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mySAP CRM
Interaction Center

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Preface

Interaction centers are the key area through which enterprises work directly with their customers; the customer, in turn, expects to receive support regarding all issues across all the business areas of the enterprise. This can happen only if an interaction center can be integrated with other applications and individually adapted and extended to user processes.

The solution mySAP CRM Interaction Center fulfills these requirements. Our intention with this book is to provide consultants, project managers, and decision makers in SAP customer enterprises with comprehensive insight into ways for meeting project-specific requirements, beyond the information provided by the SAP help and standard documentation. At the same time, a less technical chapter presents numerous customer projects that illustrate the bandwidth of possible implementations of this solution.

This book could not have been published as you see it without committed support from many people. We would like to thank our colleagues at ecenta AG, who helped us compile the extension options of SAP CRM Interaction Center and in processing the examples from customer projects: Christian Matz, Jens Höfer, Jörg Hopmann, Dr. Johann von Saldern, and Dr. Klemen Cas. Without their text contributions and ABAP programs, this book would not have come into existence. The "heart and soul" of this project, who kept together all files, graphics, formats, and pieces of paper, was Katrin Willnat, who even managed to decipher our handwriting.

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>
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3   Technical Principles

mySAP CRM Interaction Center includes IC WinClient, IC WebClient, and processes for Interaction Center Manager. This chapter concisely describes the technical principles of these applications.

3.1   Preliminary Note

This chapter introduces the technical basics of Interaction Center WinClient, Interaction Center WebClient, and the functionality for the Interaction Center Manager role. Our goal here is to give you a foundation for understanding the enhancement options of the solution. Throughout this book, selected enhancements are described in detail using real-life examples (see Chapter 4) and the context of project descriptions (see Chapter 5).

In contrast to the descriptions in the system documentation, the Implementation and Installation Guides, the SAP Help Portal (*http://help.sap.com*), and the contents of SAP Solution Manager, this chapter points out certain central functions and provides technical details about these functional areas. As an additional source for further information, please refer to the *IC WebClient Cookbook*, the latest version of which can be found in the SAP Service Marketplace (*http://service.sap.com*) in the Installation Guides section.

In addition to descriptions of technical principles structured by main components, you will find at the end of each section lists or tables with technical information, including transactions or SAP notes relevant to the respective area.

3.2   Interaction Center WinClient

3.2.1   Framework and Architecture

The IC WinClient configuration begins with *framework customizing*. During this process, you will define the layout of the user interface and also assign individual areas of the layout (slots) to components. The standard system contains two L-shaped layouts, one with and one without a call state. The schematic structure of these are illustrated in the left-hand and right-hand parts of Figure 3.1.
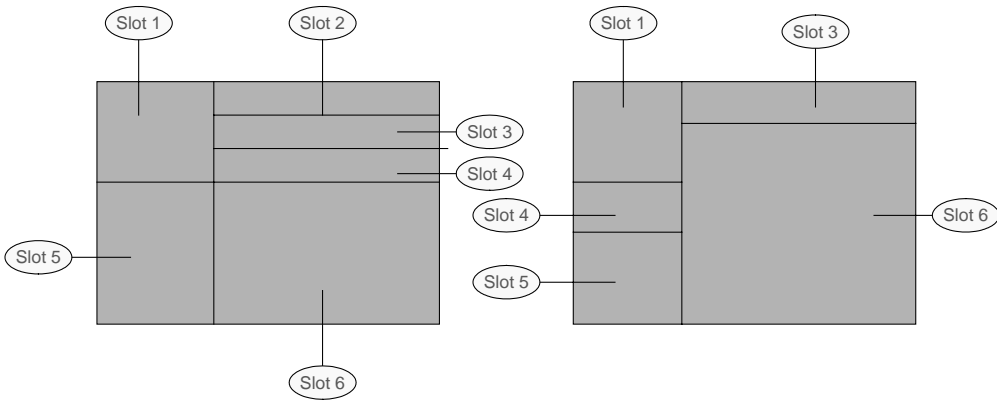
Layout and component mapping

Figure 3.1 Schematic IC WinClient Layout With (Left) and Without (Right) Call State

Components and slot assignment

With SAP CRM Release 5.0, the additional vertical layout has been used in the standard version for the client switch functionality. The individual slots are assigned visible components, e.g. workspaces. Some slots are permanently assigned to certain components (1 = Business partner search, 5 = Navigation area, 6 = Application area), other components can be used flexibly in the remaining three slots (see Table 3.1).

Visible Component	L-Shaped With Call State	L-Shaped Without Call State
Broadcast messaging	2, 3, 4	3
Call state	2, 3, 4	–
Quick keys	2, 3, 4	3
Reminder scripting	2, 3, 4	3
Lean action box	2, 3, 4	4 (variant 0004 or 0005), 3

Table 3.1 Visible Components and Possible Slot Assignments

Visible and hidden components

One distinguishing feature of IC WinClient is that, apart from the visible components, there are hidden ones that are active in the background. Some visible components, like the action box, require an associated hidden component.

The functional characteristics of individual components are determined by the IC WinClient profile. One configuration profile can be associated to each component. An IC WinClient profile also references a particular framework. This means that through the IC WinClient profile, all configuration settings required to start the application with certain characteristics are known. This is effected via transaction code CIC0.

From a technical point of view, the application launch is carried out via the central function module CIC_START_FRAMEWORK, which is used for initiating all the necessary steps. The procedure within this function module is as follows:

1. The function module CIC_INITIALIZE_FRAMEWORK is called, where the IC WinClient profile (function module CIC_GET_ORG_PROFILES) is determined first, then the framework layout and corresponding component profiles. The visible components are assigned to their slots, and the hidden ones are written to an internal table.

