

Communication Processes and their Integration with the SAP CRM Interaction Center



Applies to:

SAP CRM 2007 and higher. For more information, visit the [Customer Relationship Management homepage](#).

Summary

In a contact-center environment there can be a significant variety of different communication processes such as in- and outbound phone calls, chat conversations and e-mails. The following article describes how these different communication processes are linked to the business processes of the SAP CRM Interaction Center.

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Author Bio



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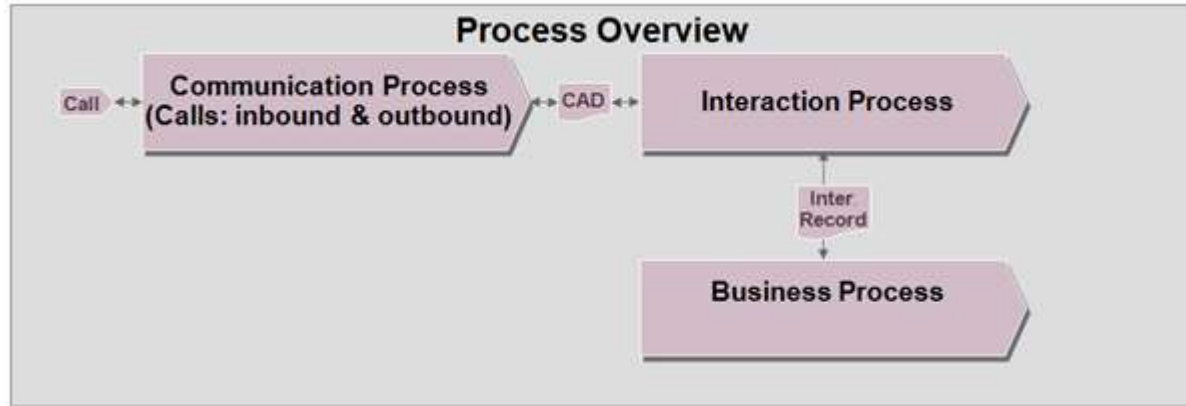
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Introduction

In his blog [SAP CRM Interaction Center: A hitchhiker's guide from a process perspective](#) Carsten Busch explained the three main types of processes involved in the interaction center in a generic way: "These three processes are: the communication process (optional, if using CTI or multi-channel integration), the interaction process itself (mandatory, always), and the business transaction process (optional, as required)."

Diagram 1: the three main processes that make up the interaction-center process flow



In the following article I want to focus specifically on communication processes and how they are integrated with the interaction center. (Should you be interested in the communication enablement of CRM processes in CRM in general - I recommend [Pavithra N's](#) blog on [CEBP](#).

In an contact-center environment there can be a significant variety of different communication processes. For example there can be a classical *inbound* phone call to a contact-center hotline. *Outbound* phone calls occur in different flavors. One source is call lists with different degrees of dialing automation. Other outbound calls are triggered by back-office agents who are processing work items and need to call customers as part of the work item resolution. Web Chat is another direct communication channel that is starting to gain more relevance in contact-center environments. Still more often agents read and reply to emails that are addressing questions to help desks. Letter and FAX - again inbound and outbound - are also handled in many contact centers.

In all cases the communication process is permanently linked to the interaction process at the end of the interaction. For example the received e-mail as well as the reply are linked to the interaction process (also called interaction record). In a similar way chat transcripts are linked to the interaction record to document the chat conversation between agent and customer. Also in case of a phone call the communication process ("Call ID") is linked to the interaction record – so that information like a call recording, extensions and durations are stored in combination with the business related information of the customer interaction. (read [Gert Tackaert's](#) blog to learn more about the [interaction record](#)).

Let's take a look at some of the communication processes in more detail - and how they link into the interaction-center process - in more detail.

Communication Processes I

In- and Outbound Phone Calls handled by a Contact Center Hotline

Phone calls that are dialed or received by a contact-center hotline are technically handled by the Communication Management Software (CMS) that is connected to the CRM system and thus the SAP CRM Interaction Center. For phone calls the computer telephony integration (CTI) is the most important component of the CMS. The integration of the telephony with the CRM Interaction Center has a lot of advantages described in the following.

