

# SIP Trunk User Guide Advanced E911

## Executive Statement

Kari's Law and Ray BAUM'S Act together represent a significant improvement in public safety, ensuring emergency personnel know exactly where to respond and that responsible company personnel are aware that 911 was called and will be ready to assist emergency responders when they arrive. While compliance with Kari's Law and Ray BAUM'S Act are mandated by Congress and the FCC; LS Networks fully supports these critical improvements to public safety, and will ensure our customers have the tools they need to meet their compliance requirements.

This document, and the others found on our website provide an overview of the intent and letter of this mission critical mandate, and provides step-by-step instructions to adopt these measure for your safety, and the safety of your employees and your customers:

[Kari's Law and Ray BAUM'S Act](#)

[Advanced E911 Product Overview](#)

[AspenUC User Guide Advanced E911](#)

**[SIP Trunk User Guide Advanced E911](#)**

# Advanced E911 for SIP Trunking

LS Networks provides the ability for a PBX Administrator to update the address and dispatchable location of pre-subscribed DID's and the ability to setup and maintain emergency notifications when an emergency call is made.

## Background

The FCC has mandated that manufacturers, providers, operators, and customers of Multi-Line Telephone Systems (MLTS) meet the specific rules around how 911 calls are handled. MLTS include PBX's, Hosted Voice services, and Unified Communications products that are commonly used for communications services in buildings, like hotels, hospitals, and most office campuses. Information about the FCC's MLTS requirements can be found here: <https://www.fcc.gov/mlts-911-requirements>

## SIP Trunking E911 Dispatchable Location Updates

LS Networks SIP Trunking Administrators have the convenience of updating the dispatchable location of pre-subscribed DID's themselves using the AspenUC CommPortal. This is especially useful when moving locations within an office or campus environment.

### Background

Ray BAUM'S Act requires providers and customers of Multi-Line Telephone Systems (MLTS), such as PBX's, Hosted Voice, or Unified Communications products, to provide a unique and specific dispatchable location from which an emergency call was made.

The intent of a dispatchable location is to provide emergency responders with highly precise location information whenever feasible to locate the caller. (Office Reception or campus HQ is not good enough. The location must identify, for example, the room or the wing.) For some small businesses, the street address alone may be sufficient.

Dispatchable location includes the following:

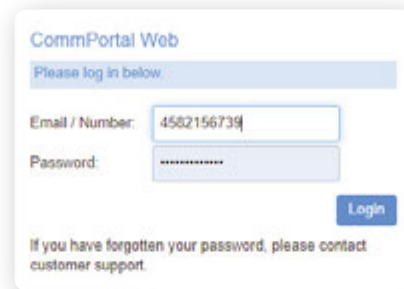
- A validated street address (e.g., against the Master Street Address Guide (MSAG) database or against a NG911 database)
- A valid callback number, preferably directly to the number that dialed the call
- Specific location
  - For multi-story buildings or a campus, a specific floor, suite, and room number when available
  - Open environments may include a wing or coordinates (northwest corner, etc.) or other information that would help identify a specific location (desk or cubical number)

### Functionality

A SIP Trunking DID's dispatchable location can be configured via the AspenUC CommPortal Business Group Administrator web portal. The Trunking Administrator logs in, selects the trunking destination that the DID is assigned to, and then selects the individual DID that requires updating. Using the "Set Emergency Location" feature for the DID opens a new web browser tab that allows the administrator to update the DID's E911 address. This information is used to route emergency calls from that DID to the correct Public Safety Answering Point (PSAP) and to provide the PSAP with the caller's dispatchable location.

