SAP Cloud for Customer Set Up Guide

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SAP Cloud for Customer | Cloud

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CTI Call Process Flows

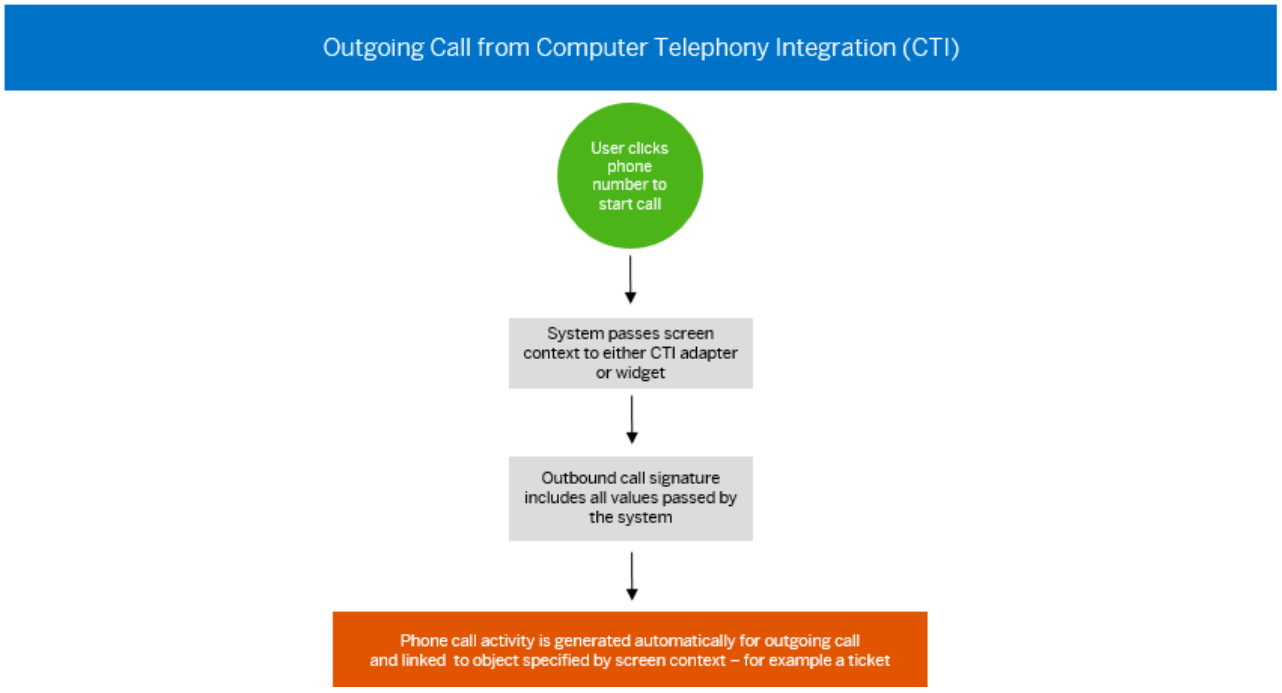
See how the system processes out and inbound call information and passes call information to and from your CTI system.

Outbound Calls (Click-to-Call)

SAP Cloud for Customer supports initiating outbound calling from any screen within our solution via click-to-call feature.

Note

Maintain computer telephony integration (CTI) vendor integration to use the call feature. Call handling is done on CTI vendor application.