Telephony Communication Process - Details

The integration of the telephony communication process with the interaction process of the interaction center has several advantages such as:

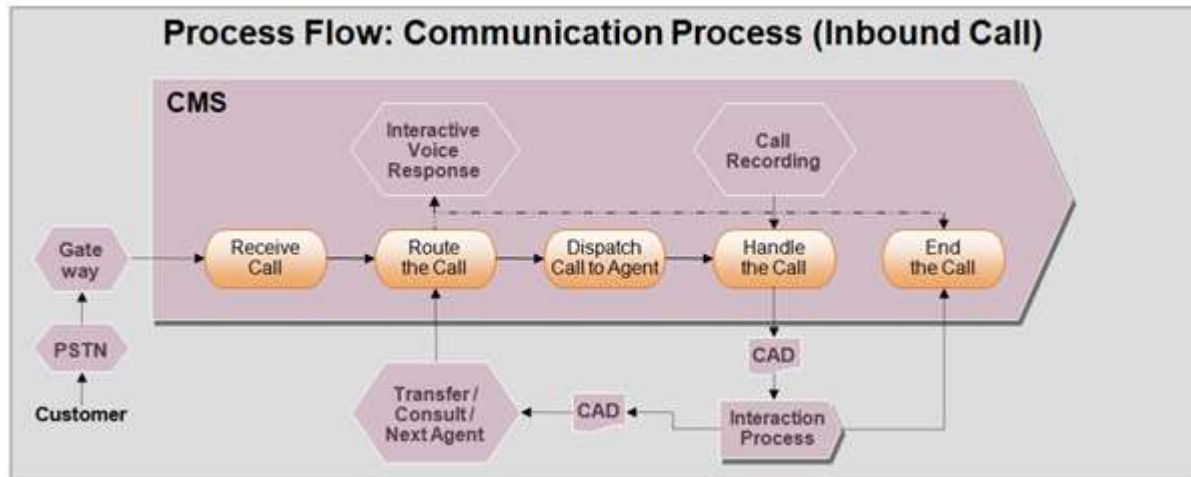
- Information associated with the phone call can be passed to the interaction-center screen: for example the number of the caller which can be used to automatically identify the corresponding CRM business partner and also the number that was dialed - which in many cases is an indication of the call reason.
- The agent can control the phone call (accept, hold, forward, hang up ...) via so-called *softphone* buttons directly from the interaction-center screen
- Technical information like queue time, call duration etc of the phone call as well as a call recording can be linked to the business process of the interaction center.

[John Burton](#) has described the first two points in his blog on [CTI integration](#) – also elaborating on different CMS products such as classical CMS software versus SAP BCM (SAP Business Communication Management). John also gives guidance on [how to implement a CTI](#).

In this article we want to focus on how the two processes: the communication process and the interaction process - are linked when a phone call is handled by the interaction center. The phone call is handled by (and also permanently stored in) the CMS as a so called *communication process*. It contains an ID plus technical communication information such as queue time, call duration, extensions of all partners, optionally a recording of the conversation etc. This technical information is permanently linked to the business process in the CRM system. For this purpose the communication process ID is stored in the *interaction process* of the interaction center. An interaction process (also called Interaction record) is the central and mandatory process created during every interaction-center communication. It links all further objects that are created or changed during the call (such as sales orders or service requests). This way the technical communication information is linked with the business related information that was handled during the call. This linkage is important for example to allow for a blended reporting of technical and business process related call information.

Inbound Phone Call

Diagram 2: the communication process in case of an inbound phone call



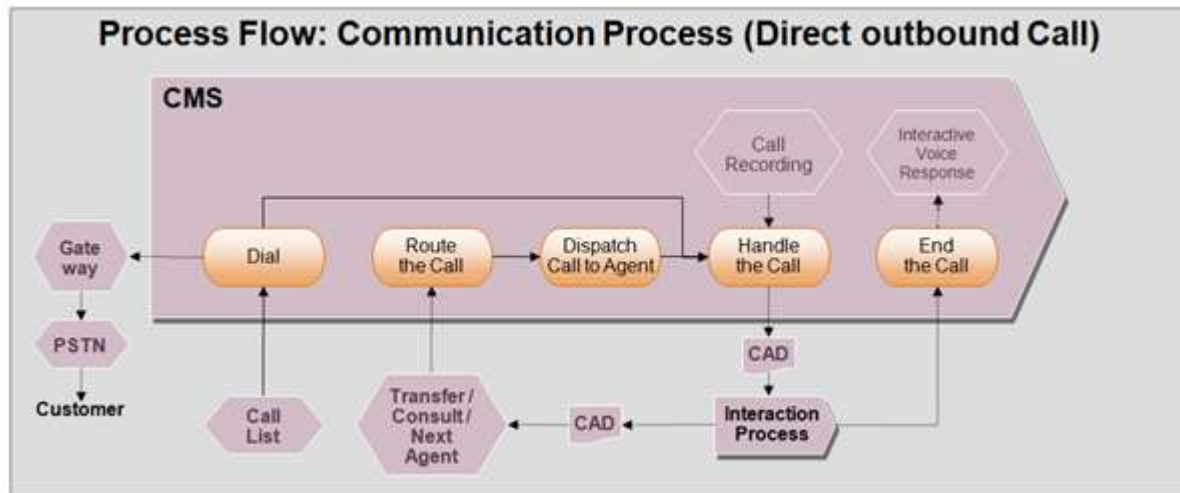
The diagram shows the steps of communication process handling an inbound call:

