handles all requests from one or more Other Servers in the deployment.

```
            +------------------+
            | +--------------+ |
            | |  Database    | |
            | |  Server      | |
            | +--------------+ |
            |       XX         |
            | +--------------+ |
            | |  Management  | |
            | |   Server     | |
            | +--------------+ |
            +------------------+
              /             \
             /               \
   +--------------+     +--------------+
■ ■ ■ | Other Server |   | Other Server | ■ ■ ■
       | (VoiceXML    |   | (VoiceXML    |
       |  Platform,   |   |  Platform,   |
       |  ASR/TTS     |   |  ASR/TTS     |
       |  Server)     |   |  Server)     |
       +--------------+   +--------------+
```
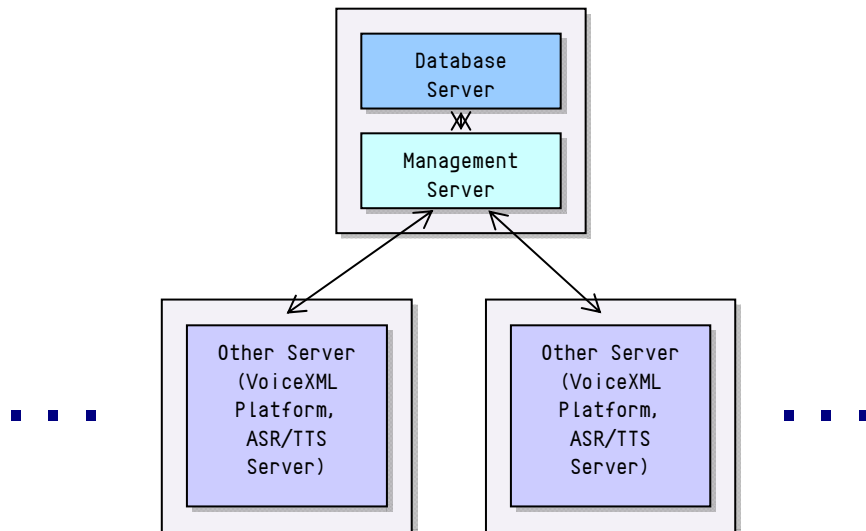
2.2.3 Two Management/Database Servers

In this configuration a redundant pair of Management Servers exists with each Management Server having an onboard Database Server. Note that in this case replication is setup between the two databases.
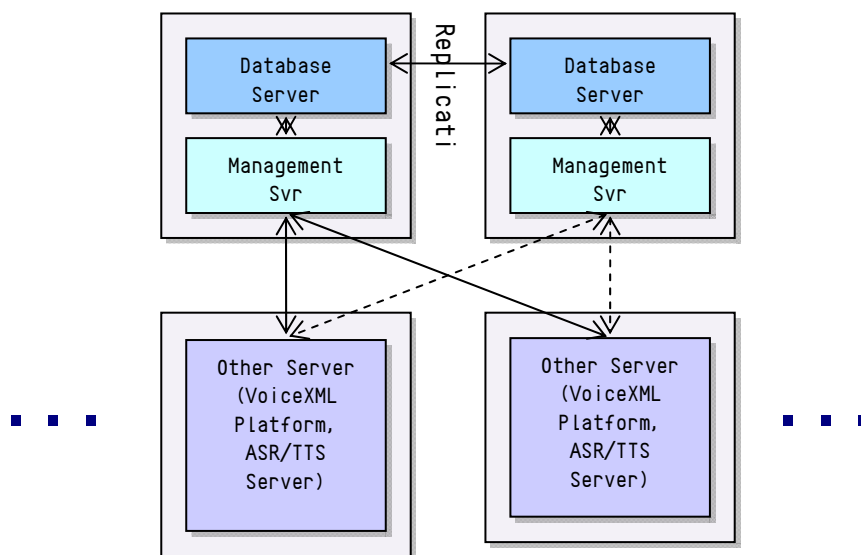
2.2.4 Architecture Pros and Cons

Before installing any VoiceGenie software please decide on which one of the above architectures you will be using. As mentioned previously, these are not all possible architectures, for further information or clarification please consult your sales representative. The following table outlines the pros and cons of the various architectures:

Architecture	Pros	Cons
All-in-One	• Requires very little hardware • Onboard database is more efficient at logging data • Is easy to set up	• Cannot be used for production • No redundancy; not adequate for high availability
One Management/Database Server	• Requires very little hardware • Onboard database is more efficient at logging data • Is easy to set up	• No redundancy; not adequate for high availability

Architecture	Pros	Cons
Two Management/Database Servers	• Excellent redundancy • Onboard database is more efficient at logging data • Requires a moderate amount of hardware	• Setup for replication is manual and can be difficult to set up • Possibility that under some circumstances replication does not occur properly (for example, database goes down in the middle of a synchronization interval while a change is being made)

When you have chosen an architecture, please enter information regarding your network setup, as shown in the following table. This information will be required during setup:

Item	IP Address	Description
Database Server IP		The IP address of the Database Server. This may be the same as the Management Server IP (Primary) if they are on the same physical computers.
Replicated Database Server IP (if necessary)		The IP address of the Database Server that will replicate of the main Database Server. This may be the same as the Management Server IP (Backup); also this is optional depending on the deployment architecture.
Management Server IP (Primary)		The IP address of the Primary Management Server. This may be the same as the Database Server, if they are on the same physical computer.
Management Server IP (Backup) (if necessary)		The IP address of the Backup Management Server. This is optional, depending on the deployment architecture.

2.3 Installation Considerations

VoiceGenie software can be installed and deployed via a web interface. As a result, the installation process requires access to an additional computer on which:

- Microsoft Internet Explorer 6 web browser is installed.
- Five GB of free disk space are available to hold product files.

Also, please ensure that the firewall settings on your network are correct and will allow VoiceGenie software to install correctly. In particular please ensure that port 8080, 8600, and 8650 are open on the Management Server, so that the CMP Proxy can connect and packages can be deployed.

In addition, all computers that are being installed should be on the same physical network, and networking between all computers should be operational. Note that NAT (network address translation) may cause installation issues also.

2.4 Hardware Considerations

This section outlines the hardware that is supported by VoiceGenie software and hardware specifics that should be considered prior to installation.

2.4.1 OS Supported Hardware

When purchasing hardware for your VoiceGenie deployment please ensure that the hardware has device drivers that are supported on Red Hat Enterprise Linux 3.0 if you are planning on using either VoiceGenie Linux 3.0 or Red Hat Enterprise Linux 3.0.

2.4.2 Processor Speed Requirements

The VoiceGenie software must be installed on a system with a minimum CPU speed of 1 GHz. If the software is installed on a low-end computer (that is, < 1 GHz CPU), installation of the software may fail or produce an unusable system.

Note: The minimum hardware requirement for production systems is 2.4 GHz CPU with 2 GB of memory. The recommended hardware requirement for production systems is Dual 2.4 GHz and 4 GB RAM.

Note: The VoiceGenie software is not supported for AMD processors.

2.5 Software Considerations

For information regarding supported operating systems, please refer to Operating-System and Third-Party Software Installation.

For information regarding supported ASR (that is, automated speech recognition) or TTS (text-to-speech) servers, please refer to ASR and TTS Software Installation.

2.5.1 Java Version Requirements

Note that VoiceGenie software is tested to run with Java version 1.4.2. This version is required in order for the installation to run successfully and in order for the SMC (System Management Console) to function correctly.

2.6 Contacts for Further Information

For further help, please contact Genesys Support or your Genesys Account Representative.

3 Installation Overview

A number of steps are involved in installing VoiceGenie software. During the installation it is highly advisable to take your own notes so that you can replicate it in the future as well as provide it to VoiceGenie support if you encounter installation problems. Also, after installation, it is advisable to maintain a change log for the system so that you can refer back to any changes that have been made. Finally, please refer to the Deployment Checklist.

The following is a list of the steps required to install the software along with pointers to the sections of this document that explain in detail the procedure required to carry out that step:

1. Install the Operating System: Operating-System and Third-Party Software Installation

2. Install the OA&M Framework: VoiceGenie OA&M Framework Installation

3. Upload and Deploy VoiceGenie Software: Other VoiceGenie Software Installation

4. Install ASR/TTS Software if applicable: ASR and TTS Software Installation

4

Operating-System and Third-Party Software Installation

This section outlines the operating systems that are supported by VoiceGenie and the steps required to install these operating systems and any related third-party software.

4.1 Supported Operating Systems

The following table outlines the operating systems on which the VoiceGenie software is supported:

Operating System	Notes
VoiceGenie Linux 3.0 Update 2	This is a freely available distribution of Linux provided by VoiceGenie that is based on Red Hat Enterprise Linux 3.0. The installation CD provided by VoiceGenie installs and configures the Linux operating system to VoiceGenie's specifications. This includes a number of VoiceGenie customized packages that simplify system configuration and provide basic function for VoiceGenie software. In addition VoiceGenie Linux provides a user friendly, hassle-free Linux installation. Details on the installation of the operating system can be found in Operating-System and Third-Party Software Installation.

Operating System	Notes
Red Hat Enterprise Linux 3.0 Update 8 Red Hat Enterprise Linux 4.0	The operating system software and installation instructions must be obtained from Red Hat. VoiceGenie does provide a sample kick-start file that could be used for installation; however, it is not required to use this kick-start file. For VoiceGenie software a specific set of packages are required. For Red Hat 3, these are checked and installed by the VoiceGenie post install script, for Red Hat 4 a set of commands is executed, For further details, please refer to respective Operating-System and Third-Party Software Installation sections.
Microsoft Windows 2000 Server and Windows 2003 Server	The operating system software and installation must be obtained by the customer. A number of third-party software components must be installed before installing VoiceGenie software. For further details, please refer to Operating-System and Third-Party Software Installation.

4.2 VoiceGenie Linux 3.0 Update 2 Installation and Configuration

This section outlines the procedure for installing and configuring a system with VoiceGenie Linux 3.0 Update 2 (VGL3.0.2). Note that VGL3.0.2 is similar to Red Hat Enterprise Linux 3.0, but is customized to function with VoiceGenie software. The VGL3.0.2 installation creates two user accounts by default. The account logon and password are listed in the following table:

Account	Default Password	Description
Root	root1	Account for system administration
Pw	pw	Account used to run most VoiceGenie software.

Note that the preceding passwords should be changed when the system has been installed to limit unauthorized access. To change the password, log on to the system as that user (that is, `pw` or `root`), and enter the `passwd` command at the command prompt.

Step 1—Installing the Operating System Software

Note: The VGL3.0.2 installation formats the hard drive on the system. Please ensure that all important information on the system is backed up before the operating system is installed.

Please perform the following to install VGL3.0.2:

1. Insert the VoiceGenie Linux 3.0.2 CD into the CD-ROM drive, and restart the computer so that it starts from the CD-ROM drive.

2. A text-based installation screen will appear. To begin installation, type `install` on the screen.

3. The installation will take approximately 20 minutes, and no intervention is needed at this stage.

4. When installation of the operating system is complete, a text screen will be displayed, detailing the completion of the installation process. Remove the CD from the CD-ROM, and press `Enter` to *restart* the computer.

Note: If the VGL3.0.2 installation fails, please contact Genesys support with your exact hardware details, so that support can direct you further on continuing the install.

Step 2—Basic Network and Firewall Configuration

After VGL3.0.2 has been installed and the system has restarted, the network settings of the system will need to be configured. Please contact your system administrator before proceeding, if you are unsure of the network settings for your computer. To begin the configuration, please carry out the following:

1. Log on to the system as `root`. The default password is *root1*.

2. Type `vg-install` at the command prompt.

Note: If you make any mistakes in answering any of the questions in this section, you can press `Ctrl + C` at any point to restart the configuration script.

After entering `vg-install,` you will be presented with the following prompt:
```
Please select one of the following 3 options:
1) Run these scripts now (Recommended)
2) Run these scripts later
3) Never run these scripts
```
Enter `1` to run the configuration scripts now. You will be prompted with a number of questions related to network configuration. You should enter the information that is appropriate for your network. The following shows a sample run of the network configuration script:
```
---------------------------------------------------------------
- Basic Network Configuration
---------------------------------------------------------------
Would you like to configure the network setting on this machine now?
[Y/n] > Y
```

```
Please enter the HOSTNAME for this machine:
[] > syseng2

Please enter DOMAIN NAME for this machine:
[] > voicegenie.com

Please enter the IP ADDRESS for this machine:
[] > 10.0.0.9

Please enter the NETMASK address for this machine:
[] > 255.255.255.0

Please enter the GATEWAY IP for this machine:
[] > 10.0.0.1

Please enter the NAMESERVER IP for this machine:
[] > 10.0.0.123


Restarting network services...
Done
```

Also, note that on systems that have more than one network interface card, the user will be prompted to configure also those interfaces. This configuration step will occur before the network services are restarted. The following shows an example:

```
Would you like to configure for a second ethernet interface (eth1)?
[y/N] > y

Please enter the 2nd IP ADDRESS for this machine on eth1:
[] > 10.0.0.10

Please enter the NETMASK address for this machine on eth1:
[] > 255.255.255.0
```

The next configuration step concerns the firewall and remote-service setup. The following is an example of the questions and answers. You should answer according to your requirements:

```
---------------------------------------------------------
- Firewall Configuration
---------------------------------------------------------
Would you like to run the iptables firewall on this machine?
[Y/n] > Y

A basic firewall configuration has been provided. It is recommended
that You review this configuration and tailor it for your network.

Would you like to enable TELNET access to this machine?
[Y/n] > Y

Would you like to enable FTP access to this machine?
[Y/n] > Y
```

```
Would you like to enable SSH access to this machine?
[Y/n] > Y

Reloading telnet/ftp services...
Reloading ssh service...
```

Note: Note that both FTP and telnet send passwords in plain text (unencrypted), so these protocols should not be used on non-secure networks.

Make sure the network interface is active after making the preceding changes.

Step 3—Time Zone and NTP Configuration

The next step of the installation involves configuring the time zone of the system as well as NTP for time synchronization with a network time server.

Note: NTP is a widely used protocol, used primarily by Linux and UNIX systems, to synchronize the clocks on multiple computers. By using NTP, it is usually possible to keep all of the clocks within a cluster of computers to within a few milliseconds of each other. When it has been configured, NTP will operate autonomously and periodically send messages to the NTP server to synchronize the local time with its designated time server. The frequency of these messages varies on each system. If you are going to enable NTP, ensure that the NTP server is set up and functioning prior to configuring NTP on the VoiceGenie server.

The following is an example of the related prompts:
```
-------------------------------------------------------------------
Time Zone Configuration
-------------------------------------------------------------------
Would you like to configure the time zone?
[Y/n] > Y

Select your region
1) US/Canada
2) Europe/Asia
3) Australia
4) Custom time zone
5) Skip this step
[1] > 1

Select your time zone
1) Newfoundland
2) Atlantic
```

```
3) Eastern
4) Central
5) Mountain
6) Pacific
7) Alaska
8) Hawaii
[3] > 3

Would you like to enable the network time protocol (NTP)?
[y/N] > Y

Please enter the hostnames of one or more NTP server(s):
1 > time.voicegenie.com
2 >
```

> **Note:** Customers who use the UTC time zone will need to edit the Tomcat start script, because UTC is not considered to be a standard time zone. The following should be added to the script `/etc/init.d/vgtomcat` after the line `CATALINA_OPTS=""`:
>
> `CATALINA_OPTS="$CATALINA_OPTS -Duser.timezone=GMT"`
>
> When changing the date/time on an installed system, restart after updating the time. Alternatively, stop all VoiceGenie software including the CMP Proxy, update the time and then restart the software.
>
> Also, note that when time is adjusted forward on a server by NTP, the CMP Proxy may restart its components.

Step 4 – VoiceGenie Software Setup

The last step in the VGL3.0.2 setup is to install the VoiceGenie software. The software can be installed from CD-ROM or via FTP or NFS. The prompt that will be displayed is as follows:

```
-----------------------------------------------------------------
- VoiceGenie Software Installation
-----------------------------------------------------------------
Where would you like to install the VoiceGenie software from?
1) CD-ROM
2) FTP or NFS
3) Do not install the VoiceGenie Software
[1] > 2
```

If you have the VoiceGenie Software CD available, select 1, and then place the CD in the CD-ROM drive and proceed to Step 2—Install Basic OA&M Framework. If you are installing using FTP or copying the installation files from a network drive (NFS), select 2, and proceed to Step 2—Install Basic OA&M Framework. You can choose not to install the VoiceGenie software

until later by selecting option 3. If you choose to install the VoiceGenie software later you can begin the installation procedure by following the procedure as outlines in VoiceGenie OA&M Framework Installation of this guide.

4.3 Red Hat Enterprise Linux 3.0 and Third-Party Software Installation

This section outlines the procedure for installing and a system with Red Hat Enterprise Linux 3.0 (RHEL3.0) Update 8 as well as the other third-party software components needed for running VoiceGenie software.

4.3.1 Red Hat Enterprise Linux 3.0 Operating System Installation

To install Red Hat Enterprise Linux 3.0 Update 8 users must use the standard RHEL3.0 installation CDs provided by Red Hat. Note that users may choose to use the kick-start file provided by VoiceGenie, but it is not a requirement. The VoiceGenie kick-start file can be found on the in the VoiceGenie Post RHEL3.0 Installation package.

Step 1—Copying the VoiceGenie Kick-Start File

This step is required only if you are using the VoiceGenie kick-start file; if you are not using the VoiceGenie kick-start file, please continue to Step 2— Installing RHEL3.0 Update 8.

To use the VoiceGenie kick-start file, copy it to a floppy disk. The VoiceGenie kick-start file can be found in the /kickstart directory of the VoiceGenie Post RHEL3.0 Installation package (post_linux-7.2.0-1.tar.gz), it has the name ks.cfg. This floppy disk will be required later.

Note: If your computer does not have a floppy disk, the kick-start file can be put on the Red Hat installation CD or installed from the network. Please contact support for further instructions on this topic.

Step 2—Installing RHEL3.0 Update 8

To start the installation process, insert CD1 of the RHEL3.0 installation CDs and turn on the computer. The computer should start from this CD and load a text-based installation screen.

Users have the option of installing by using either the VoiceGenie kick-start file or the Red Hat installation to choose which packages are installed.

Using the VoiceGenie Kick-Start File

If you opt to use the VoiceGenie kick-start file, the user should place the floppy created in Step 1—Copying the VoiceGenie Kick-Start File into the floppy drive and type the following command to start the installation:

```
linux ks=floppy
```

This kick-start file will automatically format and partition the hard drive as well as install all the packages required by the VoiceGenie software. When operating-system installation is complete, please *restart* the computer.

Using Red Hat's Installer

If you opt to install Red Hat Enterprise Linux by choosing the packages that you install yourself, please ensure that the following list of the packages are installed at a minimum; they are required for VoiceGenie software to function:

```
@ Development Tools
@ Kernel Development
@ MySQL Database
screen
openssl096b
net-snmp-utils
sendmail-cf
mailx
perl
perl-DBI
perl-CGI
perl-DBD-MySQL
perl-DateManip
perl-HTML-Parser
perl-HTML-Tagset
perl-URI
perl-libwww-perl
mysql
unixODBC
XFree86-base-fonts
XFree86-xauth
desktop-file-utils
switchdesk
xinitrc
XFree86
Xaw3d
MyODBC
httpd
rsh-server
telnet-server
```

```
tftp-server
vsftpd
ntp
```

Step 3 – Running the VoiceGenie Post RHEL3.0 Installation Script

Once the operating system has been installed, the VoiceGenie Post RHEL3.0 Installation script must be run. This script checks that the required packages for VoiceGenie software to function are installed; in addition is installs a number of VoiceGenie specific packages. The scripts and all packages are found in the VoiceGenie Post RHEL3.0 Installation package (`post_linux-7.2.0-1.tar.gz`).

To run the script, log on to the system as the root user, and create a directory to store the Post RHEL3.0 Installation script and third-party software temporarily. The following is an example:

```
mkdir -p /usr/local/RPMTOP/RPMS/i386/post_RHEL30
```

Insert the VoiceGenie Post RHEL3.0 Installation CD in the CD-ROM drive and copy all files in the root directory on the CD to the location created above, and untar the file:

```
mount /mnt/cdrom
cd /usr/local/RPMTOP/RPMS/i386/post_RHEL30
cp /mnt/cdrom/* .
tar -xzvf post_linux-7.2.0-1.tar.gz
```

Next, ensure that the scripts are executable; the following is an example of this procedure:

```
cd post_linux-7.2.0-1
chmod 755 post_install.sh
```

Lastly, run the post RHEL3.0 script, the following is an example:

```
./post_install.sh
```

The following is an example screen capture of the execution of the script:

```
Current machine kernel version is 2.4.21-9.EL
   Warning: VoiceGenie's software has only been tested on RHEL3.0
   kernel 2.4.21-37. Do you wish to proceed? (y/n) >
   y

The following package is not already installed: MySQL-server-
   standard-4.1.20-0.rhel3.i386.rpm
   Installing package: MySQL-server-standard-4.1.20-
   0.rhel3.i386.rpm
   Installation successful

The following package is not already installed: j2sdk-1.4.2-
   fcs.i586.rpm
   Installing package: j2sdk-1.4.2-fcs.i586.rpm
```

```
                    Installation successful

          The following package is not already installed: atsar_linux-1.6-
             1.i386.rpm
             Installing package: atsar_linux-1.6-1.i386.rpm
             Installation successful

          The following package(s) is/are already installed:
             httpd-2.0.46-26.ent
             Please confirm that you would like to continue installing the
             package: httpd-2.0.52-1.i386.rpm?
             Please enter 'y' (yes), 'n' (no) or 'a' (yes for all). >
             y
             Installing package: httpd-2.0.52-1.i386.rpm
             Installation successful

          The following package(s) is/are already installed:
             unixODBC-2.2.3-6
             Please confirm that you would like to continue installing the
             package: unixODBC-2.2.11-1.i386.rpm?
             Please enter 'y' (yes), 'n' (no) or 'a' (yes for all). >
             a
             Installing package: unixODBC-2.2.11-1.i386.rpm
             Installation successful

          The following package is not already installed: unixODBC-devel-
             2.2.11-1.i386.rpm
             Installing package: unixODBC-devel-2.2.11-1.i386.rpm
             Installation successful

          The following package is not already installed: vg-scriptmanager-
             3.0.1-1.i386.rpm
             Installing package: vg-scriptmanager-3.0.1-1.i386.rpm
             Installation successful

          The following package is not already installed: vg-setup-3.0.0-
             1.i386.rpm
             Installing package: vg-setup-3.0.0-1.i386.rpm
             Installation successful

          The following package is not already installed: vg-squid-2.5.6-
             1.i386.rpm
             Installing package: vg-squid-2.5.6-1.i386.rpm
             Installation successful

          The following package is not already installed: vg-tomcat-5.0.28-
             1.i386.rpm
             Installing package: vg-tomcat-5.0.28-1.i386.rpm
             Installation successful
```

```
The following package is not already installed: cmp-deployer-1.0.0-
   15.i386.rpm
   Installing package: cmp-deployer-1.0.0-15.i386.rpm
   Installation successful

The following package is not already installed: vg-xerces-2.0.0-
   1.i386.rpm
   Installing package: vg-xerces-2.0.0-1.i386.rpm
   Installation successful
```

`Update complete.`

If you have not setup the network interface and time zone, you can run the VoiceGenie provided Network and Time Zone setup scripts, they are located at `/usr/local/vg-scriptmanager/done/I010network` and `/usr/local/vg-scriptmanager/done/I060clock`. After running these scripts, the system must be restarted.

4.4 Microsoft Windows 2000 Server and Windows 2003 Server and Third-Party Software Installation

This section outlines the steps for installing Windows 2000/2003 Server and other third-party software components needed for running VoiceGenie software. Note that all installation steps must be carried out as a user who has Administrative privileges.

Note that non-English Windows installations require a number of manual changes to function correctly. Please refer to 4.4.4 Non-English Windows Details for additional details about non-English Windows installations.

4.4.1 Windows 2000 Server and Windows 2003 Server Operating-System Installation

Use the Windows 2000/2003 Server CD to install the operating system. When installing, please make sure that the following components are installed:

- Microsoft Internet Information Services (IIS)
- Terminal Services
- Management and Monitoring Tools

To check that these services are installed, go to `Control Panel > Add/Remove Programs > Add/Remove Windows Components`, and check that they are selected in the component list. The following screen shot is an example:
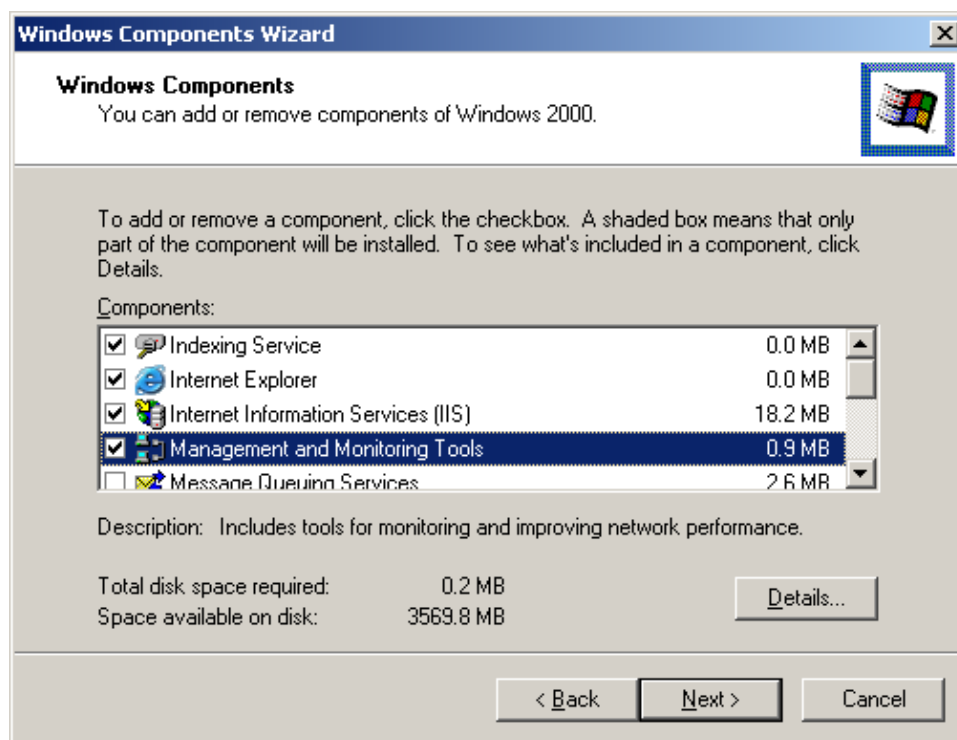
Note: IIS is required by the VoiceGenie VoiceXML Platform for serving inline, implicit and hotkey grammars to an ASR engine. If you are not using an ASR engine you can choose not to install and configure IIS.

IIS Modifications in Windows 2003 Server

Also, the default IIS installation under Windows 2003 Server does not have all the necessary MIME-types setup. Therefore, perform the following procedure to add the required MIME-type under Windows 2003 Server:

1. Open the Internet Information Services Window: `Start > Programs > Administrative Tools > Internet Information Services (IIS) Manager`.

2. Expand the tree in the left pane until you see the `Default Web Site` node under `Web Sites` under the name of the local computer. Right-click `Default Web Site`, and select `Properties`. This will reveal the `Default Web Site Properties` window.

3. In the `Properties` window, clear the `HTTP Keep-Alives Enabled` check box.

4. In the `Properties` windows, select the `HTTP Headers` tab and, in the `MIME types` section, click the `MIME Types` button.

5. In the `MIME Types` windows click `New` and add a MIME-type by sing the following details: `Extension: *`, `MIME type: application/octet-stream`. Then, click `OK` in the `MIME Type` window to save this.

6. Click `OK` in the `MIME Types` window and the `Default Web Site Properties` window. Then, restart the default website by right-clicking the `Default Web Site` node and selecting `Stop`. When it has stopped, right-click again, and select `Start`.

Microsoft Security Bulletin Updates

Generally speaking, security updates required by Microsoft to patch security holes in the Windows operating system environment can be applied to systems running the VoiceGenie software. However, it is known that the following security update will prevent the Squid Cache from starting up if installed after Squid is installed:

- Microsoft Security Bulletin MS06-023
  (`http://www.microsoft.com/technet/security/Bulletin/MS06-023.mspx`)

Please refrain from applying this update to the operating system after the Squid has been installed.

Scheduled Task Update for Windows 2003 Server

Under Windows 2003 Server, a scheduled task on all Database Servers (usually, the Primary/Backup Management Servers) must be updated.

In the Control Panel's `Scheduled Tasks`, remove the AT1 task and from a command console run the command:

```
schtasks /create /ru system  /sc hourly /st 00:06 /tn At1w2k3 /tr
"java -jar C:\VoiceGenie\cmp\cmp-server\bin\dbadmin.jar summarize"
```

Note: Sometimes, network settings may need to be changed on a computer that has already been installed. After changing network settings on Windows 2000 or 2003 server, the system should be restarted, even if Windows does not give a prompt to do so.

4.4.2 Third Party–Software Installation

When the operating system has been installed, a number of third-party software components must be installed for VoiceGenie software to function correctly. These third-party software components are provided on a separate CD called the VoiceGenie Third-Party Installation CD. Double-click the `setup.exe` in the root directory of the CD to begin the third-party software installation.

