



System Description

CMG Speech Attendant Virtual Reception

Contents

1	Introduction	1
2	Product Overview	2
3	Function Overview	3
3.1	General	3
3.2	Name Dialer	4
3.3	Number Information	4
3.4	Activity Presentation	5
3.5	Menu with Contact Options	5
4	System Environment	6
4.1	Servers	6
4.2	Telephony Environment	7
5	System Interfaces	8
5.1	Telephony Interfaces and Media	8
5.2	Database Access	8
5.3	File System Access	8
6	Considerations	9
6.1	Software Firewalls	9
7	Localization	10
7.1	Supported Languages	10
7.2	Name Prompt Generation (TTS)	10
7.3	Country Specific Functionality	10
8	References	11

1 Introduction

This document describes the functions and main components of CMG Speech Attendant.

For software compatibility, refer to *Virtual Reception Compatibility Matrix* [2] and for hardware requirements, refer to *Virtual Reception Datasheet* [1], available on InfoChannel.

More information about system environment and planning an installation can be found in *CMG Speech Attendant Installation Planning Guide* [5].

2 Product Overview

CMG Speech Attendant is an automated attendant application that uses speech recognition as its primary user interface. Users call the application and ask to be transferred to a person, department or function, or retrieve number information for people or departments. The application also supports administration of CMG activities.

Nuance provides the Automatic Speech Recognition (ASR) software used in the CMG Speech Attendant system.

CMG Speech Attendant is integrated with the BluStar Collaboration Management (CMG) suite and uses the same configuration tools. CMG Speech and CMG Speech Attendant share a configuration database. The ASR resources are only used by CMG Speech Attendant.

3 Function Overview

The major functions in CMG Speech Attendant, available in all languages, are:

- *Name Dialer*
- *Number Information*
- *Activity presentation*
- *Menu with contact options*

In some languages, an additional functionality is

- *Activity registration*

These functions are available in the *CMG Speech Attendant* dialog (the first four), and the *Activity Manager* dialog (the last one). All functions will be described further below. More information on the functions of CMG Speech Attendant from a caller's perspective can be found in *CMG Speech Attendant User Guide* [4].

3.1 General

The caller can interrupt prompt presentation anywhere in the dialog. This barge-in possibility makes the call flow faster for experienced users.

Note: There is one exception for barge-in. This is during playback of the first welcome prompt when the system calibrates against background noise. The calibration works best if barge-in is disallowed during the first few seconds.

If a user barges in somewhere in the dialog the following happens:

- The prompt playback is stopped
- The application's interpretation of the user's utterance is echoed when appropriate
- The next dialog state is executed – possibly call transfer.

If the caller is identified as a CMG user, a shorter initial message is played to speed up the dialog. For example: *"Who would you like to speak with"*. This instead of the longer *"Say the name of the person you would like to speak with ..."* for unknown callers (that is, callers that are not registered as CMG users).

If the system repeatedly fails to interpret what the user says, the call is automatically transferred to an attendant. Failure to correctly interpret a name or department is almost always an indication that the record is missing from the ASR grammar.

3.2 Name Dialer

This section shortly describes the name dialer function.

3.2.1 Transferring callers to user extensions

Callers can be transferred to a CMG Speech Attendant user's office extension by saying the user's name.

3.2.2 Transferring callers to user mobile phones

Callers can be transferred to a CMG Speech Attendant user's mobile phone by saying the user's name and specifying that mobile transfer is desired.

3.2.3 Preventing mobile phone transfers

A system administrator can disable transfers to mobile phones for a CMG Speech Attendant User Group.

3.2.4 Transferring calls to a department

Callers may be transferred to a department by saying the name of the department. The department must have a number associated with the department and it must have at least one organization name for voice-controlled search. Both settings are configured in CMG Directory Manager (CMG DM).

3.3 Number Information

This section shortly describes the Number information function.

3.3.1 Retrieving a user's extension number

A caller can ask for the extension number of a CMG Speech Attendant user.

3.3.2 Retrieving a user's mobile phone number

A caller can ask for the mobile phone number of a CMG Speech Attendant user.

3.3.3 Suppressing extension number information

CMG Speech Attendant does not present extensions that are marked as secret in CMG DM.

3.3.4 Suppressing mobile phone number information

CMG Speech Attendant does not present mobile phone numbers that are marked as secret in CMG DM.

3.3.5 Retrieving a department's number information

A caller can ask for the number to a department within the company.