- A phone call coming from the from the Public Switched Telephony Network (PSTN) is received and handled by the communication management software (CMS)
- The call is routed and dispatched to the appropriate agent
- Call attached data (CAD) is transferred to CRM; e.g. the telephone number of the caller which allows and automated identification of the calling business partner
- Optionally the call including call attached data (CAD, e.g. business partner and interaction record) can be transferred to another agent
- At the beginning or at the end - the call process can be supported with IVR dialogs (Interactive voice response)
- At the end of the call the communication process (optionally including a recording of the call) is linked to the interaction process

The Outbound Phone Call

Let's take a direct outbound phone call as an example for an outbound communication process. The diagram below shows a direct outbound phone call that is triggered by an agent from a call list.

Diagram 3: the communication process in case of a direct outbound phone call



The steps in detail are:

- The agent selects a call from the call list and clicks on the dial button in the communication toolbar of the interaction center
- This creates a communication process in the communication management software (CMS) which dispatches the call to the Public Switched Telephone Network (PSTN)
- Optionally the call can be recorded, transferred to another agent and rounded off with an IVR dialog (Interactive Voice Response) at the end of the call.
- At the end of the call the communication process (optionally including a recording of the call) is linked to the interaction process

Another variation of a direct outbound calls is: a call initiated by a second level agent who is calling a customer back – for example to resolve a service request that was dispatched to the second level agent.

As described above direct outbound calls are calls that are “directly” initiated by the agent. Different from that calls can also be initiated by the communication management software (CMS) - typically based on a call list that was loaded to the CMS for execution. This flavor of call list execution is mediated by the so called dialer function of the CMS. There are different degrees of dialing automation for call lists like predictive dialing and power dialing. For more details see [John Burton's](#) blog on [automated outbound dialing](#). BTW: In another blog John describes the [different options for scheduling outbound calls](#).

Above we analyzed phone calls as examples for communication processes and their integration with the interaction process of the CRM Interaction Center. In the next sections we will look at mail and chat as further communication processes.

Communication Processes II

E-Mails (fax and Letter) Handled by a Contact Center Hotline

Many contact centers are supporting their customers via telephony communication but also offer other communication channels such as e-mail - and in a similar way also support fax and letter. There are different ways for routing mails to agents and for connecting the communication process with the interaction process of the interaction center. The main options are described in the following.

Different Flavors of E-Mail Handling

There are generally two ways for dispatching an inbound mail to an agent in the SAP CRM Interaction Center:

E-Mail Push

In case of the e-mail push process the inbound e-mail is handled similar to an inbound phone call. The e-mail from the customer is dispatched by the mail server to the Communication Management Software (CMS). The CMS dispatches (“pushes”) the email - if possible immediately to an agent who is available and skilled to process the e-mail. The agent will see an alert on the screen and is expected to – if possible immediately – accept and process or reject the incoming mail. In case the agent rejects the mail it is again up to the CMS to either queue the mail or dispatch it to another agent. This process is targeting at a “real-time” handling and processing of e-mail communication. It is technically very similar to the handling of a phone call by the CMS as described above in the section *Communication Process I*.

E-Mail Pull

While the real-time handling of e-mails via the e-mail push process is a rather exceptional way of processing mails – the e-mail pull process is the most frequently used option to process e-mails that were addressed to a service line.