2. Components are created, components subscribe to events, receiver components for events are determined, and the functions to be executed are defined. The individual steps are carried out sequentially, first for the hidden, then for the visible components.

3. The framework itself subscribes to events.

4. The events for reading the components' configuration data (Event `CO_GLOBAL_CONFIG_MOD`) are triggered.

5. All components are opened.

6. Visible components are enabled.

7. The framework screen is called.

8. Visible components are disabled.

9. All components are closed.

This procedure illustrates that the communication between individual components and the framework is carried out through events at runtime, after the application has been started.

One special type of event is the OK code. This event is called by the framework, and all parts of the framework using OK code processing have to subscribe to this event. To make sure that the OK code event handlers of individual framework parts are called only when OK codes relevant to them are to be processed, they can register for specific OK codes.

The contents of the navigation and application areas (Slots 5 and 6) after application startup can be defined via a common profile for both areas (Customizing activity **Define Profile for Automatically Created Workspaces**, Transaction CRMC_CIC_WSP3). Both areas can be populated with several workspaces in the form of tabs. A list of all workspaces included in a standard system is available either via **F4** help or via Transaction CRMC_CIC_WSP0. This transaction also enables you to add cus-

tomer-specific workspaces (see SAP note 516843 and Sections 4.2 and 4.3).

The IC WinClient profile can be assigned a special profile for the application toolbar and thus a special toolbar configuration (GUI status) using Transactions CICU and CICN. For that purpose, the framework used must be assigned the obligatory hidden component CIC_TOOLBAR. An extended GUI status (PF777) has been available since mySAP CRM Edition 2004, which provides the choice of two additional pushbuttons for changing the presentation of the navigation and application areas at runtime: With one of the pushbuttons, you can toggle the application area between full screen and standard display; the other pushbutton enables you to expand the navigation area to full screen width. In order to enable these pushbuttons, the framework used must be assigned the hidden component LAYOUT_SWITCH.

Technical Information

Transaction	Description
CIC0	Start the application
CICO	Define IC WinClient profiles
CRMC_CIC_FW_MAINTAIN	Define Framework ID and Parameters
CRMC_CIC_TITLE_TEXTS	Maintain Window Titles
CRMC_CIC_WSP3	Define Profiles for Automatically Created Workspaces
CRMC_CIC_WSP0	Define customer-specific workspaces
CICU and CICN	Define Toolbars and GUI Status

Table 3.2 Customizing Transactions of the Framework

Function Group/Class	Description	Package
CIC0	CIC framework	CICA
CIC2	CIC framework customizing	CICA
CL_CCM_WORKSPACE_MANAGER1	CIC workspace manager	CCMA
CL_CRM_CIC_AREA_COMPONENT	CIC workspace display	CRM_CIC_COM-PONENTS

Table 3.3 Function Groups and Classes of the Framework

Function Group/Class	Description	Package
CL_CCM_WORKSPACE_FACTORY2	Factory for workspaces	CCMA
CL_CCM_WORKSPACE2	Implementation of IF_CCM_Workspace	CCMA

Table 3.3 Function Groups and Classes of the Framework (cont.)

SAP Note	Description
516843	How to create a customer-specific workspace?

Table 3.4 SAP Note on the Framework

3.2.2   Basic Functions

The basic functions of IC WinClient are represented by the Action Box and Context Menu components and in the Business Data Display.

Business Data Display

The business data display can be represented as a tab in the navigation area. In this display, you can list all objects called during an interaction. For SAP CRM objects called with their IC WinClient standard screens, this listing in the business data display is carried out automatically. At the end of an interaction, the content of the business data display is deleted, and the objects listed therein are linked via the document flow to the interaction process documenting the interaction. In this way, all linked objects from the business data display are listed in the contact history underneath the interaction at the next call of the interaction.

Associating objects with the interaction process

Action Box

The action box is presented to the user as a pushbutton bar with submenus whose appearance and scope of functionality can be configured in a very flexible way. The three most important purposes of the action box are calling workspaces, calling BOR methods, and calling HTML pages. The scope of functionality of the action box is configured in the Customizing Transaction EWFC0.

Calling workspaces, BOR methods and HTML pages

If a workspace is called via the action box and if no tab exists for it yet, the workspace is added to the application area as another tab. If there already was a tab for the workspace, it will be placed in the foreground.

Calling objects from other systems	The action box call of a BOR method provides a high degree of flexibility during configuration. With the BOR method, it is possible to access all BOR objects of SAP applications with their corresponding methods. For objects from other systems than SAP CRM, all you need to do is to store information about the target system for the 'jump', i.e. the Remote Function Call (RFC). This is carried out by maintaining the logical system, which is described in the SAP note 363097. In order to avoid that the user has to log on separately to the target system during processing, a *trusted RFC connection* is required between the CRM and the target system. It is possible to transfer data from the business data display and to return data to it after processing in the target system.

| Calling the R/3 order with data forwarding | For example, from IC WinClient, an R/3 order for the customer identified in IC WinClient can be created for order entry in the familiar R/3 interface, and the order number can then be returned into the business data display. For this purpose, the BOR object of the R/3 order, BUS2032, needs to be called with the CREATEWITHDIA method. Besides order type and data on the sales organization, the customer identified in IC WinClient can be transferred in the data flow as the ordering party. For this purpose, in the data flow for the document partner, the constant AG is transferred as the partner role, and the customer is set as follows (see also Figure 3.2): |

`&<DESKOBJ>BUS1006005.CUSTOMERNO&.`

DESKOBJ means that an object is to be forwarded from the business data display. The CRM object BUS1006005 is a CRM object for the business partner and contains a mapping of the R/3 customer number.

