Gplus Adapter 8.0

for SAP ICI Multi-Channel

Deployment Guide

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Preface

Welcome to the *G*plus *Adapter 8.0.x for SAP ICI Multi-Channel Deployment Guide*. This document lists system requirements and describes how to install and configure the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter).

Note: You can obtain versions of this document that were created for other releases of this product by visiting the Genesys Technical Support website, or requesting the Documentation Library DVD, which you can order by e-mail from Genesys Order Management at orderman@genesyslab.com.

This preface provides an overview of this document, identifies the primary audience, provides chapter summaries, provides information about making comments and contacting technical support, and list changes made to the document for each release. It contains the following sections:

The Adapter provides integration between Genesys Framework and a SAP Interaction Center (IC).

Intended Audience

This document is intended for system administrators or other individuals who install and configure the Adapter.

This document was written with the assumption that you have a basic understanding of, and are familiarity with:

- SAP Customer Relationship Management (CRM) design and communication protocols.

- Computer-telephony integration (CTI) concepts, processes, terminology, and applications.
- Network design and operation.
- Network configurations used in your company's computing environment.

You should also be familiar with the following Genesys products:

- Framework
- eServices (formerly Multimedia)
- Universal Routing
- Outbound Contact
- intelligent Workload Distribution

Chapter Summaries

This document provides the installation and configuration information for the G*plus* Adapter for SAP ICI Multi-Channel. It contains the following chapters and appendixes:

- Chapter 1, "About the Adapter," on page 17, provides an overview of the role that the Adapter has in the call-processing environment.
- Chapter 2, "System Requirements," on page 25, describes the minimum system and software requirements for installing the Adapter.
- Chapter 3, "Configuring the Adapter," on page 29, describes how to configure the Adapter, including guidelines for setting option values.
- Chapter 4, "Configuring HTTPS and Proxy," on page 121, describes how to configure the Adapter for HTTPS and HTTP Proxy.
- Chapter 5, "Installing the Adapter," on page 127, describes how to install the Adapter.
- Chapter 6, "Configuring the Agent Place," on page 141, describes agent workmodes, wrap-up functionality, reason codes, and free seating.
- Chapter 7, "Configuring E-Mail," on page 161, describes the Adapter's e-mail functionality, and e-mail strategy configuration.
- Chapter 8, "Configuring Chat," on page 169, describes the Adapter's chat functionality, and chat strategy configuration.
- Chapter 9, "Configuring the Media Routing Component," on page 175, describes the Adapter's Media Routing Component functionality, and Media Routing Component strategy configuration.
- Chapter 10, "Wrap-Up Processing for Communication Items," on page 191, describes how the Adapter handles the wrap-up process for communication items, such as voice, chat, and outbound calls.
- Appendix A, "Gplus Administrative Tool," on page 195, describes how to install, configure, and use the G*plus* Administrative Tool component.

- Appendix B, “Outbound Calls,” on page 205, describes how the Adapter supports outbound calls through typical and customized SAP configurations that enable agent outbound functionality.
- Appendix C, “Call-Attached Data Conversion Examples,” on page 217, describes how the Adapter translates call-attached data from Genesys format to SAP format, and vice versa.
- Appendix D, “Localizing the Adapter,” on page 227, describes the conversion of localizable text resources.
- Appendix E, “Queue Presence Information,” on page 229, describes how the Adapter processes requests for presence information.
- Appendix F, “Agent Presence Information,” on page 233, describes how the Adapter processes requests for user (agent) information.
- Appendix G, “Network-Attended Transfer/Conference Operations,” on page 243, describes the Network-Attended Transfer/Conference (NAT/C) feature and provides information about how to enable this feature on the Adapter.
- Appendix H, “Adapter Runtime Updates for Configuration Manager,” on page 245, describes how the Adapter supports runtime updates for Genesys Configuration Manager Environment (CME) and provides information about how to configure this feature.
- Appendix I, “Load-Balanced Solutions,” on page 247, provides guidelines and deployment options for the Adapter when load balancing is required in large-scale environments.
- Appendix J, “Canonical Address Format for Phone Numbers,” on page 253, describes how SAP and the Adapter work with canonical number optimizations.
- Appendix K, “SIP Voice Recording,” on page 265, describes how the Adapter supports SIP Voice Recording.
- Appendix L, “Session Clean-Up,” on page 271, describes how the Adapter supports the inactivity timeout improvements.
- Appendix M, “CMS Ping Messages,” on page 273, describes how the Adapter supports the SAP CMS ping messages functionality information.

Making Comments on This Document

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Document Change History

This section lists topics that are new or that have changed significantly since the first release of this document.

New in Document Version v8.0.101.00

This document has been re-issued to support the G*plus* Adapter for SAP ICI Multi-Channel release 8.0.1. The following topics have been added or changed since the previous release of the document:

- New and updated configuration options. See, Chapter 3, “Configuring the Adapter,” on page 29 for more information.
- Support for assigning e-mail domains. See, Chapter 7, “Sending E-Mail to an Agent,” on page 162 for more information.
- Improved multiline support of the agent presence status for the Nortel switch. See, Appendix F, “Agent Presence Information,” on page 233 for more information.
- Support for the auto-answering of the following incoming interactions: voice, e-mail, openmedia, and chat. See, Chapter 8, “Chat Session Auto-Accept,” on page 172 for more information.
- Support for SIP Voice Recording. See, Appendix K, “SIP Voice Recording,” on page 265 for more information.
- Support for inactivity timeout improvements. See, Appendix L, “Session Clean-Up,” on page 271 for more information.
- Support for CMS ping messages. See, Appendix M, “CMS Ping Messages,” on page 273 for more information.

New in Document Version v8.0.001.00

- This is the first 8.0.x release of this document.

Chapter

1 About the Adapter

This chapter provides an overview of the G*plus* Adapter 8.0 for SAP ICI Multi-Channel (the Adapter), its features, and its architecture. It contains the following sections:

The Adapter is a server application that provides integration between SAP Customer Relationship Management (CRM) and Genesys Framework, thereby enabling telephone and e-mail interactions in the customer's enterprise applications.

The Adapter is intended for customers who are running one of the following products:

- SAP CRM Server
- SAP CRM Interaction Center (IC) WebClient

Feature Overview

The G*plus* Adapter 8.0 for SAP ICI Multi-Channel (the Adapter) enables data exchange between a computer, a telephone, and a SAP system—for example, it enables contact center functionality for an agent who is conducting voice, chat, and e-mail interactions through the SAP Interaction Center (IC) Web Client. The data exchange is processed through the Adapter by Genesys components, the telephony switch, and the SAP application.

Key Features

The Adapter enables the following key features:

- Support for the SAP thin client architecture, the WebClient.
- Support for data exchange over Hypertext Transfer Protocol (HTTP) using Simple Object Access Protocol (SOAP). HTTP is supported by all Internet browsers and servers. SOAP provides a way to communicate between applications that are running on different operating systems, with different technologies and programming languages.
- Support for data exchange over Hypertext Transfer Protocol Secure (HTTPS).
- Use of the Genesys Agent Interaction Layer (AIL) as a library for communication with Genesys components, thus enabling the Adapter to provide voice, chat, and e-mail services.
- Integration with SAP Customer Relationship Management (CRM), thus providing a gateway for different telephony, chat, and e-mail functions that the SAP system supports.
- Integration with the Genesys Framework Media Layer, and support for different telephony switches through Genesys T-Servers.
- Integration with the eServices (formerly Multimedia) solution for chat and e-mail handling.
- Adapter configuration from the Genesys Framework Configuration Layer, thus enabling easy configuration for system administrators.
- Adapter administration from the Genesys Framework Management Layer, thus enabling remote start, stop, and view status.
- Support for the Genesys high-availability (HA) feature, thus ensuring automatic connection to the backup instance(s) of the Framework server(s) in the event of a primary server failure.
- Improved customer number lookup, thus ensuring that valid customer data is displayed for the Outbound Active Switch Matrix (ASM) mode during outbound campaigns. In earlier releases, valid customer data was not displayed for ASM mode during outbound campaigns.
- Providing presence information for agents: queue presence and agent presence into. This feature provides for an agent possibility explicitly specify agent/queue which is able to accept transferred interaction

Support for SAP Telephony, E-mail, and Chat Functions

Agents can use the telephone, e-mail, and chat interfaces with the SAP Interaction Center (IC) WebClient application to:

- Change their agent workmode.
- Receive and make calls.
- Transfer phone interactions to another agent, an ACD Queue, or a Routing Point.
- Transfer phone interactions through the network, to a remote contact center.
- Initiate and participate in conference call sessions.
  The Adapter now supports three-way conference calling with voice interactions.
- Receive calls from a queue, and make calls to an ACD Queue or Routing Point.
- Hold, retrieve, and reconnect calls.
- Support the sending of `DTMF` (dual-tone multi-frequency) tones.
- Receive and send e-mail.
- Transfer and forward incoming e-mail to external and internal recipients.
- Accept incoming chat interactions from customers (including the option to use auto-accepting).
- Transfer chat interactions to another agent.
- Send chat transcript to customer.
- Using the Phone Book.

`Note:` Only agents or queues from the Adapter's Tenant are added to the phone book.

The `Agent` name values configured in the Configuration Server must be unique strings. The Adapter will treat the names that are different only by cases (for example, `agent` and `AGENT`) as equal strings.

Genesys Media Layer

The Adapter communicates with the Genesys T-Server, part of the Genesys Media Layer, in order to process telephony requests—for example:

- Transfer telephony requests from a SAP system to the Genesys T-Server.
- Notify the SAP system of T-Server telephony events. For details, see the section, "Adapter Architecture".

Genesys Configuration Layer

The Adapter can be configured by using the Genesys Configuration Layer. This enables administrators to manage the Adapter's configuration options. For details, see Chapter 3 on page 29.

Genesys Management Layer

The Adapter can be administered through the Genesys Management Layer. This layer provides the ability to remotely start, and stop the Adapter, and monitor its status.

Genesys High-Availability Configuration

The Adapter takes advantage of the high-availability (HA) features of the Genesys Framework and supports the Primary-Backup schema for Genesys server components. This means that if the primary instance of the Genesys server fails or goes out of service, a standby (backup) instance will take over automatically.

In most cases, the Adapter provides seamless switch over between primary and backup servers. Therefore, agents are able to resume their operations quickly, with little or no loss of state.

In addition, the Adapter supports Advanced Disconnect Detection Protocol (ADDP) connection to Genesys servers, except of connection to Genesys Universal Contact Server. Although adjusting ADDP improves the ability to detect network disconnection, it increases local network loading.

Notes:
- For more information about High-Availability configuration and ADDP, see the Genesys Framework documentation.
- ADDP is not supported for the connection between the Adapter and Genesys Universal Contact Server.

Adapter Architecture

Genesys and SAP communicate through the Adapter. The architecture diagram in Figure 1 on page 21 shows how SAP and Genesys are connected. It also shows how the Adapter, Genesys Framework, and Genesys Computer Telephone Integration (CTI) components are connected.

Note: For information about the SAP system architecture, see the "Live System Architecture" section in the SAP ICI documentation.

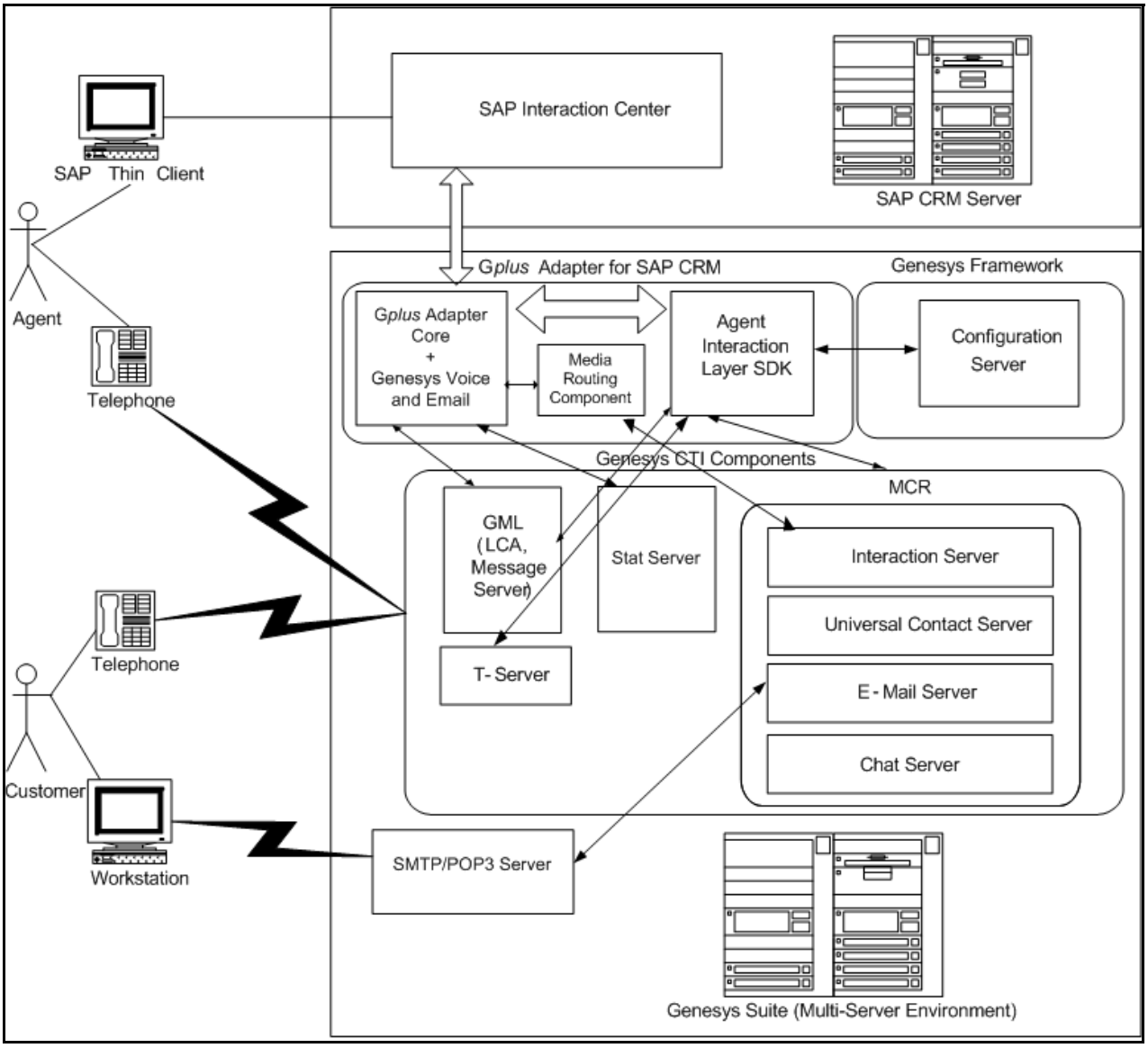

Figure 1: G*plus* Adapter for SAP ICI Multi-Channel Architecture and External Systems

Connectivity between SAP and Genesys is as follows:

- SAP IC WebClient connects to the SAP Interaction Center.
- SAP IC connects to the Adapter.
- The Adapter accesses Stat Server for login control, and to obtain the presence queue information.
- The Media Routing component accesses the eServices (formerly Multimedia) components to manage the `action items` open media interactions.

Connectivity within Genesys is as follows:

- The switch or Simple Mail Transfer Protocol (SMTP) server connects to the Genesys CTI components.
- The Genesys CTI components connect to the Adapter.
- The Adapter accesses Configuration Server through the Agent Interaction Layer.
- The Adapter accesses eServices (formerly Multimedia) components, which are required in order to manage voice, e-mail, and chat interactions, through the AIL.

New in This Release

This section contains a brief description of the new features in G*plus* Adapter for SAP ICI Multi-Channel 8.0.x releases.

Release 8.0.1 The following new features and components are supported:

- Support for more than three-way conference calling with voice.
- Support for BroadSoft Broadworks.
- Improved handling for the e-mail domain configured for contact center agents.
- Improved multiline support of the agent presence status for the Nortel switch.
- Support for Windows Hyper-V Server 2012.
- Support for the auto-answering of the following incoming interactions: voice, e-mail, openmedia, and chat.
- Support for CMS ping messages.
- Improved inactivity timeout sessions.
- Support for the `OutboundReply` subtype for reply e-mails. See, the *Gplus Adapter for SAP ICI Multi-Channel Developer's Guide* for more information on this feature.
- Support for the update of custom fields for outbound calls. See, the *G*plus *Adapter for SAP ICI Multi-Channel Developer's Guide* for more information on this feature.
- Support of the QA review functionality for outgoing e-mails.
- Support of recording control for SIP calls.
- Improved handling of the wrap-up time in `Automatic` and `Manual` modes.
- Ability to disable the `Ready` work mode for agents handling wrap-up interactions.

Release 8.0.0 The following new features and components are supported:

- Outbound Call Reschedule.

- Able to handle multiple other customer requests for Outbound Contact Server (OCS) calls, such as `DoNotCall`, `Cancel`, `Reject`, and `Update Call Completion Status`.
- Agents can now handle up to six concurrent interactions, including mixed interactions, such as voice/chat/e-mail.
- Improved handling of workmodes (specifically, applying Wrap-Up workmode for voice media only).
- Improved logging.
- Support for Outbound Active Switch Matrix (ASM) mode.
- Support for Network-Attended Transfer and Consultation (NAT/C) for voice calls.
- Support for load balanced instances of large deployments.
- Support for Action Item routing through Genesys intelligent Workload Distribution (iWD).
- Support for SAP v7.0 Enhanced Pack 1 (eHP1, also known as v7.01).
- Support for SAP ICI v3.07.
- Support for VMWare.
- Support for Genesys Webchat with the SAP Chat User Interface (UI), including agent controls and transcript handling.

Chapter

2 System Requirements

This chapter outlines the minimum hardware and software requirements for deploying the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter).

Please review these system requirements before installing the Adapter.

This chapter contains the following sections:

Compatibility Overview

The proper functioning of the G*plus* Adapter 8.0 for SAP ICI Multi-Channel (the Adapter) depends on the following items:

- The operating system
- The telephony switch
- The Genesys environment
- The SAP system

Information about supported hardware and third-party software is available on the Genesys Technical Support website, in the following documents:

- *Genesys Supported Operating Environment Reference Guide*
- *Genesys Supported Media Interfaces Reference Manual*

Software Requirements

You need the following software in order to deploy and use the Adapter:

- Genesys Framework

- A SAP system (SAP Application Server)
- An operating system. For details, see the *Genesys Supported Operating Environment Reference Guide*.
- A web browser (such as Microsoft Internet Explorer 8.0, or later) and a PDF viewer (such as Adobe Acrobat Reader 9.0, or later), for reading and viewing the support documentation.

Genesys Applications

The required Genesys applications are:

- G*plus* Adapter 8.0.x for SAP ICI Multi-Channel.
- G*plus* Adapter 8.0.x Media Routing for SAP (only if you plan work with Action Items).
- Genesys Framework, including:
  - The Configuration Layer (Configuration Server, Configuration Manager, and DB Server).
  - The Management Layer (Message Server, Local Control Agent [LCA], Solution Control Server [SCS], and Solution Control Interface [SCI]).
  - The Media Layer (T-Servers).
  - The Service Layer (Stat Server).
- eServices (formerly Multimedia) solution (E-Mail Server, Chat Server, Interaction Server, and Contact Server).

Note: The Adapter is not compatible with Genesys E-mail Server release 7.1, or earlier.

- Universal Routing Solution (Interaction Routing Designer, Universal Routing Server [URS]).

SAP Applications

The required SAP system applications are:

- SAP CRM 2006s.
- SAP Interaction Center (IC).
- SAP Integrated Communication Interface (ICI).

Java Development Kit

The Adapter requires:

- An installed J2SE Runtime Environment (JRE) or J2SE Software Development Kit (SDK) v1.60_23 (or later) on the computer that is running the Adapter.

- A JAVA_HOME environment variable pointing to this Java Development Kit (JDK) or JRE.

Note: If the JRE is located in C:\Program Files\Java\j2re1.6, ensure that the JAVA_HOME environment variable is also located there.

For a Windows operating system, the JDK/JRE is available on Sun's Java website. Follow the installation instructions at http://java.sun.com/.

Hardware Requirements

The following are the minimum hardware requirements to deploy the Adapter on a Windows operating system:

- CPU at 2.4 GHz, or faster
- 1 GB or more of RAM
- 200MB of free disk space
- CD-ROM drive
- Display
- Network adapter and network connection

Note: For the hardware requirements for other Genesys Framework components, see the Genesys Framework documentation.

Telephony Switches

The Adapter is compatible with several hardware and software telephony switches. Information about supported switches is available on the Genesys Technical Support website, in the *Genesys Supported Operating Environment Reference Guide* document.

Information for SAP System Administrators

The following settings are needed in order to program SAP and enable server-side connectivity to Genesys:

- Protocol / Connection Type = HTTP
- Host Name = <Host where Genesys Adapter resides> (for example, adapterhost.genesyslab.com). See "Server Info Tab" on page 40.
- Path Prefix = <Http path to Genesys Soap Dispatcher>.

Note: From release 7.1 onward, this information is not required, because the Adapter implements its own Http Server running on top of JRE; therefore, the path information is actually ignored.

- Port / Service No. = `<TCP port where the Adapter can be accessed>` (for example, `8080`). See “Server Info Tab” on page 40.

  Visit `http://adapterhost.genesyslab.com:*/` (replace `*` with your TCP port information) to verify that you have an output.

Note: You must add a `user` named `admin` (all lowercase) in Genesys Configuration Manager to enable a successful SAP connection test.

Chapter

3 Configuring the Adapter

This chapter describes how to configure the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter). It contains the following sections:

Preliminary Procedures

Note: Before you can configure the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter), you must configure the Genesys Framework and eServices (formerly Multimedia) applications.

The required Genesys Framework applications are:

- DB Server
- Configuration Server
- Stat Server
- Configuration Manager
- License Manager
- Universal Routing Server
- Message Server Object

The required eServices (formerly Multimedia) applications depend on the type of interactions that the Adapter processes. The possible types of interactions include:

- Voice interactions
- E-mail interactions
- Chat interactions
- Open media interactions
- Multi-channel environment interactions—for example: voice, chat, and e-mail interactions

The following subsections describe the eServices (formerly Multimedia) applications that are required for each of these interaction types.

Voice Interactions

If you are using the Adapter for voice interactions, you must configure the connections for the following applications:

- T-Server, configured for a voice environment (see your *T-Server Deployment Guide* for details).
- The Adapter, with connections to T-Server and Stat Server.

E-Mail Interactions

If you are using the Adapter for e-mail interactions, you must configure the connections for the following applications:

- eServices (formerly Multimedia) configured for an e-mail environment (For details, see the *eServices 8.x Deployment Guide*.)
- The Adapter, with connections to:
  - Universal Contact Server
  - Interaction Server
  - Stat Server

Chat Interactions

If you are using the Adapter for chat interactions, you must configure the connections for the following applications:

- eServices (formerly Multimedia) configured for a chat environment. (For details, see the *eServices 8.x Deployment Guide*.)
- The Adapter, with connections to the following servers:
  - Universal Contact Server
  - Interaction Server
  - Stat Server

Multi-Channel Environments

If you are using the Adapter for multi-channel environment (for example, voice and e-mail interactions or voice, chat, and open media interactions), you must follow the preceding guidelines for all environments.

SAP Business Warehouse (BW) Analytics Support

The G*plus* Adapter 8.0.x for SAP ICI Multi-Channel enables the G*plus* Adapter for SAP Analytics to collect the agent's statistical information and send it to the SAP Business Warehouse.

Note: Full reporting is supported for voice interactions only.

To support SAP statistics, the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) maintains a special attached data pair, `in-call/interaction`, with a predefined key (`gplus-analytics-id`). The value is set to the interaction/call ID that is reported to the SAP Customer Relationship Management (CRM) system.

The following rules apply:

1. The Adapter does not change the value of the interaction/call ID, if it is already set.
2. The Adapter generates the interaction ID before making the `call/creating` interaction, and sets the key-value pair in the `makeCall/createInteraction` request.
3. During the `InitTransfer`, the `InitConference` requests that the Adapter assigns the interaction ID to the child call.
4. The Adapter sets the interaction ID for any call/interaction that does not have this pair in its attached data.

Configuring Genesys Framework Objects

Before you can configure the Adapter, you must configure the following Genesys Framework objects:

- `Host` object(s)—The server(s) on which the Genesys Framework objects and the Adapter are installed.
- Local Control Agent (LCA)—The object that enables the Adapter to be managed remotely by the Solution Control Interface (SCI).

- Message Server—The object used to manage message logs in the Message Server database.
- Stat Server—The object that enables agent login control (see "Configuring Agent Login Control" on page 143).
- T-Server—The object that manages messaging from the switch.
- Universal Routing Server—The object that executes routing strategies.
- Chat and E-mail Servers—The objects that execute chat and e-mail services.

Creating the Host Object

You must create the `Host` object before the Adapter's `Application` object. If the host has already been configured on your Configuration Server, skip this section and proceed to "Configuring the Local Control Agent" on page 33.

Procedure: Creating a Host object in Configuration Server

Purpose: To create the `Host` object that will represent the Adapter in Configuration Server.

Start of procedure

1. Open Genesys Configuration Manager, right-click the `Environment` folder, and select the `Hosts` folder.
2. Right-click the `Hosts` folder and select `New` > `Host`.

   The `Host Properties` dialog box appears.
3. On the `General` tab (see Figure 2), configure the following properties:
   - `Name`: Enter a name for the `Host` object.
   - `IP Address`: Enter the IP address of the `Host` object.
   - `OS Type`: Enter the operating system.
   - `Version`: Enter the version of the operating system software.
   - `LCA Port`: Enter the port that serves the LCA application.

   Note: Set the value of `LCA Port` to `0` (zero), if you are not using the LCA with the Adapter.

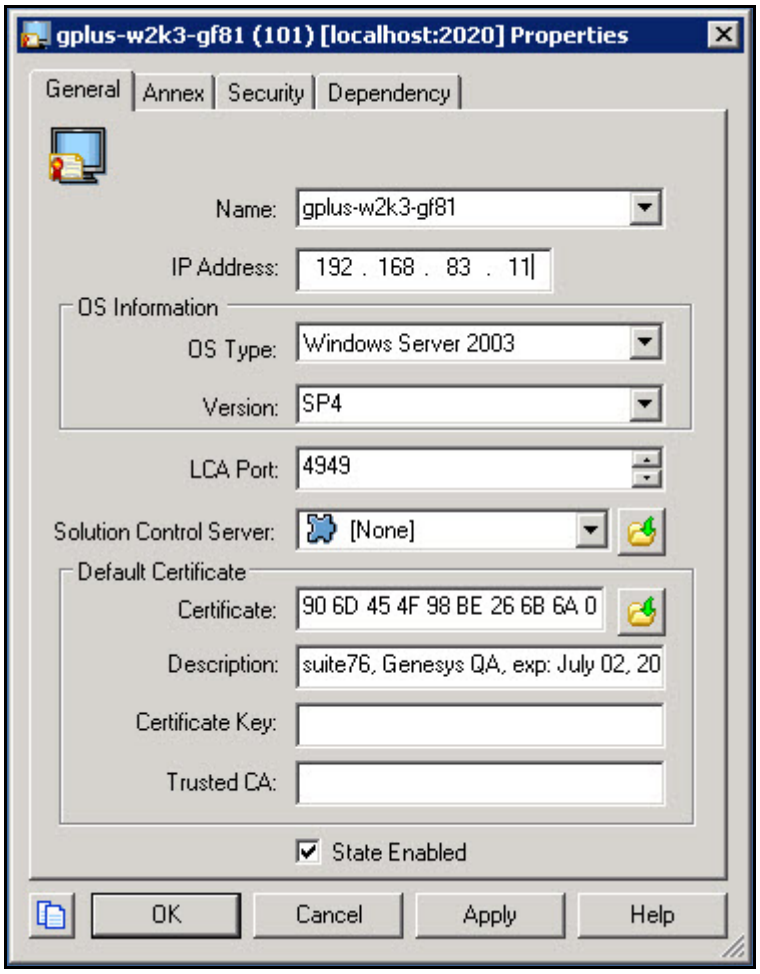

Figure 2: Host Properties Dialog Box—General Tab

4. Click OK.

End of procedure

Next Steps

- Configure the Local Control Agent. See Procedure: Configuring the Local Control Agent, on page 34.

Configuring the Local Control Agent

Use the procedure in this section to install and configure the Local Control Agent (LCA). The LCA communicates with Solution Control Server (SCS) which stops and starts applications in Configuration Server.

Procedure:
Configuring the Local Control Agent

Purpose: To configure the LCA and enable the SCS to be able to stop and start the Adapter.

Start of procedure

1. Install the LCA component on the same server as the Adapter.

   For details, see the *Genesys Framework 8.0 Deployment Guide*.

   Note: When the Adapter has been stopped as a result of a request from the LCA:
   - All active users become unavailable and new requests or events are not processed.
   - All user communication items are stopped between the Adapter and SAP.
   - The Adapter shuts down.

End of procedure

Next Steps

- Configure logging for the Adapter through Message Server. See Procedure: Configuring Message Server, on page 34.

Configuring Message Server

The Adapter supports logging through the Message Server component. Use the procedure in this section to configure the Message Server for logging.

Procedure:
Configuring Message Server

Purpose: To configure logging for the Adapter.

Start of procedure

1. Configure the `msgServerVerbose` option as described on page 115.
2. Add Message Server to the Adapter's `Application` object's connections, as described page 43

3. If Agent Interaction Layer (AIL) logs are required, configure the `msgServerAILIncluded` option.

End of procedure

Next Steps

- Configure agent log in control. See Procedure: Configuring Stat Server, on page 35.

Configuring Stat Server

The Adapter supports agent log in control. Use the procedure in this section to create a connection to Stat Server and enable agent log in control.

Procedure: Configuring Stat Server

Purpose: To create a connection in the Adapter's `Application` object to Stat Server so that agent login control can be enabled.

Start of procedure

1. Set the `allowWorkOnLoggedInPlace` option.
2. Add Stat Server to the Adapter's `Application` object's connections, as described on page 43.
3. If required, configure the statistics that are processed by the Adapter and reported for the queues or the agent presence. See Appendix E, "Queue Presence Information," on page 229 and Appendix F, "Agent Presence Information," on page 233.

End of procedure

Next Steps

- Configure T-Server. See "Configuring T-Server" on page 35.
- Configure the Adapter. See "Configuring the Adapter Application" on page 36.

Configuring T-Server

Note the following when you configure T-Server(s), for use with the Adapter:

- If you have more than one switch configured in a Tenant, make sure that the DNs associated with the switches and their corresponding T-Servers have unique names. If the names are not unique, critical problems might result.
- When used with the Alcatel A4400/OXE switch, the Adapter works with the `agent-substitute` option value set to `true` or `false`. However, the following steps must also be completed:
  - The place configuration in the Configuration Server must be adjusted as described in the *Switch-Specific Support Configuration* chapter, in the *Interaction SDK Java Deployment Guide*.
  - The value of the Adapter's `a4400-custom-substitute-mode` option must be set to `false`.
- On the Tenovis Integral 33/55 switch, the value of the T-Server `agent-substitute` option must be set to `true`.

Note: Check the appropriate Deployment Guide for your specific T-Server for more information about the `agent-substitute` option.

Configuring the Adapter Application

Use the procedures in this section to configure the Adapter.

Importing the Application Template

Before you can configure the Adapter, you must import the `Genesys Generic Server Application` Template into the configuration environment.

Procedure: Importing the Application Template

Purpose: To import the `Genesys Generic Server Application` Template that is used to create the Adapter's `Application` object in the configuration environment.

Prerequisites

- The Genesys Framework objects are configured. See "Configuring Genesys Framework Objects" on page 31.

Start of procedure

1. Open Configuration Manager and select the `Environment` folder.
2. Right-click the `Application Templates` folder, and select `Import Application Template`.

   The `Open` dialog box appears.
3. Select the `Genesys Generic Server` Application Template. The name of the file is as follows:
   - If you are using 8.0.1 version of the Adapter: `Gplus_Adapter_for_SAP_ICI_MultiChannel_801.apd`
   - If you are using 8.0.0 version of the Adapter: `Gplus_Adapter_for_SAP_ICI_MultiChannel_800.apd`
4. Click `Open`.

   The `Application Properties` dialog box appears.
5. Click `OK` to accept the default values.

End of procedure

Next Steps

- Create the `Application` object for the Adapter. See Procedure: Creating the Adapter's Application object, on page 37.

Creating the Application Object

After you have imported the `Application` Template, you must create and configure an `Application` object.

Procedure: Creating the Adapter's Application object

Purpose: To create the Adapter's `Application` object in Configuration Server.

Prerequisites

- The generic Application Template was imported to Configuration Server. See Procedure: Importing the Application Template, on page 36.

Start of procedure

1. In Configuration Manager, select the `Environment` folder.
2. Right-click the `Applications` folder, and select `New` > `Application`.

   A `Browse` dialog box appears.

3. Select the Application Template that you just imported, depending on the version of the Adapter that you are using:
   - If you are using 8.0.1 version of the Adapter: Gplus_Adapter_for_SAP_ICI_MultiChannel_801.apd
   - If you are using 8.0.0 version of the Adapter: Gplus_Adapter_for_SAP_ICI_MultiChannel_800.apd
4. Click OK.

   The Application Properties dialog box appears.

End of procedure

Next Steps

- Configure the properties of the Adapter's Application object. See Procedure: Configuring the Adapter's Application object, on page 38.

Configuring the Application Object

Use the procedure in this section to configure the tabs of Properties dialog box of the Adapter's Application object. The subsections in the procedure describe how to configure each tab, in the order in which they appear.

Note: The Annex tab does not require configuration.

Procedure: Configuring the Adapter's Application object

Purpose: To configure the Adapter's Application object.

Prerequisites

- The Adapter's Application object has been created. See Procedure: Creating the Adapter's Application object, on page 37.

Start of procedure

General Tab

1. On the General tab:
   a. In the Name box, enter a name for the Adapter's Application object.

      For example, in Figure 3, the name of the Adapter object is Gplus_Adapter_for_SAP_ICI_MultiChannel_800 for the 8.0.0 version of the Adapter. The name of the Adapter object is Gplus_Adapter_for_SAP_ICI_MultiChannel_801 for the 8.0.1 version of the Adapter.

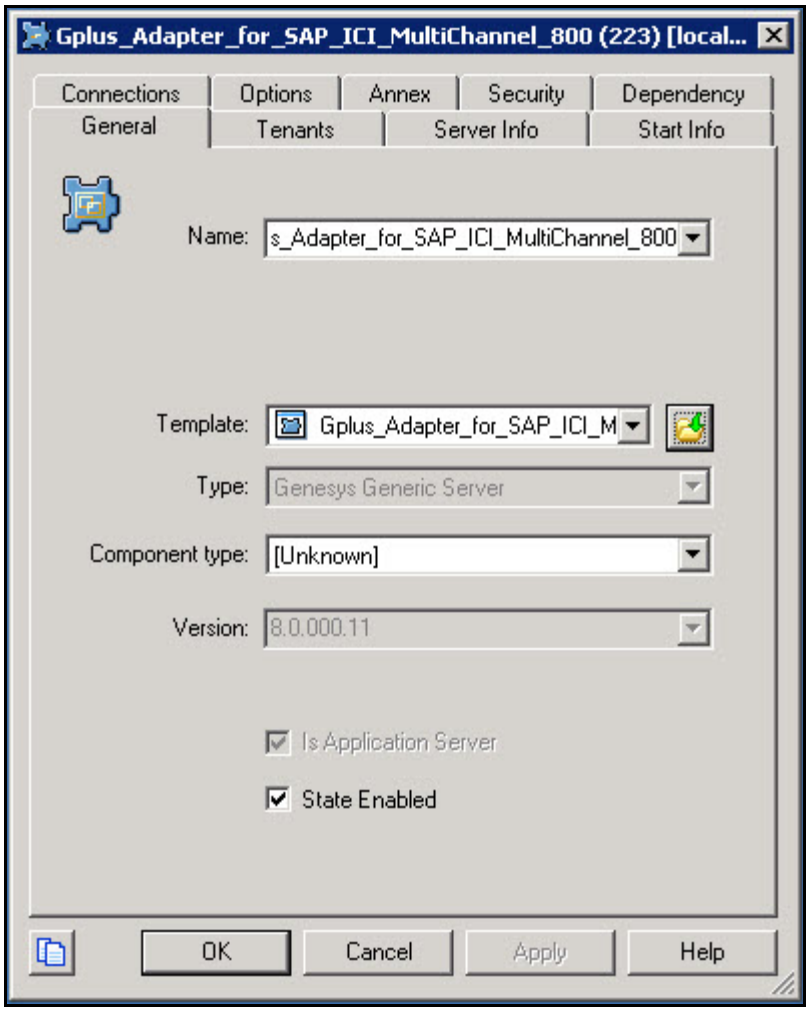

Figure 3: Adapter Application Properties Dialog Box—General Tab

b. Select the `State Enabled` check box (see Figure 3).

c. Click the `Tenants` tab.

Tenants Tab

2. On the `Tenants` tab:

a. Specify the Tenant that you are using.

b. Click `Add`.

c. Select the Tenant that has the switch, places, agents, and agent groups configured (see Figure 4).

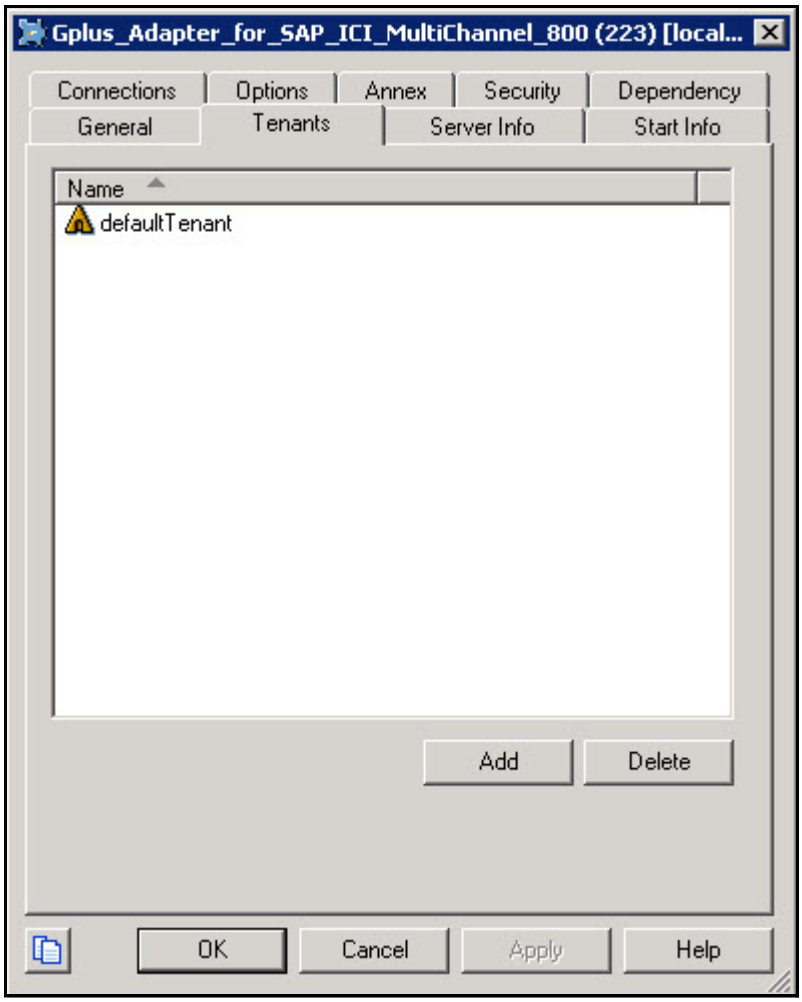

Figure 4: Adapter Application Properties Dialog Box — Tenants Tab

> Warning! You must specify the correct Tenant for the Adapter's Application object if you are using a multi-tenant Configuration Server.

d. Click the Server Info tab.

Server Info Tab

3. On the Server Info tab:

a. In the Host box, select the host on which you will install the Adapter, and then click OK.

> Note: The properties on the Server Info tab are used by the local control agent (LCA) application. They enable automatic shut down of the Adapter.

b. In the `Ports` box, you can accept the default value of `7000`, or enter any valid communication port number from the host by using the `Edit Port` button.

c. For the `Reconnect Timeout` box, accept the default value.

d. For the `Backup Server` box, accept the default value (of `[None]`).

e. For the `Redundancy Type` box, accept the default value of (`Not Specified`) (see Figure 5).

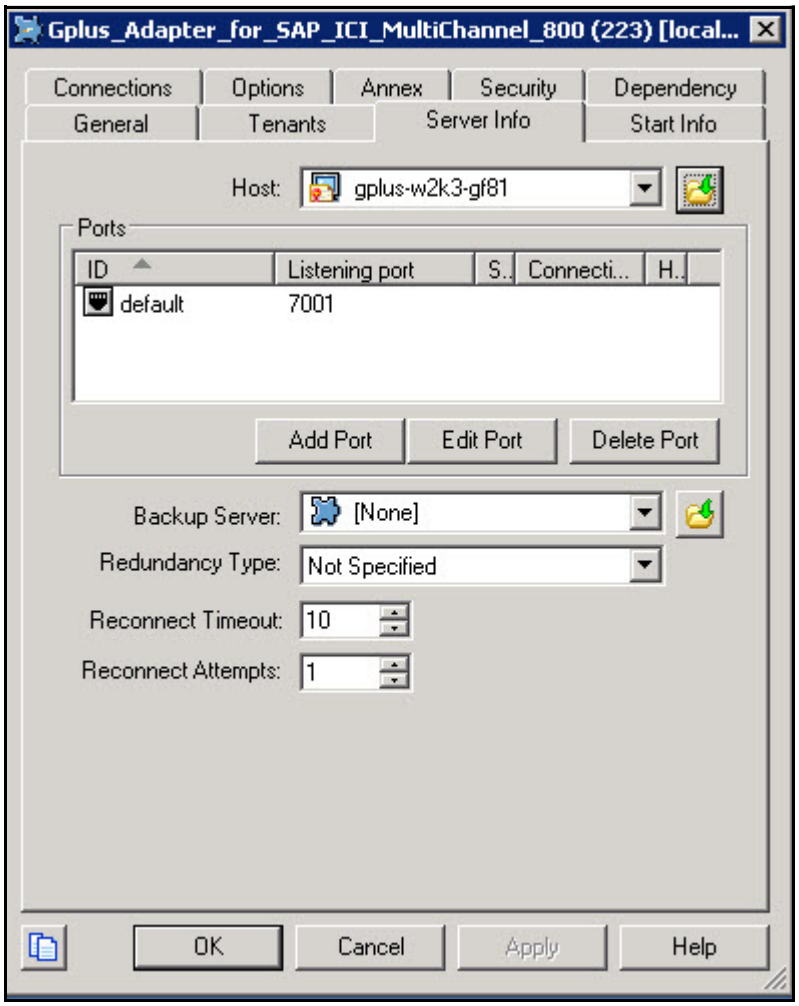

Figure 5: Adapter Application Properties Dialog Box — Server Info Tab

f. Click the `Start Info tab`.

Start Info Tab

4. On the `Start Info` tab:
   a. In the `Working Directory` box, enter a period (.) to enable Setup to populate it during installation.

   Note: You must set the values for the `Working Directory`, `Command Line`, and `Command Line Arguments` boxes on the `Start Info` tab, even though the data is overwritten when the Adapter is installed.

   b. In the `Command Line` box, enter a period (.) to enable Setup to populate it during installation.
   c. (Optional) In the `Command Line Arguments` box, enter a period (.). The parameters are setup during installation.

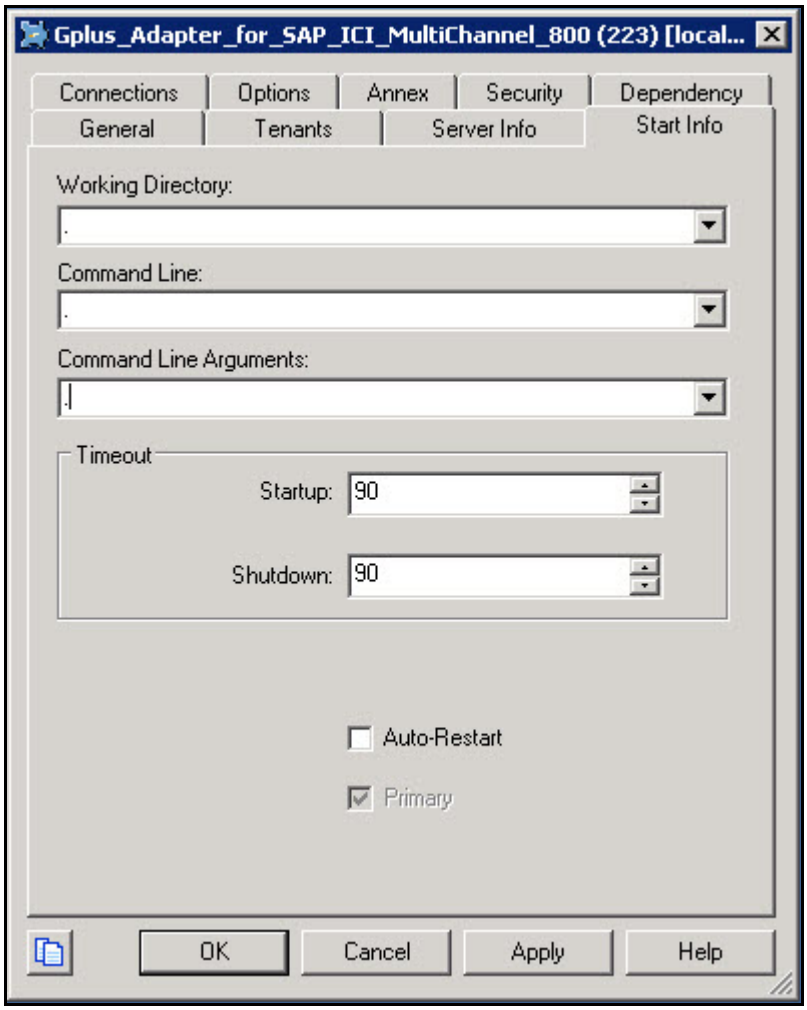

Figure 6: Adapter Application Properties Dialog Box—Start Info Tab

   d. Leave the default values for the remaining boxes.
   e. Click the `Connections tab`.

Connections Tab

5. On the `Connections` tab:
   a. Add the following connection(s):
      - For a voice-only configuration, add a T-Server connection.
      - For a multi-channel configuration, add the T-Server, Universal Contact Server, and Interaction Server connections.
      - If you want the Adapter to access the Agent Place login status, add a Stat Server connection.
      - If you want the Adapter to write log into the network database, add a Message Server connection.
   b. To create connections, add a connection to the server(s). See Figure 7 as an example.

      The application in Figure 7 has connections to the following servers:
      - Stat Server
      - T-Server

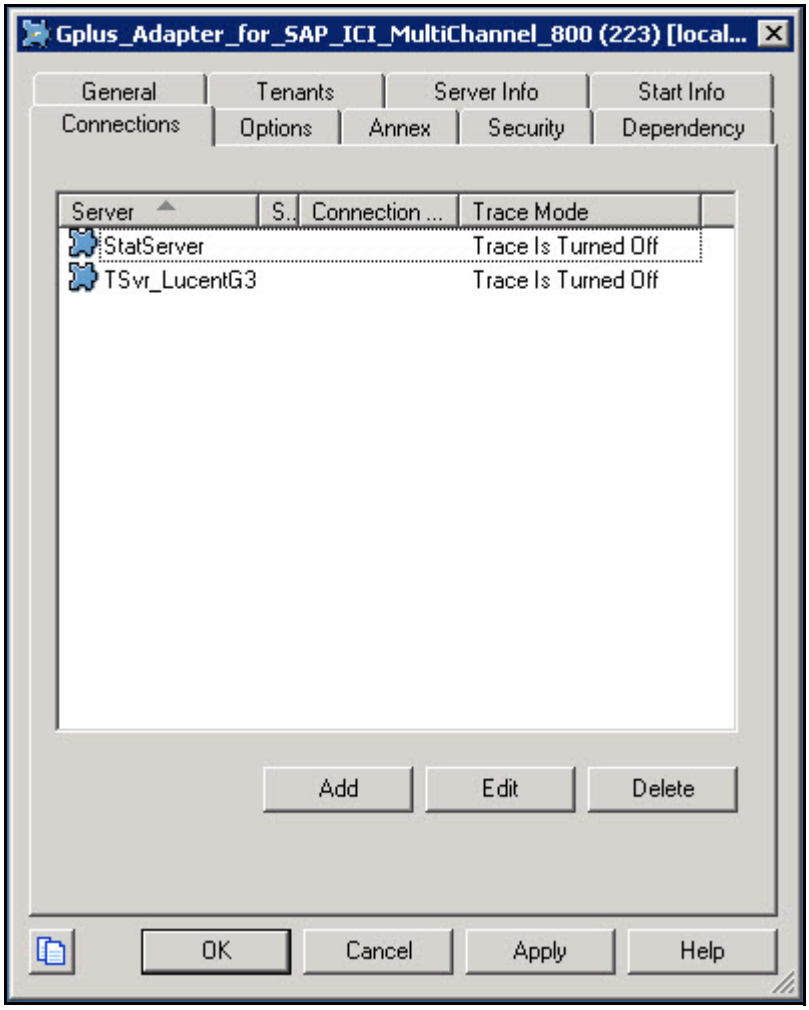

Figure 7: Adapter Application Properties Dialog Box—Connections Tab

c. (Optional) Add an Advanced Disconnect Detection Protocol (ADDP) connection to the Configuration Server to enable connection monitoring between the Adapter and the Configuration Server.

d. To enable the Adapter to use Stat Server data regarding login status on the Agent Place, see the description of the `allowWorkOnLoggedInPlace` option.

e. (Optional) Adjust the ADDP connection between the Adapter and Genesys servers. This improves the disconnection detection capability.

f. Click the `Options` tab.

Options Tab

6. Configure the sections in the `Options` tab as required, using the information in the section, "Setting the Adapter Configuration Options for the 8.0.1 Adapter" on page 81. (See also, Figure 8).

Notes:
- The `GPMC_ActionItems` section is available and required only when using the Adapter with the G*plus* Media Routing for SAP component.
- Sections are either AIL-specific or Adapter-specific. Sections that are prefixed with `GPMC_` configure the Adapter options. Sections *without* the `GPMC_` prefix (except the `call-number-translator` section) configure the *required* AIL options. For details about the *optional* AIL options, see the *Interaction SDK Java Deployment Guide*.