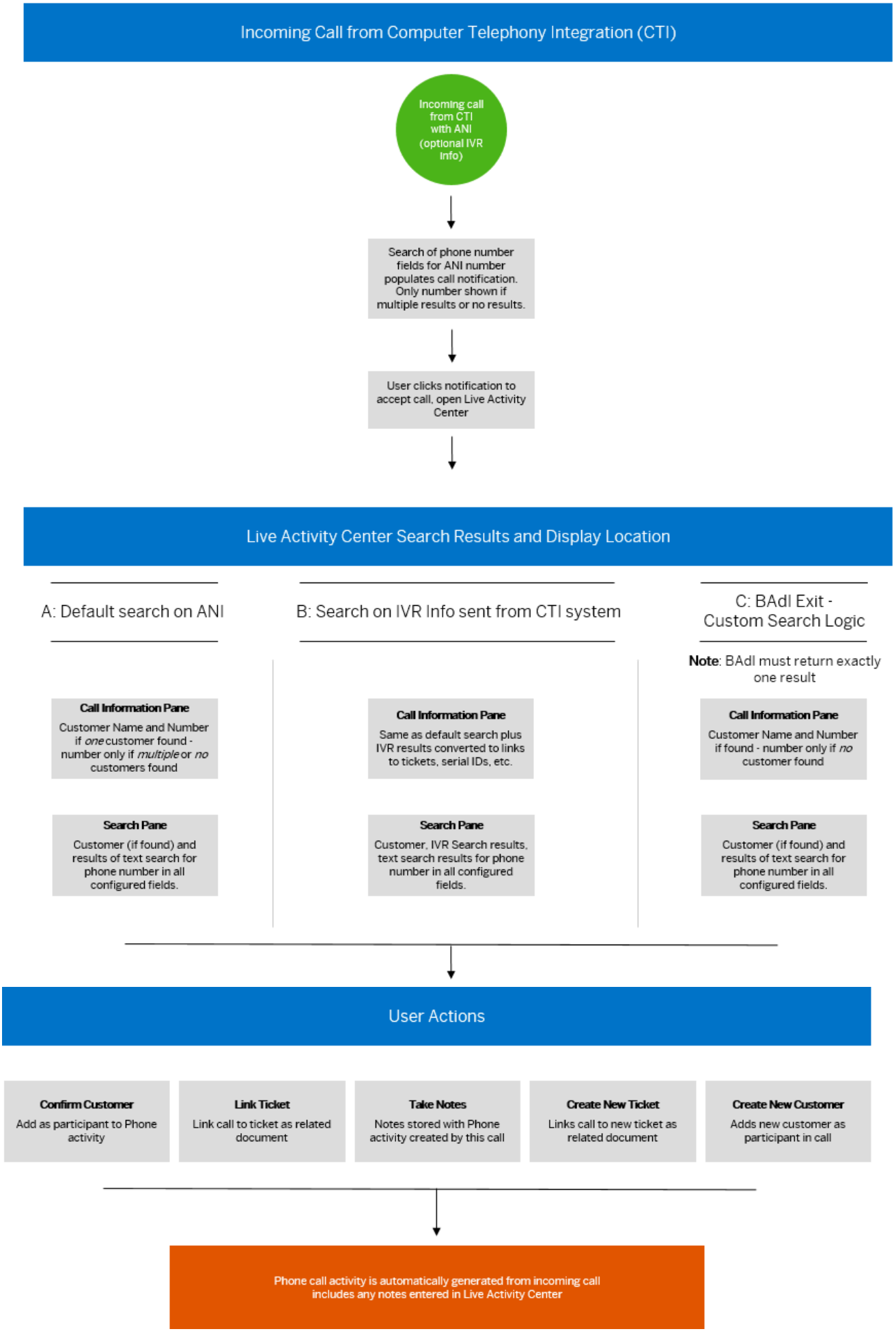


Inbound Calls

SAP Cloud for Customer supports inbound calling with display screen of incoming caller information.

Note

Maintain computer telephony integration (CTI) vendor integration to use the call feature. Call handling is done on CTI vendor application.



Computer Telephony Integration Options

You can integrate third-party CTI system providers with your solution using an SAP local adapter, or a widget.

Description	Related Information
Local adapter integration connects your third-party Computer Telephony Integration (CTI) provider with SAP Cloud for Customer using a separate application running on the agent's computer.	Local Adapter Integration
Live Activity is where you integrate your third-party communication system provider's CTI widget. Interact with customers through real-time communication channels that may or may not result in ticket creation.	Widget Integration with Live Activity

Local Adapter Integration

Local adapter integration connects your third-party Computer Telephony Integration (CTI) provider with SAP Cloud for Customer using a separate application running on the agent's computer.

The adapter software communicates with the agent's desk phone and displays a call window in the solution. Every agent must download the CTI Adapter application to their local system. The CTI adapter software is available in SAP Cloud for Customer under **Downloads**.

The adapter application provides an empty method that partners can fill with their end point (the number where a call is placed or received). Every inbound or outbound call is routed to the end point defined by your communication system partner. Adapter-based integration is a reliable and tested method for telephony integration with SAP Cloud for Customer.

! Restriction

Local adapter integration is **not** compatible with virtual desktops.

Prerequisites

These items are required to integrate your CTI solution to SAP Cloud for Customer.

Supported Operating System

Microsoft Windows Vista or later

Client-Side Application

Only client-side Integration is supported so you must have a client-side application to communicate via the built in adapter.

Agents using the CTI solution must have this client-side application running on their desktop.

Microsoft® Visual Studio

In order to enable the outbound call feature, you need to use Microsoft® Visual Studio to edit the CTI Connector project.

SAP Cloud for Customer CTI Client Adapter

The adapter must be installed and run on each agent's desktop.

The installation file for the CTI Client Adapter is available on the Downloads page of SAP Cloud for Customer.

i Note

If you want to use the https protocol to connect to your CTI client, you must start the adapter with administrator rights (right-click and select **run as administrator**).

If you are **not** using https, you can start the adapter normally.

SAP Service Marketplace

Access to SAP Service Marketplace is required to download the CTI Connector project used for enabling outbound calls.

i Note

Access restrictions for Live Activity are determined from the Queue workcenter. Therefore any user or role assigned Live Activity must also be assigned Queue.