When the VoiceGenie Third-Party Components installation user interface has been loaded, click `Next` to start the installation process. The following installation screen will be presented:
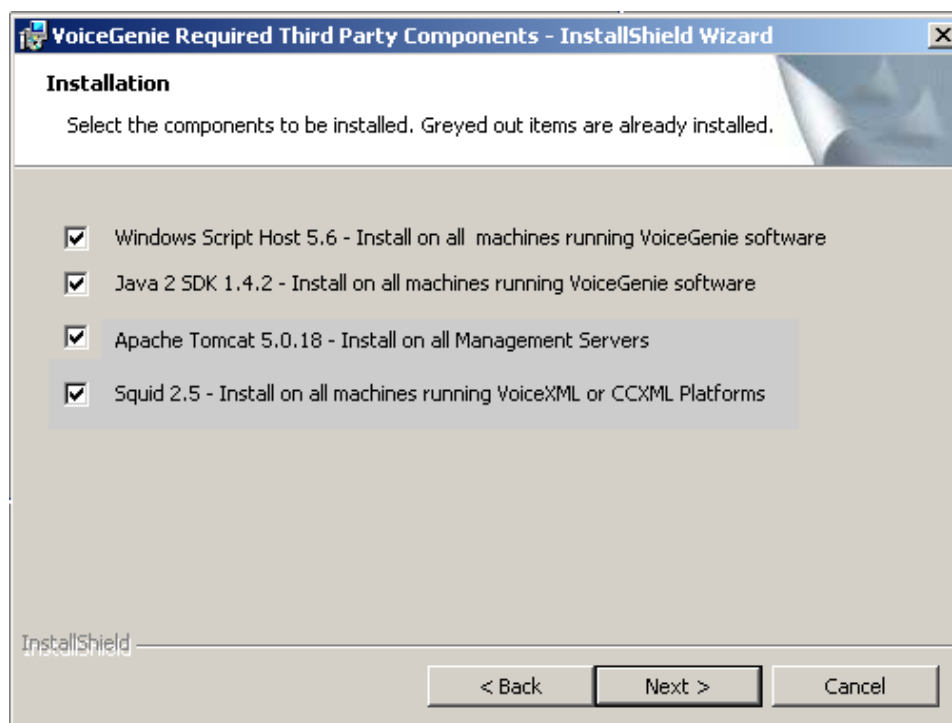
Users should install only the third-party components that are required. The following table outlines what third-party component should be installed, based on the role of the computer in the deployment:

Third-Party Software Component	Computer on Which to Install
Windows Script Host v. 5.6	All servers
Java 2 SDK v. 1.4.2_X	All servers
Apache Tomcat v. 5.0.28	Management Server
Squid v. 2.5	VoiceXML or CCXML Platform Servers

Select the check box next to the appropriate boxes for the third-party components that will be installed on this computer, and then click Next to begin the installation.

Next, the MySQL setup and MyODBC setup should be run on the Database Servers. This should be installed in the order that follows. The MySQL setup can be run by double-clicking the following executable:
`mysql-essential-4.1.20-win32.msi`

1. At the MySQL.com Sign Up - Setup Wizard screen, choose 'Skip Sign-Up'.

2. At MySQL Server Instance Configuration Wizard, clear (uncheck) the Modify Security Settings check box, and click Next.

OPTIONAL: You can confirm that MySQL is started after a restart by looking for the mysqld-nt.exe process.

The MyODBC setup can be run by double-clicking the following executable: mysql-connector-odbc-3.51.12-win32.msi

When installation has been completed for all components, please restart the computer.

After restart, the user will need to run the following script by double-clicking it:

```
C:\squid\squidSet.vbs
```

The following sections provide additional information regarding the various third-party software components.

Windows Script Host v. 5.6

All computers must install Windows Script Host v. 5.6. Please read the license agreement and follow the prompts for installation.

Note that the Windows Script Host installation may present the user with errors during installation on non-English Windows systems. Please disregard this error, and click OK to install the Windows Script Host.

MySQL v. 4.1.20

MySQL must be installed on all Database Server computers. Please read the license agreement when you are prompted to do so, and answer all installation questions by using the default responses, so that MySQL is installed in the "Typical" configuration. Note that this version is required; a newer version of MySQL cannot be used.

MyODBC v. 3.51

MyODBC is an ODBC driver for accessing the MySQL database. It must be installed on the Management Server(s) (both primary and backup). Please read the license agreement, and select the default options when you are prompted during installation.

Java 2 SDK v. 1.4.2_X

The Java 2 SDK should be installed on all computers. Please read the license agreement and use the default options when prompted during installation.

Apache Tomcat v. 5.0.28

Apache Tomcat must be installed on the Management Server(s). Please read the license agreement and use default settings when installing. Note that the default HTTP/1.1 Connector port should not be changed from `8080`.

Squid v. 2.5

Squid is a web proxy cache that is use by the VoiceXML Platform and CCXML Platform. The third-party install will install all the necessary files for Squid into `C:\Squid`, as well as register the `SquidNT` service. Please see `C:\Squid\COPYRIGHT` for the license agreement. *Restart* the system after installing Squid.

After restart, the user will need to run the following script, if it has not already been run. To do so, just double-click it:
`C:\squid\squidSet.vbs`

4.4.3 Cross-OS Installation & Deployment

The vast majority of deployments use one operating system for all computers within the deployment. However, there are cases in which a Windows-based VoiceGenie deployment requires an ASR or TTS engine that is available only on Linux, or visa versa. In a situation in which cross-OS installation and deployments occur, it may be necessary to install additional third-party software.

The particular case in which additional third-party software is required is one in which a Windows-based VoiceGenie deployment requires ASR or TTS engines that will be deployed to Linux computers. In this scenario, third-party software must be installed to allow `.tar.gz` files to be uncompressed under Windows. The software required to perform this is called 7-Zip 3.13 and is available at `http://www.7-zip.org/`. Please download the setup and install it on all Windows computers that are running the SMC.

4.4.4 Non-English Windows Details

This section details specifics about non-English Windows installations. A number of manual steps and important details are listed in this section.

Program Files Directory

Non-English Windows installations do not have a `Program Files` directory; instead, the directory that contains the program files are language-specific. For example, under the German version of Windows the directory is labeled as the

`Programme` directory. In this case, users must manually copy all directories and files found under `C:\Program Files,` which have been created by the VoiceGenie installation, to the corresponding language-specific program files directory. For example:

1. Before deploying the OA&M Framework, create a directory names `C:\Program Files` and copy Apache, Java, and MySQL from `C:\Programme\` to `C:\Program Files\`

2. Next, deploy the OA&M Framework

3. Finally, after the OA&M Framework has successfully deployed, copy the directories in `C:\Program Files\` to `C:\Programme\`

IIS Configuration

In some non-English Windows installation the IIS (Internet Information Services) Manager the name of the default website is not `Default Web Site` but a language-specific name, for example, under the German version of Windows the name is `Standardwebsite`. This poses a problem, because the VoiceGenie installation attempts to create a number of virtual directories under this directory name. As a result, some virtual directories will need to be manually created.

When deploying the phoneweb (Media Platform) package, users must manually add the `tmp` virtual directory into the `vggrammarbase` directory under the default web site. The `tmp` virtual directory should point to `C:\Voicegenie\mp\tmp`. This directory should be public-readable.

Users must also manually add the `inlinetmp` virtual directory into the `vggrammarbase` directory under the default website. The `inlinetmp` virtual directory should point to `C:\Voicegenie\mp\grammar\inlinetmp`. This directory should be public-readable.

When deploying the srm-server package, users must manually add the `srmtmp` virtual directory into the `vggrammarbase` directory under the default web site. The `srmtmp` should point to `C:\Voicegenie\srm-server\tmp`.

The following screenshot illustrates the IIS Manager changes to add the virtual directories:
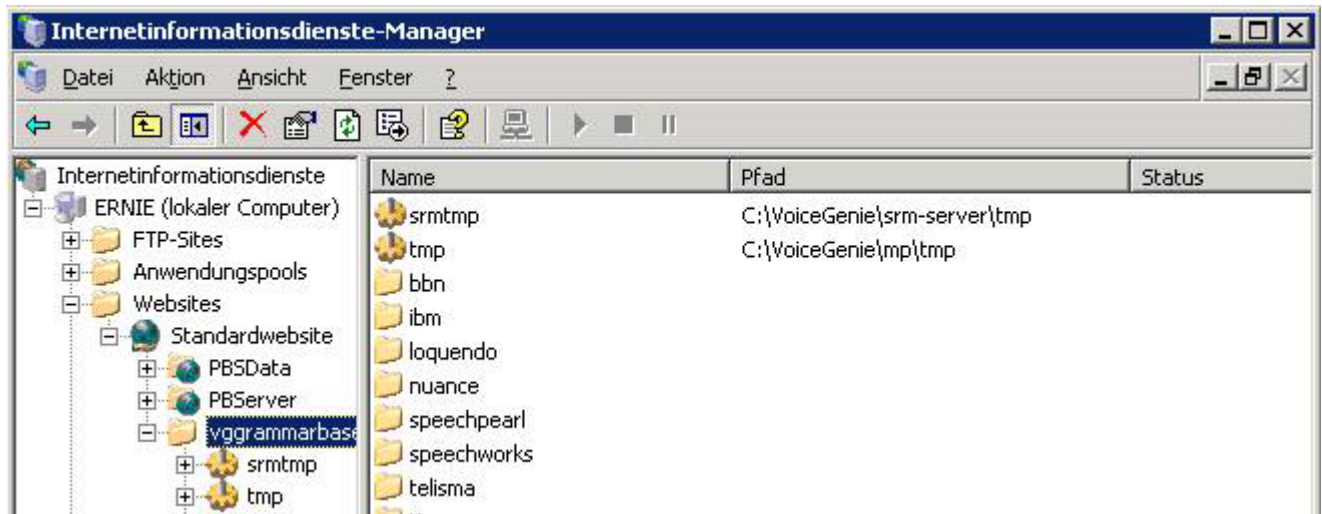
4.5 Red Hat Enterprise Linux 4 and Third-Party Software Installation

This section outlines the procedure for installing a system with Red Hat Enterprise Linux 4 (RHEL4) Update 6, as well as the other third-party software components needed for running VoiceGenie software.

4.5.1 Red Hat Enterprise Linux 4 Operating-System Installation

To install Red Hat Enterprise Linux 4 Update 6 users must use the standard RHEL4 installation CDs provided by Red Hat.

Step 1—Installing RHEL4

Please refer to the *Red Hat Enterprise Linux Installation Guide* for instructions on installation process.

In addition to the default selected installation packages, the following groups/package should also be installed:

```
Development Tools
```

```
MySQL Database
```

```
mysql-server
```

Please do not create a user account with user name of "*pw*". This user account is reserved for the process owner of the VoiceGenie software. The account will be created automatically in the following step.

Note that users may choose to use the kick-start file provided by VoiceGenie, but it is not a requirement. The VoiceGenie kick-start file can be found in the *VoiceGenie RHEL4 Post-Installation* package.

Refer to *Red Hat Enterprise Linux 4: System Administration Guide* for instructions on how to install from a kick-start file.

Step 2—Installing Third-Party Software and VoiceGenie-Specific Packages

When the operating system has been installed, the *VoiceGenie RHEL4 Post-Installation* packages must be installed.

To install the packages, log on to the system as the root user and create a directory in which to store the Post-Installation packages temporarily. The following is an example:

```
mkdir -p /usr/local/vg_install/post_installation
```

Insert the VoiceGenie RHEL4 Post-Installation CD in the CD-ROM drive and copy all files in the root directory on the CD to the previously created location:

```
mount /mnt/cdrom
cd /usr/local/vg_install/post_installation
cp /mnt/cdrom/* .
```

The directory should contain the following RPMs:

```
cmp-deployer-1.0.0-26.i386.rpm
```

```
j2sdk-1_4_2_12-linux-i586.rpm
```

```
vg-scriptmanager-3.0.1-7.i386.rpm
```

```
vg-setup-1.0.0-9.i386.rpm
```

```
vg-tomcat-5.0.28-1.i386.rpm
```

```
vg-xerces-EL40-2.7.0-2.i386.rpm
```

After the files have been copied over, run the following command to install the packages:

```
cd /usr/local/vg_install/post_installation
```

```
rpm -ivh *.rpm
```

If you have not set up the network interface and time zone, you can run the VoiceGenie provided Network and Time Zone setup scripts, which are located at `/usr/local/vg-scriptmanager/done/I010network` and `/usr/local/vg-scriptmanager/done/I060clock`. After running these scripts, the system must be restarted.

If you have already configured the network settings, make sure the host name and IP address can be successfully resolved by DNS. If this is not the case, either use the aforementioned script to set up the network, or add the host name/IP address entry into the `/etc/hosts` file.

Afterward, restart the system.

Step 3—Turning On Required Services

When the required packages have been installed, the required services must be turned on before installing the VoiceGenie software.

Log on to the system as the root user, and run the following command to turn on the services:

```
chkconfig --add mysqld
```

```
chkconfig --level 345 mysqld on
```

```
chkconfig --level 345 httpd on
```

```
chkconfig --level 345 sendmail on
```

```
chkconfig --level 345 squid on
```

```
chkconfig --level 345 vgtomcat on
```

Start the services for the first time by running the following command as root:

```
/etc/init.d/mysqld start
```

```
/etc/init.d/httpd start
```

```
/etc/init.d/sendmail start
```

```
/etc/init.d/squid start
```

```
/etc/init.d/vgtomcat start
```

Restart the system after the changes.

Note that the preceding command should be used at any time to start the services. Run the following command to stop the services:

As root:

```
/etc/init.d/mysqld stop
```

```
/etc/init.d/httpd stop
```

```
/etc/init.d/sendmail stop
```

```
/etc/init.d/squid stop
```

```
/etc/init.d/vgtomcat stop
```

Step 4—Confirming that Required Services Start

The following two services are required to be started prior to installation of the VoiceGenie OA&M Framework software. Verify the services are started correctly by running "`ps -ef`" command, and verify the corresponding processes are running—for example:

```
ps -ef | grep mysqld
```

```
ps -ef | grep java
```

```
ps ·ef | grep squid
```

Rerun the following commands to start the services if the correct processes do not show in the output:

```
/etc/init.d/mysqld start
```

```
/etc/init.d/vgtomcat start
```

Others

The following changes are necessary for the CMP external agent to monitor the squid process and to stop or start the cache in SMC.

As root:

1. Stop squid if it is running.

2. Edit `/etc/squid/squid.conf` to have the following:

```
cache_effective_user pw
```

```
cache_effective_group phoneweb
```

```
pid_filename /var/run/squid.pid
```

3. Change the permissions of the following squid files:

```
chown -R pw:phoneweb /var/log/squid
```

```
chown -R pw:phoneweb /var/spool/squid
```

4. Create a `/user/local/squid` directory structure:

```
mkdir /usr/local/squid
```

```
cd /usr/local/squid
```

```
ln -s /usr/sbin bin
```

```
ln -s /var/spool/squid cache
```

```
ln -s /var/log/squid logs
```

```
ln -s /usr/sbin sbin
```

```
mkdir etc under /usr/local/squid
```

```
cd etc
```

```
ln -s /etc/squid/squid.conf
```

5. Change the permissions of the related folder and file:

```
chmod 777 /var/run
```

```
chmod o+r /etc/squid/squid.conf
```

6. Change the location of the `squid.pid` file:

In `/usr/local/phoneweb/bin/squid_start`, change it from the following:

```
if [ -e /usr/local/squid/logs/squid.pid ]
```

To the following:

```
if [ -e /var/run/squid.pid ]
```

Note that if you redeploy the Media Platform package in the future, you should ensure all the preceding changes are maintained after the new deployment.

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Chapter

5

Oracle 10g Server and Client Installation (Optional)

This section covers installation of the Oracle 10g Server and Client. Installation of Oracle 10g is optional and required only if you are going to be using Oracle as your Database Server. If you are using Oracle as your Database Server, it must be installed before installation of the basic VoiceGenie OA&M Framework software. The procedure outlined in the following sections should be carried out on the actual Database Server. The one exception is the instructions in the Installing the Oracle Client section. This section should be followed only on the server(s) that will be installed with the OA&M Framework CMP Server software. In the event that the Database Server is on the same computer as the CMP Server, carry out all steps on that one computer.

5.1 Hardware Requirements

Oracle 10g has the following minimum hardware requirements:

- 1024 MB (or greater) of RAM
- 400 MB of disk space in the /tmp partition
- 3 GB of disk space in the /usr/local partition

On Linux, to check the amount of physical memory and swap space, enter the following command at the command prompt:

```
egrep -i "memtotal|swaptotal" /proc/meminfo
```

On Windows, to check the amount of physical memory, open the System Properties UI in Control Panel.

Note: Oracle requires swap space that is double the size of the RAM if there is between 1 GB and 2 GB of RAM. If there is more than 2 GB of RAM, Oracle requires swap space that is one to two times the size of RAM. If more swap space is required, consult the Oracle install guide.

On Linux, to check the amount of disk space available, enter the following commands at the command prompt:

```
df -k /tmp
df ·k
```

5.2 Software Requirements

Linux

On Linux, Oracle 10g requires that certain software packages are installed.

VoiceGenie Linux 3.0/Red Hat Enterprise Linux 3.0

The following is a list of packages that must be installed on top of the VoiceGenie Linux 3.0 installation:

```
compat-db-4.0.14-5.i386.rpm
compat-gcc-7.3-2.96.128.i386.rpm
compat-gcc-c++-7.3-2.96.128.i386.rpm
compat-libstdc++-7.3-2.96.128.i386.rpm
compat-libstdc++-devel-7.3-2.96.128.i386.rpm
openmotif21-2.1.30-8.i386.rpm
vnc-server-4.0-0.beta4.1.1.i386.rpm
```

These RPMs can be found in the `oracle_vg.tgz` file. To install these RPMs, log on to the system as the root user, and then create the `/usr/local/vg_install/oracle` directory:

```
mkdir -p /usr/local/vg_install/oracle
```

Then, copy the `.tgz` file to this directory, and untar the file:

```
cd /usr/local/vg_install/oracle
tar -xzvf oracle_vg.tgz
```

When the files have been extracted, go to the `pre_oracle` directory:

```
cd /usr/local/vg_install/oracle/pre_oracle
```

Next, install all RPMs:
```
rpm -ivh *.rpm
```

Red Hat Enterprise Linux 4.0

The following is a list of packages that must be installed on top of the Red Hat Enterprise Linux 4.0 basic installation:
```
compat-gcc-32-3.2.3-47.3.i386.rpm
compat-gcc-32-c++-3.2.3-47.3.i386.rpm
```

These RPMs can be found in the RHEL4 CD-ROM at `RedHat/RPMS`. Log on to the system as root user, and then:
```
cd /media/cdrom/RedHat/RPMS
```

Next, install the RPMs:
```
rpm -ivh compat-gcc-32-3.2.3-47.3.i386.rpm
rpm -ivh compat-gcc-32-c++-3.2.3-47.3.i386.rpm
```

Create the `/usr/local/vg_install/oracle` directory:
```
mkdir -p /usr/local/vg_install/oracle
```

Then, copy the Oracle `.tgz` file to this directory, and untar the file:
```
cd /usr/local/vg_install/oracle
tar -xzvf oracle_vg.tgz
```

Note that on RHEL4, only `/usr/local/vg_install/oracle/post_oracle` is needed.

Windows

Windows has no specific software requirements.

5.3 Linux Oracle Installation

This section describes the Oracle Server and Oracle Client installation for Linux. If you are installing the Oracle Server or Oracle Client on Windows, please refer to the next section.

Creating Required OS Groups and Users

A number of local OS groups and users are required by the Oracle installation. To create these, please run the following commands at the command prompt:

```
/usr/sbin/groupadd oinstall
/usr/sbin/groupadd dba
/usr/sbin/useradd -g oinstall -G dba oracle
```

Next, enter the following command to set the password for the Oracle user; choose any password you desire:

```
passwd oracle
```

Also, the user nobody should be added if it does not already exist. To check if the ID exists, run the following command:

```
id nobody
```

If the user nobody does not exist, carry out the following command to create it:

```
/usr/sbin/useradd nobody
```

Configuring Kernel Parameters

Oracle requires that specific values are set for kernel parameters. Please verify that the kernel parameters shown in the following table are set to values greater than or equal to the recommended value shown. The procedure following the table describes how to verify and set the values.

Parameter	Value	File
Semmsl	250	/proc/sys/kernel/sem
Semmns	32000	/proc/sys/kernel/sem
Semops	100	/proc/sys/kernel/sem
Semmni	128	/proc/sys/kernel/sem
Shmall	2097152	/proc/sys/kernel/shmall
Shmmax	Half the size of physical memory (in bytes)	/proc/sys/kernel/shmmax
Shmmni	4096	/proc/sys/kernel/shmmni
file-max	65536	/proc/sys/fs/file-max
ip_local_port_range	Minimum: 1024 Maximum: 65000	/proc/sys/net/ipv4/ip_local_port_range

Rmem_default	1048576	/proc/sys/net/core/rmem_default
Rmem_max	1048576	/proc/sys/net/core/rmem_max
wmem_default	262144	/proc/sys/net/core/wmem_default
wmem_max	262144	/proc/sys/net/core/wmem_max

Note: If the current value of any parameter is higher than the value listed in this table, do not change the value of that parameter. The exception is the minimum value for `ip_local_port_range`; for this parameter, the value should be the same (1024) or lower.

To view the current value specified for these kernel parameters carry out the following command on the command prompt:
```
/sbin/sysctl -a | egrep "sem|shm|file-
max|ip_local_port_range|rmem_default|rmem_max|wmem_default|wmem_max"
```

If the value of any kernel parameter is different from the recommended value, use any text editor and create or edit the file `/etc/sysctl.conf` file. Next, add or edit lines, as necessary; notably, the line should look as follows:
```
kernel.shmmax = 1074135040
```

By specifying the values in the `/etc/sysctl.conf` file, the new values will persist when the system is restarted. Please restart the system to check that the values have persisted.

Next, some shell limits for the oracle user must be set to improve the performance of the software; you can set these limits by following the steps below:

1) Edit the file: `/etc/security/limits.conf` and add the following lines to the end of the file:

```
oracle soft nproc 2047
oracle hard nproc 16384
oracle soft nofile 1024
oracle hard nofile 65536
```

2) Edit the `/etc/pam.d/login` file, and add the following lines if they do not exist:

```
session required /lib/security/pam_limits.so
```

```
session required pam_limits.so
```

3) Edit the /etc/profile file, and add the following lines to the file:

```
if [ $USER = "oracle" ]; then
        if [ $SHELL = "/bin/ksh" ]; then
                ulimit -p 16384
                ulimit -n 65536
        else
                ulimit -u 16384 -n 65536
        fi
fi
```

Creating Required Directories

The following changes must be made to the file system:

```
mkdir -p /usr/local/u01/app/oracle/product/10.2.0.1
chown -R oracle:oinstall /usr/local/u01/app/oracle/product/10.2.0.1
chmod -R 775 /usr/local/u01/app/oracle/product/10.2.0.1
ln -s /usr/local/u01/ /u01
```

Setting the Oracle User's Environment

Edit the .bash_profile file, in the home directory of the Oracle user, and add the following lines. Note that local_host_name should be changed to the host name of the local computer:

```
export DISPLAY=local_host_name:1
umask 022
```

Installing the Oracle Server

Please perform the following steps to install the Oracle Server software:

1) Create the installation directory for the Oracle software:
```
su
mkdir -p /usr/local/oracle_install/
chown -R oracle:oinstall /usr/local/oracle_install/
su - oracle
cd /usr/local/oracle_install/
```

2) Next, copy the ZIP file to the previously created installation directory. The steps required to do this depend on the location of the Oracle ZIP file.

3) Unzip the installation file, and change directories:
```
unzip 10201_database_linux32.zip
```

4) Start the VNC Server so that the installation user interface can be run. When you are asked for a password, you can use any password to access the desktop:
```
vncserver :1
```

Note: To kill the X Server to prevent access later, you can run the following command:

```
vncserver -kill :1
```

---

5) Next, start the Oracle installation from the command line. First, if you have installed VoiceGenie Linux 3.0, become the root user, edit the `/etc/redhat-release` file, and enter the version of the OS. Note that if you have Red Hat Enterprise Linux 3.0 or 4.0 installed, this step is not required:
```
su
vi /etc/redhat-release
```

Add the following line to the text file:
```
RedHat Linux release 3.0
```

Next, as the root user, enter the following commands to ensure that the `ORACLE_HOME` and `TNS_ADMIN` environment variables are not set:
```
unset ORACLE_HOME
unset TNS_ADMIN
```

Finally, run the installation as the Oracle user by executing the following:
```
su - oracle
/usr/local/oracle_install/database/runInstaller
```

6) Start the VNC client from your desktop and connect to the session. This is specified by *<hostname>:<session>*, where *<hostname>* is the IP of the server and *<session>* is 1 in the preceding example.

7) In the VNC session, the installation user interface will be shown. Please enter the following information, when you are prompted to do so:

```
Oracle Home Location: /u01/app/oracle/product/10.2.0.1
Installation Type: Enterprise Edition (1.3GB)
UNIX DBA Group: dba
Create Starter Database: <Ensure this option is checked>
Global Database Name: ndm
Database Password: rootsql
Confirm Password: rootsql
```

Then, click Next.

Next, enter the following, when you are prompted to do so:

Enter the full path of the inventory directory: `/home/oracle/oraInventory`

Specify Operating System group name: `dba`

Then, click Next.

Next, the Product-Specific Prerequisite Checks screen will appear. Please acknowledge any errors, because these errors will not affect the system negatively. Notably, there will be an error generated concerning the glibc version on VoiceGenie Linux 3.0 or Red Hat Enterprise Linux 3.0. After acknowledging the errors, click Next.

Note:	The previously noted error will appear as follows:
	Checking Recommended glibc version Expect result": ATLEAST=2.3.2-95.27 Actual Result:2.3.2-95.20

Note:	The previously noted error will appear as follows:
	Checking Recommended glibc version Expect result": ATLEAST=2.3.2-95.27 Actual Result:2.3.2-95.20

After viewing the Summary page, click Install to start the installation.

Note:	The last step in the Oracle install involves running two scripts as the root user:

```
/home/oracle/oraInventory/orainstRoot.sh
/u01/app/oracle/product/10.2.0.1/root.sh
```

Ensure that you run these scripts prior to pressing the OK button to complete the install.

After the installation completes you can exit the installer.

8) Next, make the following manual changes to the system as the root user:

Edit the file: `/etc/oratab` and modify the line:
`ndm:/u01/app/oracle/product/10.2.0.1:Y`

Next, edit the `/home/oracle/.bash_profile` file, and add the following lines to the end of the file:

```
ORACLE_HOME=/u01/app/oracle/product/10.2.0.1
export ORACLE_HOME
PATH=$PATH:$ORACLE_HOME/bin
```

Next, edit the file: `/u01/app/oracle/product/10.2.0.1/bin/dbstart` and edit the line with `ORACLE_HOME_LISTNER` to the following:
`ORACLE_HOME_LISTNER=$ORACLE_HOME`

9) Next, start the Oracle Server by running the following commands as the root user:
```
su - oracle -c "/u01/app/oracle/product/10.2.0.1/bin/dbstart"
su - oracle -c "lsnrctl start"
```

10) To make additional changes to the system and to test the Oracle server installation you must run the `post_oracle_install.pl` script. Please carry out the following step as the root user:

Go to the following specified directory:

```
cd /usr/local/vg_install/oracle/post_oracle
```

Next, run the post_oracle_install.pl script and ensure that no major failures are reported:

```
./post_oracle_install.pl
```

11) Finally, restart the server to complete the installation.

Stopping and Starting the Oracle Server

If you ever need to stop the Oracle Database, run the following commands as the root user:

```
/etc/init.d/dbora stop
su - oracle -c "lsnrctl stop"
```

If you need to start the Oracle Database, run the following commands as the root user:

```
/etc/init.d/dbora start
```

Installing the Oracle Client

The Oracle Client, also known as the Oracle ODBC Instant Client, is used by the CMP Server software to communicate to the Oracle Server and is required to be installed prior to installing the CMP Server. This section outlines the steps to download, install, and configure the Client.

1) Download the Basic Instant Client and ODBC Instant Client packages from the Oracle Technology Network Instant Client page. You will need an Oracle Technology Network account to access the packages at the following URL:
   http://www.oracle.com/technology/software/tech/oci/instantclient/htdocs/linuxsoft.html.

2) The two downloaded packages must be unzipped into same directory. For example, create the following directory, copy the files into the directory, and then unzip them:
   ```
   mkdir /usr/local/oracle_client
   cd /usr/local/oracle_client
   ```
   Next, copy the files to this directory and unzip as follows:
   ```
   unzip instantclient-basic-linux32-10.2.0.2-20060331.zip
   unzip instantclient-odbc-linux32-10.2.0.2-20060331.zip
   chown -R pw:phoneweb /usr/local/oracle_client
   ```

3) Next, as the root user, execute the odbc_install script while specifying "/" as the Driver Manager installed directory in the command-line argument:

```
cd instantclient_10_2
chmod +x odbc_install.sh
./odbc_install.sh /
```

This script will add the DSN entry in $HOME/.odbc.ini and /etc/odbcinst.ini with the DSN name set as OracleODBC-10g.

4) Finally, once the installation is complete, the system environment variable LD_LIBRARY_PATH must be modified to add this path, so that the ODBC driver manager can load the Oracle driver. Please carry out the following step:

```
vi /etc/profile
```

Add the following to the end of the file:

```
export
LD_LIBRARY_PATH=/usr/local/oracle_client/instantclient_10_2:$LD_
LIBRARY_PATH
```

5.4 Windows Oracle Installation

This section describes the Oracle Server and Oracle Client installation for Windows. If you are installing the Oracle Server or Oracle Client on Linux, please refer to the previous section.

Installing the Oracle Server

Please perform the following steps to install the Oracle Server software:

1) Copy the Oracle Server installation ZIP file (`10201_database_win32.zip`) to your C: drive and unzip by using WinZip.

