System Description

CMG Speech Office
Virtual Reception

Contents

1 Introduction

This document describes the function of the CMG Speech Office system. The document also gives an overview of the system environment.

For information on how to plan a CMG Speech Office installation, see document *CMG Speech Installation and Configuration Planning* [1].

For information on installation of CMG Speech Office, see document *Virtual Reception Installation and Configuration Guide* [2].

After an installation, the system functionality must be verified. See document *CMG Speech Office Installation Verification Protocol* [3] for information on how to verify the installation.

2 Overview

CMG Speech Office comprises CMG IVR and CMG VoiceMail.

CMG IVR has two interfaces:

- CMG IVR - When not available, the call flow informs callers when the person they searched for will be available. Callers can be offered the possibility to leave messages, or other contact options.

- CMG Speech Admin - This service is called to listen to voicemails, register activities and manage personal settings.

When registering an activity, through CMG Speech Admin or BluStar Web, the phone is redirected to CMG IVR. When someone calls a user that has a registered activity, the activity information is played, for example *Tom Johnson is at lunch and is expected back at 12:30*, followed by a menu. The menu alternatives are configurable and could for example contain:

- Voicemail

- Transfer to mobile phone

- Send a number on SMS

- Transfer to operator

CMG Speech Office uses Text-To-Speech (TTS) to play names of people. Information about activities and presence is fetched from the CMG database.