Figure 3.2 Data Flow from IC WinClient to the Transaction

Data return	For importing the document number in the business data display, the BOR object BUS2032 needs to be entered in the return data flow as target element, and &<*MAINOBJ*>& as data origin (see Figure 3.3). Thus, the R/3 document number is transferred to IC WinClient as a standard attribute of the BOR method used. Further methods of modeling the data flow are discussed in detail in SAP note 322517.

Figure 3.3 Data Flow from the Transaction to IC WinClient

One BOR object of special interest is the object TSTC. It enables calling every transaction from any SAP system. For this purpose, you need to select the EXECUTE method and maintain the transaction code in the data flow as a constant.

From the action box, you can call any HTML pages—intranet, Internet or even user-defined pages—and these are then displayed in a workspace in the application area. To this end, an entry has to be created in Transaction CICAM, which references the address of the HTML page. Additionally, browser options for the workspace can be determined there, and page call parameters to be transferred from IC WinClient (external parameters) can be maintained. From the HTML page, you also can start action box calls (internal parameters). For this purpose, you need to create a corresponding action box in Transaction EWFC1, and this requires programming in the HTML page.

Calling SAP transactions

Calling HTML pages

Context Menu

The context menu is used to enable calling of objects from the business data display. The maintenance of the context menu is similar to that of the action box in that they are using the same technology. For every object, you can define several methods that can be provided at runtime by means of a right-click. The context menu is used for purposes other than the business data display. The interaction history with the customer, which is assigned to the navigation area in the IC WinClient profiles of the standard Customizing, accesses the context menu as well. Thus, it is possible to jump from a customer's history to any objects listed in the business data display during a previous interaction with the customer.

Calling linked objects

Technical Information

Tables 3.5, 3.6, and 3.7 provide further background information on IC WinClient basic functions.

Transaction	Description
EWFC0	Action box profile
CRMC_CIC_COMP_ACTION	Define Context Menus
CICAM	HTML configuration
EWFC1	HTML action box

Table 3.5 Customizing Transactions for the Basic Functions

Function Group/Class	Description	Package
CCM2_HIDDEN_ACTION_BOX	Hidden action box	CCMA
CRM_CIC_SLIM_ACTION_BOX	Lean action box	CRM_CIC_COMPONENTS
EB*	Action box	CCMA&CCMB
EW*	Action box	CCMA&CCMB
CRM_CIC_TRIGGER_WORKSPACE	Context menu	CRM_CIC_FRAMEWORK
CL_CRM_CIC_COMPONENT_ACTIONS	Context menu	CRM_CIC_COMPONENTS
CL_CRM_CIC_COMPONENT_OBJECT	Context menu	CRM_CIC_COMPONENTS
CL_CRM_CIC_BD_DISPLAY_WS	BDD workspace	CRM_CIC_COMPONENTS
CL_CRM_CIC_BDD2	BDD	CRM_CIC_COMPONENTS

Table 3.6 Function Groups and Classes of Basic Functions

SAP Note	Description
363097	How to setup Logical Destination for Action Box RFC
128447	Trusted/Trusting systems
322517	CIC: Action Box data flow customizing with the BDD

Table 3.7 SAP Notes on Basic Functions

3.2.3 Process and Master Data Integration

IC WinClient accesses master data and processes on the CRM server. All settings defined there apply to IC WinClient and can be re-used. IC Win-

Client also provides specific features in both areas, and these are explained in the following sections.

Master Data Integration

With regard to master data, the search and display of business partners is the main function of IC WinClient, for which Slot 1 of the framework is reserved. The search can be carried out either manually or in an automated way via an *Automatic Number Identification* (ANI) within *Computer Telephony Integration* (CTI). Business partner data can be changed and created as well. Components or products installed at a business partner, for example on a particular server, can be displayed. These extended functions are available with the business-partner search workspace. This workspace is an HTML representation which stands for flexible customizing (Transaction CRMC_CIC_SEARCH_RULE). Apart from the search profiles delivered in the standard system, you can create your own by flexibly adapting the standard search profiles. Using search attributes in Customizing, you can configure, for instance, which HTML layout to use, and whether to limit the search to specific business-partner roles and/or relationship categories. You also can configure for which partner functions the identified business partners are forwarded to transaction processing or with which priority which function modules are used for searching different fields in business partner tables (see Figure 3.4).

Search and display business partners

You can define several settings for creation of business partners. For example, you can predefine in which business partner role or with what partner category business partners are created from IC WinClient. Another Customizing setting controls whether this pre-assignment may be changed by the user.

Creating business partners

Apart from industry-specific HTML templates, the standard version contains two standard layouts. CRM_CIC_SEARCH_DISPLAY is the standard proposal for a customer search in SAP CRM, while CRM_CIC_EMP_SEARCH_DISPLAY is the standard proposal for an employee search in an Employee Interaction Center. Both templates are stored in the SAP Web Repository and can be accessed via Transaction SMW0.

Besides business partner data, IC WinClient allows for the display of product-related information. This can be the presentation of product information which is displayed in a separate workspace for a specific product which is used, for example, in an order. Alternatively, installation components of a specific customer can be searched in a workspace and then presented. Further workspaces are available in the standard system for serialized products (*iObjects*).