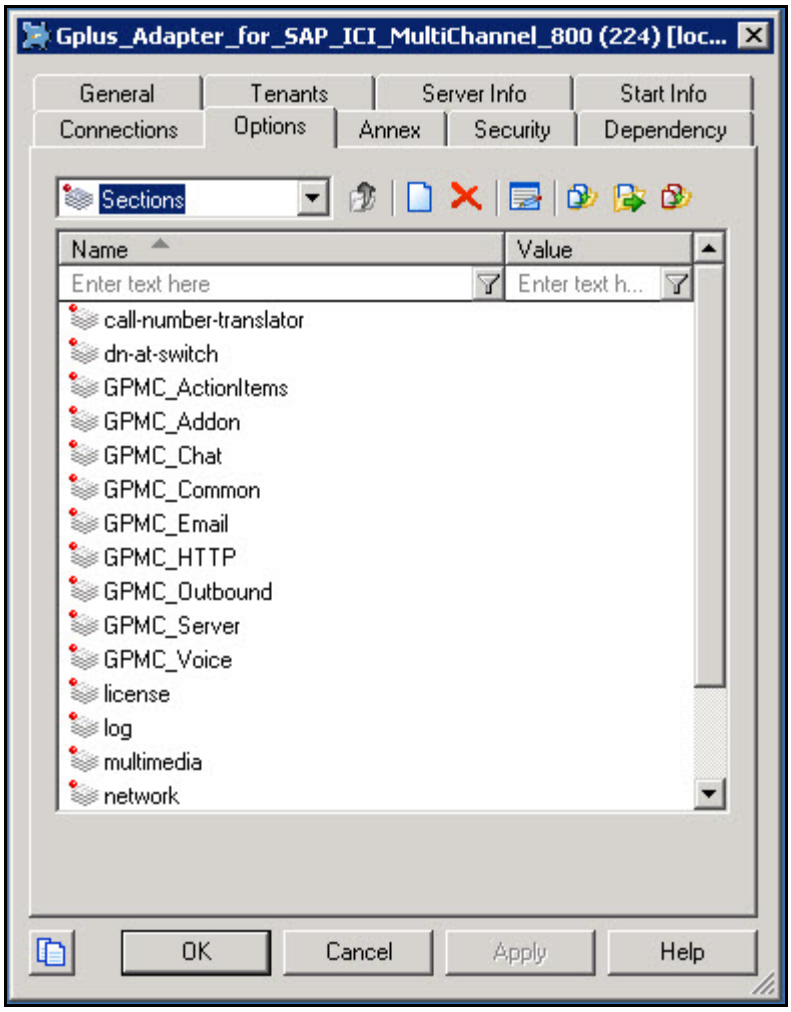

Figure 8: Adapter Application Properties Dialog Box—Options Tab

7. To configure the options for each section:
   a. Double-click the section's name.
   b. Enter the option values as described in the section, "Setting the Adapter Configuration Options for the 8.0.1 Adapter" on page 81.

End of procedure

Next Steps

- No further steps are required.

Setting the Adapter Configuration Options for the 8.0.0 Adapter

Unless specified otherwise, set the Adapter configuration options in the `Options` tab of the `Application` object using the following navigation path:

In Genesys Adminstrator—`Application` object > `Options` tab > `Advanced View (Options)`

In Configuration Manager—`Application` object > `Properties` dialog box > `Options` tab.

A *Yes* as the "Must restart" value indicates that you must restart the Adapter after changing the option. A *Yes* as the "Must set" value indicates an option that you *must* configure in order for the Adapter to function properly. For all other configuration options, you can accept the default values or adjust them later, according to your needs.

Note: All option names and values are case sensitive; therefore, make sure that you use the correct case.

For ease of reference, the configuration options have been arranged in alphabetical order within their corresponding configuration sections in the Adapter's `Application` object:

call-number-translator Configuration Section

Use the options in the `call-number-translator` section to control the settings for phone number dialing codes.

Notes:
- SAP has its own method for number translation and optimization. Usually, you will not want to use both the SAP and G*plus* Adapter implementations of number- optimization together, but you may do so if the need arises.
- The Adapter and SAP use similar settings for number translation (such as country- code, extension length, and so on). Genesys recommends keeping consistency between such settings in both SAP and the Adapter.

area-code

Default Value: `415`
Valid Values: Any valid string of digits
Must restart: No
Must set: No

Specifies the area code.

base-number

Default Value: `913`
Valid Values: Any valid string of digits
Must restart: No
Must set: No

Specifies the common number before an extension number.

country-code

Default Value: `1`

Valid Values: Any valid string of digits, `<empty>`
Must restart: No
Must set: No

Corresponds to the `Country` attribute of the SAP site definition, (for example, transaction `SPHB`).

extension-length

Default Value: `4`
Valid Values: Any positive integer greater (>) than `0` and less (<) than `9999`, inclusively
Must restart: No
Must set: No

Specifies the number of digits in the extension number. This option also corresponds to the extension length in the SAP site definition—for example, transaction `SPHB`.

idd

Default Value: `011`
Valid Values: Any valid string of digits, `<empty>`
Must restart: No
Must set: No

Specifies the international direct dialing (IDD) prefix for this country, (for example, `011` for the United States, `8-10` for Russia, and so on.)

inbound-optimization

Default Value: `disabled`
Valid Values: `disabled, extension, national, canonical`
Must restart: No
Must set: No

Specifies the type of Inbound call number optimization that the Adapter performs:

- If the value is `disabled`, no optimization is performed.
- If the value is `extension`, only the extension number is transmitted to the SAP system (according to the value of the `extension-length` option).
- If the value is `national`, the automatic number identification (ANI) that is transmitted to the SAP system will not contain an international prefix and country-code, if they are the same as those defined in the Adapter options.
- If the value is `canonical`, ANI is presented as:

  `+{country-code}{area-code}{base-number}XYZ`,

  where `XYZ` is the extension number.

`Note:` The optimization is processed before the outbound/inbound prefix treatment. Usually, the inbound prefix treatment should not be set if the incoming call optimization is enabled.

---

inbound-prefix

Default Value: `<empty>`
Valid Values: Any valid string value
Must restart: No
Must set: No

Specifies the prefix that the Adapter removes from ANI numbers provided by T-Server, before sending the information to the SAP system.

This prefix may be used when there is a discrepancy between the number saved and used for searching in the SAP system, and the number given by the telephony system. (for example, `00331234567890 <-> 1234567890`)

If no value is present or set, no action is taken on the incoming number.

inbound-prefix-remove-first

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Specifies if the prefix should be removed before the incoming number optimization (if enabled), or afterwards.

internal-phone-numbers

Default Value: `configserver`
Valid Values: Any valid string or a comma-separated list of strings
Must restart: No
Must set: No

Specifies patterns of phone numbers that are treated as internal and to which outbound optimization is not applied.

The following four types of definitions are allowed:

- Particular numbers—for example: `1000`, `2378`.
- Range of numbers (intervals)—for example: `1000-1020`. Any number in the range is treated as an internal number.
- Patterns—For example: `20??`. Any four-digit number starting from `20` to `???` (any three-digits number).
- configserver—A constant that specifies that the Adapter must check the DN that is configured in Configuration Server. If the number matches the configured DN, it is treated as an internal number.

ndd

Default Value: `1`
Valid Values: Any string of digits, `<empty>`
Must restart: No
Must set: No

Specifies the national direct dialing (NDD) prefix, (for example, `1` for the United States, `8` for Russia, and so on).

outbound-idd-substitute

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No
Specifies if the international direct dialing (IDD) prefix of the outbound call number is substituted or not.

- If the value of this option is set to `1`, the Adapter substitutes the leading plus sign (+) sign with the value of the international direct dialing (`idd`) prefix.
- If the value of this option is set to `0` (zero), the Adapter does not replace the value of the `idd` prefix.

outbound-optimization

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Specifies the type of outbound call number optimization that the Adapter performs.

outbound-prefix

Default Value: `<empty>`
Valid Values: Any valid string
Must restart: No
Must set: No

Specifies the prefix that the Adapter adds on to numbers provided by SAPphone for outbound dialing, before sending the information to the T-Server.

This prefix may be used when there is a discrepancy between the number saved and used in the SAP system and the number the telephony system requires—for example, `1234567890 <-> 0033123456789.`

If no value is present or set, no action is taken on the number to dial.

outbound-remove

Default Value: `( )-`
Valid Values: Any valid string
Must restart: No
Must set: No

Specifies the characters to be removed from the dialed string before any other processing activity.

dn-at-switch Configuration Section

Use the option in the `dn-at-switch` section to configure the Adapter to work in a multiple-switch environment.

enabled

Default Value: `false`
Valid Value: `true, false`
Must restart: No
Must set: Yes

Used when there are several DNs with identical IDs declared on the different switches in the same configuration.

For example—`DN 103's ID` on the switch `Xswitch` becomes `103@Xswitch`.

> `Warning!` You must not edit this option during runtime. Editing this option leads to a malfunction with the voice channel, and you will need to restart the Adapter.

GPMC_ActionItems Configuration Section

Use the options in the `GPMC_ActionItems` section to configure the Adapter to work with the media routing functionality.

> `Note:` This section must be configured if you use the Adapter with G*plus* Media Routing for SAP 8.0.0 component. If you are not using this component, configure the `available` option in the `GPMC_ActionItems` configuration section with a value of `0` (zero). All other options in this section can be ignored.

agent

Default Value: `WF-BATCH`
Valid Values: Any non-empty string value
Must restart: Yes
Must set: No

Specifies the name of the server agent from which the server request for queuing `ActionItem` interactions is sent. The name of the server agent must not coincide with any agent name in the Configuration Database.

> `Note:` An agent with a corresponding name must exist in Configuration Manager.

available

Default Value: `0` (zero)
Valid Values:
`0`—Off
`1`—Default off
`2`—Default on
Must restart: Yes
Must set: No

Specifies whether an agent is able to work with the `ActionItem` channel. See "Configuring the Agent Channels" on page 155.

- If the value is `0` (zero), the `ActionItem` channel is turned off (the agent settings are discarded).
- If the value is `1`, the `ActionItem` channel is turned off for all agents, unless it is explicitly turned on for a particular agent.
- If the value is `2`, the `ActionItem` channel is turned on for all agents, unless it is explicitly turned off for a particular agent.

inbox

Default Value: `action`
Valid Values: Any non-empty string value
Must restart: No
Must set: No

Specifies the name of the `ActionItem` container.

iWDURL

Default Value: `http://localhost:80`
Valid Values: A valid URL to an iWD capture point
Must restart: Yes
Must set: Yes

Specifies the endpoint URL to which iWD Capture Point is listening. For example, `http://host:port/path?WSDL`.

Note: This option is mandatory, if the value of the `available` configuration option does not equal `0 (off)` and the `routingService` configuration option is set to `iWD`. You can configure both options in the `GPMC_ActionItems` section of the Adapter's `Application` object.

---

mediaType

Default Value: `ActionItem`
Valid Values: Any valid string
Must restart: Yes
Must set: No

Specifies the media type for the Open Media interactions that the Adapter works with. The media type must be the primary setting in Configuration Server.

queue

Default Value: `Action queue`
Valid Values: Any valid string
Must restart: Yes
Must set: Yes (An existing queue if the `GPMC_ActionItem\available` option does not equal `0`—Off)

Specifies the name of the queue where the `ActionItem` requests are submitted as a result of the queuing requests.

> **Note:** The queue must exist in the eServices (formerly Multimedia) solution, if the Media Routing component is used and the value of the `available` option in the `GPMC_ActionItems` section of the Adapter's `Application` object does not equal `0` (zero)—off.

routingService

Default Value: `IS`
Valid Values: `IS`–Interaction Server, `iWD`–intelligent Workload Distribution
Must restart: Yes
Must set: No

Specifies the solution that is used to submit interaction information for routing.

- If this option value is set to `IS`, routing is performed through Interaction Server directly.
- If this option value is set to `iWD`, routing is performed through intelligent Workload Distribution (iWD).

GPMC_Addon Configuration Section

Use the options in the `GPMC_Addon` section to configure the Administrative Tool add-on.

gpAdmin

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Enables/disables the support of interactions with the G*plus* Administrative Tool.

gpAdminPort

Default Value: `9999`
Valid Values: Any integer greater (>) than `0` (zero) and less than (<) `65535`, inclusively
Must restart: Yes
Must set: No

Specifies the number of ports that the Adapter can use to service Java Management Extensions (JMX) messages from the G*plus* Administrative Tool.

GPMC_Chat Configuration Section

Use the options in the `GPMC_Chat` section to configure the Adapter for chat functionality.

available

Default Value: `0` (zero)
Valid Values:
`0`—Off
`1`—Default off
`2`—Default on
Must restart: Yes
Must set: No

Specifies whether or not an agent can work with the chat channel. For details, see “Configuring the Agent Channels” on page 155.

autoAcceptSession

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Specifies whether or not the Adapter should automatically accept the chat interaction.

- If the value is `0` (zero), an agent must manually accept the incoming chat interactions by pushing the `Accept` button.
- If the value is `1`, new incoming chat interaction are automatically accepted by the Adapter.

enableWrapUp

Default Value: `0` (zero)
Valid Values:
`1`—On

0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter allows wrap-up time for chat sessions.

- If the value of this option is set to 0 (zero), wrap-up time for chat sessions are not allowed.
- If the value of this option is set to 1, wrap-up time for chat sessions are allowed.

fakeCustomerDomain

Default Value: unknown.customer
Valid Values: Any valid e-mail server domain name
Must restart: Yes
Must set: No

Specifies the fake domain that is used as part of a fake e-mail address that is employed when the customer does not purposely specify their own e-mail address. The chat channel is identified by the customer's e-mail and will not work without a specified e-mail address.

For example, if an unknown customer's nickname is *John*, the customer is identified as John@unknown.customer.

sendTranscript

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter sends the transcript to the customer after the chat session has ended.

- If the value of this option is set to 0 (zero), the Adapter does not send the transcript.
- If the value of this option is set to 1, the Adapter sends the transcript.

showSystemMessages

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter includes the system messages in the `IciChatSession_getDialogResponse` and `IciEvent_chatNewPosting` chat session transcripts.

- If the value of this option is set to `0` (zero), the system messages are not included.
- If the value of this option is set to `1`, the system messages are included.

transcriptQueue

Default Value: `__STOP__`
Valid Values: Any string that matches the name of an existing Interaction Server queue
Must restart: Yes
Must set: Yes (See the notes below)

Specifies the name of the queue where the Adapter places the chat interactions, if a transcript is sent to the customer after the chat session has ended.

Notes:
- This option is mandatory and requires an existing queue, if the `available` configuration option in the `GPMC_Chat` section does not equal `0`—Off.
- The `transcriptQueue` name must exist in the eServices (formerly Multimedia) solution.

GPMC_Common Configuration Section

Use the options in the `GPMC_Common` section to configure miscellaneous Adapter behavior and functionality.

agentEmailDomain

Default Value: No default value
Valid Values: Any valid e-mail server domain name
Must restart: Yes
Must set: Yes

Specifies the domain that is appended to the user ID to create a personalized e-mail for the contact center agent. This e-mail is reported to the SAP-side as an agent's e-mail. For example, if the user ID is `Agent_Smith`, and the option is `matrix.com`, the e-mail address that is sent to SAP is `Agent_Smith@matrix.com`.

Note: This option is mandatory and requires a valid domain name if the value of the `available` configuration option in the `GPMC_Chat` section on page 96 and/or the `GPMC_Email` section on page 96 does not equal `0 (off)`.

allowBlendedWorkmodes

Default Value: `1`

Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Enables or disables the blended work modes functionality.

- If the value is set to 0 (zero), this option specifies that blended work modes are disabled.
- If the value is set to 1, this option specifies that blended work modes are enabled.

For more details see, Chapter 6 on page 141.

allowWorkOnLoggedInPlace

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether an agents can log in to a place that has logged-in DNs. See "Configuring Agent Login Control" on page 143.

Note: Genesys recommends that you use the default value (0 - zero) for this option. Use a value of 1 for backward compatibility.

---

emptyMediaInteractionLists

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Controls the execution of the IciFolder_getMessages, IciChatLine_getSessions and IciActionItem_getItems commands. Controlling the execution flow enables the following points:

- Optimizes the Adapter's performance.

- Prevents large response messages during agent login.

Note:
- If the value of this option is set to 1, the Adapter returns a list of interactions available on the specified container as a response to the SAP request.
- If the value of this option is set to 0 (zero), the Adapter returns an empty list as a response to the SAP request.

genesysCADApplicationName

Default Value: GENESYS-CAD
Valid Values: Any valid non-empty string. An <empty> value is not allowed.
Must restart: No
Must set: No

Specifies the application ID that is used to store all the Genesys Call-Attached Data (CAD) into an .XML file that is sent to SAP. An empty value is not allowed.

For more details see, Appendix C on page 217.

logoutOnSessionDestruction

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Enables or disables the automatic logout of agents while destroying all of the data associated with that agent session—for example, after the expiration of an agent session timeout.

- If the value of this option is set to 0 (zero), the Adapter does not automatically send a logout request.
- If the value of this option is set to 1, the Adapter logs out an agent from every agent channel when ending an agent session.

sendReasonCodeInTExtensions

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies the container for the NotReady request's reason code.

- If the value of this option is set to 1, the Adapter sends the reason code in the TAgentSetNotReady request's Extensions attribute.

- If the value of this option is set to `0` (zero), the reason code is sent in the `TAgentSetNotReady` request's `Reasons` attribute. (This is the default behavior).

workcenterIdType

Default Value: `0` (zero)
Valid Values: Any valid string or comma-separated list of strings
Must restart: Yes
Must set: No

Specifies the type of supported workcenter detection method to be used for seating (logon to SAP). See "Configuring Agent Seating" on page 141.

- If the value of this option is set to `0` (zero), there is no free seating. Therefore, the agent's default `Place` is considered the only workcenter.
- If the value of this option is set to `1`, the Workcenter ID is the fully qualified domain name —for example, `raptor.pal.sap.corp`
- If the value of this option is set to `2`, the Workcenter ID is the hostname—for example, `raptor`.
- If the value of this option is set to `3`, the Workcenter ID is the IP address—for example, `12.14.48.23`.
- If the value of this option is set to`100`, the agent manually enters the Workcenter ID.
- If the value of this option is set to`>100`, the Workcenter ID is unspecified.

GPMC_Email Configuration Section

Use the options in the `GPMC_Email` section to configure the Adapter for e-mail functionality.

available

Default Value: `0` (zero)
Valid Values:
`0`—Off
`1`—Default off
`2`—Default on
Must restart: Yes
Must set: No

Controls whether the agent is able to work with the e-mail channel. See "Configuring the Agent Channels" on page 155.

draftQueue

Default Value: `Draft queue`
Valid Values: Any string that matches the name of an existing Interaction Server queue

Must restart: No
Must set: Yes (A valid existing queue if the GPMC_Email/available option does not equal 0—Off)

Specifies the name of the queue where all existing draft e-mails are stored.

Note: The draftQueue name must exist in the eServices (formerly Multimedia) solution.

draftWorkbin

Default Value: Draft
Valid Values: Any string that matches the name of an existing Interaction Server workbin
Must restart: No
Must set: Yes (A valid existing queue if the GPMC_Email/available option does not equal 0—Off)

Specifies the workbin that is configured to obtain the interactions from the draftQueue option.

Note: The draftWorkbin name must exist in the eServices (formerly Multimedia) solution.

fakeEmailBox

Default Value: <empty>
Valid Values: Any valid e-mail address
Must restart: Yes
Must set: Yes (A valid email address if the GPMC_Email\available option does not equal 0—Off)

Specifies the fake e-mail address that is used during the initial e-mail creation that the Agent Interaction Layer (AIL) uses for sending e-mail messages.

Note: Genesys recommends using an internal e-mail address to prevent an e-mail from being mistakenly sent to an external address.

outboundQueue

Default Value: Outbound queue
Valid Values: Any string that matches the name of an existing Interaction Server queue
Must restart: No
Must set: Yes (A valid existing queue if the GPMC_Email\available option does not equal 0—Off)

Specifies the name of the queue that e-mail is sent through.

Note: The outboundQueue name must exist in the eServices (formerly Multimedia) solution.

sharedEmailBox

Default Value: No default value
Valid Values: Any valid e-mail address
Must restart: Yes
Must set: Yes (A valid email address if the GPMC_Email\available option does not equal 0—Off)

Specifies a list of e-mail addresses that are to be included in the agent's current queues.

showContentInEvent

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Specifies whether the subject and message text is displayed in events.

- If the value of this option is set to 0 (zero), the subject and message text is not shown.
- If the value of this option is set to 1, the subject and message text is shown.

substituteAgentAddress

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Controls what is shown in the From and Reply-To fields of an e-mail from another agent.

- If the value of this option is set to 0 (zero), the From and Reply-To fields have the original values.
- If the value of this option is set to 1, the From and Reply-To fields are replaced with the agent addresses.

transferEmailBox

Default Value: <empty>
Valid Values: Any valid e-mail address

Must restart: Yes
Must set: Yes (A valid email address if the `GPMC_Email\available` option does not equal `0`—Off)

Specifies the external e-mail address that is used for sending e-mail messages from one agent to another.

`Notes:`
- The Genesys E-mail Server must be configured to receive messages from this e-mail address (in addition to the standard e-mail addresses used for receiving messages from customers).
- This e-mail address must be used in the strategy described in "Configuring E-Mail Routing Strategies" on page 165.
- To ensure that the eServices (formerly Multimedia) E-mail Server includes the transfer address from the `senders` list, the `pop-client` section must have an `address` value different from the address in the `transferEmailBox` option. See, Chapter 7 on page 161 for a description.

GPMC_HTTP Configuration Section

Use the options in the `GPMC_HTTP` section to configure the Adapter for Hypertext Transfer Protocol (HTTP) connections (including SSL and Proxy functionality).

backlog

Default Value: `4096`
Valid Values: Any numeric value greater (`>`) than or equal (`=`) to `4096`
Must restart: Yes
Must set: No

Specifies the maximum queue length for incoming HTTP connection indications (a request to connect). If a connection indication arrives when the queue is full, the connection is refused.

eventHTTPSendingThreads

Default Value: `15`
Valid Values: Any integer greater than `1` and less than `5000`, inclusively
Must restart: Yes
Must set: No

Specifies the number of threads that are processing HTTP requests.

keepAliveTimeout

Default Value: `30`
Valid Values: Any interger greater (`>`) than or equal (`=`) to `-1`
Must restart: No
Must set: No

Specifies the number of seconds that the Adapter will wait for a subsequent request before closing the connection. The timeout value specified by this option is applied once a request has been received. See “Keep-Alive Mode” on page 125.

- If this option is set to a value of `0` (zero), the Adapter uses an infinite `keepAlive` timeout value. Genesys does not recommend using this value.
- If this option is set to a value of `-1`, the Adapter closes the connection after processing the request.

keyStore

Default Value: `<empty>`
Valid Values: Any valid path to the file
Must restart: Yes
Must set: Yes (If `GPMC_HTTP\sslEnabled` is set to `1`—On)

Specifies the file name of the Java KeyStore (JKS) repository with a private key and a matching public key. The security certificates are used to authenticate a connection to a remote socket peer.

Note: Consult the Java 2 Software Development Kit (SDK) documentation for the default `keyStore` location if the `keyStore` option is not specified, if it is empty, or if the specified `keystore` option does not exist.

---

keyStorePassword

Default Value: `<empty>`
Valid Values: Any valid keystore password
Must restart: Yes
Must set: Yes (If `GPMC_HTTP\sslEnabled` is set to `1`—On)

Specifies the password to the `keystore` with the Adapter’s public/private key pair.

proxyHost

Default Value: `<empty>`
Valid Values: Any valid host
Must restart: Yes
Must set: No

Specifies the proxy server to which to connect for proxy services. If the value is left blank, the connection to the proxy is not established.

proxyPort

Default Value: `0` (zero)
Valid Values: Any integer greater (>) than `0` and less (<) than `9999`, inclusively
Must restart: Yes

Must set: No

Specifies the proxy server port to connect to for proxy services. If the value is less than (<) or equal (=) to `0` (zero), the connection to the proxy is not established.

proxyPassword

Default Value: `<empty>`
Valid Values: Any valid string
Must restart: Yes
Must set: No

Specifies the password if the proxy server requires authentication.

proxyUsername

Default Value: `<empty>`
Valid Values: Any valid string
Must restart: Yes
Must set: No

Specifies the user name if the proxy server requires authentication.

sendAttempts

Default Value: `3`
Valid Values: Any positive integer greater (>) then or equal (=) to `1`
Must restart: No
Must set: No

Specifies the number of times to try to send an event to a user. If this number is exceeded, the user is considered unreachable.

sslEnabled

Default Value: `0` (zero)
Value Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Controls whether the communication between the Adapter and the clients is secure.

- If the value of this option is set to `0`, the communication is not secure.
- If the value of this option is set to `1`, the communication is secure.

sslProtocol

Default Value: `SSLv3`
Valid Values: Any valid SSL protocol name. An empty value is not allowed.
Must restart: Yes

Must set: No

Specifies the name of the requested Secure Socket layer (SSL) protocol.

trustStore

Default Value: `<empty>`
Valid Values: Any valid path to the file
Must restart: Yes
Must set: No

Specifies the file name of the `keystore` with certificates that should be used for the authentication to a remote socket peer when:

- Client authentication is needed.
- The Adapter stands as a client for SAP (events sending).

> **Note:** Consult the Java 2 SDK documentation for the default `keystore` location if the `trustStore` option is not specified, if it is empty, or if the specified `keystore` does not exist.

trustStorePassword

Default Value: No default value
Valid Values: Any valid truststore password
Must restart: Yes
Must set: Yes (If `GPMC_HTTP\sslEnabled` is set to `1`—On)

Specifies the password to the `keystore` with certificates for authenticating a remote socket peer.

GPMC_Outbound Configuration Section

Use the options in the `GPMC_Outbound` section to configure the Adapter for Outbound voice functionality.

automaticWrapUpMode

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies whether or not automatic wrap-up mode is set for all outbound calls without affecting non-outbound calls. This option is ignored if the value of the `automaticWrapUpMode` option in the `GPMC_Voice` section is set to `1`, because the wrap-up is started for any call.

- If the value of this option is set to `0` (zero), the automatic wrap-up mode is not applied to outbound calls (`GPMC_Voice\automaticWrapUpMode`) and any manual wrap-up requests are processed as usual).
- If the value of this option is set to `1`, the wrap-up is applied to outbound calls.

Note: The value specified for this option overrides the value set for the `automaticWrapUpMode` option (in the `GPMC_Voice` section) for outbound calls.

defaultCallResult

Default Value: `28`
Valid Values: Any positive integer greater (`>`) than or equal (`=`) to `0` (zero)
Must restart: Yes
Must set: No

Specifies the call result value, set for outbound calls, after it is processed by the agent. This value is used only if the agent did not specifically set the call result value.

Note: For a complete list of valid call results, see *Table 123* in the *Outbound Contact 8.1 Reference Manual*.

defaultCallTreatment

Default Value: `0` (zero)
Valid Values:
`0`—no treatment
`1`—personal treatment
`2`—campaign treatment
Must restart: Yes
Must set: No

Specifies the treatment value that is set for outbound calls after they are processed by the agent. This value is used in the `RecordProcessed` request that is sent when the `ENDED/NOT IN PROCESS` interaction is completed.

- If the value of this option is set to `0` (zero), the treatment attribute is not added to the `RecordProcessed` request.
- If the value of this option is set to `1`, the treatment attribute is added to the `RecordTreatPersonal` request.
- If the value of this option is set to `2`, the treatment attribute is added to the `RecordTreatCampaign` request.

releaseOnReschedule

Default Value: `0` (zero)
Valid Values:

1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the rescheduled call is released after the reschedule operation is completed.

- If the value of this option is set to 1, the call is not released after the reschedule operation, and remains in an active state.
- If the value of this option is set to 0 (zero), the rescheduled call is released (if it is active/connected) just after the reschedule operation is confirmed.

wrapUpForNonAnsweredCall

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Controls the execution of automatic wrap-up mode for non-answered outbound calls.

This option is ignored if the wrapUpForNonAnsweredCall configuration option value (in the GPMC_Voice section) is set to 1, because the wrap-up mode is started for any call.

- If the value of this option is set to 0 (zero), there is no wrap-up. The non-answered call is switched directly to the Not In Process state.
- If the value of this option is set to 1, the non-answered call is switched to the Wrap-Up state.

Note: The value specified for this option overrides the value of the wrapUpForNonAnsweredCall configuration option (in the GPMC_Voice section) for outbound calls.

GPMC_Server Configuration Section

Use the options in the GPMC_Server section to configure the Adapter to work with the G*plus* Multi-Channel server.

eventProcessingTime

Default Value: 600000
Valid Values: Any positive integer greater (>) than or equal (=) to 10000
Must restart: No
Must set: No

Specifies the amount of time (in milliseconds) to wait for the expected status on an interaction.

eventProcessingThreads

Default Value: `15`
Valid Values: Any positive integer greater (>) than `1` and less (<) than `5000`, inclusively
Must restart: Yes
Must set: No

Specifies the number of threads that are processing events from Genesys servers, such as T-Server or Interaction Server.

processingThreads

Default Value: `30`
Valid Values: Any positive integer greater (>) than `1` and less (<) than `5000`, inclusively
Must restart: Yes
Must set: No

Specifies the number of threads that will process an agent's requests.

subscriptionTime

Default Value: `1800000`
Valid Values: Any positive integer greater (>) than or equal (=) to `100000`
Must restart: No
Must set: No

Specifies the amount of time (in milliseconds) that the agent's session is kept open, if it is not used. After the time expires, the `IciEvent_subscriptionEnded` event is triggered, and the agent's session is closed.

`Notes:`
- The Adapter closes an inactive session within one to two inactivity periods.
- Genesys recommends that you set this option to a value greater (>) than or equal (=) to `1800000`.

---

unsubscribeOnEventFault

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Configures the session behavior and specifies whether the session is closed when SAP returns the SOAP (Simple Object Access Protocol)-Fault response for the Adapter event.

- If the value of this option is set to 0 (zero), the session is not closed if SAP returns the SOAP-Fault response for the Adapter event.
- If the value of this option is set to 1, the session is closed if SAP returns the SOAP-Fault response for the Adapter event.

unsubscribeOnHttpFault

Default Value: 0 (zero)
Valid Values:

- 0—Ignore
- 1—Remove subscription
- 2—Remove agent session

Must restart: No
Must set: No

Configures the session behavior and determines whether the session or subscription is closed when SAP returns a http-fault response (all HTTP codes except 200, 201, and 202) from Adapter events. The http-fault response from SAP for Adapter events generally means that the agent session/resource subscription was closed on the SAP-side without sending a notification to the Adapter.

- If the value of this option is set to 0 (zero), the Adapter retries sending the event. The number of tries is configured by the sendAttempts option.
- If the value of this option is set to 1, the subscription for a specific resource (that is, the resource for the subscription that it was issued for) is unsubscribed.
- If the value of this option is set to 2, the agent session is closed. All subscriptions for this specified agent are unsubscribed.

GPMC_Voice Configuration Section

Use the options in the GMPC_Voice section to configure the telephone parameters.

allowDTMF

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Enables the sendDTMF capability for phone calls. This option is necessary in order to support older versions of SAP WC (before 5.1), which do not have the sendDTMF capability.

- If the value of this option is set to 0, this option hides the sendDTMF capability.
- If the value of this option is set to 1, this option shows the sendDTMF capability.

allowWrapUpForConsultCalls

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether the Adapter allows an agent to have a wrap-up time period as the post-call activity on each call within a consultation call pair.

- If the value of this option is set to 0 (zero), the Adapter rejects an agent's request to have wrap-up time for a consultation call, if the agent has the active device on a call-paired consultation call.
- If the value of this option is set to 1, the Adapter allows an agent's request for wrap-up time for each call within a consultation call.

> Note: Ensure that your SAP system supports this behavior.

allowWrapUpForInternalCalls

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether the Adapter allows an agent to have a wrap-up time period as the post-call activity on internal calls (calls that take place within the contact service center).

- If the value of this option is set to 0, the Adapter rejects an agent's request for wrap-up time after an internal call is completed.
- If the value of this option is set to 1, the Adapter allows an agent's request for wrap-up time after an internal call is completed.

autoAnswerInHold

Default Value: 1
Valid Values:

1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter automatically answers the EventRinging event that is received from T-Server for the call on hold. This behavior is specific to the Siemens HiCom 300/HiPath 4000 CSTA I switch.

Note: Genesys recommends that you leave the value of this option unchanged.

automaticWrapUpMode

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Specifies the Adapter's wrap-up mode:

- If the value of this option is set to 0, the wrap-up mode must be requested manually.
- If the value of this option is set to 1, the wrap-up mode is automatic for all calls.The Adapter initiates the wrap-mode for any call that is automatically released.

Note: Use the value 1 for backward compatibility only, as it can cause problems with free-seating functionality.

enableNAT

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Enables or disables the network-attended operation for the entire application.

endWrapUponReady

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter automatically ends all voice calls in the `Wrap-Up` state when the agent is switched to the `Ready` work mode.

forceChangeWorkmodeRequest

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Controls the processing of the `setCurrentWorkmode` request when the requested work mode is equal to the current work mode on the DN.

- If the value of this option is set to `1`, the request is sent to T-Server and the event notification is sent to the SAP side after the corresponding event is sent from T-Server (or after the specified `timeout` time interval lapses).
- If the value of this option is set to `0`, the event notification is immediately sent to the SAP side.

`Note:` This option *only* applies to voice media.

---

processWrapUpAsACW

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies the value that the `AgentWorkMode` parameter sends to T-Server for a `NotReady - Wrap Up` request.

- If the value of this option is set to `0`, the `AgentWorkModeUnknown` parameter is sent as a value of `TAgentWorkMode`.
- If the value of this option is set to `1`, the `AgentAfterCallWork` parameter is sent as a value of `TAgentWorkMode`.

`Note:` This option applies to `ICIUser_setCurrentWorkmode (WrapUp(4))` requests sent from SAP to Genesys only.

---

rerouteDirectCallAddress

Default Value: `<empty>`
Valid Values: Any string that matches the name of an existing voice queue or any valid DN on the Adapter connections' switch
Must restart: Yes
Must set: No

Specifies the queue for redirecting an agent's direct calls, in the event of call rejection.

Note: The SAP IC WebClient enables agents to reject calls. However, your switch might not support this functionality. Be sure to assess your T-Server's capabilities before attempting to use this feature.

rerouteQueueCallAddress

Default Value: `<empty>`
Valid Values: Any string that matches the name of an existing voice queue or any valid DN on the Adapter connections' switch
Must restart: Yes
Must set: No

Specifies the DN for redirecting an agent's call that arrives from the queue, in the event of a call rejection.

Note: The SAP IC WebClient enables agents to reject calls. However, your switch might not support this functionality. Be sure to assess your T-Server's capabilities before attempting to use this feature.

switchToReadyAfterWrapUp

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies how the Adapter calculates the work mode that is automatically restored after the wrap-up time.

- If the value of the option is set to `0`, the Adapter restores the last requested work mode after the wrap-up time.
- If the value of the option is set to `1`, the Adapter switches the agent to the `Ready` state after the wrap-up time.

wrapUpForNonAnsweredCall

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies whether it is possible to request the `wrap-up` mode for unanswered calls (calls that were finished, without being connected, in the `Alerting` or `Dialing` states).

- If the value of the option is set to `0`, the Adapter does not allow wrap-up time for a call that was not established.
- If the value of the option is set to `1`, the Adapter allows wrap-up time for a call released at any stage.

wrapUpOnCall

Default Value: `0 (zero)`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies when the work mode on the `WrapUp` request is changed.

- If the value of the option is set to `0`, the work mode is changed to `NotReady WrapUp` immediately after the call goes to the `Ended` state.
- If the value of the option is set to `1`, the work mode immediately changes to `NotReady WrapUp` during the `WrapUp` request processing.

license Configuration Section

Use the options in the `license` configuration section to configure the Genesys License Server parameters.

attempts-interval

Default Value: `5`
Valid Values: Any positive integer
Must restart: No
Must set: No

Specifies the time interval (in seconds) between two successive connection attempts.

attempts-max

Default Value: `10`
Valid Values: Any positive integer
Must restart: No
Must set: No

Specifies the maximum number of successive connection attempts to the License Server, before an exception is triggered.

license-file

Default Value: `license.dat`
Valid Value: A valid path to the file in which the licenses or the address of the license server resides in the `<port>@<host>` format
Must restart: Yes
Must set: Yes

Holds the addresses of the `Flexlm` license servers.

log Configuration Section

Use the options in the `log` configuration section to configure the Adapter traces.

CADFilter

Default Value: `<empty>`
Valid values: Any valid string or comma-separated list of strings
Must restart: Yes
Must set: No

Contains the key patterns in order to remove the `CADFilter` keys. You can use the `*` (asterisk) symbol as a replacement for `0` (zero) or more symbols as a part of the `CADFilter` key.

console

Default Value: `info`
Valid Values: `false, debug, info, warn, error, fatal`
Must restart: No
Must set: No

Specifies the level and size of traces to display on the standard output.

file

Default Value: `info, gpmcadapter.log, 10MB, 20, zip`
Valid Values:

`<file name>`:	The correct path to a file name
`<level>`:	`false`, `debug`, `info`, `warn`, `error`, `fatal`
`<max file size>`:	The maximum file size, in megabytes (MB)
`<max file number>`:	The number of files for the rolling logs
`[zip]`:	To get compressed log files

Must restart: No
Must set: No

Specifies what is written to the log file and determines the detail of the traces that you have selected.

filter

Default Value: `info, 5000`
Valid Values:

`<level>`: `false, debug, info, warn, error, fatal`

`<number>`: Any positive integer in range from 200 to- 10,000

Must restart: No
Must set: No

Specifies the level of trace to be buffered for internal purposes.

hideAIL

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Shows or hides the AIL log.

- Shows the AIL log, if the value of this option is set to `0` (zero).
- Hides the AIL log, if the value of this option is set to `1`.

msgServerAILIncluded

Default Value: `0 (zero)`
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Specifies the application scope for writing in the Message Server log.

- If the value of this option is set to `1`, messages from both AIL and the Adapter are logged to the Message Server.
- If the value of this option is set to `0 (zero)`, only messages from the Adapter are logged to the Message Server.

msgServerVerbose

Default Value: No default value
Valid Values: `all, debug, trace, interaction, standard, none`
Must restart: No

Must set: No

Specifies the verbose level for writing in the Message Server log.

Note: For details, see the "Log Options" section in the *Framework Configuration Options Reference Manual*.

ShowCADInLog

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Shows or hides the call-attached data (CAD) in the Adapter's log.

- Hides the CAD in the Adapter's log, if the value of this option is set to 0 (zero).
- Shows the CAD in the Adapter's log, if the value of this option is set to 1.

multimedia Configuration Section

Use the option in the multimedia configuration section to configure the Adapter's multimedia functionality.

email-address-rfc822-strict

Default Value: false
Valid Value: true, false
Must restart: No
Must set: No

Specifies whether AIL checks if the e-mail addresses of an interaction complies with the RFC-822 standard for the format of ARPA Internet text messages.

network Configuration Section

Use the option in the network configuration section to configure the network-attended operations. The Adapter supports the following network-attended operations: consult, alternate, reconnect, transfer, and conference.

Note: These options are supported by the AIL library. For details, see the *Interaction SDK Java Deployment Guide.*

alternate-locations

Default Value: None

Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network alternate operation is enabled.

confererence-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network complete conference operation is enabled.

consult-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network consult operation is enabled.

reconnect-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network reconnect operation is enabled.

single-step-transfer-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network single-step transfer operation is enabled.

transfer-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network transfer operation is enabled.

settings Configuration Section

Use the option in the `settings` configuration section to configure the attached data behavior.

enable-attached-data-byte-array

Default Value: `true`
Valid Values: `true, false`
Must restart: No
Must set: No

Specifies the conversion method for binary data in ESP requests and responses.

- If the value of this option is set to `true`, the AIL/Adapter converts binary data from a request to an array of bytes (`byte[]`) and expects an array of bytes in return.
- If the value of this option is set to `false`, the AIL/Adapter converts binary data to an `ArrayList` of objects with class `Byte` and expects an `ArrayList` of objects in return.

See Appendix C on page 217 for details.

enable-attached-data-multi-valued-key

Default Value: `false`
Valid Values: `true, false`
Must restart: No
Must set: No

Manages the use of duplicate keys in attached data.

- If the value of this option is set to `false`, you must have unique keys in the attached data.
- If the value of this option is set to `true`, you can have duplicate keys in the attached data.

voice Configuration Section

Use the option in the `voice` configuration section to configure the telephone parameters.

a4400-custom-substitute-mode

Default Value: `true`
Valid Values: `true, false`
Must restart: No
Must set: No

Use this option to customize substitute behavior. This option affects the way that the Adapter handles messages (events) received by T-Server and can override T-Server's `agent-substitute` option. Check the appropriate Deployment Guide for your specific T-Server for more information about the `agent-substitute` option.

Important: This option must be set to `false` in order to work with the Alcatel A4400 OXE switch.

database

Default Value: `all`
Valid Values: `all, external, none`
Must restart: No
Must set: No

Specifies the use of the database for voice calls.

- If the value of this option is set to `all`, all voice calls use the database.
- If the value of this option is set to `external`, internal calls do not use the database.
- If the value of this option is set to `none`, no voice calls use the database.

dms-last-digits

Default Value: `-1`
Valid Values: Any positive integer
Must restart: No
Must set: No

Specifies how many digits are to be kept at the end of a DN number. For example, if the DN number is `1001234567`, and this option is set to `4`, the DN is `4567`.

If the value of this option is set to `-1`, or if the resulting transformation does not provide a correct DN number, the entire DN number is used.

`Note`: This option is used for the Nortel Communication Server 2000/2100 (DMS 100) switch only.

---

enable-all-routing-events

Default Value: `false`
Valid Values: `true, false`
Must restart: No
Must set: No

Specifies whether all events are sent to the `RoutingInteraction Listeners`.

- If the value of this option is set to `false`, only `NEW`, `IDLE`, and `INFO-CHANGES` events are sent.
- If the value of this option is set to `true`, all events are sent.

enable-attached-data-for-transfer

Default Value: `true`
Valid Values: `true, false`
Must restart: No
Must set: No

Manages the attachment of `GD_*` data when transferring a phone call.

enable-possible-changed-event

Default Value: `false`
Valid Values: `true, false`
Must restart: No
Must set: No

Specifies whether AIL delivers events (fake possible changed events generated in AIL) to the Adapter.

- If the value of this option is set to `true`, events are delivered to the Adapter.
- If the value of this option is set to `false`, events are not delivered to the Adapter.

> `Note:` This option must be set to `false`. The value `true` is *not* supported in the current release of the Adapter.

Setting the Adapter Configuration Options for the 8.0.1 Adapter

Unless specified otherwise, set the Adapter configuration options in the `Options` tab of the `Application` object using the following navigation path:

In Genesys Adminstrator—`Application` object > `Options` tab > `Advanced View (Options)`

In Configuration Manager—`Application` object > `Properties` dialog box > `Options` tab.

A *Yes* as the "Must restart" value indicates that you must restart the Adapter after changing the option. A *Yes* as the "Must set" value indicates an option that you *must* configure in order for the Adapter to function properly. For all other configuration options, you can accept the default values or adjust them later, according to your needs.

> `Note:` All option names and values are case sensitive; therefore, make sure that you use the correct case.

For ease of reference, the configuration options have been arranged in alphabetical order within their corresponding configuration sections in the Adapter's `Application` object:

call-number-translator Configuration Section

Use the options in the `call-number-translator` section to control the settings for phone number dialing codes.

`Notes:`
- SAP has its own method for number translation and optimization. Usually, you will not want to use both the SAP and G*plus* Adapter implementations of number- optimization together, but you may do so if the need arises.
- The Adapter and SAP use similar settings for number translation (such as country- code, extension length, and so on). Genesys recommends keeping consistency between such settings in both SAP and the Adapter.

---

area-code

Default Value: `415`
Valid Values: Any valid string of digits
Must restart: No

Must set: No

Specifies the area code.

base-number

Default Value: `913`
Valid Values: Any valid string of digits
Must restart: No
Must set: No

Specifies the common number before an extension number.

country-code

Default Value: `1`
Valid Values: Any valid string of digits
Must restart: No
Must set: No

Corresponds to the `Country` attribute of the SAP site definition, (for example, transaction `SPHB`).

extension-length

Default Value: `4`
Valid Values: Any positive integer greater (>) than `0` and less (<) than `9999`, inclusively
Must restart: No
Must set: No

Specifies the number of digits in the extension number. This option also corresponds to the extension length in the SAP site definition—for example, transaction `SPHB`.

idd

Default Value: `011`
Valid Values: Any valid string of digits
Must restart: No
Must set: No

Specifies the international direct dialing (IDD) prefix for this country, (for example, `011` for the United States, `8-10` for Russia, and so on.)

inbound-optimization

Default Value: `disabled`
Valid Values: `disabled, extension, national, canonical`
Must restart: No
Must set: No

Specifies the type of Inbound call number optimization that the Adapter performs:

- If the value is `disabled`, no optimization is performed.
- If the value is `extension`, only the extension number is transmitted to the SAP system (according to the value of the `extension-length` option).
- If the value is `national`, the automatic number identification (ANI) that is transmitted to the SAP system will not contain an international prefix and country-code, if they are the same as those defined in the Adapter options.
- If the value is `canonical`, ANI is presented as:

  `+{country-code}{area-code}{base-number}XYZ`,

  where `XYZ` is the extension number.

`Note:` The optimization is processed before the outbound/inbound prefix treatment. Usually, the inbound prefix treatment should not be set if the incoming call optimization is enabled.

---

inbound-prefix

Default Value: `<empty>`
Valid Values: Any valid string value
Must restart: No
Must set: No

Specifies the prefix that the Adapter removes from ANI numbers provided by T-Server, before sending the information to the SAP system.

This prefix may be used when there is a discrepancy between the number saved and used for searching in the SAP system, and the number given by the telephony system. (for example, `00331234567890 <-> 1234567890`)

If no value is present or set, no action is taken on the incoming number.

inbound-prefix-remove-first

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Specifies if the prefix should be removed before the incoming number optimization (if enabled), or afterwards.

- If the value of this option is set to `1`, the Adapter specifies that the prefix (defined by the `inbound-prefix` option) be removed prior to the inbound number being used in the Genesys-to-SAP conversion.
- If the value of this option is set to `0` (zero), the removal of the prefix takes place after the conversion finishes.

internal-phone-numbers

Default Value: `configserver`
Valid Values: Any valid string or a comma-separated list of strings
Must restart: No
Must set: No

Specifies patterns of phone numbers that are treated as internal and to which outbound optimization is not applied.

The following four types of definitions are allowed:

- Particular numbers—for example: `1000`, `2378`.
- Range of numbers (intervals)—for example: `1000-1020`. Any number in the range is treated as an internal number.
- Patterns—For example: `20??`. Any four-digit number starting from `20` to `???` (any three-digits number).
- configserver—A constant that specifies that the Adapter must check the DN that is configured in Configuration Server. If the number matches the configured DN, it is treated as an internal number.

ndd

Default Value: `1`
Valid Values: Any string of digits
Must restart: No
Must set: No

Specifies the national direct dialing (NDD) prefix, (for example, `1` for the United States, `8` for Russia, and so on).

outbound-idd-substitute

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No
Specifies if the international direct dialing (IDD) prefix of the outbound call number is substituted or not.

- If the value of this option is set to `1`, the Adapter substitutes the leading plus sign (+) sign with the value of the international direct dialing (`idd`) prefix.
- If the value of this option is set to `0` (zero), the Adapter does not replace the value of the `idd` prefix.

outbound-optimization

Default Value: `0` (zero)
Valid Values:

1—On
0—Off
Must restart: No
Must set: No

Specifies the type of outbound call number optimization that the Adapter performs.

- If the value of this option is set to 1, the country-code and/or local-area-code is removed from the number to dial if they are the same as those defined in the Adapter's options.
- If the value of this option is set to 0 (zero), no optimization is performed.

outbound-prefix

Default Value: <empty>
Valid Values: Any valid string
Must restart: No
Must set: No

Specifies the prefix that the Adapter adds on to numbers provided by the SAPphone for outbound dialing, before sending the information to the T-Server.

This prefix may be used when there is a discrepancy between the number saved and used in the SAP system and the number the telephony system requires—for example, 1234567890 <-> 0033123456789.

If no value is present or set, no action is taken on the number to dial.

outbound-remove

Default Value: ( )-
Valid Values: Any valid string
Must restart: No
Must set: No

Specifies the characters to be removed from the dialed string before any other processing activity.

dn-at-switch Configuration Section

Use the option in the dn-at-switch section to configure the Adapter to work in a multiple-switch environment.

enabled

Default Value: false
Valid Value: true, false
Must restart: No
Must set: Yes

Used when there are several DNs with identical IDs declared on the different switches in the same configuration.

For example—`DN 103's ID` on the switch `Xswitch` becomes `103@Xswitch`.

> `Warning!` You must not edit this option during runtime. Editing this option leads to a malfunction with the voice channel, and you will need to restart the Adapter.

GPMC_ActionItems Configuration Section

Use the options in the `GPMC_ActionItems` section to configure the Adapter to work with the media routing functionality.

> `Note:` This section must be configured if you use the Adapter with G*plus* Media Routing for SAP 8.0.x component. If you are not using this component, configure the `available` option in the `GPMC_ActionItems` configuration section with a value of `0` (zero). All other options in this section can be ignored.

agent

Default Value: `WF-BATCH`
Valid Values: Any non-empty string value
Must restart: Yes
Must set: No

Specifies the name of the server agent from which the server request for queuing `ActionItem` interactions is sent. The name of the server agent must not coincide with any agent name in the Configuration Database.

> `Note:` An agent with a corresponding name must exist in Configuration Manager.

autoAnswer

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Enables automatic answering for open media when an agent is in the Ready state. If the value of this option is set to 1, the agent does not have to click the Answer button to answer an open media message.

Note: The value you specify for this configuration option overrides any value specified for an option set at the agent-level on the Annex tab of the Person configuration object.

---

available

Default Value: 0 (zero)
Valid Values:
0—Off
1—Default off
2—Default on
Must restart: Yes
Must set: No

Specifies whether an agent is able to work with the ActionItem channel. See “Configuring the Agent Channels” on page 155.