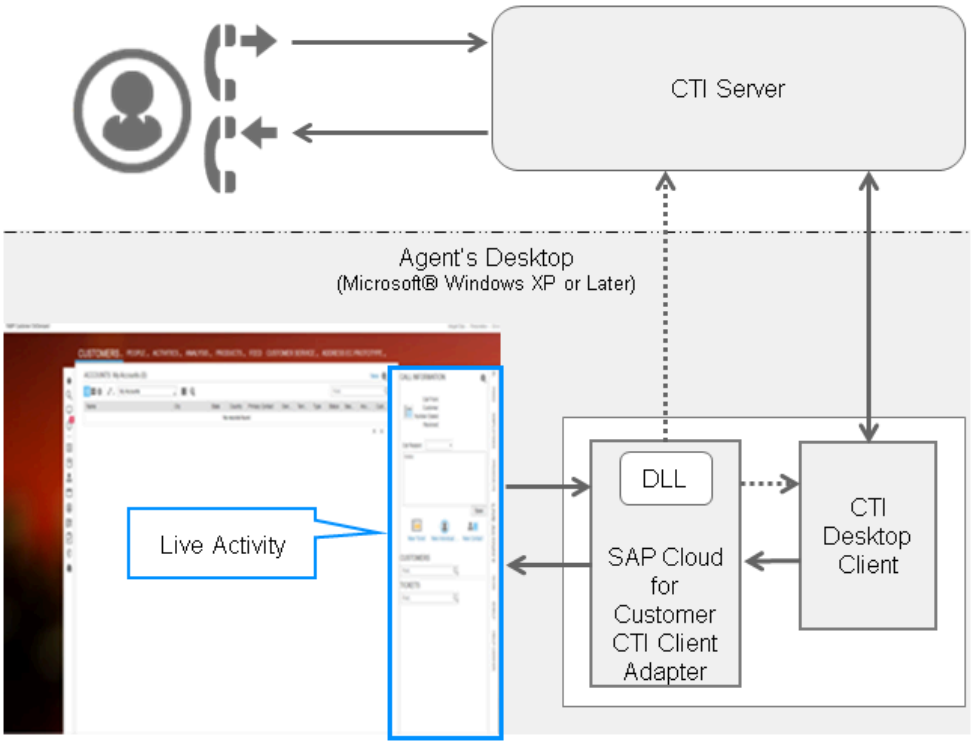
Architecture

A high level overview of the architecture that allows CTI integration with SAP Cloud for Customer.

Inbound calls are achieved using a parameterized URL that your client-side application passes to the SAP Cloud for Customer CTI Client Adapter. This allows the call attached data to display in the Live Activity pane in the solution.

Outbound calls are achieved by using a DLL which passes the dial out phone number from SAP Cloud for Customer to your CTI solution and in which you have included the necessary dial-out logic.

The architecture of the completed integration is modeled in the following diagram.



SAP Cloud for Customer CTI Integration Architecture

Enable Inbound Calls

URL parameters required to enable inbound phone calls.

Inbound call integration uses a parameterized URL call from the CTI desktop client to the SAP Cloud for Customer CTI Client Adapter to pass information like the ANI, DNIS, and CAD to the solution.

The URL is: `http://localhost:36729/?CID=<cid>&ANI=<phonenum>&DNIS=<phonenum2>&<cad1=xxxx&cad2=yyyy>`.

Additional parameters can be added to the URL so that extra information can be passed to SAP Cloud for Customer.

The following table lists the parameter names and the information each parameter contains:

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	
CID	The client ID. This is mandatory value. **Note** Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.	
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
ExternalReferenceID	Unique call ID in the CTI system	
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values: INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after `UPDATEACTIVITY` event is triggered by click-to-call action.	
Transcript	Chat transcript passed back to system once chat is ended	

i Note

All of these parameters are included in the following extension spot, available in the SDK: `ES_COD_CTI_CALL_HANDLING`

In the current implementation, which sends the payload through the browser using the provided URL example, can cause pop-up notifications with each call. Pop-up notifications can create an undesirable user experience. To mitigate the issue, we recommend that your CTI implementation partner or provider use the parametrized option for sending the payload. The example following the table is sample C# code provided as a reference.

Your customer requires that the following data is passed from your CTI solution to their SAP solution:

ANI (Dialing From):	408-361-3611	External ID:	56432156787890
Number Dialed:	1-800-455-5555	Custom_1:	value1
AccountID	1000655	Custom_2:	value2
Serial Number	XY234567T	Custom_3:	value3
TicketID	8003456	Custom_4:	value4

You would enter the following URL:

```
http://localhost:36729/?CID=BCM1234&ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003456&
ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=valu31&Custom_4=value4.
```

Example

Example of C# code to send a parameterized call to SAP Cloud for Customer:

```
urlparam1 = “ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003456&Type=CALL&EventType=INBOUND”;
urlparam2 = urlparam1 + ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=valu31&Custom_4=value4”;
“url = http://localhost:36729/?CID=BCM1234&” + urlparam2;
HttpWebRequest webReq = (HttpWebRequest)WebRequest.Create(url);
HttpWebResponse WebResp = (HttpWebRequest)webReq.GetResponse();
```

In this example, Urlparam is split into multiple strings only for better readability.

Enable Outbound Calls

How to build your DLL file to enable outbound phone calls.

Context

To enable outbound calls, the SAP Cloud for Customer CTI Client Adapter uses the DLL, `CODCTIConnector.dll`, which contains a method for handling outbound calls. You must build your own DLL and in it specify your dial-out logic.

In order to facilitate this process, SAP provides the Microsoft Visual Studio project, **CTI Connector**. This project contains the class, **OutboundCallHandler**, which contains the method, **dialOut**. The phone number to dial is passed from the solution (when an agent initiates a call via Live Activity) as the parameter for the method.

To enable outbound phone calls, perform the following steps:

Procedure

1. Download the **CTI Connector** project from the Help Portal product page here: https://help.sap.com/http.svc/rc/67be88de0bdd4e53b662fae4f15a2b81/1805/en-US/SAPC4CCTIConnectorSetup.zip and install it.
2. Open the project in Microsoft Visual Studio.
3. Add the logic in the **dialOut** method to pass the phone number to the CTI solution (see the following example for details).
4. Build the DLL and deploy it in CTI Client Adapter file structure.

   To deploy the DLL, copy the DLL to `C:\Program Files (x86)\SAP\SAP Cloud for Customer CTI Client`.
5. Restart the adapter.