Display of product information
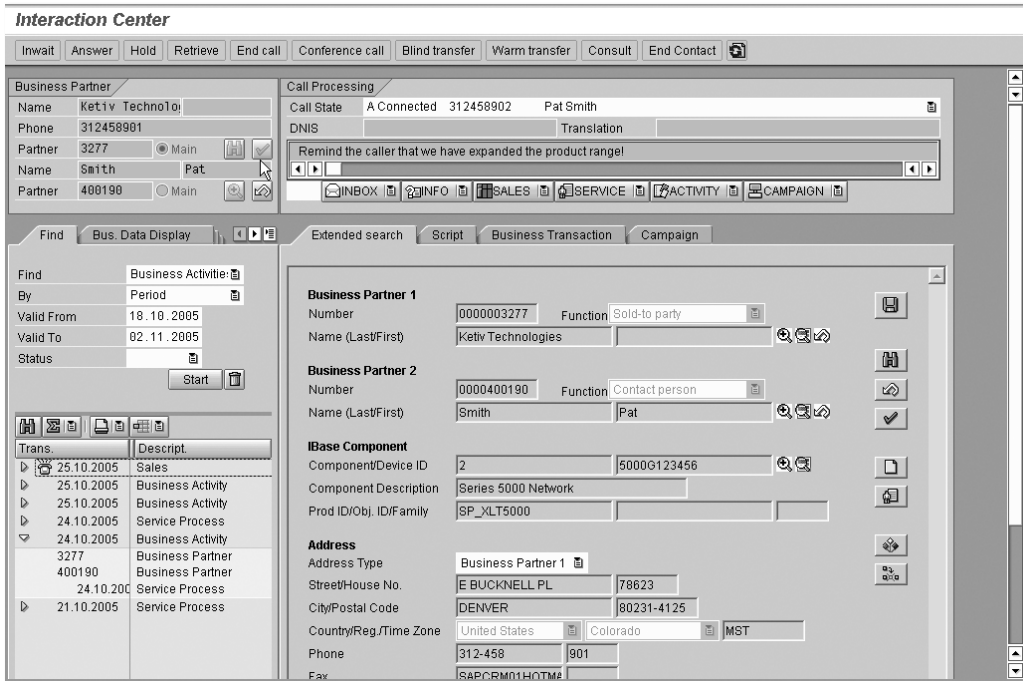
Figure 3.4 Business Partner Search in IC WinClient

Fact sheet   Another option for re-using master data functions is provided by the fact sheet. The fact sheet can contain master data on the business partner from SAP CRM, processes from SAP CRM and SAP R/3 as well as data on the business partner from the SAP Business Information Warehouse. This can be configured in the **Master Data** area of the SAP Implementation Guide (SAP Reference IMG) via the Customizing activity **Customer Relationship Management · Master Data · Business Partner · Business Partner – Cockpit and Fact Sheet · Define Info Blocks and Views**. The access to this fact sheet depends on the role. The fact sheet can be called in IC WinClient in a special workspace. For this purpose, the workspace `ACTIVITY_SALES_SUMM` needs to be assigned to the desired workspace profile through Transaction CRMC_CIC_WSP3.

Process Integration

Interaction documentation   Interactions are documented in IC WinClient via a CRM process. You can specify which CRM transaction type—and thus which business transaction category—has to be used for documenting the interaction. You can choose different transaction types for different interaction channels. Irrespective of this setting, the user can create follow-up transactions of any

kind at runtime. Consequently, the Customizing definition only specifies the transaction type of the interaction record. All transaction categories are represented in the transaction workspace of IC WinClient in a slightly simplified way compared to CRM Enterprise. For the interaction record, you can define more settings in Transaction CRMC_CIC_ACT0 (see Figure 3.5).
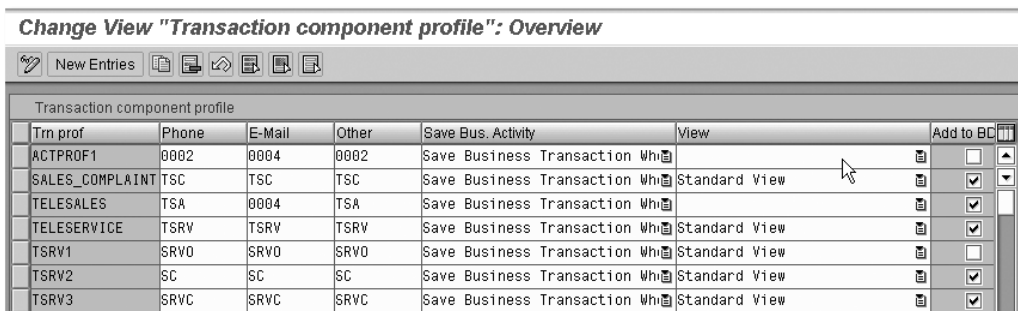
Figure 3.5 Customizing of Business Transactions for IC WinClient

It is possible to choose whether a detail view or a view focused on contact data is initially displayed when calling the transaction workspace. The user can switch these views at runtime. You also can configure the method of proceeding with the interaction record after ending the interaction. Several options are available:

Settings for the interaction record

▶ Always save

▶ Save when user makes changes

▶ Save on request (when user makes changes)

For transactions opened in the transaction workspace, it can generally be specified whether they should be transferred automatically to the business data display or whether the user should perform this task manually by clicking on a pushbutton.

Technical Information

Transaction	Description
CRMC_CIC_SEARCH_RULE	Define Profiles for Search Strategy
CRMC_CIC_SEARCH_CNTR	Define Customer-Specific Search Control
SMW0	SAP Web Repository

Table 3.8 Customizing Transactions for Process and Master Data Integration

Transaction	Description
CRMC_CIC_WSP3	Define Profiles for Automatically Created Work-spaces
CRMC_CIC_ACT0	Define Profiles for Transaction Workspaces

Table 3.8 Customizing Transactions for Process and Master Data Integration (cont.)