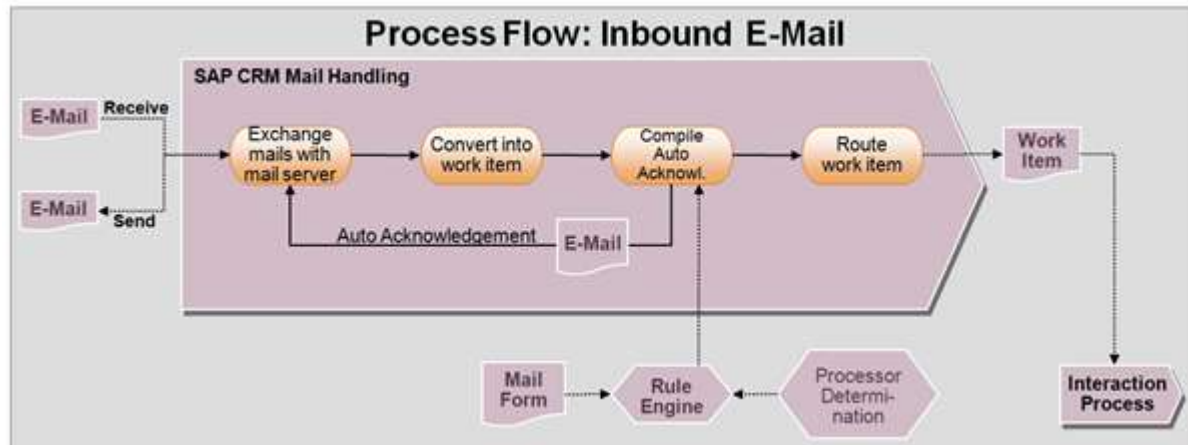
Here the focus is not primarily on dispatching the e-mail to one particular agent who is expected to process the mail immediately. Instead e-mails are routed by a rule based work flow as work items to shared inboxes of agent teams. Whoever then picks (“pulls”) an e-mail first from the shared inbox – automatically blocks it for processing by the other agents and removes it from their inbox.

To learn more about the difference between the e-mail push and pull option and also about the role of the agent inbox see [Cathy Ma's](#) blog: [Introduction to the Interaction Center Agent Inbox](#).

E-Mail Pull Process: Details

The communication process in case of the inbound e-mail pull process (including an auto acknowledge reply to the customer) looks like this:

Diagram 4: the communication process in case of an inbound e-mail pull process



The communication process here is not mediated by the CMS (Communication Management Software). Instead the e-mails received by the mail server are dispatched to the SAP CRM system and converted into SAPoffice mails. This involves the following steps:

- [SAP Connect](#) receives inbound e-mails from the mail server and sends outbound e-mails like auto acknowledgements and mail replies from service agents to the customers.
- Inbound e-mails are represented by SAPoffice documents. In case of interaction-center mail handling the SAPoffice document is routed as a work item by [SAP Workflow](#) – which allows a rule based routing to - and a controlled processing in - the shared inbox of the interaction-center agents. The SAP Business Workflow also provides the option to automatically send an acknowledgment e-mail back to the customer.
- The email based work item is picked up by an agent. This automatically blocks it for processing by other agents. The mail is also linked to the interaction process of the interaction center so that the connection between the communication process and the interaction process is established.
- Both routing and auto acknowledgement can be refined by the rule engine of the [E-Mail Response Management System \(ERMS\)](#).

Please note that in a very similar way also **fax** and **letter** based communication processes can be handled. Here instead of an e-mail the fax or the letter (scanned document) would be linked to the work item and routed to the agents for processing.

By the way: there is also the option to blend the e-mail push and the e-mail pull process: this variation is known as [ERMS push](#). Here the e-mail is first handled by the e-mail pull mechanism: it is converted into a SAPoffice mail and analyzed by ERMS to find out more details about the mail (like language and certain key-words). Then the mail (including the additional information from the ERMS analysis) is transferred to the CMS (Communication Management Software). The CMS determines the appropriate agent team and dispatches the mail via the push process to an available agent of that team.

Another aspect of e-mails as communication processes is the storing of the linked e-mails (i.e., emails that are linked in the interaction record). In case of the pull process (Agent Inbox / ERMS scenario using SAP Connect), the emails are stored in the CRM systems as a SAPoffice document. Different from that e-mails handled by the push process are stored on the external CMS system / mail server. A point to consider therefore is that if the e-mails are archived / deleted from the external email server, the links in the interaction record will not be available any more. For ERMS Push hybrid method, the emails are actually also stored in SAP CRM via SAPoffice - just like for regular ERMS/Inbox (pull process) e-mails.

Well, that's enough about e-mail communication processes and their integration with the interaction process of the CRM Interaction Center. The last section of this article will focus on chat communication processes.