- If the value is 0 (zero), the ActionItem channel is turned off (the agent settings are discarded).
- If the value is 1, the ActionItem channel is turned off for all agents, unless it is explicitly turned on for a particular agent.
- If the value is 2, the ActionItem channel is turned on for all agents, unless it is explicitly turned off for a particular agent.

inbox

Default Value: action
Valid Values: Any non-empty string value
Must restart: No
Must set: No

Specifies the name of the ActionItem container.

iWDURL

Default Value: http://localhost:80
Valid Values: A valid URL to an iWD capture point
Must restart: Yes
Must set: Yes

Specifies the endpoint URL to which iWD Capture Point is listening. For example, `http://host:port/path?WSDL`.

> **Note:** This option is mandatory, if the value of the `available` configuration option does not equal `0 (off)` and the `routingService` configuration option is set to `iWD`. You can configure both options in the `GPMC_ActionItems` section of the Adapter's `Application` object.

mediaType

Default Value: `ActionItem`
Valid Values: Any string with the name of a valid media type configured in the Configuration Server options
Must restart: Yes
Must set: No

Specifies the media type for the Open Media interactions that the Adapter works with. The media type must be the primary setting in Configuration Server.

queue

Default Value: `Action queue`
Valid Values: Any valid string
Must restart: Yes
Must set: Yes (An existing queue if the `GPMC_ActionItem\available` option does not equal `0`—Off)

Specifies the name of the queue where the `ActionItem` requests are submitted as a result of the queuing requests.

> **Note:** The queue must exist in the eServices (formerly Multimedia) solution, if the Media Routing component is used and the value of the `available` option in the `GPMC_ActionItems` section of the Adapter's `Application` object does not equal `0` (zero)—off.

routingService

Default Value: `IS`
Valid Values:
`IS`—Interaction Server
`iWD`—intelligent Workload Distribution
Must restart: Yes
Must set: No

Specifies the solution that is used to submit interaction information for routing.

- If this option value is set to `IS`, routing is performed through Interaction Server directly.

- If this option value is set to `iWD`, routing is performed through intelligent Workload Distribution (iWD).

GPMC_Addon Configuration Section

Use the options in the `GPMC_Addon` section to configure the Administrative Tool add-on.

gpAdmin

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Enables/disables the support of interactions with the G*plus* Administrative Tool.

> `Note`: Interaction with G*plus* Administrative Tool is supported only after this option value is set to `1` and the Adapter is restarted.

gpAdminPort

Default Value: `9999`
Valid Values: Any integer greater (>) than `0` (zero) and less than (<) `65535`, inclusively
Must restart: Yes
Must set: No

Specifies the number of ports that the Adapter can use to service Java Management Extensions (JMX) messages from the G*plus* Administrative Tool.

GPMC_Chat Configuration Section

Use the options in the `GPMC_Chat` section to configure the Adapter for chat functionality.

available

Default Value: `0` (zero)
Valid Values:
`0`—Off
`1`—Default off
`2`—Default on
Must restart: Yes
Must set: No

Specifies whether or not an agent can work with the chat channel. For details, see “Configuring the Agent Channels” on page 155.

autoAnswer

Default Value: `0` (zero)
Valid Values: `0`, `1`
Must restart: Yes
Must set: No
Enables automatic answering for chat interactions when the agent is in the `Ready` state. If the value of this option is set to `1`, the agent does not have to click the `Answer` button to answer a chat conversation.

`Note`: The value you specify for this configuration option overrides any value specified for an option set at the `agent`-level on the `Annex` tab of the `Person` configuration object.

---

enableWrapUp

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter allows wrap-up time for chat sessions.

- If the value of this option is set to `0` (zero), wrap-up time for chat sessions are not allowed.
- If the value of this option is set to `1`, wrap-up time for chat sessions are allowed.

fakeCustomerDomain

Default Value: `unknown.customer`
Valid Values: Any valid e-mail server domain name
Must restart: Yes
Must set: No

Specifies the fake domain that is used as part of a fake e-mail address that is employed when the customer does not purposely specify their own e-mail address. The chat channel is identified by the customer's e-mail and will not work without a specified e-mail address.

For example, if an unknown customer’s nickname is *John*, the customer is identified as `John@unknown.customer`.

sendTranscript

Default Value: `0` (zero)

Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter sends the transcript to the customer after the chat session has ended.

- If the value of this option is set to 0 (zero), the Adapter does not send the transcript.
- If the value of this option is set to 1, the Adapter sends the transcript.

showSystemMessages

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter includes the system messages in the IciChatSession_getDialogResponse and IciEvent_chatNewPosting chat session transcripts.

- If the value of this option is set to 0 (zero), the system messages are not included.
- If the value of this option is set to 1, the system messages are included.

transcriptQueue

Default Value: __STOP__
Valid Values: Any string that matches the name of an existing Interaction Server queue
Must restart: Yes
Must set: Yes (See notes)

Specifies the name of the queue where the Adapter places the chat interactions, if a transcript is sent to the customer after the chat session has ended.

Note:
- This option is mandatory and requires an existing queue, if the available configuration option in the GPMC_Chat section does not equal 0—Off.
- The transcriptQueue name must exist in the eServices (formerly Multimedia) solution.

GPMC_Common Configuration Section

Use the options in the `GPMC_Common` section to configure miscellaneous Adapter behavior and functionality.

agentEmailDomain

Default Value: No default value
Valid Values: Any valid e-mail server domain name
Must restart: Yes
Must set: Yes

Specifies the domain that is appended to the user ID to create a personalized e-mail for the contact center agent. This e-mail is reported to the SAP-side as an agent's e-mail. For example, if the user ID is `Agent_Smith`, and the option is `matrix.com`, the e-mail address that is sent to SAP is `Agent_Smith@matrix.com`.

`Note`: This option is mandatory and requires a valid domain name if the value of the `available` configuration option in the `GPMC_Chat` section on page 96 and/or the `GPMC_Email` section on page 96 does not equal `0 (off)`.

---

allowBlendedWorkmodes

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Enables or disables the blended work modes functionality.

- If the value is set to `0` (zero), this option specifies that blended work modes are disabled.
- If the value is set to `1`, this option specifies that blended work modes are enabled.

For more details see, Chapter 6 on page 141.

allowWorkOnLoggedInPlace

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies whether an agents can log in to a place that has logged-in DNs. See “Configuring Agent Login Control” on page 143.

- If the value is set to `0` (zero), a login on the place with logged-in DNs is not allowed, and an exception is thrown in the `getAttributes` response.
- If the value is set to `1`, a login on the place with logged-in DNs is allowed.

`Note`: Genesys recommends that you use the default value (`0` - zero) for this option. Use a value of `1` for backward compatibility.

---

emptyMediaInteractionLists

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Controls the execution of the `IciFolder_getMessages`, `IciChatLine_getSessions` and `IciActionItem_getItems` commands. Controlling the execution flow enables the following points:

- Optimizes the Adapter's performance.
- Prevents large response messages during agent login.

`Note`:
- If the value of this option is set to `1`, the Adapter returns a list of interactions available on the specified container as a response to the SAP request.
- If the value of this option is set to `0` (zero), the Adapter returns an empty list as a response to the SAP request.

---

genesysCADApplicationName

Default Value: `GENESYS-CAD`
Valid Values: Any valid non-empty string. An `<empty>` value is not allowed.
Must restart: No
Must set: No

Specifies the application `ID` that is used to store all the Genesys Call-Attached Data (CAD) into an `.XML` file that is sent to SAP. An empty value is not allowed.

For more details see, Appendix C on page 217.

logoutOnSessionDestruction

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: No

Must set: No

Enables or disables the automatic logout of agents while destroying all of the data associated with that agent session—for example, after the expiration of an agent session timeout.

- If the value of this option is set to `0` (zero), the Adapter does not automatically send a logout request.
- If the value of this option is set to `1`, the Adapter logs out an agent from every agent channel when ending an agent session.

sendReasonCodeInTExtensions

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies the container for the `NotReady` request's reason code.

- If the value of this option is set to `1`, the Adapter sends the reason code in the `TAgentSetNotReady` request's `Extensions` attribute.
- If the value of this option is set to `0` (zero), the reason code is sent in the `TAgentSetNotReady` request's `Reasons` attribute. (This is the default behavior).

workcenterIdType

Default Value: `0` (zero)
Valid Values: Any valid string or comma-separated list of strings
Must restart: Yes
Must set: No

Specifies the type of supported workcenter detection method to be used for seating (logon to SAP). See "Configuring Agent Seating" on page 141.

- If the value of this option is set to `0` (zero), there is no free seating. Therefore, the agent's default `Place` is considered the only workcenter.
- If the value of this option is set to `1`, the Workcenter ID is the fully qualified domain name —for example, `raptor.pal.sap.corp`
- If the value of this option is set to `2`, the Workcenter ID is the hostname—for example, `raptor`.
- If the value of this option is set to `3`, the Workcenter ID is the IP address—for example, `12.14.48.23`.
- If the value of this option is set to`100`, the agent manually enters the Workcenter ID.
- If the value of this option is set to`>100`, the Workcenter ID is unspecified.

GPMC_DTMF Configuration Section

Use the options in the GPMC_DTMF section to configure special DTMF codes—for example, the DTMF codes for starting and stopping the SIP recording. See, Appendix K, "SIP Voice Recording," on page 265 for more information.

GPMC_Email Configuration Section

Use the options in the GPMC_Email section to configure the Adapter for e-mail functionality.

autoAnswer

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: No
Must set: Yes

Enables the automatic answering for email interactions when an agent is in the Ready state. If the value of this option is set to 1, the agent does not have to click the Answer button to answer an e-mail message.

Note: The value you specify for this configuration option overrides any value specified for an option set at the agent-level on the Annex tab of the Person configuration object.

available

Default Value: 0 (zero)
Valid Values:
0—Off
1—Default off
2—Default on
Must restart: Yes
Must set: Yes

Controls whether the agent is able to work with the e-mail channel. See "Configuring the Agent Channels" on page 155.

draftQueue

Default Value: Draft queue
Valid Values: Any string that matches the name of an existing Interaction Server queue
Must restart: No
Must set: Yes (An existing queue if the GPMC_Email\available option does not equal 0—Off)

Specifies the name of the queue where all existing draft e-mails are stored.

Note: The `draftQueue` name must exist in the eServices (formerly Multimedia) solution.

draftWorkbin

Default Value: `Draft`
Valid Values: Any string that matches the name of an existing Interaction Server workbin
Must restart: No
Must set: Yes (An existing queue if the `GPMC_Email\available` option does not equal `0`—Off)

Specifies the workbin that is configured to obtain the interactions from the `draftQueue` option.

Note: The `draftWorkbin` name must exist in the eServices (formerly Multimedia) solution.

fakeEmailBox

Default Value: No default value
Valid Values: Any valid e-mail address
Must restart: Yes
Must set: Yes (A valid email address if the `GPMC_Email\available` option does not equal `0`—Off)

Specifies the fake e-mail address that is used during the initial e-mail creation that the Agent Interaction Layer (AIL) uses for sending e-mail messages.

Note: Genesys recommends using an internal e-mail address to prevent an e-mail from being mistakenly sent to an external address.

outboundQueue

Default Value: `Outbound queue`
Valid Values: Any string that matches the name of an existing Interaction Server queue
Must restart: No
Must set: Yes (An existing queue if the `GPMC_Email\available` option does not equal `0`—Off)

Specifies the name of the queue that e-mail is sent through.

Note: The `outboundQueue` name must exist in the eServices (formerly Multimedia) solution.

qaReviewRejectQueue

Default Value: No default value
Valid Values: Any string that matches the name of an existing Interaction Server queue or an empty string
Must restart: Yes
Must set: Yes (An existing queue name if the `GPMC_Email\available` option does not equal `0`—Off)

Defines the queue that is used to put QA review e-mails that are assigned to agents that work through the Adapter. If a queue name is not provided, the Adapter puts the QA review e-mails back into the original queue.

qaReviewSkillName

Default Value: No default value
Valid Values: Any valid skill name or empty string
Must restart: Yes
Must set: Yes (An existing skill name if the `GPMC_Email\available` option does not equal `0`—Off)

Stipulates that all outgoing e-mails from agents that have the specified skill set are sent for a QA review before they are sent out. If the value of this option is set with a valid skill name, then when an agent who is configured with that skill name, `level N`, sends an outbound e-mail and the following key-value pair is attached to the interaction: `GPlus_QAReviewSkill=N`. Use this key-value pair to route the interaction to a QA reviewer or to send the e-mail to a recipient.

`Note`: `N` is the skill level that is configured for the agent in Configuration Manager for the specified skill. Use the key-value pair to route the interaction to a QA reviewer or to send the e-mail to the recipient.

---

sharedEmailBox

Default Value: No default value
Valid Values: Any valid e-mail address
Must restart: Yes
Must set: Yes (A valid email address if the `GPMC_Email\available` option does not equal `0`—Off)

Specifies a list of e-mail addresses that are to be included in the agent's current queues.

showContentInEvent

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: Yes

Specifies whether the subject and message text is displayed in events.

- If the value of this option is set to `0` (zero), the subject and message text is not shown.
- If the value of this option is set to `1`, the subject and message text is shown.

substituteAgentAddress

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: Yes

Controls what is shown in the `From` and `Reply-To` fields of an e-mail from another agent.

- If the value of this option is set to `0` (zero), the `From` and `Reply-To` fields have the original values.
- If the value of this option is set to `1`, the `From` and `Reply-To` fields are replaced with the agent addresses.

transferEmailBox

Default Value: No default value
Valid Values: Any valid e-mail address
Must restart: Yes
Must set: Yes (A valid email address if the `GPMC_Email\available` option does not equal `0`—Off)

Specifies the external e-mail address that is used for sending e-mail messages from one agent to another.

`Notes:`
- The Genesys E-mail Server must be configured to receive messages from this e-mail address (in addition to the standard e-mail addresses used for receiving messages from customers).
- This e-mail address must be used in the strategy described in "Configuring E-Mail Routing Strategies" on page 165.
- To ensure that the eServices (formerly Multimedia) E-mail Server includes the transfer address from the `senders` list, the `pop-client` section must have an `address` value different from the address in the `transferEmailBox` option. See, Chapter 7 on page 161 for a description.

GPMC_HTTP Configuration Section

Use the options in the `GPMC_HTTP` section to configure the Adapter for Hypertext Transfer Protocol (HTTP) connections (including SSL and Proxy functionality).

backlog

Default Value: `4096`
Valid Values: Any numeric value greater (>) than or equal (=) to `4096`
Must restart: Yes
Must set: No

Specifies the maximum queue length for incoming HTTP connection indications (a request to connect). If a connection indication arrives when the queue is full, the connection is refused.

eventHTTPSendingThreads

Default Value: `15`
Valid Values: Any integer greater than `1` and less than `5000`, inclusively
Must restart: Yes
Must set: No

Specifies the number of threads that are processing HTTP requests.

keepAliveTimeout

Default Value: `30`
Valid Values: Any interger greater (>) than or equal (=) to `-1`
Must restart: Yes
Must set: No

Specifies the number of seconds that the Adapter will wait for a subsequent request before closing the connection. The timeout value specified by this option is applied once a request has been received. See “Keep-Alive Mode” on page 125.

- If this option is set to a value of `0` (zero), the Adapter uses an infinite `keepAlive` timeout value. Genesys does not recommend using this value.
- If this option is set to a value of `-1`, the Adapter closes the connection after processing the request.

keyStore

Default Value: No default value
Valid Values: Any valid path to the file
Must restart: Yes (If `GPMC_HTTP\sslEnabled` is set to `1`—On)
Must set: No

Specifies the file name of the Java KeyStore (JKS) repository with a private key and a matching public key. The security certificates are used to authenticate a connection to a remote socket peer.

Note: Consult the Java 2 Software Development Kit (SDK) documentation for the default `keyStore` location if the `keyStore` option is not specified, if it is empty, or if the specified `keystore` option does not exist.

---

keyStorePassword

Default Value: No default value
Valid Values: Any valid keystore password
Must restart: Yes (If `GPMC_HTTP\sslEnabled` is set to `1`—On)
Must set: No

Specifies the password to the `keystore` with the Adapter's public/private key pair.

proxyHost

Default Value: No default value
Valid Values: Any valid host
Must restart: Yes
Must set: No

Specifies the proxy server to which to connect for proxy services. If the value is left blank, the connection to the proxy is not established.

proxyPort

Default Value: `0` (zero)
Valid Values: Any integer greater (>) than `0` and less (<) than `9999`, inclusively
Must restart: Yes
Must set: No

Specifies the proxy server port to connect to for proxy services. If the value is less than (<) or equal (=) to `0` (zero), the connection to the proxy is not established.

proxyPassword

Default Value: No default value
Valid Values: Any valid string
Must restart: Yes
Must set: No

Specifies the password if the proxy server requires authentication.

proxyUsername

Default Value: No default value
Valid Values: Any valid string
Must restart: Yes
Must set: No

Specifies the user name if the proxy server requires authentication.

sendAttempts

Default Value: `3`
Valid Values: Any positive integer greater (>) then or equal (=) to `1`
Must restart: No

Must set: No

Specifies the number of times to try to send an event to a user. If this number is exceeded, the user is considered unreachable.

sslEnabled

Default Value: `0` (zero)
Value Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Controls whether the communication between the Adapter and the clients is secure.

- If the value of this option is set to `0`, the communication is not secure.
- If the value of this option is set to `1`, the communication is secure.

sslProtocol

Default Value: `SSLv3`
Valid Values: Any non-empty valid SSL protocol name.
Must restart: Yes
Must set: No

Specifies the name of the requested Secure Socket layer (SSL) protocol.

trustStore

Default Value: No default value
Valid Values: Any valid path to the file
Must restart: Yes
Must set: No

Specifies the file name of the `keystore` with certificates that should be used for the authentication to a remote socket peer when:

- Client authentication is needed.
- The Adapter stands as a client for SAP (events sending).

`Note`: Consult the Java 2 SDK documentation for the default `keystore` location if the `trustStore` option is not specified, if it is empty, or if the specified `keystore` does not exist.

---

trustStorePassword

Default Value: No default value
Valid Values: Any valid truststore password
Must restart: Yes
Must set: Yes (If `GPMC_HTTP\sslEnabled` is set to `1`—On)

Specifies the password to the keystore with certificates for authenticating a remote socket peer.

GPMC_Outbound Configuration Section

Use the options in the GPMC_Outbound section to configure the Adapter for Outbound voice functionality.

automaticWrapUpMode

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not automatic wrap-up mode is set for all outbound calls without affecting non-outbound calls. This option is ignored if the value of the automaticWrapUpMode option in the GPMC_Voice section is set to 1, because the wrap-up is started for any call.

- If the value of this option is set to 0 (zero), the automatic wrap-up mode is not applied to outbound calls (GPMC_Voice\automaticWrapUpMode) and any manual wrap-up requests are processed as usual).
- If the value of this option is set to 1, the wrap-up is applied to outbound calls.

Note: The value specified for this option overrides the value set for the automaticWrapUpMode option (in the GPMC_Voice section) for outbound calls.

defaultCallResult

Default Value: 28
Valid Values: Any positive integer greater (>) than or equal (=) to 0 (zero)
Must restart: Yes
Must set: No

Specifies the call result value, set for outbound calls, after it is processed by the agent. This value is used only if the agent did not specifically set the call result value.

Note: For a complete list of valid call results, see *Table 123* in the *Outbound Contact 8.1 Reference Manual*.

defaultCallTreatment

Default Value: 0 (zero)

Valid Values:
0—no treatment
1—personal treatment
2—campaign treatment
Must restart: Yes
Must set: No

Specifies the treatment value that is set for outbound calls after they are processed by the agent. This value is used in the RecordProcessed request that is sent when the ENDED/NOT IN PROCESS interaction is completed.

- If the value of this option is set to 0 (zero), the treatment attribute is not added to the RecordProcessed request.
- If the value of this option is set to 1, the treatment attribute is added to the RecordTreatPersonal request.
- If the value of this option is set to 2, the treatment attribute is added to the RecordTreatCampaign request.

releaseOnReschedule

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the rescheduled call is released after the reschedule operation is completed.

- If the value of this option is set to 1, the call is not released after the reschedule operation, and remains in an active state.
- If the value of this option is set to 0 (zero), the rescheduled call is released (if it is active/connected) just after the reschedule operation is confirmed.

wrapUpForNonAnsweredCall

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Controls the execution of automatic wrap-up mode for non-answered outbound calls.

Note: The value specified for this option overrides the value of the `wrapUpForNonAnsweredCall` configuration option (in the `GPMC_Voice` section) for outbound calls.

This option is ignored if the `wrapUpForNonAnsweredCall` configuration option value (in the `GPMC_Voice` section) is set to `1`, because the wrap-up mode is started for any call.

- If the value of this option is set to `0` (zero), there is no wrap-up. The non-answered call is switched directly to the `Not In Process` state.
- If the value of this option is set to `1`, the non-answered call is switched to the `Wrap-Up` state.

GPMC_Server Configuration Section

Use the options in the `GPMC_Server` section to configure the Adapter to work with the G*plus* Multi-Channel server.

eventProcessingTime

Default Value: `600000`
Valid Values: Any positive integer greater (`>`) than or equal (`=`) to `10000`
Must restart: No
Must set: No

Specifies the amount of time (in milliseconds) to wait for the expected status on an interaction.

eventProcessingThreads

Default Value: `15`
Valid Values: Any positive integer greater (`>`) than `1` and less (`<`) than `5000`, inclusively
Must restart: Yes
Must set: No

Specifies the number of threads that are processing events from Genesys servers, such as T-Server or Interaction Server.

processingThreads

Default Value: `30`
Valid Values: Any positive integer greater (`>`) than `1` and less (`<`) than `5000`, inclusively
Must restart: Yes
Must set: No

Specifies the number of threads that will process an agent's requests.

subscriptionTime

Default Value: 1800000
Valid Values: Any positive integer greater (>) than or equal (=) to 100000
Must restart: No
Must set: No

Specifies the amount of time (in milliseconds) that the agent's session is kept open, if it is not used. After the time expires, the IciEvent_subscriptionEnded event is triggered, and the agent's session is closed.

Notes:
- The Adapter closes an inactive session within one to two inactivity periods. See, Appendix L, "Session Clean-Up," on page 271 for more information.
- Genesys recommends that you set this option to a value greater than or equal to 1800000.

unsubscribeOnEventFault

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Configures the session behavior and specifies whether the session is closed when SAP returns the SOAP (Simple Object Access Protocol)-Fault response for the Adapter event.

- If the value of this option is set to 0 (zero), the session is not closed if SAP returns the SOAP-Fault response for the Adapter event.
- If the value of this option is set to 1, the session is closed if SAP returns the SOAP-Fault response for the Adapter event.

unsubscribeOnHttpFault

Default Value: 0 (zero)
Valid Values:

- 0—Ignore
- 1—Remove subscription
- 2—Remove agent session

Must restart: No
Must set: No

Configures the session behavior and determines whether the session or subscription is closed when SAP returns a http-fault response (all HTTP codes except 200, 201, and 202) from Adapter events. The http-fault response from SAP for Adapter events generally means that the agent session/resource

subscription was closed on the SAP-side without sending a notification to the Adapter.

- If the value of this option is set to `0` (zero), the Adapter retries sending the event. The number of tries is configured by the `sendAttempts` option.
- If the value of this option is set to `1`, the subscription for a specific resource (that is, the resource for the subscription that it was issued for) is unsubscribed.
- If the value of this option is set to `2`, the agent session is closed. All subscriptions for this specified agent are unsubscribed.

GPMC_Voice Configuration Section

Use the options in the `GMPC_Voice` section to configure the telephone parameters.

allowDTMF

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Enables `send DTMF` capability for phone calls. This option is necessary in order to support older versions of SAP WC (before 5.1), which do not have the `send DTMF` capability.

- If the value of this option is set to `0`, this option hides the `send DTMF` capability.
- If the value of this option is set to `1`, this option shows the `send DTMF` capability.

autoAnswer

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Enables automatic answering for voice calls when an agent is in the Ready state. If the value of this option is set to 1, the agent does not have to click the Answer button to answer a voice call.

Note: The value you specify for this configuration option overrides any value specified for an option set at the agent-level on the Annex tab of the Person configuration object.

autoAnswerInHold

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether or not the Adapter automatically answers the EventRinging event that is received from T-Server for the call on hold. This behavior is specific to the Siemens HiCom 300/HiPath 4000 CSTA I switch.

Note: Genesys recommends that you leave the value of this option unchanged.

allowWrapUpForConsultCalls

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: Yes
Must set: No

Specifies whether the Adapter allows an agent to have a wrap-up time period as the post-call activity on each call within a consultation call pair.

- If the value of this option is set to 0 (zero), the Adapter rejects an agent's request to have wrap-up time for a consultation call, if the agent has the active device on a call-paired consultation call.
- If the value of this option is set to 1, the Adapter allows an agent's request for wrap-up time for each call within a consultation call.

  Note: Ensure that your SAP system supports this behavior.

allowWrapUpForInternalCalls

Default Value: 1
Valid Values:
1—On
0—Off

Must restart: Yes
Must set: No

Specifies whether the Adapter allows an agent to have a wrap-up time period as the post-call activity on internal calls (calls that take place within the contact service center).

- If the value of this option is set to `0`, the Adapter rejects an agent's request for wrap-up time after an internal call is completed.
- If the value of this option is set to `1`, the Adapter allows an agent's request for wrap-up time after an internal call is completed.

automaticWrapUpMode

Default Value: `0` (zero)
Valid Values:

- `0`—Manual mode (Off)
- `1`—All calls (All)
- `2`—Incoming calls (Incoming)
- `3`—Outgoing calls (Outgoing)

Must restart: Yes
Must set: No

Specifies the Adapter's wrap-up mode:

- If the value of this option is set to `0`, the wrap-up mode must be requested manually.
- If the value of this option is set to `1`, the wrap-up mode is automatic for all calls.The Adapter initiates the wrap-mode for any call that is automatically released.
- If the value of this option is set to `2`, the wrap-up mode is automatic for incoming calls only (internal, consultation, and outgoing calls are handled in manual wrap-up mode). Incoming calls are calls that are dialed from the outside of the contact center and received by some number inside the contact center.
- If the value of this option is set to `3`, the wrap-up mode is automatic for outgoing calls only (internal, consultation, and incoming calls are handled in manual wrap-up mode). Outgoing calls are calls that are dialed from the contact center to an outside source.

`Note`: Use the value `1` for backward compatibility only, as it can cause problems with free-seating functionality.

The value of this option can be changed in runtime mode, but the new value is used only for new agent sessions. Agents that were previously logged in must log out and then log back in again to use this new value.

For more information about this mode, see "Wrap-Up Modes" on page 153.

enableNAT

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: No
Must set: No

Specifies whether or not the network-attended operation are available. If the value of this option is set to `1`, the network-attended operations are available. Otherwise, they are not available.

forceChangeWorkmodeRequest

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Controls the processing of the `setCurrentWorkmode` request when the requested work mode is equal to the current work mode on the DN.

- If the value of this option is set to `1`, the request is sent to T-Server and the event notification is sent to the SAP side after the corresponding event is sent from T-Server (or after the specified `timeout` time interval lapses).
- If the value of this option is set to `0`, the event notification is immediately sent to the SAP side.

`Note:` This option *only* applies to voice media.

---

processWrapUpAsACW

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies the value that the `AgentWorkMode` parameter sends to T-Server for a `NotReady - Wrap Up` request.

- If the value of this option is set to `0`, the `AgentWorkModeUnknown` parameter is sent as a value of `TAgentWorkMode`.

- If the value of this option is set to `1`, the `AgentAfterCallWork` parameter is sent as a value of `TAgentWorkMode`.

`Note:` This option applies to `ICIUser_setCurrentWorkmode (WrapUp(4))` requests sent from SAP to Genesys only.

---

readyOnWrapUpReaction

Default Value: `0` (zero)
Valid Values:

- `0`—no special reaction
- `1`—end wrap-up calls
- `2`—reject ready request

Must restart: Yes
Must set: No

Specifies whether or not the Adapter automatically drops all voice communication items in the `Wrap-Up` state when an agent is switched to the `Ready` work mode.

If the value of this option is set to `2`, the Adapter rejects any `Ready` requests on the voice channel if the agent has any wrap-up communication items.

rerouteDirectCallAddress

Default Value: No default value
Valid Values: Any string with the name of any valid DN on the Adapter connections' switch
Must restart: Yes
Must set: Yes, if existing DN is set

Specifies the queue for redirecting an agent's direct calls, in the event of call rejection.

`Note:` SAP IC WebClient enables agents to reject calls. However, your switch might not support this functionality. Be sure to assess your T-Server's capabilities before attempting to use this feature.

---

rerouteQueueCallAddress

Default Value: No default value
Valid Values: Any string with the name of any valid DN on the Adapter connections' switch
Must restart: Yes
Must set: Yes, if existing DN is set

Specifies the DN for redirecting an agent's call that arrives from the queue, in the event of a call rejection.

Note: SAP IC WebClient enables agents to reject calls. However, your switch might not support this functionality. Be sure to assess your T-Server's capabilities before attempting to use this feature.

---

switchToReadyAfterWrapUp

Default Value: `0` (zero)
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies how the Adapter calculates the work mode that is automatically restored after the wrap-up time.

- If the value of the option is set to `0`, the Adapter restores the last requested work mode after the wrap-up time.
- If the value of the option is set to `1`, the Adapter switches the agent to the `Ready` state after the wrap-up time.

wrapUpForNonAnsweredCall

Default Value: `1`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies whether it is possible to request the `wrap-up` mode for unanswered calls (calls that were finished, without being connected, in the `Alerting` or `Dialing` states).

- If the value of the option is set to `0`, the Adapter does not allow wrap-up time for a call that was not established.
- If the value of the option is set to `1`, the Adapter allows wrap-up time for a call released at any stage.

wrapUpOnCall

Default Value: `0 (zero)`
Valid Values:
`1`—On
`0`—Off
Must restart: Yes
Must set: No

Specifies when the work mode on the `WrapUp` request is changed.

- If the value of the option is set to `0`, the work mode is changed to `NotReady WrapUp` immediately after the call goes to the `Ended` state.
- If the value of the option is set to `1`, the work mode immediately changes to `NotReady WrapUp` during the `WrapUp` request processing.

license Configuration Section

Use the options in the `license` configuration section to configure the Genesys License Server parameters.

attempts-interval

Default Value: `5`
Valid Values: Any positive integer
Must restart: No
Must set: No

Specifies the time interval (in seconds) between two successive connection attempts.

attempts-max

Default Value: `10`
Valid Values: Any positive integer
Must restart: No
Must set: No

Specifies the maximum number of successive connection attempts to the License Server, before an exception is triggered.

license-file

Default Value: `license.dat`
Valid Value: A valid path to the file in which the licenses or the address of the license server resides in the `<port>@<host>` format
Must restart: Yes
Must set: Yes

Holds the addresses of the `Flexlm` license servers.

log Configuration Section

Use the options in the `log` configuration section to configure the Adapter traces.

CADFilter

Default Value: No default value
Valid values: A comma-separated list of key names from the call-attached data (CAD)

Must restart: Yes
Must set: No

Contains the key patterns in order to remove the `CADFilter` keys. You can use the `*` (asterisk) symbol as a replacement for `0` (zero) or more symbols as a part of the `CADFilter` key.

console

Default Value: `info`
Valid Values: `false, debug, info, warn, error, fatal`
Must restart: No
Must set: No

Specifies the level and size of traces to display on the standard output.

file

Default Value: `info, gpmcadapter.log, 10MB, 20, zip`
Valid Values:

`<file name>`:	The correct path to a file name
`<level>`:	`false`, `debug`, `info`, `warn`, `error`, `fatal`
`<max file size>`:	The maximum file size, in megabytes (MB)
`<max file number>`:	The number of files for the rolling logs
`[zip]`:	To get compressed log files

Must restart: No
Must set: No

Specifies what is written to the log file and determines the detail of the traces that you have selected.

filter

Default Value: `info, 5000`
Valid Values:

`<level>`:	`false, debug, info, warn, error, fatal`
`<number>`:	`< any positive integer in range from 200 to- 10,000>`

Must restart: No
Must set: No

Specifies the level of trace to be buffered for internal purposes.

hideAIL

Default Value: `0` (zero)
Valid Values:

1—On
0—Off
Must restart: No
Must set: No

Shows or hides the AIL log.

- Shows the AIL log, if the value of this option is set to 0 (zero).
- Hides the AIL log, if the value of this option is set to 1.

msgServerAILIncluded

Default Value: 0 (zero)
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Specifies the application scope for writing in the Message Server log.

- If the value of this option is set to 1, messages from both AIL and the Adapter are logged to the Message Server.
- If the value of this option is set to 0 (zero), only messages from the Adapter are logged to the Message Server.

msgServerVerbose

Default Value: No default value
Valid Values: all, debug, trace, interaction, standard, none
Must restart: No
Must set: No

Specifies the verbose level for writing in the Message Server log.

Note: For details, see the "Log Options" section in the *Framework Configuration Options Reference Manual*.

ShowCADInLog

Default Value: 1
Valid Values:
1—On
0—Off
Must restart: No
Must set: No

Shows or hides the call-attached data (CAD) in the Adapter's log.

- Hides the CAD in the Adapter's log, if the value of this option is set to 0 (zero).
- Shows the CAD in the Adapter's log, if the value of this option is set to 1.

multimedia Configuration Section

Use the option in the `multimedia` configuration section to configure the Adapter's multimedia functionality.

email-address-rfc822-strict

Default Value: `false`
Valid Value: `true, false`
Must restart: No
Must set: No

Specifies whether AIL checks if the e-mail addresses of an interaction complies with the RFC-822 standard for the format of ARPA Internet text messages.

network Configuration Section

Use the option in the `network` configuration section to configure the network-attended operations. The Adapter supports the following network-attended operations: consult, alternate, reconnect, transfer, and conference.

`Note:` These options are supported by the AIL library. For details, see the *Interaction SDK Java Deployment Guide.*

---

alternate-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network alternate operation is enabled.

confererence-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network complete conference operation is enabled.

consult-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network consult operation is enabled.

reconnect-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network reconnect operation is enabled.

single-step-transfer-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network single-step transfer operation is enabled.

transfer-locations

Default Value: None
Valid Values: Names of switches, separated by commas
Must restart: Yes
Must set: No

A comma-separated list of switch locations for which the network transfer operation is enabled.

settings Configuration Section

Use the option in the `settings` configuration section to configure the attached data behavior.

enable-attached-data-byte-array

Default Value: `true`
Valid Values: `true`, `false`
Must restart: No
Must set: No

Specifies the conversion method for binary data in ESP requests and responses.

- If the value of this option is set to `true`, the AIL/Adapter converts binary data from a request to an array of bytes (`byte[]`) and expects an array of bytes in return.

- If the value of this option is set to `false`, the AIL/Adapter converts binary data to an `ArrayList` of objects with class `Byte` and expects an `ArrayList` of objects in return.

See Appendix C on page 217 for details.

enable-attached-data-multi-valued-key

Default Value: `false`
Valid Values: `true, false`
Must restart: No
Must set: No

Manages the use of duplicate keys in attached data.

- If the value of this option is set to `false`, you must have unique keys in the attached data.
- If the value of this option is set to `true`, you can have duplicate keys in the attached data.

voice Configuration Section

Use the option in the `voice` configuration section to configure the telephone parameters.

a4400-custom-substitute-mode

Default Value: `true`
Valid Values: `true, false`
Must restart: No
Must set: No

Use this option to customize substitute behavior. This option affects the way that the Adapter handles messages (events) received by T-Server and can override T-Server's `agent-substitute` option. Check the appropriate Deployment Guide for your specific T-Server for more information about the `agent-substitute` option.

Important: This option must be set to `false` in order to work with the Alcatel A4400 OXE switch.

database

Default Value: `all`
Valid Values: `all, external, none`
Must restart: No
Must set: No

Specifies the use of the database for voice calls.

- If the value of this option is set to `all`, all voice calls use the database.
- If the value of this option is set to `external`, internal calls do not use the database.

- If the value of this option is set to `none`, no voice calls use the database.

dms-last-digits

Default Value: `-1`
Valid Values: Any positive integer
Must restart: No
Must set: No

Specifies how many digits are to be kept at the end of a DN number. For example, if the DN number is `1001234567`, and this option is set to `4`, the DN is `4567`.

If the value of this option is set to `-1`, or if the resulting transformation does not provide a correct DN number, the entire DN number is used.

`Note`: This option is used for the Nortel Communication Server 2000/2100 (DMS 100) switch only.

---

enable-all-routing-events

Default Value: `false`
Valid Values: `true, false`
Must restart: No
Must set: No

Specifies whether all events are sent to the `RoutingInteraction Listeners`.

- If the value of this option is set to `false`, only `NEW`, `IDLE`, and `INFO-CHANGES` events are sent.
- If the value of this option is set to `true`, all events are sent.

enable-attached-data-for-transfer

Default Value: `true`
Valid Values: `true, false`
Must restart: No
Must set: No

Manages the attachment of `GD_*` data when transferring a phone call.

enable-possible-changed-event

Default Value: `false`
Valid Values: `true, false`
Must restart: No
Must set: No

Specifies whether AIL delivers events (fake possible changed events generated in AIL) to the Adapter.

- If the value of this option is set to `true`, events are delivered to the Adapter.

- If the value of this option is set to `false`, events are not delivered to the Adapter.

Note: This option must be set to `false`. The value `true` is *not* supported in the current release of the Adapter.

Configuring Agent Resources

The Adapter identifies each SAP agent through the `userId` that SAP IC Web Client passes to it. It then maps the `userId` to the `User Name` of `Person` objects already configured in Configuration Manager.

Note: The `User Name`, created in the Configuration Manager, *must not* contain a back slash (\) or forward slash (/). These characters are not allowed by the SAP system due to limitations introduced by the SAP ICI protocol.

To log into a switch, the Adapter uses the password that is specified in the `login_pwd` option on the `Annex` tab of the `Agent Login` object. To add a password to the `Annex` tab, you must create a section named `GplusICIAdapter`, and then add to it an option named `login_pwd` (see Figure 9). In this example, the password is `01` for agent login `0001`.

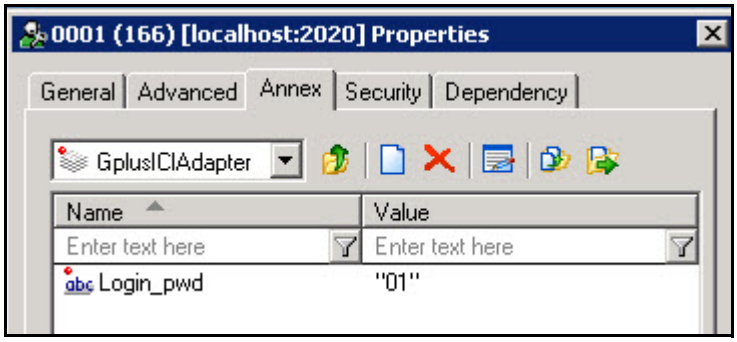

Figure 9: Using the Annex Tab to Add a CTI Login Password

An agent can register for any DN associated with that agent's `Place` (either the default, or one that is selected using the Free Seating feature).

The Adapter also gathers information about an agent's queues, from a list of queues associated with the groups to which the agent belongs. To log into a queue, the agent can use the `Login ID` that is assigned to them in the Configuration Server. Agents can work with those queues and available DNs only.

Chapter

4 Configuring HTTPS and Proxy

This chapter describes how to configure the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) to work through HyperText Transfer Protocol Secure (HTTPS) and Proxy. It contains the following sections:

Adapter–SAP HTTPS Communications

You can configure the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) to use HyperText Transfer Protocol Secure (HTTPS) to communicate with the SAP system, as shown in Figure 10. In order to set up a secure connection you must configure both the Adapter and the SAP system (see, *SAP Note 942093* for details).

Configuring the Adapter for HTTPS

Use the procedure in this section to configure the Adapter to use HTTPS.

Procedure: Configure the Adapter to use HTTPS

Purpose: To configure the Adapter to use HTTPS

Start of procedure

1. Configure the Adapter's `Application` object's `GPMC_HTTP` section as follows:
   a. Set the `sslEnabled` option to `1`.
   b. Set the `sslProtocol` option to the name of the requested SSL protocol.
   c. Set the `keyStore` and `keyStorePassword` options.

   Note: The `keyStore` and `keyStorePassword` options contain the Adapter's private key configuration, and the matching public key certificates. These are used to establish the secure connection. For a complete list of the options in the `GPMC_HTTP Configuration Section` of the Adapter's `Application` object.

2. Set the `trustStore` and `trustStorePassword` options.

   Note: The `trustStore` and `trustStorePassword` options contain SAP certificates that the Adapter uses to authenticate the remote socket peer when the Adapter functions as a client (events sending).

3. Export the Adapter's server certificate, from `keyStore`, and add to the store on the SAP system side. To export the server certificate to a file, use the following command line:

   ```
   <JAVA_HOME>\bin\keytool -export -alias <alias> -keystore
   <keystore_file> -file <file> -storepass <keystore_password>.
   ```

   Here, `<file>` is the name of file that contains the certificate.

4. Add the SAP certificate to the Adapter's `truststore`. To import the server certificate, on the SAP system, use the following command line:

   ```
   <JAVA_HOME>\bin\keytool -import -noprompt -alias <alias> -keystore
   <truststore_file> -file <file> -storepass <truststore_password>.
   ```

   Here, `<file>` is the name of file that contains the SAP certificate.

End of procedure

Next Steps

- If required, configure the Adapter for a Proxy. See Procedure: Configuring the Adapter to use an HTTP/HTTPS proxy, on page 123.

Adapter–SAP HTTPS Event Flow

Figure 10 shows the HTTPS event flow between the Adapter and SAP.

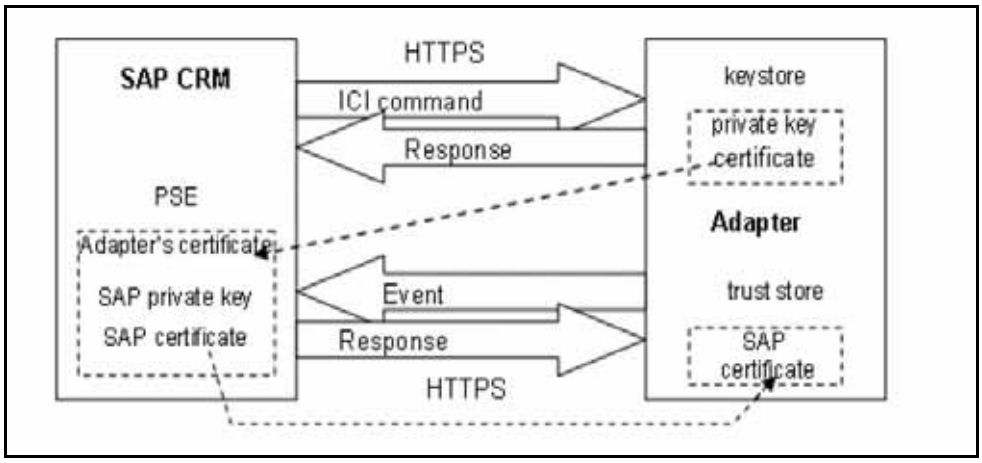

Figure 10: Adapter–SAP HTTPS Event Flow

Adapter–HTTP/HTTPS Proxy–SAP Communications

The Adapter might be configured to communicate with SAP through an HTTP/HTTPS Proxy, as shown in Figure 11. To use an HTTP/HTTPS Proxy you must configure, both the Adapter and the SAP system (see, the *SAP Note 942093* for details on configuring the SAP system).

Configuring the Adapter for the Proxy

Use the procedure in this section to configure the Adapter to use an HTTP/HTTPS Proxy.

Procedure: Configuring the Adapter to use an HTTP/HTTPS proxy

Purpose: To configure the Adapter to use an HTTP/HTTPS proxy.

Start of procedure

1. Configure the Adapter's `Application` object's `GPMC_HTTP` section as follows:
   a. Set `host` to the Name/IP address of the proxy server.
   b. Set `port` to the port of the proxy server.

c. (Optional) If the proxy server requires authorization, set the `username` and `password` to the user name and password of the account on the proxy server.

End of procedure

Next Steps

- No further steps are required.

Adapter–Proxy–SAP Event Flow

Figures 11 shows the Adapter–Proxy–SAP event flow.

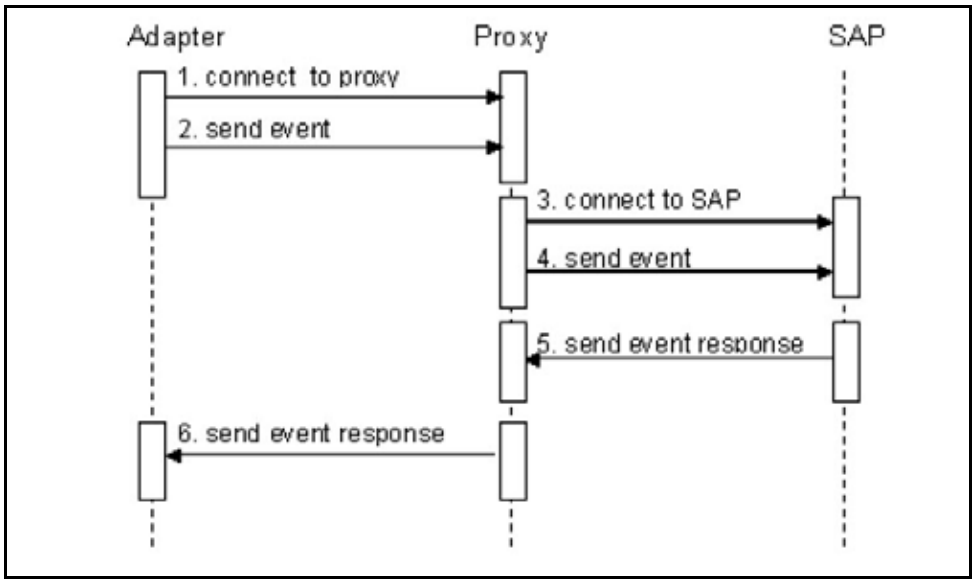

Figure 11: Adapter—Proxy—SAP Event Flow

The events in Figure 11 are as follows:

1. The Adapter connects to the `host:port` where HTTP Proxy resides (the values of the `host` and `port` options in the `GPMC_HTTP` section).
2. The Adapter sends a packet to the HTTP Proxy that contains the SAP URL in the header.
3. The proxy server opens the connection to the SAP URL.
4. The proxy server sends the packet, obtained from the Adapter, to SAP.
5. SAP sends a response to the Proxy.
6. The Proxy sends a response to the Adapter.

If the Proxy is set up to support HTTPS (that is, if the `sslEnabled` option in the `GPMC_HTTP` section is set to `1`), events are sent through a tunneling connection. The events are as follows:

1. The Adapter opens a connection to the proxy server, and then sends a `CONNECT sap_url` packet.
2. The proxy server opens a connection to the specified URL, and then sends a `CONNECT` response to the Adapter.

If the connection is established, the events and event responses will be passed through an established Adapter–SAP tunnel.

Note: To transmit events through a secure connection, the proxy server must support the `CONNECT` method.

Keep-Alive Mode

What Is the Keep-Alive Mode?

The Keep-Alive extension for HTTP enables continuous connections, as defined in the *HTTP/1.1* draft. These extended HTTP sessions enable multiple requests to be sent over the same Transmission Control Protocol (TCP) connection and, in some cases, have been shown to result in an almost 50 percent speed-up in latency times.

Using the Keep-Alive Mode

In order to use the Keep-Alive mode, the SAP system must support it and be configured to use it.

The Adapter, by default, tries to establish HTTP connections (both client and server) in the Keep-Alive mode, and the actual usage of this mode depends only on the ability of the SAP system to support it. This behavior can be modified by using the `keepAliveTimeout` option set in the `GPMC_HTTP` section.

By default, the opened Keep-Alive connection will not close until one of two things occurs:

- The connection receives a special command from SAP.
- The socket is closed on the SAP side.
- The configure timeout has expired.

If SAP sends out a request or response with an HTTP header with either a `connection:close` directive or a no connection directive at all, then the Adapter will close the connection.

Note: The `keepAliveTimeout` option is set to `30` as a default value.

You can change this behavior by using the `GPMC_HTTP\keepAliveTimeout` option. This option specifies the number of seconds that the Adapter waits for

a subsequent request before closing the connection. Once a request is received, the timeout value specified by this option is applied.

The value of the timeout can be overridden for certain connections by using the `keepAlive` HTTP header directive with a parameter timeout, which must be set on the SAP side.

Chapter

5 Installing the Adapter

This chapter describes how to install the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter). It contains the following sections:

Installing the Adapter

The following directory on the G*plus Adapter 8.0.x for SAP ICI Multi-Channel* DVD contains the Adapter's installation package:

`<cd_drive>/gplus_components/gplus_ici_multichannel/windows/.`

You must install the G*plus* Adapter for SAP ICI Multi-Channel (the Adapter) on the target computer by using an InstallShield Wizard that takes you step-by-step through the installation.

Procedure: Installing the Adapter

Purpose: To install the Adapter.

Start of procedure

1. If you have not already done so, insert the Adapter installation DVD into your CD-ROM drive.
2. Locate the `setup.exe` file in the DVD path `\gplus_components\gplus_ici_multichannel\windows\`, or in your installation package.
3. Double-click `setup.exe` to run the InstallShield Wizard.

   InstallShield takes you through the installation process step by step.

   After the InstallShield prepares the Genesys Installation Wizard, the `Welcome` page appears.
4. Read the text on the `Welcome` page, and then click `Next` to continue.

   The `Connection Parameters to the Genesys Configuration Server` page appears (see Figure 12.)