Function Group/Class	Description	Package
CCM1	Contact search and display	CCMA
CRM_CIC_BP_SUB	BP search subcomponent	CCMA
CL_CRM_CIC_BP_SEARCH	CIC BP search	CRM_CIC_COMPONENTS
CL_CRM_CIC_BP_EMP_SEARCH	Employee search	CRM_CIC_COMPONENTS
CL_CRM_CIC_SALES_SUMMARY	Sales Summary Workspace for CIC	CRM_CIC_COMPONENTS
CL_CRM_CIC_ONEORDER_MAINTAIN	One Order (maintain)	CRM_CIC_ORDER

Table 3.9 Function Groups and Classes of Process and Master Data Integration

SAP Note	Description
758426	HR-ALX: Enhancement of the ALE value distribution

Table 3.10 SAP Note on Master Data Integration

3.2.4   Integrating Communication Channels

Telephone, email, fax, and letter

IC WinClient provides the option to integrate several interaction chan-nels. The SAP CTI interface SAPphone is used for the communication channel "Telephony," the SAPconnect interface for integrating asynchro-nous interaction media like email or fax, and SAP ArchiveLink for inbound letters. Interactions received via SAPconnect are displayed in the agent inbox of IC WinClient.

Computer Telephony Integration

The integration of Telephony in IC WinClient according to standard requires the connection of an external CTI or communication manage-ment software to SAPphone. In IC WinClient, you need only select the

corresponding framework (*Telephony-enabled*) and assign one visible and two hidden components. The visible component is the call state (CALL_STATE); the hidden ones are the CTI and call-center components. If the telephony integration should be tested without IC WinClient or in IC WinClient with simulated telephone calls, you can do so via the SAP-phone test transaction SPHT.

Assigning the CTI component essentially enables the use of the telephony pushbuttons in IC WinClient (see Figure 3.6). In Transaction CICY, you can also define if and how it is possible to log on to the switch via IC WinClient. Additionally, in Transaction CICW you can assign CTI queue names of the telephony system to individual CTI queue profiles of IC WinClient. In the administration menu, individual queues obtain descriptive texts (Transaction CICV). The logon to the queues assigned to a profile can be carried out in an automated way or manually by the agent. If logon to queues should not take place via IC WinClient, the entries in Customizing remain empty.

Softphone Controls
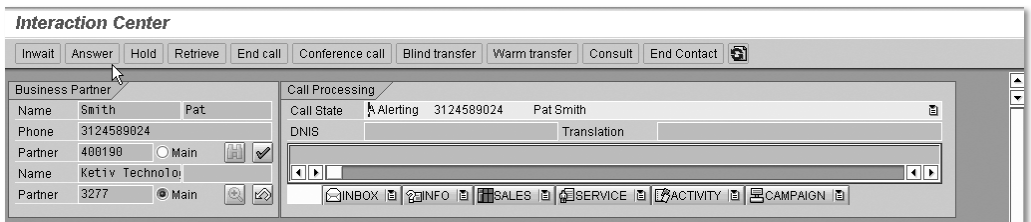
Figure 3.6 Call State and Telephony Pushbuttons in IC WinClient

By assigning the call center component, the processing of *call-attached data* is enabled. In this way, it is possible to identify callers via their telephone number in IC WinClient and automatically search and display the corresponding business partner data. If the telephony system includes an *Interactive Voice Response* (IVR) that already collects caller-identification data before the call is transferred to a live agent, it is possible to also use data other than the caller's telephone number during business-partner search. The configuration of the call-center component is carried out through Transaction CICG.

Call-attached data

With these components, IC WinClient also enables voice-data forwarding ('screen transfer'). To this end, all data is transferred from the business data display to telephony. Together with the call, it is then available to the receiving IC WinClient session as call-attached data on accepting the forwarding, and is visible in the business data display there.

Screen Transfer

Agent Inbox

In the agent inbox of IC WinClient, emails, faxes, and scanned letters as well as work items and planned activities can be received (see Figure 3.7). Since SAP CRM Release 5.0, there has been the additional option to place any type of CRM processes in the agent inbox of an agent group for processing, something that previously had been possible only via an enhancement on project basis. The agent inbox is designed as a group inbox: For example, all emails sent to a central email address of a company can be routed to the appropriate agent group and are then listed in the agent inbox of that particular group. This routing is done using SAP Business Workflow. Global settings for receiving messages (e.g. assigning routing rules, or determining which communication types are processed with what priority or whether CRM processes for inbound messages should be created automatically) can be defined in Transaction CRMC_CIC_MAIL_GLOBAL. You create and send messages via the email editor of IC WinClient, which provides various functions such as the maintenance of several sender addresses.