`OutboundCallHandler.cs`:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.IO;
using System.Runtime.InteropServices;
namespace SAP.COD.CTI.Connector
{
public class OutboundCallHandler
{
Logger logUtil;
//Add constructor to initiate logging
public OutboundCallHandler()
{
logUtil = new Logger();
}
//Destructor
~OutboundCallHandler()
{
logUtil.Close();
}
public bool dialOut(string dialData)
{
logUtil.writeLog(“Dialed number:” + dialData);
//Add the logic to connect to the CTI system here
return true;
}
}
}
>>> MISSING TARGET TEXT FOR TEXT-ID: 'XTXT_a11y_SPExampleEnd' <<<

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```

Implement Outbound Calls in Fiori client Via CTI Adapter

This feature lets you implement and enable the outbound calling feature in SAP Cloud for Customer.

Prerequisites

Ensure **Live Activity Center** configuration has appropriate settings for the provider. The provider type should be **CTI Adapter** and provider URL field should be left blank.

Context

These instructions are pertinent to customers who have integrated using CTI adapter. (Customers using their own call system need not follow these steps). Follow these steps to enable the **Click to Call** feature in the Fiori client via CTI adapter.

Procedure

1. Uninstall the current version of CTI Adapter installed on your machine.
2. Download and install the latest SAP CTI Adapter from the **Download** section.

   An older version of CTI Adapter (prior to May 2018 release) will not work with Fiori client.
3. Download the CTI Connector project from https://help.sap.com/http.svc/rc/67be88de0bdd4e53b662fae4f15a2b81/1805/en-US/SAPC4CCTIConnectorSetup.zip on the Help Portal.
4. Extract the zip file and import the project to Microsoft Visual Studio.
5. Open file **OutboundCallHandler.cs** and add the logic in the ***dialOut*** method to pass the phone number and context information to the CTI solution.
6. Next, save the file and build the project to generate a new **SAPCODCTIConnector.dll** file.

7. Once the **SAPCODCTIConnector.dll** file is generated, copy the DLL to: `C:\Program Files (x86)\SAP\SAP Cloud for Customer CTI Client` to deploy the DLL.
8. Restart the adapter.

Create a Security Certificate for HTTPS-Enabled Computer Telephony Integration (CTI)

You can enable HTTPS security for outbound phone calls made from your solution. To fully enable this feature, you need to create a security certificate. This example uses Windows PowerShell.

Context

To make outbound calls, you must have a CTI provider such as Sinch Contact Center (previously SAP Contact Center) or other third-party product.

After you complete this process, users will be able to call customers directly from the solution without having to navigate to another system.

Follow these steps to create a security authority and a security certificate from Windows PowerShell.

Procedure

1. Create a **root certificate authority** by opening PowerShell and entering the following commands (replacing **CODCTI Authority** with your desired name):

   ```
   New-SelfSignedCertificate -DnsName "CN=CODCTI Authority" -CertStoreLocation "Cert:\LocalMachine\Root" -KeyAlgorithm RSA -KeyLe
   ```

2. Create a **server certificate** signed by the previously created authority with these commands, again replacing **CODCTI Authority** with your desired name.

   These commands generate a server certificate for **localhost**.

   ```
   $rootCert = Get-Item -Path "Cert:\LocalMachine\Root\CODCTI Authority"
   $cert = New-SelfSignedCertificate -DnsName "localhost" -CertStoreLocation "Cert:\LocalMachine\My" -Signer $rootCert -KeyAlgori
   ```

3. Configure the SSL binding using the generated certificate.

   In the following commands, replace **$port** with your desired port, **$certThumbprint** with the thumbprint of the server certificate (which you can find using the certificate manager), and **$appId** with the appid of the CTI Client Adapter.

   ```
   $certThumbprint = $cert.Thumbprint
   $appId = "{7e46cd40-39c6-4813-b414-019ad22e55b2}"
   $port = 36731

   netsh http add sslcert ipport=0.0.0.0:$port certhash=$certThumbprint appid=$appId
   ```

Live Activity - Chat Integration

If you are using a computer telephony integration (CTI) solution with SAP Cloud for Customer, you can enable chat integration in the Live Activity pane.

Integration with CTI Partner

The Live Activity pane provides capabilities to identify the customer by email address. Live Activity works with integration software running locally on the agent's desktop. The **SAP Cloud for Customer CTI Adapter** software acts as an adapter which communicates information to the Live Activity pane. You can download the adapter from the **Download** area within SAP Cloud for Customer.

The CTI Adapter runs a local server on the agent's system. This acts as a communication bridge with external CTI solutions. Posting information to CTI Adapter pushes information to Live Activity pane.

Incoming Chat Integration

A localhost GET/POST request is used to provide information to an agent about an incoming chat.

Example of a localhost get request:

```
http://localhost:36729/?Type=CHAT&CID=BCM1234&EventType=INBOUND&Email=example@example.com&ExternalReferenceID=12345678
```

Chat Wrap up and Passing Transcript

A localhost GET/POST request can also be used after the chat has ended to post the chat transcript.

Example GET request to post a transcript:

```
http://localhost:36729/?
Type=CHAT&CID=BCM1234&EventType=UPDATEACTIVITY&Action=END&Email=example@example.com&ExternalReferenceID=12345678&Transcript=
<chat message transcript>
```

Fields Used with CTI Adapter

The following fields can be passed to the CTI adapter with the GET request:

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	
CID	The client ID. This is mandatory value. **Note** Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.	
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓
ExternalReferenceID	Unique call ID in the CTI system	
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values: INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after `UPDATEACTIVITY` event is triggered by click-to-call action.	
Transcript	Chat transcript passed back to system once chat is ended	

Simulate CTI Call

Simulate an incoming call in Live Activity with the SAP Cloud for Customer CTI Client Adapter.