2) After the file has been unzipped, the C:\database directory will be created. Enter this directory, and double-click the setup.exe file to launch the Oracle installer.

3) In the Oracle installer, select Installation Method, and choose Basic Installation. Next, enter the following information:

```
Oracle Home Location: C:\oracle\product\10.2.0\db_1 Installation
Type: Enterprise Edition (1.3GB)
Create Starter Database: <Ensure this option is checked>
Global Database Name: ndm
Database Password: rootsql
Confirm Password: rootsql
```

4) Next, the Product-Specific Prerequisite Checks screen will appear. All checks should pass, and you should see Check complete. The overall result

of this check should be Passed. After viewing the results, please click
Next.

5) On the Summary page, click Install. The installation will take a few
minutes. Click OK after it has completed running the Database
Configuration Assistant. Click Exit to complete the installation.

Installing the Oracle Client

The Oracle Client, also known as the Oracle ODBC Instant Client, is used by
the CMP Server software to communicate to the Oracle Server and is required
to be installed prior to installing the CMP Server. This section outlines the
steps to download, install, and configure the Client.

1) Download the Basic Instant Client and ODBC Instant Client packages
from the Oracle Technology Network Instant Client page. You will need
an Oracle Technology Network account to access the packages at the
following URL:
http://www.oracle.com/technology/software/tech/oci/instantclient/ht
docs/winsoft.html.

2) The two downloaded packages must be unzipped into same directory. For
example, create the following directory, copy the files into the directory,
and then unzip them:
```
md C:\Oracle\instantclient_10_2
cd C:\Oracle\instantclient_10_2
```

Next, save the files to this directory and unzip into that directory by using
Winzip. The two required ZIP files are the following:
```
instantclient-basic-win32-10.2.0.2-20060508.zip
instantclient-odbc-win32-10.2.0.2-20060508.zip
```

3) Next, ensure that the following DLLs are included in the either the
`C:\WINNT\system32\` or `C:\oracle\instantclient_10_2\` directory:
```
msvcr71.dll
MFC71.dll
```

4) After unzipping the Instant Client packages, execute the odbc_install script
at the command line:
```
cd C:\oracle\instantclient_10_2
odbc_install.exe
```

5) Finally, you must make changes to the system variables. Go to the Control Panel, double click System, select the Advanced tab, and click the Environment Variables button. In the System variables, make the following changes:

   a. Add the directory `C:\Oracle\instantclient_10_2` to the `PATH` system environment variable

   b. Define the system environment variable `TNS_ADMIN` to point the tnsnames.ora files directory which is at `C:\Oracle\instantclient_10_2\`.

   c. Define the system environment variable `ORACLE_HOME` to point to C:\oracle\product\10.2.0\db_1

   d. Edit the tnsnames.ora file to add the following text:

```
NDM =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = ndm)
    )
  )
```

6) Restart the system after you have made the changes.

6

VoiceGenie OA&M Framework Installation

This section covers installation assuming that the operating system and all third-party software are installed; if they are not installed please refer to Operating-System and Third-Party Software Installation. This section covers installation of the basic VoiceGenie OA&M Framework software, this software must be installed before any other VoiceGenie or third-party software can be deployed.

6.1 Installation Order

When you have selected a deployment architecture, you can begin installing the various servers that make up a VoiceGenie deployment. The components of the OA&M Framework (for example, Database Servers and Management Servers) should be installed first. Subsequently, all other servers that are part of the VoiceGenie deployment (VoiceXML Platforms and others) can be installed.

6.2 Basic Installation Procedure

The following procedure should be carried out on all computers that will be part of a VoiceGenie deployment. This procedure installs the basic OA&M Framework, so that installation and deployment can be carried out via the System Management Console (SMC) (for example, the web interface).

Step 1—Copy Basic OA&M Framework Files to the System

If the VoiceGenie Software was installed by using the installation CD, skip ahead to Step 2—Install Basic OA&M Framework.

Linux

Under Linux, copy the following packages to the directory
`/usr/local/vg_install/products/`. Note that `x.y.z` is the latest version (for
example, `7.2.0`), and `a` is the revision of the package (for example, `5`):

- `cmp-db-x.y.z-a.tar.gz`
- `cmp-server-x.y.z-a.tar.gz`
- `cmp-proxy-x.y.z-a.tar.gz`
- `cmp-smc-x.y.z-a.tar.gz`

Windows

Under Windows, copy the following packages to the `C:\install\` directory. If
this directory does not exist, create it. Note that `x.y.z` is the latest version (for
example, `7.2.0`), and `a` is the revision of the package (for example, `3`):

- `setup.exe`
- `cmp-db-x.y.z-a.zip`
- `cmp-server-x.y.z-a.zip`
- `cmp-proxy-x.y.z-a.zip`
- `cmp-smc-x.y.z-a.zip`

Step 2—Install Basic OA&M Framework

Linux

To begin the installation, please carry out the following:

1. Log on to the system as `root`; the default password is `root1`.
2. Type in `vg-install` at the command prompt.

Note: If you installed RHEL3 by following section 4.3, or RHEL4 by
following section 4.5, after entering `vg-install,` you will be presented
with the following prompt:

```
Please select one of the following 3 options:
1) Run these scripts now (Recommended)
2) Run these scripts later
3) Never run these scripts
```

Enter `3` to not run the configuration scripts. The user should again type
`vg-install.`

After entering `vg-install,` you will be presented with the following prompt:
```
Will this server be part of a distributed setup (ie. more than 1
server)?
[Y/n] >
```

If you are installing a system for trial or lab purposes you can enter `N` to install all OA&M Framework software components on this computer. This is called an *All-in-One setup,* a diagram of which can be found in 2.2.1 All-in-One. Note that this type of setup is not recommended for production systems. If you select `N,` no further questions will be asked. To continue installation, *restart* the system when configuration has been completed, and proceed to Other VoiceGenie Software Installation to install other VoiceGenie software.

If you select the default (`Y`), you will be presented with the following question:
```
What is the role of this server in the network?
1) Database Server Only
2) Management Server Only
3) Database and Management Server
4) Other (VoiceXML Platform, ASR Server, TTS Server, etc.)
[4] >
```

If you are installing a computer that will function as a Database Server or Management Server, please refer to the following section (6.3 Database Server and Management Server Setup), which goes through the various installation scenarios for the Database Server and Management Server.

If you are installing a computer that will function as a VoiceXML Platform, ASR Server, TTS Server, or Other Server, select the default value (`4`). If this option is selected, you will be presented with the following question:
```
Please enter the IP address or hostname of the Primary CMP Server:
[localhost] >
```

The user should enter the IP address of the Primary CMP Server. Next, the user will be prompted with the following question:
```
Please enter the IP address or hostname of the Backup CMP Server, if
one exists:
[] >
```

The user should enter the IP address of the Backup CMP Server if one exists. If one does not exist, just press `Enter`. After the appropriate configuration changes have been made by the installation scripts, the user should *restart* the system and proceed to Other VoiceGenie Software Installation to install other VoiceGenie software.

Windows

Under Windows, double-click the `setup.exe` file in the `C:\install\` directory. When the VoiceGenie OA&M Framework installation user interface has been loaded, click `Next` to start the installation process. Subsequently, read the License Agreement, and click `Next.`

Note: If you are not presented with this screen when you launch `setup.exe`, you may need to uninstall previous versions of the VoiceGenie OA&M Framework.

The following installation screen will be presented:
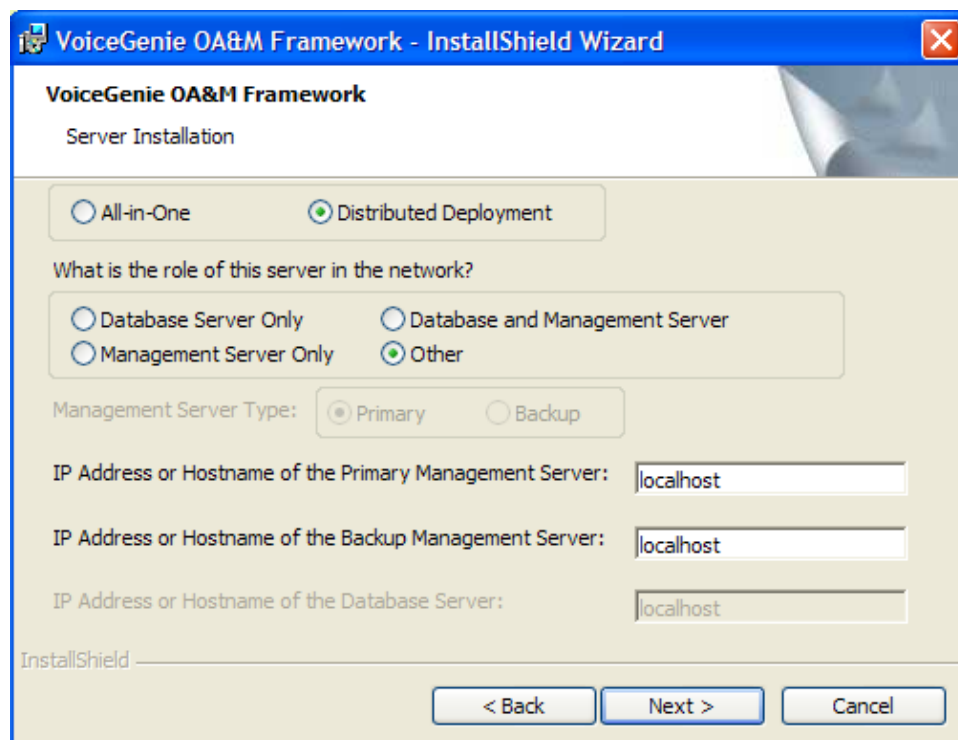
If you are installing a system for trial or lab purposes you can select `All-in-One` to install all OA&M Framework software components on this computer (as detailed previously in 2.2.1 All-in-One). Note that this type of setup is not recommended for production systems. If you choose this selection, no further questions will be asked. To continue installation, *restart* the system when configuration has been completed, and proceed to Other VoiceGenie Software Installation to install other VoiceGenie software.

If you select the default (`Distributed Deployment`), you will have to select one of the following:

1. `Database Server Only`

2. `Management Server Only`

3. `Database and Management Server`

4. `Other` (VoiceXML Platform, ASR/TTS Server, an so on)

If you are installing a computer that will function as a Database Server or Management Server, please refer to the following section (6.3 Database Server and Management Server Setup), which goes through the various installation scenarios for the Database Server and Management Server.

If you are installing a computer that will function as a VoiceXML Platform, ASR Server, TTS Server, or Other Server, select the default value. No further questions will be asked. To continue installation, *restart* the system when configuration has been completed, and proceed to Other VoiceGenie Software Installation to install other VoiceGenie software.

6.3 Database Server and Management Server Setup

This section describes how the various architectures discussed in 2.2.2 One Management/Database Server and 2.2.3 Two Management/Database Servers can be setup using the OA&M Framework packages provided by VoiceGenie. Note that this section does not apply if using an All-in-One configuration, because all software is installed on one computer. This section does not include setting up database replication, which is described in the *VoiceGenie OA&M Framework User's Guide.*

Please note that firewall settings must be set correctly on your network to ensure that installation progresses correctly. In particular, ensure that port 8080, 8600 and 8650 are open on the Management Server, so that the CMP Proxy can connect and packages can be deployed.

6.3.1 One Management/Database Server

This section describes the procedure for installing a deployment that has the Database Server and Primary Management Server on one computer.

Linux

When presented with the following question:
```
What is the role of this server in the network?
1) Database Server Only
2) Management Server Only
3) Database and Management Server
4) Other (VoiceXML Platform, ASR Server, TTS Server, etc.)
[4] >
```
The user should select 3, so that the Database and Management Server are installed on this computer. The next question that will be presented is as follows:
```
Will this be the
1) Primary Management Server
2) Backup Management Server
[1] >
```

Because this is the Primary Management Server the user should select the default, `1`. The next question that will be presented is as follows:

`Please enter the IP address or hostname of the Backup Management Server if one exists. Otherwise press enter:`
`[] >`

If there is no Backup Management Server, press `Enter`; otherwise, enter the IP address of the Backup Management Server. At this point, the installation scripts will make all the necessary system and configuration changes. This will take a few minutes, during which the system will be nonresponsive. When installation is complete, please *restart* the computer.

After restart, check that the system is functioning correctly. Try to access the SMC by pointing your web browser to `http://[Management Server Name]:8080/smc/`, where `[Management Server Name]` is the host name or IP address of the newly installed Management Server.

Please proceed to Other VoiceGenie Software Installation to continue installation.

Windows

On the InstallShield interface that follows shown below select the `Database and Management Server` radio button in the `What is the role of this server in the network?` box. Also select the `Primary` radio button in the `Management Server Type` box. Finally, if there is a Backup Management Server enter its IP address in the `IP Address or Hostname of the Backup Management Server` box. Then, click `Next` to begin installation.

When installation is complete, please *restart* the computer.

After restart, check that the system is functioning correctly. Try to access the SMC by pointing your web browser to `http://[Management Server Name]:8080/smc/`, where `[Management Server Name]` is the host name or IP address of the newly installed Management Server.

Proceed to Other VoiceGenie Software Installation to continue installation.
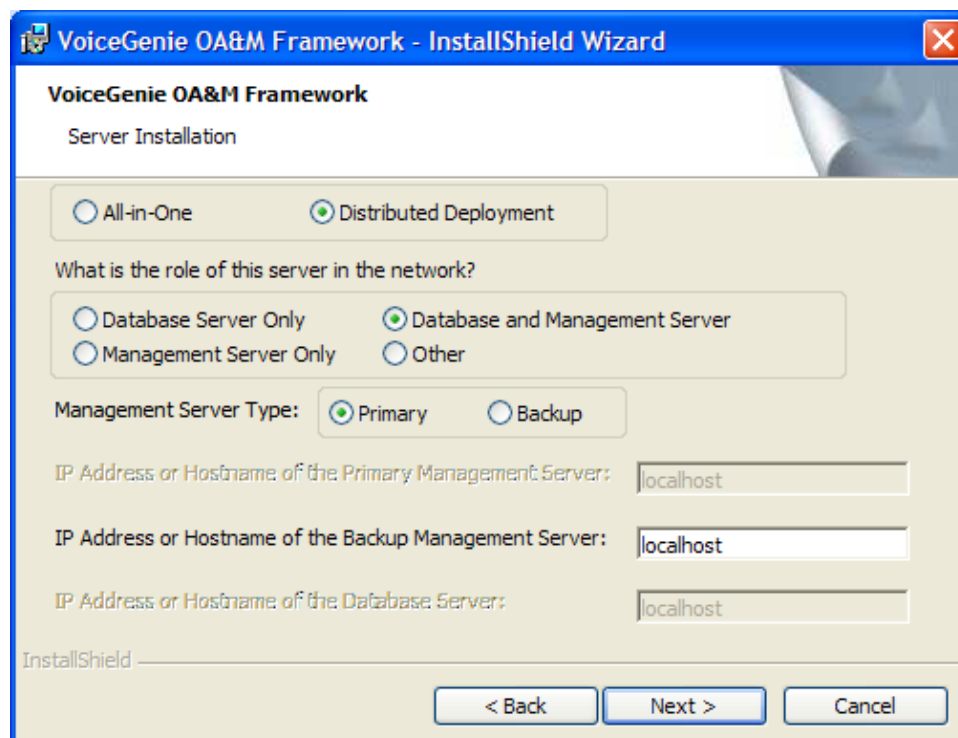
6.3.2 Two Management/Database Servers

This section describes the procedure for installing a deployment that has two computers, both with the Database Server and Management Server on each computer. The first step is to install the Primary Management Server with the database onboard, while the second step is to install the Backup Management Server, also with a database inboard. The final step is to set up replication between the two databases.

Step 1—Install Primary Management Server with Database Server

Linux

When you are presented with the following question:
```
What is the role of this server in the network?
1) Database Server Only
2) Management Server Only
3) Database and Management Server
4) Other (VoiceXML Platform, ASR Server, TTS Server, etc.)
[4] >
```

You should select 3, so that the Database Server and Management Server are installed on this computer. The next question that will be presented is as follows:

```
Will this be the
1) Primary Management Server
2) Backup Management Server
[1] >
```

Because this is the Primary Management Server, the user should select the default, 1. The next question that will be presented is as follows:

```
Please enter the IP address or hostname of the Backup Management
Server if one exists. Otherwise press enter:
[] >
```

The user should enter the IP address of the Backup Management Server. At this point, the installation scripts will make all the necessary system and configuration changes. This will take a few minutes, during which the system will be nonresponsive. When installation is complete, please *restart* the computer.

After restart, check that the system is functioning correctly. Try to access the SMC by pointing your web browser to `http://[Management Server Name]:8080/smc/`, where `[Management Server Name]` is the host name or IP address of the newly installed Management Server.

### Windows

On the InstallShield interface, the user should select the `Database and Management Server` radio button in the `What is the role of this server in the network?` box. Also, select the `Primary` radio button in the `Management Server Type` box. Finally, enter the IP address of the Backup Management Server in the `IP Address or Hostname of the Backup Management Server` box. Then, click `Next` to begin installation.

When installation is complete, please *restart* the computer.

After restart, check that the system is functioning correctly. Try to access the SMC by pointing your web browser to `http://[Management Server Name]:8080/smc/`, where `[Management Server Name]` is the host name or IP address of the newly installed Management Server.

Step 2—Install Backup Management Server with Database Server

Linux

When presented with the following question:
```
What is the role of this server in the network?
1) Database Server Only
2) Management Server Only
3) Database and Management Server
4) Other (VoiceXML Platform, ASR Server, TTS Server, etc.)
[4] >
```
The user should select 3, so that the Database and Management Server are installed on this computer. The next question that will be presented is as follows:
```
Will this be the
1) Primary Management Server
2) Backup Management Server
[1] >
```
Because this is the Backup Management Server, the user should select 2. The next question that will be presented is as follows:
```
Please enter the IP address or hostname of the Primary Management
Server if one exists. Otherwise press enter:
[] >
```
The user should enter the IP address of the Primary Management Server. At this point, the installation scripts will make all the necessary system and configuration changes. This will take a few minutes, during which the system will be nonresponsive. When installation is complete, please *restart* the computer.

After restart, check that the system is functioning correctly. Try to access the SMC by pointing your web browser to `http://[Management Server Name]:8080/smc/`, where `[Management Server Name]` is the host name or IP address of the newly installed Management Server. Note that the Backup SMC should be used only when the Primary SMC is down. This test is just to check basic connectivity.

If you wish to set up database replication, please proceed to the next section; otherwise, please proceed to Other VoiceGenie Software Installation to continue installation.

Windows

On the InstallShield interface that appears next, the user should select the `Database and Management Server` radio button in the `What is the role of this server in the network?` box. Also, select the `Backup` radio button in the

`Management Server Type` box. Finally, enter the IP address of the Primary Management Server in the `IP Address or Hostname of the Primary Management Server` box. Then, click `Next` to begin installation.

When installation is complete, please *restart* the computer.

After restart, check that the system is functioning correctly. Try to access the SMC by pointing your web browser to `http://[Management Server Name]:8080/smc/,` where `[Management Server Name]` is the host name or IP address of the newly installed Management Server. Note that the Backup SMC should be used only when the Primary SMC is down. This test is just to check basic connectivity.

If you wish to set up database replication, please proceed to the next section; otherwise, please proceed to Other VoiceGenie Software Installation to continue installation.

Step 3 – Setting Up Database Replication

The procedure for setting up database replication is found in the appendix of the *VoiceGenie OA&M Framework User's Guide.* Please refer to that document to set up database replication.

When database replication has been set up, please proceed to Other VoiceGenie Software Installation to continue installation.

Chapter

7 Other VoiceGenie Software Installation

This section begins by explaining the general method by which VoiceGenie and other third-party software is installed and deployed. Also, it covers the installation of all other VoiceGenie software. This section assumes that the operating system and all related third-party software are installed; if they are not installed, please refer to Installation Overview. Also, this section assumes that the VoiceGenie OA&M Software is set up on all computers, as described in VoiceGenie OA&M Framework Installation, or is an All-in-One system.

7.1 Installation and Deployment via the SMC Overview

This section describes in a general fashion how VoiceGenie and other third-party software is installed using the System Management Console (SMC). For details on how to install specific VoiceGenie or other third-party software please continue on to the correct section, as outlined in the table below:

Software Product	Section
VoiceXML Platform	7.2 Installing the VoiceXML Platform
SIP Proxy	7.3 Installing the SIP Proxy
VG SNMP	7.4 Installing Other VoiceGenie Software
MRCP Proxy	7.4 Installing Other VoiceGenie Software
VoiceGenie Tools Framework (Call Analyst and Quality Advisor)	7.5 Installing the VoiceGenie Tools Framework (Call Analyst and Quality Advisor)
ASR or TTS Software	ASR and TTS Software Installation

Software Product	Section
VoiceGenie 7.2 CCXML Platform	See the *VoiceGenie 7.2 CCXML Platform Installation and Configuration Guide*

Note: Note that not all of the components listed above are required for a deployment. Only those components that you have purchased must be installed. The VoiceGenie 7.2 CCXML Platform must be installed after the VoiceXML Platform; see the *VoiceGenie 7.2 CCXML Platform Installation and Configuration Guide* for details.

To access the SMC point your web browser to `http://[Management Server Name]:8080/smc/,` where `[Management Server Name]` is the host name or IP address of a Management Server. Do not use localhost when accessing the SMC.

7.1.1 VoiceGenie Packaging Overview

VoiceGenie software and any repackaged third-party software delivered by VoiceGenie is provided to customers in the form of a product file. A *product file* is bundle that contains the software and the information necessary to install and configure the software automatically.

Product files that are delivered for the Linux operation system are TAR files that have the file extension `.tar.gz` (for example, `phoneweb-7.2.0-5.tar.gz`). Product files that are delivered for Windows are ZIP files that have the extension `.zip` (for example, `phoneweb-7.2.0-5.zip`).

To install and deploy these product files, customers must use the infrastructure provided by the System Management Console, which is part of the OA&M Framework. The OA&M Framework includes the Database Server(s) and Management Server(s), as a result, the OA&M Framework must be set up first.

7.1.2 Installation vs. Deployment

Installation of VoiceGenie software consists of two parts: firstly, installation and, secondly, deployment. *Installation* is the act of uploading a product file (also called a *package*) into the SMC. When a package has been uploaded, customers can create configuration profiles that consist of customized configuration, based on user input. Finally, the package can be deployed to one or more computers. Consequently, *deployment* is the act of positioning a package on a physical computer, as well as automatically configuring and setting up the software.

Please be aware that using a computer that does not match the minimum CPU requirements (1 GHz) may cause installation problems.

7.1.3 Product-File Installation

Product files can be installed into the SMC by accessing the Product Manager under the `Configuration` tab. The following is a screen shot of the Product Manager:

Users can click the `Browse` button to browse their file system or CD-ROM drive to find the product file that must be uploaded. The following is a screen shot:
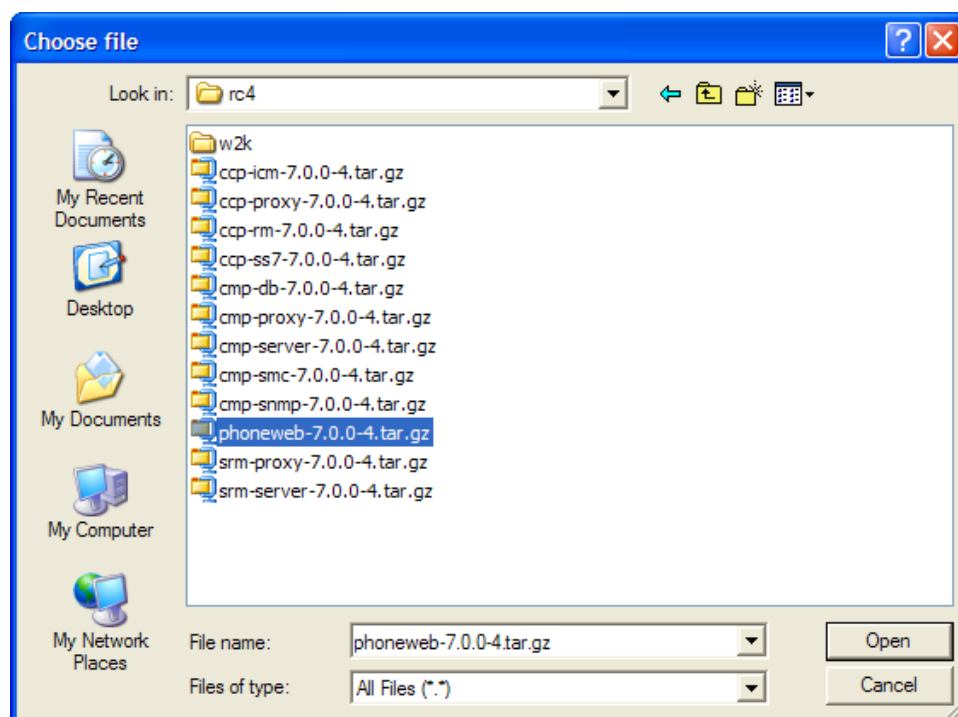
When you have selected the package to upload, click `Open`. Then, click `Upload` to upload it to the SMC. Note that a product can be deployed only from the

SMC in which it was uploaded. When the product-file upload is complete, the product file will be listed in the table at the bottom of the screen. Note that a large product file may take up to 20 minutes to load via the SMC. During this time, customers should not navigate to another web page; otherwise, the upload will be stopped. An uploaded product can be deleted to free-up disk space on the hard drive on the Management Server, if required.

7.1.4 Configuration Profile Creation

When a product file has been uploaded, it cannot be deployed until a configuration profile is created. A *configuration profile* is a customized set of configuration, based on responses provided by users. Configuration profiles can be created by using the Config Profile Manager. It is accessible by clicking the `Config Profile Manager` link in the menu under the `Configuration` tab of the SMC. Note that some products do not require questions to be answered when creating a configuration profile. The following is a screen shot of the Config Profile Manager:

Configuration Profile Manager

To create a new Configuration Profile enter a name and select the product for which you would like to create the profile, then click on Create.

Profile Name	Product
	Media Platform - AS3.0 - 7.0.0 ⌄ [Create]

The following Configuration Profiles exist. Click on View to view the details of a profile, click on Delete to delete the profile.

Profile Name	Product Name	Manufacturer	Subtype	Version		
default	VoiceGenie SNMP Agent	VoiceGenie	AS3.0	7.0.0	[View]	[Delete]
default	Media Platform	VoiceGenie	AS3.0	7.0.0	[View]	[Delete]
SIP	Media Platform	VoiceGenie	AS3.0	7.0.0	[View]	[Delete]

To create a new profile, enter a name for the profile in the `Profile Name` text box. Please use a meaningful name; then, select the product from the drop-down list, and click `Create`. If the profile creation requires questions to be answered, these will be presented. When all questions have been answered, the newly created profile will be listed in the table at the bottom.

Note: Customers should keep track of their responses, so that they can replicate the install, as well as provide this information to VoiceGenie support (if required).

If you are unsure about the correct response to a question, please consult VoiceGenie support for further assistance.

7.1.5 Product-File Deployment

When a Product File has been installed and a configuration profile has been created, the package can be deployed to one or more systems. This is carried out via the Deployment Manager, which is accessible from the menu of the `Configuration` tab under the SMC. Note that a product can be deployed to more than one computer at a time. The following is a screen shot of the Deployment Manager:

To deploy a product file, select the radio button next to it, as well as the desired configuration profile from the drop-down list. Also, select the servers on which the package should be deployed. Note that a product may not be deployable from a SMC (for example, the radio button is unavailable) if it was not uploaded from that SMC (this occurs in an environment that has more than one SMC), or if a configuration profile does not exist, because one has not been created.

Also, note that the deployment may take up to 20 minutes. The `Deployment History` page provides an updated status concerning the deployment progress.

> **Note:** Users should not start deploying any other software on a computer until all deployments on that computer are complete. Check the status of the deployment on the `Deployment History` page before attempting to deploy any other software.

When software has been deployed, the computer on which the software has been deployed should be restarted. Note that the system does not have to be restarted after deploying each package—only after all packages have been deployed.

> **Note:** Users should not access the SMC by using localhost in the URL. For example, `http://localhost:8080/smc/` is not acceptable. This is not preferred, because, for certain operations related to deployment, the SMC requires the actual IP or host name in the URL.

7.2 Installing the VoiceXML Platform

This section describes the steps involved in installing and deploying the VoiceGenie VoiceXML Platform software. Note that the VoiceXML Platform software should only be installed on computers that will be used for processing VoiceXML applications.

7.2.1 Installation and Deployment

This section describes the order in which software must be installed and deployed to a computer to ensure a functioning installation.

Step 1—VoiceGenie VoiceXML Platform Installation

Linux

Under Linux, install the following package by using the Product Manager, which is found under the `Configuration` tab of the SMC. Note that `x.y.z` is the latest version (for example, `7.2.0`), and `a` is the revision of the package (for example, `5`):

- `phoneweb-x.y.z-a.tar.gz`

The product file may take a number of minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page. For details, refer to 7.1.3 Product-File Installation.

Windows

Under Windows, install the following package by using the Product Manager, which is found under the `Configuration` tab of the SMC. Note that `x.y.z` is the latest version (for example, `7.2.0`), and `a` is the revision of the package (for example, `5`):

- `phoneweb-x.y.z-a.zip`

The product file may take a number of minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page. For details, please refer to 7.1.3 Product-File Installation.

Step 2—Create a VoiceXML Platform Profile and Deploy

When the package has been installed, go to the Config Profile Manager, which is found under the `Configuration` tab of the SMC to create a profile. You will be asked a number of questions regarding the configuration of the VoiceXML Platform software.