For routing, the standard system includes the workflow template 14000004, which is assigned workflow standard tasks for email (14007925), fax (14007926), and letter (14007927). The template can be called via Transaction PFTC. The connection between an inbound message, for instance an email, and this workflow is made by assigning the BOR object CICSUPRT2 to the central email address via Transactions SO28 and CRMC_CIC_MAIL_ADDR. In its method RECEIVE, the BOR object CICSUPRT2 triggers the event MAILRECEIVED (see Transaction SWO1), which is assigned to the standard workflow as the triggering event. The agent group is assigned to the workflow in Transaction CRMC_CIC_MAIL_WF. As a prerequisite, a node for receiving emails must have been created in SAPconnect via Transaction SCOT. Additionally, the agent inbox profile maintained in Transaction CRMC_CIC_MAIL_IBXPRF needs to be assigned to a workspace in the IC WinClient profile being used, and the agent inbox use must be enabled for it (Transaction CRMC_CIC_EXT_INB_ACT).
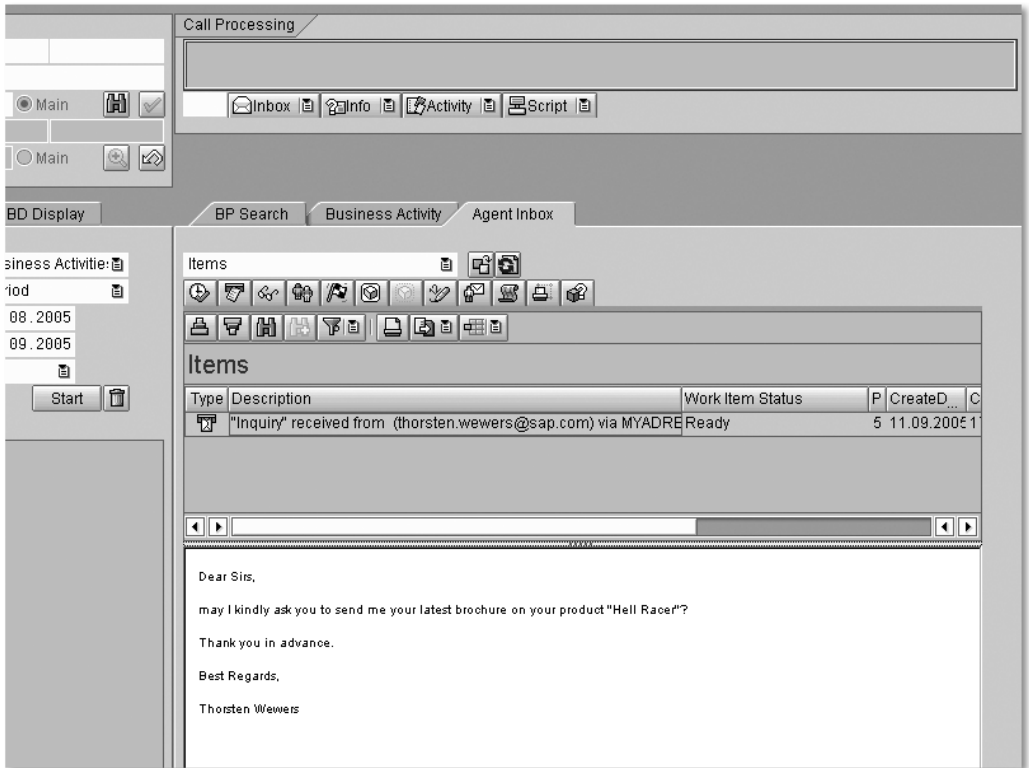
Figure 3.7 Agent Inbox

Technical Information

Transaction	Description
CICG	Define Call Center Profile
CICY	CTI administration
CICW & CICV	CTI queue
SPHA	SAPphone administration
SPHB	SAPphone system administration
SPHT	SAPphone test environment
CRMC_CIC_MAIL_GLOBAL	Global settings for agent inbox
SCOT	SAPconnect administration
PFTC	Maintain workflow tasks and templates
CRMC_CIC_MAIL_ADDR	Address Maintenance

Table 3.11 Customizing Transactions for Integrating Communication Profiles

Transaction	Description
SO28	Maintain Recipient Distribution
CRMC_CIC_MAIL_WF	Assign Agent for Email Handling
CRMC_CIC_WSP_EDITOR2	Define Editor Profiles
CRMC_CIC_MAIL_IBXPRF	Define Inbox Profiles
CRMC_CIC_EXT_INB_ACT	Activate Agent Inbox

Table 3.11 Customizing Transactions for Integrating Communication Profiles (cont.)

Function Group/Class	Description	Package
CCM5	CTI	CCMA
CCM6	Call center component	CCMA
CCMM4	Agent inbox	CCMA
CL_CCM_EMAIL*	Agent inbox classes	CCMA & CRM_CIC_ COMPONENTS

Table 3.12 Function Groups and Classes for Integrating Communication Channels

SAP Note	Description
488344	Using IVR to identify Business Partner in CIC
601806	Checklist Agent Inbox Setup
697014	Support of letters in the Agent Inbox

Table 3.13 SAP Notes for Integrating Communication Channels

3.2.5 Supporting Functions

Scripting, alerts, and Knowledge Search

The main supporting functions in IC WinClient are scripting, alerts, and Knowledge Search. Additionally, broadcast messaging can be used in IC WinClient, which is discussed in more detail in the section about Interaction Center Management (see Section 3.4.2).

Interactive and Reminder Scripting

Interactive scripting

Interactive Scripts are displayed in their own workspace in IC WinClient (see Figure 3.8). They represent a sequence of questions and answering options. Interactive scripts provide possibilities beyond defining a tree structure for such a series of questions and answers.
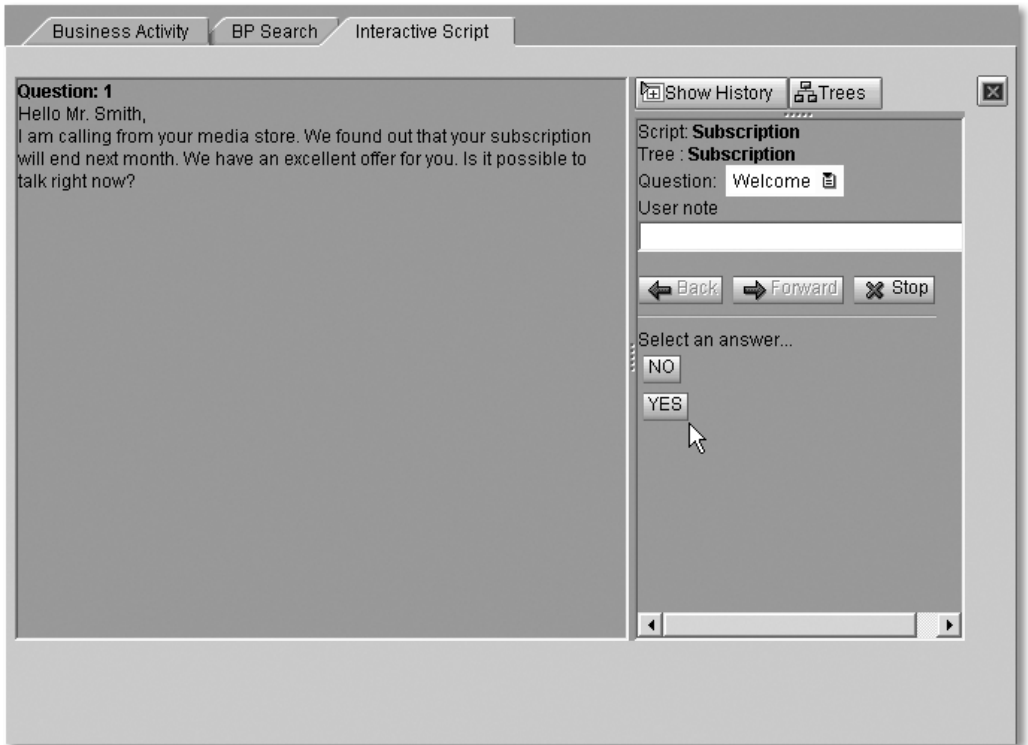
Figure 3.8 Interactive Script in IC WinClient