CMG Speech Office can be combined with CMG Speech Attendant. Telephony resources are shared between the two applications as well as the database and TTS resources as shown in Figure 1. The ASR resources are only used by CMG Speech Attendant.
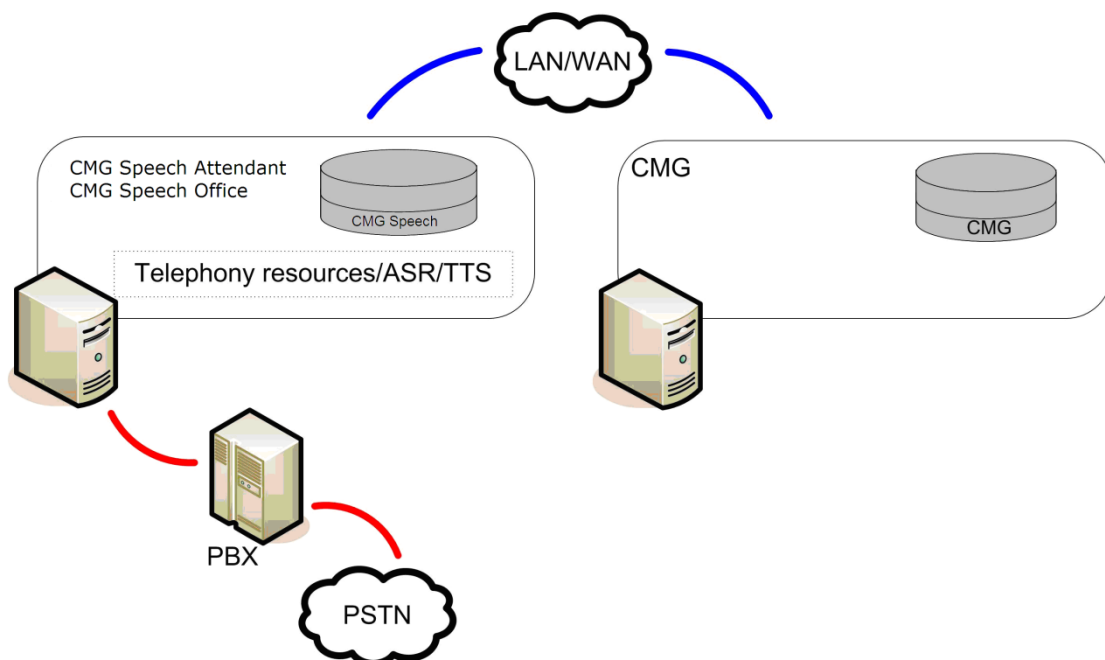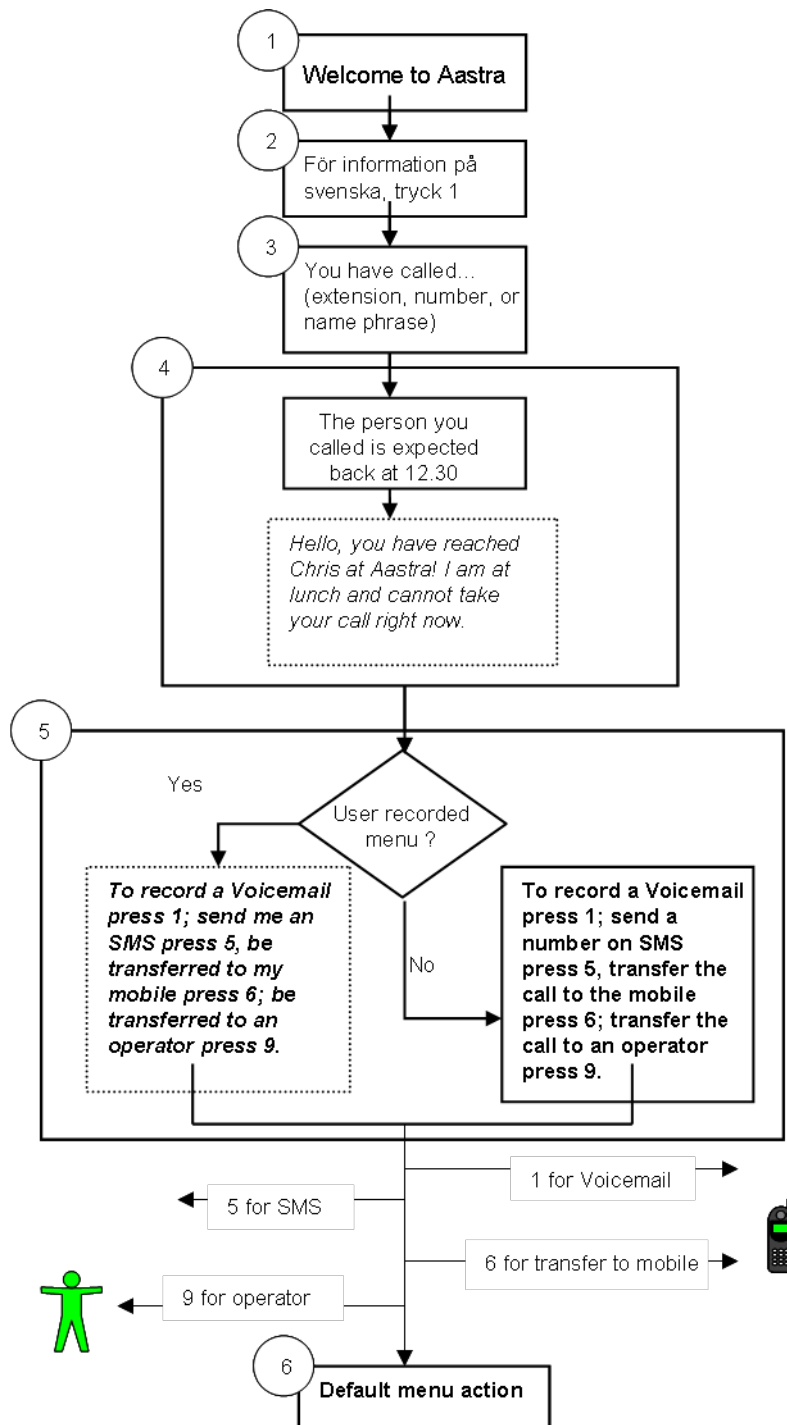

Figure 1 CMG Speech

3 Functions

This section describes the functions of the CMG Speech Office system.