Note: Users can create multiple configuration profiles for a software product for different configurations. Also, if a question is answered in error when creating a configuration profile, users should just create another profile and delete the incorrect one.

When the profile has been created, go to the Deployment Manager, which is found under the `Configuration` tab of the SMC to deploy the VoiceXML Platform on the various computers that will run the software. The deployment step may take up to five minutes. To get the latest status of the deployment, check the `Deployment History` page.

7.2.2 Manual Configuration

Linux

No manual configuration is required.

Windows

The VoiceXML Platform is configured by default to access the first network connection in the Adapters and Bindings settings. On Windows systems that have multiple network adapters, the network connection that has the correct IP address should appear as the first connection in the Adapters and Bindings list.

To check the network connections order, go to `Control Panel > Network Connections` and click `Advanced > Advanced Settings` from menu of the `Network Connections` window. In the `Advanced Settings` window, make sure the correct connection shows at the top of the list. The following screen shot shows an example:
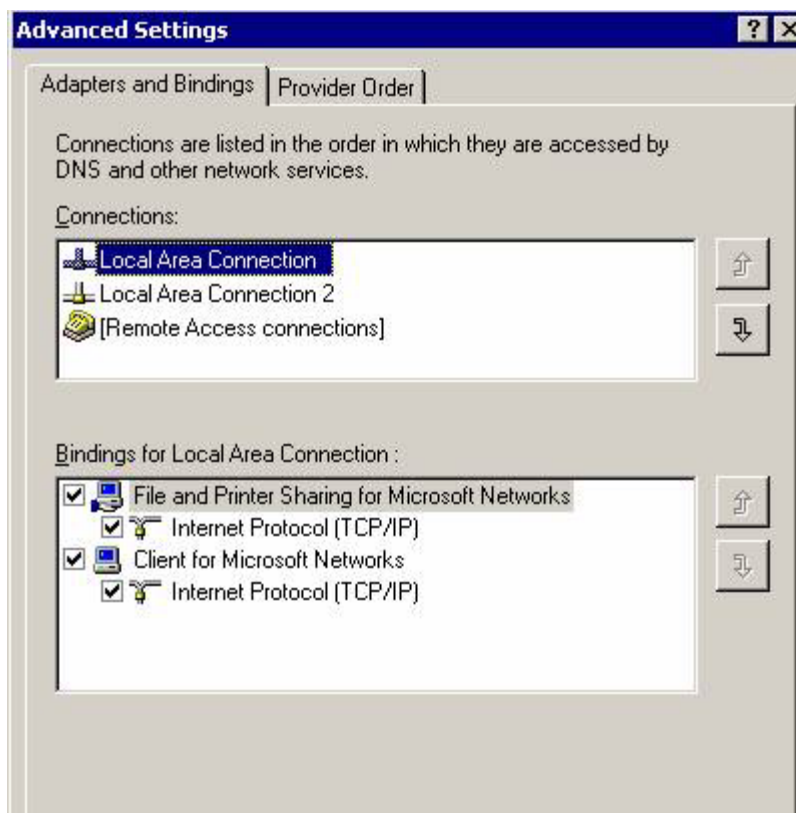
7.2.3 Licensing

Before the software can be started, a valid license is required. This section explains how to obtain, upload, and back-up licenses for your VoiceGenie software.

Obtaining a License

If you do not already have a license for your VoiceGenie software, please perform the procedure (outlined in the following section) on each computer on which the software is installed. Note that old licenses will work with new software. If you have an old license, you can just apply the license as outlined in the Applying the License section that follows.

Linux

Log on to the system as the root user (default password is `root1`), and run the following commands:

`/usr/local/cmp-proxy/scripts/vginfo_linux.sh`
`cd /usr/local/cmp-proxy/scripts/sys_info`

In this directory, a new file will be created that has the following format:
`<hostname>_<YYYY>_<MM>_<DD>_<hh>_<mm>_<ss>.out`

where the values in `<>` (or angle brackets) are defined as follows:

- `<hostname>`—host name of the computer
- `<YYYY>`—year
- `<MM>`—month
- `<DD>`—day
- `<hh>`—hours
- `<mm>`—minutes
- `<ss>`—seconds

Please send this output file to Genesys to request a license for this computer.

Windows

From the `Start` menu, select `Run`, and run the `cmd.exe` command to get a command-line window. At the prompt, run the following commands:

`C:\VoiceGenie\cmp\cmp-proxy\scripts\vginfo_w2k.bat`
`cd C:\VoiceGenie\cmp\cmp-proxy\scripts\sys_info`

In this directory, a new file will be created that has the following format:
`<hostname>_<yyyy>_<mm>_<dd>_<hh>_<mm>_<ss>.txt`

where the values in `<>` (or angle brackets) are defined as follows:

- `<hostname>`—host name of the computer
- `<YYYY>`—year
- `<MM>`—month
- `<DD>`—day
- `<hh>`—hours
- `<mm>`—minutes
- `<ss>`—seconds

Please send this output file to Genesys to request a license for this computer.

Applying the License

When you have obtained a license, or if you have an existing VoiceGenie license file (for example, `vglicense.txt`), you can use the SMC to apply the

license to your VoiceXML Platform computer(s). To do so, go to the `Operations` tab in the SMC, and click the `Platform Licensing` link.

> **Note:** VoiceGenie license files are keyed to the computer; as a result, each computer has its own unique license file that will not function on any other computer.

On the `Platform Licensing` page, select the server that corresponds to your license file from the drop-down list, and click `Continue`. Copy the contents of the license file into the text area, and click `Install`. When the license is uploaded, you should *restart* the computer.

After restart, you should be able to start the software from the `Start/Stop Software` page under the `Operations` tab of the SMC by selecting the check box next to the server you would like to start and clicking the `Start` button.

Backing Up the License File

If you plan on reinstalling a computer, ensure that you back up the license file for that computer, so that you do not need to contact VoiceGenie to obtain a new one. The license file is at `/usr/local/phoneweb/config/vglicense.txt` (on Linux) and at `C:\VoiceGenie\mp\config\vglicense.txt` (on Windows).

7.3 Installing the SIP Proxy

This section describes the steps involved in installing and deploying the VoiceGenie SIP Proxy software. Note that the SIP Proxy software should be installed only when SIP load balancing across multiple VoiceXML Platforms is required.

7.3.1 Installation and Deployment

This section describes the order in which software must be installed and deployed to a computer to ensure a functioning installation.

Step 1—Linux Bonding Driver Installation and Deployment

The VoiceGenie SIP Proxy requires that the Linux bonding driver be installed if multiple network cards are installed on the computer. If the computer does not have multiple network cards, skip this step and continue to the next step.

To install the bonding driver, the product file for it should be installed by using the Product Manager in the SMC first. It has the following name:

- `bonding-7.0.0-3.tar.gz`

The product file may take up to 20 minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page. For details, refer to 7.1.3 Product-File Installation.

Use the Config Profile Manager to create a profile for the package, and then use the Deployment Manager to deploy the package to the various computers that will be running the SIP Proxy software.

Step 2—VoiceGenie SIP Proxy Installation

Install the following packages by using the Product Manager in the SMC. Note that `x.y.z` is the latest version (for example, `7.2.0`), and `a` is the revision of the package (for example, 5):

- `ccp-rm-x.y.z-a.tar.gz`
- `ccp-proxy-x.y.z-a.tar.gz`

The product files may take up to 20 minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page. For details, refer to 7.1.3 Product-File Installation.

Use the Config Profile Manager to create a profile for these packages, and then use the Deployment Manager to deploy these packages to the various computers that will be running the SIP Proxy software.

7.3.2 Manual Configuration

Please refer to the *SIP Proxy User's Guide* and *SIP Proxy System Reference Guide* for configuration details.

7.3.3 Licensing

Please refer to 7.2.3 Licensing.

7.4 Installing Other VoiceGenie Software

This section describes the steps involved in installing and deploying all other VoiceGenie software, not including ASR or TTS server software. The table below outlines what software products are covered by this section:

VoiceGenie Software	Package Name (Linux)	Package Name (Windows)
VoiceGenie SNMP Agent	`cmp-snmp-x.y.z-a.tar.gz`	`cmp-snmp-x.y.z-a.zip`
MRCP Proxy (a.k.a. SRM Proxy)	`srm-proxy-x.y.z-a.tar.gz`	`srm-proxy-x.y.z-a.zip`

In the preceding table, note that `x.y.z` is the latest version (for example, `7.2.0`), and `a` is the revision of the package (for example, `3`).

The VoiceGenie SNMP Agent should be deployed to any computer on which SNMP access to health data or SNMP traps for error conditions is desired. Note that any other SNMP agents that are running on the system should be disabled first, because there will be a port conflict with the VoiceGenie SNMP Agent.

The MRCP Proxy is required only for deployments that require high availability and load balancing for speech resources.

7.4.1 Installation and Deployment

Install the previously listed package by using the Product Manager in the SMC. The product files may take up to 20 minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page. For details, refer to 7.1.3 Product-File Installation.

Use the Config Profile Manager to create a profile for the package, and then use the Deployment Manager to deploy the package to the various computers that will be running the software.

7.4.2 Manual Configuration

Please refer to each component's *User's Guide* and *Reference Guide* for configuration details.

7.4.3 Licensing

Please refer to 7.2.3 Licensing.

7.5 Installing the VoiceGenie Tools Framework (Call Analyst and Quality Advisor)

This section describes the steps involved in installing and deploying the VoiceGenie Tools Framework. These components enable the Call Analyst and Quality Advisor tools to collect and present data about the calls running on a VoiceGenie deployment. This software consists of components that run on the same host as the cluster's Management Server as well as components that run on the individual VoiceXML Platforms (Note that in an All-in-One setup, the Management Server may reside on the same host as the VoiceXML Platform. In this configuration, all Tools Framework components are installed on the same server).

The LogAgent component runs on the individual VoiceXML Platforms, while the LogMonitor and the Tools Server run on the Management Server. Note that these components should not be installed on the Backup Management server, if one exists. This does not affect system availability as these components are not involved in the handling of caller sessions.

Note: If both the VoiceGenie Tools Framework and VoiceGenie SNMP are being installed, VoiceGenie SNMP must be installed before the VoiceGenie Tools Framework. Otherwise, traps generated by the Tools Framework will not be recognized by SNMP, and get requests against the Tools Framework will not function.

7.5.1 Installation and Deployment

This section describes the order in which software must be installed and deployed to a computer to ensure a functioning installation.

Step 1—Log Monitor and Tools Server Installation

These components are installed on the same host as the Primary Management Server. Install the following packages, in the specified order, by using the Product Manager in the SMC. Note that `x.y.z` is the latest version (for example, `7.2.0`), and `a` is the revision of the package (for example, `5`):

1. `tools-logmon-x.y.z-a.tar.gz`

2. `tools-server-x.y.z-a.tar.gz`

The product files may take up to 20 minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page.

Use the Config Profile Manager to create a profile for these packages, and then use the Deployment Manager to deploy these packages to the computer that will be running the components.

At this point, you must start the Log Monitor software from the `Start/Stop Software` page under the `Operations` tab of the SMC by selecting the check box next to the name or IP of the primary Management Server and clicking the `Start` button. Note that you will first need to re-log on to the SMC, because the Tools Server installation restarts the Apache Tomcat instance that hosts the SMC software.

Step 2—Log Agent Installation

This component is installed on all hosts running the VoiceXML Platform. Install the following packages by using the Product Manager in the SMC, note that `x.y.z` is the latest version (for example, `7.2.0`), and `a` is the revision of the package (for example, `3`):

- `tools-logagent-x.y.z-a.tar.gz`

The product files may take up to 20 minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page.

Use the Config Profile Manager to create a profile for these packages, and then use the Deployment Manager to deploy these packages on to the various computers that will be running the VoiceXML platform. When the log agent has been installed, you must restart the computer.

Note: When a Log Agent is first added to a cluster, it will not appear in the Service Quality Advisor or Call Analyst until Tomcat is restarted on the Tools server. The new Log Agent will still be collecting statistics for calls to the newly added platform, even before Tomcat is restarted. These statistics will only be accessible, however, after Tomcat is restarted.

7.5.2 Manual Configuration

By default, summary statistics collected from calls are available for reports after 5 minutes, and the call log for a subscribed call is available for download after 20 minutes. These parameters can be changed by configuring the Log Agent.

Please refer to the *Call Analyst & Quality Advisor User's Guide* and *Tools Framework System Reference Guide* for configuration details.

7.5.3 Licensing

The Tools Framework includes both the Call Analyst and Quality Advisor tools. To use these tools a license must be installed. Please refer to 7.2.3 Licensing for more details on how to get a license.

Chapter

8

ASR and TTS Software Installation

This section describes at a high level how ASR and TTS software is installed in a VoiceGenie deployment. The VoiceGenie VoiceXML Platform integrates with third-party ASR or TTS software via Media Resource Control Protocol (MRCP). However, a further distinction must be made, because this integration can be either a MRCP-Native or MRCP-Direct interface. When interfacing via MRCP-Native integration, the VoiceGenie Speech Resource Manager (SRM) Server must be installed along with the ASR or TTS software (because the SRM Server converts the MRCP into the third-party vendor's proprietary protocol or API). On the other hand, when interfacing by using MRCP-Direct, the VoiceXML Platform can talk directly with the ASR or TTS software, because it is a standardized protocol.

MRCP-Direct   MRCP-Native

VoiceXML Platform	MRCP →	ASR/TTS Software

VoiceXML Platform	MRCP →	SRM Server	Native API →	ASR/TTS Software
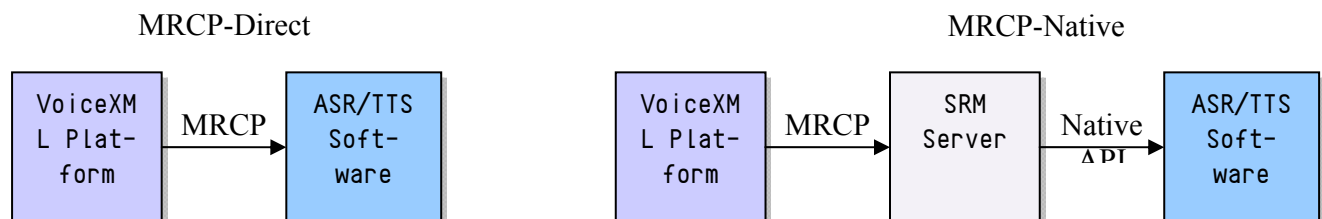
The following diagram illustrates this communication:

The following tables outline the ASR and TTS software with which the VoiceGenie VoiceXML Platform integrates, the operating system to which they are deployed, and the mechanism (MRCP-Native or MRCP-Direct) that is utilized:

ASR Software	Operating System for ASR Software	Mechanism	Instructions
AT&T Watson ASR 6.0.2463	Linux (VGL3.0 and RHEL3.0)	MRCP-Native	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
AT&T Watson ASR 6.1.3601	Linux (VGL3.0, RHEL3.0, and RHEL4.0)	MRCP-Native	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
AT&T Watson ASR 6.1.3601	Linux (VGL3.0, RHEL3.0, and RHEL4.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
IBM WVS ASR 5.1.3	Linux (RHEL3.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
IBM WVS ASR 5.1.3	Windows (2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
Nuance 1.0 SP9	Windows (2000 Server and 2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
OSR 3.0.9	Linux (VGL3.0 and RHEL3.0)	MRCP-Native	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
OSR 3.0.15	Linux (VGL3.0 and RHEL3.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
OSR 3.0.15	Windows (2000 Server and 2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
Phonetic GN 5.9.0015	Windows (2000 Server and 2003 Server)	MRCP-Native	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
TeliSpeech 1.1 SP1	Linux (VGL3.0 and RHEL3.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.

ASR Software	Operating System for ASR Software	Mechanism	Instructions
VoiceGenie TDD/TTY Server	Linux (VGL3.0 and RHEL3.0)	MRCP-Native	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
NuanceRecognizer 9.0.4 MRCPv1	Linux (VGL3.0, RHEL3.0, and RHEL 4.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
NuanceRecognizer 9.0.4 MRCPv1	Windows (2000 Server and 2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.

TTS Software	Operating System for TTS Software	Mechanism	Instructions
AT&T NaturalVoice 3.0.0	Linux (VGL3.0 and RHEL3.0)	MRCP-Native	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
AT&T NaturalVoice 4.1.2	Linux (VGL3.0, RHEL3.0, and RHEL4.0)	MRCP-Native MRCP-Direct	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
AT&T NaturalVoice 4.1.2	Linux (VGL3.0, RHEL3.0, and RHEL4.0)	MRCP-Native MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
IBM WVS TTS 5.1.3	Linux (RHEL3.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
IBM WVS TTS 5.1.3	Windows (2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
Nuance Vocalizer 4.0.5	Windows (2000 Server and 2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
RealSpeak TTS 4.0.12	Linux (VGL3.0 and RHEL3.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.

TTS Software	Operating System for TTS Software	Mechanism	Instructions
RealSpeak TTS 4.0.12	Windows (2000 Server and 2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
VoiceGenie RTSP Server	Linux (VGL3.0 and RHEL3.0)	MRCP-Native	Proceed to 8.2 Installing MRCP-Native ASR or TTS Engines.
RealSpeak TTS 4.5SP1 MRCPv1	Linux (VGL3.0 and RHEL3.0, and RHEL4.0)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.
RealSpeak TTS 4.5SP1 MRCPv1	Windows (2000 Server and 2003 Server)	MRCP-Direct	Proceed to 8.1 Installing MRCP-Direct ASR or TTS Engines.

Also, if your application uses hotkey/universal grammars you must install the hotkey grammar package on your VoiceXML Platform. 8.4 Installing the Hotkey Grammar Package outlines the process for installing the hotkey grammars package.

After installing an ASR engine, it is recommended that the VXML `ASRENGINE` property be set to the actual name of the ASR engine that has been configured. The value is initially set to `DEFAULT`, but it can be changed in the VoiceXML page or in `defaults.vxml`. For example:

```
<property name="ASRENGINE" value="SPEECHWORKS"/>
```

8.1 Installing MRCP-Direct ASR or TTS Engines

The following section provides an overview of installing ASR or TTS Engines that are integrated using MRCP-Direct. The steps include installing and deploying software as well as manual configuration changes to make the ASR or TTS engine useable by the VoiceXML platform or MRCP Proxy.

8.1.1 Installation and Deployment

This section describes what must be installed and deployed to a computer to ensure a functioning installation.

Step 1—ASR or TTS Software Installation

For all ASR or TTS engines that are integrated by using MRCP-Direct, the installation package that is provided by the vendor is used to install the ASR or TTS software. The following table outlines the name of the installation packages provided by the third-party vendor:

ASR or TTS Software	Package Name
IBM VWS ASR/TTS 5.1.3	Five-plus Installation CDs: • WebSphere Voice Server: Linux Base Installation CD • WebSphere Application Server: Linux Base Installation CD • WebSphere Application Server: Fix Pack 1 • WebSphere Voice Server: ASR Install CD (one for each language) • WebSphere Voice Server: TTS Install CD (one for each voice)
Nuance 1.0 SP9	`MRCP-1-0-0-SP9-WIN2K.zip`

OSR 3.0.x (Linux)	`OSR-3.0.x-i386-rhel3.rpm`
	
	`OSR-<language>-3.0.x-i386-linux.rpm`
	
	`SWMS-3.1.16-i386-linux.rpm`

ASR or TTS Software	Package Name

OSR 3.0.x (Windows)	`OSR-3.0.x-i386-win32.zip`
	
	`OSR-3.0.x-<language>.i386-win32.zip`
	
	`SWMS-3.1.16-i386-win32.zip`

RealSpeak 4.0.12 (Linux)	`rs-api-4.0.12.i386.rpm`
	
	RealSpeak4.0.12-<language-Voice>.tar.gz
	
	`rs_4.0.12_lic.tar.gz (needed if RealSpeak is not installed with OSR)`
	
	`SWMS-3.1.x-i386-linux.rpm`

RealSpeak 4.0.12 (Windows)	`RealSpeak4.0.12.password-required.zip`
	
	RealSpeak4.0.12-<language-Voice>.zip
	
	`SWMS-3.1.x-i386-win32.zip`

TeliSpeech 1.1 SP1	`TeliSpeech_1.1_SP1_patch1_linux.zip`
	
	`USEnglish_30_GA_Linux.zip`

Nuance Vocalizer 4.0.5	`VOCALIZER-4-0-5B-WIN32-8-5-0-SP050513.zip`

NuanceRecognizer 9.0.4 (Linux)	`NRec-9.0.4-i386-rhel3.tar.gz`
	`NRec-9.0.0-<language>.i386-rhel3.tar.gz`
	`Incident804220111_NSS5.0-Linux.zip`
	
	* This file contains the full installation for NSS 5.0.3 plus additional fixes.

NuanceRecognizer 9.0.4 (Windows)	`NRec-9.0.4-i386-win32.zip`
	
	`NRec-9.0.0-<language>.i386-win32.zip`
	
	`Incident804220111_NSS5.0-Win.3_NSRD00038519_patch`*****
	
	`NLICMGR-11.1.0-i386-win32.zip`
	
	* This file contains the full installation for NSS 5.0.3 plus additional fixes.

ASR or TTS Software	Package Name
RealSpeak 4.5 SP1 (Linux)	RealSpeak_Host_4.5.0-SDK_patch1_Linux.tar RealSpeak4.5-<language-Voice>.zip or RealSpeak4.0.12-<language-Voice>.tar.gz Incident804220111_NSS5.0-Linux* NLICMGR-11.1.0-i386- rhel3.tar.gz * This file contains the full installation for NSS 5.0.3 plus additional fixes.

RealSpeak 4.5 SP1 (Windows)	`RealSpeak_4.5_Windows.zip`
	
	`RealSpeak_Host_4.5.0-`
	`SDK_patch1_windows.zip`
	
	`RealSpeak4.5-<language-Voice>.zip`
	
	`or`
	
	`RealSpeak4.0.12-<language-Voice>.zip`
	
	`Incident804220111_NSS5.0-`
	`Win.3_NSRD00038519_patch*`
	
	`NLICMGR-11.1.0-i386-win32.zip`
	
	* This file contains the full installation for NSS 5.0.3 plus additional fixes.

The preceding list may not be complete. Please ensure that all the software required to install the ASR or TTS engines is obtained from the appropriate vendor. The following sections outline the detailed procedure for installing the ASR or TTS software. Please jump to the appropriate section that follows, based on the ASR or TTS that you are installing. If instructions are not present, please refer to vendor-provided documentation for installation instructions.

Installation of Watson ASR and NaturalVoice TTS MRCP server is detailed in the "Watson ASR and NaturalVoice TTS MRCP-Direct Server (Linux)" section.

OSR 3.0.*x* MRCP-Direct (Linux)

Install the vendor-provided RPMs by doing the following:
```
rpm -ivh OSR-3.0-x.i386-rhel3.rpm
rpm -ivh OSR-<language>-3.0-x.i386-linux.rpm
```

```
rpm -ivh SWMS-3.1.x-i386-linux.rpm
```
Please ensure that the packages are installed in this order.

OSR 3.0.x MRCP-Direct (Windows)

Extract the `.zip` files to the server where the OSR software will be installed. For example:

- `OSR-3.0.x-i386-win32.zip`: extract to `C:\temp\OSR`
- `OSR-3.0.x-<language>.i386-win32.zip`: extract to `C:\temp\<language>`
- `SWMS-3.1.x-i386-win32.zip`: extract to `C:\temp\SWMS`

Install the OSR software first by double-clicking the `setup.exe` file in the directory into which it was extracted (that is, `C:\temp\OSR`). Note that any previous versions of OSR should be uninstalled first. Also, use the default responses for the installation. When installation is complete, *restart* the server. Note that installing on non-English Windows will fail and that a workaround to complete the installation is required. The workaround is to create a group called `Users` that has the same members as the `Real Users Group` (language-dependant). This will allow the setup to complete successfully.

After restart, install all language packages by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\<language>`). Once again, please ensure that any previous versions of the language packages are uninstalled first. Also, use the default responses for the installation.

Finally, install the SWMS (SpeechWorks MediaServer) by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\SWMS`). Once again, please ensure that any previous versions of the SWMS are uninstalled first. On the user interface, click the `Install Products` button, and then click the `SpeechWorks MediaServer` button; that is, do not install the client. On the `Custom Setup` screen, ensure that the following features are selected. Note that `Apache HTTP Server` is deselected:

Note: If you install any language packages after installing the SWMS, you will need to reinstall the SWMS software.

After restarting the OSR server, you will need to start the OSR software manually. To do so, go to the `Services` window (that is, `Start > Settings > Control Panel > Administrative Tools > Services`), highlight the `SpeechWorks MediaServer` service, and click the `Start` button. Also, please ensure that this service is set to start manually.

On non-English installations of Windows, localization may require that certain configuration information passed into OSR has a comma (`,`) instead of a period (`.`) to represent the decimal point. For example, in the `defaults.vxml,` the values for the `sensitivity` and `speedvsaccuracy` properties must be changed to use a comma, in order for OSR to start correctly.

RealSpeak 4.0.12 MRCP-Direct (Linux)

Install the vendor-provided RPMs by doing the following:
```
rpm -ivh rs-api-4.0-12.i386.rpm
rpm -ivh --force rs-lic-4.0-x.i386.rpm (skip installation of this
package if OSR is also on this machine)
rpm -ivh --force rs-<language>-<Voice>-4.0-12.i386.rpm
rpm -ivh SWMS-3.1.x-i386-linux.rpm
```
Ensure that the packages are installed in this order.

RealSpeak 4.0.12 MRCP-Direct (Windows)

Extract the `.zip` files into the server on which the RealSpeak software will be installed. For example:

- `RealSpeak4.0.12.password-required.zip`: extract to `C:\temp\RealSpeak`

- `RealSpeak4.0.12-<lang>.zip`: extract to `C:\temp\<language>`

- `SWMS-3.1.x-i386-win32.zip`: extract to `C:\temp\SWMS`

Install the RealSpeak software first by double-clicking the `setup.exe` file in the directory into which it was extracted (that is, `C:\temp\ RealSpeak`). Note that any previous versions of OSR should be uninstalled first. Also, use the default responses for the installation. When installation is complete, *restart* the server. Note that installing on non-English Windows will fail and that a workaround to complete the installation is required. The workaround is to create a group called `Users` that has the same members as the `Real Users Group` (language-dependant). This will allow the setup to complete successfully.

After restart, install all language packages by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\<language>`). Once again, ensure that any previous versions of the language packages are uninstalled first. Also, use the default responses for the installation.

Finally, install the SWMS (SpeechWorks MediaServer) by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\SWMS`). Once again, ensure that any previous versions of the SWMS are uninstalled first. On the user interface, click the `Install Products` button, and then click the `SpeechWorks MediaServer` button; that is, do not install the client. On the `Custom Setup` screen, ensure that the following features are selected. Note that `Apache HTTP Server` is deselected:

Note: If you install any language packages after installing the SWMS, you will need to reinstall the SWMS software.

IBM WVS ASR/TTS (Linux)

The Linux version of the IBM WebSphere Voice Server ASR/TTS must be installed on a RedHat Enterprise Linux 3.0 Update 4 system, please install the OS first, and ensure that the firewall is not enabled.

After the OS has been installed, please check that the `/etc/hosts` configuration file contains the loopback IP, as well as the actual IP of the computer. It should look something like the following:

```
127.0.0.1 localhost.localdomain localhost
10.0.0.80 whale whale.voicegenie.com
```

If the above entries are not present please update the file accordingly.

There are a number of CDs provided by IBM that must be installed. The first CD should be installed is the *IBM WebSphere Voice Server for MRCP Linux,* it will provide the user with a GUI that will carry you through the installation.

After un-tarring the packages provided by IBM, a directory called `wsvs512` will be created. This directory contains the `launchpad.sh` script that will launch the installation GUI.

When the GUI starts, click the `Install` link to start the installation.

After installation, restart the server, and then run the `/opt/WebSphere/VoiceServer/firststeps/firststeps.sh` script. This will launch a GUI. On this GUI, click the `Verify installation` link, and wait for the verification result.

If there are no errors, restart the system.

When the system has restarted, use a web browser to navigate to `http://<hostname>:9090/admin` to access the IBM WVS management web interface and increase the number of ASR/TTS clients. By default, only one client is enabled.

IBM WVS ASR/TTS (Windows)

The Windows version of the IBM WebSphere Voice Server ASR/TTS must be installed on Windows 2003 Server without SP1.

Once again, there are a number of CDs provided by IBM that must be installed. The first CD should be installed is the *IBM WebSphere Voice Server for MRCP Linux,* it prompts the user with a GUI that will lead the user through the installation.

Nuance Recognizer 9.0.*x* MRCP-Direct (Linux)

Note, before you install NSS products, including Nuance Recognizer 9.0.x, RealSpeak 4.5 and Nuance Speech Server 5.0.x, you must remove all the previously installed SWMS products in the system. NSS and SWMS product shall not be hosted by the same system.

Installing rpms:
```
rpm -ivh NRec-9.0-x.i386-rhel3.rpm
rpm -ivh NRec-en-US-9.0-0.i386-rhel3.rpm
rpm -ivh Nuance-licmgr-11.4-0.i386-rhel3.rpm
```

Ensure that the packages are installed in this order.

Nuance Recognizer 9.0.*x* MRCP-Direct (Windows)

Extract the `.zip` files to the server on which the NuanceRecognizer software will be installed. For example:

- `NRec-9.0.x-i386-win32.zip`: extract to `C:\temp\NR`
- `NRec-9.0.0-en-US.i386-win32.zip`: extract to `C:\temp\NR-enUS`
- `NLICMGR-11.1.0-i386-win32.zip` extract to `C:\tmp\license`

To install the NuanceRecognizer software first by double-clicking the setup.exe file in the directory into which it was extracted (that is, C:\temp\NR). Note that any previous versions of Nuance Recognizer—including any previous version of Nuance ASR (Nuance 8.*x*), Nuance TTS

(Vocalizer), OSR, RealSpeak, Speechify, and SWMS—must be uninstalled first. Also, use the default responses for the installation. When installation is complete, please *restart* the server.

