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E911

Technical Reference

Abstract

This document describes configuring CIC for Enhanced 911 (E911) service, which enables call to emergency services.

For the latest version of this document, see the PureConnect Documentation Library at: <http://help.genesys.com/cic>.

For copyright and trademark information, see https://help.genesys.com/cic/desktop/copyright_and_trademark_information.htm.

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Overview of E911 integration for CIC

To enable North American customers to comply with emergency service number (E911) regulations implemented in some states and areas, Customer Interaction Center (CIC) provides a new mechanism for E911 functionality. The E911 feature sends the Media Access Control (MAC) and IP address of a managed station that dials 911 through a CIC client application to a third-party E911 service provider. The E911 service provider can associate those addresses to a previously provided Automatic Location Information (ALI) record and forward it to the correct Public Safety Answering Point (PSAP) to answer.

For PureConnect Cloud customers, contact Genesys to determine availability and usage of the E911 feature for your organization.

After you configure your dial plan, subscribe to an E911 service, and provide ALI records to the service provider, users who make emergency calls cause the following actions:

1. The CIC server populates the `ININAttr` attribute in the Session Initiation Protocol (SIP) `INVITE` header with the identifying addresses of the station and routes the call to the E911 service provider.

```
INVITE SIP:0123456789@192.168.1.100:5060 SIP/2.0
To: "Unknown" SIP:0123456789@192.168.1.100:5060
From: <SIP:username@example.com:5060<;tag=xtkOlcy
Via: SIP/2.0/UDP 192.168.1.123;branch=z9hG4bKf5lUsts4qxOgs5cxhlAl
Call-ID: 5555ae5fbbd6c537cecf0c4be4444adc@192.168.1.123
CSeq: 1 INVITE
Contact: SIP:username@example.com
Max-Forwards: 70
x-inin-crn: 2001499000;loc=Loc1;ms=ms1.example.com
Supported: join, replaces, 100rel
User-Agent: ININ-TsServer/16.3.0.354
ININAttr: "uu_StationMacAddress=0004f215c285;uu_StationIPAddress=192.168.1.4"
Allow: ACK, BYE, CANCEL, INFO, INVITE, NOTIFY, OPTIONS, PRACK, REFER, SUBSCRIBE,

UPDATE
Accept: application/sdp
Accept-Encoding: identity
Content-Type: application/sdp
Content-Length: 199
```

2. The E911 service provider reads the identification information for the station making the emergency call.
3. The E911 service provider retrieves the previously-submitted ALI record for that station.
4. The E911 service provider determines the correct PSAP that services the location.
5. The E911 service provider sends the ALI record and routes the SIP call to the PSAP.
6. The PSAP receives the SIP call with the ALI record and communication between the PSAP and the caller begins.

Important!

Some states and areas impose fines for emergency calls that do not provide accurate location information. Check applicable regulations for any state or area for which your CIC server provides SIP telephony. Ensure that you provide complete information so that emergency response personnel can find the location from which the call originated.

Some organizations have buildings in different response jurisdictions or municipalities. In this situation, it is important that the MLTS operator (CIC administrator) makes advance contact with the PSAP manager or director for the location that contains the MLTS switch. In some cases, PSAPs dispatch for a number of jurisdictions and the CIC server can route calls to a single PSAP. In other cases, the CIC server may need to route calls to different PSAPs service different jurisdictions, which requires more configuration and testing.

The Federal Communications Commission (FCC) maintains a 911 Master PSAP Registry that you can download and view at the following website: <https://www.fcc.gov/general/9-1-1-master-psap-registry>

National Emergency Number Association (NENA) is the organization for defining and maintaining standards regarding communications to emergency services, including Enhanced 911 (E911).

Visit <http://www.nena.org> for more information on E911 regulations and standards for the United States of America.

Caution!

This functionality is only for E911 calls made on managed stations through a CIC client interface, such as Interaction Desktop and Interaction Connect. Direct dialing of the emergency number on a IP telephone does not include the station addresses in the SIP `INVITE` message for emergency calls.

If you have defined remote workstations for mobile devices, do not use this E911 feature. Instead, each user of a mobile device must use the native functionality of the device to contact the PSAP for its current location and provide location information.

Configuring E911 for CIC

Requirements

- CIC 2017 R1 or later
- A third-party E911 service provider
- A CIC client, such as Interaction Connect, for each managed station

Process

1. Establish a relationship with a third-party E911 service provider.
2. Ensure that a CIC client, such as Interaction Connect, is available on all computers that you want to make the E911 feature available.
3. Work with the E911 service provider to determine what fields it requires in ALI records and notify the E911 service provider of the `ININAttr` attribute in the SIP `INVITE` header.

To ensure that emergency responders can accurately and quickly find the location where an emergency call originated, manually gather the following information for each managed station:

- Street address of the building in which the call was made
- Unique building identifier, if applicable
- The floor of the building from which the call originated, if applicable
- The location of the station on the floor of the building, such as *NE corner* or an office number

Important!

Use names that are clearly posted on signs at the facility. Do not use slang, unofficial, or non-posted names used only by persons familiar with the facility. Identifiers and locations must be clear and easy to interpret by persons visiting the facility for the first time.

4. Using Interaction Administrator, ensure that you define and enable all managed stations for which you want to enable the E911 feature.

For more information about configuring managed stations, see "[Managed IP Phones](#)" in [Interaction Administrator Help](#).

5. Run the E911 Phone Export Utility on the CIC server.

For more information about running E911 Phone Export Utility, see [E911 Phone Export Utility](#).