3.4 Activity Presentation

If CMG Speech Attendant identifies a user with a valid activity, this activity is presented for the caller. Following the activity, the system default menu, or the user's personal number menu, is presented. More information can be found in section 3.5.

Note that CMG Speech Attendant acts like CMG Speech Office when it comes to which activities are considered.

3.5 Menu with Contact Options

CMG Speech Attendant can be configured to read an additional menu after the user's activity has been presented. This menu is one of the following:

- The system default menu, configured in CMG Speech CM.
- The user's personal menu, configured in BluStar Web.

Each menu option, presented in the following sections, can be enabled for internal or external callers.

3.5.1 Transferring to attendant

Callers can be offered to get transferred to an attendant.

3.5.2 Repeating the activity

Callers can be offered to repeat the user's activity.

3.5.3 Recording a voicemail

Callers can be offered to record a voicemail.

3.5.4 Making a new search

Callers can be offered to do a new user search (CMG Speech Attendant).

3.5.5 Joining a conference (InConference)

Callers can be offered the option to join an ongoing conference call.

3.5.6 Activity registration

This section shortly describes the main features of Activity Registration.

3.5.7 Registering activities

Callers can register CMG Activities using CMG Speech Attendant. Return time or date may or may not be specified (if not, a default will be suggested).

3.5.8 Deleting activities

Callers can delete one current activity or all ongoing activities at the same time.

4 System Environment

This section describes elements in the CMG Speech Attendant system's physical environment.

4.1 Servers

CMG Speech Attendant supports distributed servers for both Telephony and CMG.

The following configurations are possible:

- Parallel installation with CMG Speech on two or more separate servers, co-existing with CMG or not
- Split solution with CMG Speech Attendant installed on a machine without CMG Speech and CMG
- One or more ACS/Telephony Servers
- ASR server combined with CMG Speech Office and/or CMG Speech Attendant, or on a separate machine

The most common server configuration for CMG Speech Attendant is:

- *Main and ACS/Telephony on different hosts.* In this configuration, the ACS/Telephony server runs on one machine, while the CMG Server and CMG Speech Attendant Main server are installed on another server.

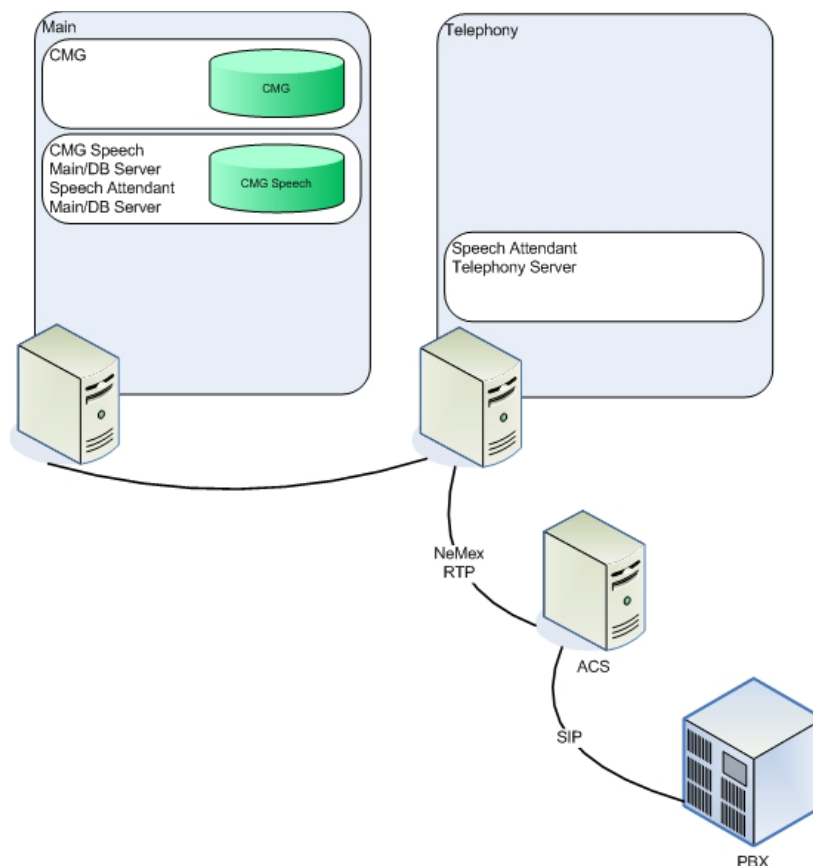


Figure 2. Main and ACS/Telephony on different hosts – most common configuration

If CMG Speech Office is installed, the CMG Speech Attendant server configuration usually follows that of CMG Speech Office. For example, if CMG Speech Office comprises two machines – one Main server and one ACS/Telephony server - CMG Speech Attendant Main server should be installed on the first machine and a CMG Speech Attendant ACS/Telephony server on the second.