Prerequisites

- Download, install, and launch the SAP Cloud for Customer CTI Client Adapter.
- Log on to SAP Cloud for Customer and open Live Activity.

Context

Use the CTI Client Adapter to simulate an inbound phone call to test the connection to Live Activity.

Procedure

1. Open the SAP Cloud for Customer CTI Client Adapter window on your computer.
2. Choose **Simulate**.
3. Enter the information you want to use for the inbound call or chat in the **SIMULATION** window.
4. Choose **Simulate** to simulate an inbound phone call.

Results

The information you entered in the simulation window appears in Live Activity as an incoming phone call.

Set Up Inbound Call Handling

SAP Cloud for Customer does not have a native Computer Telephony Integration (CTI) capability; instead is able to integrate to other CTI solutions to support service processes.

> **Note**
> Scope phone as a communication channel via business configuration to use the phone call feature.

The CTI Client sends phone activity and attached data captured via IVR to our solution in the **Live Activity** screen via CTI Client adapter.

Live Activity feature looks up the customer or ticket using the data received and creates a new customer or ticket. In the incoming phone activity display window you are able to accept, reject, end, or transfer calls via CTI Client provided by the CTI vendor.

Enable Phone as a Communication Channel

The administrator must enable phone as a communication channel via business configuration to use the call feature in our solution.

Go to **Business Configuration** > **First Implementation** > **Edit Project Scope** > **Service** > **Customer Care** > **Service Request Management** > > **Questions**, and select the question: **Do you want to support Computer Telephony Integration (CTI)?**

Enable Inbound Calls

URL parameters required to enable inbound phone calls.

Inbound call integration uses a parameterized URL call from the CTI desktop client to the SAP Cloud for Customer CTI Client Adapter to pass information like the ANI, DNIS, and CAD to the solution.

The URL is: `http://localhost:36729/?CID=<cid>&ANI=<phonenum>&DNIS=<phonenum2>&<cad1=xxxx&cad2=yyyy>`.

Additional parameters can be added to the URL so that extra information can be passed to SAP Cloud for Customer.

The following table lists the parameter names and the information each parameter contains:

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	
CID	The client ID. This is mandatory value. **Note** Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.	
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓
ExternalReferenceID	Unique call ID in the CTI system	
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values:	

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
	INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after `UPDATEACTIVITY` event is triggered by click-to-call action.	
Transcript	Chat transcript passed back to system once chat is ended	

i Note

All of these parameters are included in the following extension spot, available in the SDK: `ES_COD_CTI_CALL_HANDLING`

In the current implementation, which sends the payload through the browser using the provided URL example, can cause pop-up notifications with each call. Pop-up notifications can create an undesirable user experience. To mitigate the issue, we recommend that your CTI implementation partner or provider use the parametrized option for sending the payload. The example following the table is sample C# code provided as a reference.

Your customer requires that the following data is passed from your CTI solution to their SAP solution:

ANI (Dialing From):	408-361-3611	External ID:	56432156787890
Number Dialed:	1-800-455-5555	Custom_1:	value1
AccountID	1000655	Custom_2:	value2
Serial Number	XY234567T	Custom_3:	value3
TicketID	8003456	Custom_4:	value4

You would enter the following URL:

```
http://localhost:36729/?CID=BCM1234&ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003456&
ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=valu31&Custom_4=value4.
```

Example

Example of C# code to send a parameterized call to SAP Cloud for Customer:

```
urlparam1 = “ANI=408-361-3611&DNIS=1-800-455-5555&BP=1000655&SerialNo=XY234567T&TicketID=8003456&Type=CALL&EventType=INBOUND”;
urlparam2 = urlparam1 + ExternalReferenceID=56432156787890&Custom_1=value1&Custom_2=value2&Custom_3=valu31&Custom_4=value4”;
“url = http://localhost:36729/?CID=BCM1234&” + urlparam2;
HttpWebRequest webReq = (HttpWebRequest)WebRequest.Create(url);
HttpWebResponse WebResp = (HttpWebRequest)webReq.GetResponse();
```

In this example, Urlparam is split into multiple strings only for better readability.

Context Parameters for Incoming Calls

With an incoming phone call, call information is passed to our solution based on certain parameters.

When you click on the incoming call display window, our solution displays the Live Activity Center window with associated information for that incoming phone number.

In our solution, an incoming call information is passed based on ANI (incoming phone number), Search for Business Partners such as: Contact, Account, and Individual Customers.

Solution search could identify a unique customer, multiple customers, or may not identify any customer at all.

The following list displays the various parameters passed from the CTI Adapter or Widget for an incoming call. The system would either call all the properties (mentioned below), or a subset depending on parameters maintained in the adapter or widget.

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
Type	CALL CHAT Defaults to CALL if no parameter specified.	

