

Gplus Adapter 8.0

for SAP ICI Multi-Channel

Developer's Guide

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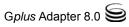
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Preface

Welcome to the Gplus Adapter 8.0.x for SAP ICI Multi-Channel Developer's Guide. In general, this document only addresses the protocol improvements that are not supported by the out-of-the-box SAP system and require custom development on the SAP-side in order to be used. This document does not cover how to implement the enhanced functionality in the SAP system.

The Gplus Adapter 8.0.x for SAP ICI Multi-Channel Developer's Guide provides a developer's overview of the Gplus Adapter for SAP ICI Multi-Channel (the Adapter), focusing on the protocol enhancements and how to use them.

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

This preface contains the following sections:

- About Gplus Adapter 8.0.x for SAP ICI Multi-Channel, page 5
- Intended Audience, page 6
- Usage Guidelines, page 6
- Making Comments on This Document, page 8
- Contacting Genesys Technical Support, page 8
- Document Change History, page 9

For information about the related resources and about the conventions that are used in this document, see the supplementary material starting on page 19.

About G*plus* Adapter 8.0.x for SAP ICI Multi-Channel

The Gplus Adapter 8.0.x for SAP ICI Multi-Channel is a software solution that provides seamless integration between the SAP ICI Multi-Channel and Genesys 8.0.x solutions. This combination brings together SAP's leading software applications and Genesys' contact center solutions.

Preface Intended Audience

The Gplus Adapter provides a single point of access to the contact information. The Adapter brings together multiple media and channels, and provides access to the power of the SAP software, promoting better contact relationships overall.

Intended Audience

This guide is intended for developers who will customize the behavior of the *Gplus* Adapter for SAP ICI Multi-Channel. The guide assumes that:

- You are familiar with concepts related to the SAP ICI Multi-Channel architecture.
- You have a basic understanding of computer-telephony integration (CTI) concepts, processes, terminology, and applications.
- You have a good understanding of database systems, including the specific database system that your application uses.
- You have a basic understanding of network design and operation.
- You are familiar with the network configurations used in your enterprise's computing environment.
- You have a good knowledge of the SAP application development environment.
- (If you will be modifying the style sheet file:) You understand . XSL syntax and file structure.

You should also be familiar with the following Genesys solutions:

- Framework
- Universal Routing
- Outbound Contact Solution
- eServices (formerly Multimedia)

Note: Refer to the *Genesys Interoperability Guide* for further information about the appropriate Genesys applications version numbers.

Usage Guidelines

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The Genesys developer materials outlined in this document are intended to be used for the following purposes:

- Creation of contact-center agent desktop applications associated with the Genesys software implementations.
- Server-side integration between the Genesys software and the third-party software.

Preface Usage Guidelines

• Creation of a specialized client application specific to the customer needs.

The Genesys software functions available for development are clearly documented. No undocumented functionality is to be utilized without Genesys' express written consent.

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- **3.** A developer shall not be entitled to use any licenses granted hereunder unless the developer's organization has met or obtained all prerequisite licensing and software as set out by Genesys.
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- 7. The developed works and Genesys software running in conjunction with one another (hereinafter referred to together as the "integrated solutions") should not compromise the data integrity. For example, if both the Genesys software and the integrated solutions can modify the same data, then modifications by either product must not circumvent the other product's data integrity rules. In addition, the integration should not cause duplicate copies of data to exist in both the participant and Genesys databases, unless it can be assured that the data modifications propagate all copies within the time required by the typical users.
- **8.** The integrated solutions shall not compromise data or application security, access, or visibility restrictions that are enforced by either the Genesys software or the developed works.

- **9.** The integrated solutions shall conform to the design and implementation guidelines and restrictions described in the *Genesys Developer Program Guide* and the Genesys software documentation. For example:
 - **a.** The integration must use only published interfaces to access the Genesys data.
 - **b.** The integration shall not modify data in the Genesys database tables directly using SQL.
 - **c.** The integration shall not introduce the database triggers or stored procedures that operate on the Genesys database tables.