Note: There can be only one CMG Speech Attendant Main server.

Apart from the CMG Speech Office server types, there is an additional server type for CMG Speech Attendant - the ASR server, hosting Nuance Speech Recognition programs and static grammars. This machine can be combined with any other type.

4.1.1 Main server

The CMG Speech Attendant Main server contains a service for generating dynamic grammars, and the Analyzer tool used to analyze system performance.

Normally, Dynamic Grammars are generated once each night.

In any CMG Speech Attendant installation, there may be only one Main server.

4.1.2 Telephony / ACS server - call handling

A CMG Speech Attendant ACS/Telephony Server handles telephony related tasks for example inbound calls. There may be one or several ACS/Telephony Servers in a CMG Speech Attendant environment.

4.1.3 ASR server - speech recognition

A CMG Speech Attendant ASR server comprises Nuance software used for speech recognition, and the grammar packages used to perform recognition.

Note that it is important that this server is dimensioned to handle speech recognition, with is a memory and CPU consuming task. The larger or more complex the grammars are, the more powerful server is required.

4.2 Telephony Environment

For information on which call managers CMG Speech Attendant has been verified towards, see *Virtual Reception Compatibility Matrix [2]*. This document can be found on Aastra InfoChannel.

5 System Interfaces

5.1 Telephony Interfaces and Media

CMG Speech Attendant uses the ACS platform for call handling and media control.

5.2 Database Access

CMG Speech Attendant uses JDBC to access the configuration database.

5.3 File System Access

CMG Speech Attendant uses Windows authentication to access file system shares where e.g. grammar packages, user's recorded greetings or name phrases etc are stored. It is recommended to use a domain account since installation typically spans multiple servers.

6 Considerations

6.1 Software Firewalls

CMG Speech Attendant calls are handled by ACS, using the SIP IP telephony protocol. This requires that the application can send and receive data on UDP and TCP ports which may change from one call to the next.

CMG Speech Attendant initiates an audio stream (RTP) between the Aastra Media Server and the Nuance Recognizer. This port number is set up a new for each call.

Software firewalls installed on the system that hosts the ACS/Telephony server normally interfere with the transmission and reception of this data, and are therefore not supported.

7 Localization

7.1 Supported Languages

CMG Speech Attendant supports prompt playback and speech recognition for the following languages:

- Swedish
- American English (US English)
- British English (UK English)
- Norwegian
- Danish

7.2 Name Prompt Generation (TTS)

TTS prompts are handled by CMG Speech. More information can be found in *Virtual Reception Installation and Configuration Guide* [3] and *CMG Speech Office Maintenance Guide* [6].

7.3 Country Specific Functionality

Switching languages is supported in both languages you are switching between. To switch from Swedish to English say “*English*” or the Swedish word “*Engelska*”. To switch from English to Danish, say “*Danish*” or the Danish word “*Dansk*”.

If both American English and British English are installed, switch between them by specifying which one to use. To switch from British English to American English, say “*American English*” or “*US English*”. If saying only “English”, the first one in the list of ASR languages (SCM) will be selected.

8 References

- [1] Virtual Reception Datasheet (*available on InfoChannel*)
- [2] Virtual Reception Compatibility Matrix (*available on InfoChannel*)
- [3] Virtual Reception Installation and Configuration Guide
- [4] CMG Speech Attendant User Guide
- [5] CMG Speech Attendant Installation Planning Guide
- [6] CMG Speech Office Maintenance Guide
- [7] Virtual Reception Installation Preparation Guide

© 2014 Aastra Technologies Limited. All rights reserved.

This document contains proprietary information, which is protected by copyright.

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, or translated into another language, without the prior written consent of Aastra Technologies Limited, Concord, Ontario, Canada.

NOTICE

The information in this document is subject to change without notice.

AASTRA MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. AASTRA shall not be liable for errors contained herein, neither for incidental nor for consequential damages in connection with the furnishing, performance, or use of these materials.

Aastra Technologies Limited
Concord, Ontario, Canada