## Dispatchable Location Setup: CommPortal Provisioning

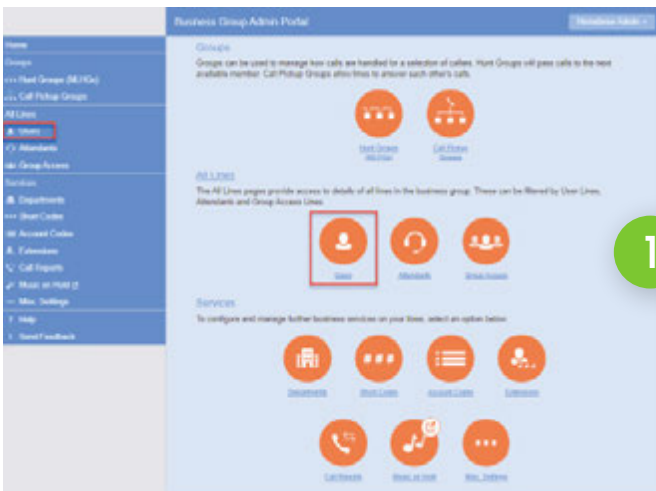
To get started, login to CommPortal as the PBX administrator (<https://commportal.aspenuc.com/bg/>) and follow these steps:



This opens the Business Group Admin Portal Homepage

### Step 1: Access User Management

- From the Business Group Admin Portal Homepage
  - Select the Users icon in the middle of the page or the Users link under All Lines on the menu at the left side of the page



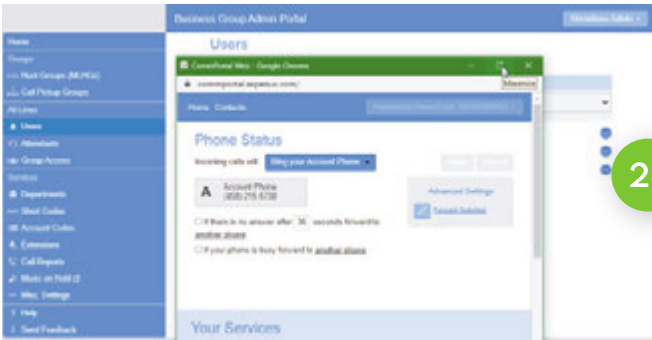
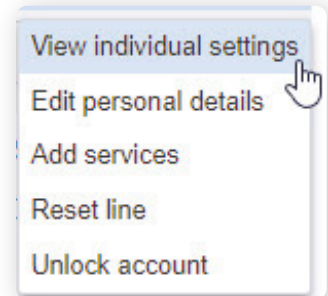
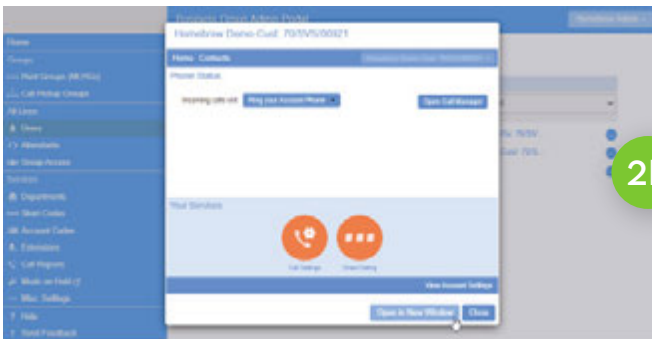
### Step 2: Open the Trunking Destination - User/PBX Defined

- Trunking destinations can have two types of emergency caller IDs
  - User/PBX Defined - Emergency Caller ID is sent by the PBX and must be one of the DID's assigned to the Trunking destination
    - All DID's will be loaded into the E911 Database
    - This solution is appropriate for any location that needs a unique dispatchable location such as a location with a multi-office or campus environment
    - The trunking destination Telephone Number will have a default dispatchable location in the event the PBX sends an Emergency Caller ID that is not assigned to the PBX
  - Fixed - Emergency Caller ID is overridden by LS Networks configuration with a single default dispatchable location that will be loaded into the E911 Database
    - This solution is appropriate for any location that has a single unique dispatchable location such as a single office environment
    - DID's assigned to this trunking destination will all send the same Emergency Caller ID to the PSAP
- Select the Trunking Destination that allows User/PBX Defined Emergency Caller ID by clicking on the three dots icon (2a)



## Step 2: Continued

- Select View individual settings from the menu that appears



- The Trunking Destination settings are shown
  - This pop-up can not be resized
- Select Open in New Window (2b)
- The homepage for the Trunking Destination appears
- Maximize the window (2c)



## Step 3: Open the Address Updater

- Update the default dispatchable location
  - This is the default dispatchable location for the default Emergency Caller ID that will be sent to the PSAP in the event the PBX sends an Emergency caller ID that is not assigned to the Trunking Destination
- From the Trunking Destination Homepage
  - Under Personal Details select the Set Emergency Location link (3a)
- A new Tab will open
- The current address for this location is displayed
  - Address Line 2 contains the Suite of the line, but should be more specific (3b)



## Step 4: Update the Address and Dispatchable Location for the Line

The following address is your current address:  
Please review the following address information and change it if it is not correct.