3.1 CMG IVR

Figure 2 shows an example of the IVR call flow.

Figure 2 IVR Call Flow

The following list describes the steps shown in Figure 2:

1. A welcome phrase is presented.
   This phrase can be recorded for each company, and usually contains your company's name.

2. If configured, alternative languages are presented and the user has the possibility to get the information in another language.
   Single users can offer their callers an alternative language.

3. Receiver Presentation presents a number or name.
   For external calls, the complete number is presented, while for internal calls the extension number is presented.

4. Activity Presentation is constituted by a combination of system voices and the user's own recorded greetings.

   a. First, the activity information is presented.

   b. If configured, a personal greeting is presented.

5. The user menu presentation.

   a. If recorded, the user's own menu is presented.

   b. Otherwise, the system menu is presented. For a description of the menu options, see Table 1.

6. If no menu option is selected, the default option is activated (usually recording a voicemail).

3.1.1 Menu Options

If a person is not available, a menu is presented after the activity presentation. From this menu it is, for example, possible to leave a message or to be connected to the mobile phone. For example, when calling John Smith, the user gets a message like the following: "*John Smith is at a meeting and is expected back at four thirty. For voice mail, press 1; Mobile, press 2; Operator, press 9*". The menu options are configured in CMG Speech Configuration Manager.

Table 1 Menu Options

Menu Options	Description
Voice Mail	Record a voice message to the user
Mobile	Transfer the call to the user's mobile phone
Play the direct number	The user's direct number is played
Play the mobile number	The user's mobile number is played
SMS with direct number	Press your mobile number and the user's direct number is sent to you
SMS with mobile number	Press your mobile number and the user's mobile number is sent to you
Send number on SMS	Press your number and it will be sent to the user via SMS
Send number via e-mail	Press your number and it will be sent to the user via e-mail
New search	Search for somebody else using the AA Name Search service
Activity information	The user's activity information is played, for example "Will smith is at lunch and will be back at 12:30"
Operator	Transfer the call to an operator

3.2 CMG Speech Admin

In CMG Speech Admin, a user can listen to voice mails, register activities and manage personal settings. Figure 3 shows the login procedure, and how the user enters each of the following features:

- Voicemail
- Settings
- Activity Registration
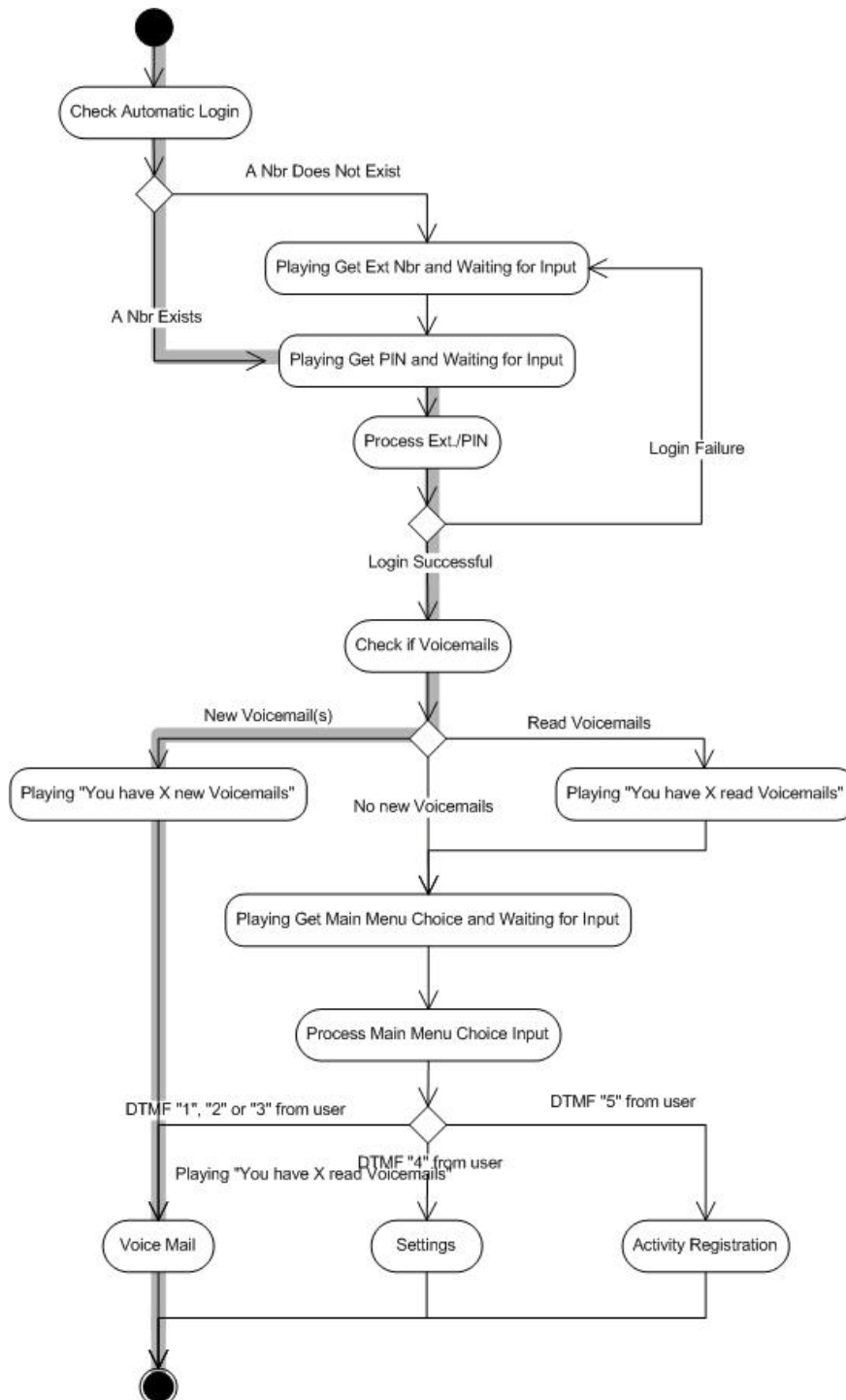
Figure 3 Admin Login and Main Menu

Login

Basic rule for login is to enter both extension number and PIN when calling CMG Speech Admin.

Users calling CMG Speech Admin from office phones only need to enter PIN since the extension number gets identified by the system.

Users calling CMG Speech Admin from unknown phones need to enter both extension number and PIN to login. It is, however, possible for users to specify additional numbers in BluStar Web, for example mobile phone or home numbers. If additional numbers are specified, the user gets identified and only need to enter PIN when calling CMG Speech Admin.

Note: It is possible to configure the system to log on users automatically (no PIN) when calling from a known number.

Main menu

In the main menu, the user selects one of the following features:

- Voicemail

- Activity Registration

- Settings

Following is an example of a main menu: "*For read voicemails, press 2; Settings, press 4; Activity, press 5.*"

- If the user has new voicemails, these are played before the main menu is presented.

- If the user has read messages, the number of read messages is read out before the main menu is presented.

3.2.1 Voicemail

In the Voicemail application, the user's new, read and saved voicemails are presented. The first choice is to decide voice mailbox, for example presented like this: *For new voicemails, press 1; Read, press 2; Saved, press 3*.