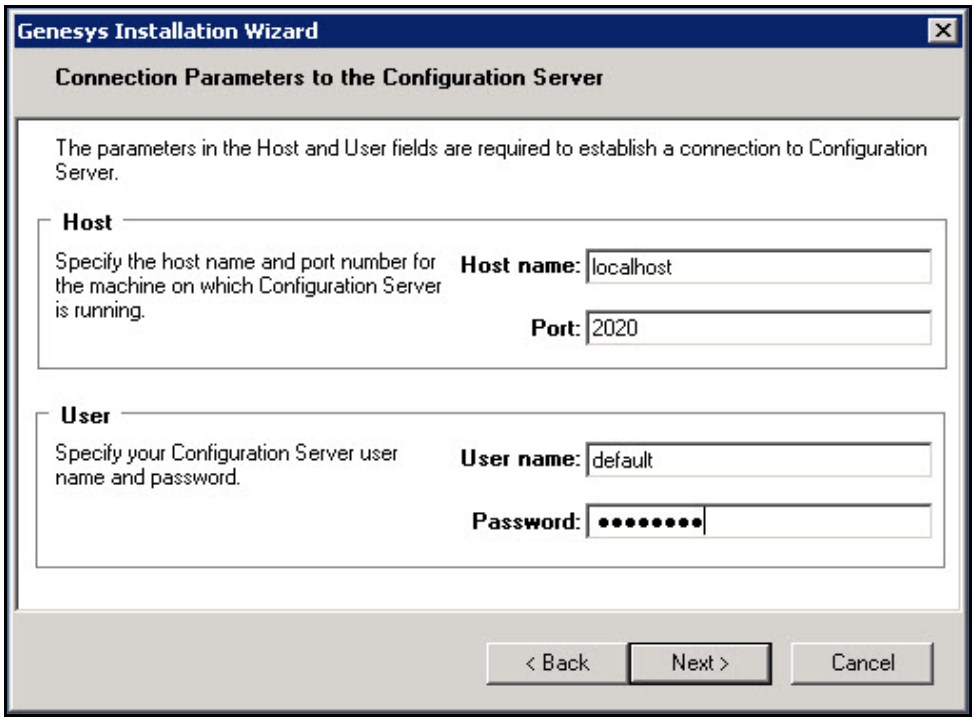

Figure 12: Connection Parameters to the Genesys Configuration Server Screen

5. Configure the connection parameters:
   a. In the `Host name` box, enter the Genesys Configuration Server host name.
   b. In the `Port` box, enter the Configuration Server port.
   c. In the `User name` box, enter your assigned Configuration Server user name.
   d. In the `Password` box, enter your Configuration Server password.

6. Click `Next` to continue.

   The `Select Application` page appears (see Figure 13). This screen displays a list of configured `Application` objects of the `Genesys Generic Server` type for the host on which the installation is running.

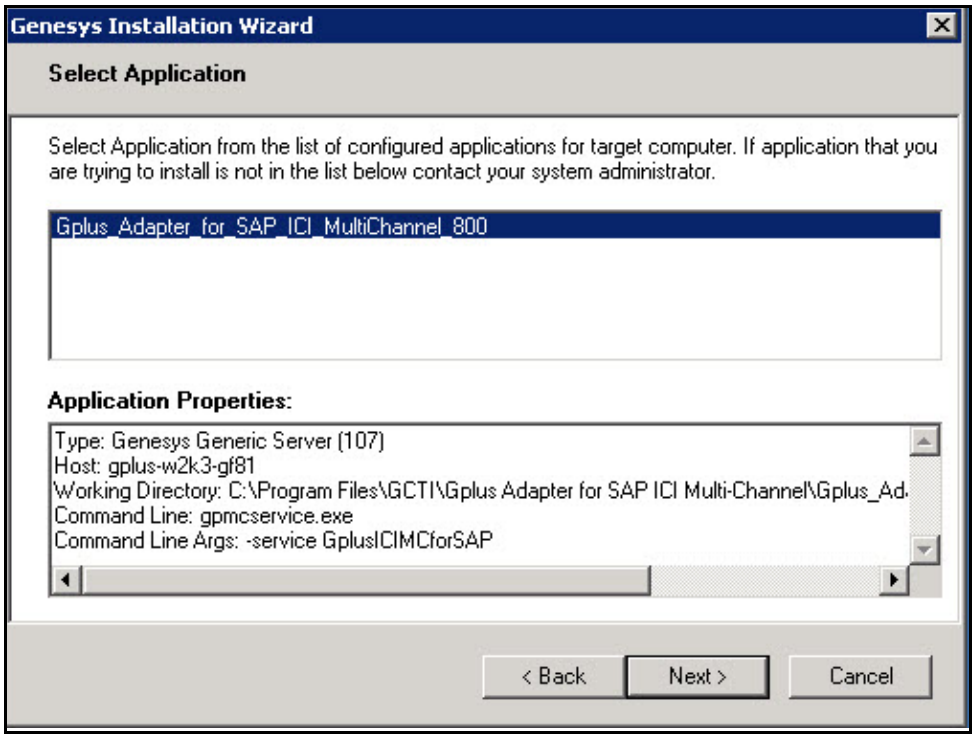

Figure 13: Select Application Page

7. Select the configured Adapter's `Application` object from the list.
8. Click `Next` to continue.

   The `Access to License` page appears.
9. You can select the License Manager, or specify a path to the License File location.
   - To select the License Manager, click `License Manager`, and specify the `Host` name and `Port` (see Figure 14 on page 130).
   - To select the License File, click `License File`, and enter the full path to the License File location (see Figure 15 on page 130).

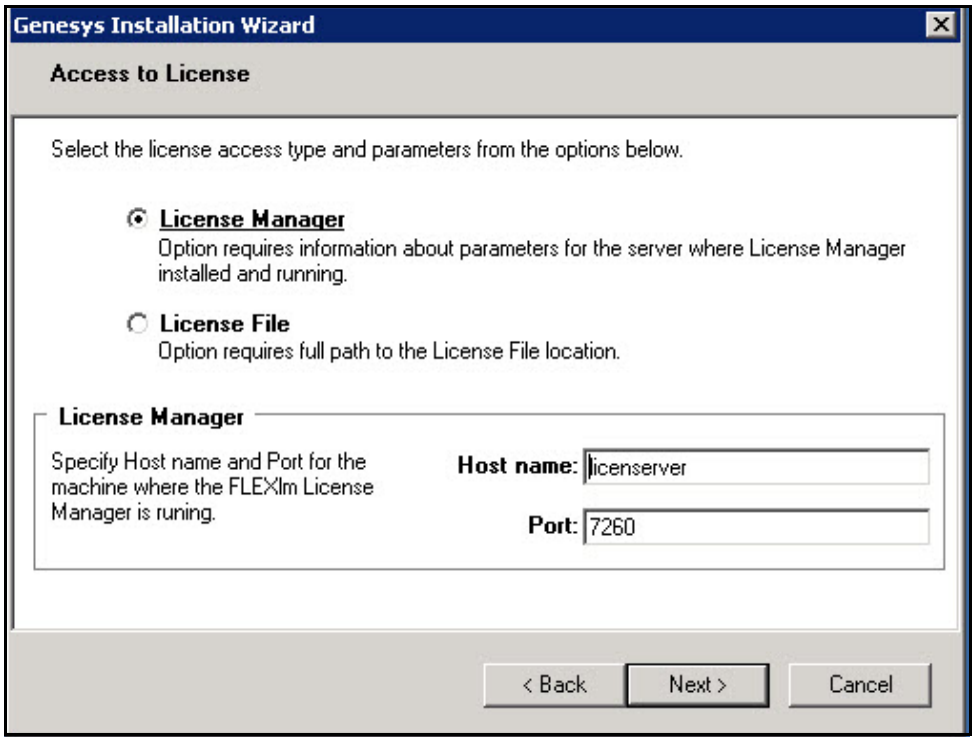

Figure 14: Access to License Page—License Manager Option

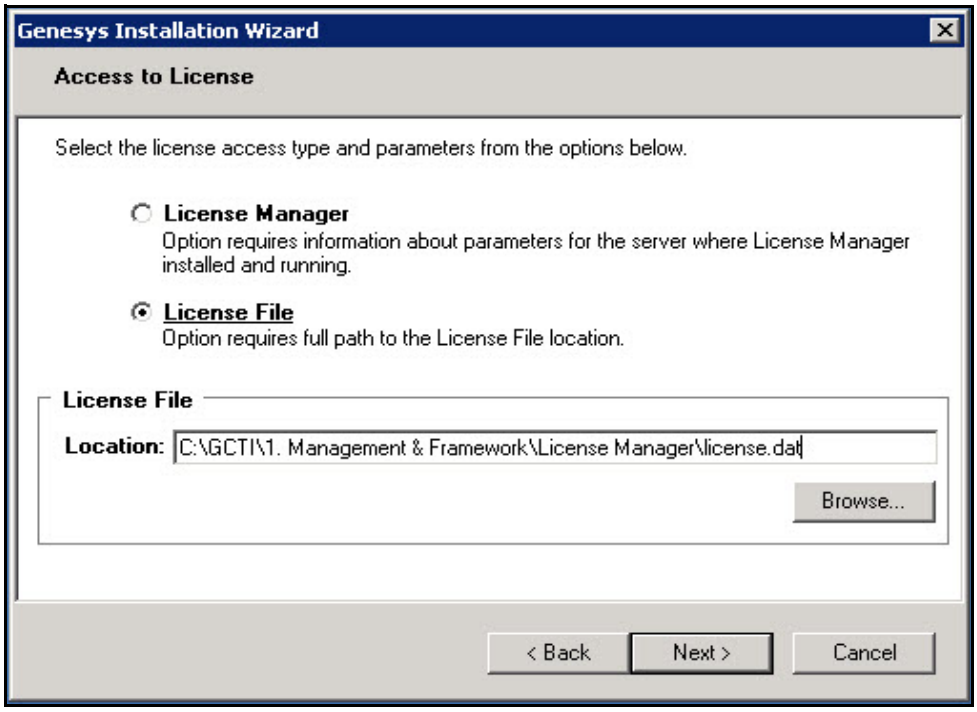

Figure 15: Access to License Page—License File Option

10. Click `Next` to continue.

    The `Choose Destination Location` page appears (see Figure 16).

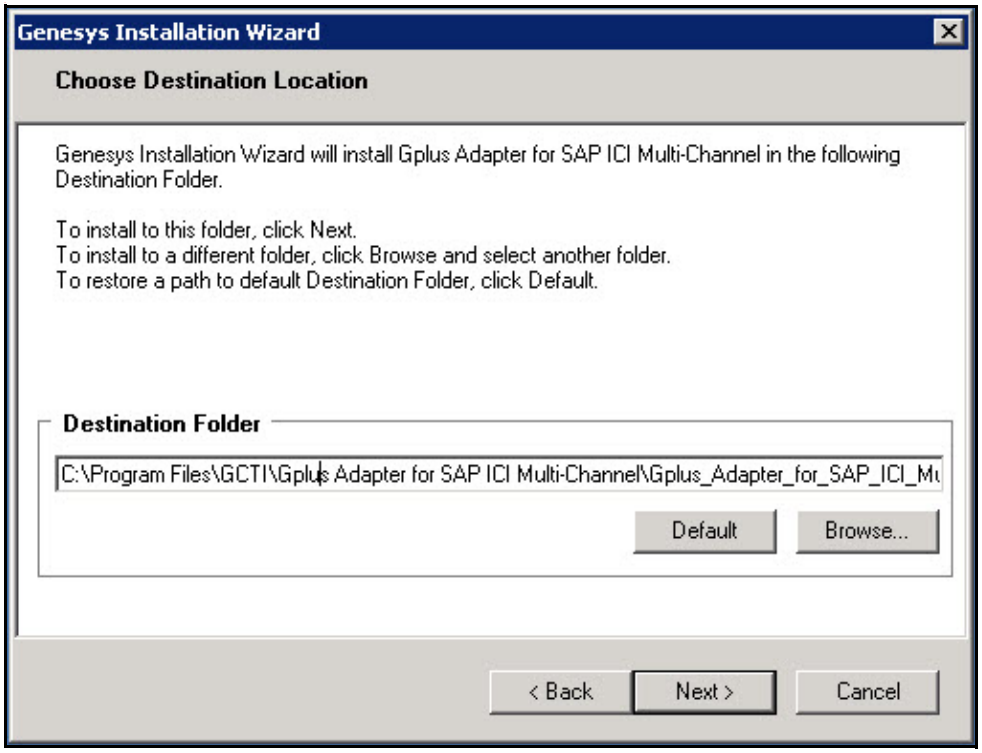

Figure 16: Choose Destination Location Page

11. Choose one of three options for the destination folder:
    - To keep the destination location, click `Next` to continue. The `Gplus Adapter for SAP ICI Multi-Channel Parameters` page appears (see Figure 17 on page 132).
    - To specify a new destination folder, click `Browse`, and select another folder.
    - To restore a path to default destination folder, click **`Default`**.
12. Set the Adapter parameters:
    a. In the `Host name` box, enter the backup Genesys Configuration Server host name.
    b. In the `Port` box, enter the backup Configuration Server port.
13. Click `Next` to continue.

    The `Select Installed Sun's Java Runtime Environment (JRE)` page appears.

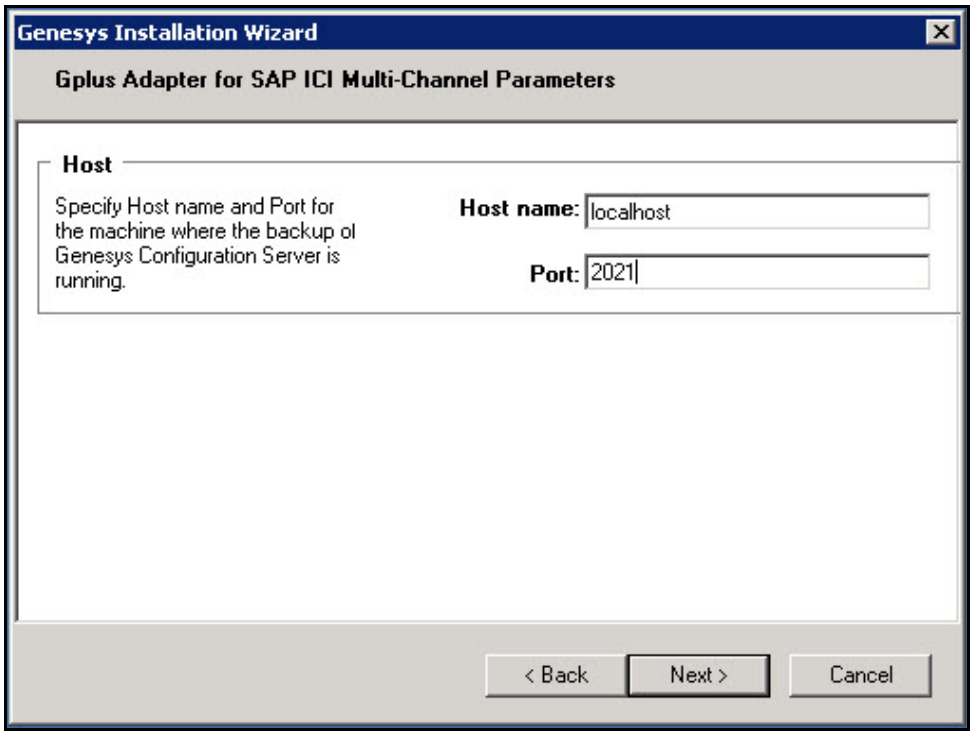

Figure 17: Gplus Adapter for SAP ICI Multi-Channel Parameters Page

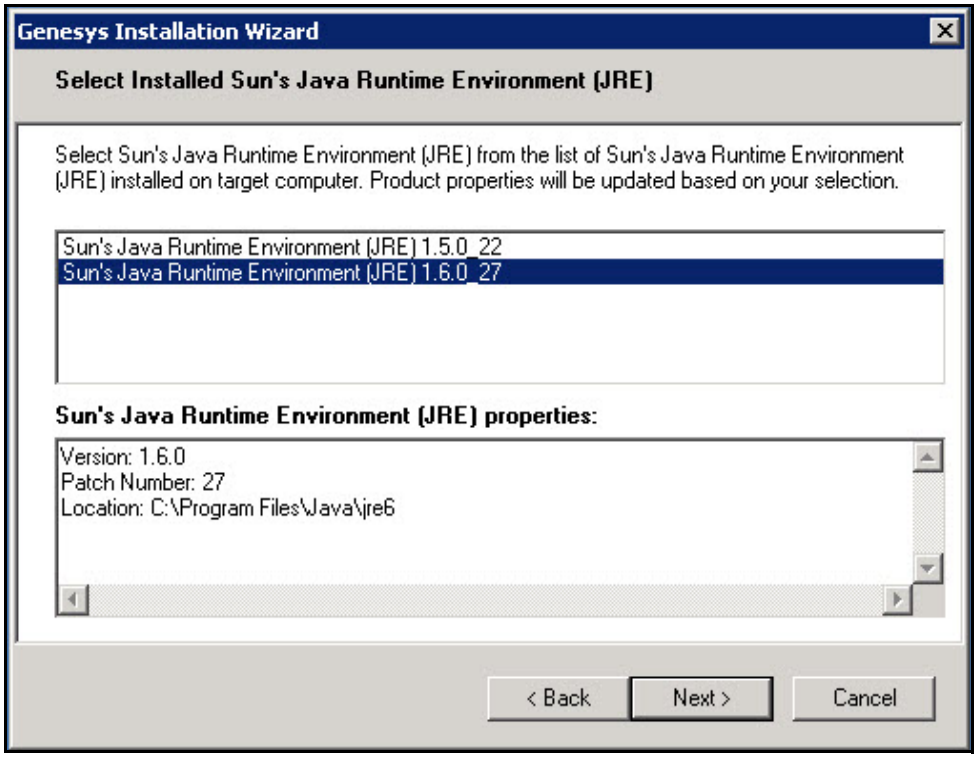

Figure 18: Select Installed Sun's Java Runtime Environment (JRE) Page

14. Select the runtime environment from the list of JREs installed on the target computer.

    The product properties are updated based on your selection.

    Note: If you are installing the Adapter as a service on a Windows 64-bit platform, ensure that the selected JRE is 32-bit. Otherwise, the Adapter might not load as a Windows service. However, you can start the JRE in console mode.

15. Click Next to continue.

    The Ready to Install page appears (see Figure 19).

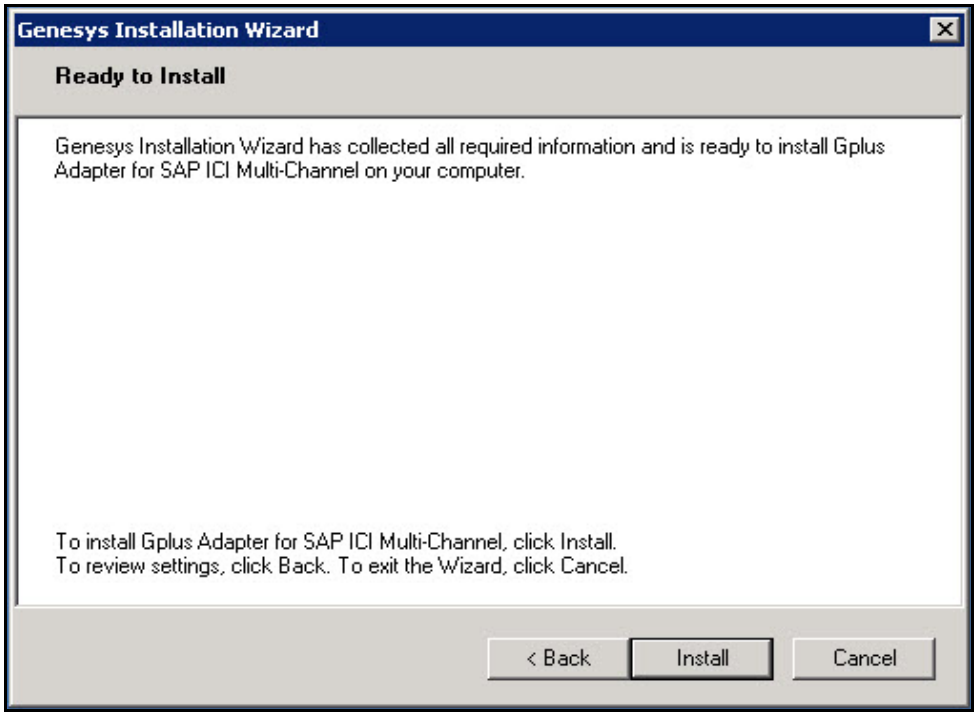

Figure 19: Ready to Install Page

16. Click Install to begin copying files.

    After a few moments, the Installation Status screen page.

17. Wait for the installation to finish (it can take several minutes), or click Cancel if you want to cancel this installation.

    When the installation is finished, the Installation Complete page appears.

18. Click Finish to complete the installation.

End of procedure

Next Steps

- No further steps are required.

Editing the sapadapter.properties File

If you want to change any of the values that are automatically updated during the Adapter installation, edit the `sapadapter.properties` file. This file is located in the directory in which the Adapter is installed. The file contains key-value pairs, which are described in Table 1.

Table 1: Configuration Server Connection Parameters

Key	Value
Application.Name	Name of the Adapter application in the Configuration Server, as specified on the `Application` object's `General` tab (see Step a on page 38).
ConfigServer.Host	Name of the host on which the Configuration Server is running.
ConfigServer.Port	Port of the Configuration Server.
ConfigServer.Backup.Host	Name of the host on which the backup Configuration Server is running.
ConfigServer.Backup.Port	Port of the backup Configuration Server.
ConfigServer.reconnectPeriod	Heartbeat interval, in seconds, for checking the connections to the servers (for example, Configuration Server, T-Servers, and so on). This ping keeps these connections alive. The default value is `300` (five minutes). The value should be greater than the value of `ConfgServer.requestTimeout`.
ConfigServer.requestTimeout	Timeout, in seconds, for requests to the servers. If a request to a server does not receive an answer before this timeout expires, the server throws a timeout exception. The default value is `60`. The value should be lower than the value of `ConfigServer.reconnectPeriod`.

The following is an example of the `sapadapter.properties` file contents:

```
Application.Name=SAPAdapterMultiChannel
ConfigServer.Host=GServer
ConfigServer.Port=4000
ConfigServer.Backup.Host=
ConfigServer.Backup.Port=
ConfigServer.reconnectPeriod=300
ConfigServer.requestTimeout=60
```

Uninstalling the Adapter

You can uninstall the Adapter by using the Microsoft Windows *Add/Remove Programs* feature.

Note: The procedure to uninstall the Adapter varies, depending on the version of the Windows operating system that you are running. Keep this in mind as you complete the following procedure.

Procedure: Uninstalling the Adapter

Purpose: To completely uninstall the Adapter components.

Start of procedure

1. From the Windows main task bar, select `Start` > `Settings` > `Control Panel` > `Add/Remove Programs`.
2. Select `Genesys Gplus Adapter for SAP ICI Multi-Channel` as the installed component to remove.
3. Follow the on-screen instructions, and confirm that you want to remove the Adapter components.

   `Add/Remove Programs` removes the Adapter components, and a message appears, informing you that the uninstallation has been completed.
4. Follow the on-screen instructions to conclude the uninstallation.

Note: If the Adapter's application folder contains files that were not initially installed, the uninstallation process will not delete these files. You must remove them manually.

End of procedure

Next Steps

- No further steps are required.

Java Virtual Machine Tuning

Before you start the server in production mode, you can tune the Java Virtual Machine (JVM) by editing the appropriate Adapter start-up files for your startup method:

- If you have started from a shortcut: `run_adapter.bat`
- If you have started as a service: `gpmcservice.ini`

JVM Tuning Options

Selecting the Virtual Machine Type

You can choose from two different virtual machine (VM) types, depending on whether the server is running in the client or server mode:

1. If the server is running in the client mode, select the Java HotSpot Client VM. This is the default selection.
2. If the server is running in the server mode, select the Java HotSpot Server VM.

Memory Usage

- Xmsn memory:

  Specify the initial size, in bytes, of the memory allocation pool. This value must be a multiple of 1024 greater than 1MB. Append the letter k or K to indicate kilobytes, or m or M to indicate megabytes. The default value is 2 MB.

  Examples:

  `Xms6291456`

  `Xms6144k`

  `Xms6m`

- Xmxn memory

  Specify the maximum size, in bytes, of the memory allocation pool. This value must a multiple of 1024 greater than 2 MB. Append the letter k or K to indicate kilobytes, or m or M to indicate megabytes. The default value is 64 MB.

  Examples:

  `Xmx83886080`

  `Xmx81920k`

```
Xmx80m
```

The Adapter default is `Xmx256M`. You can increase this value and set the `Xms` option to enable the Adapter to use more memory for its operations.

Note: It is recommended to set this option to at least 768 MB in case any of the multimedia channels are used.

Additional Tuning Options

For additional tuning options and guidelines that are applicable to the JVM used by the Adapter, refer to the Sun Java documentation—for example, the Java Tuning White Paper:

`http://java.sun.com/performance/reference/whitepapers/tuning.html`

Note: Incorrect tuning parameters may lead to performance degradation and malfunctioning of the Adapter. In most cases, using the `-server`, `-Xms` and `-Xmx` options is sufficient.

Applying JVM Tuning Options

This section contains information about how to start the Adapter from a shortcut and how to start the Adapter as a service.

Starting the Adapter from a Shortcut

Use the procedure in this section to specify the tuning options in the `run_adapter.bat` file.

Procedure: Starting the Adapter from a shortcut

Purpose: To start the Adapter from a shortcut by specifying the tuning options.

Start of procedure

1. To apply the tuning options, stop the Adapter, if it is running.
2. Open the `run_adapter.bat` file for editing.

3. Find the line containing:

```
"%JAVA_HOME%\bin\java" -Xmx256M
-Dcom.genesyslab.platform.license=com.genesyslab.platform.commons.p
rotocol.runtime.license.LicenseRestrictionCollection -cp
.;.\lib\sapadapter.jar;.\lib\saprouting.jar;%JAVA_LIBs%
com.genesyslab.gplus.sap.core.AdapterManager %CMD_LINE_ARGS%.
```

4. Add the required tuning options—for example:

```
"%JAVA_HOME%\bin\java" -server -Xms768m -Xmx1024m
-Dcom.genesyslab.platform.license=com.genesyslab.platform.commons.p
rotocol.runtime.license.LicenseRestrictionCollection -cp
.;.\lib\sapadapter.jar;.\lib\saprouting.jar;%JAVA_LIBs%
com.genesyslab.gplus.sap.core.AdapterManager %CMD_LINE_ARGS%.
```

5. Save the changed file.
6. Start the Adapter.

End of procedure

Next Steps

- If required start the Adapter as a service. See Procedure: Starting the Adapter as a service, on page 138.

Starting the Adapter as a Service

Use the procedure in this section to specify the tuning options in the `gpmcservice.ini` file.

Procedure: Starting the Adapter as a service

Purpose: To start the Adapter as a service by specifying the tuning options.

Note: Depending on your host server, you might be required to install the *Microsoft Visual C++ Redistributable Package* or *Microsoft .NET Framework 1.1* to run the `gpmcservice.exe` file.

The Microsoft Visual C++ Redistributable Package can be downloaded from the Microsoft Download Center site: http://www.microsoft.com/en-us/download/details.aspx?id=5555

If you receive a Windows error message that the dependent dynamic-link library (DLL) files (`Msvcr71.dll`, for example) are missing when running the Adapter as a service, you must install the Microsoft Visual C++ Redistributable Package.

Start of procedure

1. To apply the tuning options, stop the Adapter, if it is running.
2. Open the `gpmcservice.ini` file for editing.
3. Find the `[JavaArgs]` section:

   ```
   [JavaArgs]
   J=-Xmx256M
   ```
4. Add the required tuning options—for example:

   ```
   [JavaArgs]
   J=-Xmx768M
   J=-server
   J=-Xms768m
   J=-Dcom.genesyslab.platform.license=com.genesyslab.platform.commons
   .protocol.runtime.license.LicenseRestrictionCollection
   J=-Djava.class.path=/lib/ail.jar;...
   ```

   Notes: The two last lines in the `[JavaArgs]` section (as shown in Step 4) must remain unchanged.

   The Java Virtual Machine (JVM) `Xss` option (specifies the native stack size for the JVM instance) is not applied when the Adapter is started as a Windows service. Therefore, settings, such as `J = -Xss256K`, are ignored.

   If required, prevent the Adapter service from shutting down when the user logs out, see "Use Case: How to Prevent the Adapter from Shutting Down During Logout" on page 139.
5. Save the changed file.
6. Start the Adapter.

End of procedure

Next Steps

- No further steps are required.

Use Case: How to Prevent the Adapter from Shutting Down During Logout

The Adapter can sometimes shut down during system logout if it was started as a Windows service. If required, use this procedure to prevent this from occurring by configuring the `Xrs` option in the `gpmcservice.ini` file.

Use case scenario:

1. Administrator is logged in to the host, on which the Adapter is deployed.
2. Administrator manually starts the Adapter as a Windows service.
3. Administrator is logged off, host is still working normally.
4. The Adapter shuts down.

Resolution:

In the `[JavaArgs]` section of the `gpmcservice.ini` file, add the following line:

```
J = -Xrs
```

This configuration reduces the use of the operating system signals that are generated by the Java virtual machine and prevents the Adapter from shutting down in this scenario.

Note: By default, the `gpmcservice.ini` file contains the `J = -Xrs` line preceded with sign comment (#). Therefore, you can simply remove the comment symbol in the existing line, rather than add a new one.

Chapter

6 Configuring the Agent Place

This chapter describes how to configure the Agent Place. It contains the following sections:

Configuring Agent Seating

The workcenter seating configuration determines which workcenter(s) an agent can log in to.

There are three ways agent seating can be configured:

- No free seating
- Simple free seating
- Advanced free seating

Seating is configured in the Adapter's `Application` object, by setting the configuration option in the `GPMC_Common` section of the Adapter's `Application` object. The value assigned to the `workcenterIDType` option determines the agent's required workcenter login credentials.

No Free Seating

If the value of the `workcenterIdType` option in the `GPMC_Common` section is `0` (zero), there is no free seating. The only workcenter the agent can log in to is his or her default place, as specified in the Configuration Server.

Simple Free Seating

Simple free seating enable the agent to work on any correctly configured `Place`, using his or her own login. When this type of seating is used, the `Workcenter ID` is the ID of the agent's place.

There are four types of Simple Free Seating:

- Fully-qualified seating
- Host name seating
- IP address seating
- User-defined seating

Fully Qualified Seating

If the value of `workcenterIdType` in the `GPMC_Common` section is `1`, then the workcenter ID is the fully qualified domain name of the host that the agent is logged in to—for example:

1. The agent logs in to SAP from the host `(raptor.pal.sap.corp)` with SAP IC WebClient.
2. The SAP IC WebClient sends, to the Adapter, the fully-qualified domain name of the host that the agent logged in from (`raptor.pal.sap.corp`).
3. The Adapter looks for a `Place` with the name `raptor.pal.sap.corp`.
4. If a corresponding `Place` is found, the Adapter logs the agent in on this `Place`; otherwise, the agent is not logged in.

Host Name Seating

If the value of `workcenterIdType` in the `GPMC_Common` section is `2`, then the workcenter ID is the name of the host that the agent is logged in from—for example:

1. The agent logs in to SAP from the host (`raptor`) with SAP IC WebClient.
2. The SAP IC WebClient sends, to the Adapter, the name of the host that the agent logged in from (`raptor`).
3. The Adapter looks for a `Place` with the name `raptor`.
4. If a corresponding `Place` is found, the Adapter logs the agent in on this `Place`; otherwise, the agent is not logged in.

IP Address Seating

If the value of `workcenterIdType` in the `GPMC_Common` section is `3`, then the workcenter ID is the IP address of the host that the agent is logged in from—for example,

1. The agent logs in to SAP from the host with an IP (`12.14.48.23`) with SAP IC WebClient.
2. The SAP IC WebClient sends, to the Adapter, the IP address of the host that the agent is logged in from (`12.14.48.23`).
3. The Adapter looks for a `Place` with the name `12.14.48.23`.
4. If a corresponding place is found, the Adapter logs the agent in on this `Place`; otherwise, the agent is not logged in.

User-Defined Seating

If the value of `workcenterIdType` in the `GPMC_Common` section is `100`, then the agent must manually enter the workcenter ID in the SAP IC Web Client—for example:

1. The agent opens the SAP IC WebClient.
2. The SAP IC WebClient prompts for the `workcenter ID`.
3. The user enters the `workcenter ID`, for example: `place_1234`.
4. The SAP IC WebClient sends, to the Adapter, the `workcenter ID (place_1234)`.
5. The Adapter looks for a `Place` with the name `place_1234`.
6. If a corresponding `Place` is found, the Adapter logs the agent in on this `Place`; otherwise, the agent is not logged in.

Advanced Free Seating

You can define a comma-separated list of free seating types in the `workcenterIdType` option (in the `GPMC_Common` section). This list defines possible alternative ways to log in using free seating capabilities.

For example, if the value of `workcenterIdType` is `=2, 100`, the SAP system will try to log in the agent by using the host name. If the login attempt fails, the SAP system will prompt the agent for a user-defined workcenter ID.

Configuring Agent Login Control

The Adapter's ability to log in to a `Place` that already has DNs logged in is managed with the `allowWorkOnLoggedInPlace` option in the `GPMC_Common` section of the Adapter's `Application` object.

Place Login Security

The `allowWorkOnLoggedInPlace` option has two valid values:

- `0` (zero) `=` Login not allowed.
- `1` `=` Login allowed.

> `Note:` Stat Server is required to enable `Login not allowed` mode. If the Adapter is configured without Stat Server the Adapter will always work in `Login allowed` mode, regardless of the value of the `allowWorkOnLoggedInPlace` option in the `GPMC_Common` section of the Adapter's `Application` object.

Login Not Allowed

If the value of allowWorkOnLoggedInPlace option in the GPMC_Common section is 0 (zero), a login is not allowed on a Place that has logged-in DNs—for example, if Agent 1 is logged in to Place 1, and Agent 2 then attempts to log in to Place 1:

1. The Adapter checks the Place 1 login status by using the Stat Server.
2. The Adapter does not send the Agent 2 login request to T-Server.
3. The Adapter sends a fault response to the SAP system.

Note: Genesys recommends this option.

Login Allowed

If the value of allowWorkOnLoggedInPlace option in the GPMC_Common section is 1, login is allowed on a Place that has logged-in DNs. For example, if Agent 1 is logged in to Place 1, and Agent 2 attempts to log in to Place 1:

1. The Adapter does not check the Place 1 log-in status by using the Stat Server.
2. The Adapter sends the Agent 2 login request to T-Server and/or Interaction Server.

Notes: Although the Adapter sends a request to T-Server and/or Interaction Server, the ability to have multiple logins is determined by T-Server and/or Interaction Server functionality.

It is not recommended to use Login Allowed if you are using the free seating environment.

Place Login Status

The Adapter uses the connections that are configured on the Adapter's Application object's Connections tab to determines the Place login status (see "Connections Tab" on page 43):

- If a Stat Server connection was added on the Connections tab, the Place login status is from Stat Server.
- If a Stat Server connection was not added, the Place login status is based on the login status of the voice DNs.

Configuring Agent Work Modes

Work modes define an agent's work status or readiness to accept a new interaction. This section contains information on:

- Work modes types
- Cumulative work modes calculations
- Wrap-up work modes

Work Modes Types

There are three work mode types defined in the `gp_resources.properties` file (located in the directory where the Adapter is installed):

- Blended work modes
- Custom-defined work modes
- Standard work modes

Blended Work Modes

Voice and media (chat, e-mail, open media) work modes can be blended into a single work mode state value. If the agent has two media configured only the blended work modes are taken into account. This is required because the SAP system accepts only one work mode `import-state` parameter. The Adapter cannot pass two separate work modes to SAP—for example, one for voice and another for e-mail. The work mode values that SAP permits are:

- `1 = Logged Off`
- `2 = Logged On - Ready`
- `3 = Logged On - NotReady`
- `4 = Logged On - NotReady WrapUp`

The following subsections describe how a single work mode state is determined from a multi-channel environment—for example, voice and e-mail. It also describes how to edit blended work mode descriptions and values.

`Note:` Blended work modes can be disabled by using the `allowBlendedWorkmodes` option in the `GPMC_Common` section of the Adapter's `Application` object. If blended work modes are turned off, the Adapter uses the logic described in "Cumulative Work Mode Calculations" on page 152 to report agent work modes.

Determining work Modes State

To determine the work mode state, that are sent to the SAP system, the Adapter first blends voice and e-mail (and/or action items or chat) work modes by using one of the following:

- Blended Workmode list
- Blended Workmode switching.

For example, if the voice and e-mail work modes do *not* match one of the six blended work modes in the Blended Workmodes list, the work mode is determined through blended work mode switching, as shown in Table 2.

Blended Workmode List

- `Voice NotReady, Email Ready`
- `Voice NotReady, Email Logged off`
- `Voice Ready, Email NotReady`
- `Voice Ready, Email Logged off`
- `Voice Logged off, Email NotReady`
- `Voice Logged off, Email Ready`

Blended Workmode Switching

Table 2: Blended Work Mode State After Switching

Voice	E-Mail	Result
`Logged out`	`NotReady`	Voice logged off, e-mail not ready
`Logged out`	`Ready`	Voice logged off, e-mail ready
`NotReady`	`Logged out`	Voice not ready, e-mail logged off
`Ready`	`Logged out`	Voice ready, e-mail logged off
`NotReady`	`Ready`	Voice not ready, e-mail ready
`Ready`	`NotReady`	Voice ready, e-mail not ready
`Logged out`	`NotReady` (with reason code)	Voice logged off, e-mail not ready
`NotReady` (with reason code)	`Logged out`	Voice not ready, e-mail logged off

Table 2: Blended Work Mode State After Switching (Continued)

Voice	E-Mail (Continued)	Result
Ready	NotReady (with reason code)	Voice ready, e-mail not ready
NotReady (with reason code)	Ready	Voice not ready, e-mail ready

Note: If an agent attempts to manually switch to Logged Off for one media only, the state for this media is set to NotReady. For example, if an agent selects the Voice Ready, Email Logged Off work mode, the Adapter switches the agent to the Voice Ready, Email NotReady work mode. Work modes with one media in the Logged off state show only the unanticipated situations, such as InteractionServer disconnection.

Editing Blended Work Modes

The Adapter can either use the predefined blended work modes from its resource file, or generate them at startup. In both cases, the workmode ID is the Workmode_mixed_base string plus the work mode constant.

Procedure: Editing the blended work modes base

Purpose: To edit the blended work modes base.

Start of procedure

1. Open the gp_resources.properties file, which is located in the Adapter directory directory.
2. Locate the #Mixed workmodes section.
3. Locate the Workmode_mixed_base string, and set it to a value greater than the numeric value of the last custom-defined work mode.

   Note: If you do not set the Workmode_mixed_base string in the gp_resource.properties file, the default value of 10^number_of_medias is used.

End of procedure

Next Steps

- No further steps are required.

Generating Blended Work Modes

The Adapter dynamically generates blended work modes at the time of startup. The rules for the dynamic generation of blended work modes for multimedia are as follows:

1. The length of the dynamically generated ID is equal to `max (m, length(Workmode_mixed_base))`.
2. The dynamically generated `ID` is constructed from the `Workmode_mixed_base` string plus the `m-length` constant, where every digit represents the state of the partial media:
   - `1` = The media is `Logged off`.
   - `2` = The media is `Logged on, Ready`.
   - `3` = The media is `Logged on, NotReady`.
3. If the `Workmode_mixed_base` string is not set, it is initialized to the value of `10^m`.

   Note: Locate the `Workmode_mixed_base` string, and set it to a value *greater* than the numeric value of the custom-defined workmode.

4. The `media in ID` is ordered according to the value of the media number in the ICI protocol:
   - Telephony (`1`)
   - E-mail (`2`)
   - Chat (`3`)
   - Action routing (`4`)

   This is available only for Adapter media that have blended work modes—for example:
   - For an Adapter with voice and action routing media, `123` means: `Voice Ready, Action Item Not Ready (Workmode_mixed_base=100).`
   - For an Adapter with voice and e-mail media, `112` means: `Voice Logged Off, Email Ready (Workmode_mixed_base=100)`
   - For an Adapter with voice and action routing media, `121` means: `Voice Ready, Action Item Logged Off (Workmode_mixed_base=100)`
   - For an Adapter with voice and e-mail media, `123` means: `Voice Ready, Email Not Ready (Workmode_mixed_base=100).`
5. The blended work mode description is a comma-separated list of partial media work mode descriptions—for example, `Voice Ready, Email Not Ready`.

6. The partial media work mode description is displayed in the format `Media_name Media_workmode`, where `Media_name` and `Media_workmode` are constants defined in the Adapter's resource file.
7. The following rule applies in the case of three or more medias: if only one media has a work mode that differs from the common description of the blended work mode, the blended work mode is displayed as `Common workmode, Media_name Media_workmode`.

   For example, if the voice and e-mail channels are in the `Ready` state, and the `action` routing channel is logged off, the blended work mode description is `Ready, Action routing Logged off`.

Presetting Blended Workmodes

Instead of the generated blended work modes, the Adapter can use the predefined blended work modes from its properties file: `gp_resource.properties`.

In this case, the blended work modes are represented as custom-defined work modes with an ID and a description. The ID consists of the `Workmode_mixed_` prefix and a numeric value. The numeric values are represented as `m-length` constants, where every digit represents the state of the partial media (see Step 2 on page 148).

For example, if two channels (voice and e-mail) are configured, with the voice channel in the `Ready` state, and the e-mail channel in the `NotReady` state, then the next string can be set as follows in the `gp_resource.properties` file:
`Workmode_mixed_23 = Voice Ready, Email Not Ready`

As another example, if two channels (voice and e-mail) are configured, with the voice channel in the `NotReady` state, and the e-mail channel in the `Ready` state, you can set the next string as follows in the `gp_resource.properties` file:
`Workmode_mixed_32= Voice_coffee(NotReady), E-mail_Ready.`

Procedure: Editing predefined blended work modes

Purpose: To edit the predefined blended work modes.

Start of procedure

1. Open `gp_resources.properties`, which is located in the `Adapter directory` directory.
2. Locate the `#Mixed workmodes` section.
3. Locate the description of the blended work modes that you want to edit.

4. Update the description, as required.

End of procedure

Next Steps

- No further steps are required.

Custom-Defined Work Modes

Custom-defined work modes are required so agents can create additional reason codes for `Not Ready` states. These work modes are treated as `Logged on` – `Not Ready`, but each has its own numeric value and description.

Standard installation of the Adapter provides two sample custom-defined work modes:

- `5 = Coffee Break`
- `6 = Restroom`

To use these work modes, remove the comment symbol `#` before their definitions in the `gp_resources.properties` file, located in the directory in which the Adapter is installed.

Procedure: Defining additional work modes

Purpose: To define additional work modes.

Start of procedure

1. Open the `gp_resources.properties` file.
2. Find the section marked with the following string: `# Workmodes`.

   This section contains strings with the `<key>=<value>` pairs

   Where:

   - `key` is the work mode identifier
   - `value` is the `workmode_information` structure.

   The `workmode_information` structure has the following format:

   `<Numeric value>,<Workmode description>`

   Where:

   `<Numeric value>` specifies the reason code that is sent to T-Server or Interaction Server when it is switched to the `Not Ready` state.

Notes:
- The default work modes are also described in the `# Workmodes` section, but they have stable numeric values, so the `workmode_information` structure field for these work modes contains the `<Workmode description>` only.
- You cannot specify a reason code of `0` (zero) in a custom-defined work mode, if it is transmitted in the `Extensions` attribute of a `T-Request`. (In other words, the value of the `sendReasonCodeInTExtensions` option in the `GPMC_Common` section is `1`.) However, you can if the reason code is transmitted in the `Reasons` attribute of a T-Request. (In other words, the value of the `sendReasonCodeInTExtensions` option in the `GPMC_Common` section is set to `0` (zero).)

3. In the `# Workmodes` section, locate work modes that have labels starting with the string, `Workmode_Logged_on_not_ready_reason_`. All of these work modes are custom-defined work modes.
4. Edit the custom-defined work modes by using one of the following options:
   - *Create* a new custom-defined work mode by adding a new string with a `<key>=<value>` pair, where `<key>` is the string `Workmode_Logged_on_not_ready_reason_` followed by the numeric value, and `<value>` is a valid `workmode_information` structure.

     Be sure that numeric suffixes in the key are sequential (for example, `1, 2, 3`, and so on) and that there are no gaps between them (for example, `2,3,5`).

     For example: `Workmode_Logged_on_not_ready_reason_3 = 7,Lunch`
   - *Update* the work mode information for an existing custom-defined work mode. Be sure that the format of `workmode_information` is still correct after the modification.

     For example:

     Old value: `Workmode_Logged_on_not_ready_reason_1 = 5,Coffee break`

     New value: `Workmode_Logged_on_not_ready_reason_1 = 5,Tea break`
   - *Delete* a custom-defined work mode (just delete the corresponding string).

Note: Change to custom-defined work modes take effect after you restart the Adapter.

End of procedure

Next Steps

- No further steps are required.

Standard Work Modes

The standard work mode has four permitted values, which are as follows:

- `1 = Logged off`
- `2 = Logged on - Ready`
- `3 = Logged on - Not Ready`
- `4 = Logged on - Not Ready WrapUp`

Cumulative Work Mode Calculations

Cumulative work mode calculations are required in two cases:

- When a voice channel has multiple DNs—for example, a `Place` with one DN set to the `ACD` position, and a second DN set to the `Extension` position.
- When the Adapter is configured for some channels, but the blended work modes are prohibited.

The calculations procedure remains the same for both cases. The following example describes the principles of a cumulative work mode calculation for a voice channel with multiple DNs.

The work mode for a voice channel with multiple DNs is calculated as follows (see Table 3):

- If at least one DN (`ACD Position` or `Extension`) is in the `Ready` state on the `Place`, the cumulative work mode is `Ready`.
- If there are no DNs in the `Ready` state, but one DN is `Not Ready`, the cumulative work mode is `NotReady`.

> Note: If the `Not Ready` DN has a reason code, then the work mode is set to a custom-defined work mode.

- If all the DNs are `Logged off`, the cumulative work mode is `Logged off`.

Table 3: Work Mode Matrix for Two DNs

State Of	DN 1			
DN 2		**Logged Out**	**Not Ready**	**Ready**
	Logged Out	Logged off	Not Ready	Ready
	Not Ready	Not Ready	Not Ready	Ready
	Ready	Ready	Ready	Ready

Wrap-Up Modes

Starting in G*plus* Adapter for SAP ICI Multi-Channel 8.0.0, `wrap-up` mode is applicable only for the voice channel. However, wrap-up processing can be executed on voice and chat channel items. Wrap-up mode can be requested on a call in an active or suspended state.

There are two types of wrap-up mode processing:

- `Manual`
- `Automatic`

Manual Mode

In `Manual` mode, the agent should require the `Wrap-up` mode in SAP IC WebClient. The Adapter then changes the agent work mode to `Wrap-up` during a call, or just after it ends. The Adapter considers the `Wrap-up` mode as `NotReady` with a reason code of `4`. This default value can be changed in the `gp_resources.properties` file.

The `wrapUpOnCall` option in the `GPMC_Voice` section of the Adapter's `Application` object must be set to `0` (zero) for switches that do not enable the work mode to be changed on a DN during an active call (for example, Siemens HiCom 300/HiPath 4000 CSTA I), or that release the active call with `NotReady` requested during the call (for example, Aspect ACD).

When a call is dropped, the Adapter automatically switches into the wrap-up processing state. The `Wrap-up` mode must be completed by a request from SAP to end the wrap-up mode. After the `Wrap-up` mode is completed, the Adapter tries to restore the agent's original work mode. If the `switchToReadyAfterWrapUp` option is set to the value of `1`, the Adapter always restores the `Ready` workmode. If the `switchToReadyAfterWrapUp` option is set to the value of `1`, the Adapter always restores the `Ready` work mode.

Automatic Mode

In `Automatic` mode, the interaction is automatically switched to `Wrap-up` state after the call has ended. (See, the `automaticWrapUpMode` option in the `GPMC_Voice` section of the Adapter's `Application` object.)

When a call is dropped, the Adapter automatically switches the voice channel of the agent to the `Wrap-up` work mode (if it is not yet in this work mode.) The `Wrap-up` mode is ended by a request sent from the SAP IC Web Client. After the `Wrap-up` mode is finished, the Adapter tries to restore the agent's original work mode (the one before the `Wrap-up` mode was applied) on the voice channel.

The behavior of the automatic `Wrap-up` mode can be configured by using one of the following `automaticWrapUpMode` option values:

- If the value is set to 0 (zero), the Wrap-up mode must be requested manually.
- If the value is set to 1, the Wrap-up mode is automatic for all calls.
- If the value is set to 2, the Wrap-up mode is automatic for incoming calls only.

> Note: This value is supported by version 8.0.1, or later, of the Adapter.

- If the value is set to 3, the Wrap-up mode is automatic for outgoing calls only.

> Note: This value is supported by version 8.0.1, or later, of the Adapter.

Special Wrap-Up Features

Wrap-Up for Alerting and Dialing Calls

Wrap-up for alerting or dialing calls is controlled by the wrapUpForNonAnsweredCall option in the GPMC_Voice section of the Adapter's Application object.

> Note: For the Automatic Wrap-up mode, it is recommended that you set the option value to 0 (zero) to prevent any automatic wrap-ups for abandoned calls.

The automaticWrapUpMode and wrapUpForNonAnsweredCall configuration options are present in the GPMC_Outbound section also. They specify the special processing of Outbound Contact Server (OCS) calls in Wrap-up mode.

Wrap-Up as a NotReady Work Mode on T-Server

Depending on the value of the processWrapUpAsACW configuration option in the GPMC_Voice section of the Adapter's Application object, the Wrap-up work mode is handled by the Adapter as a NotReady request with an Unknown or an AfterCallWork attribute.

Configuring the Wrap-Up Workflow for Different Calls

Different wrap-up behavior can be configured for specific types of calls using the allowWrapUpForConsultCalls and allowWrapUpForInternalCalls options.

- The allowWrapUpForInternalCalls option can enable or disable wrap-up during internal calls (calls within a contact center).

- The `wrapUpForConsultCalls` option can configure the wrap-up availability for consultation calls.

Switching to the Ready Work Mode after Wrap-Up

You can end the wrap-up session without using the SAP WebClient's `End` button by configuring the `readyOnWrapUpReaction` option in the following way, depending on the valid value:

- If the value of the `readyOnWrapUpReaction` option is set to `1`, the Adapter ends the wrap-up sesssion, if the agent switches the `Wrap-Up` work mode to `Ready`.
- If the value of the `readyOnWrapUpReaction` option is set to `2`, the Adapter prohibits the direct switching from the `Wrap-Up` work mode to `Ready`.

Configuring the Agent Channels

This section describes how to configure chat, e-mail, and action media channels.

Configuring the E-Mail Channels

The `available` configuration option in the `GPMC_Email` section of the Adapter's `Application` object controls whether or not an agent can work with the e-mail channels.

Table 4 shows the effect of the different `available` option values for the e-mail channel.