When selecting a certain answer, you can either simply navigate to the next question or trigger a script action. Available action types are events for stopping the script (`STOP_SCRIPT`) or for exiting to another script (`EXIT_TO_SCRIPT <script id>`). However, you can also trigger any OK code in IC WinClient or make an action-box call upon selecting an answer. This enables the integration of all workspaces configured in the action box into the interactive script. Interactive scripts can be modeled with a graphical tool in Transaction CRMM_TM_SCRIPT. Scripts created in this tool are then assigned via Transaction CICTMSCRPPROF to a script profile, which in turn needs to be assigned to the desired IC WinClient profile via its workspace or action box profile.

In addition to interactive scripts, IC WinClient also provides reminder scripting. This enables prompts of simple information texts or texts with variables during certain agent actions in IC WinClient. A list of all possible actions is available through Transaction CICA. Via Transaction CICK, these actions can then be assigned to a reminder scripting profile that in turn needs to be assigned to the desired IC WinClient profile. For these

Reminder scripting

information texts to be displayed, you also need to assign a hidden component besides the visible component in the framework (see Figure 3.9).
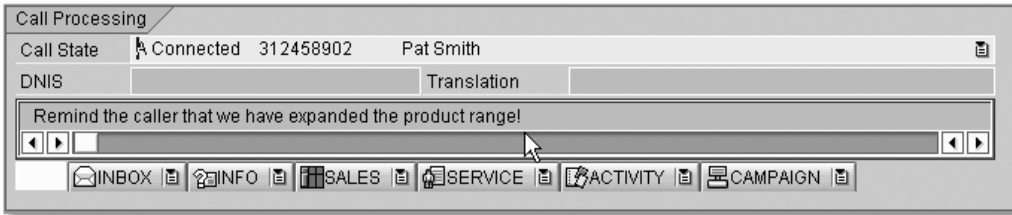
Figure 3.9 Reminder Script in IC WinClient

Alert Modeler

Provisioning of Extended Notes

The alert modeler gives you the option to provide agents with extended notes in the form of text. For this purpose, either the text display of reminder scripting or the broadcast messaging display is used (see Figure 3.10). However, the alert modeler provides other functions that influence the interaction to a far greater extent than the mere display of a text message. The application can, for example, automatically trigger an action-box call when a certain situation occurs or a special event is triggered.
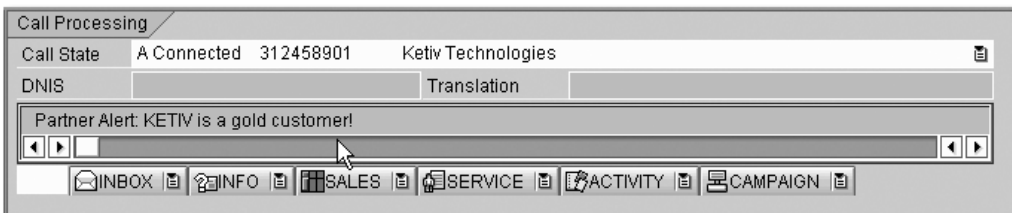
Figure 3.10 Alert in IC WinClient

The main purpose of the alert modeler is to grant access to the individual components of IC WinClient and also to data from the CRM server or even from an SAP BW. Within the alert modeler Customizing, you then can choose to create rules based on this data and to assign the execution of these rules to individual events. The resources available to the alert modeler (data objects, events, methods) are stored in a meta model whose XML definition can be displayed and changed via Transaction CRMC_CIC_AM_META. The modeling of the rules based on the resources stored in the meta model is carried out in Transaction CRMC_CIC_ALM_PROFILE in JavaScript. For the alerts to be executed at runtime, at least the hidden component ALRT_MODLRX must be assigned to

the IC WinClient framework used, and an alert modeler profile must be assigned to this component in the IC WinClient profile.

There is a special Customizing for access to extended business-partner data. In Transaction CRMBW_CIC_ATTRIBUTES, you define which additional data for business partners is to be accessed. This can be either data from marketing attributes or from SAP BW queries. In Transaction CRMC_CIC_BP_PROFILE, the selected extended business-partner data is then assigned to a special query profile that also determines how this data will be accessed, whether, for example, by reading the data synchronously or asynchronously. Via the IC WinClient profile, this query profile must then be assigned to one of two additionally supplied hidden components (COMPANY_PROF for organization-related data or CONTACT_PROF for person-related data), which needs to be incorporated in the used framework for this purpose.

Knowledge Search

With SAP CRM Release 4.0, the CRM-proprietary search engine *Interactive Intelligent Agent* was replaced in IC WinClient and in CRM Enterprise with the Software Agent Framework and made usable for a knowledge-based search functionality. The Software Agent Framework uses the SAP NetWeaver technology TREX as a search engine, so that the IC WinClient benefits from future developments in this area. Using the Software Agent Framework, the contents of the well-known solution database are indexed by TREX. Therefore, when changing from previous releases, the customer can easily access solution database contents already created.