Irrespective of the choice of voicemail type, the number of voicemails of that type is presented before the messages are played. They are played in the order that they arrived, with date and time of reception after each message.
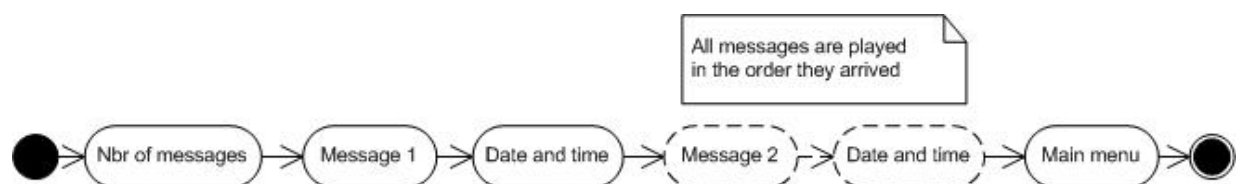
Figure 4 Voice Mail Presentation

Example: "*You have two new messages. <message1>, received today at three pm. <message2>, received today at five pm.*"

After the messages are played, the main menu is presented, for example "*For voicemail, press 2; Settings, press 4; Activity, press 5.*"

Note! If there are no messages, the Voicemail menu option is not presented in the main menu.

3.2.2 Activity Registration

The activity registration feature is entered by pressing 5 in the main menu, as was shown in Figure 3.

The activity registration call flow is shown in Figure 5. Highlighted is a short call scenario.

Figure 5 Activity Registration Call Flow

Following is a description of what happens during the call flow shown in Figure 5:

- The current activity information is played and the user gets the opportunity to delete current activities by pressing 1.

- If the user presses 2 to register a new activity, the activities are presented one by one followed by their number, for example "*For lunch, press 0; meeting, 1; visiting a customer, 2*" and so on. The activity code is pressed followed by #.

- The Admin service prompts for the start date. The user can press a date or press # for the current date and time.

- The system asks for the activity end date. The user may press a date or press # for the default end date or time.

The end date is calculated by the system and depends on the activity. For example, the default duration for the activity *lunch* is *one hour*, while for the activity *visit to customer* it is *next working day*.

- The user is offered to register the activity, listen to it, or change it. After listening to the activity, the user is returned to the same question and gets all three options again.

- When an activity is registered, a confirmation message is played.

- The main menu is presented.

**Table 2 Shortcuts in Activity Registration**

System asks for…	Shortcut	Description	Example
Activity	#	The next activity in the list is played.	When all activities are being read out, press # to get to the next activity in the list, and hence going through the list faster.
Start date	#	The activity will be valid from the current date and time.	Pressing # means that activity is valid from the time and date at the moment.
End date	#	The activity will be valid to the date or time that is the default end time of the activity.	The activity 'Lunch' has a default end time of 1 hour. If the activity is valid from 12:00, the default end time will be 13:00. The activity 'Visiting a customer' is often until next day; if the activity is registered on a Wednesday at 07:00, the default end date will be on Thursday at 07:00.

3.2.3 Settings

In the Settings feature the user's settings can be modified. Settings include both the settings that apply to the user and settings that apply to callers.

Language can be modified both for the users and callers. For example, the language used when the user is registering activities may be Swedish, but the activity information for callers can be presented in English.

First users decide about modifying settings for themselves or the settings applying to callers.