Parameter	Description	Can Be Enabled for Default Live Activity Center Search
CID	The client ID. This is mandatory value. **Note** Supported values are currently limited to: BCM1234, AVAYA5678, CISCO9876, GEN8923 (Genesys), SIE5281 (Siemens). Use CID=BCM1234 for other providers.	
ANI	The caller's number	✓
DNIS	The number dialed	
BP	The caller's account ID	✓
TicketID	The ID of a ticket associated with the call	✓
SerialNo	A registered product serial number	✓
Email	Caller's e-mail address	✓
ExternalReferenceID	Unique call ID in the CTI system	
ExternalOriginalReferenceID	Original Reference ID of the call being transferred	
EventType	Supported Values: INBOUND OUTBOUND UPDATEACTIVITY TRANSFER	
Custom_1-4	Four fields you can use to pass any other call data	
ActivityUUID	Phone call activity UUID (if available). Available after `UPDATEACTIVITY` event is triggered by click-to-call action.	
Transcript	Chat transcript passed back to system once chat is ended	

Example

The following is a sample of the incoming call payload:

```
<?xml version='1.0' encoding='utf-8' ?>
<payload>
<ANI>PHONENUMBER</ANI>
<TicketID>TICKETID</TicketID>
<ExternalReferenceID>EXTERNALREFID</ExternalReferenceID>
<Serial>SERIALID</Serial>
<DNIS>DIALLEDNUMBER</DNIS>
<BP>BPID</BP>
<Custom_1>CUSTOM1</Custom_1>
<Custom_2>CUSTOM2</Custom_2>
<Custom_3>CUSTOM3</Custom_3>
<Custom_4>CUSTOM4</Custom_4>
</payload>
```

Configure Dimensions for Live Activity Display Window

You can configure the size of the phone activity display window in the Live Activity tab.

Configure the phone activity display window dimensions so you are able to see all displayed information without using scroll bars.

Required Configuration: Go to Administration > Service and Social > Communication Channels > Live Activity Configuration, and set the appropriate height and width in the Provider Control Dimensions section.

Simulate CTI Call

Simulate an incoming call in Live Activity with the SAP Cloud for Customer CTI Client Adapter.

Prerequisites

- Download, install, and launch the SAP Cloud for Customer CTI Client Adapter.
- Log on to SAP Cloud for Customer and open Live Activity.

Context

Use the CTI Client Adapter to simulate an inbound phone call to test the connection to Live Activity.

Procedure

1. Open the SAP Cloud for Customer CTI Client Adapter window on your computer.
2. Choose Simulate.
3. Enter the information you want to use for the inbound call or chat in the SIMULATION window.
4. Choose Simulate to simulate an inbound phone call.

Results

The information you entered in the simulation window appears in Live Activity as an incoming phone call.

Warm Transfer for Computer Telephony Integration (CTI)

A warm transfer consists of an incoming or outgoing call that gets transferred to other consecutive agents. The persistent unique Original External ID, and incremental External IDs for each transfer identifies a warm transfer. Read on to know more about a typical warm transfer scenario.

Warm Transfer Scenario

An agent receives a call from a customer. The system identifies the customer based on the phone number, and is also able to associate it to the related ticket. The agent is unable to help the customer and transfers the call to Agent 2 after adding notes to the call activity.

Agent 2, receives the call, and can see the notes added by the first agent, the confirmed customer, and linked ticket in the Live Activity center. Unable to help the customer, Agent 2 takes additional notes and transfers the call to a third agent.

Agent 3 receives the call and is able to see the call context from Agent 2 and Agent 1 in theLive Activity screen. Agent 3 handles the call and helps the customer.

A warm transfer can pass the following context information:

- confirmed caller
- notes
- linked ticket

A warm transfer has a unique Original External ID, which remains constant through all the transfers. However, the External ID for each consecutive transfer changes. The Original External ID associates the transfers to the original call.

ⓘ Note

Update CTI vendor integration with our solution to be able to pass additional information.

You can view the entire warm transfer flow in the Document Flow tab.

Ticket Assignment Notification

If your organization assigns tickets with an external system you can also receive assignment notifications in the same way as incoming call notifications.

Organizations that assign tickets with an external system can use an API call to send a notification message to the assignee.

Notification works with both CTI Adapter integration or third-party widget integration in the same way as a call or chat is integrated with Live Activity.

When you assign a ticket with notification, the Live Activity notification popup opens displaying the Ticket ID. When you click the pop-up, the ticket detail view opens for the corresponding ticket.

Ticket Assignment Notification Signature Parameters

Parameter	Details
Type	Value is NOTIFICATION for push routing.
ObjectID	Object ID being pushed (assigned). The ticket ID. **Prerequisite**: This object must already exist in the system.
ObjectUUID	Used for navigation
EventType	Is **Push** since the ticket is pushed to an agent.
ThingType	Used for navigation
Text	Define a length. Optional parameter. If not provided, default is **New Notification**

Examples of the signature in XML and JSON.

Sample Code

XML

```
<?xml version="1.0" encoding="UTF-8"?>
<payload>
<Type>Notification</Type>
<ObjectID>ObjectID</ObjectID>
<ObjectUUID>ObjectUUID</ObjectUUID>
<EventType>Push</EventType>
<ThingType>ThingType of the object</ThingType>
</payload>
```

Sample Code

JSON

```
{
     "payload": {
                         "Type": "NOTIFICATION",
                         "ObjectID": "OBJECTID",
                          "ObjectUUID" : "UUID of the Object"
                          "EventType":"Push",
                          "ThingType": "Thing Type of the object"


                    }
          }
```

Set Up Outbound Call Handling (Click-to-Call)

You can make a phone call from any screen within our solution with the click of a mouse. With CTI integration enabled, outbound calls also create a phone activity linked to the call.

Example

If the call is made from Ticket > Customer phone number, the phone activity is linked to the corresponding Ticket and Customer.

With CTI integration enabled when making the outbound call, the system can track and link the call with related information for that phone number.

Example

Related information could be a ticket, an account, contact, customer, or lead.

To display the Live Activity Center screen and search for related objects during the call, click the call status window (displays during a call).

Note

This feature is available in SAP Fiori Client only.