Any schema extension to the Genesys database tables must be carried out using the Genesys developer software through the documented methods and features.

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You can comment on what you regard as specific errors or omissions, and on the accuracy, organization, subject matter, or completeness of this document. Please limit your comments to the scope of this document only and to the way in which the information is presented. Contact your Genesys Account Representative or Genesys Technical Support if you have suggestions about the product itself.

When you send us comments, you grant Genesys a nonexclusive right to use or distribute your comments in any way it believes appropriate, without incurring any obligation to you.

Contacting Genesys Technical Support

If you have purchased support directly from Genesys, please contact Genesys Technical Support.

Before contacting technical support, please refer to the *Genesys Care Program Guide* for complete contact information and procedures.

Document Change History

This section lists content that is new or that has changed significantly since the first release of this document. The most recent changes appear first.

New in Document Version v8.0.101.00

The following topics have been added or changed since the previous release of the document:

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



Chapter

1

Outbound Voice Functionality

This chapter provides a developer's overview of the *G*plus *Adapter for SAP ICI Multi-Channel* (the Adapter), focusing on the customization options for outbound voice funtionality and how to use them. The following topics are included in this chapter:

Updating the Outbound Record's Custom Fields, page 11

Updating the Outbound Record's Custom Fields

This section provides a brief explanation of how to update the custom fields of the outbound record using the IciItem_setAttachedData request.

This section contains the following sub-sections:

- Supported SAP Outbound Commands, page 11
- SAP Outbound Requests Format, page 12
- Updating the Call Results, page 13
- Updating the Custom Fields of the Outbound Record, page 14

Supported SAP Outbound Commands

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).

The Adapter supports the following executable outbound commands, as shown in Table 1 on page 12.

Table 1: Mapping the RESULT Tag to the Excuted Operations

RESULT Tag	Executed Operations
<empty></empty>	Personal reschedule
R	Personal reschedule
С	Campaign reschedule
X	Canceling record
Y	Rejecting record
Z	Submitting DoNotCall (DND) request
<any other="" value=""></any>	Update the call result

Mappings can be changed in the sapadapter properties file.

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.

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 submitted attached data must be in the following format:

Example 1

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 the *G*plus *Adapter for SAP ICI Multi-Channel Deployment Guide* for more information.
- STARTTI MESTAMP—Refers to the date and time of the rescheduled call in the 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, are ignored.

Updating the Call Results

At the end of processing the outbound call (the call reaches the ENDED/NOT IN PROCESS state), the Adapter sends a RecordProcessed request to the Outbound Contact Server (OCS) to finalize the processing of the campaign record.

The Adapter automatically sets the call results for the record into a value set in the defaul tCallResult option, which is configured in the GPMC_Outbound section. Also, the Adapter specifies the treatment type according to the value of the defaultCallTreatment option. See the *G*plus *Adapter for SAP ICI Multi-Channel Deployment Guide* for more information about these options.

To change the call results sent at the end of the call processing, the agent needs to specify the exact difference during the call processing. The call results for the campaign call can be set by SAP by sending an Iciltem_setAttachedData request with the following attached data to the Adapter:

Example 2

Where:

• call_result—Must be a valid key that is defined in the SAP configuration and mapped on the call result that is defined in the *Outbound Contact Reference Manual*.

Based on these requests, the Adapter sends a UpdateCallCompletitionStats request to OCS and uses the same call results in the RecordProcessed request sent at the end of processing the campaign call.

Table 2 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 Reference Manual*

Table 2: Default Mapping of Outbound Call Results

Property Name	Default Value
Outbound.CallResult.1	В,6
Outbound.CallResult.2	F,17
Outbound.CallResult.3	M,9
Outbound.CallResult.4	N,7

Table 2: Default Mapping of Outbound Call Results (Continued)

Property Name	Default Value
Outbound.CallResult.5	S,33
Outbound.CallResult.6	W,40

Updating the Custom Fields of the Outbound Record

You can use the <code>lciltem_setAttachedData</code> request to update the custom fields of the outbound record.