Table 4: The Agent Channels for the E-Mail Channel

Value	Description
`0` (zero)	The e-mail channel is turned off (the agent settings are discarded).
`1`	The e-mail channel is turned off for all agents, unless it is explicitly turned on for a particular agent. If no channel configuration is specified on the agent's `Annex` tab, that channel is disabled for this agent.
`2`	The e-mail channel is turned on for all agents, unless it is explicitly turned off for a particular agent. If no channel configuration is specified on the agent's `Annex` tab, that channel is enabled, otherwise, the channel is enabled or disabled according to the configuration of the agent's `Annex` tab.

If the channel is not disabled in the Adapter's Application object, the channel's configuration can be specified on the agent's Annex tab.

Table 5 shows the availability of the e-mail channel by setting the available option in the agent's Annex tab.

Table 5: Availability of the E-Mail Channel by the Value of the available Option Set in the Agent's Annex Tab

Value	Description
0 (zero)	The channel is disabled.
1	The channel is enabled.
not specified	The default configuration from the Adapter's Application object's GPMC_Email\available option.

The Annex tab has an option in the media section for every channel configured. For example, the option for the e-mail channel is called e-mail.

Disabling the E-mail Channel

- If you want to disable the e-mail channel for a specific agent, the Annex tab must contain the following options:

```
media
    email =0
```

Enabling the E-mail Channel

- If you want to enable the e-mail channel for a specific agent, the Annex tab must contain the following options:

```
media
    email=1
```

Note: Any changes made for the agent are applied after the Adapter is restarted and/or after the next agent's subscription.

Configuring the Chat Channels

The available configuration option in the GPMC_Chat section of the Adapter's Application object controls whether or not an agent can work with the chat channel.

Table 6 shows the effect of the different `available` option values for the chat channel.

Table 6: The Agent Channels Values for the Chat Channel

Value	Description
`0` (zero)	The chat channel is turned off. (The agent settings are discarded.)
`1`	The chat channel is turned off for all agents, unless it is explicitly turned on for a particular agent. If no channel configuration is specified on the agent's `Annex` tab, that channel is disabled for this agent.
`2`	The chat channel is turned on for all agents, unless it is explicitly turned off for a particular agent. If no channel configuration is specified on the agent's `Annex` tab, that channel is enabled, otherwise, the channel is enabled or disabled according to the configuration of the agent's `Annex` tab.

If the channel is not disabled in the Adapter's `Application` object, the channel's configuration can be specified on the agent's `Annex` tab.

Table 7 shows the `available` option's chat channel values on the agent's `Annex` tab.

Table 7: The Availability of the Chat Channel by the Value of the available Option Set on the Agent's Annex Tab

Value	Description
`0` (zero)	The channel is disabled.
`1`	The channel is enabled.
Not specified	The default configuration from the Adapter's `Application` object's `GPMC_Chat\available` option.

Disabling the Chat Channel

- If you want to disable the chat channel for a specific agent, the `Annex` tab must contain the following options:

```
media
    chat =0
```

Enabling the Chat Channel

- If you want to enable the `Chat` channel for a specific agent, the `Annex` tab must contain the following options:

```
media
```

```
chat =1
```

Note: Any changes made for the agent are applied after the Adapter is restarted and/or after the next agent's subscription.

Configuring the Action Item Channels

The `available` configuration option in the `GPMC_ActionItems` section of the Adapter's `Application` object controls whether or not an agent can work with the `ActionItem` channel. Table 8 shows the different Agent Control options for the `ActionItems` channels.

Table 8: Agent Channels Options for ActionItems Channels

Value	Description
`0` (zero)	The `ActionItems` channel is turned off (the agent settings are discarded).
`1`	The `ActionItems` channel is turned off for all agents, unless it is explicitly turned on for a particular agent. If no channel configuration is specified on the agent's `Annex` tab, that channel is disabled for this agent.
`2`	The `ActionItems` channel is turned on for all agents, unless it is explicitly turned off for a particular agent. If no channel configuration is specified on the agent's `Annex` tab, that channel is enabled; otherwise, the channel is enabled or disabled according to the configuration of the agent's `Annex` tab.

If the channel is not disabled in the Adapter's `Application` object, the channel's configuration can be specified on the agent's `Annex` tab.

Table 9 shows the available `ActionItem` channel values.

Table 9: Availability of ActionItems Channel by the Value of the available Option Set on the Agent's Annex Tab

Value	Description
`0` (zero)	The channel is disabled.
`1`	The channel is enabled.
Not specified	The default configuration in the `available` option found in the `GPMC_ActionItems` configuration section of the Adapter's `Application` object.

The Annex tab has an option in the media section for every channel configured. For example, the option for the ActionItems channel is called openmedia.

- If you want to disable the ActionItems channel for a specific agent, the Annex tab must contain the following options:

```
media
    openmedia=0
```

- If you want to enable the ActionItems channel for a specific agent, the Annex tab must contain the following options:

```
media
    openmedia=1
```

Note: Any changes made for the agent are applied after the Adapter is restarted and/or after the next agent's subscription.

Restrictions

Only one e-mail channel (Email or ActionItems) can be used in the Adapter at one time. This restriction comes from SAP. SAP can simultaneously work with only one e-mail channel, which is switched on from the SAP side. This means that if an agent has both the Email and ActionItems channels logged in, the agent will be able to work with only the channel that is currently switched on from the SAP side.

Configuring Auto Accept at an Agent Level

The automatic acceptance of incoming media interactions (voice, email, chat, and open media.) can be configured by the autoAnswer option set in the appropriate section (GPMC_ActionItems on page 87, GPMC_Chat on page 91, GPMC_Email on page 96, and GPMC_Voice on page 107).

Note: The value you specify on the agent level on the Annex tab of the configuration object overrides any value specified in the application's options.

Disabling Auto Accept for Voice/Email/Chat/Open Media Interactions

The Annex tab has an autoAnswer option in the media section for every media interaction configured. For example, the option for the voice interaction is listed on page 107.

If you want to disable the auto-accept specific media interaction for a specific agent, the `Annex` tab must contain the following options:

voice/email/chat/openmedia (the section name depends on the configuring media)

```
autoAnswer = 0
```

Enabling Auto Accept for Voice/Email/Chat/Open Media Interactions

The `Annex` tab has an `autoAnswer` option in the media section for every media interaction configured. For example, the option for the voice interaction is listed on page 107.

If you want to enable the auto accept specific media interactions for a specific agent, the `Annex` tab must contain the following options:

voice/email/chat/openmedia (the section name depends on the configuring media)

```
autoAnswer = 1
```

Chapter

7 Configuring E-Mail

This chapter provides an overview of the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) e-mail functionality. It also describes how to configure routing strategies for e-mail interactions. It contains the following sections:

E-Mail Functionality

This section introduces the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) e-mail functionality.

> Note: The Adapter requires Genesys E-mail Server release 7.2 or later in order to maintain the outgoing e-mail format. If a previous release of Genesys E-mail Server (7.0 or 7.1) is used, the e-mail message format is converted to plain text.

Common Settings

In order to show the `Subject` and `Message` text in message events, you must set the `showContentInEvent` option in the `GPMC_Email` section of the Adapter's `Application` object to `1`.

> Note: Genesys E-mail Server release 7.2, or later, is required in order to prevent conversion of outgoing e-mail to plain text.

E-Mail Message Auto-Accept

Note: This functionality is only available for version 8.0.1, or later, of the Adapter.

The Adapter can be configured to automatically accept email messages that are delivered to an agent. When auto-accept is enabled, the agent does not need to manually accept the email (by pressing the Accept button).

After the email message is delivered to the agent, it is automatically accepted by the Adapter. Therefore, the agent can start working with the e-mail without having to perform any other action.

You can configure the Adapter's Application object to automatically accept e-mail sessions, by using the autoAnswer configuration option in the GPMC_Email section. The value of this option can be overridden by the value you specify on the Annex tab of the configuration object.

To set the specific agent behavior, the Annex tab must contain the following options:

```
email
    autoAnswer = 0/1
```

Forwarding Incoming E-Mail

The Adapter forwards incoming e-mail through eServices (formerly Multimedia). This functionality enables e-mail to be forwarded from agent to agent.

Notes:
- The recipient agent must be logged in.
- The sending agent does not receive the ended event until the recipient agent accepts the e-mail.

Sending E-Mail to an Agent

This functionality was designed for the G*plus* Adapter 6.5.x for SAP ICI Multi-Channel. Genesys does not recommend using this functionality with the 8.0.x Adapter, because it impacts Genesys Reporting Solution.

All e-mail sent to addresses in which the domain name section is equal to the value of the agentEmailDomain configuration option in the GPMC_Common section of the Adapter's Application object is sent to internal agents. In this scenario, the account name section (the string before the @) is considered another agent's name.The Adapter uses not only the domain name configured in the agentEmailDomain option, but also checks whether the account name defined in

the e-mail is known to the Adapter. In scenarios where the agent name is not known to the Adapter, the e-mail is treated as external.

Note: The Adapter treats the agent names as case-insensitive. This means that any names (for example, `Testagent1` and `TestAgent1`) are treated as the same name.

The Adapter sends e-mail that is intended for another agent to a special e-mail address, defined in the `transferEmailBox` configuration option in the `GPMC_Email` section of the Adapter's `Application` object, so that it arrives on the E-mail Server Java (a component of eServices). This e-mail is then routed to the specified agent.

Notes:
- The E-mail Server Java (a component of eServices) excludes the transfer address from the `e-mail senders` list if the address is the same as the `e-mail address` field in the `pop-client` section. To modify this behavior create a transfer e-mail address alias, and then add the new e-mail alias to the `transferEmailBox` option.
- It is recommended to use a separate e-mail box for the `transferEmailBox` option.
- Also, it is recommended to disable any external e-mail delivery to this e-mail address.

When e-mail is routed to the assigned agent, the `From` and `Reply-To` fields in the source message are replaced with the address of the agent who sent the message. To prevent this replacement, set the `substituteAgentAddress` configuration option in the `GPMC_Email` section of the Adapter's `Application` object to a value of `0` (zero).

Interaction Workflows

An `interaction workflow` defines how multimedia (non-voice) interactions move through queues, routing strategies, workbins, and other objects.

This section provides sample interaction workflow patterns that are required for the Adapter to work with an e-mail channel by using the eServices (formerly Multimedia) Solution.

Creating a Business Process

The purpose of a `Business Process` is to direct incoming e-mails through various processing objects, including:

- Queues
- Views

- Routing strategies

You can use an existing Business Process, or you can create a new one by using Interaction Routing Designer (IRD). See Figure 20.

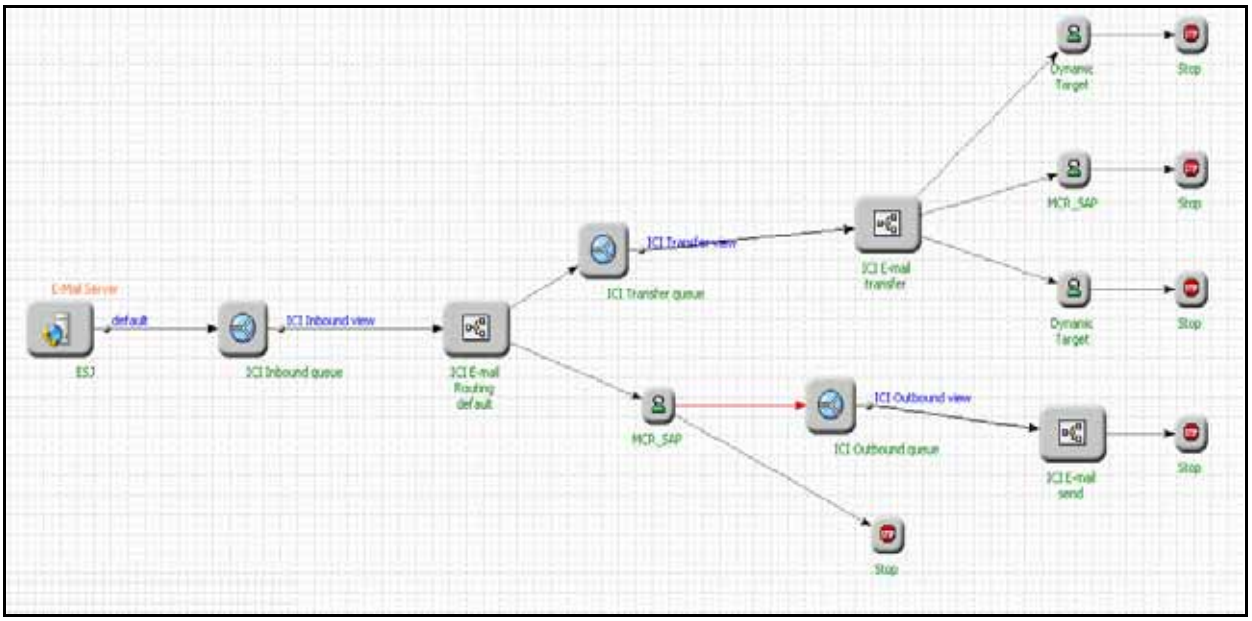

Figure 20: Simple Business Process

The e-mail routing strategy in Figure 20 processes inbound e-mail from the inbound queue. An inbound e-mail can be a new message from a customer, or it can be an existing message that is being transferred from another agent.

- If the e-mail is a new e-mail from the customer, it is routed to the `E-mail distribution` agent group for processing.
- If the e-mail is sent from one agent to another, the e-mail routing strategy obtains the `agent_id` of the agent that the e-mail is to be routed to and then routes the e-mail to that agent. If the e-mail cannot be routed to the specified agent, it is sent to the `E-mail distribution` agent group.

The purpose of the `send` strategy is to route e-mails to E-mail Server Java in order to send them to the customer.

Configuring Queues and Workbins

A Business Process requires three queues (see Figure 21):

- An inbound queue for inbound e-mail.
- A draft queue for draft e-mail.

> Note: For a draft view, the parameterized condition must be set in the `agent_id` (a parameter of the `View` object).

- An outbound queue for e-mail sent to a customer.

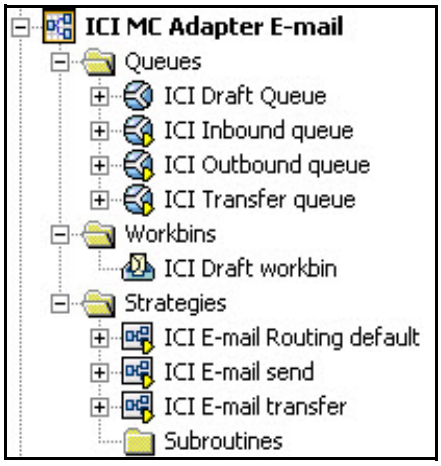

Figure 21: Simple Business Process with Defined Queues

In order to have draft messages, you must create a draft workbin. You do this by configuring three objects:

- Queue
- View
- Workbin

You associate these objects through an Interaction Flow strategy, using IRD.

Note: The draft workbin must be in the `Workbin` section of the `Draft` view in IRD.

Configuring E-Mail Routing Strategies

Receiving Incoming Messages

Agent capacity *rules* provide information about whether an agent is available for routing. Universal Routing Server (URS) can use agent capacity information that the Stat Server supplies to route interactions.

Capacity rules must be assigned to an agent or an agent's place. In order to ensure that an agent receives just one incoming e-mail from the Virtual Routing Point (VRP), the capacity rule must define the maximum capacity for e-mail media as `1`.

Note: You set capacity rules by using the Genesys Agent Capacity Wizard.

Agent-to-Agent Outgoing E-Mail Send Strategy

To deliver incoming e-mail messages directly to an agent, you must modify your default routing strategy (`Process ABC`). The modified strategy must process the messages sent to the transfer address, and then deliver them to the agent specified in the `Subject` field of the e-mail.

The following code shows the format of the e-mail `Subject` field for the e-mail messages that the Adapter sends from agent to agent:

```
[<empToId>|<empFromId>]<Original Subject>
'[', '|', ']' - delimenters
<empToId>-employee ID of an agent to whom a message must be
transferred/sent;
<empFromId>-employee ID of an agent who message was transferred/sent;
<Original Subject> - original subject
```

The values for the `transfer to` and `transfer from` agents `<empToId>` and `<empFromId>` are extracted from the `Subject` field of the e-mail message (see Figure 22 on page 166).

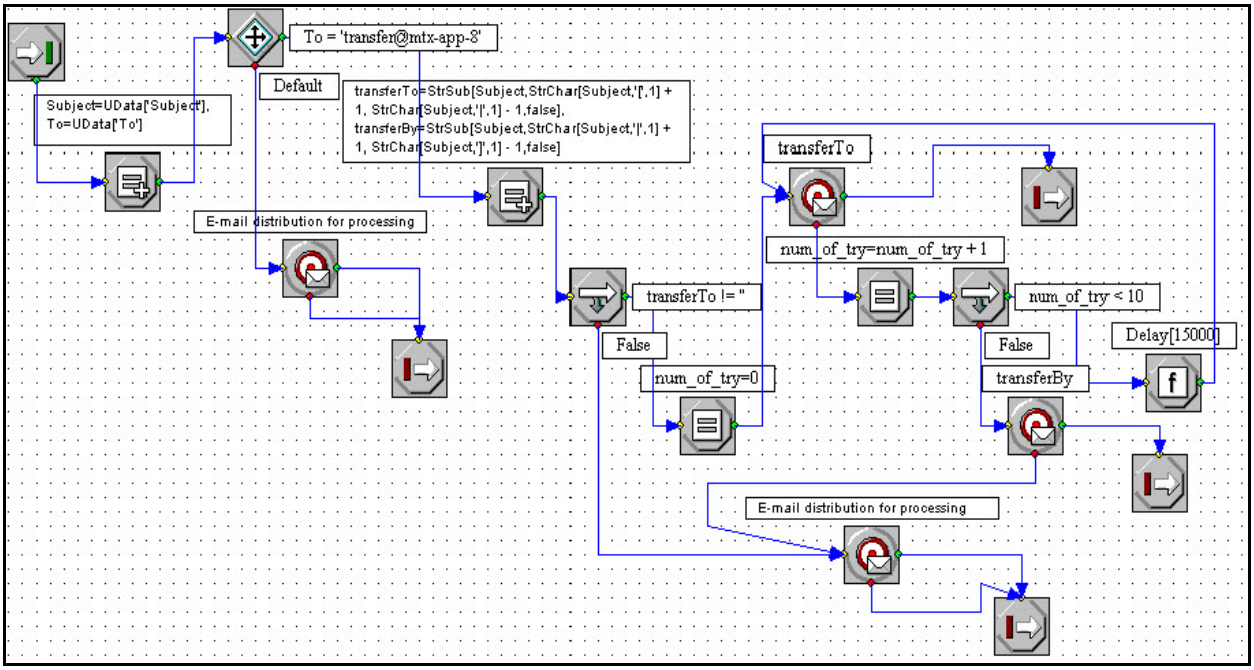

Figure 22: Agent-to-Agent Outgoing E-Mail Send Strategy

For more information about using routing strategies, see the Genesys Universal Routing documentation.

Calculation of Agent Work Time

In the current Adapter implementation, interactions are on the place in the following scenarios:

- When incoming e-mail interactions are in the `Active` state:
  - During an `Alerting` event.
  - After an agent accepts the interaction and until it is deleted or transferred.
- When outgoing e-mail interactions are in the `Active` state:
  - After the interaction is created and until it is saved, sent or deleted.
  - After and interaction is reopen from a draft and until it is saved, sent, or deleted.

In all other situations, interaction are in the `Not in Process` state.

An interaction is in an `Active` state during the inbound e-mail steps described in Table 10

Table 10: Interaction in Active State—Inbound E-Mail

Task (ICI command)	Command (ICI command)	Description
1. Alerting e-mail interaction	Accept interaction (`accept`)	When an agent receives an e-mail, the interaction is already on the place. After the work on the e-mail is finished, the agent perform one of the two operations: • End interaction (`delete`) • Transfer to another agent (`forward`) For both operations, the interaction leaves the place.
2. Alerting e-mail interaction	Reject interaction (`reroute`)	If the agent decides to reject (`reroute`) the interaction, or if interaction was rejected by a T-Server timeout, the interaction leaves the place.
Note: If an agent replies to incoming e-mail, two interactions are taking the place and both are included in the statistics. In all other states, the interaction is `Not in Process` and the time interval is not included in the statistics.		

`Note:` For detailed information about e-mail workflows, see “Interaction Workflows” on page 163.

To provide the accurate statistics for the `E-mail` channel, the Adapter uses the following strategy:

- It opens interactions on the agent place in those scenarios, in which the interaction is in an `Active` status.
- Each time the interaction is in an `Active` state, the agent is assumed to be busy working on the `E-mail` channel.

In Table 11, the mapping of the Adapter 7.5.1 and Adapter 8.0.x behavior helps to clarify the current strategy.

Table 11: Mapping of Interactions from Adapter 7.5.1 to Adapter 8.0.x

	Adapter 7.5.1		Adapter 8.0.x	
Steps	**Elapsed time**	**Interaction on place?**	**Elapsed time**	**Interaction on place?**
1. Create outgoing mail	n (seconds)	True	n (seconds)	True
2. Save as draft	n (seconds)	False (after save)	n (seconds)	False (after save)
3. Open draft	n (seconds)	False (after open)	n (seconds)	True
4. Work with e-mail content	0	False	N (minutes)	True
5. Send e-mail	n (seconds)	False	n (seconds)	False

Table 11 contains examples of the elapsed times before the agent work appears in statistics. The e-mail interaction process in Step 4, (work with e-mail content) has the highest duration, and this elapsed time was not reflected in the agent statistic in the Adapter 6.5, 7.5, or 7.5.1. However, in the Adapter 8.0.x, the behavior is changed.

`Notes:`
- E-mail from the `Sent` folder, does not capture the agent place when it is open.
- If the agent replies to incoming e-mail, two interactions are captured in the place and both are counted into the statistics.

Chapter

8 Configuring Chat

This chapter provides an overview of the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) chat functionality. In addition to interaction workflows, also describes how to use a routing strategy to send a chat transcript to a customer. It contains the following sections:

Chat Functionality

This section contains information about how to configure the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) chat functionality.

Common Settings

To enable the chat functionality, the Adapter must be connected to the following components:

- Universal Contact Server (UCS)
- Interaction Server
- Chat Server.

In addition, the `Chat` channel must be correctly configured (see "Configuring the Chat Channels" on page 156).

`Note:` The G*plus* Adapter 8.0.x supports incoming chat interactions only. In other words, an agent can not initiate chat sessions. However, an agent can transfer incoming chat sessions.

Identifying the Chat Participants

Chat participants (either agents or customers) are identified by their e-mail addresses. This requirement is specified in the ICI protocol.

The customer may or may not provide their e-mail address during chat session initialization. If the customer does provide the e-mail address, the Adapter checks that the e-mail address is correct according to the general rules (is in the correct format—for example, *John.Smith@bigcorp.com*). However, it does not check to see if the e-mail address actually exists.

If the customer does not specify their e-mail address, the Adapter creates a chat identification for them, by using the `fakeCustomerDomain` configuration option in the `GPMC_Chat` section of the Adapter's `Application` object. This option controls the agent's ability to work with the `Chat` channel.

For example, the `fakeCustomerDomain` option's value is `customer.test`. When the Adapter receives an incoming chat session from customer, John.Smith, whose e-mail is not revealed, it creates the `John.Smith@customer.test` fake identifier.

The Adapter uses the same principle to identify agents. An agent's e-mail address can be specified in the `E-mail` property of the `Person` object in Configuration Manager, (see Figure 23) or a fake agent e-mail address can be created, by using the `agentID` and the `agentEmailDomain` configuration option in the `GPMC_Common` section of the Adapter's `Application` object.

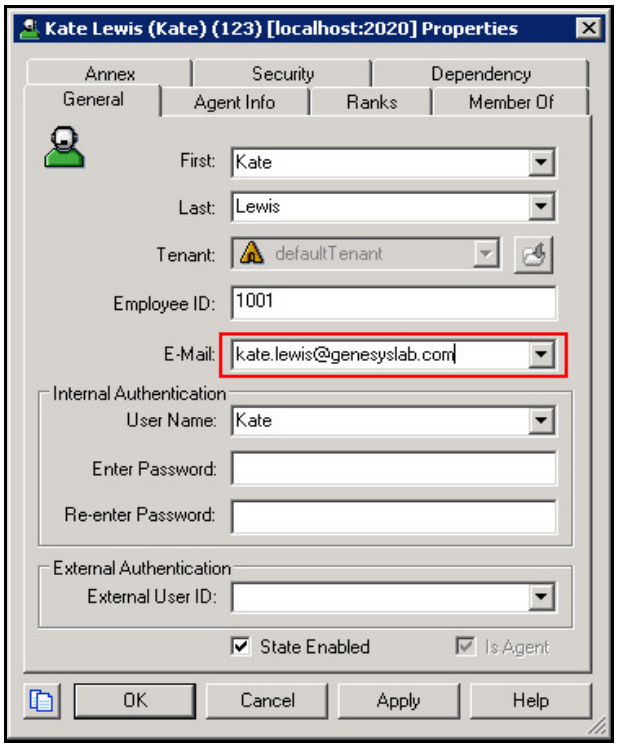

Figure 23: Person Object Properties in Configuration Manager (E-mail Address)

Incoming Chat Sessions

Incoming chat sessions are routed to the Adapter through Interaction Server. Special strategies, designed to route chat interactions, must be used to deliver chat sessions to agents. For detailed information about Chat routing strategies, see “Chat Interactions Routing Workflow” on page 174.

Typically, chat sessions are routed through the corporate web site. Examples of chat clients, from which incoming chat session can be initiated, are found in Genesys Web Samples. See Figure 24 on page 171.

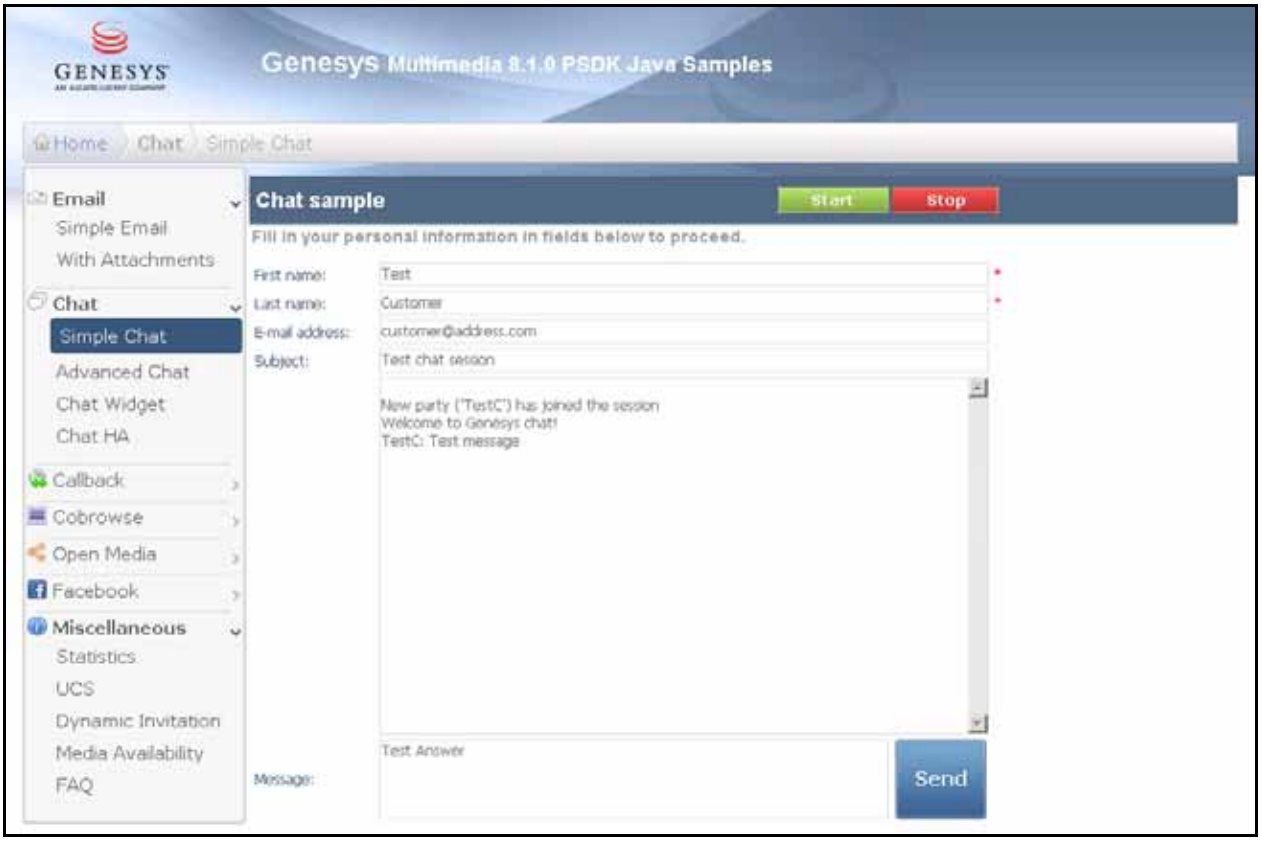

Figure 24: Chat Session Initiation (Web Samples)

After the chat session is delivered to the agent, they can choose one of three options:

1. Accept chat session.
2. Reject the chat session and take no other action.
3. Take no action. (After the chat session times out, it is cancelled by Interaction Server and routed to another agent.)

If the agent accepts the chat session, it is switched to the `Connected` state. See Figure 25.

Figure 25: Chat Session in Connected State (SAP CRM)

When a chat session is in the `Connected` state, the agent can post messages, and receive messages from the customer or from the Genesys system. (The Adapter filters system messages by default. To control this behavior, the Adapter provides the `showSystemMessages` configuration option in the `GPMC_Chat` section of the Adapter's `Application` object.)

> **Note:** Due to limitations in the ICI protocol, chat session conferencing is not supported.

Chat Session Auto-Accept

The Adapter can be configured to automatically accept chat sessions that are delivered to the agent. When auto-accept is enabled, the agent does not need manually accept the chat session (by pressing the `Accept` button).

After the chat session is delivered to the agent, it is automatically accepted by the Adapter. Therefore, the agent can start a conversation without having to perform any other action.

You can configure the Adapter's `Application` object to automatically accept chat sessions, by using the `autoAnswer` configuration option in the `GPMC_Chat` section (or by using the `autoAcceptSession` for the 8.0.0 version of the Adapter).

The value of the `autoAnswer` option can be overridden by the value you specify on the `Annex` tab of the configuration object.

To set the specific agent behavior, the `Annex` tab must contain the following options:

```
chat
    autoAnswer = 0/1
```

Note: The autoAnswer option is supported by version 8.0.1, or later, of the Adapter.

Chat Session Wrap-Up

Like a phone call, chat session can be processed in the Wrap-Up state. To enable the Adapter to process chat sessions in this state, configure the enableWrapUp option in the GPMC_Chat section of the Adapter's Application object.

Note: The chat session wrap-up process is different from the voice calls wrap-up process. Voice calls wrap-up are performed after the customer or an agent ends the call. The chat session wrap-up is performed after the agent drops off of the session. (It does not matter if the customer is still participating or has dropped off of the session.)

Sending a Chat Transcript to a Customer

The G*plus* Adapter 8.0.x supports functionality that enables an agent to send chat transcripts to a customer after the chat session has ended. A chat interactions routing strategy is used to fully enable this functionality. For detailed information about this routing strategy, see "Send Transcript to Customer Workflow" on page 174.

You can turn this feature on and off by using the configuration option in the Adapter's Application object.

There are two way to enable the Adapter to send chat transcripts to a customer:

1. Set the sendTranscript option value in the GPMC_Chat section to 1. The Adapter automatically attempts to send a chat transcript to the customer as soon as chat session ends.
2. Use a routing strategy to attach the Send_Chat_Transcript key to the call-attached data (CAD) of the chat interaction with a value of true. You can use this method on corporate web sites, when a customer requests a transcript.

For example, in the following use case, the customer had a chat session on the corporate side and made a request (by manually pressing a check box) to have a transcript of the chat session sent to his/her e-mail address. The Adapter simultaneously uses the routing strategy to send the chat transcript, and the interaction queue, in which the chat interactions are placed when waiting to be sent.

To configure a name for the interaction queue, use the transcriptQueue configuration option in the GPMC_Chat section of the Adapter's Application object.

Interaction Workflows

An `interaction workflow` defines how multimedia (non-voice) interactions move through queues, routing strategies, workbins, and other objects.

This section provides sample interaction workflow patterns that are required for the Adapter to work with a `Chat` channel (using the eServices (formerly Multimedia) Solution).

Chat Interactions Routing Workflow

Interaction processing workflows that are used to deliver chat sessions to an agent are very similar to workflows that are used to deliver e-mail interactions. For information about e-mail interaction workflows, see “Configuring E-Mail Routing Strategies” on page 165.

Send Transcript to Customer Workflow

A special strategy is used to send chat transcripts to customers. A typical strategy is depicted in Figure 26.

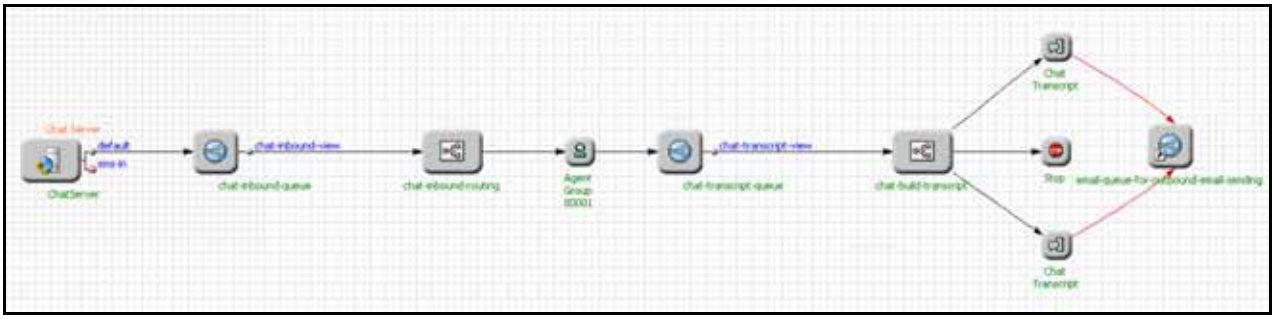

Figure 26: Chat Interactions Routing Strategy

Chapter

9 Configuring the Media Routing Component

This chapter provides an overview of the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) Media Routing Component functionality. It contains the following sections:

Introduction

The Media Routing Component enables the integration of SAP work items (`ActionItems`, formerly known as `SAP E-mail`) into the queuing and routing mechanisms of the connected contact center.

Preliminary Procedures

The Media Routing component does not require any additional Genesys applications, other than those listed in Chapter 3 on page 29. The G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) will work with SAP `ActionItems`, only if it is connected to the same applications that are required

for the e-mail interactions (The difference is that, for SAP `ActionItems`, open media interactions are used.) You set the media type for these interactions in Configuration Manager and in the Adapter's `Application` object options. See "Configuring the Application Object" on page 38.

Open Media (ActionItem) Interactions

If you are using the Adapter for `ActionItem` interactions, you must create a connection to the following servers:

- Universal Contact Server
- Interaction Server
- Stat Server

Configuring the Media Type

Use the procedure in this section to configure the a new Media Type.

Procedure: Configuring a new Media Type

Purpose: To configure a new media type for open media interactions.

Start of procedure

1. In Configuration Manager, click the `Business Attributes` folder.
2. Click the `Media Type` folder.
3. Click the `Attribute Values` folder.
4. Configure the new media type in your existing Tenant.
5. Enter the name of the new media type in the Adapter's `Application` object options (see the description of the `GPMC_ActionItems` options on page 87).

   For example, the `ActionItem` media type may be added to the Configuration Database (see Figure 27 on page 177).

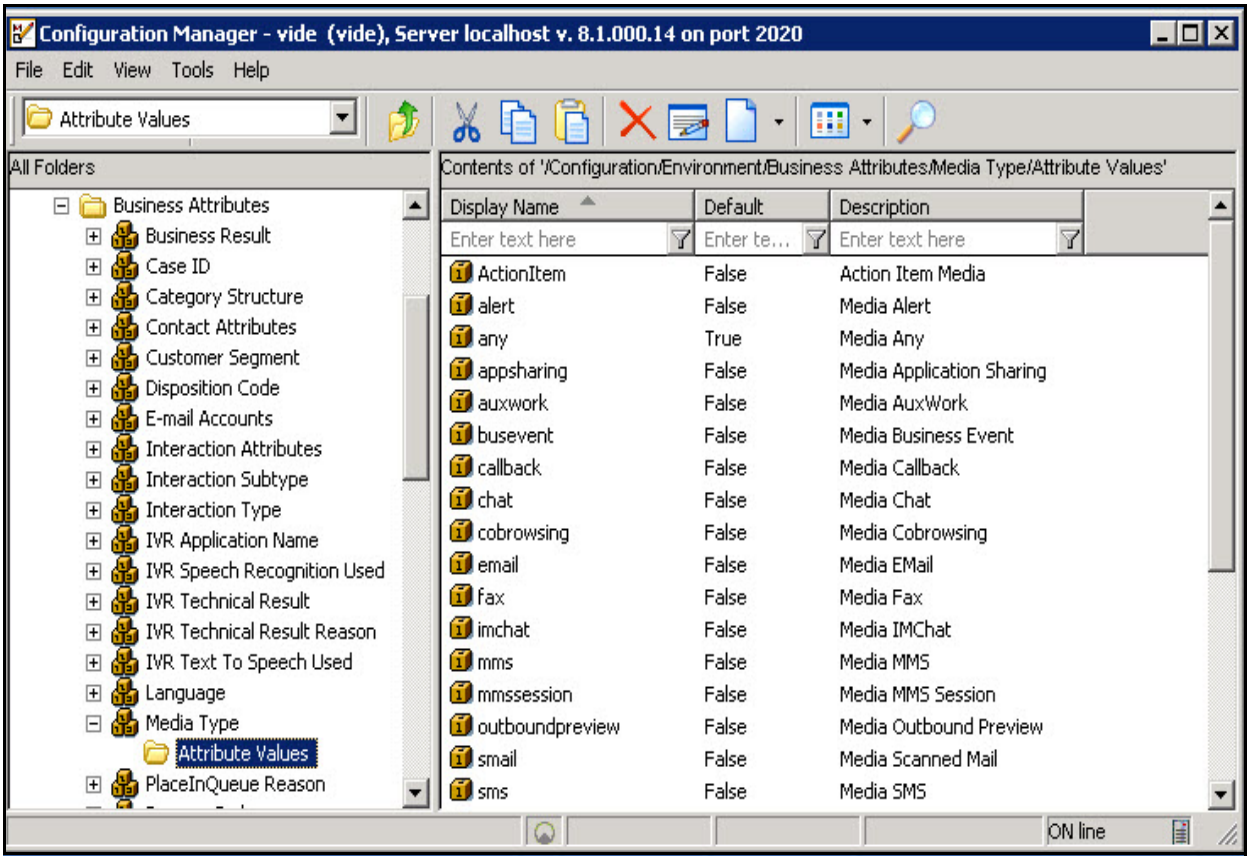

Figure 27: Media Types in Configuration Manager

Figure 28 shows the `Properties` dialog box for this `ActionItem`.

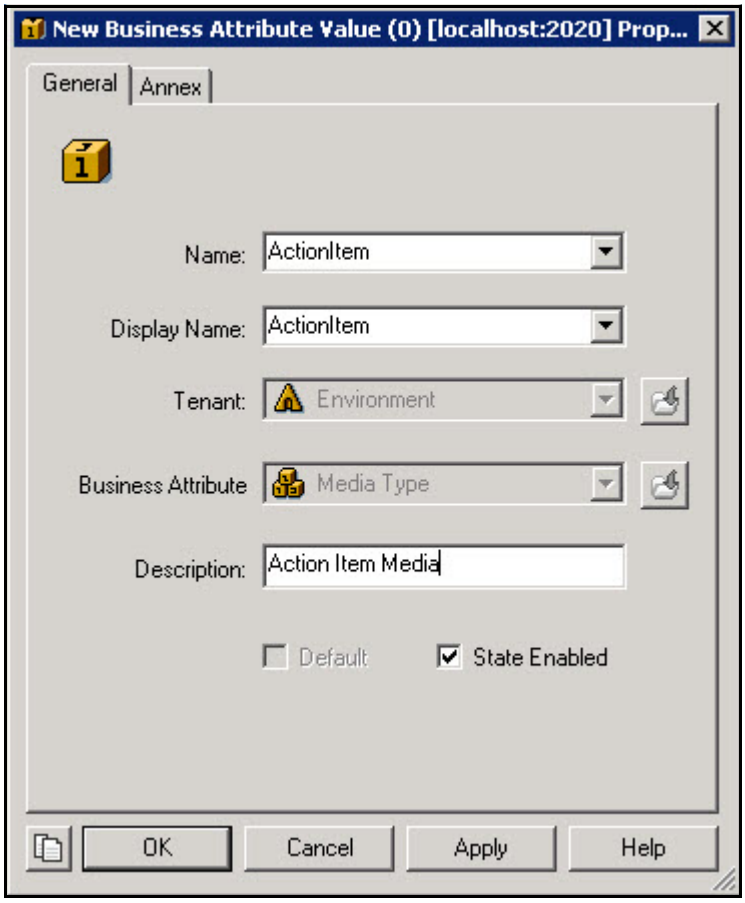

Figure 28: ActionItem Media Type Properties

End of procedure

Next Steps

- No further steps are required.

Installing the Media Routing Component

The following directory on the *G*plus *Adapter 8.0.x for SAP ICI Multi-Channel* DVD contains the Media Routing Component installation package:

`<cd_drive>/gplus_components/gplus_media-routing /windows/`

`Notes:`
- The Media Routing Component can only be installed after the ICI Multi-Channel for SAP Adapter.
- The Media Routing Component is installed into the directory where the Adapter is already installed.

You must install the Media Routing Component on the target computer by using an InstallShield Wizard that takes you step-by-step through the installation.

Procedure:
Installing the Media Routing component

Purpose: To install the Media Routing Component.

Start of procedure

1. If you have not already done so, insert the installation DVD into your DVD drive.
2. Locate the `setup.exe` file in the DVD path `\gplus_components\gplus_media-routing\windows\`, or in your installation package.
3. Double-click `setup.exe` to run the InstallShield Wizard.

   InstallShield takes you through the installation process step by step.

   After InstallShield prepares the Genesys Installation Wizard, the `Welcome` page appears.
4. Click `Next` to continue.

   The `Select Installed Application` page appears (see Figure 29 on page 180). This screen displays a list of configured Adapter's `Application` objects for the host on which the installation is running.

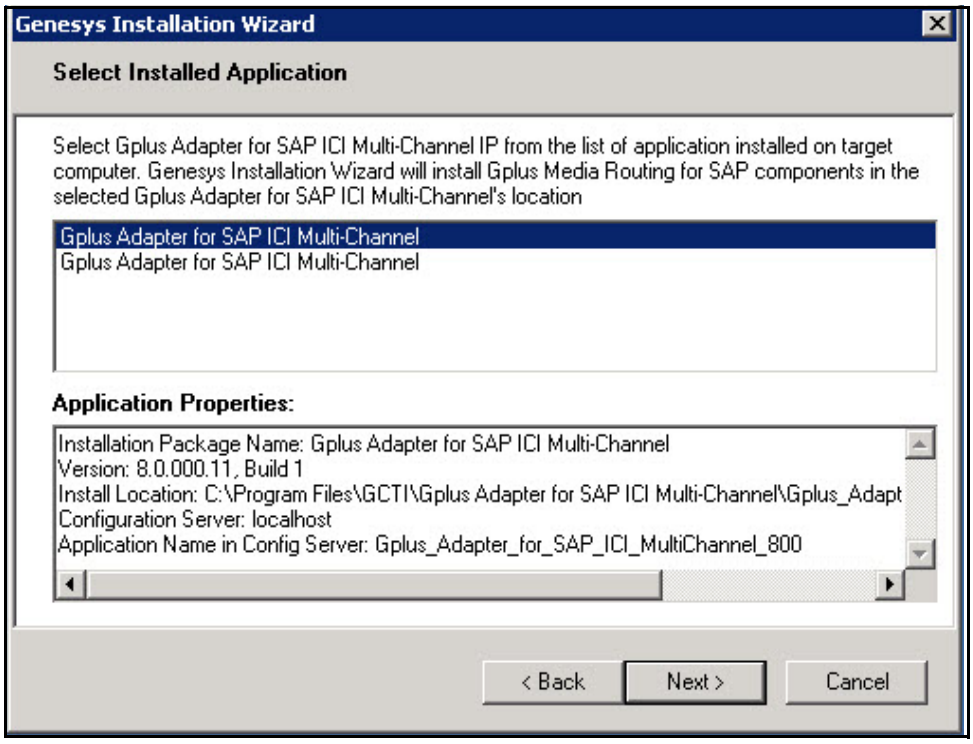

Figure 29: Select Installed Application Page

5. Select the appropriate Adapter's `Application` object from the list.
   The bottom half of the page displays the application properties.
6. Click `Next` to continue.
   The `Ready to Install` window appears (see Figure 30 on page 181).

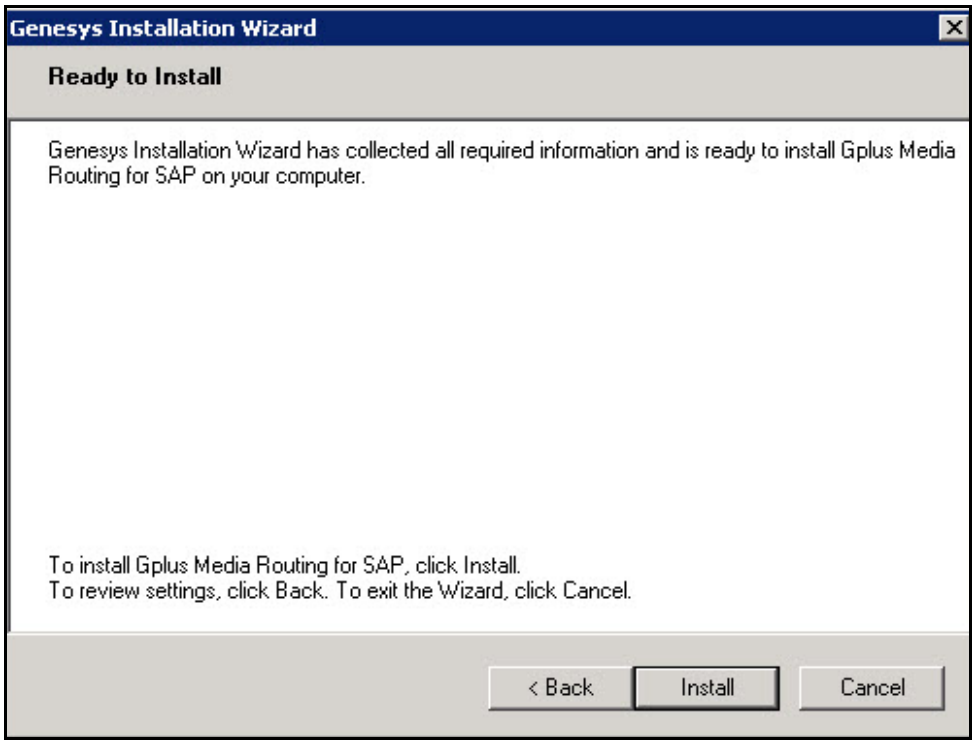

Figure 30: Ready to Install Page

7. Click `Install` to begin copying files.

   After a few moments, the `Installation Status` appears.

8. Wait for the installation to finish, or click `Cancel` if you want to cancel this installation.

   When the installation is finished, the `Installation Complete` page appears (see Figure 31 on page 182).

9. When the `Installation Complete` window appears (see Figure 31 on page 182), click `Finish` to complete the installation.

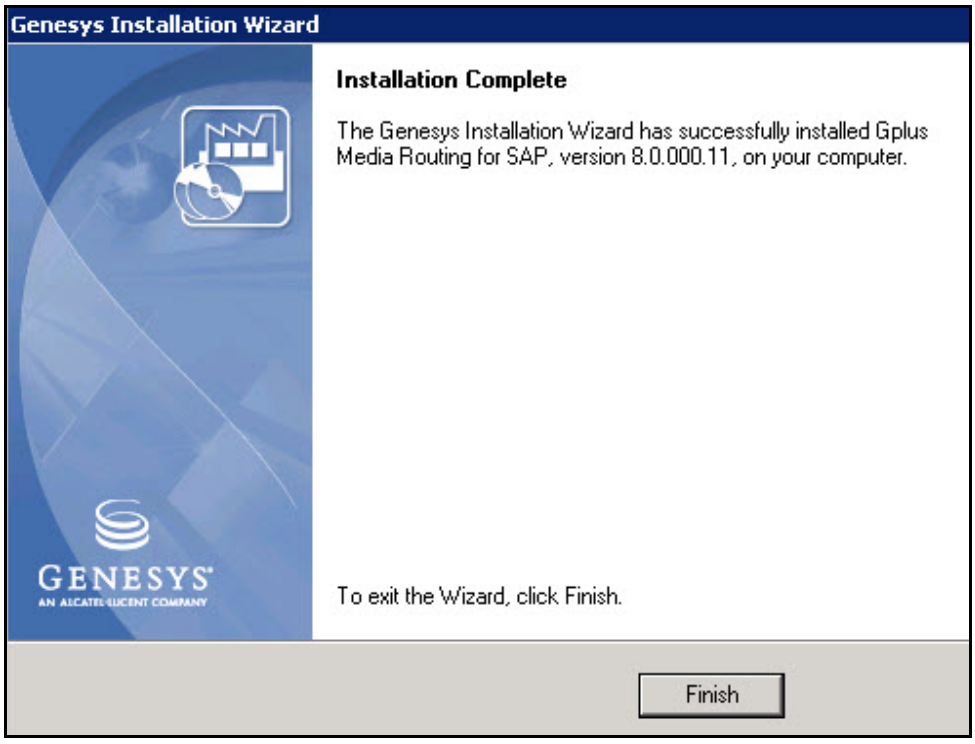

Figure 31: Installation Complete Screen

10. Click `Finished` to complete the installation.

Note: After the installation, a new line that switches on the Media Routing feature is added to the `sapadapter.properties` file:

```
feature.set.MediaRouting=com.genesyslab.gplus.sap.ici.misc.ICIRoutingFeatureSet
```

End of procedure

Next Steps

- No further steps are required.

Uninstalling the Media Routing Component

You can uninstall the Media Routing Component by using the Microsoft Windows `Add/Remove` programs feature.

Note: The uninstallation procedure varies, depending on the version of the Windows operating system that you are running. Keep this in mind as you complete the following procedure.

Procedure:
Uninstalling the Media Routing component

Purpose: To completely uninstall the Media Routing component.