After restart, install all language packages by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\<language>`). Once again, please ensure that any previous versions of the language packages are uninstalled first. Also, use the default responses for the installation.

Finally, install the NSS (Nuance Speech Server) by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\NSS`). Once again, ensure that any previous versions of the NSS, SWMS, and Nuance MRCP server are uninstalled first. On the user interface, click the ***Install Products*** button, and then click the ***Nuance Speech Server*** button; that is, do not install the client. On the `Custom Setup` screen, ensure that the following features are selected. Note that `Apache HTTP Server` is deselected:

Note: To sever the saved utterance files, an HTTP server is required. NSS has a built-in Apache server. It is the user's choice whether or not to use it.
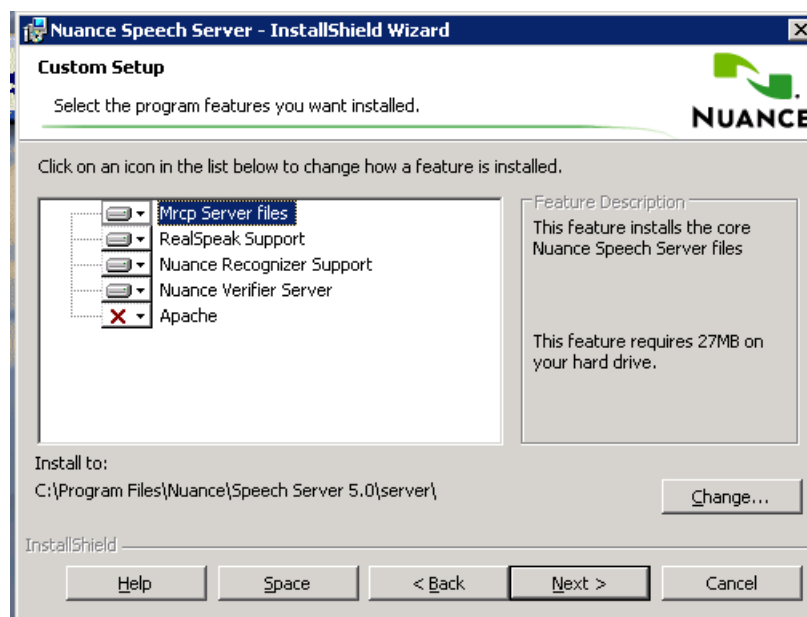
After installing Nuance Recognizer, its languages, and Nuance Speech Server, the user must install the Nuance License Server by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\license`).

Note: If you install any language packages after installing the Nuance Recognizer, you will need to reinstall the NSS software.

After restarting the server, you may need to start the Nuance Recognizer software manually. To do so, go to the `Services` window

(`Start` > `Settings` > `Control Panel` > `Administrative Tools` > `Services`), highlight the `Nuance Speech Server 5.0` service, and click the `Start` button. Also, ensure that this service is set to start manually.

RealSpeak 4.5 Patch 1 MRCP-Direct (Linux)

Install the vendor-provided RPMs by doing the following:

Extract the RPM packages from the following files:

`RealSpeak_Host_4.5.0-SDK_patch1_Linux.tar`

`RealSpeak4.5-<language-Voice>.zip`

`Or`

`RealSpeak4.0.12-<language-Voice>.zip`

`Incident804220111_NSS5.0-Linux.zip`
`NLICMGR-11.1.0-i386-rhel3.tar.gz`

`Installing rpms:`
```
rpm ·ivh rs-api-4.5.1-1.i386.rpm
rpm -ivh --force rs-<language>-<Voice>-4.0-12.i386.rpm
or
rpm -ivh --force rs-<language>-<Voice>-4.5.00-00.i386.rpm
rpm -ivh Incident804220111_NSS5.0.3_NSRD00038519_patch.zipfromNuance
rpm ·ivh Nuance-licmgr-11.4-0.i386-rhel3.rpm
```

Please ensure that the packages are installed in this order.

RealSpeak 4.5 SP1 MRCP-Direct (Windows)

Extract the .zip files into the server on which the RealSpeak 4.5 software will be installed. For example:

* `RealSpeak_4.5_Windows.zip`: extract to `C:\temp\RealSpeak`
* `RealSpeak4.0.12-AP-English-en-US-Jill.password-required_acetivibrio>.zip`: extract to `C:\temp\<language>`
* `Incident804220111_NSS5.0-Win`: extract to `C:\temp\NSS`
* `NLICMGR-11.1.0-i386-win32.zip extract to C:\tmp\license (if it is not installed)`

Install the RealSpeak software first by double-clicking the `setup.exe` file in the directory into which it was extracted (that is, `C:\temp\RealSpeak`). Note that any previous versions of RealSpeak should be uninstalled first. Also, use the default responses for the installation. When installation is complete, *restart* the server.

After restart, install all language packages by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\<Language>`). Once again, ensure that any previous versions of the language packages are uninstalled first. Also, use the default responses for the installation.

Finally, install the NSS (Nuance Speech Server) by double-clicking the `setup.exe` file in the directory into which it was extracted (`C:\temp\NSS`). Once again, please ensure that any previous versions of the NSS, SWMS and Nuance MRCP server are uninstalled first. On the user interface, click the ***Install Products*** button, and then click the ***Nuance Speech Server*** button; that is, do not install the client. On the `Custom Setup` screen, ensure that the following features are selected. Note that `HTTP Server` is not required by RealSpeak:
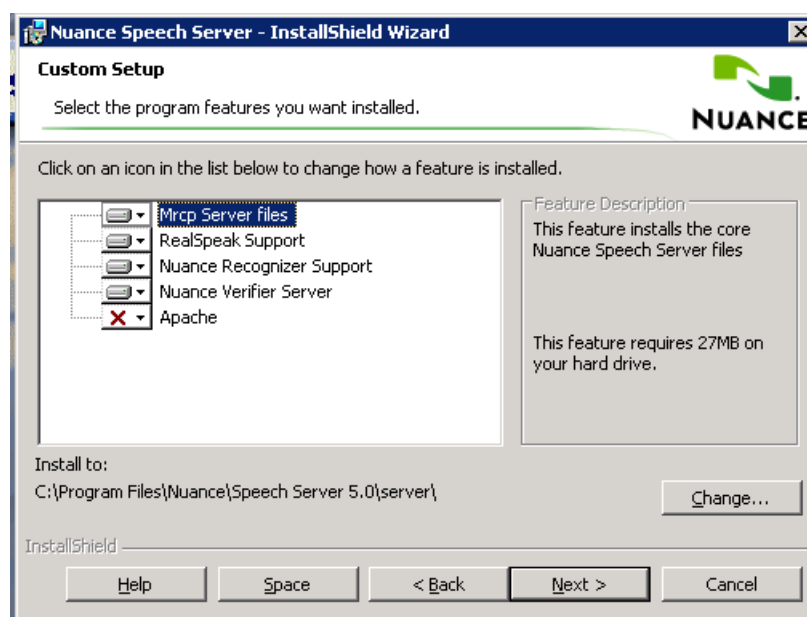
After installing Nuance Recognizer, its languages, and Nuance Speech Server, the user must install the Nuance License Server by double-clicking the `setup.exe` file in the directory into which it was extracted (that is, `C:\temp\license`).

Note: If you install any language packages after installing the RealSpeak, you will need to reinstall the NSS software.

If you install RealSpeak software with Nuance Recognizer, NSS must be installed all the RealSpeak and Nuance Recognizer language packages are installed. In this case, the RealSpeak and Nuance Recognizer should share the same license server.

After restarting the server, you may need to start the RealSpeak software manually. To do so, go to the `Services` window (that is, `Start`

> `Settings` > `Control Panel` > `Administrative Tools` > `Services`), highlight the `Nuance Speech Server 5.0` service, and click the `Start` button. Also, please ensure that this service is set to start manually.

RealSpeak 4.5 SP1 MRCP-Direct (Windows)

- First, install the RealSpeak Host 4.5.0 SDK, if it is not already installed.

- Stop the RealSpeak Host TTS service, if it is running, by going to Control Panel -> Administrative Tools -> Services ->RealSpeak Host.

- Unpack the RealSpeak_Host_4.5.0-SDK_patch1_windows.zip patch zip file in a folder—for example, `C:\temp\RealSpeak`.

- Install the patched components:

    o Copy ttsengine.dll to [INSTALLDIR]\speech\components\common.

    o Copy dcteg.dll to [INSTALLDIR]\speech\components\common.

    o Copy edct.dll to [INSTALLDIR]\speech\components\common.

    o Copy rettt.dll to [INSTALLDIR]\speech\components\common.

    o Copy rs_sapi5_telecom.dll to [INSTALLDIR]\speech\components\common.

- Restart the RealSpeak Host TTS service.

Installing Watson ASR and Natural Voice TTS MRCP-Direct Server (Linux) with Genesys Packages

Unlike the other MRCP direct ASR/TTS server, Genesys provides the Watson 6.1 and NaturalVoice 4.1.1 MRCP direct server packages in RHEL3. It is possible to install Watson ASR and NaturalVoice TTS manually, directly with vendor packages. The manual installation step is outlined in the "Watson ASR and Natural Voice TTS MRCP-Direct Server (Linux) manually" section.

1. Install Watson ASR and NaturalVoice TTS MRCP Server Product Files

Use the Product Manager in SMC to create the product files for Watson 6.1 and NaturalVoice 4.1.1 MRCP direct servers, and to install the corresponding software packages listed in the following table:

ASR or TTS Software	Package Name
AT&T Watson ASR 6.1 MRCP Direct Server	watson-mrcp-server-6.1-3601.tar.gz
AT&T NaturalVoice 4.1.1 MRCP Direct Server	naturalvoices-tts-mrcp-base-4.1.1-0.tar.gz

The product file(s) may take up to 20 minutes to install, please allow the web browser to upload the file(s) without interruption. Upon installation, the product(s) will be listed in the table at the bottom of the page.

Use the Config Profile Manager to create a profile for the package(s), and then use the Deployment Manager to deploy the package(s) on to the various computers that will be running the ASR/TTS engine software.

Restart the computer after the package has been successfully deployed.

2: Install NaturalVoice TTS MRCP Server Voices

The NaturalVoice TTS MRCP server has language packages that must be installed on top of the MRCP TTS server. The following table outlines the names of the language packages that are available. Please contact your sales representative for a list of additional language packages:

NaturalVoice TTS Voices Packages	Language
naturalvoices-tts-lang-alberto-3.0.0-2.tar.gz	U.S. Spanish (male)
naturalvoices-tts-lang-craig-3.0.0-2.tar.gz	U.S. English (male)
naturalvoices-tts-lang-crystal-4.1.1-1.tar.gz	U.S. English (female)
naturalvoices-tts-lang-jan-4.1.1-1.tar.gz	U.S. English (female)
naturalvoices-tts-lang-mike-4.1.1-1.tar.gz	U.S. English (male)

Install the language packages that are relevant to your deployment via the *Product Manager* in the SMC. Once again, this may take up to 20 minutes. Create a profile, and then deploy the package on the various NaturalVoice MRCP server computers that will use this language package.

After installing the language packages, **restart** the ASR/TTS server computer.

Installing Watson ASR MRCP-Direct Server (Linux) Manually

1. Follow 8.2.4 "Manual Installation Procedures for Watson 6.1" to install the Watson 6.1.*x* server and patch.

2. Edit `/usr/local/watson/etc/sysconfig/watsond`.

    Find the following lines, and change them (as shown):
    ```
    WPORT=23000
    WPROTOCOL="wiremrcp"
    ```

Then, save the changes in the file.

3. Edit `/usr/local/watson/run/watsond.cmds`.

   Find the following line, and insert a '#' to comment it out (as shown):

   `# enableCompatVG`

   Save the change in the file.

4. Restart Watson MRCP server.

   As root, run the following:

   `/etc/rc3.d/S99watsond stop`
   `/etc/rc3.d/S99watsond start`

Installing Natural Voice TTS MRCP-Direct Server (Linux) Manually

1. Follow 8.2.5 "Manual Installation Procedures for NaturalVoice 4.1 Server" to install NaturalVoice 4.1.*x* server.

2. Install Python 2.3, if it is not installed. The Python 2.3 **RPM** is shipped with Watson 6.*x*.

3. Install `nvmrcpd`.

-Place the `nvmrcpd.tar` file in the following directory:

`/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server/mrcp`

If the `mrcp` folder does not exist, create one as pw.

-Untar the file by running the following command:

`tar xvf nvmrcpd.tar`

Ensure `/usr/local/ATT_TTS/ATTNaturalVoices/TTS/Server/mrcp/nvmrcpd.py` is an executable.

Copy `sysconfig_nvmrcpd`.

Copy `/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server/mrcp/sysconfig_nvmrcpd to /etc/sysconfig as nvmrcpd`.

Copy `/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server/mrcp/init.d_nvmrcpd to /etc/init.d as nvmrcpd`.

4. Configure `nvmrcpd`:

Modify `/etc/sysconfig/nvmrcpd` for Server IP address.

Modify it to set the IP address of the TTS server at the `NVSERVER` line—for example:

hostname/ip of NV TTS Server to connect to

`NVSERVER=138.120.84.22`

5. Start `nvmrcpd`.

Run the following:

`Chkconfig ·-add nvmrcpd`

As result, `S99nvmrcpd` is generated in `/etc/rc3.d`.

Notes:

1). The `nvmrcpd` script currently assumes the MRCP daemon is installed at `/usr/local/ATT_TTS/ATTNaturalVoices/TTS/Server/mrcp/`. If this installation path is modified, the `nvmrcpd` script must also be changed to point to the correct path.

2). The `nvmrcpd` scripts assume there is a directory beneath `NVROOT` called `run`. This is where all runtime files and logs will be stored.

3) Starting with `ATT_TTS`, all the folders should be owned by pw and not root.

Step 2—MRCP Product-File Installation

For the various MRCP-Direct ASR and TTS engines, there is a MRCP product file that should be installed via the Product Manager in the SMC. This package creates the necessary provisioning, so that the ASR or TTS engine can be used. The following table outlines the names of the various packages. Note that x is the revision number of the package (for example, 5):

ASR or TTS Software (Server OS)	Package Name (MP on Linux)	Package Name (MP on Windows)
IBM WVS ASR 5.1.3 (Linux or Windows)	ibm-asr-mrcp-5.1.3-x.tar.gz	ibm-asr-mrcp-5.1.3-x.zip
Nuance 1.0 SP9 (Windows)	nuance-mrcp-8.5.0-x.tar.gz	nuance-mrcp-8.5.0-x.zip
OSR 3.0.10 (Linux or Windows)	osr-mrcp-3.0.4-x.tar.gz	osr-mrcp-3.0.4-x.zip
Telisma TeliSpeech 1.1 SP1 (Windows)	telisma-mrcp-1.1.0-x.tar.gz	telisma-mrcp-1.1.0-x.zip
Nuance Vocalizer 4.0.5 (Windows)	vocalizer-mrcp-4.0.0-x.tar.gz	vocalizer-mrcp-4.0.0-x.zip
RealSpeak 4.0.12 /4.5 (Linux or Windows)	realspeak-mrcp-4.0.12-1.tar.gz	realspeak-mrcp-4.0.12-1.zip
NuanceRecognizer9.0.*x* (Linux or Windows)	osr-mrcp-3.0.4-x.tar.gz	osr-mrcp-3.0.4-x.zip
Watson6.1 (Linux)	watson-mrcp-client-6.1-3601.tar	n/a

ASR or TTS Software (Server OS)	Package Name (MP on Linux)	Package Name (MP on Windows)
NaturalVoice4.1.1 (general)	naturalvoices-tts-mrcp-client-4.1.1-0.tar	n/a
NaturalVoice4.1.1-voice	naturalvoices-tts-mrcp-client-xxx-4.1.1-0.tar.gz *xxx* represents a NaturalVoice voice, which can be (for example): alberto craig jan mike crystal rosa	n/a

Install the appropriate product file. Please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page.

For MRCP-Direct ASR or TTS engines, no software must be deployed. As a result, only a configuration profile must be created for each MRCP-Direct ASR or TTS Server in the deployment. Consequently, users repeat the process of creating a configuration profile using the Config Profile Manager for each MRCP-Direct ASR or TTS in their deployment.

8.1.2 Manual Configuration

Once a configuration profile is created for a MRCP-Direct ASR or TTS engine, one or more Speech Resource provision records will be created. These Speech Resources can be used by the VoiceXML Platform or the MRCP Proxy. This section explains how to configure the VoiceXML Platform or MRCP Proxy to use these resources. Also, some third-party software requires manual configuration to function correctly, this section outlines those manual configuration steps.

Note: The Speech Resource configuration must be performed correctly; otherwise, the installed Speech Resource will be unusable.

VoiceXML Platform Speech Resources

Please refer to VoiceXML Platform Speech Resources.

MRCP Proxy Speech Resources

Please refer to MRCP Proxy Speech Resources.

Nuance 1.0 SP9

This section outlines the manual changes that should be made to the Nuance installation so that the engine runs correctly.

In the file `C:\Nuance\V8.5.0\mrcp\watcher.startup`, the `audio.rtp.LocalIPAddress` parameter must be set with the IP address of the system, the following is an example:

```
mrcp-server -cfg %NUANCE%/MRCP/mrcp-config -package
    %NUANCE%/MRCP/mrcp-en-us -config %NUANCE%/MRCP/nuance-
    resources.txt config.ClapiConfigFile=%MRCP%/clapi_cfg.xml
    audio.rtp.LocalIPAddress=10.0.0.91
nlm C:\Nuance\Vocalizer4.0\vginternal-nuance-050601-050304-
    96voclang0.txt
vocalizer -text_type SSML -config %MRCP%/nuance-resources.txt
    lm.Addresses=localhost:8471
```

Nuance Vocalizer 4.0.5

This section outlines the manual changes that should be made to the Nuance installation so that the engine runs correctly.

In the file `C:\Nuance\V8.5.0\mrcp\nuance-resource.txt`, the following line should be added:

```
client.TTSAddresses=localhost
```

Telisma TeliSpeech 1.1 SP1

This section outlines the manual changes that should be made to the TeliSpeech installation so that the server runs correctly.

Fix the Link in the Languages Directory

Become the root user and go to the directory:
```
/opt/telisma/languages/
```
And create a link from `en-US` to `en-us` as follows:
```
ln -snf en-US en-us
```
The same may need to be carried out for other languages also.

Ensure the Language Is Set Correctly in Configuration

Open the following file:
`/opt/telisma/teliSpeech/config/mrcp_server.cfg`

And check that the parameter `mrcp.speechLanguage` is set correctly, for `en-US` it should be:
```
# default language for builtin grammars
mrcp.speechLanguage = en-US
```

Fix Typo in Configuration

Open the following file:
`/opt/telisma/teliSpeech/config/mrcp_server.cfg`

And change the following line:
`mrcp.audio.waveform.directory = =./log/audio/`

To the following:
`mrcp.audio.waveform.directory = ./log/audio/`

Make Changes for HTTP Server for TeliSpeech

Become the root user, and go to the Apache Server directory:
`/var/www/html/`

And create a link to `/opt/telisma/teliSpeech/log/audio/` so that wave files saved by TeliSpeech can be remotely accessed:
`ln -s /opt/telisma/teliSpeech/log/audio/ audio`

Also, open the following file:
`/opt/telisma/teliSpeech/config/mrcp_server.cfg`

And change the following line:
`mrcp.audio.waveform.base = http://localhost/audio/`

To include the IP address and port of the local HTTP server:
`mrcp.audio.waveform.base = http://<ip of TeliSpeech server>/audio/`

After making these changes, restart the ASR server (using `mrcp_server` under `/etc/init.d/`).

IBM WVS ASR 5.1.3

This section outlines the manual changes that should be made to the IBM WVS ASR Speech Resource configuration.

Please go the SMC interface, and click the `Speech Resource` link under the `Media Platform`. Locate the Speech Resource associated with the IBM WVS ASR, and add the `vrm.client.ReverseGrammarOrder` parameter with a value of `true`. The same should be repeated for Speech Resources under the `Speech Resources Mgr` section, if it exists.

OSR 3.0.15 (Windows & Linux)

This section outlines the manual changes that should be made to the OSR configuration.

Note: After making the configuration changes outlined in this section, please *restart* the system.

Configuring License Manager (Linux Only)

For OSR running on Linux go to the directory:
`/usr/local/SpeechWorks/OpenSpeech_Recognizer/flexlm/components`

And create the scripts `startLicenseManager.sh` and `stopLicenseManager.sh`. The contents of the scripts are shown below.

startLicenseManager.sh:

```
#!/bin/sh
export
OSRLIC_INSTALLROOT=/usr/local/SpeechWorks/OpenSpeech_Recognizer/flex
lm/components
$OSRLIC_INSTALLROOT/lmgrd -c /usr/local/SpeechWorks/license.lic -L
/usr/local/SpeechWorks/lic.log
```

stopLicenseManager.sh:

```
#!/bin/sh
killall lmgrd
killall swilmgrd
```

These scripts should be given executable permission so that `startLicenseManager.sh` can be manually executed after restart, and `stopLicenseManager.sh` can be used to stop the license manager. To make a file executable, perform the following command:
`chmod a+x <filename>`

To have the license manager start automatically upon restart, create the file `spwx_licsvr` in `/etc/init.d` by using the following contents, and make it executable:

```
#!/bin/ksh
# Start the SpeechWorks license server
#
#       /etc/rc.d/init.d/
#
# chkconfig: 345 95 5
# description: Starts the Speechworks license server (for OSR
   2.0/Speechify 3.0)
# Version: 1.00
```

```
#!/bin/ksh

INSTALL_PATH=/usr/local/SpeechWorks/OpenSpeech_Recognizer
export INSTALL_PATH

case "$1" in
start)
        if [ -e /usr/local/SpeechWorks/license.lic ]
        then
                echo "Starting license server..."

    $INSTALL_PATH/flexlm/components/startLicenseManager.sh
        else
                echo "No license found at
    /usr/local/SpeechWorks/license.lic"
        fi
        ;;
stop)
        $INSTALL_PATH/flexlm/components/stopLicenseManager.sh
        ;;
*)
        echo "Usage $0 [start|stop]"
        ;;
esac
```

Once `/etc/init.d/spwx_licsvr` is created (and made executable), execute the following command as `root`:

`/sbin/chkconfig --add spwx_licsvr`

Baseline.xml Changes

In the file `C:\Program Files\SpeechWorks\OpenSpeech Recognizer\config\Baseline.xml` under Windows, or `/usr/local/SpeechWorks/OpenSpeech_Recognizer/config/Baseline.xml` under Linux, please make the following changes:

Change the following:
```
<!-- Add a ScanSoft grammar key to the XML result. -->
<param name="swirec_extra_nbest_keys">
    <value>SWI_meaning</value>
    <value>SWI_literal</value>
    <value>SWI_grammarName</value>
</param>
```

To the following:
```
<!-- Add a ScanSoft grammar key to the XML result. -->
<param name="swirec_extra_nbest_keys">
     <value>SWI_meaning</value>
     <!--    <value>SWI_literal</value> -->
```

```
    <!--    <value>SWI_grammarName</value> -->
 </param>
```

Also, change the following:

```
<!-- Ignore the media type that is returned by the server upon
fetching a grammar. -->
  <param name="swirec_ignore_grammar_media_type">
<value>0</value>
  </param>
```

To the following:

```
<!-- Ignore the media type that is returned by the server upon
fetching a grammar. -->
  <param name="swirec_ignore_grammar_media_type">
<value>1</value>
  </param>
```

Finally, change the following:

```
<!-- The root path for resolving relative grammar paths on OSR
servers-->
  <param name="SWIsvcRootGrammarDirectory">
    <value></value>
  </param>
```

To the following:

```
<!-- The root path for resolving relative grammar paths on OSR
servers-->
  <param name="SWIsvcRootGrammarDirectory">
    <value>C:\Program Files\SpeechWorks\OpenSpeech
Recognizer\config</value>
  </param>
```

Also, for A Law systems, make the following changes in the same file:

Change the following:

```
<!-- Defines the format of the audio being supplied to the
recognizer. -->
  <param name="swirec_audio_media_type">
      <value>audio/basic;rate=8000</value>
      <!-- value>application/x-
feature;rate=8000;encoding=speechpearl</value -->
  </param>
```

To the following:

```
<!-- Defines the format of the audio being supplied to the
recognizer. -->
  <param name="swirec_audio_media_type">
      <value>audio/x-alaw-basic;rate=8000</value>
      <!-- value>application/x-
feature;rate=8000;encoding=speechpearl</value -->
  </param>
```

And change the following:

```
<!-- Inform the speech detector about the audio format being
```

```
        supplied to the recognizer. -->
  <param name="swiep_audio_media_type">
     <value>audio/basic;rate=8000</value>
  </param>
```

To the following:

```
<!-- Inform the speech detector about the audio format being
        supplied to the recognizer. -->
  <param name="swiep_audio_media_type">
     <value>audio/x-alaw-basic;rate=8000</value>
  </param>
```

OSSserver.cfg Changes

In the file `C:\Program Files\SpeechWorks\MediaServer\server\config\OSSserver.cfg` under Windows, or `/usr/local/SpeechWorks/MediaServer/server/config/OSSserver.cfg` under Linux, please make the following changes:

```
server.session.ossweb.machine    VXIString  <hostname>
```

Where `<hostname>` should be replaced with the actual IP address of the OSR Server.

Also, change the following:

```
server.session.ossweb.port     VXIInteger 80
```

To the following:

```
server.session.ossweb.port     VXIInteger 8000
```

Where 8000 should be web port number the OSR server.

And change the following:

```
server.transport.sessionTimeout VXIInteger 60000
```

To the following:

```
server.transport.sessionTimeout VXIInteger 600000
```

The following additional changes should be made if OSR is installed (these changes are not required for RealSpeak only installations):

Change the following (this may already be done in Linux):

```
server.inet.useInetFromOSR VXIInteger 0
```

To the following:

```
server.inet.useInetFromOSR VXIInteger 1
```

In addition, uncomment (that is, remove the `#`) the following parameters in the file:

```
server.resource.2.name
server.resource.2.url
server.resource.2.cfgprefix
server.ossrec.cache.initialNumber
```

```
server.ossrec.cache.maxNumber
server.ossrec.cache.timeoutSec
server.ossrec.cookie.enable
```

And comment out (that is, add a **#**) the following parameters in the file:

```
server.ossrec.userconfig.path
```

Also, for A Law systems, please make the following changes in the same file:

Change the following:

```
server.session.osswfm.entry.extension VXIString  ulaw
```

To the following:

```
server.session.osswfm.entry.extension VXIString  alaw
```

Notes:

You will need to configure Apache under Linux, or IIS under Windows, to use port 8000 to access the saved utterances created by OSR. The configuration is as follows.

For Apache on Linux:

1. As root, edit the `/etc/httpd/conf/httpd.conf` file, and add the following Listen directive:

   ```
   Listen 8000
   ```

2. Next, add the the following VirtualHost on port 8000:

   ```
   <VirtualHost *:8000>
   DocumentRoot /usr/local/SpeechWorks/MediaServer/server/session
   </VirtualHost>
   <Directory "/usr/local/SpeechWorks/MediaServer/server/session">
   Options Indexes
   AllowOverride None
   Order allow,deny
   Allow from all
   </Directory>
   ```

3. Save the file, and make a symbolic link to the session directory:

   ```
   ln -snf /usr/local/SpeechWorks/MediaServer/server/session
   /var/www/html/session
   ```

For IIS on Windows:

1. Run the Internet Information Services Manager, click `Start`, select `Run`, and run the command:

   ```
   inetmgr
   ```

2. Right-click the system host name, and select `New > Web Site`.

3. Use the Website Creation wizard to create a website that contains the following information:

   - `Description: OSSWebServer`

- Enter the IP address for this Web site: `<Select IP Address of this System>`
- TCP port this web site should use: `8000`
- Host Header for this site: `<Leave this Blank>`
- Path: `C:\Program Files\SpeechWorks\MediaServer\server\session`
- Allow anonymous access to this Web site: `<Checked>`
- Allow the following: `Read, Browse`

4. Expand the tree in the left pane until you see the `OSSWebServer` node under `Web Sites` under the name of the local computer. Right-click `OSSWebServer`, and select `Properties`. This will reveal the `OSSWebServer Properties` window.

5. In the `Properties` window, clear the `HTTP Keep-Alives Enabled` check box.

6. In the `Properties` windows, select the `HTTP Headers` tab. Then, in the `MIME types` section, click the `MIME Types` button.

7. In the `MIME Types` windows, click `New`, and add a MIME-type by using the following details: `Extension: *, MIME type: application/octet-stream`. Then, click `OK` in the `MIME Type` window to save MIME-type.

8. Click `OK` in the `MIME Types` window and the `OSSWebServer Properties` window. Then, restart the `OSSWebServer` by right-clicking the `OSSWebServer` node and selecting `Stop`. When it has stopped, right-click again, and select `Start`.