The structure of the <code>lciltem_setAttachedData XML</code> request was extended with optional nodes to deliver the values of the custom fields, which are displayed below in **Bold** in Example 3:

Table 3 describes the optional nodes for the IciItem_setAttachedData request:

Table 3: Optional Nodes of the ICI Item_setAttachedData Request

Node	Description	Optional	Cardinality
CUSTOM_FIELDS	The node name constant used to wrap all custom fields.	Yes	01
CUSTOMFIELD1 CUSTOMFIELD3	The name of the custom field to be updated. Must be specified as a string without spaces and special characters.	Yes	1n
VALUE	The value for the custom field. Specifed as a string.	Yes	1 per parent node

Example 4 This example shows the IciItem_setAttachedData request with the updated information displayed below in **Bold**:

Mapping the SAP Letters in the SAP Result Codes

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. Call Result. <N> = <Single letter - SAP>, <Numeric value - Genesys>

Mapping the letters sent by the SAP result codes must be defined in the sapadapter properties files. Table 4 shows the mapping of the letters, in **Bold**, using the information from Example 4, where:

- Outbound.CallResult.7—Refers to the consecutive key-value pair names
- U—Refers to the call result as defined in the SAP configuration
- -1—Refers to the call result as defined according to the *Outbound Contact Reference Manual*.

Table 4: Mapping of the 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
Outbound.CallResult.7	U, -1

You can use the Adapter to define the mapping of SAP (U in Table 4) with the specification of the non-existing call result code (-1). In scenarios where this code is specified in a request from SAP, it results in updates to the value of the custom fields, but no changes are produced for the call results.

Notes:

Limitations:

- The custom field name cannot contain white space or special characters that cannot be used as the node name in an XML document. See, http://www.w3.org/TR/REC-xml/#NT-Name for more information.
- The custom field value must comply to the text node definition for example, CDATA or XML are not supported as valid values.
- You cannot use the out-of-the-box version of SAP for this solution as it does not allow for these new fields in the XML requests and the SAP GUI. SAP project-based customization is required to use these extended requests.



Chapter

2

Email Functionality

This chapter describes the advanced customization capabilities supported for the email media and includes the following topics:

• The OutboundReply Subtype for Reply Email Interactions, page 17

The OutboundReply Subtype for Reply Email Interactions

In a standard reply workflow, SAP informs the Adapter that the reply is being processed only when setting the content of the reply interaction (this happens just before the sent operation after the email is already composed).

All email interactions created through the IciItem_create operation have the following subtype: OutboundNew.

The Adapter can change the subtype of the reply interactions, by sending the parent interaction ID as the optional attribute in the <code>lciltem_create</code> request.

Example 1

This example shows the IciItem_create request with the optional attribute in **Bold**:

<ns0: create xmlns: ns0="urn: lciltemInterface">

<channel Type

xml ns="urn: Ici I temInterface">2</channel Type>

<containerId

xmlns="urn: lciltemInterface">GENTEST5/draft</containerId>

<In-Reply-To>0000Ca8MDXXE000S

</ns0: create>

</SOAP-ENV: Body>

</SOAP-ENV: Envel ope>

If the interaction identified by the interaction ID is known and has a valid type, the Adapter then creates a new interaction as the reply for the incoming email (subtype: OutboundReply).



Supplements

Related Documentation Resources

The following resources provide additional information that is relevant to this software. Consult these additional resources as necessary.

Gplus 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 5 describes and illustrates the type conventions that are used in this document.

Table 5: 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 22). 	Please consult the <i>Genesys Migration Guide</i> for more information. Do <i>not</i> use this value for this option. A <i>customary and usual</i> 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 5: Type Styles (Continued)

Type Style	Used For	Examples
Monospace font	All programming identifiers and GUI elements. This convention includes:	Select the Show vari abl es on screen check box.
(Looks like tel etype or typewriter text)	 The <i>names</i> 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. 	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></confighost>





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