Start of procedure

1. From the Windows main task bar, select `Start > Settings > Control Panel > Add/Remove Programs`.
2. Select `Genesys Gplus Media Routing for SAP` as the installed component to remove.
3. Follow the on-screen instructions, and confirm that you want to remove the Media Routing component.

   `Add/Remove` programs removes the Media Routing component, and a message appears, informing you that the uninstallation has been completed.
4. Follow the on-screen instructions to conclude the uninstallation.

End of procedure

Next Steps

- No further steps are required.

Working with Action Items

This section contains information about `ActionItem` workflows.

ActionItem Workflow

The `ActionItem` life cycle is carried out over two different containers:

- `Server container`: The `ActionItem` life cycle is in charge of transferring the `ActionItem` information from SAP to the Genesys queuing interaction for routing in the following scenario:
  a. The agent sends the `Server container` requests under the name `GPMC_ActionItems\agent`.
  b. The queue requests create the `GPMC_ActionItems\mediaType` interactions and then submits them to the `GPMC_ActionItems\queue` queue.

> Note: The agent with a defined `GPMC_ActionItems\agent` name option does not exist in the Configuration Database. This agent should be manually created.

- `Agent container`: This container executes the workflow of the `ActionItem` processing by a particular agent (accepting the `ActionItem`, changing the Call-Attached Data (CAD), and so on).

`Note`: These two containers work in unison, and both must be used at the same time.

See “Interaction Workflows” on page 163 for more information on workflows.

Updating a Business Process

The same queue and strategy used for incoming e-mail interactions may be used for `Action Item` interactions. The name of this queue is specified by the `queue` configuration option in the `GPMC_ActionItems` section of the Adapter’s `Application` object. The Media Routing component interactions are found in this queue.

Figure 32 shows the new queue `Action queue` added to the `ABC Simple` Business Process.

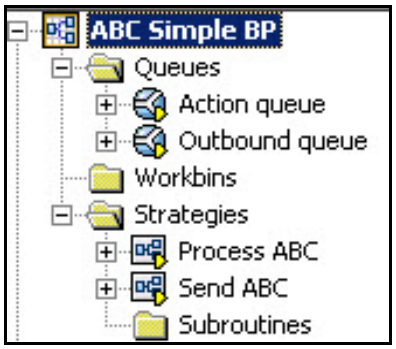

Figure 32: ABC Simple Business Process with Defined Queues

Figure 33 shows the updated ABC Simple Business Process:

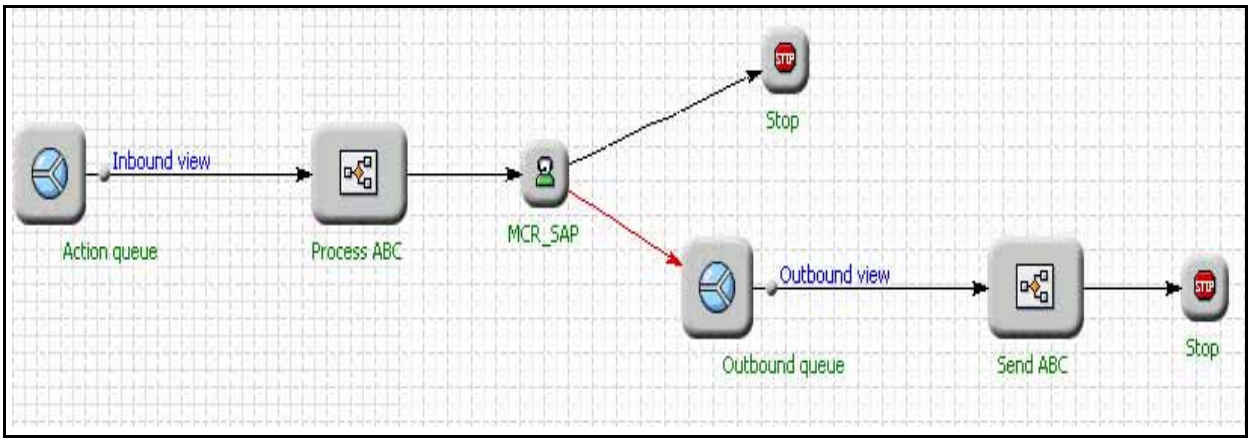

Figure 33: ABC Simple Business Process

The ActionItem routing strategy in Figure 33 processes the open media interactions from the Action queue. Interactions are sent to the Action queue as a result of the Server container workflow.

See "Creating a Business Process" on page 163 for more information on creating a Business Process.

Configuring Action Item Strategies

This section contains information about configuring ActionItem strategies.

Receiving Incoming Action Item Interactions

Agent capacity rules provide information about whether an agent is available for routing. The Universal Routing Server (URS) can use agent capacity information that the Stat Server supplies in order to route interactions.

Capacity rules must be assigned to an agent or an agent's place. In order to ensure that an agent receives just one incoming ActionItems interactions from the Virtual Routing Point (VRP), the capacity rule must define the maximum capacity for ActionItem media as 1.

Note: You set capacity rules by using the Genesys Agent Capacity Wizard.

Action Item Auto-Accept

> Note: This functionality is only available for version 8.0.1, or later, of the Adapter.

The Adapter can be configured to automatically accept incoming action item messages that are delivered to an agent. When auto-accept is enabled, the agent does not need to manually accept the email (by pressing the Accept button).

After the action item message delivered to the agent, it is automatically accepted by the Adapter. Therefore, the agent can start working with the action item message without having to perform any other action.

.You can configure the Adapter's Application object to automatically accept e-mail sessions, by using the autoAnswer configuration option in the GPMC_ActionItems section. The value of this option can be overridden by the value you specify on the Annex tab of the configuration object.

To set the specific agent behavior, the Annex tab must contain the following options:

```
actionitem
    autoAnswer = 0/1
```

Action Item Routing Strategy

Figure 34 shows an example of a simple strategy, in which routing attributes are not processed. This strategy selects an available agent from the E-mail distribution for processing agent group.

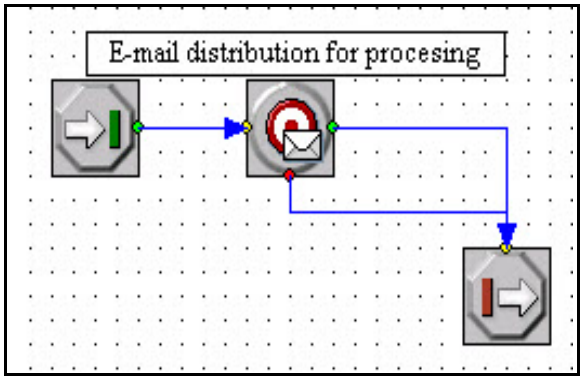

Figure 34: ActionItem Routing Strategy

The Sent in queuing requests routing attributes and user IDs are stored in the Interaction User data under the routingAttributes and userIds keys, respectively. These attributes can be used in a strategy to dynamically select an agent to whom the interaction is routed.

Action Item Routing Services

In the Adapter 8.0.0 and later releases, Action Items can be pushed to routing: through intelligent Workload Distribution (iWD).

Use the `routingService` configuration option in the `GPMC_ActionItems` section of the Adapter's `Application` object to specify the way in which the Adapter pushes Action Items to routing. There are two valid values: `IS` and `iWD`.

Routing through Interaction Server

To configure the Adapter to push Action Items to routing by using Interaction Server (IS), set the value of `routingService` option in the `GPMC_ActionItems` section of the Adapter's `Application` object to `IS`.

This is an old solution, used when direct requests to Interaction Server were used to push Action Item to routing.

Routing Through iWD

To configure the Adapter to push Action Items to routing by using intelligent Workload Distribution, set the value of `routingService` option in the `GPMC_ActionItems` section of the Adapter's `Application` object to `iWD`.

In addition, use the `iWDURL` configure option value in the `GPMC_ActionItems` section with the URL of iWD capture point.

This is an new solution, used in Adapter 8.0.0 and later releases, by pushing the Action Item to routing through web services that are provided by iWD. To obtain more information about iWD solution, see the *Genesys 8.0 intelligent Workload Distribution (iWD) Deployment Guide.*

Figure 35, Figure 36, and Figure 37 on page 189 show how the Action Item routing is configured on the Adapter and in iWD, respectively.

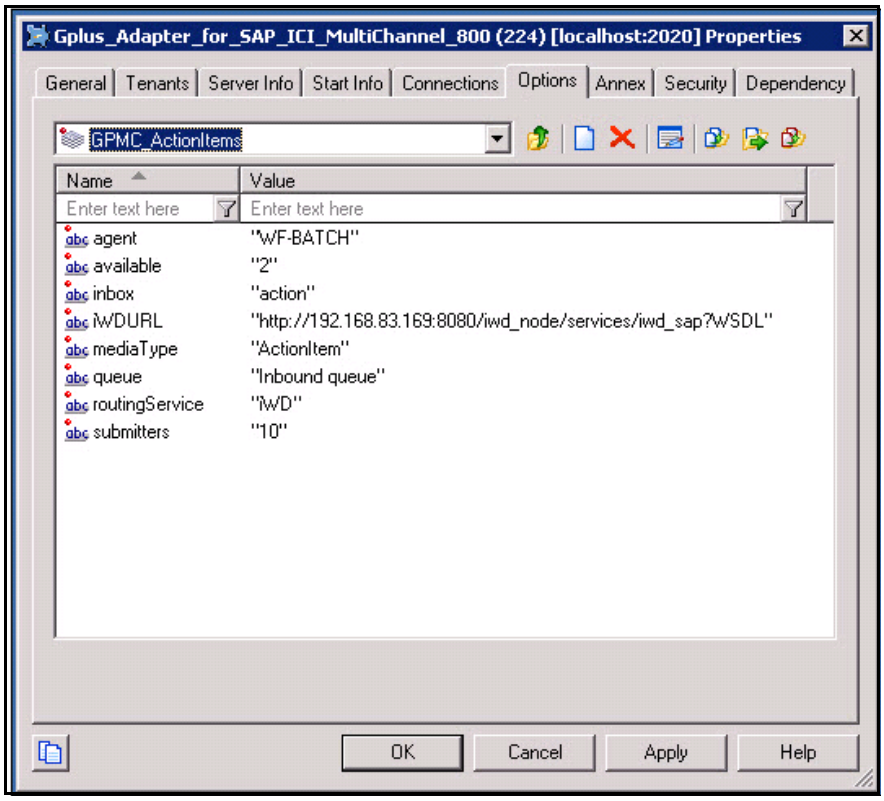

Figure 35: Configuring iWD URL Capture Point in the Adapter

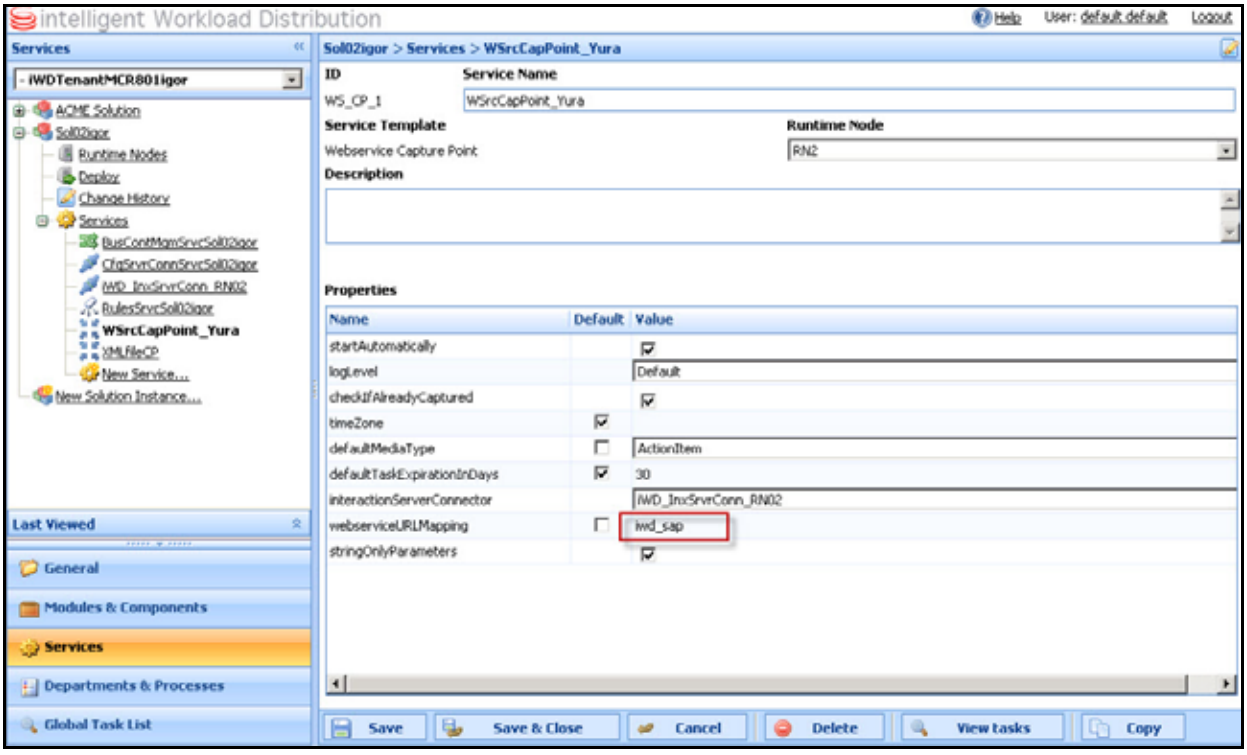

Figure 36: Configuring iWD URL Capture Point in the iWD

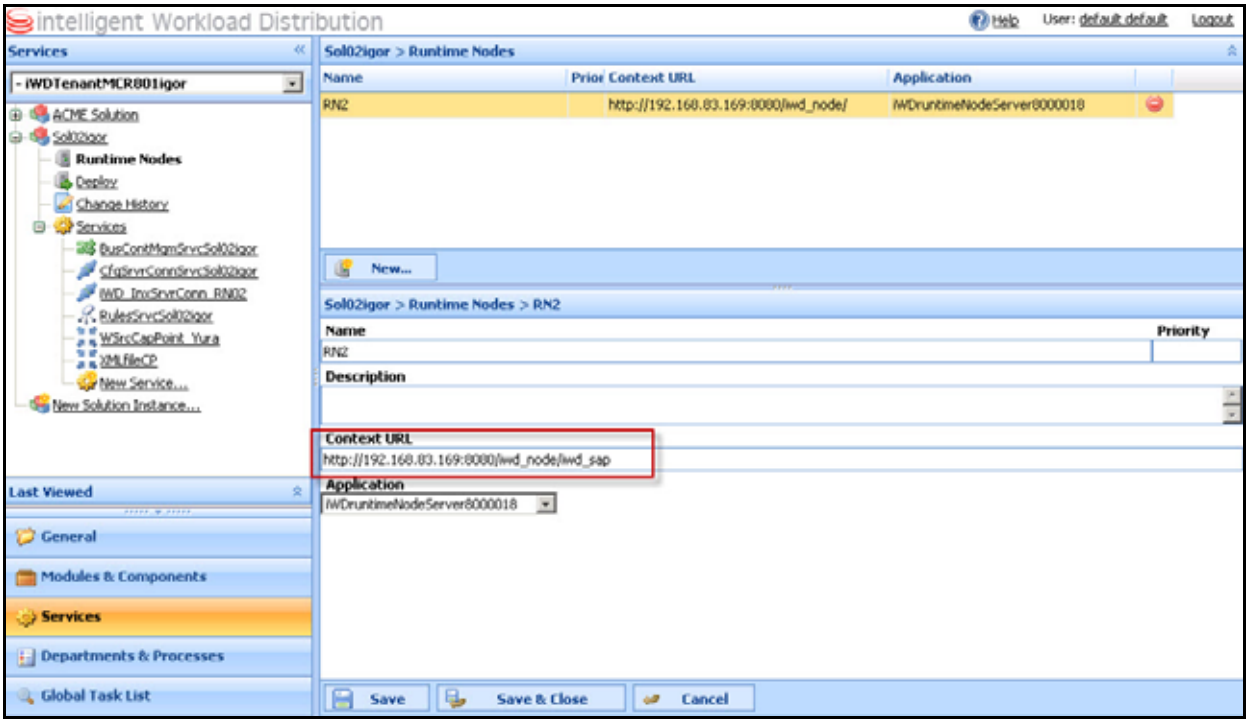

Figure 37: iWD Context URL

Switching Between E-Mail and Action Items in SAP

The following procedure describes how to switch between e-mail and `ActionItems` in SAP.

Procedure: Switching between e-mail and Action Items in SAP

Purpose: To switch between e-mail and `ActionItems` in SAP.

Start of procedure

1. Execute an SPRO (SAP Project Reference Object) transaction in a command line console (CLC).
2. In the `Customizing: Execute Project` view, click `SAP Reference IMG`.
3. Navigate to `Customer Relationship Management`.
4. Select `Interaction Center WebClient`.
5. Select `Define Business Role`.

6. Locate the appropriate profile.
7. Click the `Assign Function Profile` folder.
8. Select the `EMAIL Functional` profile.

   In this profile, you can configure the appropriate e-mail channel—`ActionItem` or ICI e-mail.

End of procedure

Next Steps

- There are no further steps.

Chapter

10 Wrap-Up Processing for Communication Items

This chapter describes how the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) handles wrap-up processing of communication items, such as voice, chat, and outbound calls. It contains the following sections:

Overview

The wrap-up process for communication items in G*plus* Adapter 8.0.x for SAP ICI Multi-Channel has been enhanced to include the following features:

- Voice-only wrap-up work mode
- Wrap-up processing for chat channel
- Wrap-up processing for outbound calls

Supported Channels

The Adapter supports wrap-up processing for items on Voice and Chat channels.

Wrap-Up Work Mode Behavior

The wrap-up process for Chat items does not cause the agent's current work mode to change. However, the wrap-up process for Voice items causes the agent's current work mode to change to `Wrap-Up` on the voice channel (which is the equivalent of `Not Ready` with a specific reason code).

Starting with G*plus* Adapter 8.0.x, the `Wrap-Up` work mode is only available to agents that are configured to work in voice-only environments. The `Wrap-Up` work mode does not appear in the list of work modes when agents are configured to work in blended environments.

Chat Media Wrap-Up

The wrap-up process is supported for items on the Chat channel starting with G*plus* Adapter 8.0.x.

Unlike Voice, items on the Chat channel are not linked to an external entity (such as a call) and exist only if there is at least one participant in the interaction. For this reason, the Adapter does not force switch the Chat channel into any kind of `Wrap-Up` work mode.

The purpose of wrap-up processing on Chat channels is to notify the agent when the customer has left the chat session. In that time, the Adapter marks the chat session as wrapped up and the agent can no longer post messages in the session.

Note: The chat session is not switched to `Wrap-Up` work mode if the agent intentionally leaves the session. In that case, the assumption is made that the agent has completed all chat session-related work before leaving and wrap-up is not necessary.

Use the following option in the `GPMC_Chat` section of the Adapter's `Application` object to affect how chat communication items are processed in the `Wrap-Up` state:

- `enableWrapUp`—Enables or disables wrap-up processing on Chat channels.

Voice Media Wrap-Up

In blended environments, when voice items are processed in `Wrap-Up` mode, the agent might notice the following behavior:

- The agent is in `Not Ready` work mode on the voice channel, but might be in a different work mode on other channels. For example, they could be in either `Voice Not Ready` or `Email Ready` work mode.
- Voice communication items that are in the `Ended / Wrap-Up` state can be manipulated.

Use the following options in the `GPMC_Voice` section of the Adapter `Application` to affect how voice communication items are processed in the `Wrap-Up` state:

- `allowWrapUpForConsultCalls`—Specifies whether the Adapter allows an agent to have a wrap-up time period as the post-call activity on each call within a consultation call pair.

- `allowWrapUpForInternalCalls`—Specifies whether the Adapter allows an agent to have a wrap-up time period as the post-call activity on internal calls (calls that take place within the contact service center)
- `automaticWrapUpMode`—Specifies the type of wrap-up time, such as manual or automatic.
- `forceChangeWorkmodeRequest`—Instructs the Adapter to drop all items that are in wrap-up processing immediately after the work mode on voice channel is switched to the `Ready` state.
- `processWrapUpAsACW`—Instructs the Adapter to treat `Wrap-Up` mode as after-call work (ACW), rather than in the `Not Ready` state with the reason code specified in the `gp_resources.properties` file.
- `readyOnWrapUpReaction`—Specifies whether or not the Adapter automatically drops all voice communication items in the `Wrap-Up` state when an agent is switched to the `Ready` work mode.
- `switchToReadyAfterWrapUp`—Controls the behavior of the Adapter when restoring the agent's work mode after the completion of wrap-up processing.
- `wrapUpForNonAnsweredCall`—Enables or disables wrap-up processing for non-answered (rejected or abandoned) calls.
- `wrapUpOnCall`—Enables or disables agent work mode switching on the voice channel when there is an active call on the Dialed Number (DN).

Outbound Calls Wrap-Up

Outbound communication items are a subset of the voice communication items. Therefore, all voice options also apply to outbound items. However, in Gplus Adapter 8.0.x, two additional options provide control, specifically in Outbound Contact Server (OCS) communication items wrap-up processing.

The following options in the `GPMC_Outbound` section of the Adapter's `Application` object affect how outbound communication items are processed in the `Wrap-Up` state:

- `automaticWrapUpMode`—Specifies the type of wrap-up time for OCS calls, such as manual or automatic.
- `wrapUpForNonAnsweredCall`—Enables or disables wrap-up processing for non-answered (rejected or abandoned) OCS calls.

The following principles apply to these options:

If the related (`automaticWrapUpMode` or `wrapUpForNonAnsweredCall`) options in the `GPMC_Voice` section are turned on, the options in the `GPMC_Outbound` section on page 103 are ignored.

If the related (`automaticWrapUpMode` or `wrapUpForNonAnsweredCall`) configuration options in the `GPMC_Voice` section of the Adapter's `Application` object are turned off, the options in the `GPMC_Outbound` section on page 103 are used to specify only OCS calls wrap-up processing.

Appendix

A Gplus Administrative Tool

This appendix describes how to install, configure, and use the G*plus* Administrative Tool optional component that is shipped with G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter). It contains the following sections:

Introduction

The G*plus* Administrative Tool is an optional web application that is installed separately under any servlet engine that supports Servlet 3.0 and the JavaServer Pages (JSP) 2.2 specification.

Use the G*plus* Administrative Tool to perform the following tasks:

- Monitor active agent sessions that were created on specific instances of the Adapter.
- Log an agent out of a `Place`.
- Remove an agent session.

Prerequisites

Before you install and run the G*plus* Administrative Tool, ensure that the following applications are correctly installed:

- Java Developers Kit (JDK) 1.6 or later.
- A servlet engine that supports Servlet 3.0 and the JSP 2.2 specification—for example, Apache Tomcat 7.0 or later.

Installing G*plus* Administrative Tool

The G*plus* Adapter 8.0.x for SAP ICI Multi-Channel installation includes a web application archive file (`gpadmin.war`) that is located in the `addon` folder in the installation package. You can install it on any servlet engine. (In the procedure below, Apache Tomcat is used as an example.) Use the servlet engine instructions to install the third-party web application archive files.

Use the Procedure: Using Apache Tomcat_7.0 to deploy the web archive file, if you are deploying the archive file by using Apache Tomcat 7.0. Alternatively, you can use Tomcat Manager to deploy web applications. For information about how to use Tomcat Manager, check the Apache vendor web site.

Procedure: Using Apache Tomcat_7.0 to deploy the web archive file

Purpose: To deploy the `gpadmin.war` web archive file by using the Apache Tomcat.

Prerequisites

- Apache Tomcat 7.0 is installed and running.

Start of procedure

1. To prepare the `.war` file, stop Apache Tomcat.
2. Copy the `gpadmin.war` file from the `<Gplus_Adapter_8.0.1_for_SAP_ICI_Multi-Channel_directory>\addons` folder to the `<Tomcat_directory>\webapps` folder.
3. Start Apache Tomcat.

End of procedure

Next Steps

- Enable administration of the Administrative Tool. See Procedure: Enabling administration of the Administrative Tool, on page 197.

Configuring the Adapter to Work with the Administrative Tool

Administration of the G*plus* Administrative Tool is not enabled by default. It must be explicitly enabled in Adapter options.

Procedure: Enabling administration of the Administrative Tool

Purpose: To enable administration of the G*plus* Administrative Tool in the Adapter.

Start of procedure

1. In Configuration Manager, double-click the Adapter's `Application` object.
2. On the `Options` tab, configure the following options in the `GPMC_Addon` section (see Figure 38 on page 198 and Figure 39 on page 199):
   a. Set the `gpAdmin` configuration option value to `1`.
   b. Set the `gpAdminPort` configuration option value to a valid port number.
3. To save the changes, click `OK` and restart the Adapter.

> Note: You must restart the Adapter for these changes to take effect.

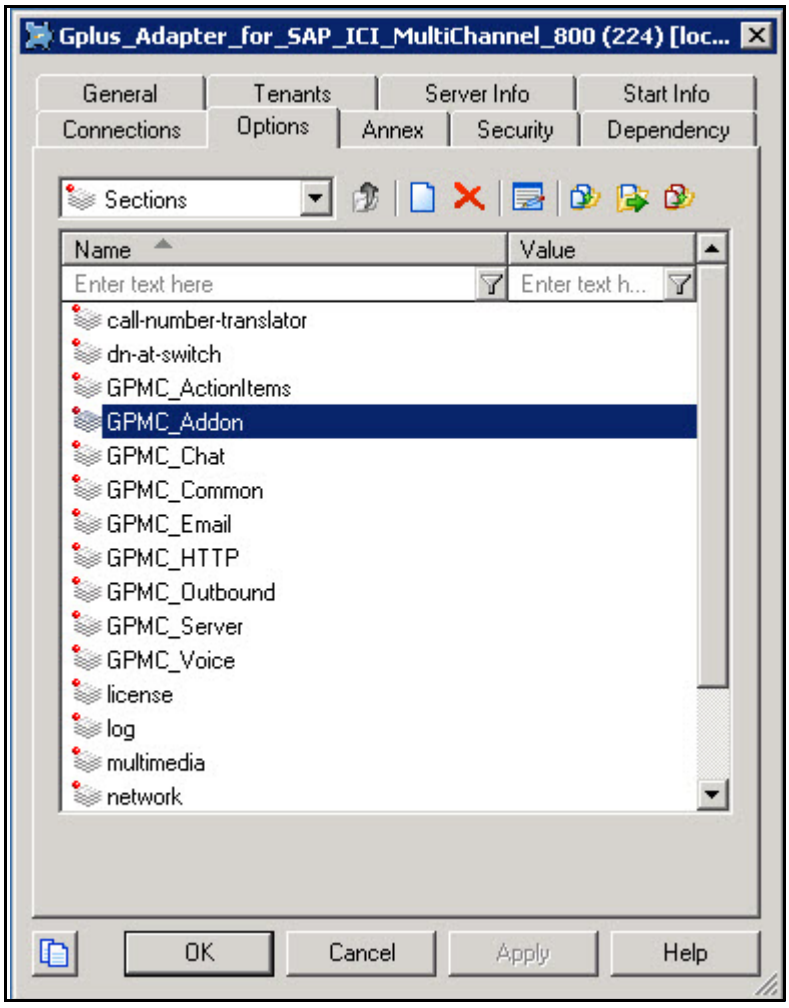

Figure 38: Sections in the Options Tab—Adapter Application

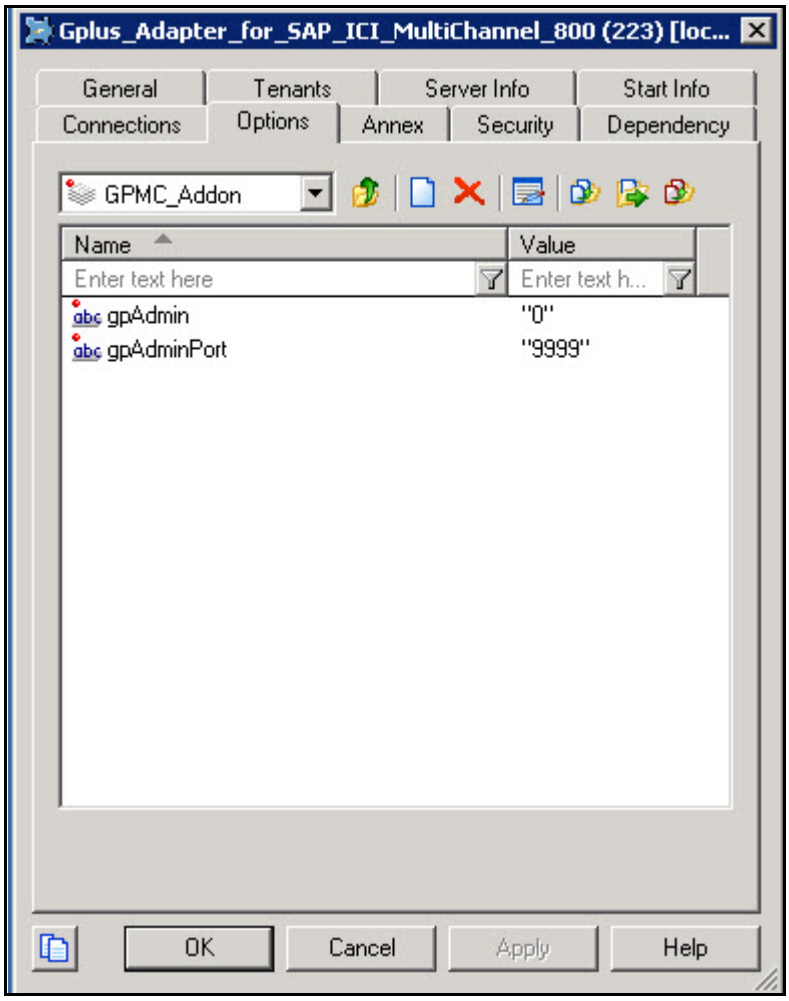

Figure 39: GPMC_Addon Section of the Adapter's Application Object

End of procedure

Next Steps

- Set the Administrative privileges in the Adapter. See Procedure: Setting the Administrative privileges in agent properties, on page 200.

Configuring Login Privileges

Use the following procedure to set the Administrative privileges in the agent properties.

Procedure:
Setting the Administrative privileges in agent properties

Purpose: To set the Administrative privileges in the agent properties.

Start of procedure

1. In Configuration Manager, double-click the agent object properties.
2. On the `Annex` tab, click the `security` section.
3. Add the `Administrator` configuration option.
4. Set the option value to `1` (see Figure 40).

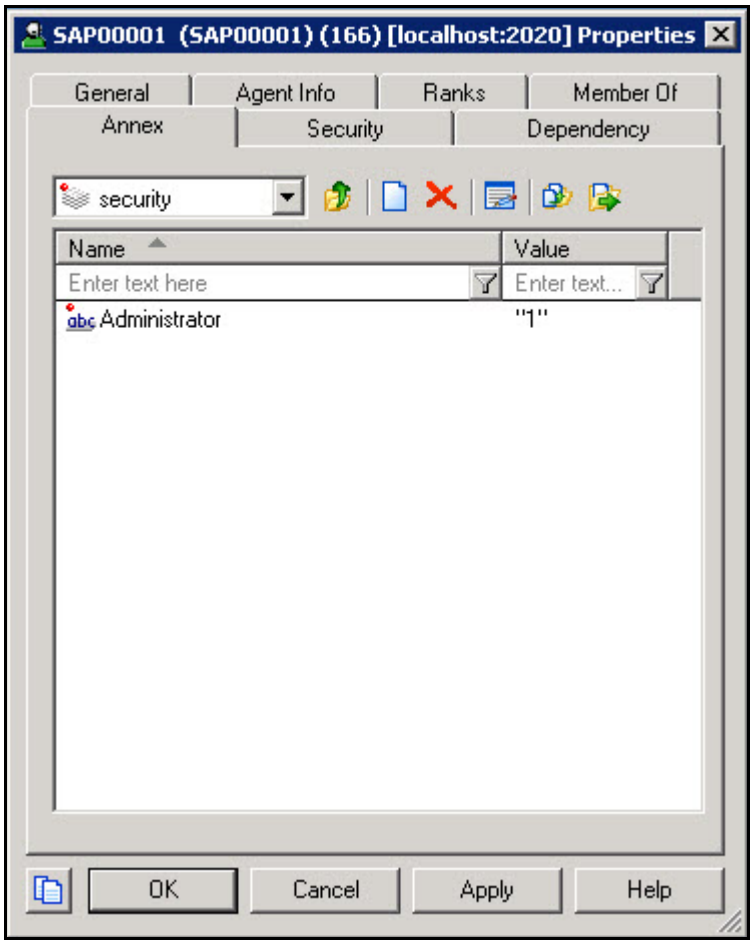

Figure 40: security Section in Annex Tab of CME Agent Properties

5. To save the changes, click `OK`.

End of procedure

Next Steps

- Launch the Administrative Tool. See Procedure: Logging in to the Gplus Administrative Tool, on page 201.

Logging in to the Administrative Tool

This section describes how to launch the Login window and log in to the G*plus* Administrative Tool.

Procedure: Logging in to the G*plus* Administrative Tool

Purpose: To launch the Login window and log in to the Administrative Tool.

Start of procedure

1. In the `Address` bar of your web browser, enter the following URL: `http://<Host_name>:<Host_port>/gpadmin/`.

   Where `<Host_name>:<Host_port>` is the host name and port number of the servlet container, in which Tomcat is installed by default.
2. The G*plus* Administrative Tool Login window appears (see Figure 41 on page 202).
3. In the following fields, enter:
   - `User Name`—The user name of the person who has been given administrative privileges.
   - `Password`—The password.
   - `Host`—The Adapter host name.
   - `Port`—The Adapter administration port number that was configured in the `gpAdminPort` configuration option of the Adapter.
4. To open the G*plus* Administrative Tool web page, click `Log in`.

Note: You can use a single G*plus* Administrative Tool to manage several instances of the Adapter.

Figure 41: Login Window—G*plus* Administrative Tool

End of procedure

Next Steps

- No further steps are required.

Managing Registered Agent Sessions

The G*plus* Administrative Tool has a list of Registered Agents feature that enables you to view all of the agents that are currently logged in to the Adapter.

Only those agents that are using the Adapter are listed. This feature does not list all of the agents that are listed in Configuration Server.

Note: The information on the page must be refreshed manually by pressing the `refresh` icon at the top of the page (see Figure 42 on page 203).

Figure 42: Refresh, Sign Out, Logout. and Remove Session links—Registered Agents

In this view, you can perform one of two tasks:

1. Log out agents from their places by clicking the `Logout` link (see Figure 42). This operation is allowed only for the agents that are currently logged in on at least one media type on their place. After this operation is completed, the agent is logged out from all media types and the SAP system is notified about the new agent workmode.
2. Remove the agent session from the Adapter memory by pressing the `Remove session` link (see Figure 42). This operation does not change the agent state on any of the media type that the agent is using. The agent information is removed only from the runtime memory of the Adapter and SAP is notified about session expiration.

`Note:` Genesys recommends that you log out an agent before removing the session from the Adapter memory.

To stop working with the G*plus* Administrative Tool or to connect to another instance of the Adapter, you must sign out of the current session by clicking the `sign out` link in the top-right corner of the page (see Figure 42).

Appendix

B Outbound Calls

This appendix describes how the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) supports outbound calls. It provides detailed information about how the SAP ICI protocol can be used for outbound calls and describes typical and customized SAP configurations that enable agent outbound functionality. It contains the following sections:

Overview

The G*plus* Adapter for SAP ICI Multi-Channel supports two types of outbound campaigns:

1. Progressive mode (low volume/high value)—Dials campaign calls automatically, but only when agents are in the campaign group. Outbound calls can be directed to an agent's desktop at any time.
2. Predictive mode (high volume/low value)—Dials campaign calls automatically by using an intelligent pacing algorithm to predict agent availability. Outbound calls can be directed to an agent's desktop at any time.

The Adapter can execute the following functions for outbound calls:

- Reject outbound record
- Cancel outbound record
- Submit DoNotCall result
- Reschedule outbound call
- Update call result

For detailed information about these functions, see Supported Functions for Outbound Calls, page 213.

Processing Outbound Calls

This section describes how the Adapter processes outbound calls and provides detailed information about SAP outbound notifications, request formats, outbound call mappings, and the supported functions for outbound campaigns.

Notifications to SAP About Outbound Calls

The Adapter adds additional information into the attached data of each outbound call to notify SAP that it belongs to an outbound campaign. The attached data is added to outbound calls in the following format:

```
<Application id="CRM_IC_CLM_PROGRESSIVE">
<SAP_CALL_ID>0050568F01741ED185ED0B89077DCD62</SAP_CALL_ID>
</Application>
```

Where the `SAP_CALL_ID` node can represent one of the following records:

- The call record ID in the SAP campaign, if the campaign was created by using the G*plus* SAP Campaign Synchronization Server.
- The Genesys campaign record handle, if the campaign was manually created in a Genesys Outbound Campaign.

To configure the SAP system to recognize the `CRM_IC_CLM_PROGRESSIVE` application ID (as in the example above), see Procedure: Retaining the Application ID and XSLT option in automated dialing, on page 207.

SAP Outbound Requests Format

Agents are able to submit outbound requests when there is an active or wrap-up call record on the agent desktop. The adapter is able to initiate automatic wrap-up for outbound calls only. See the `automaticWrapUpMode` configuration option in the `GPMC_Outbound` section of the Adapter's `Application` object.

SAP submits all agent outbound commands to the Adapter as `IciItem_setAttachedData` requests. The submitted attached data must be in the following format:

```
<Application id="CRM_IC_CLM_PVDIAL_RESCH">
<CALLID>0CBFAB4D99E41050E10000000A4282C2</CALLID>
<STARTTIMESTAMP>20110418150000</STARTTIMESTAMP>
<RESULT>P</RESULT></Application>
```

Where:

- `RESULT`—Specifies the requested operation.

- CALLID—Refers to the CALLID that is signaled by Adapter in the attached data of the outbound call. (See Notifications to SAP About Outbound Calls, page 206).
- STARTTIMESTAMP—Refers to the date and time of the rescheduled call in UTC time zone format. For example, YYYYMMDDhhmmss.

All other CRM_IC_CLM_PVDIAL_RESCH application IDs or nodes inside of the CRM_IC_CLM_PVDIAL_RESCH attached data is ignored.

Retaining the Application ID for Automated Dialing

The procedure in this section describes how to retain the Application ID and the XSLT configuration option when automated dialing is used. See, the SAP documentation for more information about this option.

Procedure: Retaining the Application ID and XSLT option in automated dialing

Purpose: To retain the Application ID and XSLT configuration option when automated dialing is used.

Start of procedure

1. Execute an SPRO (SAP Project Reference Object) transaction in a command line console (CLC).
2. In the Customizing: Execute Project view, click SAP Reference IMG.
3. Go to SAP Customizing implementation Guide > Customer Relationship Management > Interaction Center WebClient > Additional Functions > Call Lists > Define Call List Profiles.

   See Figure 43 on page 208.

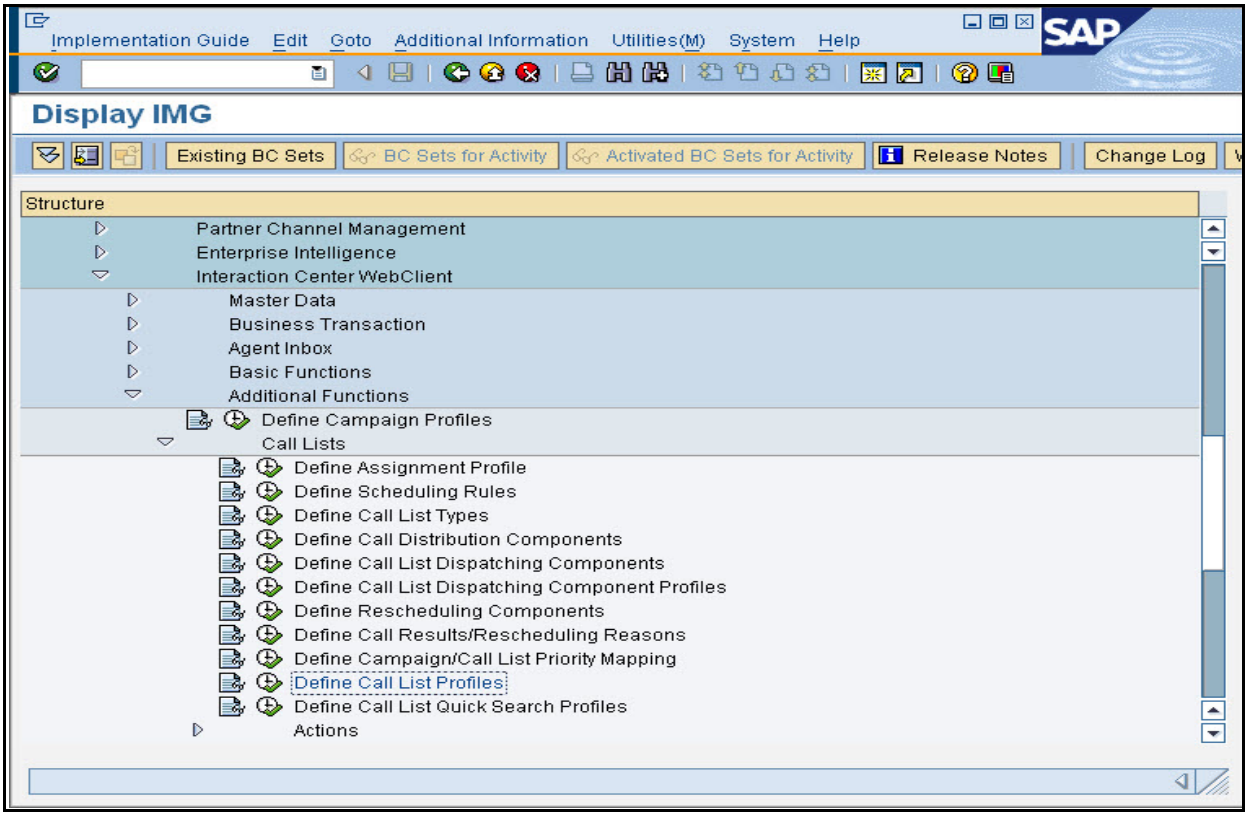

Figure 43: Define Call List Profiles—Outbound

4. Select `AUTO_PARTNER_CONFIRMATION` to edit.

   See Figure 44.

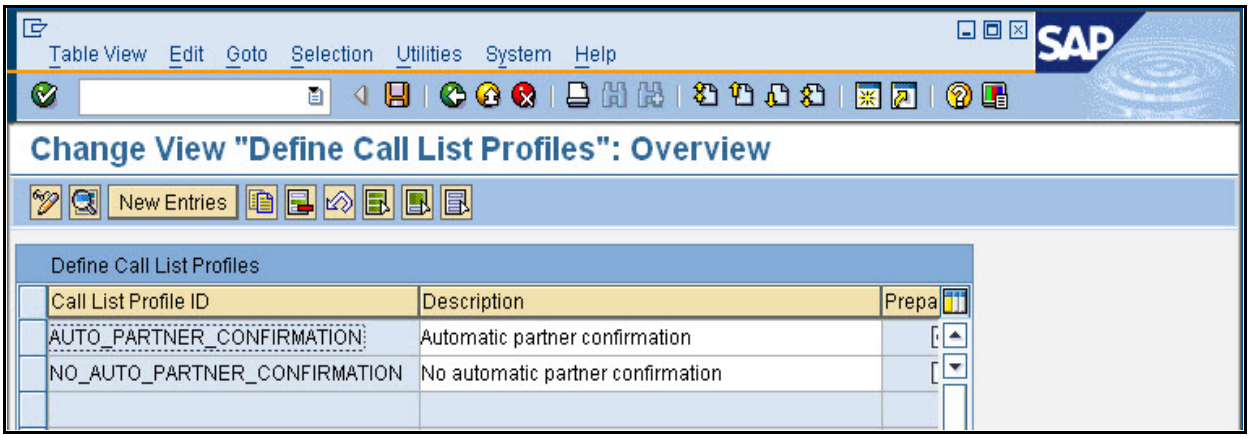

Figure 44: Auto Partner Confirmation—Outbound

5. Set `CRM_IC_CLM_PROGRESSIVE` as the `CAD Application ID` and `CRM_IC_CLM_CALL_ID_EXT_GENESYS` as `XSLT Program`.

   See Figure 45 on page 209.

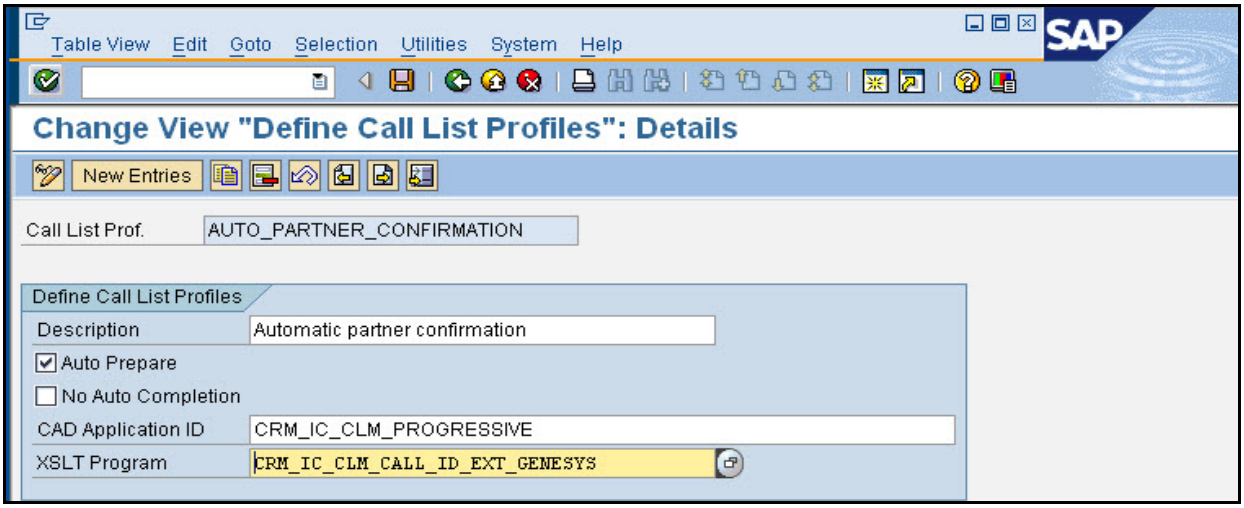

Figure 45: Retain Application ID and XSTL Option—Outbound

End of procedure

Next Steps

- No further steps are required.

Outbound Call Mappings

The constants that are used in the `RESULT` tag of the outbound request must be configured into the corresponding value in both the SAP and Genesys systems (Outbound Contact Server [OCS]).

Tables 12 and 13 list the mappings that are supported by default.

Table 12: Mapping the RESULT Tag to the Executed Operations

RESULT Tag	Executed Operations
<empty>	Personal reschedule
R	Personal reschedule
C	Campaign reschedule
X	Canceling record
Y	Rejecting record
Z	Submitting `DoNotCall` (DND) request
<any other value>	Update call result

Mappings can be changed in the `sapadapter.properties` file.

Table 13: Mapping of Property Name to Default Values

Property name	Default value
Outbound.RedialPersonal	R
Outbound.RedialCompaign	C
Outbound.Reject	X
Outbound.Reject	Y
Outbound.Cancel	Z

In the SAP system, the outbound campaign call results are represented by a single letter. In Genesys systems, they are represented by a numeric value.

A special set of properties in the `sapadapter.properties` file is used to link the Outbound Contact Server (OCS) call results in SAP to the Genesys Framework. These options are represented by key-value pairs of the following type:

```
Outbound.CallResult.<N> = <Single letter - SAP>,<Numeric value - Genesys>
```

Table 14 contains the default mappings, where:

- Outbound.CallResult.1—Represents the consecutive key-value pair names
- B—Represents the call result as defined in the SAP configuration
- 6—Represents the call result as defined in the *Outbound Contact 8.1 Reference Manual*

Table 14: Mapping of Outbound Call Results

Property Name	Default Value
Outbound.CallResult.1	B,6
Outbound.CallResult.2	F,17
Outbound.CallResult.3	M,9
Outbound.CallResult.4	N,7
Outbound.CallResult.5	S,33
Outbound.CallResult.6	W,40

Changing the Operation Mappings

Use the following procedure to change operation mappings in the `Define Call Results/Rescheduling Reasons` view in the SAP GUI (see, Figure 49 on page 213).

Procedure: Changing Operation Mappings by using the SAP GUI

Purpose: To change the operation mappings by using the SAP GUI.

Start of procedure

1. Execute an SPRO (SAP Project Reference Object) transaction.
2. In the `Customizing: Execute Project` view, click `SAP Reference IMG`.