See Figure 6 for a description of the Settings call flow.
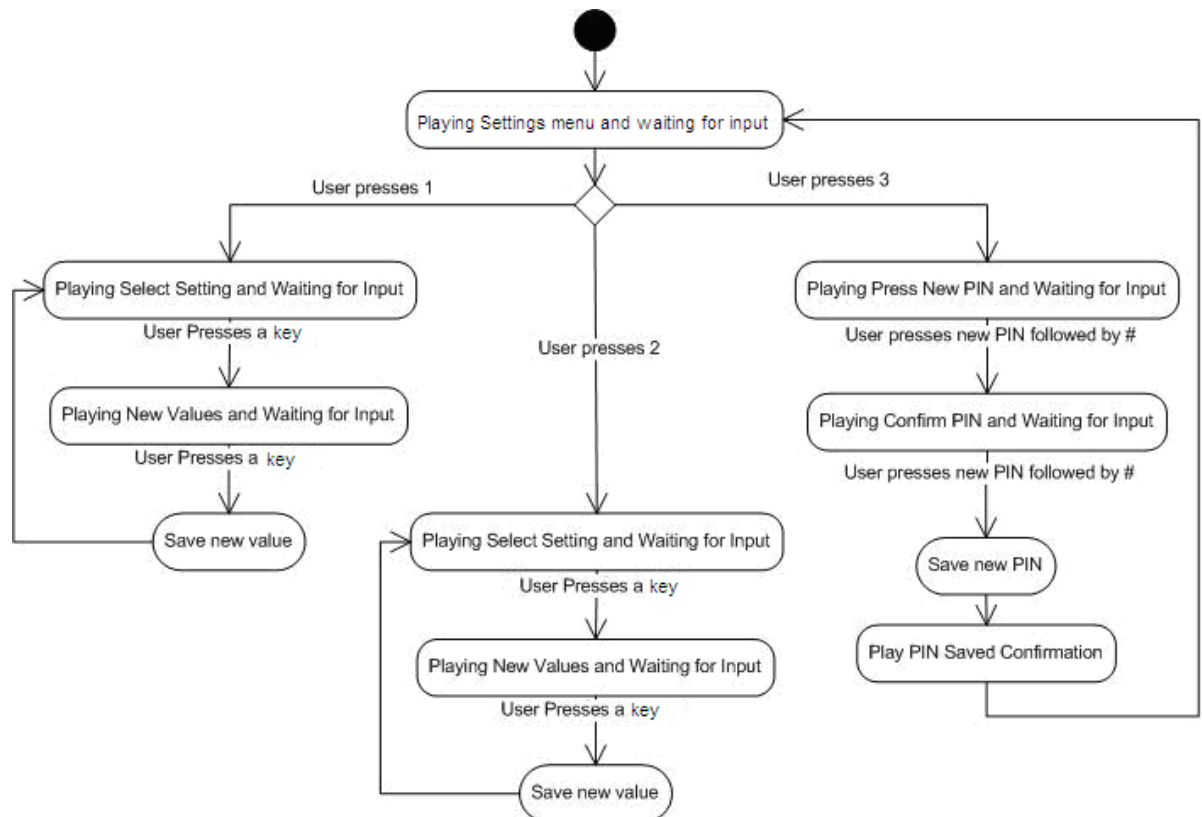
Figure 6 Settings call flow

The *Settings you hear* menu:

- The system plays the settings menu and how to modify a setting.
- The user presses a key for modifying a setting, for example 1 to modify the information level.
- The user may press a new choice for the setting, for example 1 for detailed information level in the example above.
- The system confirms the modification and then plays the Settings you hear menu again.

The *Settings others hear* menu:

- The system plays your settings and how to modify a setting.
- The user presses 2 to modify a setting.
- The system informs how to modify it and the user presses the key corresponds to the value wished for.
- The system confirms the modification and plays the Settings others hear menu again.

Change PIN:

- The user enters a new PIN followed by #.

- The new PIN should be confirmed. Number + #.

- The PIN change is confirmed and the Settings menu is played.

3.3 Shortcuts

There is a general shortcut in the CMG Speech menu system, see Table 3. When pressing *
in a menu, the previous menu is presented.