Starting SWMS (Linux Only)

As root, create the `/etc/init.d/OSSservice` file by using the following content:

```
#!/bin/sh
# Start the SpeechWorks server
#
#       /etc/rc.d/init.d/
#
# chkconfig: 345 96 5
# description: Starts the Speechworks server
# Version: 1.00

case "$1" in
start)
  SWISVRSDK=/usr/local/SpeechWorks/MediaServer/server; export
   SWISVRSDK
  SWISRSDK=/usr/local/SpeechWorks/OpenSpeech_Recognizer; export
   SWISRSDK
  LD_LIBRARY_PATH=$SWISRSDK/lib:$LD_LIBRARY_PATH; export
   LD_LIBRARY_PATH
  SSFTTTSSDK=/usr/local/ScanSoft/RealSpeak_4.0; export SSFTTTSSDK
```

```
LD_LIBRARY_PATH=$SSFTTTSSDK/speech/components/common:$LD_LIBRARY_
 PATH
export LD_LIBRARY_PATH
LD_LIBRARY_PATH=/lib/i686:$SSFTTTSSDK/api/lib:$LD_LIBRARY_PATH;
 export LD_LIBRARY_PATH
SSFT_TTS_LICENSE_SERVERS=27000@localhost; export
 SSFT_TTS_LICENSE_SERVERS
SSFT_TTS_LICENSE_MODE=implicit; export SSFT_TTS_LICENSE_MODE
LD_LIBRARY_PATH=$SWISVRSDK/bin:$LD_LIBRARY_PATH; export
 LD_LIBRARY_PATH
$SWISVRSDK/bin/OSSserver -d -config
 $SWISVRSDK/config/OSSserver.cfg
  ;;
stop)
      PIDOSS=`ps -e -H  | grep OSSserver | head -n 1 | sed -e 's!^
 *!!' | sed -e 's! .*!!'`
      # echo ${PIDOSS}
      kill -s 15 ${PIDOSS}
      ;;
*)
      echo "Usage $0 [start|stop]"
      ;;
esac
```

This script should be made executable. To make the script executable, perform the following command:

`chmod a+x /etc/init.d/OSSservice`

Finally, run the following commands as `root` to have it start automatically:

`/sbin/chkconfig  --add OSSservice`

RealSpeak 4.0.12 (Windows & Linux)

This section outlines the manual changes that should be made to the RealSpeak configuration.

Note: After making the configuration changes outlined in this section, please *restart* the system.

Configuring License Manager (Linux Only)

The following procedure should be carried out if it has not been done for OSR. Go to the following directory:

`/usr/local/ScanSoft/RealSpeak_4.0/flexlm/components`

Then, create the scripts `startLicenseManager.sh` and `stopLicenseManager.sh`.

The contents of the scripts follow.

startLicenseManager.sh

```
#!/bin/sh

export
OSRLIC_INSTALLROOT=/usr/local/ScanSoft/RealSpeak_4.0/flexlm/componen
ts

$OSRLIC_INSTALLROOT/lmgrd -c /usr/local/ScanSoft/license.lic -L
/usr/local/ScanSoft/lic.log
```

stopLicenseManager.sh:

```
#!/bin/sh
killall lmgrd
killall swilmgrd
```

These scripts should be given executable permission, so that
`startLicenseManager.sh` can be executed manually after restart and
`stopLicenseManager.sh` can be used to stop the license manager. To make a file
executable, perform the following command:
```
chmod a+x <file name>
```

To have the license manager start automatically upon restart, create the
`realspeak_licsvr` in `/etc/init.d` file by using the following contents, and
make it executable:
```
#!/bin/ksh
# Start the SpeechWorks license server
#
#       /etc/rc.d/init.d/
#
# chkconfig: 345 95 5
# description: Starts the Speechworks license server (for OSR
   2.0/Speechify 3.0)
# Version: 1.00

#!/bin/ksh
export
   LD_LIBRARY_PATH=/usr/local/ScanSoft/RealSpeak_4.0/speech/compone
   nts/common:$LD_LIBRARY_PATH
export
   REALSPEAKLIC_INSTALLROOT=/usr/local/ScanSoft/RealSpeak_4.0/flexl
   m/components


case "$1" in
start)
        if [ -e /usr/local/ScanSoft/license.lic ]
        then
        echo -n "Starting RealSpeak server:... "
        $REALSPEAKLIC_INSTALLROOT/startLicenseManager.sh
```

```
        else
                echo "No license found at
    /usr/local/ScanSoft/License.lic"
        fi
        ;;
stop)
        echo -n $"Shutting down RealSpeak server: "
        cd /usr/local/ScanSoft/RealSpeak_4.0/
        killall -9 lmgrd swilmgrd
        ;;
*)
        echo "Usage $0 [start|stop]"
        ;;
esac
```

When /etc/init.d/realspeak_licsvr has been created (and made executable), execute the following command as root:

```
/sbin/chkconfig --add realspeak_licsvr
```

Starting SWMS (Linux Only)

The following procedure should be carried out if it has not already been done for OSR. As root, create the /etc/init.d/OSSservice file by using the following content:

```
#!/bin/sh
# Start the SpeechWorks server
#
#       /etc/rc.d/init.d/
#
# chkconfig: 345 96 5
# description: Starts the Speechworks server
# Version: 1.00

case "$1" in
start)
  SWISVRSDK=/usr/local/SpeechWorks/MediaServer/server; export
   SWISVRSDK
  SWISRSDK=/usr/local/SpeechWorks/OpenSpeech_Recognizer; export
   SWISRSDK
  LD_LIBRARY_PATH=$SWISRSDK/lib:$LD_LIBRARY_PATH; export
   LD_LIBRARY_PATH
  SSFTTTSSDK=/usr/local/ScanSoft/RealSpeak_4.0; export SSFTTTSSDK
  LD_LIBRARY_PATH=$SSFTTTSSDK/speech/components/common:$LD_LIBRARY_
   PATH
  export LD_LIBRARY_PATH
  LD_LIBRARY_PATH=/lib/i686:$SSFTTTSSDK/api/lib:$LD_LIBRARY_PATH;
   export LD_LIBRARY_PATH
  SSFT_TTS_LICENSE_SERVERS=27000@localhost; export
   SSFT_TTS_LICENSE_SERVERS
  SSFT_TTS_LICENSE_MODE=implicit; export SSFT_TTS_LICENSE_MODE
```

```
        LD_LIBRARY_PATH=$SWISVRSDK/bin:$LD_LIBRARY_PATH; export
         LD_LIBRARY_PATH
        $SWISVRSDK/bin/OSSserver -d -config
         $SWISVRSDK/config/OSSserver.cfg
    ;;
stop)
        PIDOSS=·ps -e -H  | grep OSSserver | head -n 1 | sed -e 's!^
    *!!' | sed -e 's! .*!!'·
        # echo ${PIDOSS}
        kill -s 15 ${PIDOSS}
        ;;
*)
        echo "Usage $0 [start|stop]"
        ;;
esac
```

This script should be made executable. To make the script executable, perform the following command:

```
chmod a+x /etc/init.d/OSSservice
```

Finally run the following commands as `root` to have it start automatically:

```
/sbin/chkconfig  --add OSSservice
```

RealSpeak 4.5

NSSserver.cfg Changes

In the file C:\Program Files\Nuance\Speech Server 5.0\server\config\`NSSserver.cfg` (under Windows) and in /usr/local/Nuance/SpeechServer_5/config/NSSserver.cfg (for root1Linux), please make the following changes:

```
server.session.ossweb.machine    VXIString ⟨hostname⟩
```

Where ⟨hostname⟩ should be replaced with the actual IP address of the NSS Server.

```
change from
server.mrcp2.sip.contact.useHostIPAddress   VXIInteger    0
to
server.mrcp2.sip.contact.useHostIPAddress   VXIInteger    1

Change from
server.rtp.strictSdpMediaPortUse VXIInteger 1
To
server.rtp.strictSdpMediaPortUse VXIInteger 0
```

Nuance Recognizer 9.0.x

This section outlines the manual changes that should be made to the Nuance Recognizer 9.0.*x* configuration.

Note: After making the configuration changes outlined in this section, please *restart* the system.

Baseline.xml Changes

In the C:\Program Files\Nuance\Speech Server 5.0\server\config\`Baseline.xml` (under Windows), make the following changes:

Change the following:
```
<!-- Add a ScanSoft grammar key to the XML result. -->
<param name="swirec_extra_nbest_keys">
    <value>SWI_meaning</value>
    <value>SWI_literal</value>
    <value>SWI_grammarName</value>
</param>
```

To the following:
```
<!-- Add a ScanSoft grammar key to the XML result. -->
<param name="swirec_extra_nbest_keys">
    <value>SWI_meaning</value>
    <!--    <value>SWI_literal</value> -->
    <!--    <value>SWI_grammarName</value> -->
 </param>
```

Also, change the following:
```
<!-- Ignore the media type that is returned by the server upon
fetching a grammar. -->
  <param name="swirec_ignore_grammar_media_type">
<value>0</value>
  </param>
```

To the following:
```
<!-- Ignore the media type that is returned by the server upon
fetching a grammar. -->
  <param name="swirec_ignore_grammar_media_type">
<value>1</value>
  </param>
```

Also, for A Law systems, please make the following changes in the same file:

Change the following:
```
<!-- Defines the format of the audio being supplied to the
recognizer. -->
  <param name="swirec_audio_media_type">
```

```
    <value>audio/basic;rate=8000</value>
    <!-- value>application/x-
feature;rate=8000;encoding=speechpearl</value -->
  </param>
```

To the following:

```
<!-- Defines the format of the audio being supplied to the
recognizer. -->
  <param name="swirec_audio_media_type">
    <value>audio/x-alaw-basic;rate=8000</value>
    <!-- value>application/x-
feature;rate=8000;encoding=speechpearl</value -->
  </param>
```

And change the following:

```
<!-- Inform the speech detector about the audio format being
     supplied to the recognizer. -->
  <param name="swiep_audio_media_type">
    <value>audio/basic;rate=8000</value>
  </param>
```

To the following:

```
<!-- Inform the speech detector about the audio format being
     supplied to the recognizer.  -->
  <param name="swiep_audio_media_type">
    <value>audio/x-alaw-basic;rate=8000</value>
  </param>
```

To ensure Nuance Recognizer grammar cache works properly, the following parameters and the corresponding default value must present in the Baseline.xml:

```
<param name="swirec_default_loadfree_properties">
    <value>inet.maxage=0</value>
<value>inet.maxstale=0</value>
    <!-- Example:
    <value>swirec_mem_flush_on_free=1</value>
    <value>inet.maxage=0</value>
    -->
  </param>
```

NSS 5.0.x NSSserver.cfg Changes

In the C:\Program Files\Nuance\Speech Server 5.0\server\config \NSSserver.cfg file (under Windows), make the following changes:

```
server.session.ossweb.machine    VXIString  <hostname>
```

Where <hostname> should be replaced with the actual IP address of the NSS Server.

Also, change the following:

```
server.session.ossweb.port      VXIInteger 80
```

To the following:

```
server.session.ossweb.port        VXIInteger    8000
```

And change the following:

```
server.mrcp2.sip.sessionTimeout VXIInteger 60000
```

To the following:

```
server.mrcp2.sip.sessionTimeout VXIInteger 600000
and
server.mrcp1.rtsp.sessionTimeout    VXIInteger 6000
```

```
server.mrcp1.rtsp.sessionTimeout VXIInteger    60000
```

Change the following:

```
server.mrcp2.osrspeechrecog.mrcpdefaults.VSP.server.osrspeechrecog.r
esult.mediatype              VXIString    application/x-
vnd.speechworks.emma+xml;strictconfidencelevel=1;mrcpv=2.06
```

To the following:

```
server.mrcp2.osrspeechrecog.mrcpdefaults.VSP.server.osrspeechrecog.r
esult.mediatype              VXIString    application/x-
vnd.speechworks.emma+xml;strictconfidencelevel=1
```

The following additional changes should be made if OSR is installed (these changes are not required for RealSpeak-only installations):

Change the following (this may already be done in Linux) from:

```
server.inet.useInetFromOSR VXIInteger 0
```

To the following:

```
server.inet.useInetFromOSR VXIInteger 1
```

Change the following:

```
server.mrcp2.sip.contact.useHostIPAddress    VXIInteger      0
```

To the following:

```
server.mrcp2.sip.contact.useHostIPAddress    VXIInteger      1
```

Change the following:

```
server.rtp.strictSdpMediaPortUse VXIInteger 1
```

To the following:

```
server.rtp.strictSdpMediaPortUse VXIInteger 0
```

Notes:

If you want to change Apache or IIS to use a different port (such as 8000), instead of the original port (80), to access the saved utterances created by NSS, use the following configuration.

For IIS on Windows:

1. Run the Internet Information Services Manager, click `Start,` select `Run,` and run the following command:

   `inetmgr`

2. Right-click the system host name, and select New > Website.

3. Use the Website Creation wizard to create a website that contains the following information:

   - `Description: NSSWebServer`
   - `Enter the IP address for this Web site: <Select IP Address of this System>`
   - `TCP port this web site should use: 8000`
   - `Host Header for this site: <Leave this Blank>`
   - `Path: C:\Program Files\Nuance\Speech Server 5.0\server\session`
   - `Allow anonymous access to this Web site: <Checked>`
   - `Allow the following: Read, Browse`

4. Expand the tree in the left pane until you see the NSSWebServer node under Websites under the name of the local computer. Right-click NSSWebServer, and select Properties. This will reveal the NSSWebServer Properties window.

5. In the Properties window, clear the HTTP Keep-Alives Enabled check box.

6. In the Properties windows, select the HTTP Headers tab and, in the MIME types section, click the MIME Types button.

7. In the MIME Types windows, click New and add a MIME-type that has the following details: Extension: *, MIME type: application/octet-stream. Then, click OK in the MIME Type window to save this.

8. Click OK in the MIME Types window and the NSSWebServer Properties window. Then, restart the NSSWebServer by right-clicking the NSSWebServer node and selecting Stop. When it has stopped, right click again, and select Start.

Starting NSS (Linux Only)

If you wish to start NSS after restart, you should run the following command as root under /usr/local/Nuance/SpeechServer_5/bin:

NSSservice.sh

And, under /etc/init.d:

chkconfig –add NSSservice

Starting Nuance License Server (Linux Only)

As root, run the following command under /nuance/license_manager/components:

./set-new-lic-file.sh /nuance/license_manager/license/license.lic

As a result, the following file is created:

/etc/init.d/nuance-licmgr

/etc/rc3.d/S97nuance-licmgr

Where:

S97nuance-licmgr -> ../init.d/nuance-licmgr

Changes for Watson 6.1.*x* MRCP Direct

Watson 6.1 MRCP server requires that the application server return MIME-type for the served grammar. The application server must be configured to support the following grammar-file extension and corresponding MIME-type:

Extension	MIME-Type
.grxml	**application/srgs+xml** **application/grammar+xml** **text/xml**
.wbnf	**application/watson-bnf** **application/x-att-watson-bnf** **application/x-voicegenie-watson**

Licensing

The ASR or TTS engines require licenses before they can function, please contact VoiceGenie for information on licenses. Installation instructions for the license will be sent along with the license. The hardware MAC address will be used for license generation, to speed up the process of license generation, please send the output of the following command on the command line:

```
Linux: ifconfig -a
Windows: ipconfig /all
```

8.2 Installing MRCP-Native ASR or TTS Engines

The following section provides an overview of how to install ASR or TTS engines that are integrated using a MRCP-Native mechanism. The steps

include installing and deploying software as well as manual configuration changes to make the ASR or TTS engine useable by the VoiceXML platform or MRCP Proxy.

8.2.1 Installation and Deployment

This section describes the order in which software must be installed and deployed to a computer to ensure a functioning installation.

Step 1—Speech Resource Manager (SRM) Server Installation and Deployment

All natively integrated ASR and TTS engines require that the SRM Server is deployed. For all ASR and TTS engines, except for Watson ASR, the SRM Server should be deployed to the same computer as the ASR or TTS software. For Watson ASR, the SRM Server should be deployed to the same computer as the Media Platform.

The first step is to install the product file into the SMC by using the Product Manager. Note that `x.y.z` is the latest version (for example, `7.2.0`), and `a` is the revision of the package (for example, `5`).

On Linux, the package name is as follows:

`srm-server-x.y.z-a.tar.gz.`

On Windows, the package name is as follows:

`srm-server-x.y.z-a.zip`

The installation and deployment procedure is outlined in 7.1 Installation and Deployment via the SMC Overview. The product files may take up to 20 minutes to install, so please allow the web browser to upload the file without interruption. Upon installation, the product will be listed in the table at the bottom of the page.

Use the Config Profile Manager to create a profile for the package, the SRM Server asks no questions during profile creation. Subsequently, use the Deployment Manager to deploy the package on to the various computers that will be running the SRM Server software and ASR/TTS engine software.

Note: The SRM Server does not need to be deployed multiple times on a computer that is running more than one ASR or TTS engine that is integrated using a MRCP-Native interface. For example, if an ASR/TTS server is running both the RTSP Server and TDD/TTY Server, only one installation of SRM Server is required.

Step 2—ASR or TTS Software Installation

This step is required only for the Phonetic Operator. If you are installing any other MRCP-Native ASR or TTS engine, you can skip this step.

Phonetic Operator

For the Phonetic Operator, the ASR software must be installed by using the installation package provided by the vendor. The name of the installation package is the following:

- `GN 5.09.00 (0015).zip`

It should be installed on all computers that will run as Phonetic Operator servers. Please follow the installation instructions provided with the Phonetic software.

Step 3—ASR or TTS Product-File Installation

Install the product file(s) for the ASR or TTS engine you are installing by using the Product Manager in the SMC. The product files contain software directly from the third-party vendors, as well as special VoiceGenie-specific configuration instructions. The following table outlines the names of the various packages. Note that x is the revision number of the package (for example, 5):

ASR or TTS Software	Package Name
AT&T Watson ASR6.0.2463	watson-asr-client-6.0-2463.tar.gz watson-asr-server-6.0-2463.tar.gz
AT&T Watson ASR 6.1	watson-asr-server-6.1-3601.tar.gz watson-asr-client-6.1-3601.tar.gz watson-asr-client-6.1-3601-rhel4.tar
OSR 3.0.9 (Linux)	osr-base-3.0.9-x.tar.gz
Phonetic GN 5.9.0015	phonetic-base-5.8.0-x.zip
VoiceGenie TDD/TTY Server	tty-7.2.0-x.tar.gz
AT&T NaturalVoices	naturalvoices-tts-base-3.0.0-x.tar.gz
AT&T NaturalVoices 4.1.1	naturalvoices-tts-base-4.1.1-x.tar.gz naturalvoices-tts-client-base-3.0.0-8.tar.gz Note that the client and server must be in separate computers.
VoiceGenie RTSP Server	rtsp-7.2.0-x.tar.gz

The product file(s) may take up to 20 minutes to install, so please allow the web browser to upload the file(s) without interruption. Upon installation, the product(s) will be listed in the table at the bottom of the page.

Use the Config Profile Manager to create a profile for the package(s), and then use the Deployment Manager to deploy the package(s) to the various computers that will be running the ASR/TTS engine software. Note that Watson ASR is a special case.

For Watson ASR, the `watson-asr-client` (along with the SRM Server) should be deployed to the same system as the Media Platform; while the `watson-asr-server` should be deployed to the computer that will be running the ASR engine software.

When the product file has been deployed, please restart the computer on which the software is deployed.

Note: Watson 6.0.2463 requires a patch. After installing the previously listed Watson engine software by doing the following:

Place the following patch files on the computer that is running Watson 6.0.2463:

loadvad

libvad-eadapt.so

As root, change loadvad to an executable file, and run loadvad.
For NaturalVoice 4.1.1, the naturalvoices-tts should be deployed to the computer that is running the TTS server; while the naturalvoices-tts-client should be deployed to the computer that is running the SRM Server.

Step 4—Starting the SRM Server

After restart, you will see that the SRM Server is offline in the SMC. Please use the `Start/Stop Software` page under the `Operations` tab of the SMC to start the SRM Server. To do so, select the check box next to the server you would like to start, and click the `Start` button.

Step 5—ASR Language Product-File Installation

Some ASR and TTS engines have language packages that must be installed on top of the base ASR or TTS installation. The following table outlines the names of some of the language packages that are available. Please contact your sales representative for a list of additional language packages:

ASR or TTS Software	Package Name	Language
OSR 3.0.9 (Linux)	osr-lang-enus-3.0.3-1.tar.gz	U.S. English

ASR or TTS Software	Package Name	Language
	osr-lang-engb-3.0.0-2.tar.gz	U.K. English
	osr-lang-enin-3.0.0-1.tar.gz	Indian English
	osr-lang-enau-3.0.0-1.tar.gz	Australian English
	osr-lang-esus-3.0.3-1.tar.gz	U.S. Spanish
	osr-lang-eses-3.0.0-1.tar.gz	Spain Spanish
	osr-lang-frca-3.0.0-1.tar.gz	Canadian French
	osr-lang-frfr-3.0.0-1.tar.gz	France French
	osr-lang-dede-3.0.0-2.tar.gz	German
	osr-lang-elgr-3.0.3-1.tar.gz	Greek
	osr-lang-nlnl-3.0.0-1.tar.gz	Netherlands Dutch
	osr-lang-plpl-3.0.0-1.tar.gz	Polish
	osr-lang-jajp-3.0.0-1.tar.gz	Japanese
AT&T NaturalVoices 4.1.1	naturalvoices-tts-lang-alberto-3.0.0-2.tar.gz	U.S. Spanish (male)
	naturalvoices-tts-lang-craig-3.0.0-2.tar.gz	U.S. English (male)
	naturalvoices-tts-server-lang-crystal-4.1.1-.tar.gz	U.S. English (female)
	naturalvoices-tts-server-lang-jan-4.1.1-0.tar.gz	U.S. English (female)
	naturalvoices-tts-server-lang-mike-4.1.1-0.tar.gz	U.S. English (male)
	naturalvoices-tts-lang-rosa-3.0.0-2.tar.gz	U.S. Spanish (female)
AT&T NaturalVoices	naturalvoices-tts-lang-alberto-3.0.0-2.tar.gz	U.S. Spanish (male)
	naturalvoices-tts-lang-craig-3.0.0-2.tar.gz	U.S. English (male)
	naturalvoices-tts-lang-crystal-3.0.0-2.tar.gz	U.S. English (female)
	naturalvoices-tts-lang-jan-3.0.0-2.tar.gz	U.S. English (female)
	naturalvoices-tts-lang-mike-3.0.0-2.tar.gz	U.S. English (male)
	naturalvoices-tts-lang-rosa-3.0.0-2.tar.gz	U.S. Spanish (female)

Install the language packages that are relevant to your deployment via the Product Manager in the SMC. Once again, this may take up to 20 minutes.

Create a profile, and then deploy the package on the various computers that will use this language package.

After installing the language packages, *restart* the ASR/TTS server.

8.2.2 Manual Configuration

When an ASR or TTS package has been deployed, one or more Speech Resource provision records will be created. These Speech Resources can be used by the VoiceXML Platform or the MRCP Proxy. Most deployments will only have VoiceXML Platforms. This section explains how to configure the VoiceXML Platform or MRCP Proxy to use these resources.

Note: The Speech Resource configuration must be performed correctly; otherwise the installed Speech Resource will be unusable.

If the default ASR or TTS language is not en-US, you must change the VoiceXML Interpreter configuration to reflect this. By using the SMC, go to the Configuration tab and change the default_asr_language and/or default_tts_language parameters to the desired values.

AT&T Watson ASR 4.5.1

Please configure the ASR server to allow the number of recognition sessions you require. Change the WatsonRecogizers parameter value in the /usr/local/watson/serverconfig file:

WatsonRecognizers 90

The AT&T Watson ASR uses BNF as its grammar format, which is different from the default grammar format used on the VoiceXML Platform, ABNF. As a result, the ASRENGINE property must be set to WATSON in the VoiceXML page or in the defaults.vxml:

```
<property name="ASRENGINE" value="WATSON"/>
```

Also, users should specify the grammar type in the in-line grammar as follows:

```
<grammar type="application/x-voicegenie-watson">
```

Natural Voices and Targeting Speech Resources

Natural Voices provides two difference mechanisms for selecting the voice associated with a given TTS request. Depending on the mechanism used, the specific Speech Resource that is targeted will differ.

The two mechanisms that exist are specifying the voice by using the:

1. SSML <voice> tag (e.g. <voice name="jan"></voice>)

2. `TTSENGINE` property in VoiceXML to include the voice name (e.g.
`<property name="TTSENGINE" value="NATURALVOICES_JAN"/>`)

If method 1 is used, only the Speech Resource with the Speech Resource Name `NATURALVOICES` should be targeted to the VoiceXML Platform; all others should not be.

If method 2 is used, all Speech Resources associated with Natural Voices (for example, `NATURALVOICES, NATURALVOICES_JAN,` and `NATURALVOICES_CRYSTAL`) should be targeted to the VoiceXML Platform.

Note that if the user does not specify the voice by using either technique, the TTS Server will choose the voice. In general, this would be the first voice installed on the system. If both techniques are used simultaneously, the contents of the `<voice>` tag take precedence.

8.2.3 Licensing

The following ASR or TTS engines require licenses before they can function. Please contact VoiceGenie for information on licenses:

- OSR 3.0.4
- Phonetic GN 5.8.002*x*
- RealSpeak TTS 4.0.4
- Rhetorical TTS 4.3

Installation instructions for the license will be sent along with the license. The hardware MAC address will be used for license generation. To speed up the process of license generation, please send the output of the following command on the command line:
```
Linux: ifconfig -a
Windows: ipconfig /all
```

8.2.4 Manual-Installation Procedures for Watson 6.1 Server

8.2.4.1. Install the software packages.

The packages can be found in `deathstar in /home/public/ASREngines/Watson/6/1`, if not pointed otherwise.

As root, place the following RPM packages `/usr/local/vg_install`, and run the commands respectively:

Step 1: Install the required version of Python (if it is not already installed).
```
rpm -i --nodeps blas-3.0-20.i386.rpm
rpm -i --nodeps lapack-3.0-20.i386.rpm
rpm -i --nodeps python2.3-2.3.4-3pydotorg.i386.rpm
```

> **Note:** The preceding software packages can be found in `deathstar`
> `/home/public/ASREngines/Watson/6.0/6.0.2463/`.

Step 2: Install the Watson 6.1 Server software.

```
 rpm -i watson-6.1-3601.i386.rpm
 rpm -i watson-voicetone-6.1-3601.i386.rpm
```

```
rpm -i --nodeps watson-6.1-3601.i386.rpm
```

Note that if the system has a previous Watson server installed, suggest the use of `rpm -ivh -force`.

In RHEL4, Python-2.3.4-14.4 is installed with the OS. If you see the following error:

```
Failed dependencies:
        python2.3 is needed by watson-6.1-3601.i386
```

Use the following command:

```
rpm -i --nodeps watson-6.1-3601.i386.rpm
```

Step 3: Install the Watson 6.1 Server patch.

- Place the linchen-watson-6.1-patches-20081219.tar.gz patch in the system in which the Watson 6.1 server was installed in Step 2.

- Untar the package into a folder.

- Back up the following original files:
  ```
  /usr/local/watson/lib/python2.3/site-packages/watson/srgs.py
  /usr/local/watson/lib/python2.3/site-
  packages/watson/server/channel.py
  /usr/local/watson/lib/python2.3/site-
  packages/watson/server/digits.py
  /usr/local/watson/lib/python2.3/site-
  packages/watson/server/httpfetch.py
  /usr/local/watson/lib/python2.3/site-
  packages/watson/server/lmcache.py
  /usr/local/watson/lib/python2.3/site-
  packages/watson/server/cmdlets/enableCompatVG
  /usr/local/watson/lib/python2.3/site-
  packages/watson/server/protocol/mrcp.py
  /usr/local/watson/lib/python2.3/site-
  packages/watson/server/protocol/wiremrcp.py

  /usr/local/watson/share/watson-6/data/lm/en-us-number/
  /usr/local/watson/share/watson-6/data/lm/en-us-number.wbnf
  /usr/local/watson/share/watson-6/data/lm/es-us-number/
  /usr/local/watson/share/watson-6/data/lm/es-us-number.wbnf
  ```

Copy the patch files from the uncompressed folder to the corresponding folders.

Step 4: Set automatic start.

```
chkconfig --add watsond
```

This command will result in a corresponding file in /etc/rc3.d—for example, S99watsond. This file will make it possible to start the Watson server automatically after a restart.

8.2.4.2. Update the /etc/profile.

The /etc/profile should contain the following lines:
```
export LD_LIBRARY_PATH=/usr/local/watson/bin:$LD_LIBRARY_PATH
export PATH=/
usr/local/watson/bin:/usr/local/watson/run:/usr/local/Python-
2.3.5/bin:$PATH
```

8.2.4.3. Change ownership of /usr/local/watson to pw.

8.2.4.4. Check the Watson Server configuration.

Check and ensure the following values in /usr/local/watson/etc/sysconfig/watsond are set correctly:
```
WUSER="pw"
WDAEMONDIR="/usr/local/watson/run"
```

8.2.4.5. Restart the system

8.2.5 Manual-Installation Procedures for NaturalVoice 4.1 Server

8.2.5.1. Package list

The packages can be found in deathstar in /home/public/TTSEngine/NaturalVoices/4.1.2RHEL4, if not pointed out otherwise.