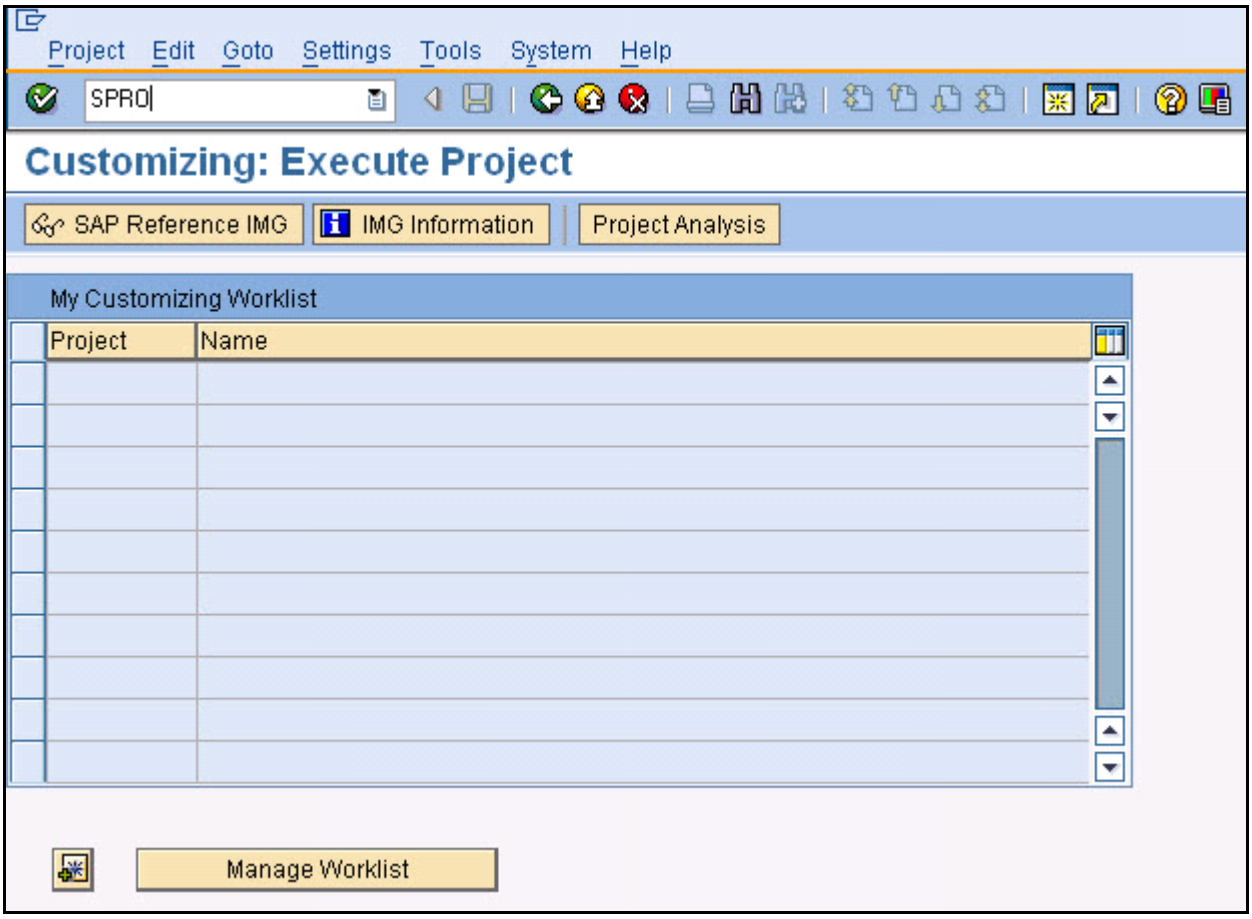

Figure 46: Customizing: Execute Project View (Administrative Tool)

3. Go to `SAP Customizing implementation Guide > Customer Relationship Management > Interaction Center WebClient > Additional Functions > Call Lists > Define Call Results/Rescheduling Reasons`.

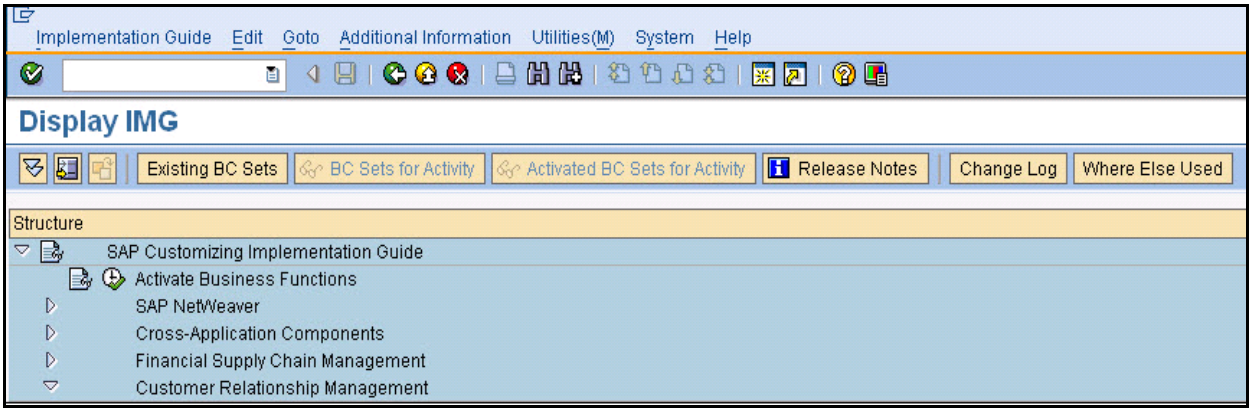

Figure 47: Customer Relationship Management in Display IMG View (Administrative Tool)

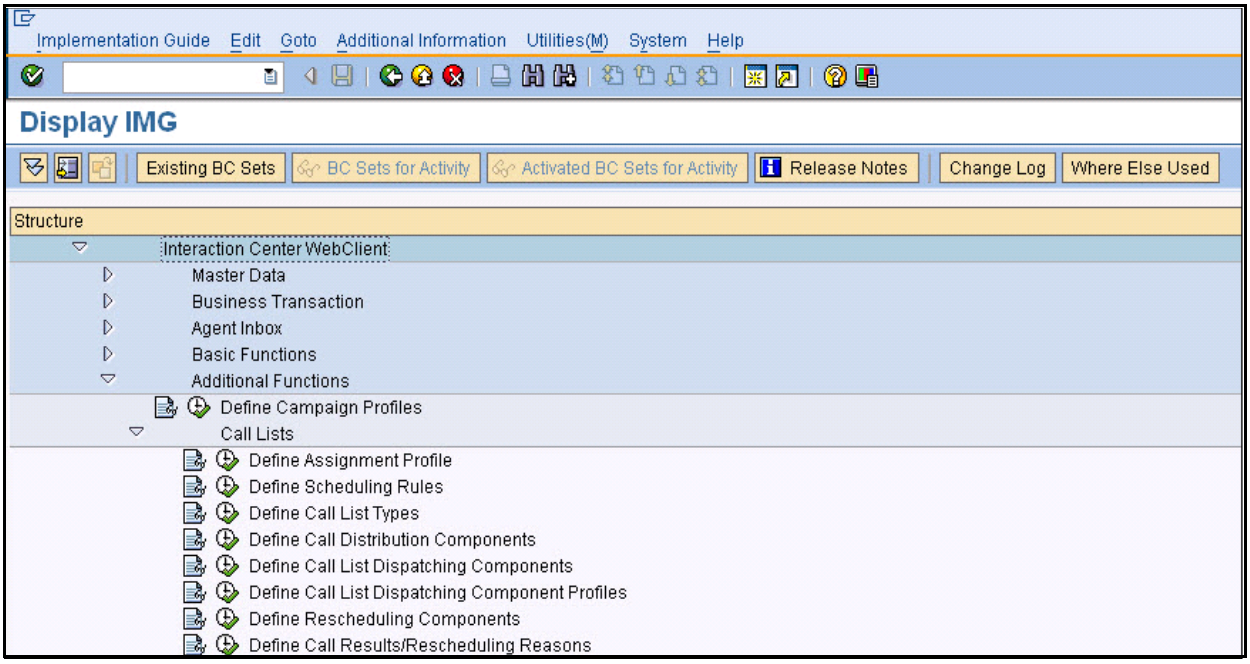

Figure 48: Define Call Results/Rescheduling Reasons in Display IMG View (Administrative Tool)

4. Configure the appropriate set of Call Results.

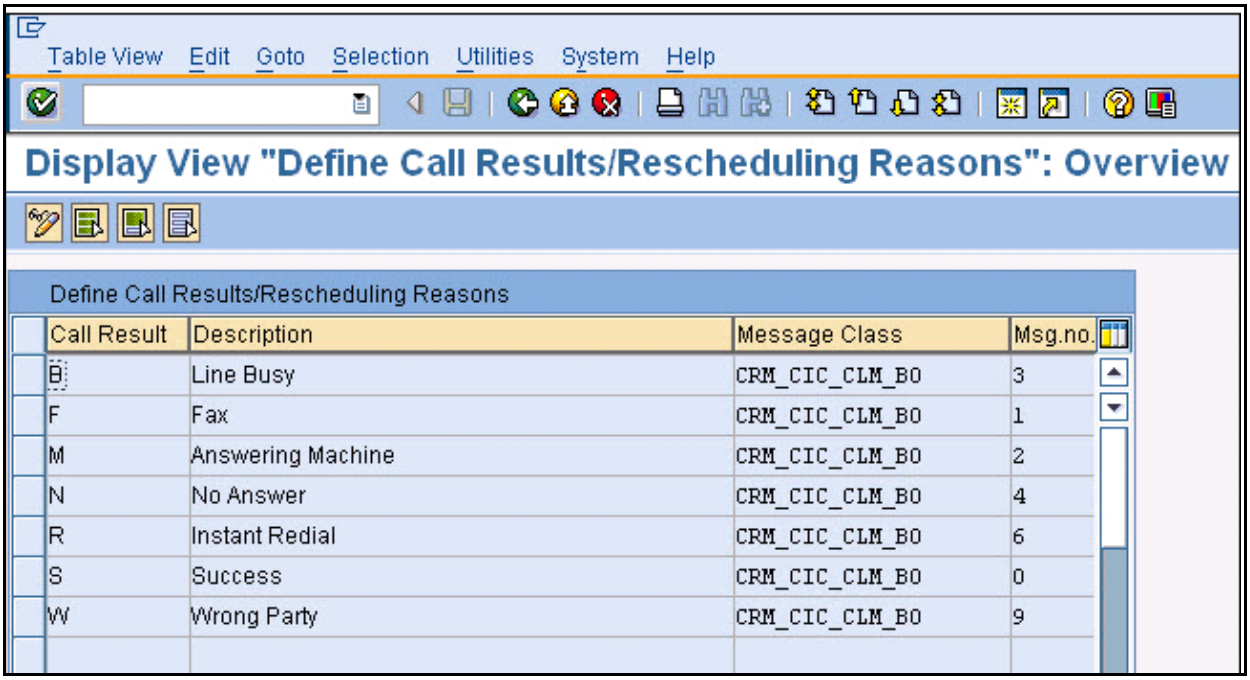

Figure 49: Display View "Define Results/Rescheduling Reasons": Overview (Administrative Tool)

End of procedure

Next Steps

- No further steps are required.

Supported Functions for Outbound Calls

This section describes how the Adapter performs each outbound call function in detail.

Rejecting a Outbound Record

The `Reject` request is implemented when the agent does not want to call the record immediately. To reject the outbound record, SAP must send a `IciItem_setAttachedData` request to the Adapter with the following attached data:

Example 1

```
<Application id="CRM_IC_CLM_PVDIAL_RESCH">
<CALLID>0CBFAB4D99E41050E10000000A4282C2</CALLID>
<RESULT>Y</RESULT></Application>
```

When the Adapter receives a request for an active or wrap-up outbound call, it posts a `RecordReject` request to Outbound Contact Server (OCS).

Cancelling an Outbound Call Record

The Adapter can send a `RequestRecordCancel` event to notify OCS to cancel a record is set to be dialed by a campaign. To cancel an outbound record, SAP must send a `IciItem_setAttachedData` request to the Adapter with the following attached data:

Example 2

```
<Application id="CRM_IC_CLM_PVDIAL_RESCH">
<CALLID>0CBFAB4D99E41050E10000000A4282C2</CALLID>
<RESULT>X</RESULT></Application>
```

When the Adapter receives a request for an active or wrap-up outbound call, it posts a `RecordCancel` request to OCS. Records are cancelled, based on the `GSW_RECORD_HANDLE` parameter.

Submitting a DoNotCall Request

The Adapter can send a `DoNotCall` request to OCS to prevent a record from being dialed by any campaign. To reject an outbound record, SAP must send a `IciItem_setAttachedData` request to the Adapter with the following attached data:

Example 3

```
<Application id="CRM_IC_CLM_PVDIAL_RESCH">
<CALLID>0CBFAB4D99E41050E10000000A4282C2</CALLID>
<RESULT>Z</RESULT></Application>
```

When the Adapter receives a request for an active or wrap-up outbound call, it posts a `DoNotCall` request to OCS. The request is sent with the `GSW_RECORD_HANDLE` parameter included.

Rescheduling an Outbound Call

Agents can reschedule any record on the desktop. The Adapter supports the `RecordReschedule` request only to reschedule campaign calls. To schedule personal callbacks, SAP must send a `IciItem_setAttachedData` request to the Adapter with the following attached data:

Example 4

```
<Application id="CRM_IC_CLM_PVDIAL_RESCH">
<CALLID>0CBFAB4D99E41050E10000000A4282C2</CALLID>
<STARTTIMESTAMP>20110418150000</STARTTIMESTAMP>
<RESULT>R</RESULT></Application>
```

To schedule campaign callbacks, SAP must send a `IciItem_setAttachedData` request to the Adapter with the following attached data:

Example 5

```
<Application id="CRM_IC_CLM_PVDIAL_RESCH">
<CALLID>0CBFAB4D99E41050E10000000A4282C2</CALLID>
<STARTTIMESTAMP>20110418150000</STARTTIMESTAMP>
<RESULT>C</RESULT>
</Application>
```

If the time of the requested callback is outside of the *daily from - daily till* boundaries of the record, OCS recalculates the callback time by adding an appropriate amount of time to the original value when the call is dialed, so that the callback time occurs within the boundaries.

Note: The Adapter does not send notifications to SAP when the requested reschedule time was changed by OCS.

To receive rescheduled calls, the `agent_preview_mode_start` configuration option in the OCS `Application` must be configured wit a value of `no/false`, because sending the `PreviewDialingModeStart` event is not supported.

To configure automated dialing of campaign callbacks, set the `predictive_callback` option value to `yes/true`.

After the request is rescheduled, the completed call can be automatically release by the Adapter if the `releaseOnReschedule` configuration option value in the `GPMC_Outbound` section is set to `1`.

Updating the Call Results

At the end of outbound call processing (call reaches `ENDED/NOT IN PROCESS` state) the Adapter sends a `RecordProcessed` request to OCS to finalize processing of the campaign record.

The Adapter automatically sets the call result for the record in the value of the `defaultCallResult` configuration option in the `GPMC_Outbound` section. The Adapter also specifies the treatment type, according to the value of the `defaultCallTreatment` option in the `GPMC_Outbound` section.

The call result that is sent at the end of call processing can only be changed if it is explicitly specified by the agent during call processing. SAP can set the call result for a campaign call by sending a `IciItem_setAttachedData` request to the Adapter with the following attached data:

Example 6

```
<Application id="CRM_IC_CLM_PVDIAL_RESCH">
<CALLID>0CBFAB4D99E41050E10000000A4282C2</CALLID>
<RESULT>call_result_key</RESULT>
</Application>
```

Where the `call_result` parameter must be a valid key as defined in the SAP configuration and mapped to a call result as defined in the *Outbound 8.1 Contact Reference Manual*.

Based on this request, the Adapter sends an `UpdateCallCompletitionStats` request to OCS and uses the same call result in the `RecordProcessed` request that it sends at the end of campaign call processing.

The mapping of the letters that are sent by SAP in result codes must be defined in the `sapadapter.properties` files. For a list of the outbound call results see Table 14 on page 210.

Appendix

C Call-Attached Data Conversion Examples

This appendix describes how the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) translates Call-Attached Data (CAD) from the Genesys format to the SAP format, and vice versa. It contains the following sections:

Introduction

Genesys represents Call-Attached Data (CAD) as a list of key-value pairs (KVPs), in which a value can be an arbitrary string, integer, binary, or nested list of key-value pairs. The SAP Interaction Center (IC) protocol encodes CAD in an Extensible Markup Language (XML) format, in which every application places its data into a separate subtree of an XML document. The following section provides examples of how the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) translates CAD from the Genesys KVP format to the SAP XML format, and vice versa.

Converting Genesys CAD to XML

This section includes examples of conversions for Call-Attached Data from the Genesys format (which uses key-value pairs or `TKVList` pairs) to the SAP format (which uses XML).

Notation

```
   KVTypeString
name=”...”
   KVTypeInt
Key=123...
   KVTypeBinary
Key = 01 02 03...
   KVTypeList
Key={....}
```

Each node will be written on a separate line except `KVTypeList`, which is written as follows:

```
Key={
   Value1=...
   Value2=...
}
```

```
Comments in XML:
<!--comment-->
```

Top-Level Data Representation

This example shows how the Adapter converts top-level CAD `TKVList` pairs if the pair type is not `KVTypeList`, or if you want to specify it in XML.

Each `TKVList` pair is represented by an XML node:
`<KVPairName>KVPairValue</KVPairName>`

All top-level `CAD TKVList` pairs of type `KVTypeString`, `KVTypeBinary`, and `KVTypeInt` are placed inside a special *application node*, with the `attribute ID` and the value from the Adapter's `GPMC_Common\genesysCADApplicationName` option. The default value of this option is `GENESYS-CAD`.

To specify pairs of type `KVTypeBinary` or `KVTypeInt` in XML, add the `TKVType` attribute to the corresponding XML node with the value `KVTypeInt` or `KVTypeBinary`—for example:
`<KVPairName TKVType="KVTypeBinary">KVPairValue</KVPairName>`

All data that is entered in the Genesys-`CAD` XML `Application` node is placed at the top level of the CAD `KVList`.

Genesys CAD

```
StringNode=”somestring”
IntNode=123
BinaryNode= 01 02 03 04 05 06 0E
```

XML

```
<?xml version=”1.0” encoding=”iso-8859-1”?>
<itemAttachedData>
<!--All top-level data (except KVTypeList) will be placed inside
“Genesys-CAD” application
for KVTypeString no additional attributes are saved
for KVTypeInt and KVTypeBinary attribute TKVType will be added and
its value will be “KVTypeInt” or “KVTypeBinary” respectively.
-->
   <Application id=”Genesys-CAD”>
      <StringNode>somestring</StringNode>
      <IntNode TKVType=“KVTypeInt“>123</IntNode>
      <BinaryNode TKVType=“KVTypeBinary“>0102030405060E</BinaryNode>
   </Application>
</itemAttachedData>
```

Top-Level List Representation

This example shows how the Adapter converts top-level `TKVList` pairs if the pair type is `KVTypeList`.

Each top-level pair of type `KVTypeList` is converted to an `Application` node in the XML representation of CAD. Each `Application` node is represented as a top-level pair of type `KVTypeList`, for backward conversion.

Genesys CAD

```
ListNode={
   ListValueString=”liststring”
   ListValueInt=234
   ListValueBinary=0A 0B 0C 0D
}
StringNode=”somestring”
IntNode=123
BinaryNode= 01 02 03 04 05 06 0E
```

XML

```
<?xml version=”1.0” encoding=”iso-8859-1”?>
<itemAttachedData>
<!--All top-level data (except KVTypeList) will be placed inside
“Genesys-CAD” application-->
```

```
   <Application id=”Genesys-CAD”>
      <StringNode>somestring</StringNode>
      <IntNode TKVType=“KVTypeInt“>123</IntNode>
      <BinaryNode TKVType=“KVTypeBinary“>0102030405060E</BinaryNode>
   </Application>
   <!--ListNode will be represented as separate application-->
<Application id=”ListNode”>
   <ListValueString>liststring</ListValueString>
   <ListValueInt TKVType=”KVTypeInt”>234</ListValueInt>
   <ListValueBinary
TKVType=”KVTypeBinary”>0A0B0C0D</ListValueBinary>
</Application>
</itemAttachedData>
```

Specifying the XML Encoding

This example shows how the Adapter specifies the exact encoding for converting CAD from the `TKVList` format to XML format. The value of the top-level pair with the `XML_Encoding` key is used as an XML encoding attribute. If the encoding attribute is not specified, the Adapter assumes the following: `encoding="iso-8859-1"`.

Genesys CAD

```
ListNode={
   ListValueString=”liststring”
   ListValueInt=234
   ListValueBinary=0A 0B 0C
}
StringNode=”somestring”
IntNode=123
BinaryNode= 01 02 03 04 05 06 0E
XML_Encoding=”shift_jis”
```

XML

```
<!-- default encoding is iso-8859-1 XML_Encoding value at top-level
overrides it-->
<?xml version=”1.0” encoding=”shift_jis”?>
<itemAttachedData>
<!--All top-level data (except KVTypeList) will be placed inside
“Genesys-CAD” application-->
   <Application id=”Genesys-CAD”>
      <StringNode>somestring</StringNode>
      <IntNode TKVType=“KVTypeInt“>123</IntNode>
      <BinaryNode TKVType=“KVTypeBinary“>0102030405060E</BinaryNode>
   </Application>
<!--ListNode will be represented as separate application-->
<Application id=”ListNode”>
```

```
   <ListValueString>liststring</ListValueString>
   <ListValueInt TKVType=”KVTypeInt”>234</ListValueInt>
   <ListValueBinary TKVType=”KVTypeBinary”>0A0B0C</ListValueBinary>
</Application>
</itemAttachedData>
```

KVTypeList Value at Underlying Levels of CAD

This example shows how the Adapter represents underlying (non-top-level) TKVList pairs as an XML node with child nodes. In addition, the Adapter converts each XML node with child nodes to a pair of type `KVTypeList`, for backward conversion.

Genesys CAD

```
ListNode={
   ListValueString=”liststring”
   ListValueInt=234
   ListValueBinary=0A 0B 0C
ListValueList={
   UnderlyingListString=”a”
   UnderlyingListInt=345
}
}
StringNode=”somestring”
IntNode=123
BinaryNode= 01 02 03 04 05 06 0E
XML_Encoding=”shift_jis”
```

XML

```
<!-- default encoding is iso-8859-1 XML_Encoding value at top-level
overrides it-->
<?xml version=”1.0” encoding=”shift_jis”?>
<itemAttachedData>
<!--All top-level data (except KVTypeList) will be placed inside
“Genesys-CAD” application-->
   <Application id=”Genesys-CAD”>
      <StringNode>somestring</StringNode>
      <IntNode TKVType=“KVTypeInt“>123</IntNode>
      <BinaryNode TKVType=“KVTypeBinary“>0102030405060E</BinaryNode>
   </Application>
<!--ListNode will be represented as separate application-->
<Application id=”ListNode”>
   <ListValueString>liststring</ListValueString>
   <ListValueInt TKVType=”KVTypeInt”>234</ListValueInt>
   <ListValueBinary TKVType=”KVTypeBinary”>0A0B0C</ListValueBinary>
<!-- ListValueList will be represented as parent of two nodes-->
   <ListValueList>
```

```
      <UnderlyingListString>a</UnderlyingListString>
      <UnderlyingListInt>345</UnderlyingListInt>
   </ListValueList>
</Application>
</itemAttachedData>
```

Saving XML Attributes for XML Nodes (XML Node Has Child Nodes)

This example shows how the Adapter saves the attributes of the XML nodes in a CAD `TKVList`, if an XML node has a child node. The CAD `TKVList` creator can generate the same structures in order to specify the XML node attributes when converting the `KVList` format to a XML format.

XML

```
   <!--default encoding is iso-8859-1 XML_Encoding value at
top-level overrides it-->
<?xml version=”1.0” encoding=”shift_jis”?>
<itemAttachedData>
<!--All top-level data (except KVTypeList) will be placed inside
“Genesys-CAD” application-->
   <Application id=”Genesys-CAD”>
      <StringNode>somestring</StringNode>
      <IntNode TKVType=“KVTypeInt“>123</IntNode>
      <BinaryNode TKVType=“KVTypeBinary“>0102030405060E</BinaryNode>
   </Application>
–ListNode will be represented as separate application-->
<Application id=”ListNode” AppAttr1=”someValue1”
AppAttr2=”someValue2”>
   <ListValueString>liststring</ListValueString>
   <ListValueInt TKVType=”KVTypeInt”>234</ListValueInt>
   <ListValueBinary TKVType=”KVTypeBinary”>0A0B0C</ListValueBinary>
   <!--ListValueList will be represented as node with two child
elements-->
   <ListValueList UnderlyingListAttribute=”underlyingAttrVal”>
      <UnderlyingListString>a</UnderlyingListString>
      <UnderlyingListInt>345</UnderlyingListInt>
   </ListValueList>
</Application>
</itemAttachedData>
```

Genesys CAD

```
ListNode={
XML_Node_Attributes={
   AppAttr1=″someValue1″
AppAttr2=″someValue2″
}
   ListValueString=″liststring″
   ListValueInt=234
   ListValueBinary=0A 0B 0C
ListValueList={
XML_Node_Attributes={
UnderlyingListAttribute=″underlyingAttrVal″
}
   UnderlyingListString=″a″
   UnderlyingListInt=345
}
}
StringNode=″somestring″
IntNode=123
BinaryNode= 01 02 03 04 05 06 0E
XML_Encoding=″shift_jis″
```

Saving XML Attributes for XML Nodes (XML Node Is a Text Node)

This example shows how the Adapter saves the attributes of the XML nodes in a CAD `TKVList` as an XML text node. There is a special case for this type of XML node.

XML

```
   <!--default encoding is iso-8859-1 XML_Encoding value at
top-level overrides it-->
<?xml version=″1.0″ encoding=″shift_jis″?>
<itemAttachedData>
<!--All top-level data (except KVTypeList) will be placed inside
“Genesys-CAD” application-->
   <Application id=″Genesys-CAD″>
      <StringNode>somestring</StringNode>
      <IntNode TKVType=“KVTypeInt“>123</IntNode>
      <BinaryNode TKVType=“KVTypeBinary“>0102030405060E</BinaryNode>
   </Application>
   <!--ListNode will be represented as separate application-->
```

```
<Application id=”ListNode” AppAttr1=”someValue1”
AppAttr2=”someValue2”>
   <ListValueString NewAttr=”a”>liststring</ListValueString>
   <ListValueInt TKVType=”KVTypeInt”>234</ListValueInt>
   <ListValueBinary TKVType=”KVTypeBinary”>0A0B0C</ListValueBinary>
   <!--ListValueList will be represented as node with two child
elements-->
   <ListValueList UnderlyingListAttribute=”underlyingAttrVal”>
      <UnderlyingListString>a</UnderlyingListString>
      <UnderlyingListInt>345</UnderlyingListInt>
   </ListValueList>
</Application>
</itemAttachedData>
```

Genesys CAD

```
ListNode={
XML_Node_Attributes={
   AppAttr1=”someValue1”
AppAttr2=”someValue2”
}
TKVList with same name and additional XML_Node_Attributes node will
wrap simple string.
   ListValueString=”liststring”
ListValueString={
   XML_Node_Attributes={
      NewAttr=”someValue1”
}
ListValueString = ”liststring”
}
   ListValueInt=234
   ListValueBinary=0A 0B 0C
ListValueList={
XML_Node_Attributes={
UnderlyingListAttribute=”underlyingAttrVal”
}
   UnderlyingListString=”a”
   UnderlyingListInt=345
}
}
StringNode=”somestring”
IntNode=123
BinaryNode= 01 02 03 04 05 06 0E
XML_Encoding=”shift_jis”
```

Nonvalid Tag Names

From an XML point of view, a valid XML tag name must begin with an underscore (_), or colon (:) character, and it must contain letters, digits, or some other character as specified on the following web page: http://www.w3.org/TR/2006/REC-xml-20060816.

For example, the following characters: %, $, ?, and ! are not allowed in the XML tag names.

Note: The following names are not valid tag names: Some?Name, %Name, and Na$me.

The colon (:) character is not allowed *inside* the tag name, except in the case of a name with namespaces. For the namespaces definition, see http://www.w3.org/TR/2006/REC-xml-names-20060816.

The non-valid TKVlist pair names are replaced in the resulting XML by the GPMC_Generated tag name, with non-valid as the value of the realName attribute.

Genesys CAD

```
ListNode={
        XML_Node_Attributes={
             xmlns:asx= "http://www.sap.com/abapxml"
}
        asx:string="liststring"
        %Listint=234
        List^Binary=0A 0B 0C 0D
}
StringNode="somestring"
Int?Node=123
Binary:Node= 01 02 03 04 05 06 0E
```

For more information about how to use Call-Attached Data in the SAP IC WebClient for business partner searches, see SAP *Note 707104*.

XML

```
<?xml version="1.0" encoding="iso-8859-1"?>
<itemAttachedData>
<!--All top-level data (except KVTypeList) will be placed inside
"Genesys-CAD" application-->
<Application id="Genesys-CAD">
           <StringNode>somestring</StringNode>
           <GPMC_Generated realName=" Int?Node"
TKVType="KVTypeInt">123</GPMC_Generated>
           <GPMC_Generated realName=" Binary:Node"
TKVType="KVTypeBinary">0102030405060E</GPMC_Generated>
</Application>
```

```
<!-- ListNode will be represented as separate application-->
<Application id="ListNode"
xmlns:asx="http://www.sap.com/abapxml">
        <!-- name with namespace-->
        <asx:string">liststring</asx:string >
        <GPMC_Generated realName="%Listint"
TKVType="KVTypeInt">234</GPMC_Generated>
        <GPMC_Generated realName=" List^Binary"
TKVType="KVTypeBinary">0A0B0C0D</GPMC_Generated>
</Application>
</itemAttachedData>
```

CAD Inheritance in the Reply to Incoming E-Mail

Starting in release 8.0.0, the Adapter supports CAD inheritance in the reply to incoming e-mail. This means that outgoing e-mail in reply to incoming e-mail has the same set of attached-data as a *parent* e-mail.

Note: Not all CAD tags can be inherited. Tags that start with `_`, `Header_`, or `GEM_Failure` are treated as technical and are not transferred to the reply e-mail CAD.

Appendix

D Localizing the Adapter

This appendix describes how to localize the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter). It contains the following section:

- Character Encoding, page 227

The Simple Object Access Protocol (SOAP) packages used between SAP IC WebClient and the Adapter include text strings. These strings are used in the SAP graphical user interface (GUI)—for example, for call status and agent workmode.

By default, all Adapter strings are in English. However, they are provided in an open resource file that enables localization of the Adapter to any language.

All string constants used in SOAP messages (except the text of error messages) are defined in the `gp_resources.properties` file, which is located in the directory in which the Adapter is installed. This is a standard Java resource property file, and it contains sets of pairs, in the format `<key>=<value>`.

To localize the Adapter, change the `<value>` objects; you should not change the `<key>` objects or add new `<key>` objects (except if you are adding reason codes, as described in Chapter 6 on page 141).

Character Encoding

When the Adapter reads this file, it uses the ISO 8859-1 character encoding. For characters that cannot be directly represented in this encoding, you must use Unicode `escapes`. However, only a single *u* character is allowed in an escape sequence. For information about Unicode escapes, see Sun's Java website.

Each `<value>` should be stored in the file according to this rule. You can also use the `native2ascii` tool to convert property files to and from other character

encodings. For information about the `native2ascii` tool, see Sun's Java website.

Note: Changes that you make to the `gp_resources.properties` file take effect *after* you restart the Adapter.

Appendix

E Queue Presence Information

This appendix describes how the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) processes requests for Queue Presence information. It contains the following sections:

Introduction

The Queue Presence information contains data about the groups and queues that are available for transferring.

With regard to queues, there is also information about queue loading (the count of logged-in agents, and pending interactions), which is obtained from the statistical component of Genesys Framework (Stat Server).

An agent requires Queue Presence information before each interaction transfer.

Only groups/queues that belong to the Adapter's Tenant are in the Queue Presence information.

The structure of the agent's group is loaded at Adapter startup, and it is modified during the processing of the corresponding event from the Configuration Server (as a reaction to the changes in the Configuration Server database).

As stated in the ICI (Integrated Communication Interface), the Queue Presence information is required for a specified channel. This means that the Adapter should distinguish between, for example, the voice and e-mail agent groups.

The following rules are applied to detect the agent's group type:

1. For the voice channel, the list of agent groups with ACD Queues is considered.
2. For the messaging channel, the list of Business Processes with Interaction queues is considered.

When processing the request for Queue Presence information, the Adapter has a group structure, and it also has information about these groups' channels. This request process consists of the following steps:

1. Creating the group structure by using a specified channel.
2. Applying the information from Stat Server (for example, the number of logged-in agents, the number of ready agents, and the number of pending interactions), for all of the queues in the resulting structure.

After executing these steps, the Adapter requests the Queue Presence information, which can then be sent to an agent.

Requesting Queue Presence information

This section includes examples of the Stat Server information used to calculate queue characteristics.

The Stat Server information, used in Step 2 of the request process, is configured in a `stat.xml` file. This file contains the names of the stat types, as defined in the Stat Server options, that are used to calculate all of the necessary queue characteristics (for example, logged in queue and pending in queue). The names of the queue characteristics are predefined.

Voice Channel Queue Characteristics

This example shows the voice channel's agent queue characteristics:

- `LoggedInACD`: The number of agents that are currently logged into a given ACD Queue.
- `ReadyACD`: The number of agents who are currently in the `Ready` state, and who are waiting for interactions from the given ACD Queue.
- `PendingACD`: The total number of live or virtual voice interactions currently waiting at a distribution DN.

E-Mail Channel Queue Characteristics

This example shows the e-mail channel's agent queue characteristics:

- `LoggedInIXN`: The number of logged-in agents.
- `ReadyIXN`: The number of agents who are currently in the `Ready` state, and who are waiting for interactions from the given Virtual Routing Point (VRP).
- `PendingIXN`: The total number of interactions of the specified media type within this staging area at the moment of measurement.

For example, to configure the stat type `CurrNumberWaitingCalls` to obtain the value of the `PendingACD` characteristic, the `stat.xml` file must contain the following line:

```
<stat id="PendingACD" fullname="Calls in Queue" alias="Calls"
statType="CurrNumberWaitingCalls" filter="CALL" />
```

Or, to configure the stat type `OpenMedia_Current_In_Queue` to obtain the value of the `PendingIXN` characteristic for e-mail media, the `stat.xml` file must contain the following line:

```
<stat id="PendingIXN" fullname="Interactions In Queue" alias="In Queue
"statType="OpenMedia_Current_In_Queue" mediaType="email" />
```

Note: The `CurrNumberWaitingCalls` and `OpenMedia_Current_In_Queue Stat` types must be configured on the Stat Server. You can use the `StatProfile.cfg` file from the Adapter's folder for the statistics configuration on Stat Server. The `StatProfile.cfg` file contains basic statistic types for the voice and e-mail channels.

You may set the `LoggedIn`, `Ready`, `Pending` characteristics for any of the stat types defined on your Stat Server. The stat types must be calculated for `Queue` or `AgentGroups` objects, if they are used for the voice channel, and for `StagingArea` objects, if they are used for the e-mail channels.

Appendix

F Agent Presence Information

This appendix describes how the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) processes requests for the Agent Presence information and contains the following sections:

Introduction

The Adapter provides the Agent Presence information, based on the information returned in the Genesys Stat Server statistics.

Note: G*plus* Adapter for SAP ICI Multi-Channel 8.0.x supports the Agent Presence information for the voice channel only. As a result, situations may arise where an agent is reported as `NotReady` by Stat Server (because the agent is not ready on the `e-mail` and `chat` channels), but the Adapter reports the agent state in the Agent Presence information as `Ready` (because the agent is ready on the voice channel).

The agent can have one of the following statuses, based on the ICI protocol:

- 0 = Not Available
- 1 = Available
- 2 = Busy
- 3 = Logged off

Agent Presence Request Parameters

The `IciSystem_getUserPresence` request contains the following parameters:

- `users`— A set of target agents.
- `searchterm`—This parameter is not described in the SAP ICI specifications (v3.07 and earlier versions). The following information describes this parameter and provides additional information about how to use this method:

  The Adapter supports the following masks for this parameter:

  - `'.*' =` Any number of symbols
  - `'.' =` Any one symbol

  To follow the SAP ICI protocol format, you must enter the value of the `searchterm` parameter in upper case. You can specify the exact term, or use the masks described above—for example:

  - `searchterm "AGENT.*"`— Means any agent starting with `AGENT` followed with any set of symbols, such as `AGENTX`, `AGENT7`, or `AGENT007`.
  - `searchterm "AGENT."`—Means any agent starting with `AGENT` followed by one symbol, such as `AGENTX` or `AGENT7`.
- `maxhits`—The maximum number of users that are returned by CMS. If this parameter is incorrectly configured, all found agents are returned.

  The following rules apply when requests to provide the Agent Presence information are processed:

  - If the `users` parameter is not empty, the Adapter provides information for agents that are a subset of the specified set of agents only.
  - If the `users` parameter is empty (or incorrectly configured), the Adapter filters the result set by using the `searchterm` parameter.
  - The number of agents returned in response to the Agent Presence information requests are limited by the `maxhits` parameter.

Configuring Agent Presence Information Processing

You can use the `sapadapter.properties` and `gp_resources.properties` configuration files to specify how the Adapter processes the Agent Presence information.

Changing the Default Status Mapping Between Stat Server and ICI

You can change the default status mapping between the Stat Server and ICI statuses by editing the relevant section in the `gp_resources.properties` configuration file.

`Note:` Changes to the `gp_resources.properties` configuration file are applied after Adapter is restarted.

For a list of default status mappings, see Table 13 on page 210. Table 15 is an example of the `gp_resources.properties` configuration file:

Table 15: Mapping of the Agent Presence Status

Stat Server DNAction Type	Agent Presence Status
NotMonitored	0
Monitored	0
LoggedIn	1
OnHook	1
WaitForNextCall	1
OffHook	2
AfterCallWork	2
CallConsult	2
CallDialing	2
CallInbound	2
CallInternal	2
CallOutbound	2
CallOnHold	2
CallRinging	2
CallUnknown	2
NotReadyForNextCall	2
LoggedOut	3

Changing the Text in Agent Status Information

The SAP-defined statuses are mapped to the following string constants by default:

- `Not Available`
- `Available`
- `Busy`
- `Logged Off`

You can change this mapping by changing the values of the properties in the `gp_resources.properties` configuration file, displayed below:

```
UserStatus_NotAvailable (the default value is Not Available)
UserStatus_Available (the default value is Available)
UserStatus_Busy (the default value is Busy)
UserStatus_LoggedOff (the default value is Logged Off)
```

Note: Changes to the `gp_resources.properties` configuration file are applied after the Adapter is restarted.

Using a Filter to Obtain Valid Agent Statuses

You can configure the Adapter to filter out any resulting sets of agent status information, based on the status of the target agent. To enable this functionality, configure the following option in the Adapter's `sapadapter.properties` configuration file:

AgentPresence.ValidStatuses

Default Values: `0` (zero), `1, 2, 3`
Valid Values: A comma-separated list of agent statuses.

Specifies that agents with only the following SAP-defined agent statuses are returned in response to the `IciSystem_getUserPresence` requests:

Value	Description
`0`	`Not Available`
`1`	`Available`
`2`	`Busy`
`3`	`Logged Off`

Using a Filter Based on the DN Type

You can configure the types of DNs that are used by the Adapter during the Agent Presence calculations in the `gp_resources.properties` files:

- `0` (zero)—Ignore DNs of this type
- `1`—Take into account the DN status of this type

```
# User Presence - DN Filtering rules
PresenceDNType_Unknown             = 0
PresenceDNType_Extension           = 1
PresenceDNType_Position            = 1
PresenceDNType_Queue               = 0
PresenceDNType_RtPoint             = 0
```

Configuring the Statistics Used for Agent Presence Calculations

The statistics requested from Stat Server to calculate the Agent Presence status are defined as follows in the `stat.xml` file:

```
<stat id="AgentStatus" fullname="Agent status" alias="AgentStatus"
statType="CurrentAgentState" />
```

Where:

- `id`—A predefined constant (`AgentStatus`)
  `Warning!` Do not edit this value.
- `fullname, alias`—The information used in logs. This value can be changed to a value that describes the statistic type in use.
- `statType`—A statistical condition type that is defined in the Stat Server configuration options.

StatType Statistical ConditionType

The `statType` statistical condition type as defined in the `stat.xml` file must provide the status for each DN used by an agent. Genesys recommends using `DNAction` as the value for this particular statistical condition type, as shown in the following example below:

StatType Example

```
[CurrentAgentState]
Category=CurrentState
MainMask=*
Objects=Agent
Subject=DNStatus
```

The following statistic results example represent the statistics returned to the Adapter based on this statistical condition type:

```
Object          SStateAgentStatus
        AgentID         GBNAHQ
        LoginID         LoggedOut
        PlaceID         DE_KRK_1272051
        Status          4 (WaitForNextCall)
        DNs             [0] SStateDNStatus
           DN             1272051
           SwitchID       CIM_CS1000_NL_EU1
           Type           1 (Extension)
           Status         0 (NotMonitored)
        DNs             [1] SStateDNStatus
           DN             1273051
           SwitchID       CIM_CS1000_NL_EU1
           Type           2 (Position)
           Status         0 (NotMonitored)
        DNs             [2] SStateDNStatus
           DN             ActionItem
           Type           0 (Unknown)
           Status         4 (WaitForNextCall)
```

The Adapter uses the statuses of the DNs of an allowed type to calculate the Agent Presence information for the voice channel.

Calculating the Agent Presence Status for Two DNs

The Agent Presence status calculations for two DNs are displayed as follows in Table 16:

Table 16: Agent Presence Information Calculations for Two DNs

State of	DN1			
DN2		Logged Off	Busy	Available
	Logged Off	Logged Off	Busy	Available
	Busy	Busy	Busy	Available
	Available	Available	Available	Available

In scenarios where the statistics are not provided by Stat Server, the Adapter reports this agent as `Not Available`.

Using Nortel Switch-Specific Calculations for the Agent Presence Status

Note: This functionality is only available for version 8.0.1, or later, of the Adapter.

To instruct the Adapter to use the Nortel switch-specific calculations for the Agent Presence status, do the following:

In the `gp_resources.properties` file, uncomment the following line by removing the # (pound) sign at the beginning of the line:

```
UserPresence.State.Policy =
com.genesyslab.gplus.sap.core.presence.user.voice.policy.NortelStateCalculationPolicy
```

The Nortel switch-specific Agent Presence status calculations for two DNs are displayed as follows in Table 17:

Table 17: The Nortel Switch-Specific Agent Presence Information Calculations for Two DNs

State of	DN1			
DN2		Logged Off	Busy	Available
	Logged Off	Logged Off	Busy	Available
	Busy	Busy	Busy	Busy
	Available	Available	Busy	Available

Requesting Agent Presence Information

The user can request Agent Presence information from the Dialing Form. See Figure 50 on page 240.

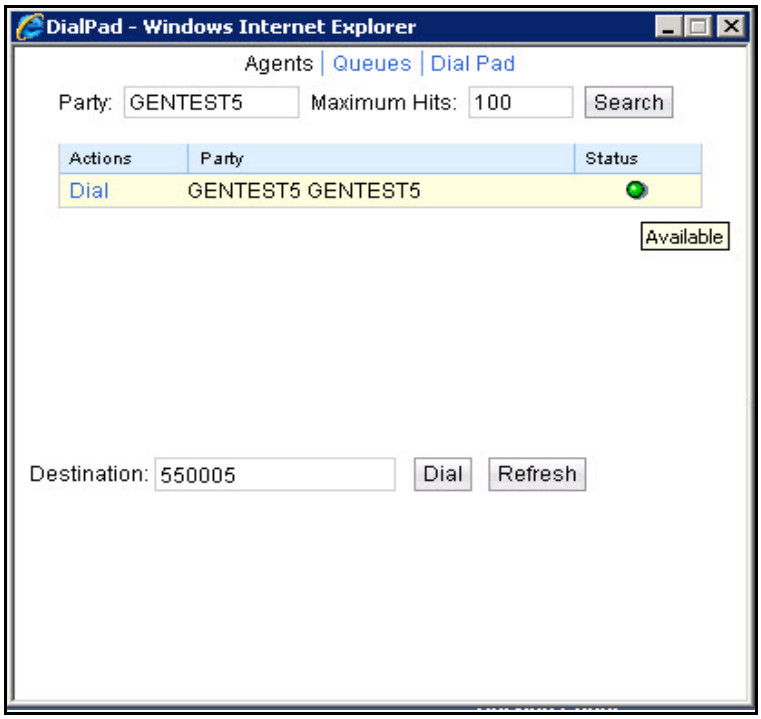

Figure 50: Dialing Form User Presence

The following use-case is the most often-used:

1. The agent makes either an internal or consult call to another agent by pressing the `Dial` button.
2. When the Dialing Form appears, the agent can perform one of three tasks:
   a. Make a call to the phone number by using the Dial Pad.
   b. Make a call to the queue that is specified in the Queue Presence information.
   c. Make a call to a specific agent that is logged in and free to accept calls (Agent Presence).

As soon as the Adapter returns a list of the agents that are currently working, a distinction must be made between agents that are logged in to the Adapter and ready to accept calls, and agents that are logged in to the Adapter but are not ready to accept calls. For example, agents that are already on a call, or agents that are busy doing after-call work.

The ICI protocol specifies a list of cooperation capabilities for agents that are returned in response to an `IciSystem_getUserPresence` request.

When Agent Presence information is requested, the Adapter defines the following rules:

- Agents who have statuses other than those that are specified in the `AgentStatus.ValidStatuses` option are not returned in response to `IciSystem_getUserPresence` requests. (See AgentPresence.ValidStatuses on page 236.)

- If an Agent's status is something other than `Available` (for example, `Busy` or `Logged Off`) it is present in the Agent Presence information, but has no collaboration capabilities (or *empty* capabilities).
- Agents with `Available` statuses are present in Agent Presence information and have the following capabilities:
  - `3 (Forward),`
  - `101 (Dial),`
  - `104 (Warm transfer).`

  The list of capabilities are the same for all agents that have voice channels (a list of additional channels, such as chat or e-mail) are ignored.

Note: To obtain the correct user presence information, ensure the Stat Server's `CurrAgentsLoggedIn`, `CurrentReadyAgents`, and `CurrentNotReadyAgents` statistics have the `Subject` configuration option value set to `DNStatus`.

Appendix

G Network-Attended Transfer/Conference Operations

This appendix describes the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) support for Network-Attended Transfer/Conference (NAT/C) and includes information about how to enable this feature on the Adapter. It contains the following sections:

NAT/C Overview

The G*plus* Adapter 8.0.x for SAP ICI Multi-Channel supports network-attended operations, such as transfer and conference.

The Network Attended Transfer/Conference (NAT/C) feature is designed to enable agents working in multi-site contact centers to consult with each other before making call transfers or conferences, regardless of whether both agents work at the same or different sites. It also enables the agent, who requests a consultation, to maintain their conversation with the customer while the system is looking for an available agent and setting up the consultation call.

The Network Attended Transfer/Conference (NAT/C) feature enables an agent to simultaneously communicate with an external party and consult with an agent at another site through network operations. The two participants do not have to be on the same switch.

Voice operations can be completed (specifically, creating a call) by using local or network-attended operations. In other words:

- *local consultation calls* imply further local transfers or conferences
- *network consultation calls* imply further network transfers or conferences.

Prerequisites

You must have a network T-Server and a premise T-Server installed and configured to enable and take advantage of network-attended operations. For more information about installing and configuring T-Servers, check the appropriate Deployment Guide for your specific T-Server.

Configuring the Adapter to Support NAT/C

You can enable or disable (turn on or off) the NAT/C support by using the `enableNAT` option in the `GPMC_Voice` section of the Adapter's `Application` object.

You can also configure the following additional options in the `network` section of the Adapter's `Application` object.

- `alternate-locations`—Specifies a comma-separated list of switch locations for which the network alternate operation is enabled.
- `confererence-locations`—Specifies a comma-separated list of switch locations for which the network complete conference operation is enabled.
- `consult-locations`—Specifies a comma-separated list of switch locations for which the network consultation operation is enabled.
- `reconnect-locations`—Specifies a comma-separated list of switch locations for which the network reconnect operation is enabled.
- `single-step-transfer-locations`—Specifies a comma-separated list of switch locations for which the network single-step transfer operation is enabled.
- `transfer-locations`—Specifies a comma-separated list of switch locations for which the network complete transfer operation is enabled.

For additional information about these options, see also the *Interaction SDK Java Deployment Guide.*

Limitations

The Adapter supports NAT/C with the following limitations:

- Dialed Number (DN) IDs must be unique to T-Servers that are visible to and used by the Adapter.
- The type of operation (local or network) is selected by the Adapter automatically, based on the `Application` object configuration and the capabilities of the current call and the current state. An agent cannot explicitly or implicitly select the type of the operation that is used on any given call.

Appendix

H Adapter Runtime Updates for Configuration Manager

This appendix describes how the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) supports runtime updates for the Genesys Configuration Manager Environment (CME) and provides information about how to configure this feature. It contains the following sections:

Supported Runtime Updates

G*plus* Adapter 8.0.x for SAP ICI Multi-Channel supports the following runtime update data in the Genesys Configuration Manager Environment.

- Changes to the `Person` configuration object properties, specifically the user name.
- Changes to the Dialed Number (DN) information, such as adding or deleting a DN on the switch.
- Changes to the `Agent Group` configuration object, such as adding or deleting an agent or a group queue.

Changes to Object Properties

Any changes made to agent properties are applied in the Adapter after login (or re-login). The Adapter does not need to be restarted.

Recommended Method: Changing Configuration Objects

Although run-time updates are supported, it is not the best way to update configuration objects in the Genesys Configuration Manager Environment. Instead, Genesys recommends you use the following method:

1. Stop the Adapter.
2. Make the required changes to the configuration objects in the Genesys Configuration Manager environment.
3. Restart the Adapter.

Run-time updates should only be used in rare circumstances, such as when a new agent is added to a large call center, or in other circumstances when stopping the Adapter is not desirable.

Warning! When modifying `Person` configuration objects, ensure that the agent that is associated with the object, is not logged in to the Adapter. Unpredictable results can occur if the agent is logged in when changes are applied in the Genesys Configuration Manager Environment.

Appendix

Load-Balanced Solutions

This appendix provides guidelines and deployment options for the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) when load balancing is required in large-scale environments. It contains the following sections:

G*plus* Adapter in Large Environments

The load-balanced solutions described in this section does not set strict configuration rules for the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel, but provides information that will enable you select the best deployment option, based on the requirements for your environment.

Distributing Agents Among Several Sessions

You can use one of three approaches to distribute agents among several instances of the Adapter:

1. Static association—Agents are distributed among multiple SAP profiles
2. Network load balancing—Based on network technologies
3. Load balancing—Based on the session ID

Static Association

In the SAP configuration each agent belongs to specific profile that is using an Adapter instance. To distribute agents Adapter instances, create the desired

number of profiles in the SAP configuration and distribute the agent equally among the profiles. See Figure 51.