**Table 3 Shortcut**

General Shortcut	Description
*	Return to previous menu

3.4 Administration

The main application for configuration of CMG Speech applications, including CMG Speech
Office, is CMG Speech Configuration Manager. This is a web based application, shown in
Figure 7. Configuration at user level may also be performed using CMG Directory Manager
(CMG DM) and BluStar Web.
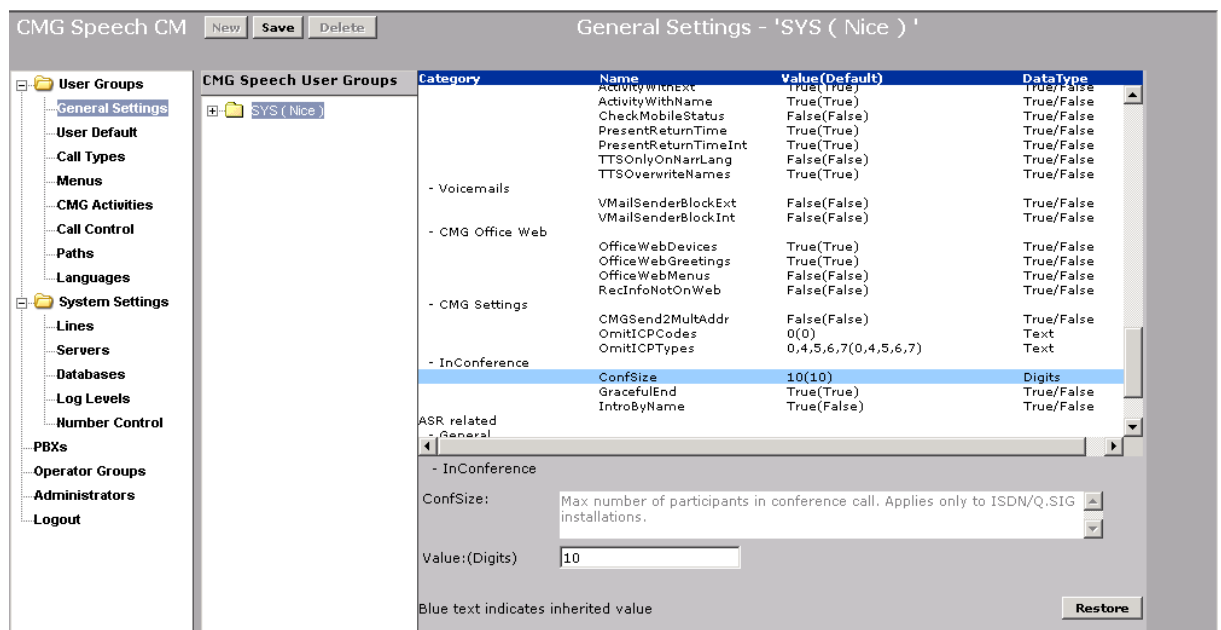
Figure 7 CMG Speech Configuration Manager

All CMG Speech users (that is, company employees) belong to a user group. A CMG Speech system can have many user groups. User groups are related to each other, as shown in Figure 8, where one user group is the parent of another. This is called the *User Group Inheritance structure*.
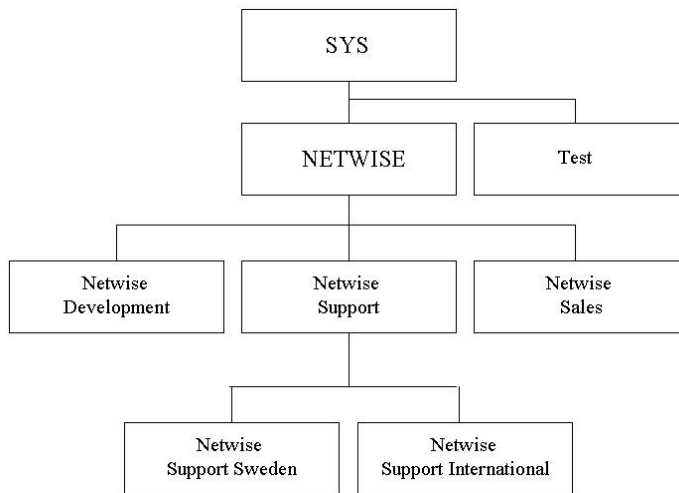
Figure 8 User Group Inheritance Structure

Each user group can be configured separately. In the example in Figure 8 callers to Aastra Development personnel will hear only Swedish voices, while callers to Aastra Support International department will have English as the primary language, and Swedish, Norwegian and Danish as optional languages.

