Call Types Contact Data Scripting

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Call Types

When writing scripts to route contacts, you must understand call types and contact data.

A call type is the first-level category of a contact and is determined by data associated with the contact. You associate a script with a call type. When a contact of a certain call type is received, the associated script runs on that contact.

You create call types during Unified ICM configuration, through the Configuration Manager. For more information, see the *Configuration Guide for Cisco Unified ICM/Contact Center Enterprise* at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-installation-and-configuration-guides-list.html and the *Cisco Unified Contact Center Enterprise Installation and Upgrade Guide* at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-installation-guides-list.html

Default Call Types

A default call type is the call type used when a contact does not map to a defined call type.

You define a default call type for each routing client through the Configuration Manager in the PG Explorer tool. The general default call type is set through the Configuration Manager in the System Information tool. You can also define a general default call type that is not specific to a routing client. See the *Configuration Guide for Cisco Unified ICM/Contact Center Enterprise* at https://www.cisco.com/c/en/us/support/

customer-collaboration/unified-contact-center-enterprise/products-installation-and-configuration-guides-list.html.

Relation Between Call Types and Scripts

Scripts are scheduled by **call type**. In other words, when the system receives a request to route a contact, it determines the call type of that contact, then runs the associated script.

Call types provide the first level of **categorization of contacts**, enabling you to write scripts to route contacts differently depending on their call type. While other types of categorization take place within a script, call types enable you to provide contacts with different treatment by running different scripts to begin with. Call types enable categorization before a script begins to execute.

Call Type Qualifiers

The following data determine the call type. This data is referred to as the call type qualifier.

The call type qualifiers described in this section apply to contacts from all media. The terminology used is applicable to voice contacts; where the terminology differs for other media, the differences are explained in this section.

The differences between call type qualifiers for voice and other media are also explained in the following sections in this topic:

- Contact Data for Cisco Enterprise Chat and Email

Note You can also use the call type qualifiers for categorization within a script.

Dialed Number (DN)

A Dialed number (DN) is a string that represents the telephone number dialed by the caller, preceded by the name of the routing client and a period. For example, "NICClient.18005551212" might be a dialed number.

The **Calling line ID** and **Caller-entered digits** are used to further categorize the call and determine the call type.

Typically, a dialed number is associated with one or more call types.

Note The dialed number is referred to as the Script Selector for media other than voice.

Calling Line ID (CLID)

The Calling Line ID (CLID) is a string that represents the telephone number from where the call originated. The CLID is sometimes referred to as the ANI (Automatic Number Identification).

Typically, you would not use a CLID to define a Call Type. Rather, you would use a CLID prefix or CLID region.

For web requests, the CLID corresponds to the ApplicationString1 parameter.

E-mail requests do not use the CLID.

Use of CLID Prefixes

To define a Call Type based on the area code from where the call originated, you can use a CLID prefix.

For example, if you want to define a Call Type for all calls from the 508 area code, you specify 508 as the CLID prefix. You can further refine the Call Type to calls from a certain exchange within the area code. For example, you can specify 508486 as the CLID prefix. A routing script can then process the call based on the area code or local exchange of the caller.

Use of CLID Regions

You can define a Call Type that encompasses multiple CLID prefixes. For example, a useful Call Type could be defined as all calls from New York, which includes several area codes. To accomplish this, first define geographical regions through Unified ICM Configuration Manager. For more information, see the *Configuration Guide for Cisco Unified ICM/Contact Center Enterprise*.

A routing script can then process the call based on the region of the caller.

Caller-Entered Digits (CED)

Caller-Entered Digits (CED) are numbers entered by the caller in response to prompts. For example, a caller might enter a number to indicate the type of service needed.

The caller can enter digits through the carrier network or the call center system. The Caller-Entered Digits can be used in defining the call's Call Type. A routing script can then process the call based on data entered by the caller.

Note You can differentiate between the case where the caller is not prompted for digits ("None Required") and the case where the caller is prompted but does not respond ("None Entered"). You can also choose "None" as the Caller-Entered Digits.

E-mail requests do not use the CED.