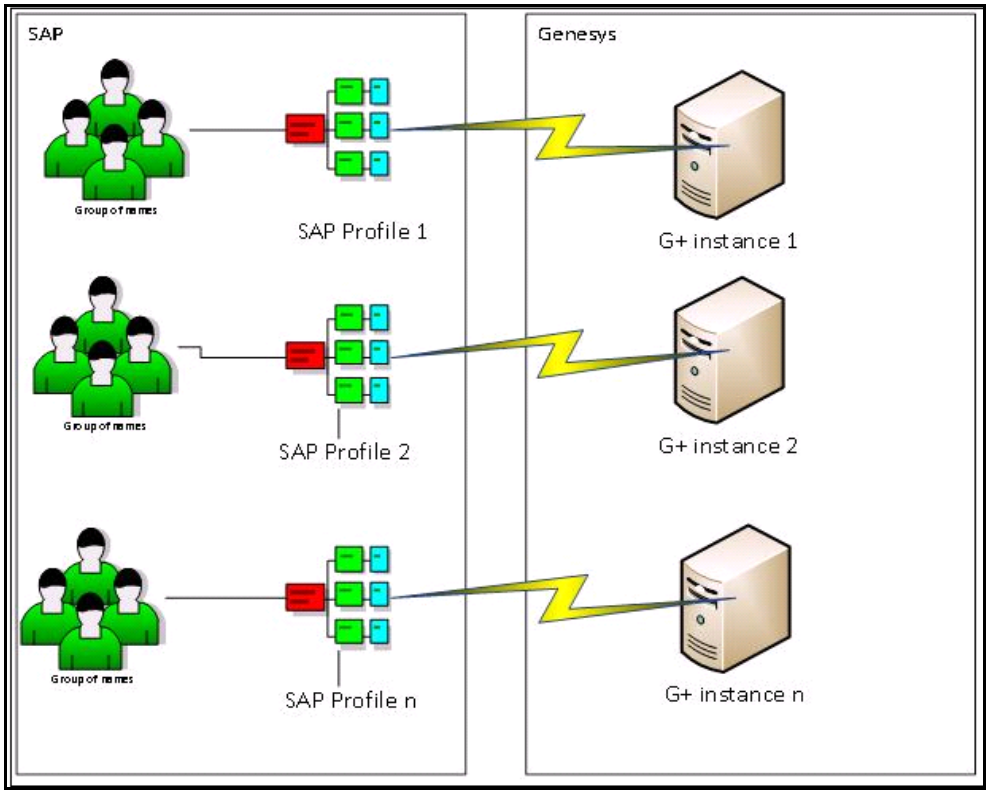

Figure 51: Static Associate Load Balancing

Network-Based Load Balancing

The network-based load balancing solution is provided, based on the assumption that the contact center users, in which the solution is deployed, are not working 24 hours-a-day, so that the Adapter can be configured to enable a client to be re-balanced to a new target once-a-day.

The timing of the re-balancing should be configured to occur during non-working hours. The way in which you implement the re-balancing, is determined by the network hardware that you are using.

It is also assumed that the call-center agent's CRM Application Server is the server that is used to send the ICI message header to the Genesys G*plus* Adapter Server.

The key to any solution is to determine which server acts as the *client* that performs the load balancing between the CRM and Genesys. This solution defines the client as the CRM Application Server. A certain level of load balancing should also be performed for users across the CRM Application Servers.

This implies that all users that are allocated to that CRM Application Server are load-balanced to the same G*plus* Adapter server on that specific day, which

can be done at the network layer—for example, within the F5 or Cisco device. Re-balancing the target Adapter Server once-a-day during *off peak* hours, ensures that contact center users only experience a minimal disruption.

If the G*plus* Adapter Server fails, the network hardware re-balances dynamically, because it monitors the health of each G*plus* Adapter Server, by using either a basic availability check or (ideally) a detailed HTTP health check, known as a probe. If this occurs, the watchdog check from within the CRM application prompts the affected contact center users to do the following:

- re-initialize their workspace,
- log on to the communications management software (CMS) system again,
- set their statuses.

After the G*plus* Adapter Server is restored, it is automatically included in the load-balanced group and receives users again during the next day. Dynamic re-balancing could be forced to happen earlier if operational procedures were in place, but this can cause further disruption to the contact center users. The network-based load-balancing solution is illustrated in Figure 52.

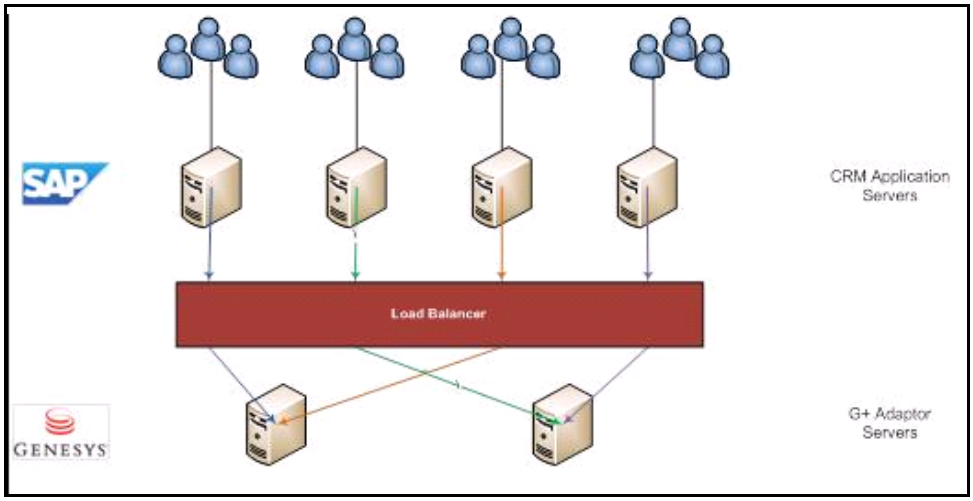

Figure 52: Network-Based Load Balancing

Load Balancing Based on Session IDs

HTTP communication from SAP systems can be distributed amongst several instances of the Adapter by configuring load-balancing, based on session IDs. You must use a third-party load balancer to balance the requests between several instances. See Figure 53 on page 250.

Note: To enable load balancing that is based on session IDs, the SAP Note 1640673 must be applied to the SAP system.

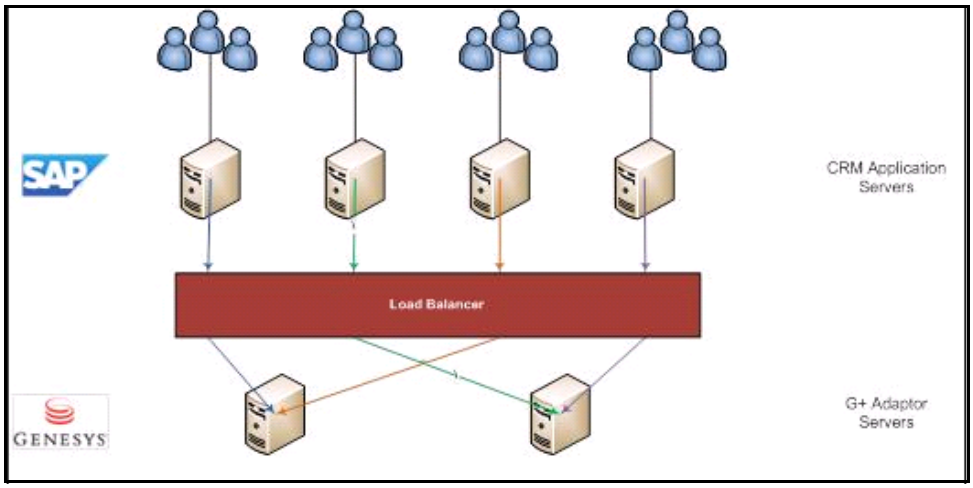

Figure 53: Session ID-Based Load Balancing

The load balancer must be configured to ensure that all requests in the same session are dispatched to the same instance of the Adapter. The session ID caching time must be aligned with the session timeout on both the Adapter and SAP systems.

Redundant Configurations

SAP systems are not compatible with the Adapter when it is configured as a high-availability (HA) pair. To implement the switchover between a primary and backup HA pair instance, use one of the following solutions:

- Primary and backup agent profiles
- Host remapping

For both solutions, Genesys recommends that you set up the Adapter HA pair as two separate `Applications` objects.

Primary and Backup Agent Profiles

In the SAP system configuration, each agent belongs to profile that is using a particular Adapter instance. To configure the HA pair, assign each agent to two SAP profiles. Assign one profile to the primary Adapter's `Application` object and the other profile to the backup Adapter's `Application` object. If the connection to the primary Adapter's `Application` object is lost, the agent can log into the SAP system by using the backup profile.

Host Remapping

The host remapping solution is based on the ability to reassign IP addresses from the primary host to the backup host. If the connection to the primary host

is lost, reassign the primary host's IP address to the backup host. The agent must log into the SAP session again to continue working with the CTI functions.

Appendix

J Canonical Address Format for Phone Numbers

This appendix describes how SAP and the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) translates and optimizes canonical numbers. It contains the following sections:

Introduction

The canonical address format is a universal phone number format that identifies the components of a phone number.

The canonical address format is as follows:

```
+<Country/Region Code>[(<Area Code>)] <Subscriber Number>
```

Where:

- +—signifies that the number is in the canonical address format
- `<Country/Region Code>`—signifies the standard country or region code that determines the country or region code for a telephone number.
- `(<Area Code>)`—signifies the area or city code for a telephone number.
- `<Subscriber Number>`—signifies the number for phone subscriber.

Hyphens (-), spaces ( ), or periods (.) are used to visually separate groups of numbers. Parentheses are used to indicate digits that are sometimes not dialed.

Note: Parentheses should not be used in the international notation.

SAP has its own method for translating and optimizing canonical numbers. For canonical number translation, G*plus* Adapter for SAP ICI Multi-Channel (the Adapter) uses similar settings to SAP (such as country code, extension length, and so on). For canonical number optimization, the Adapter supports two modes, which are controlled by the `Application` object:

- Simple mode—the removal of any non-digit numeric type symbols and the addition of a plus sign (+), if it is absent
- Full mode—inbound optimization and outbound optimization

Configuring the Adapter's Optimization Options

To enable and/or disable the optimization of the canonical address format for phone numbers, configure the following Adapter options:

- `inbound-optimization`
- `outbound-optimization`

The `inbound-optimization` and `outbound-optimization` options also determine how the phone number is translated.

Generally, a phone number is represented by the following format:

```
idd country-code area-code base-number extension
```

See Table 18 for definitions of the terms used in the above format example.

Table 18: Telephone Number Format Prefix Definitions

Prefix:	Definition:
`idd` (international direct dialing)	Corresponds to the number used to make a call from one country to another. For example, if you are calling United Kingdom from the United States, the `idd` would be `011`. Conversely, if you called the United States from the United Kingdom, the `idd` would be `001`.
`ndd` (national direct dialing)	Corresponds to the access code used to make a call within a country from one city to another. The `ndd` is followed by the city or area code for the place you are calling. For example, if you are dialing +44-(0)7235-xxxx-xxxx, +44 denotes the country code, whereas (0—zero) denotes the `ndd`.
`country-code`	Corresponds to the country attribute of the SAP site definition.
`area-code`	Corresponds to a number assigned to a geographical telephone area.

Table 18: Telephone Number Format Prefix Definitions

Prefix:	Definition:
`base-number`	Corresponds to the common number before an extension number.
`extension-length`	Corresponds to the number of digits in an extension number.

Inbound Optimization

The `inbound-prefix` option represents the prefix that the Adapter removes from the Automatic Number Identification (ANI) numbers provided by T-Server, before sending the information to the SAP system.

This option may be used when there is a discrepancy between the number that is saved and used in the SAP system and the number that the telephony system requires—for example: `0331234567890 <-> 1234567890`.

The inbound-optimization of the incoming phone number is completed as follows:

1. The Adapter removes the prefix defined by the `inbound-prefix` option prior to the inbound number being used in the Genesys-to-SAP conversion, if the value of the `inbound-prefix-remove-first` option is set to `1`.
2. The incoming number is optimized according to the `inbound-optimization` option.
3. The Adapter removes the prefix defined by the `inbound-prefix` option after the conversion finishes, if the value of the `inbound-prefix-remove-first` option is set to `0` (zero).

If the `inbound-optimization` option is disabled and there is no value defined for the `inbound-prefix` option, no action is taken on the number to dial. If one of these options is defined, then the inbound-optimization is completed. Table 19 describes the possible translations of the phone numbers, depending on the value of the `inbound-optimization` option.

Table 19: Valid Values for the Inbound-Optimization Option

Valid Values:	Description:
`disabled`	No optimization is performed.
`extension`	Only the extension number is passed on to the SAP system (according to the value of the `extension-length` option) if the previous number parts are the same as those defined in the Adapter's options.

Table 19: Valid Values for the Inbound-Optimization Option

Valid Values:	Description:
`national`	The Automatic Number Identification (ANI) information transferred to the SAP system does not contain any international prefixes and country codes, if they are the same as those defined in the Adapter's options.
`canonical`	ANI is displayed as a `+{countrycode}{area-code}{basenumber}`extension.

Table 20 displays examples of the option values for Inbound Optimization:

Table 20: Inbound Optimization Options Examples

Options:	Valid Values:
`extension-length`	4
`idd`	011
`ndd`	8
`country-code`	1
`area-code`	044
`base-number`	913
`inbound-prefix`	033

The following examples show the different canonical number translations depending on the value set for the `inbound-optimization` option:

- `inbound-optimization = extension`
  - Number `01110449131004` is translated to `1004`
  - Number `80449131004` is translated to `1004`
  - Number `0449131004` is translated to `1004`
- `inbound-optimization = national`
  - Number `1004` is translated to `80449131004`
  - Number `9131004` is translated to `80449131004`
  - Number `9151004` is translated to `80449151004`
  - Number `01110449151004` is translated to `80449151004`
  - Number `01110459151004` is translated to `80459151004`
  - Number `01110449131004` is translated `80449131004`
- `inbound-optimization = canonical`
  - Number `1004` is translated to `+10449131004`
  - Number `9131004` is translated to `+10449131004`
  - Number `80449131004` is translated to `+10449131004`
  - Number `01110449131004` is translated to `+10449131004`
  - Number `80449151004` is translated to `+10449151004`
  - Number `0449151004` is translated to `+10449151004`

Outbound Optimization

The `outbound-prefix` option represents the prefix that the Adapter adds onto numbers provided by SAPphone for outbound dialing, before sending the information to T-Server.

This option may be used when there is a discrepancy between the number that is saved and used in the SAP system and the number that the telephony system requires— for example: `1234567890 <-> 00331234567890`.

Table 21 shows the possible outbound optimization options.

Table 21: Outbound Optimization Options

Option:	Description:
`outbound-prefix`	Represents the prefix that the Adapter adds onto numbers provided by SAPphone for outbound dialling, before sending the information to T-Server.
`outbound-optimization`	Represents the type of Outbound Call Number optimization the Adapter performs.

Table 21: Outbound Optimization Options (Continued)

Option:	Description:
outbound-idd-substitute	If this option is set to 1, the Adapter replaces the leading plus (+) sign with the value of idd.
outbound-remove	Represents the characters that are removed from the dialed string before any other processing activity.

If outbound optimization is *disabled*, no optimization is performed on the phone numbers obtained from SAP.

If outbound optimization is *enabled* (the outbound-optimization option is set to enabled), the Adapter performs the following steps to translate the phone number before sending it to T-Server:

1. Removes all of the characters contained in the outbound-remove option from the phone number.
2. Replaces the plus sign (+) with the idd value, if the value of the outbound-idd-substitute option is set to 1.
3. If the country code and/or local area code are the same as those defined in the Adapter options, the Adapter removes them from the number to dial, according to the following rules:
   a. The ndd area-code base-number extension number is dialed if the number's area-code value is not the same as the Adapter's area-code value for numbers in the following format:
      idd country-code area-code base-number extension
   b. The base-number extension is dialed if the number's area-code value is the same as the Adapter's area-code value for numbers in the following format:
      idd country-code area-code base-number extension
   c. The base-number extension is dialed for numbers in the following format:
      ndd area-code base-number extension
   d. The base-number extension is dialed for numbers in the following format:
      area-code base-number extension
   e. All other numbers are not changed and are dialed as is.

   Note: The extension length (the number of digits in the extension number) is determined by the value of the extension-length option.

4. Adds the value set for the outbound-prefix option to the numbers before sending this information to T-Server.

Table 22 shows some possible examples of outbound optimization options and their values:

Note: The outbound optimization does not apply to phone numbers that are treated as *internal* (see, the description of the `internal-phone-numbers` option).

Table 22: Outbound Optimization Options Examples

Options:	Valid Values:
`outbound-optimization`	1 (enabled)
`extension-length`	4
`outbound-remove`	( )
`outbound-idd-substitute`	`0` (zero)/`1`
`idd`	011
`ndd`	8
`country-code`	1
`area-code`	044
`base-number`	913
`outbound-prefix`	033

The following examples show the different optimization methods for numbers when the value for the `outbound-idd-substitute` option is set to `1`:

- Number `+1 044 (1004)`:
  - **a.** Spaces and brackets are removed due to the `outbound-remove` option. As a result, `+1 044 (1004)` is optimized to `+10441004`.
  - **b.** The plus sign (`+`) is replaced with the `idd` value, `011`, due to the `outbound-idd-substitute` option value. As a result, `+10441004` is optimized to `01110441004`.
  - **c.** According to Step b on page 258, `01110441004` is optimized to `1004`.
  - **d.** The `outbound-prefix` value `033` is added to the optimized number. The resulting number is `0331004`.
- Number `+1 045 (1004)`:
  - **a.** Spaces and brackets are removed due to the `outbound-remove` option. As a result, `+1 045 (1004)` is optimized to `+10451004`.

b. The plus sign (`+`) is replaced with the `idd` value, `011`, due to the `outbound-idd-substitute` option value.
As a result, `+10451004` is optimized to `01110451004`.

c. According to Step a on page 258, number `01110451004` is translated to `80451004`.

d. The `outbound-prefix` value `033` is added to the optimized number.
The resulting number is `03380451004`.

The following example shows the optimization method for a number when the value for the `outbound-idd-substitute` option is set to `0` (zero):

- Number `011 1 044 (1004)`:

a. Spaces and brackets are removed due to the `outbound-remove` option.
`As a result, 011 1 044 (1004)` is optimized to `011110441004`.

b. According to Step b, the number `00110441004` is optimized to `1004`.

c. The outbound-prefix `033` is added to the optimized number.
The resulting number is `0331004`.

Configuring Canonical Numbers

Use the procedure in this section to for SAP to dial a number in a specific format and then, configure the Adapter.

Procedure: Configure SAP to dial a number based on site settings

Purpose: To force SAP to dial the number in a specific format, based on the SAPphone site settings.

Start of procedure

1. To force SAP to dial the number in the following format: `+<country_code><area_code><extension>` (based on your SAPphone site settings):
   - On the `SAP SPHB` screen, select the `Canon. numbers` check box to activate the generation of canonical numbers for the SAPphone server that you are using. See, Figure 54 on page 261.

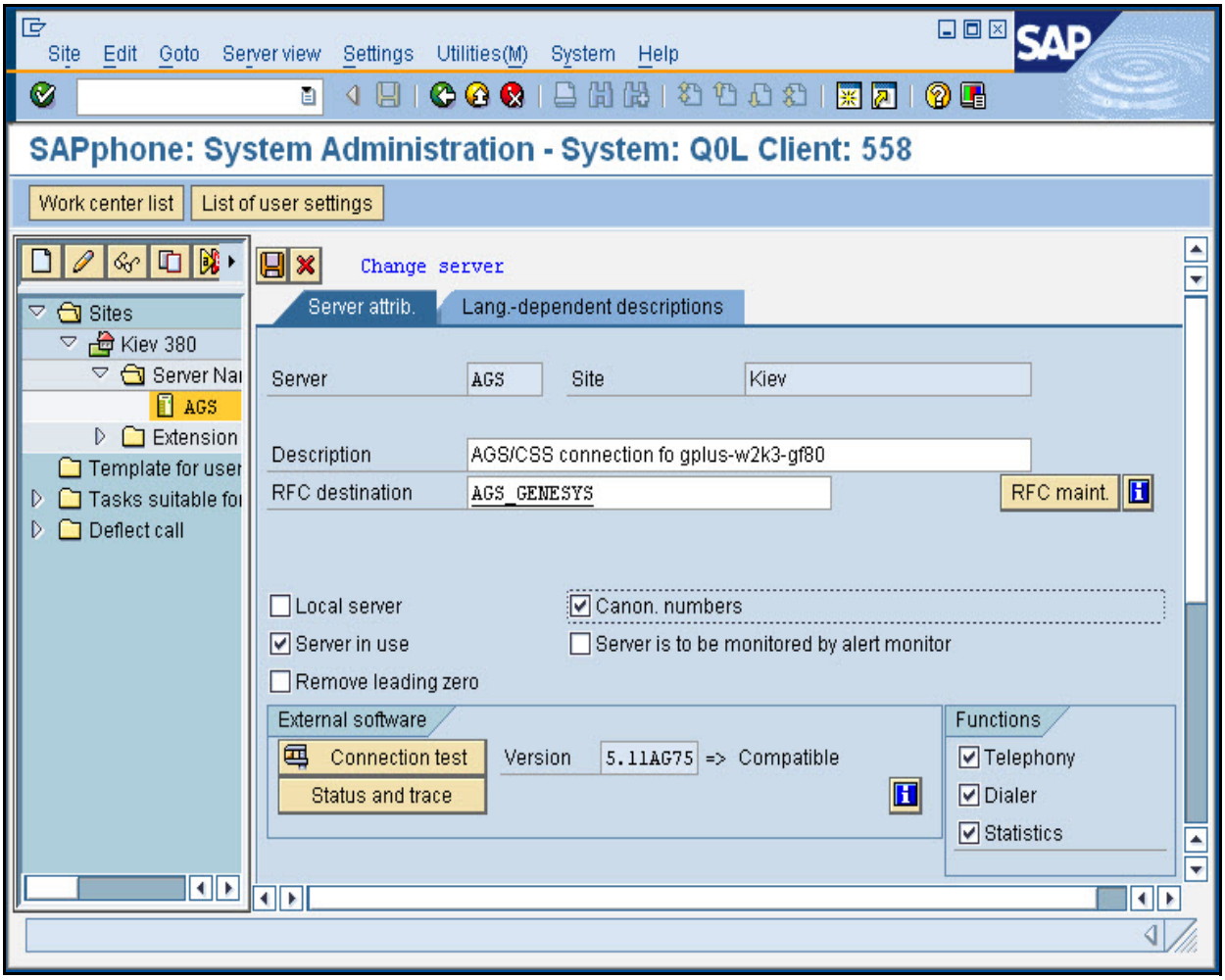

Figure 54: SAP SPHB Screen

Configure the Adapter

2. In Configuration Manager, under the `Adapter` application, configure the required Adapter options.
3. Configure the following additional options:
   - `call-number-translator:outbound-optimization = 1`
   - `call-number-translator:country-code = 1`

   For a complete description of these options, see the "call-number-translator Configuration Section" on page 82.

   Note: The value that you set for `call-number-translator:country-code` must match the value for the SAPphone site definition. In this example, `1` matches the `US` (United States) country code on SAP.

   Figure 55 on page 262 shows an example of the configured options.

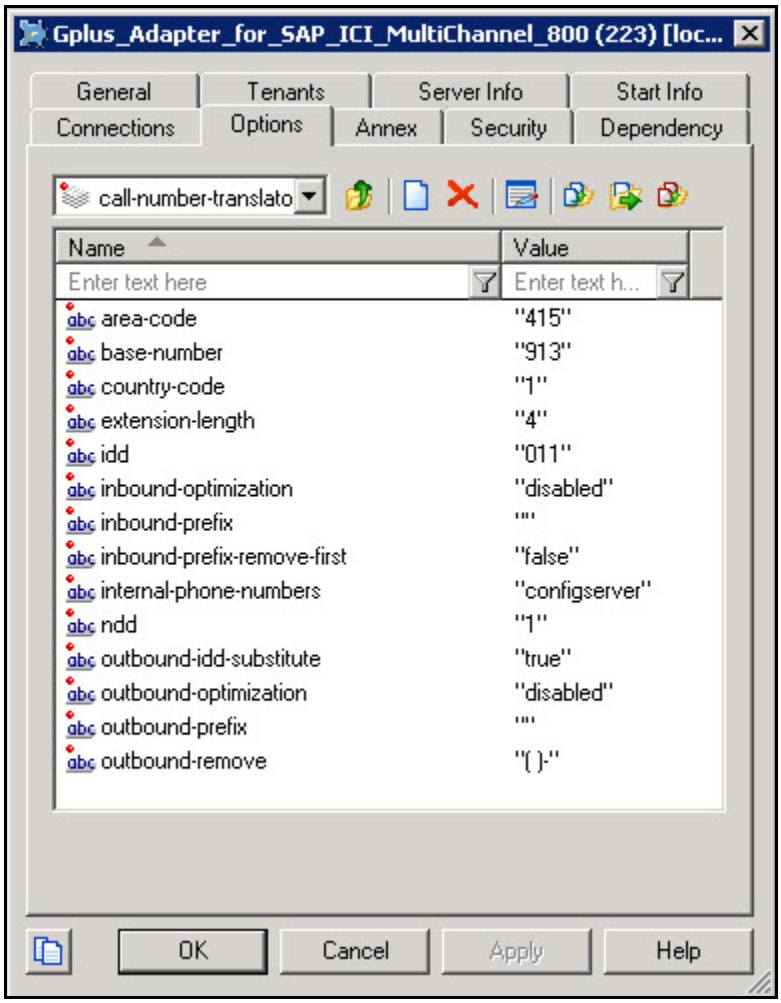

Figure 55: Configuration Manager: Adapter Settings

Start the Adapter

4. From the `SAP SPHA` or `SPHB` transaction, initiate a connection test to check the connectivity between the SAP and the Adapter.

End of procedure

Next Steps

- No further steps are required.

Optimizing the Destination Number

If you followed the steps in the Procedure: Configure SAP to dial a number based on site settings, on page 260 and selected the `Canon. numbers` check box, the actual number is called is `+1 (1004)`. Specifically, if you look at the Adapter log output, you will notice that the SAPphone transfer request has the following format for this scenario:

```
 Int 04543 Interaction message "SPS_BTRANSFER" received from 3
("RfcGetData")
 OPER       :RfcGetData
 NAME       :SPS_BTRANSFER
 EXT        :1003
 HANDLE     :0071011ba08a101d_1003
 DESTINATION:+1 (1004)
 EXTCALLS   :SPH_CSTATE
```

The Adapter optimizes this destination number according to the options that you configured in Step 3 on page 261, as follows:

1. Spaces and brackets are removed due to the `outbound-remove` option.
   As a result, `+1 (1004)` is optimized to `+11004`.
2. The plus sign (`+`) is replaced with the `idd` value `011` due to the value set for the `outbound-idd-substitute` option.
   As a result, `+11004` is optimized to `01111004`.
3. The `outbound-optimization` engine applies the N2 template, which you can see in the description of the outbound-optimization option:
   - As a result, `01111004` is optimized to `1004`.
   - As a result of this optimization, the Adapter sends CTI a request to transfer the call to extension 1004, as shown in Figure 56.

Figure 56: CTI — The Call Is Transferred from Extension 1003 to 1004

Appendix

K SIP Voice Recording

This appendix describes the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) support for SIP Voice Recording and includes information about how to enable this feature on the Adapter and it contains the following sections:

Note: This functionality is only available for version 8.0.1, or later, of the Adapter.

SIP Voice Overview

The G*plus* Adapter 8.0.1 for SAP ICI Multi-Channel supports SIP Voice Recordings.

SIP Server supports the two following methods of call recording:

- NETANN-based call recording—Legacy call recording using NETANN can be provided by Stream Manager or Genesys Media Server.
- MSML-based call recording—Call recording through Media Server Markup Language (MSML) is provided through Genesys Media Server only. For more details about this kind of recording, see the *Call Recording-MSML-based* section in the *Framework 8.1 SIP Server Deployment Guide*.

SIP Server supports both regular call recording and emergency call recording.

NETANN-Based Call Recording

NETANN-based call recording allows the following two operations to be executed:

- Start recording
- Stop recording

Emergency (Manual) Call Recording

SIP Server performs the emergency call recording when processing a single-step conference call request that specifies the `AttributeOtherDN` Destination DN as a `Trunk` DN specifying the `gcti::record` number. When this attribute is set, SIP Server recognizes this special request and initiates call recording as follows:

1. Selects one of the available call recording units that are configured in Configuration Manager.
2. Performs a single-step conference call and adds the selected call recording unit to the call.
3. Creates the file name as configured in the `emergency-recording-filename` option. For more information about this option, see the option description in the *Framework 8.1 SIP Server Deployment Guide*.

To stop emergency call recording, the agent must issue the `TDeleteFromConference` request using the `gcti::record` number.

Note: Refer to the *SIP Server 7.5.0 Call Recording White Paper* for more information about call recording. This document is available from Genesys Technical Support or Genesys Professional Services.

During the NETANN-based reporting, the Adapter reports the call to SAP as a conference call with `+000000000` representing the recording party, as illustrated in Figure 57:

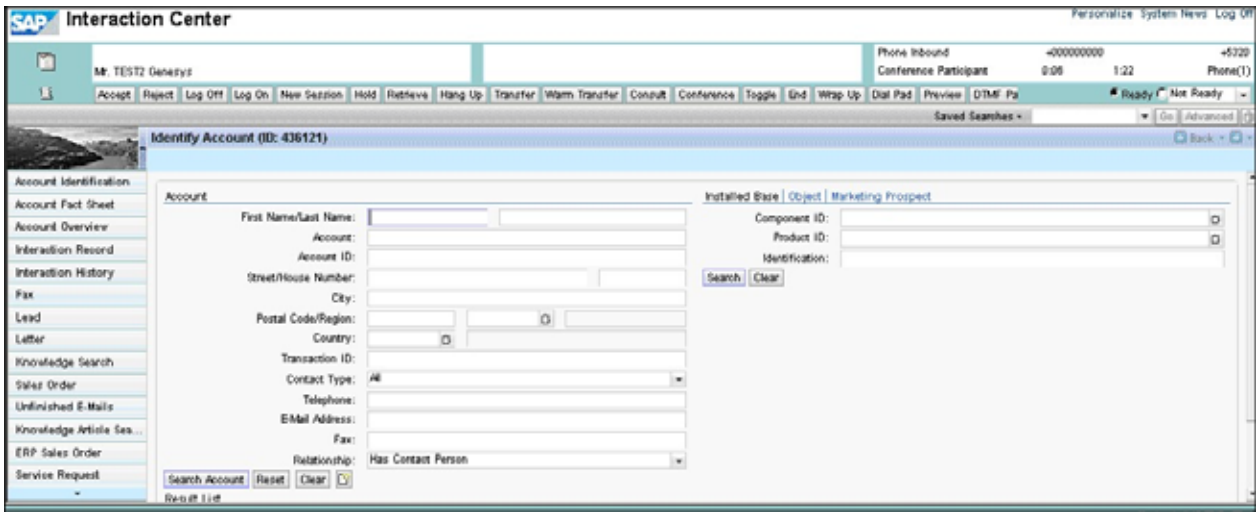

Figure 57: How the Adapter Reports the Call in NETANN-Based Reporting

Limitations

Emergency call recording cannot be activated on a consultation call, if it has already been activated from the same DN on the primary call. Emergency call recording can only be activated on both the primary and consultation calls, if initiated from different DNs.

MSML-Based Call Recording

Dynamic Call Recording

Call recording can be started on an as-needed or *emergency* basis during an ongoing call. To initiate dynamic recording, the recording-related parameters are included in the `Extensions` attribute in either of the following T-Library requests:

- `TRouteCall`
- `TPrivateService`

TRouteCall Request

The URS routing strategy must be configured to include recording-related parameters in the `TRouteCall` request that it sends to SIP Server.

The `Extensions` attribute must include the key record, with one of the following values:

- source—The recording is initiated on the routing destination DN (agent) and continues as long as the agent stays in the call.
- destination—The recording is initiated on the DN that sent the call to the Routing Point (customer) and continues as long as the customer stays in the call.

TPrivateService Request

The T-Library client or third-party recorder must include the recording-related parameters in the TPrivateService request that it sends to SIP Server. To initiate dynamic recording with TPrivateService, the request uses the following parameters and those listed in Table 23 on page 268:

Supported operations (PrivateMsgID):

GSIP_RECORD_START (3013)—Starts the recording

GSIP_RECORD_STOP (3014)—Stops the recording

GSIP_RECORD_PAUSE (3015)—Pauses the recording

GSIP_RECORD_RESUME (3016)—Resumes the recording

Table 23: Mid-Call Recording Extensions Attributes

Attribute	Description	Applicable To:
ThisDN	Specifies the DN on behalf of which the recording operation is requested. This DN must be registered by the T-Library client.	All
ConnectionID	References the ID for the call that is currently being recorded.	All
record	Set to source or destination. Stored in the Extensions attribute of the request. source—The recording is initiated on the routing destination DN (agent) and continues as long as the agent stays in the call. destination -The recording is initiated on the DN that sent the call to the Routing Point (customer) and continues as long as the customer stays in the call.	START

For more information, see the *Framework 8.1 SIP Server Deployment Guide*.

Configuring the Call Recording Actions

The Adapter configures the triggering of call recording actions through the DTMF codes.

The DTMF code mapping needs to be configured in the `GPMC_DTMF` section of the Adapter's configuration options:

- The option name reflects the operation alias.
- The option value reflects the DTMF code indicating a special command.

The Adapter supports the following operation aliases:

Table 24: Supported Operation Aliases

Alias	Call Recording Type	Operation
netannstart	NETANN	Start recording
netannstop	NETANN	Stop recording
startsource	MSML	Start recording (record: source)
startdestination	MSML	Start recording (record: destination)
stop	MSML	Stop recording
pause	MSML	Pause recording
resume	MSML	Resume recording

To trigger the recording operation, SAP needs to trigger the `IciPhoneCall_sendDTMF` operation with the corresponding DTMF code sequence configured in the `GPMC_DTMF` section on page 96. After executing the recording operation, the Adapter does not populate the DTMF code to SIP Server.

Appendix

L Session Clean-Up

This appendix describes the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter) support for inactivity timeout improvements and includes information about how to enable this feature on the Adapter. It contains the following section:

Note: This functionality is only available for version 8.0.1, or later, of the Adapter.

Version 8.0.0 of the Adapter performs a clean-up cycle for every `IciEvent_subscriptionEnded` event timeout and the agent session is destroyed within two subscription timeouts, in case of inactivity.

Session Clean-Up Overview

Session clean-up is based on the value of the `subscriptionTime` option set in the `GPMC_Server` section.

The Adapter removes the agent sessions that have time intervals, between receiving their last request, that are greater than the time interval value (in milliseconds) configured in the `subscriptionTime` option set in the `GPMC_Server` section.

The Adapter looks for expired sessions for each subscription timeout. The agent sessions are removed no earlier than the time interval value configured for the `subscriptionTime` option from the last request and no later than double the amount of the value set for the `subscriptionTime` option. The Adapter must remove the expired agent sessions within a short time period (less than 30 minutes) after expiration. The Adapter then executes the next cleanup based on the expected expiration time of the oldest valid agent session.

Example 1 This example shows the preconditions of an agent session:

```
GPMC_Common\subscriptionTimeout = 30 mins
Adapter started: 9:00:00
Agent1: last&only request: 10:10:00, expires at 10:40:00
Agent2: last&only request: 10:12:00, expires at 10:42:00
Agent3: last&only request: 10:14:00, expires at 10:44:00
Agent4: last&only request: 10:29:00, expires at 10:59:00
Agent5: last&only request: 10:32:00, expires at 11:02:00
```

Table 25 displays an example of how the timing of the next cycle based on the last valid agent session is calculated:

Table 25: Calculating the Timing of the Next Cycle

Cycle #	Time	Agent Sessions Removed (Time from the Last Request)	Calculation Formula	Next Cycle
1	09:30:00	-	+30 minutes	10:00:00
2	10:00:00	-	+30 minutes	10:30:00
3	10:30:00	-	10:40:00 (Agent1) + 5 mins	10:45:00
4	10:45:00	Agent1 (35 mins) Agent2 (33 mins) Agent3 (31 mins)	10:59:00 (Agent4) + 5 mins	11:04:00
5	11:04:00	Agent4 (35 mins) Agent5 (32 mins)	+30 minutes	11:34:00
6	11:34:00	-	+30 minutes	12:04:00

The time of the next cycle is calculated as the expected expiration time of the last valid agent session plus 5 minutes. If there are no available agent sessions, the next clean-up cycle is executed within the time interval set for the `subscriptionTime` option.

Appendix

M CMS Ping Messages

This appendix provides SAP CMS ping messages functionality information for the G*plus* Adapter 8.0.x for SAP ICI Multi-Channel (the Adapter). It contains the following sections:

Note: This functionality is only available for version 8.0.1, or later, of the Adapter.

SAP CMS Ping Functionality

The following section describes how the SAP watchdog session monitors the connection between the agent's communication session and the agent's web browser.

1. The watchdog session of agent A sends a ping request to CMS as shown in Figure 58 on page 274.

Figure 58: Watchdog Session Sends Ping to CMS

2. A ping reply comes back from CMS as shown in Figure 59 on page 274.

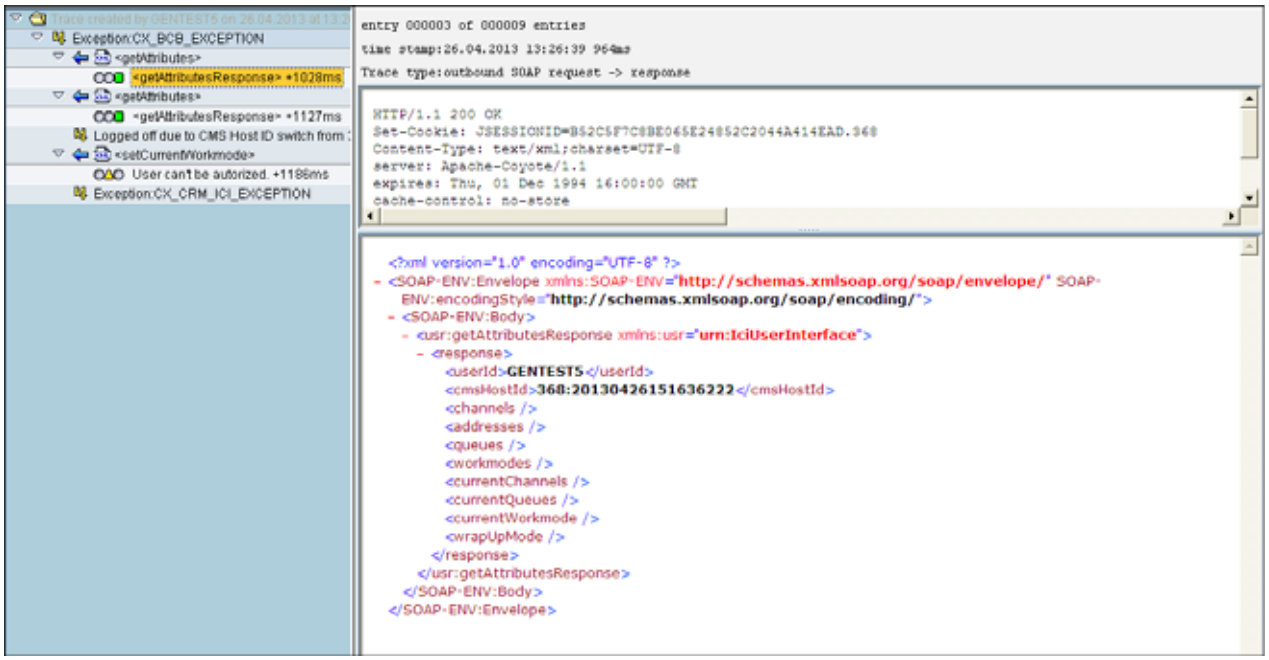

Figure 59: Ping Reply back from CMS

3. The watchdog session updates the shared memory with a time stamp of the acknowledged ping.

4. The watchdog session wakes up at regular intervals (for example, 120 seconds) and checks whether the last time stamp of the last acknowledged CMS ping is earlier (younger) than the interval configured for the CMS ping messages (for example, 30 seconds). If this is true, the watchdog session goes back to sleep.
5. The first watchdog session, which wakes up at 30 seconds or more after the last acknowledged ping, sends a new ping to CMS (this session can be the watchdog session of another agent—for example, agent B.
6. If the ping is not acknowledged, then the agent B's watchdog session assumes that the CMS is not available anymore and informs:
   - the communication session of agent B
   - the shared memory (used by all agents)
7. Agent B's communication session sends an error messages to the browser to inform agent B about CMS' unavailability, which is illustrated in Figure 60 on page 276.

   Example:

   a. The watchdog session of another agent (for example, agent X) wakes up a few seconds later.
   b. Agent X's watchdog session wakes up and checks the shared memory.
   c. Agent X's watchdog session finds the time stamp of the ping that was not acknowledged.
   d. Agent X's watchdog session sends a new ping to check if the CMS is now available again and then does the following:
      - updates the shared memory, if the ping is acknowledged
      - informs agent X's communication session, if the ping is not acknowledged

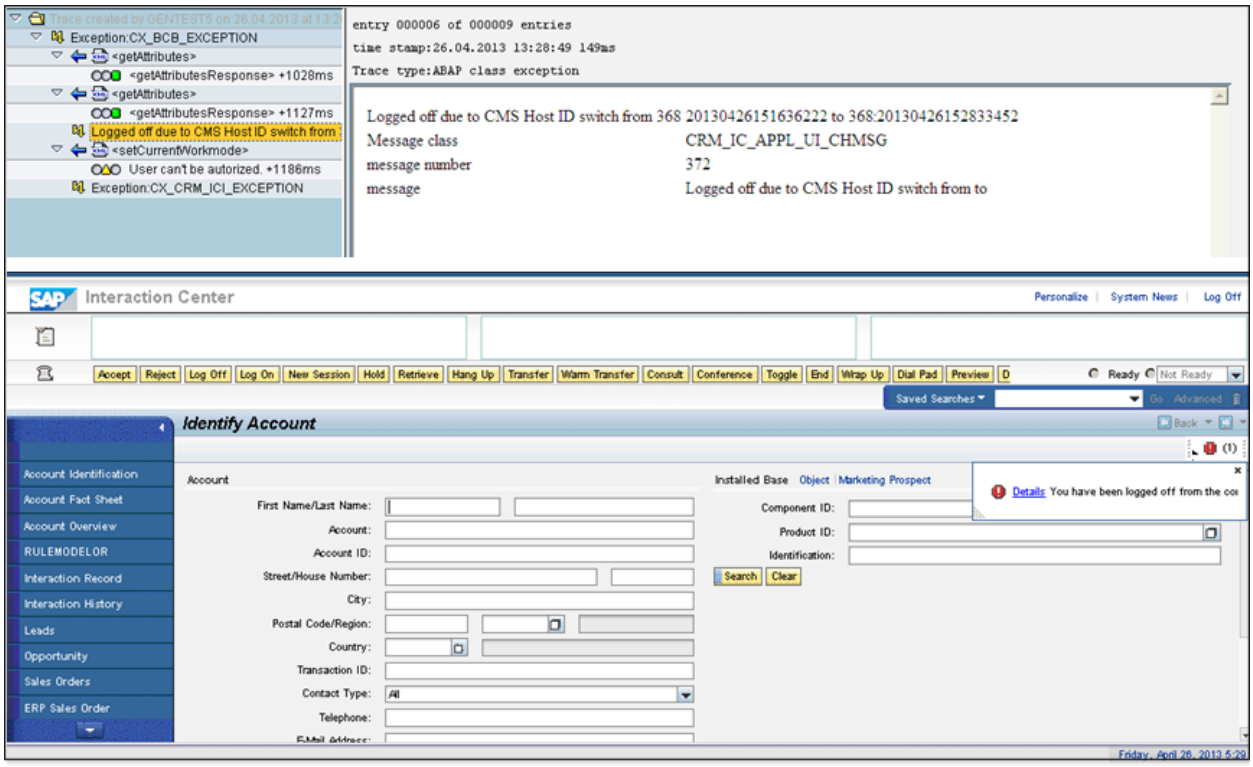

Figure 60: CMS Unavailability Error Message

Note: As soon as a watchdog session decides to ping CMS, it locks the shared memory table. This locking indicates to other watchdog sessions that might wake up a few milliseconds later that a ping is on the way and they should not send an additional ping in parallel.

CMS Ping Requests

A CMS ping request is based on the `IciUser_getAttributes` message with an additional node (`cmsPing`) added to the standard request structure and noted in **Bold** in Example 1:

Example 1

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<SOAP-ENV:Header>
<pre:user xmlns:pre="urn:IciUserInterface" SOAP-ENV:mustUnderstand="0"
xsi:type="xsd:string">D043319</pre:user><pre:language
```

```
xmlns:pre="urn:IciUserInterface" SOAP-ENV:mustUnderstand="0"
xsi:type="xsd:string">EN</pre:language>
</SOAP-ENV:Header>
<SOAP-ENV:Body>
<ns0:getAttributes xmlns:ns0="urn:IciUserInterface">
<userId xmlns="urn:IciUserInterface">D043319</userId>
<cmsPing xmlns="urn:IciUserInterface">TRUE</cmsPing>
</ns0:getAttributes>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Processing Logic

1. The `cmsPing` request must be sent on behalf of an existing user.
2. The Adapter does not analyze the content of the other parameters of the message in case there is no `cmsPing` node present in the request.
3. The Adapter responds with an empty response in this request adding the following additional node to the response—`cmsHostId`, as noted in **Bold** in Example 2:

Example 2

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"

SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
<SOAP-ENV:Body>
 <usr:getAttributesResponse xmlns:usr="urn:IciUserInterface">
  <response>
              <userId>GENTEST6</userId>
              <cmsHostId>368:20130416173706106</cmsHostId>
              <channels/>
              <addresses/>
              <queues/>
              <workmodes/>
              <currentChannels/>
              <currentQueues/>
              <currentWorkmode/>
              <wrapUpMode/>  </response>
 </usr:getAttributesResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

4. `cmsHostId`—represent the unique ID for the application instance execution and consists of the following format:

```
<DBID> + : + <startTimeStamp>
```

Where:

- `DBID`—The application DBID from Configuration Server
- `startTimeStamp`—A `yyyyMMddHHmmssSSS`-formatted timestamp indicating the Adapter initialization time

---

Note: To enable the SAP CMS Ping functionality, the following SAP notes must be applied to the SAP system:

- SAP `Note 1640673`
- SAP `Note 1564979`
- SAP `Note 11595224`

Supplements

Related Documentation Resources

The following resources provide additional information that is relevant to this software. Consult these additional resources as necessary.

G*plus* Adapter for SAP ICI

To access additional SAP documentation, such as the SAP Integrated Communication Interface specification or SAP Notes, visit:

- The SAP Help Portal at `http://help.sap.com`.
- The SAP Service Marketplace at `http://service.sap.com`.

Genesys

- *Genesys Technical Publications Glossary,* which ships on the Genesys Documentation Library DVD and which provides a comprehensive list of the Genesys and computer-telephony integration (CTI) terminology and acronyms used in this document.
- *Genesys Migration Guide*, which ships on the Genesys Documentation Library DVD, and which provides documented migration strategies for Genesys product releases. Contact Genesys Technical Support for more information.
- Release Notes and Product Advisories for this product, which are available on the Genesys Technical Support website at `http://genesyslab.com/support`.

Information about supported hardware and third-party software is available on the Genesys Technical Support website in the following documents:

- *Genesys Supported Operating Environment Reference Guide*
- *Genesys Supported Media Interfaces Reference Manual*

Consult these additional resources as necessary:

- *Genesys Hardware Sizing Guide,* which provides information about Genesys hardware sizing guidelines for the Genesys releases.
- *Genesys Interoperability Guide,* which provides information on the compatibility of Genesys products with various Configuration Layer Environments; Interoperability of Reporting Templates and Solutions; and Gplus Adapters Interoperability.
- *Genesys Licensing Guide,* which introduces you to the concepts, terminology, and procedures relevant to the Genesys licensing system.
- *Genesys Database Sizing Estimator 8.0 Worksheets,* which provides a range of expected database sizes for various Genesys products.

For additional system-wide planning tools and information, see the release-specific listings of System Level Documents on the Genesys Technical Support website, accessible from the `system level documents by release` tab in the Knowledge Base `Browse Documents` Section.

Genesys product documentation is available on the:

- Genesys Technical Support website at `http://genesyslab.com/support`.
- Genesys Documentation Library DVD, which you can order by e-mail from Genesys Order Management at `orderman@genesyslab.com`.

Document Conventions

This document uses certain stylistic and typographical conventions—introduced here—that serve as shorthands for particular kinds of information.

Document Version Number

A version number appears at the bottom of the inside front cover of this document. Version numbers change as new information is added to this document. Here is a sample version number:

80fr_ref_06-2008_v8.0.001.00

You will need this number when you are talking with Genesys Technical Support about this product.

Screen Captures Used in This Document

Screen captures from the product graphical user interface (GUI), as used in this document, may sometimes contain minor spelling, capitalization, or grammatical errors. The text accompanying and explaining the screen captures corrects such errors *except* when such a correction would prevent you from installing, configuring, or successfully using the product. For example, if the name of an option contains a usage error, the name would be presented exactly as it appears in the product GUI; the error would not be corrected in any accompanying text.

Type Styles

Table 26 describes and illustrates the type conventions that are used in this document.

Table 26: Type Styles

Type Style	Used For	Examples
Italic	• Document titles • Emphasis • Definitions of (or first references to) unfamiliar terms • Mathematical variables Also used to indicate placeholder text within code samples or commands, in the special case where angle brackets are a required part of the syntax (see the note about angle brackets on page 282).	Please consult the *Genesys Migration Guide* for more information. Do *not* use this value for this option. A *customary and usual* practice is one that is widely accepted and used within a particular industry or profession. The formula, $x + 1 = 7$ where *x* stands for . . .

Table 26: Type Styles (Continued)

Type Style	Used For	Examples
Monospace font (Looks like `teletype` or `typewriter text`)	All programming identifiers and GUI elements. This convention includes: • The *names* of directories, files, folders, configuration objects, paths, scripts, dialog boxes, options, fields, text and list boxes, operational modes, all buttons (including radio buttons), check boxes, commands, tabs, CTI events, and error messages. • The values of options. • Logical arguments and command syntax. • Code samples. Also used for any text that users must manually enter during a configuration or installation procedure, or on a command line.	Select the `Show variables on screen` check box. In the `Operand` text box, enter your formula. Click `OK` to exit the `Properties` dialog box. T-Server distributes the error messages in `EventError` events. If you select `true` for the `inbound-bsns-calls` option, all established inbound calls on a local agent are considered business calls. Enter `exit` on the command line.
Square brackets ([ ])	A particular parameter or value that is optional within a logical argument, a command, or some programming syntax. That is, the presence of the parameter or value is not required to resolve the argument, command, or block of code. The user decides whether to include this optional information.	`smcp_server -host [/flags]`
Angle brackets (< >)	A placeholder for a value that the user must specify. This might be a DN or a port number specific to your enterprise. **Note:** In some cases, angle brackets are required characters in code syntax (for example, in XML schemas). In these cases, italic text is used for placeholder values.	`smcp_server -host <confighost>`

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