The settings applicable to the system's behavior are applied to the system's overall parent user group, called the *SYS User Group*. The SYS User Group is used to define the system's default settings. The SYS User Group cannot be renamed or removed.

4 System Environment

This section describes the physical environment of the CMG Speech Office system, that is, servers and databases.

CMG Speech supports distributed servers both for Telephony and CMG. A CMG Speech environment can have any of the following configurations:

- Complete co-existence with a CMG system
    - o On a single server
    - o In a distributed solution with one CMG Speech Main server
- One or many CMG Servers and an optional number of telephony servers.

The former approach is often enough for smaller installations while the latter is more employed for larger installations with a distributed network, installations with redundancy requirements for telephony or installations that support multiple telephony platforms.

Note! There can be only one CMG Speech Main (database) server.
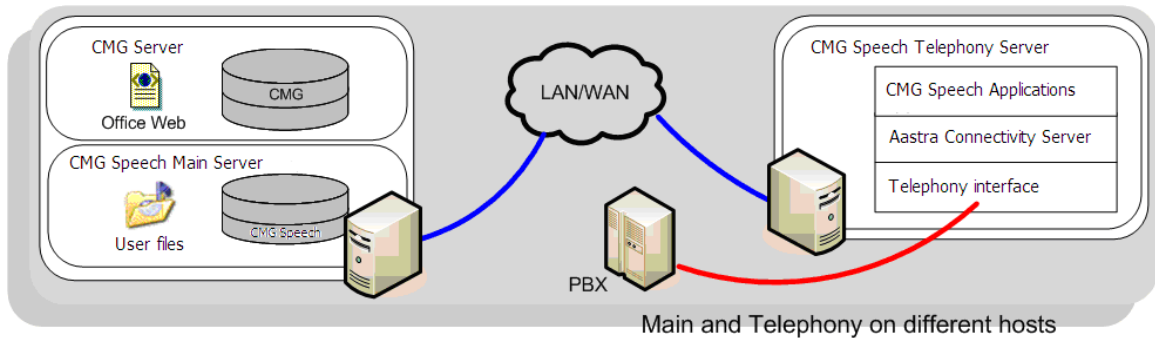
Figure 9 Server Configuration Example

4.1.1 Main Server (database server)

The CMG Speech Main server is the core of the CMG Speech system. It contains the CMG Speech database, in which all the system settings and configuration are stored. The main server manages all general tasks, for example TTS generation, ASR grammar creation[1], and Notifications[2] . In a distributed environment the Main Server is also the place where common files are stored, for example voicemails and user recordings (like Greetings). The main server hosts the CMG Speech Configuration Manager.

The CMG Speech Main server must be a machine with adequate power for its task. In a distributed environment where the main server has no telephony, it can be tuned for optimal database performance.

4.1.2 Telephony Server

A CMG Speech Telephony server handles CMG Speech telephony. There may be one or several Telephony servers in a CMG Speech environment. In smaller installations the Telephony server is normally installed on the same machine as the main server.

Each telephony server has a local path to where system voice files are located. As previously mentioned, voicemails and user files are stored on the main server.

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[1] Only applicable on installations with CMG Speech Attendant
[2] Only applicable on installations with CMG VoiceMail

4.1.2.1 Telephony Server Lines

A Telephony Server contains one or many *CMG Speech Telephony Server Line(s)*. A telephony line corresponds to a SIP trunk. It is important that it is an entity that CMG Speech recognizes as its own, and answers or makes calls on. All CMG telephony lines belong to a telephony server and are situated on a particular PBX. CMG Server

4.1.3 CMG Server

A CMG Server contains one or many instances of a CMG database. It can also, but must not, contain a CMG Speech Main or Telephony server.

5   References

[1]   CMG Speech Installation and Configuration Planning

[2]   Virtual Reception Installation and Configuration Guide

[3]   CMG Speech Office Installation Verification Protocol