Communication Processes III

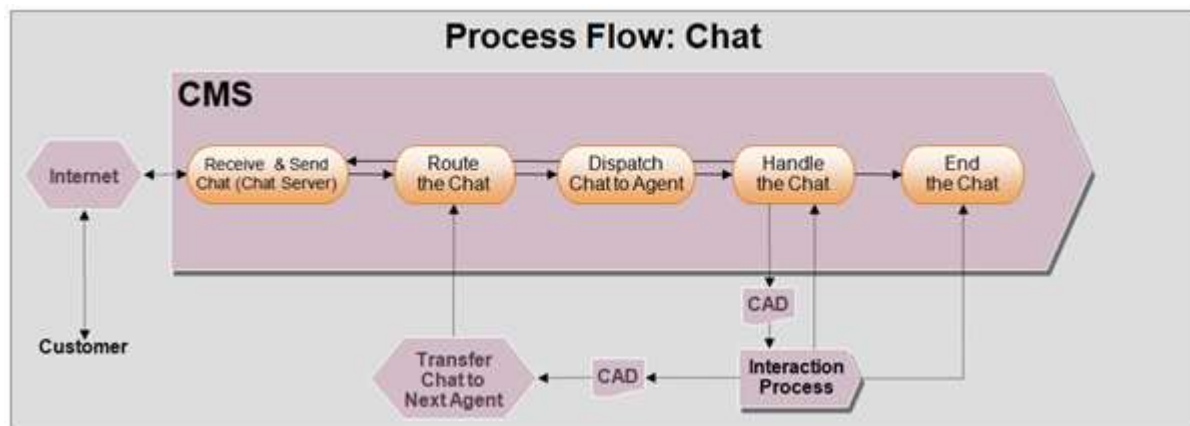
Chat Communication in a Contact Center Hotline

More and more contact centers are starting to use chat as a communication channel - particularly to support consumer care scenarios. Like all other communication processes in the interaction center – the chat communication process is also tightly integrated with the interaction process of the interaction center. The main aspects of this integration are described in the following.

The Chat Process

The chat process technically resides on the Communication Management Software. It is connected via the internet to the customer who sends a chat request and via the CRM Interaction Center screen to the agent who receives and replies to the chat.

Diagram 5: the communication process in case of chat conversation



The diagram shows the different steps of the communication process in case of a chat conversation:

- A chat request from a customer is received by the Chat Server component of the Communication Management Software (CMS):
- The chat is routed and dispatched to the CRM Interaction-Center screen of an agent
- Along with the chat address information of the customer is transferred to CRM allowing for an automated identification of the customer
- When the agent accepts the chat request - the communication process is linked to the interaction process of the interaction center.
- The agent types a reply which is sent by the CMS to the customer – and vice versa.

- When the chat session ends the entire chat transcript is permanently linked to the interaction record to document the chat conversation between the customer and the agent. Also technical information from the chat communication process like time intervals and addresses are linked to the interaction process of the interaction center.

There are some features that make the chat process more efficient for interaction-center agents. One option is to enable agents to handle up to 6 separate chat sessions - of 6 different customers - at a time. This reduces the idling time compared to a scenario where an agent is only chatting with one customer and thus needs to wait for the customer to type in his/ hers reply. For more details see [Kimberly Davis](#)' blog on [Multi Chat](#).

In addition the chat editor of the agent allows copying text from various sources into the chat reply. For example results from a knowledge search can be copied as well as sections of interactive scripts and also chat transcripts from previous chat conversation can be reused.

Summary

Above we analyzed different communication processes such as in- and outbound telephones processes, e-mails handled as work items (similar processing for fax and letter) as well a chat communication. In all cases we saw that the communication process is linked to the interaction process of the interaction center. This gives agents full access to all data and information linked to the call, chat or mail – and assures a permanent link of technical communication process information with the business processes linked to the interaction process (interaction record).

Thanks for reading this article and I hope this helps you to allocate the capabilities related to communication processes and SAP CRM Interaction Center.

Related Content

[SAP CRM Interaction Center: A hitchhiker's guide from a process perspective](#)

[Communication Enabled Business Processes with SAP CRM 7.0](#)

[Everything you need to know about the Interaction Record in the CRM Interaction Center](#)

[What is Computer Telephony Integration \(and Why Do I Need It?\)](#)

[Introduction to the Interaction Center Agent Inbox](#)

[SAP CRM 7.0 Multi Chat for Interaction Center](#)

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