Remember

- You must have the Live Activity work center assigned to you.
- Enable CTI integration.

If your system lacks CTI integration, clicking a phone number dials out using your operating system's default phone channel (for example, Skype on Windows OS). Automatic activity generation and linking requires CTI integration.

Enable Phone as a Communication Channel

The administrator must enable phone as a communication channel via business configuration to use the call feature in our solution.

Go to Business Configuration > First Implementation > Edit Project Scope > Service > Customer Care > Service Request Management > > Questions, and select the question: **Do you want to support Computer Telephony Integration (CTI)?**

Click-to-Call in Fiori Client Via CTI Adapter

You can easily make outgoing phone calls from your system using the Click-to-Call feature via CTI integration.

Use the Click to Call feature in any of the following ways:

- Click phone number in a ticket to initiate phone call via CTI

  From the Overview tab of a ticket, under the Customer section, click a phone number to place a call.

- Click the phone call status display to bring up the Live Activity Center screen that displays context of the call and the associated ticket.

  You can search using any or all available categories. These categories are available as search parameters from the Live Activity Center tab as well.

  Note

  You can add custom search categories via configuration.

- When you click the phone number to initiate a call, the system creates the phone call activity with the ticket reference and the business partner as the participant to the activity.

  All this information is created and auto-populated in the Live Activity Center screen's Call Information section.

Note

You must have the Live Activity Center assigned to use the Click to Call feature. This feature is available only in the Fiori Client.

Implement Outbound Calls in Fiori client Via CTI Adapter

This feature lets you implement and enable the outbound calling feature in SAP Cloud for Customer.

Prerequisites

Ensure Live Activity Center configuration has appropriate settings for the provider. The provider type should be **CTI Adapter** and provider URL field should be left blank.

Context

These instructions are pertinent to customers who have integrated using CTI adapter. (Customers using their own call system need not follow these steps). Follow these steps to enable the Click to Call feature in the Fiori client via CTI adapter.

Procedure

1. Uninstall the current version of CTI Adapter installed on your machine.
2. Download and install the latest SAP CTI Adapter from the Download section.

   An older version of CTI Adapter (prior to May 2018 release) will not work with Fiori client.

3. Download the CTI Connector project from https://help.sap.com/http.svc/rc/67be88de0bdd4e53b662fae4f15a2b81/1805/en-US/SAPC4CCTIConnectorSetup.zip on the Help Portal.

4. Extract the zip file and import the project to Microsoft Visual Studio.
5. Open file **OutboundCallHandler.cs** and add the logic in the ***dialOut*** method to pass the phone number and context information to the CTI solution.
6. Next, save the file and build the project to generate a new **SAPCODCTIConnector.dll** file.
7. Once the **SAPCODCTIConnector.dll** file is generated, copy the DLL to: `C:\Program Files (x86)\SAP\SAP Cloud for Customer CTI Client` to deploy the DLL.
8. Restart the adapter.

Configure Dimensions for Live Activity Display Window

You can configure the size of the phone activity display window in the Live Activity tab.

Configure the phone activity display window dimensions so you are able to see all displayed information without using scroll bars.

Required Configuration: Go to Administration > Service and Social > Communication Channels > Live Activity Configuration, and set the appropriate height and width in the Provider Control Dimensions section.

Context Parameters for Outbound Calls

When you make a phone call from the solution, the system triggers several context parameters related to the phone number that is passed to the Live Activity Center. The Live Activity Center in turn creates a phone call activity for this outbound call and also passes this information to the CTI adapter or third party widget (based on which one you've integrated to), embedded in the call display window. This context is used to track the phone activity and link it to call details such as the call transcript or link to the recording.

When you make a call from a phone number within the system, it gets routed to the adapter or widget, which has a blank method that should be configured by the partner. Based on what value the partner has configured in the blank method, the system routes the phone call to the end point (defined by the partner). Click-to-Call can be made with or without context.

With Context

When the partner defines the blank method, calls are made using all or a sub-set of parameters provided by our solution (see list below). This indicates that calls are made with context.

The following list displays the various parameters passed to the CTI Adapter or Widget for a call. The system would either call all the properties (mentioned below), or a subset. This depends on what the system is sending which in turn is based on where the call originated.

Context Parameters	Description
BusinessPartnerID	BP ID of the callee
ObjectID	ID of the Object from where the call was triggered
ObjectUUID	UUID of the Object from where the call was triggered
ObjectTypeCode	Object Type Code from where the call was triggered
ESObjectID	Enterprise Search Object ID of from where the call was triggered
PhoneNumber	Phone Number called
ObjectThingType	Object Thing Type from where the call was triggered
IsBTDRef	True if the originating object is linked to the phone call activity
Direction	OUT for outbound call
LoggedInUserID	Logged in user ID of the person originating the call
ActivityUUID (this value is based on the business object from where the call is made)	UUID of the phone call activity created

Without Context

When the partner does not define the call parameters, calls are made using a set of three basic default parameters provided by our solution (see list below). This indicates that calls are made without context.

- PhoneNumber
- LoggedInUserID
- ActivityUUID

The call widget or adapter display window shows information based on the parameter fields maintained by the customer or partner.

Example

The following are samples of the outgoing call payload options:1. When context is passed, the payload would consist of the following or a subset of it.