The original NaturalVoice 4.1 engine package includes the following:

<u>server-common-linux-TTS4.1.tar:</u> Standard support files for NV TTS 4.1

<u>server-linux-gcc323-TTS4.1.tar</u>: NV TTS 4.1 server and shared
libraries (RedHat Linux 3.0)
<u>server-linux-gcc346-TTS4.1.tar</u>: NV TTS 4.1 server and shared
libraries (RedHat Linux 4.0)
<u>3rd-party/3rd-party-data.tar</u>: Data files required for support of
Spanish frontend
<u>3rd-party/3rd-party-libs.tar</u>: Libraries required for support of
Spanish frontend (RedHat Linux 3.0)
<u>3rd-party/3rd-party-libs-gcc346.tar:</u> Libraries required for support
of Spanish frontend (RedHat Linux 4.0)
voices/en_us: New voice files for Crystal, Mike, and Jan · in
/home/public/TTSEngine/NaturalVoices/4.1.1
<u>cfg/</u>: Sample configuration files for NV TTS 4.1 server
<u>nv_tts_host_all</u>: Sample start/stop script for NV TTS 4.1 server
<u>nvmrcpd.tar:</u> NV TTS 4.1 MRCP v1 daemon
<u>NV411ReleaseNotes.doc:</u> High-level release notes (Word document)

8.2.5.2. Install the software packages

Step 1: `server-common-linux-TTS4.1.tar`.
Under `/usr/local/vg_install/ATT_TTS`, run as root:
`tar xvf server-common-linux-TTS4.1.tar`
It will generate the following path:
`/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server`
Change ownership of `ATT_TTS` to pw.
Create `/usr/local/ATT_TTS/ATTNaturalVoices`, and ensure
`ATT_TTS/ATTNaturalVoices` is owned by pw. Make the following soft link:
Ln –s `/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1 TTS`

Step 2A: server-linux-gcc323-TTS4.1.tar for RHEL3

If the OS is RHEL3, under /usr/local/vg_install/ATT_TTS, run the following:
`tar xvf server-linux-gcc323-TTS4.1.tar`
It will add bin, data, and lib to the following previously created folder:
/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server

Step 2B: server-linux-gcc346-TTS4.1.tar for RHEL4

If the OS is RHEL4, under `/usr/local/vg_install/ATT_TTS`, run the
following:
`tar xvf server-linux-gcc346-TTS4.1.tar`
It will add `bin, data,` and `lib` to the following previously created folder:
`/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server`

Step 3: Install Voices.

The Voices (for example, crystal, mike, jan) under voice/en_us must be included in the following:
/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server/data/en
_us

Step 4: Install es-us frontend.

Under /usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server,
run the following:
tar xvf 3rd-party-data.tar

Step 5: Install es-us lib.

Under
/usr/local/vg,_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server/bin,
run the following:
tar xvf 3rd-party-libs.tar for RHEL3
tar xvf 3rd-party-libs-gcc346.tar for RHEL4

Step 6: Install the startup script

Place nv_tts_host_all under /etc/init.d as root.
Add the start script to inittab.

Step 7: Place the voices configuration file.

Place the nv.cfg (under config/nv.cfg) in the following:
/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server/data

Step 8: Place the es-us configuration file.

Place the es.cfg file (under config/es.cfg) in the following:
/usr/local/vg_install/ATT_TTS/ATTNaturalVoices/TTS4.1/Server/data/es
_us/FreeLing

8.2.5.3. Configure the server

Step 1: /usr/local/ATT_TTS/ATTNaturalVoices/TTS/Server/data/nv.cfg

Edit the voices configuration file (data/nv.cfg) to set the path of the Spanish
frontend configuration file. In the Language es_us section, the
LanguageAuxConfig variable should be set to the absolute path to the es.cfg
file, as follows:
LanguageAuxConfig
/usr/local/ATT_TTS/ATTNaturalVoices/TTS/Server/data/es_us/FreeLing/e
s.cfg

Verify that the voices configuration file has the `TextAnalysisLoad static` option in the `Language es_us` section.This setting is required for acceptable speed of the Spanish language.

`TextAnalysisLoad          static`

Edit the voices configuration file (`data/nv.cfg`) to point to the correct data file names for each voice.

Step 2:
/usr/local/ATT_TTS/ATTNaturalVoices/TTS/Server/data/es_us/FreeLing/es.cfg

Edit the Spanish `frontend` configuration file (`data/es_us/FreeLing/es.cfg`) to set the absolute path to each data file. If necessary, replace the `/usr/local/ATT_TTS/ATTNaturalVoices/TTS/Server/data/es_us/FreeLing/` path with the correct absolute path to the installed data files. Note that this *must* be an absolute path, and not a relative path.

8.3 Targeting Speech Resources

8.3.1 VoiceXML Platform Speech Resources

On the `Configuration` tab of the SMC, under the `Media Platform` section, is a link for `Speech Resources`. This page lists all the Speech Resources that can be use by a VoiceXML Platform; an example resource is shown in the following figure:

Speech Resource Name:	SPEECHWORKS	**ID: 54 (6)**
Hostname/IP:	205.150.90.154 **Port:** 22000	
Resource URI:	rtsp://205.150.90.154:22000/recognizer	
Resource Type:	ASR	
Parameter Name:	vrm.client.SendVGParar **Value:** true	Remove
Parameter Name:	vrm.client.HotKeyBaseF **Value:** /vggrammarbase/spee	Remove
Parameter Name:	vrm.client.HotKeyLocalF **Value:** /usr/local/phoneweb/gra	Remove
Parameter Name:	**Value:**	Add
	Update Delete Target as Primary Target as Backup	

This resource can either be used as a Primary Resource or as a Backup Resource. To select which VoiceXML Platforms will use it as a Primary resource, click `Target as Primary`. To select which VoiceXML Platforms will use it as a Backup resource, click `Target as Backup`. Note that the two are mutually exclusive.

Clicking either button will present a tree view that shows all computers that have the VoiceXML Platform software deployed. Select the check box next to the computers that will use this Speech Resource, and click `Update` to make your changes.

For more details on how Speech Resources are used at the application level, please consult the *SRM User's Guide.*

Note: If your deployment has a MRCP Proxy, two Speech Resources will be created—one that allows the VoiceXML Platform to use the Speech Resource directly, and one that allows the VoiceXML Platform to use the Speech Resource via the MRCP Proxy.

8.3.2 MRCP Proxy Speech Resources

The manual configuration described in this section is required only if your deployment has an MRCP Proxy, also known as an SRM Proxy.

On the `Configuration` tab of the SMC under the `Speech Resource` Mgr section is a link for `Speech Resources`. This page lists all the Speech Resources that can be use by the MRCP Proxy; an example resource is shown below:

This resource can be assigned to be used by an MRCP Proxy. To select which MRCP Proxy will use this resource, click `Select Target`.

Clicking this button will present a tree view that shows all computers that have the MRCP Proxy software deployed. Select the check box next to the

computers that will use this Speech Resource, and click `Update` to make your changes.

For more details on how Speech Resources are used at the application level, please consult the *SRM User's Guide.*

8.4 Installing the Hotkey Grammar Package

The final step is to install the hotkey grammar package on all VoiceXML Platforms in your deployment. This section describes the procedure for installing this package.

The product file for this should be installed into the SMC by using the Product Manager. Note that `x.y.z` is the latest version (for example, `1.0.0`), and `a` is the revision of the package (for example, `1`).

On Linux, the package name is as follows:

`hotkey-mp-x.y.z-a.tar.gz`

On Windows, the package name is as follows:

`hotkey-mp-x.y.z-a.zip`

The installation and deployment procedure is outlined in `7.1 Installation and Deployment via the SMC` Overview. Upon installation, the product will be listed in the table at the bottom of the page.

Use the Config Profile Manager to create a profile for the package. The Hotkey Grammar package asks no questions during profile creation. Subsequently, use the Deployment Manager to deploy the package on to all VoiceXML Platform computers in your deployment.

8.5 Migrating RealSpeak MRCP-Native to RealSpeak MRCP-Direct Installation

This section documents the manual steps in migrating an existing MRCP-Native RealSpeak installation to a MRCP-Direct RealSpeak Installation. The steps described in this section should be carried out by a customer only if:

1. They have an existing MRCP-Native RealSpeak installation running with the VoiceGenie platform

2. They wish to change their existing architecture to a RealSpeak MRCP-Direct integration.

This process is carried out in the following three steps at a high level:

1. Remove existing MRCP-Native RealSpeak installation and related VoiceGenie components

2. Install Nuance's third-party RealSpeak Engine software, language packs, and Speechworks Media Server.

3. Install VoiceGenie's MRCP RealSpeak package to configure the provisioning data automatically to work with Nuance's Speechworks Media Server.

8.5.1 Remove Existing Installation

To remove the existing MRCP-Native RealSpeak installation, carry out the following steps in order:

Stop the SRM Server Instance

Before removing the MRCP-Native installation, the existing SRM Server process should be stopped. This can be done by running `stop srmserver` command from the CLC console:

```
CLC> stop srmserver
```

Removing RealSpeak Startup Scripts and Cronjobs

Perform the following steps:

1. Log on to the system as super user, and remove the following lines from the `/etc/inittab` file:
   a. `RSPK:1314:respawn:su - root -c '/etc/init.d/start-realspeak-server-exagent'`
   b. `RSKC:1319:respawn:su - pw -c '/etc/init.d/start-realspeak-client-exagent'`

2. Remove the following files from the `/etc/init.d` directory:
   a. `realspeak_licsvr`
   b. `realspeakserver`
   c. `start-realspeak-client-exagent`
   d. `start-realspeak-server-exagent`

3. Remove the following files from the `/etc/rc3.d` directory
   a. `S95realspeak_licsvr`
   b. `S98realspeakserver`

Modifying Platform Configuration from SMC

Go to the System Management Console (SMC) by entering the URL `http://<ip of CMP server>:8080/smc/` in your web browser, and carry out the following steps:

1. Remove existing RealSpeak Speech Resources:
   a. Go to the `Configuration` tab.
   b. Follow the `Speech Resources` link under the `Media Platform` section, located on the panel on the left-hand side.
   c. Click the `Target as Primary` button for all existing speech resources for RealSpeak. Typically, this would have the Speech Resource Name of the form `REALSPEAK_<VOICENAME>`. On the next page, clear the check box, if necessary, to un-target the Speech Resource from all servers, and then click the `Update` button. The purpose of this step is to un-target any existing speech resource that is in use, before deletion.
   d. After all RealSpeak speech resources are un-targeted, click the `delete` button for each RealSpeak speech resource. Click the `OK` button during the confirmation pop-up that says, `Warning: You are about to delete the entry from the database. Click OK to confirm, otherwise click Cancel.`

2. Remove the TTS configuration from SRM Server:
   a. Go to the `Configuration` tab.
   b. Follow the `SRM Server` link under the `Speech Resource Mgr` section, located on the panel on the left-hand side.
   c. Under the `TTS specific parameters` section, go to the `tts_client_list` section, delete all `REALSPEAK_<VOICENAME>` client configuration instances, by clicking the `Del` button beside each RealSpeak item. After all RealSpeak items have been removed from the `tts_client_list`, click the `Update` button located at the end of the page.

3. Remove the TTS Server/TTS Client from the CMP Network:
   a. Go to the `Administration` tab.
   b. Follow the `Cluster Manager` link under the `Cluster Administration` section, located on the panel on the left-hand side.
   c. On the right-hand side, there will be a tree-like structure for the installed system. Under the `Network` node, click the `properties` link beside the server that has SRM Server installed.
   d. Under the `Server Component Details` section, click the `Delete` button followed by `OK` when a confirmation dialog box pops up, for the following items:
      i. `TTS Server (20)`
      ii. `TTS Client (20)`

Removing SRM Server Installation

When we have migrated to the MRCP-Direct architecture, the SRM Server will no longer be required; instead, Nuance's `Speechworks MediaServer` will replace the functionality of the SRM Server. To clean up disk space and configuration we should remove the SRM Server from the installation.

This section is optional and should be carried out only if the RealSpeak TTS engine is the *only* ASR or TTS engine on the computer and configured with SRM Server. If there are other ASR or TTS engines in use that are using the SRM Server (for example, the OSR ASR Engine), the steps described in this section should not be carried out; otherwise, this other engine will not function properly.

1. Remove the SRM Server from the CMP Proxy Configuration:
   a. Log on to the SMC, and go to the `Configuration` tab.
   b. Follow the `CMP Proxy` link under the `OA&M Framework` section, located on the panel on the left-hand side.
   c. Select the current active cmpproxy configuration file's radio button, and click edit.
   d. Under the `System Start/Stop Configuration` section, for the `cmp.components` parameter, click the `Del` button beside `SRMS` (which stands for SRM Server).
   e. Click the `Update` button located at the bottom of the page.

2. Remove the SRM Server from the CMP Network:
   a. Log on to the SMC, and go to the `Administration` tab.
   b. Follow the `Cluster Manager` link under the `Cluster Administration` section, located on the panel on the left-hand side.
   c. On the right-hand side, there will be a tree-like structure for the installed VG system. Under the `Network` node, click the `properties` link beside the server that has SRM Server installed.
   d. Under the `Server Component Details` section, click the `Delete` button, followed by `OK`, when the confirmation dialog box appears for the following item:
      • SRM Server

3. Remove the SRM Server binaries:
   a. Log on to the computer that has the SRM Server installed, and run `rm -rf /usr/local/srm-server/`. This will remove the SRM Server and its subdirectories on the system.

Removing the Existing RealSpeak Installation

In the MRCP-Native integration, the following RPM packages are installed on the system and will need to be removed:

a. RealSpeak license package: `rs-lic-<version>` (for example, `rs-lic-4.0-x`)

b. RealSpeak TTS Engine package: `rs-api-<version>` (for example, `rs-api-4.0-12`)

c. RealSpeak voice package(s): `rs-<country>-<language>-<voicename>-<version>` (for example, `rs-American-English-en-US-Tom-4.0-12`)

d. VoiceGenie RealSpeak license package: `realspeak-license-<version>` (for example, `realspeak-license-4.0.4-4`)

e. VoiceGenie RealSpeak voice package(s): `realspeak-lang-<VoiceName>-<language>-<version>` (for example, `realspeak-lang-Tom-en-US-4.0.12-1`)

f. VoiceGenie RealSpeak engine package: `realspeak-base-<version>` (for example, `realspeak-base-4.0.12-1`)

You can issue the `rpm -qa` command at the command prompt to get a list of installed RPM packages.

To remove the installed RPM packages, you can issue the `rpm -e <packagename>` command. By using the provided examples, we would run the following commands:

a. `rpm -e rs-lic-4.0-x`

b. `rpm -e rs-American-English-en-US-Tom-4.0-12`

c. `rpm -e rs-api-4.0-12`

d. `rpm -e realspeak-license-4.0.4-4`

e. `rpm -e realspeak-lang-Tom-en-US-4.0.12-1`

f. `rpm -e realspeak-base-4.0.12-1`

g. After all of the preceding commands have been run, ensure that all RealSpeak installation are removed by running the following command: `rm -rf /usr/local/ScanSoft/RealSpeak_4.0/`

Note: The version or Voices may differ in the actual installation.

Note: If Speechworks Media Server (SWMS) is installed on the system, remove the existing installation at this point by running the following command: `rpm -e SWMS-3.1.10`

Installing MRCP-Direct Engine

At this stage, the system is in a clean state and ready to be installed with the RealSpeak MRCP-Direct software. Please follow the steps described in `Installing MRCP-Direct ASR or TTS Engines` for instructions on continuing the installation of the RealSpeak MRCP-Direct server.

A

Installing Packages from the Command Line

VoiceGenie installable packages are usually uploaded via the SMC such that they can be deployed to multiple servers from the SMC's Deployment Manager. However, some customer's have network-access restrictions (for example, no or limited http access) that makes this problematic. Also, the streaming of some of the larger installable packages to the SMC via http can be time consuming if the bandwidth between the web client and web server is limited. As a result, a command-line utility exists to upload VoiceGenie installable packages into the SMC. This section details how this command-line utility, called CMP Installer, can be utilized.

A.1 CMP Installer Usage

The CMP Installer can be used on only computers that have the SMC installed. It can be found in the following directories:

Under Linux:

`/usr/local/cmp-proxy/scripts/`

Under Windows:

`C:\VoiceGenie\cmp\cmp-proxy\scripts\`

When you are in the correct directory as previously listed, the command can be executed as follows:

`./cmpinstaller -i -p <productFile>`

The following table outlines the meaning of all the command-line arguments of the CMP Installer:

Option	Optional	Description
<productFile>	Yes	The name of the product file (for example, `.tar.gz` or `.zip`) you would like to install. This parameter should be the fully qualified path to the file unless the file is in the current directory. Note that if you are using the `-p` option then the `<productFile>` does not need to be specified when configuring previously uploaded products.
-i	Yes	This option directs the CMP Installer to install the package into the SMC (that is, add it to the list in the SMC's Product Manager).
-p	Yes	This option directs the CMP Installer to create a profile for the product file, you can create a new one or upgrade an existing one. If no product file is specified, you will be given a list of products already uploaded to the SMC that can be configured.

A.2 CMP Installer Examples

This section shows some examples of the usage of the CMP Installer.

A.2.1 Installing a Product File from the Command Line

```
pw@10.0.0.1 > ./cmpinstaller -i cmp-db-7.0.4-3.tar.gz
------------------------------------------------------------------------
CMP Command Line Installer
------------------------------------------------------------------------


Installing Package:      cmp-db-7.0.4-3.tar.gz
Product:                 OAM Framework Database
Manufacturer:            VoiceGenie
Version:                 7.0.4
Sub Version:             AS3.0

Installation Result: Success
```

A.2.2 Installing a Product File, and Creating a Profile from the Command Line

```
pw@10.0.0.1 > ./cmpinstaller -i -p cmp-db-7.0.4-3.tar.gz
------------------------------------------------------------------------
CMP Command Line Installer
------------------------------------------------------------------------


Installing Package:      cmp-db-7.0.4-3.tar.gz
Product:                 OAM Framework Database
Manufacturer:            VoiceGenie
Version:                 7.0.4
```

```
Sub Version:                AS3.0

Installation Result: Success

Attempting to Create a Profile for Product ID: 15

Enter Configuration Profile Name > System 1

Configuration Profile Creating Result: Success
```

A.2.3 Creating a Profile, or Upgrading an Existing Profile

```
pw@10.0.0.1 > ./cmpinstaller -p
-----------------------------------------------------------------------
CMP Command Line Installer
-----------------------------------------------------------------------

Please enter the product ID of the product for which you would like to
create a Configuration Profile:

Product ID Name                                    Version Subtype
1          Media Platform                          7.0.4 AS3.0
11         Media Platform                          7.2.0 AS3.0
6          OAM Framework CMP Proxy                 7.2.0 AS3.0
8          OAM Framework CMP Server                7.2.0 AS3.0
15         OAM Framework Database                  7.0.4 AS3.0
7          OAM Framework Database                  7.2.0 AS3.0
9          System Management Console               7.2.0 AS3.0
2          VoiceGenie SNMP Agent                   7.0.4 AS3.0
10         VoiceGenie SNMP Agent                   7.2.0 AS3.0

Enter Product ID > 15

Attempting to Create a Profile for Product ID: 15

Enter Configuration Profile Name > New Profile

Configuration Profile Creating Result: Success
```

A.2.4 Upgrading an Existing Profile

```
pw@10.0.0.1 > ./cmpinstaller -p
-----------------------------------------------------------------------
CMP Command Line Installer
-----------------------------------------------------------------------

Please enter the product ID of the product for which you would like to
create a Configuration Profile:
```

```
Product ID Name                                      Version Subtype
1          Media Platform                             7.0.4 AS3.0
11         Media Platform                             7.2.0 AS3.0
6          OAM Framework CMP Proxy                    7.2.0 AS3.0
8          OAM Framework CMP Server                   7.2.0 AS3.0
15         OAM Framework Database                     7.0.4 AS3.0
7          OAM Framework Database                     7.2.0 AS3.0
9          System Management Console                  7.2.0 AS3.0
5          Tools Log Agent                            1.0.0 AS3.0
12         Tools Log Agent                            7.2.0 AS3.0
3          Tools Log Monitor                          1.0.0 AS3.0
13         Tools Log Monitor                          7.2.0 AS3.0
4          Tools Server                               1.0.0 Server All OS
14         Tools Server                               7.2.0 Server All OS
2          VoiceGenie SNMP Agent                      7.0.4 AS3.0
10         VoiceGenie SNMP Agent                      7.2.0 AS3.0


Enter Product ID > 7

Attempting to Create a Profile for Product ID: 7

Enter Configuration Profile Name > New

A Configuration Profile for an older version of this product already
exists.  Would you like to upgrade an existing Configuration Profile?

[y|N] > Y

The following Configuration Profiles can be upgraded, please enter the
Profile ID to upgrade:

Profile ID Profile Name    Product Name                  Version Subtype
24         Default         OAM Framework Database         7.0.4 AS3.0
25         New             OAM Framework Database         7.0.4 AS3.0

Enter Profile ID > 25


Configuration Profile Upgrading Result: Success
```

Appendix

B

Deploying Packages from the Command Line

Deployment is usually done using the SMC; however, there is a command-line utility to deploy product files also. The CMP Deployer is the application responsible for the deployment process. The executable that carried out deployment can be at `/usr/local/cmp-deployer/bin/cmpdeployer` (under Linux) and `C:\VoiceGenie\cmp\cmp-deployer\bin\cmpdeployer` (under Windows). This application can be used as follows:

```
cmpdeployer -f <productFile>
cmpdeployer -f <productFile> -p <profileID>
```

In the preceding examples, the `<productFile>` (for example, `.tar.gz` or `.zip`) must be located on the computer locally. If the `-p` parameters is not specified, the user will be prompted with a list of profiles that can be used for deployment. The `<productFile>` path should not contain any spaces in it because the CMP Deployer will not be able to parse it correctly.

To get a list of profileIDs, use the following CLC command:

```
profileinfo "[productName]" "[manufacturer]" [version]
```

where `[productName]` is the product name and is surrounded in quotation marks, because the name can have spaces. Also, `[manufacturer]` is the manufacturer and is also surrounded by quotation marks, because it can have spaces. Finally, `[version]` is the product version.

C Automating I-Scripts for Silent Install

After installing Linux a number of setup questions are asked to configure the server as well as start VoiceGenie installation. Answering these questions is usually done interactively; however, this procedure can be automated for the purposes of silently installing the system if desired.

The `vg-scriptmanager` includes a directory that contains the necessary scripts and examples to enable the automation. This directory can be found at the following location:

`/usr/local/vg-scriptmanager/autoinstall`

The scripts within this directory provide the basics to automate the installation process; note however that some customizations to these scripts will need to be made, based on the specifics of your installation.

The top level script is the `auto-vg-install` script. This script runs the various I-Scripts that setup the system along with a responses file that contains the answers to the questions that are usually asked interactively. The following is an example from the `auto-vg-install` script:

`/usr/local/vg-scriptmanager/autoinstall/auto-envoker /usr/local/vg-scriptmanager/done/I010network network-responses`

The line above calls the auto-envoker script to run the I-Script, `I010network`, with the response file `network-responses`. The `network-responses` file simply contains the desired answers for the interactive questions prompted by the `I010network` script. The contents of the network-responses file are the following:

```
y
vgplatform
yourdomain.com
10.0.0.10
255.255.255.0
10.0.0.1
10.0.0.1
```

```
n
```

The preceding example shows the responses to the questions asked during the network interface setup. Note that the answers to these questions are computer-specific and must be catered to your specific installation.

Using the `auto-vg-install` script along with modifications to the responses file the initial setup of the computer can be automated.

Appendix

D

Changing the IP Address of a Computer

This appendix provides details on how to change the IP address of a system that already has VoiceGenie components installed. When changing the IP of multiple servers, or servers with multiple roles, complete each section in the order listed before moving on to the next. Note that the system IPs should not be changed until after steps up to D.4 Network-Setting Changes are complete.

If the server in question has multiple roles, the steps for each role should be performed. Thus, if your server acts as a Management Server and Database Server, perform the steps shown for both Management Servers, Database Servers and Networking. If you are running an all in one system please run the steps for the Management Server, Database Server, 'Other' Server and Networking sections. Note that the steps outlined in the Networking section must be run for any server whose IP is being changed.

D.1 Changes to Management Server

D.1.1 CMP Server Configuration

By using the CLC on the Primary Management Server, change the value of the `cmp.primary_cmpe` parameter for the CMP Server configuration. Change it to the new IP address, as follows:

Get the Configuration ID:
```
CLC> cfggetid cmpserver
Configuration ID: 2, Name: default, Version: 7.2.0
```

Use the value of Configuration ID in the next command:
```
CLC> paramupdate 2 cmp.primary_cmpe <NEW_CMP_SERVER_IP>
```

> **Note:** To reconfigure for a Backup Management Server with a changed IP, you should repeat the preceding steps, except that you should modify the `cmp.backup_cmpe` parameter instead of the `cmp.primary_cmpe` parameter.

D.1.2 CMP Proxy Configuration

By using the CLC on all servers, change the value of the `cmp.primary_cmpe` parameter for all CMP Proxy configurations in the OA&M cluster. Change it to the new IP address, as follows:

Get the Configuration ID:
```
CLC> cfggetid cmpproxy
Configuration ID: 1, Name: default-<IP>-<DATE>-<TIME>, Version:
7.2.0
```

Use the value of Configuration ID in the next command:
```
CLC> paramupdate 1 cmp.primary_cmpe <NEW_CMP_SERVER_IP>
```

> **Note:** To reconfigure for a Backup Management Server with a changed IP, you should repeat the preceding steps, except that you should modify the `cmp.backup_cmpe` parameter instead of the `cmp.primary_cmpe` parameter.

D.1.3 Database Entries

On the Database Server, log on to the MySQL database and manually update the IPs:
```
mysql -upw -ppw NDM

update Network set host='<NEW_CMP_SERVER_IP>' where host='<OLD_IP>';

update Network set name='<NEW_CMP_SERVER_IP>' where name='<OLD_IP>';

exit
```

> **Note:** You can view the IPs by using the following command inside MySQL:
>
> ```
> select host, name from Network;
> ```

D.2 Changes to Database Server

D.2.1 SMC Configuration

By using the CLC on the Management Server(s), change the value of the `cmp.db` parameter for the local SMC configuration. Point it to the new IP address, as follows:

Get the Configuration ID:
```
CLC> cfggetid smc
Configuration ID: 3, Name: default, Version: 7.2.0
```
Use the value of Configuration ID in the next command:
```
CLC> paramupdate 3 cmp.db <NEW_DATABASE_SERVER_IP>
```

D.2.2 ODBC Configuration

Then, on all Management Servers, modify the ODBC to reflect the new IP.

Linux

In `/usr/local/cmp-server/config/odbc.ini`, change the following:
```
Server = <NEW_DATABASE_SERVER_IP>
```
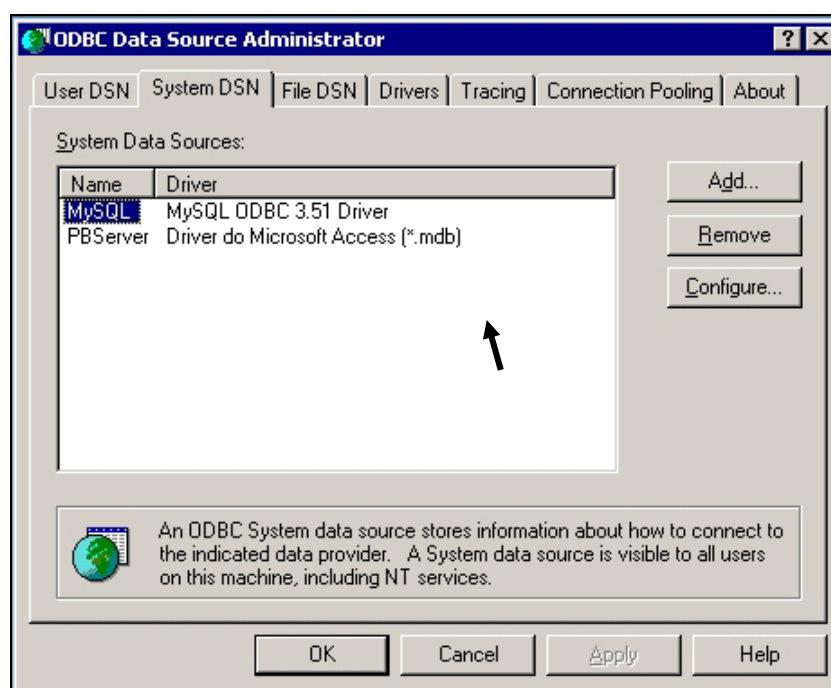
Note: This also applies to combined Database + Management Servers whose IP has changed.

Windows

Select the ODBC settings in `Control Panel` > `Administrative Tools` > `Data Sources (ODBC)`

Select the `System DSN` tab. Select the `MySQL` source, and use `Configure` to change `Host`/`Server Name` (or `IP`) to the new database IP address.

D.3 Changes to Other Servers (VoiceXML Platform, ASR Server, TTS Server)

D.3.1 Database Entries

On the Database Server, log on to the MySQL database and manually update the IPs:

```
mysql -upw -ppw NDM

update Network set host='<NEW_SERVER_IP>' where host='<OLD_IP>';

exit
```

Note: You can view the IPs by using the following command inside MySQL:

```
select host, name from Network;
```

D.4 Network-Setting Changes

The last step for all computers is to reconfigure the network settings of the computer whose IP is changing. First stop all VoiceGenie software and services that may be running on the computer. For 'Other' Server, enter `stop` at the CLC prompt to stop VoiceGenie software:

`CLC> stop`

Under Linux, log on as `root` and stop CMP Server (`/etc/init.d/cmp-server stop`), CMP Proxy (`/etc/init.d/cmp-proxy stop`), or Tomcat (`/etc/init.d/vgtomcat stop`), depending on the role of the server. Under Windows, use the `Services` window to stop the CMP Server, CMP Proxy, or Tomcat service, depending on the role of the server.

Note: Before continuing, you should have the following information handy, because it is required in the next few steps:

- Host name
- Domain name
- IP
- Gateway
- DNS server

Also, if you are unsure about whether or not bonding is in use, run the following command from the command line to check the following:

`/sbin/ifconfig bond0`

If an error is returned, bonding is not in use.

Note: By using the preceding steps, you should update all of the servers that are part of the OA&M framework before you change the network configurations.