Data for Enterprise Chat and Email Web Requests

The Enterprise Chat and Email sends the following data to Unified ICM when requesting for routing a chat contact. These variables are mapped in the in.map.properties file to variables in the call form. For more information about setting up ECE to send route requests to Unified ICM, see the administration documentation at http://www.cisco.com/c/en/us/support/customer-collaboration/unified-email-interaction-manager/products-maintenance-guides-list.html.

- **dialednumber**—A string that determines which script to run on Unified ICM. The value of the script selector variable maps to the value of the Script Selector (which maps to the Dialed Number for voice contacts) in the Call Type created through Unified ICM Configuration Manager. Therefore, you must ensure that a Script Selector with the value that the ECE uses is set up in Unified ICM.
- **applicationstring1**—A optional string that you can use to select a Unified ICM routing script. The value of the ApplicationString1 variable corresponds to the Calling Line ID created through Unified ICM Configuration Manager. that determines which script to run on Unified ICM. The value of the script selector variable maps to the value of the Script Selector (which maps to the Dialed Number for voice contacts) in the Call Type created through Unified ICM Configuration Manager.
- **applicationstring2**—A optional string that you can use to select a Unified ICM routing script. The value of the ApplicationString2 variable corresponds to the Caller-Entered Digits created through Unified ICM Configuration Manager.
- **callvar1-10**—Unified ICM call variables, up to 10. These are optional fields that you can use to pass any application-specific information to Unified ICM.
- **eccvar1-2**—Expanded call context variables, used to pass additional information to the Unified ICM. You must set up ECC variables on the Unified ICM before the ECE can use them. For more information about creating ECC variables, see the *Configuration Guide for Cisco Unified ICM/Contact Center Enterprise* at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-installation-and-configuration-guides-list.html.

Data for Enterprise Chat and Email E-mail Requests

The Enterprise Chat and Email sends the following data to Unified ICM when requesting that an e-mail message be routed:

- **Instance and skill group name** - A string that determines which script to run on Unified ICM. The value is the name of the ECE instance and the Unified ICM Routing skill group the message was assigned to, separated by a period; for example, "SupportInstance.techSupport". The string maps to the Script Selector value. Therefore, you must ensure that you set up the Script Selectors with the value of the ECE instance name and each Unified ICM Routing skill group in Unified ICM.
- **cisco.ece.Priority** - The priority of the message. The value of the Priority variable, which is "0" through "3"
  - "0" for Normal

Note The priority if set through the ECE rules. You can use the value of the variable to categorize the contact in a script.

  - "1" for High
  - "2" for Very High
  - "3" for Urgent

- **cisco.ece.Category** - The categories of the message. The categories variable is an array containing up to 10 category values. The ECE administrator sets up the category values. You can use the value of the variable to categorize the contact in a script.
- **cisco.ece.MessageKey** - The unique identifier of the message that ECE is requesting Unified ICM to route. While you would not typically use the Message Key to categorize a contact in a script, it may be useful when Unified ICM is integrated with a CRM application; you could record the Message Key in the CRM database for future reference to e-mail correspondence with a customer.

Note These Expanded Call Context (ECC) variables are optional. Before you use these ECC variables, configure them for Unified CCE in the Configuration Manager's Expanded Call Variable List Tool and also in ECE.

For more information about Expanded Call Variables, see the *Configuration Guide for Cisco Unified ICM/Contact Center Enterprise* at https://www.cisco.com/c/en/us/support/customer-collaboration/cisco-enterprise-chat-email/products-maintenance-guides-list.html.

For more information about setting up ECE to send route requests to Unified ICM, see *Enterprise Chat and Email Administrator's Guide to Routing and Workflows* at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-installation-guides-list.html.

Association of Contacts with Call Types

Following is the general process of how the system attempts to associate a contact with a call type:

1. If the dialed number, calling line ID, and caller-entered digits of the contact map to a defined call type, the system uses that call type:
2. If no call type matches the contact, the system uses the default call type for the routing client.
3. If no default call type is defined for the routing client, the system uses the general default call type.

   If no general default call type is defined, the system uses the default label defined for the dialed number.

   If no default label is defined for the dialed number, the system returns an error to the routing client.