{

BusinessPartnerID: "1666454",

ObjectID: "4008867",

ObjectUUID: "00163E07C01D1EE7B98941B0821ABD2B",

ObjectTypeCode: "118",

ESObjectID: "COD_SERVICE_REQUEST_ES_CO",

PhoneNumber: "+91 943748393",

ObjectThingType: "COD_SRQ_AGENT_TT",

IsBTDRef: "X",

Direction: "OUT",

LoggedInUserID: "SOCIALADMIN01",

ActivityUUID: "00163E07C0211ED7BC99F84A3DF7622E"

}

When no context is passed:

{

PhoneNumber: "+91 943748393",

LoggedInUserID: "SOCIALADMIN01",

ActivityUUID: "00163E07C0211ED7BC99F84A3DF7622E"

}

Store External ID in Phone Activity

With the ability to store the External ID in a phone activity, you can access additional information on a customer phone call such as call transcript or a link to the call recording.

With enabled CTI integration, the third party vendor can communicate with customers via phone activity. When the CTI vendor initiates a phone call, The External ID from the CTI vendor gets populated in the phone call activity details as a reference. This ID helps identify the phone activity associated with it. Besides the External ID, the vendor also has the ability to save other details of a phone call such as the call transcript, or a link to the call recording. Our solution provides you with the ability to store the external ID in the system so the vendor can recall the phone call activity associated with it.

Phone activity details provides you with improved call analytics.

Required Configuration: To enable the ability to store External ID in phone activity, create a new communication system using the required fields and update Live Activity settings with the new communication system ID.

Note

See **SAP Cloud for Customer Administrator Guide** for details.

Go to Administration > Service and Social > Communication Channels > Live Activity Configuration, and enter External ID.

Phone Activity UUID for Outbound Calls

The phone activity UUID value is passed from our solution to the CTI vendors for all outbound calls made within our solution. This provides you with integration flexibility and ease of use.

The third party CTI vendors can update the phone calls made from our solution with additional information such as: call transcript and link to the call recording. Additionally, they can use the phone activity UUID value to update all phone call activities using OData APIs provided by our solution.

Example

The phone activity UUID lets you update a phone call with an end time or URL with the call recording.

This functionality provides you with improved call analytics.

ⓘ Note

The feature works with CTI third party vendors and Widget based integration; and can be viewed in SAP Fiori Client only.

Click-to-Call Search

You can search in the Live Activity display window using the unique customer ID. Additionally, you can store the External ID for an outbound phone call.

Search by Customer ID

When the service agent clicks on a customer, by default the system searches based on that unique customer ID, which helps save time by displaying related information for that contact number.

Example

Search results display Customer and Related Tickets for that customer.

ⓘ Note

The agent can always override this default search parameter with a manual search.

Search Enabled for All Telephone Numbers

Our solution allows search for both: regular and mobile telephone numbers, which is the default behavior.

The system searches for both, regular and mobile phone numbers, providing higher work efficiency by saving time and providing better customer identification.

Click-to-Call Screen Behavior Examples

The following table displays the various parameters and contexts used for a call:

Screen	Context Passed	Window Display	Default Search Behavior	Linked Phone Activity
Ticket > Customer Card > Overview	• Business Partner ID • Ticket ID • Phone Number • Enterprise Search Object ID	Caller is identified from the business partner ID	The result list displays the related ticket and caller	Ticket and Customer
Ticket Quick View	• Business Partner ID • Ticket ID • Phone Number • Enterprise Search Object ID	Caller is identified from the business partner ID	The result list displays the related ticket and caller	Ticket and Customer
Customer Quick View	• Business Partner ID • Phone Number	Caller is identified from the business partner ID	The result list displays the caller	Customer
Contact Quick View	• Business Partner ID • • •	Caller is identified from the business partner ID	The result list displays the caller	Customer
Lead Overview	• Business Partner ID	Caller cannot be identified as the business partner cannot be	No result list displays as lead cannot be searched on	Lead and Customer

Screen	Context Passed	Window Display	Default Search Behavior	Linked Phone Activity
	• Phone Number • Lead ID	searched		
Phone Activity List	• Phone Activity UUID • Phone Number	Caller is searched based on phone number	The result list displays based on phone number search.	Phone Activity (from where call is made)

* Enterprise Search Object ID in Click-to-Call comprises of object IDs for Account, Contact, Individual Customer, and Registered Product. When making a call from a ticket, the system uses these search parameters to call up related information.

Warm Transfer for Computer Telephony Integration (CTI)

A warm transfer consists of an incoming or outgoing call that gets transferred to other consecutive agents. The persistent unique Original External ID, and incremental External IDs for each transfer identifies a warm transfer. Read on to know more about a typical warm transfer scenario.

Warm Transfer Scenario

An agent receives a call from a customer. The system identifies the customer based on the phone number, and is also able to associate it to the related ticket. The agent is unable to help the customer and transfers the call to Agent 2 after adding notes to the call activity.

Agent 2, receives the call, and can see the notes added by the first agent, the confirmed customer, and linked ticket in the **Live Activity** center. Unable to help the customer, Agent 2 takes additional notes and transfers the call to a third agent.

Agent 3 receives the call and is able to see the call context from Agent 2 and Agent 1 in the**Live Activity** screen. Agent 3 handles the call and helps the customer.

A warm transfer can pass the following context information:

- confirmed caller
- notes
- linked ticket

A warm transfer has a unique Original **External ID**, which remains constant through all the transfers. However, the **External ID** for each consecutive transfer changes. The Original **External ID** associates the transfers to the original call.

ℹ Note

Update CTI vendor integration with our solution to be able to pass additional information.

You can view the entire warm transfer flow in the **Document Flow** tab.