Software Agent Framework

With Knowledge Search, Interaction Center agents can comfortably access the solution database (see Figure 3.11). They can search for symptoms and solutions via user-defined texts or via predefined attributes. For a better structure of free-text queries, they can choose to add exclusion keywords. In this case, the Software Agent Framework subdivides large output lists whose keywords can be used for another quick restriction of the search. Output lists are displayed with probability values.

Selected solutions can be taken over into service orders or processed as response emails. It is also possible to gather feedback about the solutions provided by the solution database from the Interaction Center agents.
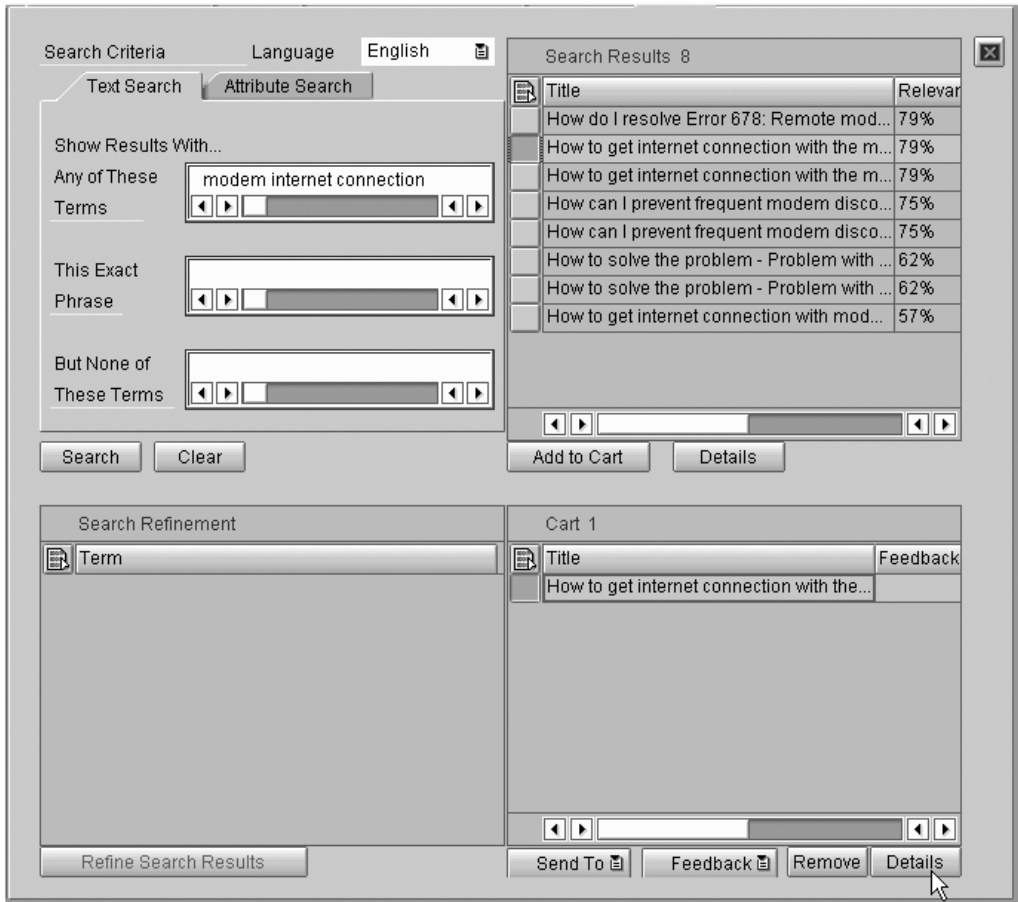
Figure 3.11 Knowledge Search in IC WinClient

Technical Information

Transaction/IMG Activity	Description
CICK	Define Reminder Scripting Profile
CICA	Define Customer-Specific Logging/Scripting Activities
CIC9	Maintain Script Texts
CIC2	Maintain Variables
CRMM_TM_SCRIPT	Maintain interactive script structure
CICTMSCRPPROF	Define Interactive Scripting Profile

Table 3.14 Customizing Transactions for Supporting Functions

Transaction/IMG Activity	Description
CRMC_CIC_AM_PROFILE	Alert modeler editor
CRMC_CIC_AM_META	Edit the alert-modeler meta model
CRMC_CIC_BP_PROFILE	Define Retrieval Profiles for Business Partner Attributes
CRMBW_CIC_ATTRIBUTES	Process BW Attributes for Business Partner
IMG · CRM · Enterprise Intelligence	Configuration of Software Agent Framework and Solution Database

Table 3.14 Customizing Transactions for Supporting Functions (cont.)

Function Group/Class	Description	Package
CCM7	Agent scripting	CCMA
CRM_TM_SCRIPTDISP	Telemarketing visible scripting	CRM_TELEMAR-KETING
CRM_TM_SCRIPTPROC	Telemarketing script processor	CRM_TELEMAR-KETING
CL_CRM_CIC_ALERT_MODELERX	CIC Alert Modeler Component	CRM_CIC_ COMPONENTS
CL_CRM_CIC_BP_PROFILES	CRM CIC BP Profiles	CRM_CIC_ COMPONENTS
CL_CRM_CIC_BP_PROFILES_CONTACT	CRM CIC BP Profiles	CRM_CIC_ COMPONENTS
CL_CRM_CIC_CRB*	Component request broker	CRM_CIC_ COMPONENTS

Table 3.15 Function Groups and Classes of Supporting Functions

SAP Note	Description
418175	CIC Reminder Scripting: List of Activities
449269	Maintaining Scripting variables
437722	Exposing data objects to the Alert Modeler
501941	Calling multiple functions in one Alert Modeler rule
656321	Replacement of Interactive Intelligent Agent
662550	Launching the Indexes Application (Software Agent Framework)

Table 3.16 SAP Notes on Supporting Functions

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