6. In the resulting export file, add the location fields as required by your E911 service provider and the specific data for each managed station.
7. Provide the file to the E911 service provider.
8. Modify the CIC dial plan to route calls dialing the emergency number (911) to the third-party E911 service provider.

Note:

For more information about configuring a regional emergency number in your CIC dial plan, see [Set up an emergency classification](#) topic of [Interaction Administrator Help](#).

9. Test the E911 feature of CIC with the E911 service provider and verify the following items:
 - The E911 service provider receives the correct station identification information in SIP `INVITE` message headers.
 - The E911 service provider can find and retrieve the correct ALI record for the calling station.
 - The ALI records for all managed stations meet the requirements for your associated regions and PSAPs.
 - The ALI records have the correct location information for each managed stations so that the E911 service provider can route calls for each station to its correct PSAP.

E911 Phone Export Utility

E911 Phone Export Utility, `E911ExportUtility.exe`, is a command-line utility that you run on the CIC server to extract the addresses of all defined managed stations to a file.

Prerequisites

The user account with which you run `E911ExportUtility.exe` must have the following characteristics:

- The user account requires **Read** and **Write** permissions for the `Server` directory, relative to the installation path of the CIC server.
The default installation path is `D:\I3\IC\Server`.
- The user account requires CIC **Access Rights** that enable retrieval of data for managed phones on the CIC server.
- If you use remote stations, ensure that you have specified the original outbound ANI of the remote device to ensure that CIC routes Emergency calls to the correct PSAP.
- Communicate with the E911 service provider to establish clear requirements for ALI records, station information, and station locations. Ensure that you provide correct and necessary E911 information so that delivery to the appropriate PSAP for a station is successful.

E911 phone export utility installation

The CIC installation or update process places the file, `E911ExportUtility.exe` in the `D:\I3\IC\Server` directory (default installation path).

Usage instructions

1. Log on to the CIC server.
2. Open a Command Prompt window:
 - a. On your keyboard, press `Windows+r`.
The **Run** dialog box appears.
 - b. In the **Run** dialog box, enter `cmd.exe` and select **OK**.
3. In the Command Prompt window, enter the following command and press `Enter`.
`D:\I3\IC\Server\E911ExportUtility.exe`
The default installation path for CIC is `D:\I3\IC\`.
4. When prompted, enter the following information:
 - The host name of the CIC server
 - The credentials of a CIC account that meets the requirements in the [Prerequisites](#) section.

The utility retrieves and exports all managed phone configuration data as a new file in CSV format to a new `E911ExportUtility` directory.

The default path is `D:\I3\IC\Server\E911ExportUtility\`.

Note:

Subsequent executions of the application reuse the credentials that you initially provided. However, if the credentials fail to authenticate, the utility prompts you to enter new credentials.

To use different credentials, you can remove the cached credentials by deleting the `PhoneExportUtilityCreds` file in the `D:\I3\IC\Server` directory.

Exported data

Each row of the exported CSV file represents a station and contains the following fields:

DisplayName

The display name of the IP phone

PhoneManufacturer

The manufacturer of the IP telephone that is associated with the station

Examples:

- AudioCodes
- Polycom
- Others

PhoneModel

the model of the IP telephone such as 330IP and SL8450

NetworkID

The MAC address of the computer associated with the managed station

IdentificationAddress

The IP address of the computer associated with the managed station

Extension

The numeric internal network identifier of the station

Note:

If E911 Phone Export Utility cannot acquire data for one or more fields for a station, the corresponding field in the export record for that station is blank.

Scripting and scheduled tasks

When you manually run `E911ExportUtility.exe` for the first time, you supply credentials that meet the security requirements in the [Prerequisites](#) section. The utility stores these credentials so that subsequent usage and scripts that run the utility do not require re-entry of the credentials.

Note:

If you execute `E911ExportUtility.exe` through a script, include the `-autoclose` parameter. The `-autoclose` parameter closes the Command Prompt window when the utility finishes its data export. If you do not include the parameter, each time the utility runs, it leaves an open Command Prompt window.

Disable the E911 feature

You can disable the E911 feature through the entry of a server parameter using Interaction Administrator. When disabled, the feature does not include addresses in the SIP `INVITE` to identify the station to the E911 service provider. The E911 service provider will not be able to associate an ALI record with the call for routing to the appropriate PSAP.

1. Log on to Interaction Administrator.
2. In the left pane, expand the container for your CIC server.
3. Select the **Server Parameters** item.
4. In the right pane of the **Interaction Administrator** window, right-click and select **New** from the resulting shortcut menu.
5. Enter `Include Station Mac And IP In SIP` and set its value to `False`.

E911 limitations

- Some CIC implementations use Interaction SIP Proxy in remote office to provide remote survivability when losing connection with the CIC server. In that type of configuration, loss of connectivity to the CIC server causes the E911 feature to stop functioning.
- If you use Interaction SIP Proxy in remote offices as a means to provide remote survivability should connection to the CIC server be lost, the ability to use the E911 feature does not function if connectivity to the CIC server is lost.
- The E911 feature does not currently support unmanaged phones or SIP Soft Phone.

Future development for E911 in CIC

Genesys plans to develop more functionality for the E911 feature:

- Support for unmanaged stations
- Support for SIP Soft Phone
- PureConnect Cloud adoptability enhancements

Change log

Date	Changes
27-September-2016	Initial release
11-May-2018	Rebranded from Interactive Intelligence to Genesys