D.4.1 Standard Networking

Rerun the `I010network` configuration script as root:

```
cd /usr/local/vg-scriptmanager/done
./I010network
```

D.4.2 With Bonding Drivers

Rerun the `I010network` configuration script as root:

```
cd /usr/local/vg-scriptmanager/done
./I010network
```

Remove the bonding lines from `/etc/modules.conf` (as `root`):
```
alias bond0 bonding
options bond0 miimon=100 mode=1 multicast=1
```
Rerun the bonding script (as `root`):
```
cd /usr/local/vg_install/bonding-7.0.0-3/scripts/
perl I108Bonding
```

D.4.3 Restarting the Servers

After completing the appropriate preceding steps, restart all computers in the OA&M cluster. VoiceXML platforms may need to be restarted manually after the restart.

D.5 Other Optional Component Changes

Computers on which changes have been made from this section should be restarted upon completion.

D.5.1 Call Manager

If necessary, modify the `sip.defaultgw` parameter in the `Call Manager Configuration` section of the SMC.

Note: If you have made other (nonstandard) changes requiring IPs, you will need to update these also.

D.5.2 CCXML Interpreter

If necessary, modify the `ccpccxml.sip.proxy` parameter in the `CCXML Interpreter Configuration` section of the SMC.

D.5.3 Speech Resources

For each resource, create a new entry that matches the old (with updated IPs). When you have created these entries, link each new resource to the corresponding target and un-target/delete the old.

Speech Resource Name:	REALSPEAK_JILL	ID: 7 (8)
Hostname/IP:	205.150.90.154 **Port:** 22000	
Resource URI:	rtsp://205.150.90.154:22000/realspeak_Jill	
Resource Type:	TTS	
Parameter Name:	vrm.client.SendVGParar **Value:** true [Remove]	
Parameter Name:	vrm.client.PassThruTTS **Value:** true [Remove]	
Parameter Name:	**Value:** [Add]	
	[Update] [Delete] [Target as Primary] [Target as Backup]	

D.5.4 ASR Engines

Speechworks OSR—Centralized Licensing (Linux)

Modify `/usr/local/SpeechWorks/OpenSpeech_Recognizer/config/`
`SpeechWorks.cfg`
`SWILicenseServerList=27000@<LICENSESERVER_IP>`

D.5.5 TTS Engines

RealSpeak—Centralized Licensing (Linux)

Modify `/usr/local/ScanSoft/RealSpeak_4.0/config/ttsserver.xml:`
` 'server' entries under <license_servers>`

Example:
```
<!-- License servers, must have one or more -->
<license_servers>
  <server>27000@10.0.0.40</server>
  <!-- <server>27000@myserver.mycompany.com</server> -->
</license_servers>
```

D.5.6 SIP Proxy

In the SIP Proxy Configuration, remove the old entries for `proxy.sip.proxy.respaddr` and re-add with the correct IPs using the SMC.

Under `SIP Resources` in the SMC, click `Update` for each resource that has changed to update the `Hostname`.

D.5.7 CCP-RM

In the `RM Cluster Mapping` section of the SMC, remove the old members and re-add them with the correct `Member String`.

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Appendix

E Kernel-Specific Information for Red Hat Enterprise Linux 3.0

VoiceGenie software is tested and certified to work correctly on the 2.4.21-47 kernel for Red Hat Enterprise Linux 3.0 Update 8. The VoiceGenie software should not be run on any other kernel. Please contact VoiceGenie if you would like to run on a different kernel version from the one that is certified by VoiceGenie. Note VoiceGenie reserves the right to qualify with a later version of the requested kernel.

In order to run on a different kernel version, VoiceGenie would need to recertify against that specific kernel. This process would typically be completed with the next regularly scheduled patch release; which normally would be no more than 90 days after notification from the customer.

VoiceGenie 7.2.2

F

OS-Specific Configuration

F.1 Linux

This section describes configuration changes that can be made to the Linux operating system if desired by the customer.

F.1.1 Forcing File System–Integrity Check After Restart

If the Linux system has been shut down in a non-graceful manner (for example, because of loss of power), the operating system can be configured to run a file system–integrity check automatically at startup. By default, the file system–integrity check is not run at startup.

To make this change please carry out the following:

1. As the root user, create the `/etc/sysconfig/autofsck` file (for example, `vi /etc/sysconfig/autofsck`).

2. Insert the following line to the file: `AUTOFSCK_DEF_CHECK=yes`

This configuration change should cause the file system–integrity check to run during startup after a non-graceful shutdown.

F.2 VoiceGenie Linux RPM List

This section lists the RPMs and their versions that are included in the VoiceGenie Linux 3.0 Update 2.

```
acl-2.2.3-1
ami-1.2.2-3
ant-1.5.2-23
ant-devel-1.5.2-23
ant-libs-1.5.2-23
```

```
apmd-3.0.2-18
arts-1.1.3-2.2
ash-0.3.8-16
aspell-0.33.7.1-25
aspell-devel-0.33.7.1-25
aspell-en-ca-0.33.7.1-25
aspell-nl-0.1-17
aspell-no-0.3-6
at-3.1.8-47
atk-1.2.4-3.0
atsar_linux-1.6-2
attr-2.2.0-1
audiofile-0.2.3-7.1
authconfig-4.3.7-1
autoconf213-2.13-6
autoconf-2.57-3
automake14-1.4p6-6
automake15-1.5-7
automake-1.6.3-5
basesystem-8.0-2
bash-2.05b-29
bc-1.06-15
bcel-5.0-10
beecrypt-3.0.1-0.20030630
bg5ps-1.3.0-12
bind-utils-9.2.2-21
binutils-2.14.90.0.4-35
bison-1.875-4
bonobo-activation-2.2.2-1
byacc-1.9-25
bzip2-1.0.2-11
bzip2-devel-1.0.2-11
bzip2-libs-1.0.2-11
cdecl-2.5-27
chkconfig-1.3.8-3
chkfontpath-1.9.10-1.RHEL
cmp-deployer-1.0.0-26
commons-logging-1.0.2-12
comps-3.0.0whitebox-0.20040614
coreutils-4.5.3-26
cpio-2.5-3
cpp-3.2.3-34
cproto-4.6-16
cracklib-2.7-22
cracklib-dicts-2.7-22
crash-3.7-5
crontabs-1.10-5
```

```
ctags-5.4-2
cups-1.1.17-13.3.37
cups-libs-1.1.17-13.3.37
cup-v10k-10
curl-7.10.6-8.rhel3
curl-devel-7.10.6-8.rhel3
cvs-1.11.2-22
cyrus-sasl-2.1.15-8
cyrus-sasl-devel-2.1.15-8
cyrus-sasl-gssapi-2.1.15-8
cyrus-sasl-md5-2.1.15-8
cyrus-sasl-plain-2.1.15-8
db4-4.1.25-8
db4-devel-4.1.25-8
db4-utils-4.1.25-8
dbskkd-cdb-1.01-18
ddd-3.3.1-23
dejagnu-1.4.2-10
desktop-file-utils-0.3-10
dev-3.3.12-1
dev86-0.16.3-8
devlabel-0.42.05-2.1
dhclient-3.0pl2-6.14
dialog-0.9b-20020814.6
diffstat-1.31-2
diffutils-2.8.1-8
dos2unix-3.1-15
dosfstools-2.8-10
doxygen-1.3.5-0.RHEL3.1
dump-0.4b28-7
e2fsprogs-1.32-15
e2fsprogs-devel-1.32-15
ed-0.2-33
eject-2.0.13-2
ElectricFence-2.2.2-15
elfutils-0.94-1
elfutils-devel-0.94-1
elfutils-libelf-0.94-1
elfutils-libelf-devel-0.94-1
esound-0.2.28-5.1
ethtool-1.8-2
expat-1.95.5-6
expat-devel-1.95.5-6
expect-5.38.0-92
fam-2.6.8-9
fam-devel-2.6.8-9
fbset-2.1-13
```

```
file-3.39-9
filesystem-2.2.1-3
findutils-4.1.7-9
flex-2.5.4a-29
fontconfig-2.2.1-8.0
fonts-hebrew-0.80-2.0
fonts-ISO8859-2-1.0-11
fonts-KOI8-R-100dpi-1.0-5
fonts-KOI8-R-1.0-5
fonts-KOI8-R-75dpi-1.0-5
freetype-2.1.4-4.0
FreeWnn-1.11-36
FreeWnn-common-1.11-36
gawk-3.1.1-9
gcc-3.2.3-34
gcc-c++-3.2.3-34
gcc-c++-ssa-3.5ssa-0.20030801.47
gcc-g77-3.2.3-34
gcc-g77-ssa-3.5ssa-0.20030801.47
gcc-gnat-3.2.3-34
gcc-java-3.2.3-34
gcc-java-ssa-3.5ssa-0.20030801.47
gcc-objc-ssa-3.5ssa-0.20030801.47
gcc-ssa-3.5ssa-0.20030801.47
GConf2-2.2.1-4
gd-1.8.4-12
gdb-6.0post-0.20040223.20
gdbm-1.8.0-20
gdbm-devel-1.8.0-20
gdk-pixbuf-0.22.0-13.el3.3
gettext-0.11.4-7
glib-1.2.10-11.1
glib2-2.2.3-2.0
glibc-2.3.2-95.20
glibc-common-2.3.2-95.20
glibc-devel-2.3.2-95.20
glibc-headers-2.3.2-95.20
glibc-kernheaders-2.4-8.34
glibc-profile-2.3.2-95.20
glibc-utils-2.3.2-95.20
gmp-4.1.2-5
gmp-devel-4.1.2-5
gnome-mime-data-2.2.0-3
gnome-vfs2-2.2.5-2.E
gperf-2.7.2-9
gpm-1.19.3-27.2
gpm-devel-1.19.3-27.2
```

```
grep-2.5.1-24.6
groff-1.18.1-27
grub-0.93-4
gtk+-1.2.10-27.1
gtk2-2.2.4-19
gzip-1.3.3-13.rhel3
h2ps-2.06-8
hdparm-5.4-1
hesiod-3.0.2-28
hesiod-devel-3.0.2-28
hotplug-2002_04_01-20.2
htmlview-2.0.0-10
httpd-2.0.52-1
hwdata-0.101.8-1
imlib-1.9.13-12
im-sdk-20030118-6
indent-2.2.9-2
info-4.5-3
initscripts-7.31.30.EL-1.VG
iproute-2.4.7-11.30E.1
ipsec-tools-0.2.5-0.7.rhel3.4
iptables-1.2.8-12.3
iptables-ipv6-1.2.8-12.3
iputils-20020927-11
irda-utils-0.9.15-1
isdn4k-utils-3.1-76
j2sdk-1.4.2_12-fcs
jaf-20030319-1
jakarta-regexp-1.2-12
javamail-20031006-1
jfsutils-1.1.2-2
jisksp14-0.1-11
jisksp16-1990-0.1-11
junit-3.8.1-1
jwhois-3.2.2-1
kappa20-0.3-12
kbd-1.08-10.2
kernel-2.4.21-47.EL
kernel-pcmcia-cs-3.1.31-19
kernel-utils-2.4-8.37.15
knm_new-1.1-10.1
krb5-devel-1.2.7-21
krb5-libs-1.2.7-21
krb5-workstation-1.2.7-21
krbafs-1.1.1-11
krbafs-devel-1.1.1-11
kudzu-1.1.22.2-1
```

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less-378-11
lftp-2.6.3-5
lha-1.14i-10.2
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libacl-devel-2.2.3-1
libaio-0.3.96-3
libaio-devel-0.3.96-3
libao-0.8.3-3
libao-devel-0.8.3-3
libart_lgpl-2.3.11-2
libattr-2.2.0-1
libattr-devel-2.2.0-1
libbonobo-2.2.3-1
libbonoboui-2.2.2-1
libcap-1.10-15
libcap-devel-1.10-15
libf2c-3.2.3-34
libgcc-3.2.3-34
libgcc-ssa-3.5ssa-0.20030801.47
libgcj-3.2.3-34
libgcj-devel-3.2.3-34
libgcj-ssa-3.5ssa-0.20030801.47
libgcj-ssa-devel-3.5ssa-0.20030801.47
libglade2-2.0.1-3
libgnat-3.2.3-34
libgnome-2.2.2-6
libgnomecanvas-2.2.0.2-2
libgnomeui-2.2.1-1
libjpeg-6b-30
libmng-1.0.4-3
libmudflap-3.5ssa-0.20030801.47
libmudflap-devel-3.5ssa-0.20030801.47
libogg-1.0-5.1
libogg-devel-1.0-5.1
libpng-1.2.2-21
libstdc++-3.2.3-34
libstdc++-devel-3.2.3-34
libstdc++-ssa-3.5ssa-0.20030801.47
libstdc++-ssa-devel-3.5ssa-0.20030801.47
libtabe-0.2.6-5.1
libtermcap-2.0.8-35
libtermcap-devel-2.0.8-35
libtiff-3.5.7-25.el3.1
libtool-1.4.3-6
libtool-libs-1.4.3-6
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libuser-devel-0.51.7-1
libvorbis-1.0-7
libvorbis-devel-1.0-7
libwvstreams-3.70-10
libxml-1.8.17-9.1
libxml2-2.5.10-6
libxml2-devel-2.5.10-6
libxml2-python-2.5.10-6
libxml-devel-1.8.17-9.1
libxslt-1.0.33-1
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linc-1.0.3-1
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lockdev-devel-1.0.1-1.2
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lslk-1.29-8
lsof-4.63-4
ltrace-0.3.29-1
lvm-1.0.3-15
m4-1.4.1-13
mailcap-2.1.14-1
mailx-8.1.1-31
make-3.79.1-17
MAKEDEV-3.3.12-1
man-1.5k-10
man-pages-1.60-4.1
mdadm-1.5.0-3
memprof-0.5.1-3
mgetty-1.1.30-3
mingetty-1.06-1
miniChinput-0.0.3-51.0
minicom-2.00.0-17.1
mkbootdisk-1.5.1-1
mkinitrd-3.5.13-WB1
mktemp-1.5-18
modutils-2.4.25-12.EL
modutils-devel-2.4.25-12.EL
mount-2.11y-31.1
mtools-3.9.8-8
mtr-0.52-2
MySQL-client-standard-4.1.20-0.rhel3
mysql-connector-odbc-3.51.12-1
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MySQL-shared-compat-4.1.20-0.rhel3
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nc-1.10-18
ncompress-4.2.4-39.rhel3
ncurses-5.3-9.3
ncurses-devel-5.3-9.3
netconfig-0.8.19-1
netdump-0.6.11-3
net-snmp-5.0.9-2.30E.3
net-snmp-devel-5.0.9-2.30E.3
net-snmp-utils-5.0.9-2.30E.3
net-tools-1.60-20
newt-0.51.5-1
newt-devel-0.51.5-1
nfs-utils-1.0.6-21EL
nhpf-1.42-5
nptl-devel-2.3.2-95.20
ntp-4.1.2-4.EL3.1
ntsysv-1.3.8-3
openldap-2.0.27-11
openldap-devel-2.0.27-11
openmotif-2.2.3-5.RHEL3.7
openssh-3.6.1p2-33.30.13
openssh-clients-3.6.1p2-33.30.13
openssh-server-3.6.1p2-33.30.13
openssl096b-0.9.6b-16.42
openssl-0.9.7a-33.21
openssl-devel-0.9.7a-33.21
oprofile-0.5.4-22
oprofile-devel-0.5.4-22
ORBit2-2.6.2-1
pam-0.75-54
pam-devel-0.75-54
pam_smb-1.1.7-1
pango-1.2.5-2.0
parted-1.6.3-29
passwd-0.68-3
patch-2.5.4-16
patchutils-0.2.23-1
pciutils-2.1.10-7
pciutils-devel-2.1.10-7
pcre-3.9-10
pdksh-5.2.14-21
perl-5.8.0-94.EL3
perl-CGI-2.89-94.EL3
perl-CPAN-1.61-94.EL3
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perl-DBD-MySQL-2.1021-3
perl-DBI-1.32-5
perl-Filter-1.29-3
perl-HTML-Parser-3.26-17
perl-HTML-Tagset-3.03-28
perl-libwww-perl-5.65-6
perl-URI-1.21-7
pkgconfig-0.14.0-5
popt-1.8.2-0.14.WB1
portmap-4.0-56
ppp-2.4.1-14
prelink-0.3.0-6
procmail-3.22-9
procps-2.0.13-9.2E
psacct-6.3.2-27
psmisc-21.3-1.RHEL.0
pspell-0.12.2-16.1
pspell-devel-0.12.2-16.1
pstack-1.2-3.EL.1
python-2.2.3-6.3
python-devel-2.2.3-6.3
pyxf86config-0.3.5-1
qt-3.1.2-13
quota-3.09-1
raidtools-1.00.3-7
rcs-5.7-20
readline-4.3-5
readline-devel-4.3-5
redhat-config-mouse-1.0.13-1
redhat-java-rpm-scripts-1.0.2-2
redhat-logos-1.1.14.3-1.WB1
redhat-lsb-1.3-3
redhat-menus-0.39-1
redhat-rpm-config-8.0.28-2
rhpl-0.110.4-1
rh-postgresql-devel-7.3.6-1
rh-postgresql-libs-7.3.6-1
rmt-0.4b28-7
rootfiles-7.2-6
rpm-4.2.2-0.14.WB1
rpm-build-4.2.2-0.14.WB1
rpmdb-whitebox-3.0-0.20040614
rpm-devel-4.2.2-0.14.WB1
rpm-python-4.2.2-0.14.WB1
rp-pppoe-3.5-4
rsh-server-0.17-17
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schedutils-1.3.0-3
screen-3.9.15-10
sed-4.0.7-3
sendmail-8.12.11-4.RHEL3.6
sendmail-cf-8.12.11-4.RHEL3.6
setarch-1.3-1
setserial-2.17-12
setup-2.5.27-1
setuptool-1.13-1
shadow-utils-4.0.3-20
sharutils-4.2.1-16
skkinput-2.06.3-3
slang-1.4.5-18
slang-devel-1.4.5-18
slocate-2.7-3
splint-3.0.1.7-0.20030123
star-1.5a08-4
strace-4.5.1-1.EL.1
sudo-1.6.7p5-1
swig-1.1p5-22
switchdesk-3.9.8-17
sysklogd-1.4.1-12.1
syslinux-2.06-0.3E
sysreport-1.3.7-1
sysstat-5.0.5-11.rhel3
SysVinit-2.85-4.2
taipeifonts-1.2-23
tar-1.13.25-15.RHEL3
tcl-8.3.5-92
tcpdump-3.7.2-7.E3.2
tcp_wrappers-7.6-34
tcsh-6.12-4
telnet-0.17-26
telnet-server-0.17-26
termcap-11.0.1-17.1
texinfo-4.5-3
tftp-0.32-4
tftp-server-0.32-4
time-1.7-23
tk-8.3.5-92
tmpwatch-2.8.4-5
traceroute-1.4a12-20
ttmkfdir-3.0.9-6
tzdata-2006m-3.el3
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unixODBC-2.2.11-1
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usermode-1.68-5
utempter-0.5.5-1.3EL.0
util-linux-2.11y-31.1
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vg-scriptmanager-3.0.1-7
vg-setup-1.0.0-10
vg-squid-2.5.11-2
vg-tomcat-5.0.28-1
vg-xerces-2.7.0-2
vim-common-6.2.98-1
vim-minimal-6.2.98-1
vixie-cron-4.1-11.EL3
vsftpd-1.2.1-3
wget-1.10.2-0.30E
which-2.14-7
whitebox-release-3.0-5_i386
wireless-tools-26-2
Wnn6-SDK-1.0-25
Wnn6-SDK-devel-1.0-25
words-2-21
wvdial-1.53-11
xalan-j-2.4.1-11
Xaw3d-1.5-18
xcin-2.5.3.pre3-15
xerces-j-2.2.1-11
XFree86-4.3.0-115.EL
XFree86-base-fonts-4.3.0-115.EL
XFree86-font-utils-4.3.0-115.EL
XFree86-libs-4.3.0-115.EL
XFree86-libs-data-4.3.0-115.EL
XFree86-Mesa-libGL-4.3.0-115.EL
XFree86-Mesa-libGLU-4.3.0-115.EL
XFree86-xauth-4.3.0-115.EL
XFree86-xfs-4.3.0-115.EL
xinetd-2.3.12-2.3E
xinitrc-3.32-1
ypbind-1.12-5
yp-tools-2.8-1
yum-2.0.7-1.1.WB1
zip-2.3-16
zlib-1.1.4-8.1
zlib-devel-1.1.4-8.1
```

G

Configuring the Platform for DTMF Only

The following instructions explain how to configure a platform for DTMF only. If you are not installing an ASR, the following procedure should be carried out:

1. Change all applications to remove all references to ASR Engines:
   - Remove the `ASRENGINE` properties on the VXML page, if one exists.
   - Change the `mode` attribute for all grammar tags to `mode="dtmf"`.
   - Change the `INPUTMODES` on `defaults.vxml`, as well as all applications, to have `DTMF` (ensure `VOICE` is not in there).

2. Remove all speech-resource provisioning from SMC:
   - Go to the `SMC > Configuration` tab.
   - Under the `Media Platform`, go to the `Speech Resources` link.
   - Remove all provision data where the `Resource Type` is `ASR`.

3. Remove the ASR components from SMC (MRCP-native ASR deployment only):
   - Go to the `SMC > Configuration` tab.
   - Click the `properties` of the server that has the ASR installed.
   - Under the `Server Component Details` section, delete all instances that are named `ASR Client` and `ASR Server`.

4. Remove ASR from SRM server client list (MRCP-native ASR deployment only):

- Go to the `SMC > Configuration` tab.

- Click `SRM Server` the link.

- Edit the current active configuration.

- Go to the `asr_client_list` parameter, and click `Del` on all installed values.

- Click update at the end of page.

- Restart the server to take effect.

Appendix

H Using AudioCodes Media Gateway with VoiceGenie Media Platform

This section acts as a quick start guide for configuring the VoiceGenie Media Platform to inter-operate with the AudioCodes Media Gateway products. Please refer to the AudioCodes documentation for the most updated and accurate configuration information on the AudioCodes Media Gateway.

H.1 AudioCodes Configuration

These instructions assume that basic configuration (IP address, subnet mask, telephony provisioning, and so on) has already taken place. Please see the AudioCodes documentation for further details. The following steps must be performed by using the AudioCodes Web Interface:

H.1.1 Codec Settings

From the `Quick Setup` Menu:

Setting up the Audio Codec - From the Coder name section, and using the first coder drop-down list, select the right codec (G711Ulaw64k for North America, G711Alaw64k for Europe), set the `msec` field to 20, and press `Reset`.

H.1.2 Telephony Endpoint Settings

Trunk groups (or analog endpoint phone numbers) can be configured from the `Protocol Management Menu`. Please refer to *AudioCodes* documentation for details.

H.1.3 IP Endpoint Settings

Routing Tables->Tel to IP Routing – The PSTN calls must be routed to the VoiceGenie Media Platform. By using routes, the AudioCodes gateway can route the inbound calls to multiple VoiceGenie Media Platforms. Route selection can be done using the Dest. Phone Prefix and Dest. IP Address fields. For instance, if one of the lines assigned on the AudioCodes gateway has the phone number 416-736-5555, and you want to route the calls from this number to the VoiceGenie Media Platform with IP `10.0.0.100`, the route entry could look like `416 * 10.0.0.100 0 n/a`. An alternate method makes use of the wildcard character to direct calls from all ports to a specific VoiceGenie Media Platform (IP address) `* * 10.0.0.100 0 n/a`. After setting, click the Submit button to save the entries.

Note: The `*` wildcard character must be always in the last position of the table.

Routing Tables->IP to Hunt Group Routing

These routes select the right Hunt Group for outbound call based on the Destination (Dialed) number. (See *AudioCodes* documentation on HuntGroup settings) For example, if a call to the 614 area code must be directed to a specific telephony carrier, the entry will select the Hunt Group `let's say 2` that contains the lines from that telephony carrier. The entry will resemble the following:
`614 * * 2 0`

Other called numbers starting with a prefix other than 614 will be routed to Hunt Group 1. (Note that this is an example, and Hunt Group ID 2 is not defined.)

Click the Submit button to save the entries.

Transfer Settings

It is possible to transfer for a call using the <transfer> tag in VoiceXML. In order to do this, the AudioCodes gateway must be configured to handle a SIP

REFER. Please refer to the AudioCodes documentation on the supported transfer configurations on the PSTN interface.

Miscellaneous Settings

The AudioCodes gateway must be configured to support RFC2833 out-of-band DTMF. This can be done by setting **Protocol Definition->DTMF&Dialing->Use Out-of-Band DTMF** to `Yes` and clicking **Submit**.

Applying the Changes

At this stage, click the **Reset Menu**, select the Burn radio button to burn the new device configuration into flash memory, and press **Reset**. Wait about two minutes; it should reset AudioCodes server.

Note that this should be done after any configuration parameter change to save the configuration.

H.1.4 VoiceGenie Media Platform Configuration

In general, no special configuration is required on the VoiceGenie Media Platform. The default install configuration must be used if simple inbound or outbound calls are required.

Call-Routing Settings

If the application is being migrated from PSTN to VoIP, the simplest migration method is to set the "sip.defaultgw" parameter to the IP of the AudioCodes gateway, in VoiceGenie Media Platform. After clicking **Configuration Tab** in the **SMC** user interface, click **Call Manager** link, and edit the current configuration by clicking **Edit** (if multiple configurations exist, identify the correct configuration by using the Concise Configuration View). Set the AudioCodes gateway IP in the **sip.defaultgw** field, and then press the **Update**. With this change, the "dest" attribute of the <transfer>/<call> tag used in the application can remain unchanged (that is, remain using phone: or tel:), and all the outbound calls will automatically be directed to the default gateway IP.

Otherwise, the application developer must explicitly change the "dest" attribute in the <transfer>/<call> tag to be of the format dest="sip:destNumber@AudioCodesIpAddress".

Transfer Settings

On the VoiceGenie Media Platform, the Refer transfer must be enabled in the Call Manager configuration. To do this, from the **SMC** click the **Configuration Tab**. Then, click the **Call Manager** link, select the configuration in use, and click the **Edit** button. The **sip.transfermethod** must have the **Refer** method selected. The default transfer methods can be set (by using **sip.defaultblindxfer**, **sip.defaultconsultxfer**, and **sip.defaultbridgexfer**) to define the default method used for transferring the call. Click Update after the change is applied.

Otherwise, the application developer must explicitly set the transfer method as **refer** in the transfer tag. The following is an example of an appropriate transfer tag:

```
<transfer name="newcall" dest="sip:324@10.0.0.100"
connecttimeout="60s" method="refer" type="unsupervised"
bridge="false"  connectwhen="immediate" analysis="false">
```

Note: IMPORTANT NOTE FOR PBX USERS WHO ARE USING HOOKFLASH TRANSFER:

To perform a transfer, some PBXs require a `feature activation code` to be dialed immediately after the `hook flash` and before the destination transfer number is dialed (See AudioCodes documentation for enabling Hookflash transfer on AudioCodes Gateway). The AudioCodes Gateway does not have this feature to allow dialing of the transfer activation code. To work around this problem the user must add the DTMF string (the feature activation code) at the application level, in front of the destination number. For instance, if the activation code is "*70", the application should add this sequence in front of the called number (note the difference between this and the previously mentioned transfer example):

```
<transfer name="newcall" dest="sip:*70324@10.0.0.100"
connecttimeout="60s" method="refer" type="unsupervised"
bridge="false"  connectwhen="immediate" analysis="false">
```

For example, in order to interoperate with a Meridian M8x24 Key System connected thru an Analog Terminal Adaptor (Norstar ATA2), the system must dial *70 – `feature activation key`, right after the Flash Hook and before dialing the destination extension. By using the previously listed workaround example, the M8x24 Key System will recognize the *70 command, and then transfer the call to the new destination.

Revision History

Version	Date	Change Summary	Author/Editor
1.0	March 9, 2005	Initial release	Rakesh Tailor, Monti Ghai
1.1	April 13, 2005	Revised version	Andrew Ho
1.2	April 13, 2005	Updated for details on cross OS installs	Rakesh Tailor
1.3	April 21, 2005	Updated with upgrade instructions and details on RealSpeak install	Rakesh Tailor
1.4	May 5, 2005	Added Call Analyst details for installation	Rakesh Tailor
1.5	June 17, 2005	Added details for upgrades	Rakesh Tailor
1.6	July 20, 2005	Added instructions for OA&M Framework upgrade	Rakesh Tailor
1.7	March 16, 2006	Updates for VoiceGenie 7.1	Rakesh Tailor
1.8	September 5, 2006	Further updates for VoiceGenie 7.1	Monti Ghai
1.9	October 5, 2006	Added AudioCodes details	Shifeng Wu
1.10	October 26, 2006	Added details	Wen Wang, Rakesh Tailor
1.11	November 20, 2006	Update for 7.1.1	Joseph Choy
1.12	March 1, 2007	ER94716753	Johnson Tse
1.13	July 6, 2007	ERs 103719193, 106471270, 117382381, 116913030, 119937991, 132284532, 125482381, CMT15708	Wen Wang
1.14	September 21, 2007	Update for 7.2	Wen Wang
1.15	March 5, 2008	Update for 7.2.1	Wen Wang
1.16	June 1, 2008	Update for Watson 6.0.2463	Lin Chen
1.17	July 27, 2008	Update to add NSS5.0.x/Nuance Recognizer 9.0.x/RealSpeak 4.5SP1	Lin Chen
1.18	December 3, 2008	ER 212500180	Krunoslav Kovac
1.19	March 17, 2009	Fixed ER204985986	Lin Chen
1.20	April 1, 2009	Updated for Watson 6.1.x and NaturalVoice 4.1.x	Lin Chen
1.21	June, 2009	Fixed ER227204044, ER224293840, ER230689997	Lin Chen