Determination of Call Type for Voice Contact

The following example demonstrates how the system determines the call type for a voice contact and runs the appropriate script:

1. When configuring Unified ICM, you create a call type called "MASSACHUSETTS_SALES". This call type is defined as:
   - Having a dialed number of "NICClient1.8005551234".
   - Being from Massachusetts. This is determined by using a Calling Line ID Region, which consists of CLID Prefixes for all area codes in Massachusetts: 617, 508, 978, and 413.
   - Being a Sales call. This is determined by a caller-entered digits value of "1", which is the number in the voice menu to indicate that the caller needs sales help.

2. You create a script called "MASSACHUSETTS_SALES_SCRIPT," which finds the longest available agent in the "NORTHEAST_SALES" skill group.
3. You schedule the script to run for the "MASSACHUSETTS_SALES" call type.
4. A caller dials 1-800-555-1234, from the phone number 508-663-4958.
5. When prompted by a menu, the caller enters 1 to request sales help.
6. A route request is sent to Unified ICM.
7. Unified ICM examines the dialed number, which equals "18005551234".
8. Unified ICM evaluates the CLID value and determines that the CLID prefix is "508", which is an area code in Massachusetts.
9. Unified ICM examines the CED value, which is "1", which indicates that it is a Sales call.
10. Unified ICM determines that the call type is "MASSACHUSETTS_SALES" and executes the "MASSACHUSETTS_SALES_SCRIPT" script.
11. Unified ICM assigns the task to a particular agent.

Determination of Call Type for ECE Web Request

The following basic example demonstrates how the system determines the call type for a Enterprise Chat and Email chat web request:

1. When configuring the Unified ICM, you create a call type called "SSC_CT". This call type is defined as having a Script Selector (Dialed Number) of "SSC_DN".
2. When configuring ECE, you set the value of the script selector variable in the call form to "SSC_DN".
3. When configuring ECE, you set the dialednumber variable in the input map to equal the script selector variable in the call form.
4. You create a script called "SSC_SCRIPT," which finds the longest available agent in the "COLLABORATION_SALES" skill group.
5. You schedule the script to run for the "SSC_CT" call type.
6. A web user requests a chat session.
7. A route request is sent to Unified ICM.
8. Unified ICM determines that the Call Type is "SSC_CT" and executes the "SSC_SCRIPT" script.
9. Unified ICM instructs ECE to assign the task to a particular agent.

Determination of Call Type for ECE E-mail Contact

The following example demonstrates how Unified ICM determines the Call Type for a Enterprise Chat and Email e-mail contact:

1. When configuring Unified ICM, you create a Call Type called "EMAIL_CT". This Call Type is defined as having a Script Selector (Dialed Number).
2. When configuring ECE, you set the workflow rules to assign some messages to Unified ICM Routing queue "SalesQueue", which is mapped to an e-mail MRD.
3. You create a script called "EMAIL_SCRIPT". The e-mails are queued to skill group called Sales in the script.
4. You schedule the script to run for the "EMAIL_CT" Call Type.
5. A "Sales" message is assigned to the "SalesQueue" queue.
6. ECE sends a route request to Unified ICM.
7. Unified ICM determines that the Call Type is "EMAIL_CT" and executes the "EMAIL_SCRIPT" script.
8. Unified ICM instructs ECE to assign the task to a particular agent who is logged in to the Sales Skill group.

Determination of Call Type for a Task Routing Task

This example is for a multichannel task from a third-party multichannel application that uses the Task Routing APIs. It demonstrates how the system determines the call type for the task and runs the appropriate script. In this example, the task is a chat task.

1. When configuring CCE, you create a multichannel MRD called "Chat_Task_MRD". You create a call type called "Chat". You create a dialed number/script selector "Chat_DN", and associate it with "Chat_Task_MRD" and the "Chat" call type.
2. You create a SocialMiner Chat application from which a user can request to chat with an agent. You set the value of the script selector in the chat form to the "Chat_DN" dialed number.
3. You create a script called "Universal_Queue_script" that finds the longest available agent in the "Sales" skill group in the "Chat" MRD.
4. You schedule the script to run for the "Chat" call type.
5. A user requests a chat session from the SocialMiner Chat application, using the SocialMiner Task API.
6. SocialMiner submits the task request to CCE, including the dialed number/script selector.
7. CCE uses the script selector to determine the call type, and runs the "Universal_Queue_script".
8. CCE assigns the task to an agent who is logged into the "Sales" skill group in the "Chat" MRD.