Items marked with \* are required.

Your name: \*

Address line 1: \*

Address line 2: \*

City: \*

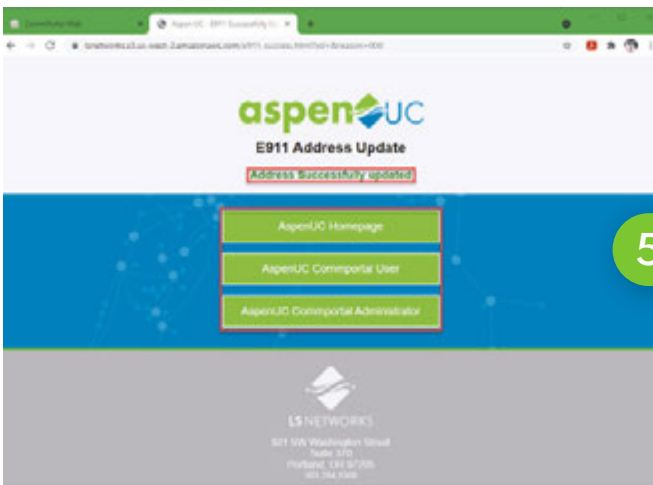
State: \*

Zip code: \*

Address updates may take a few moments. Please only click the Update button once.

4

- Address line 2 should contain a specific dispatchable location
  - For multi-story buildings or a campus, a specific floor, suite, and room number when available
  - Open environments may include a wing or coordinates (northwest corner, etc.) or other information that would help identify a specific location (desk or cubical number)
- Select the Update Address button



5

## Step 5: Default Dispatchable Location update is complete

- Close the Tab or click on one of the links in the center of the page to be redirected to a LS Networks resource page



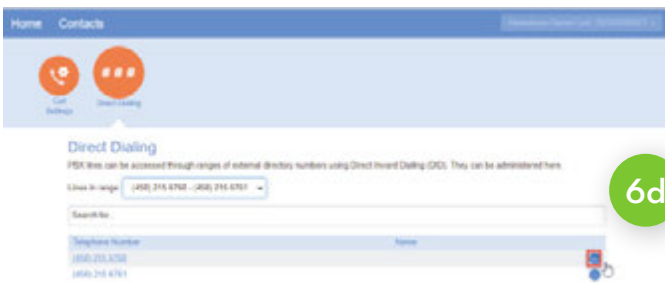
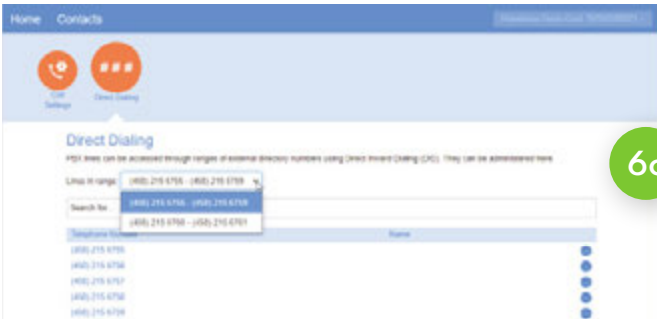
6a

## Step 6: Update individual DID's

- From the Trunking Destination homepage select the direct dialing icon (6a)

## Step 6: Continued

- A selected range of DID Numbers appears (6b)
- If the number to be updated does not appear, select the appropriate DID range (6c)
- Select the DID to update (6d)
- A pop-up window appears for the DID
- Select View Account Settings



- This brings up the Personal Details for the DID
- Select Set Emergency Location



- A new Tab will open
- The current address for this location is displayed
  - Address Line 2 contains an office, but should be more specific (6e)





## Step 7: Update the Address and Dispatchable Location for the DID

The following address is your current address:  
Please review the following address information and change it if it is not correct.

Items marked with \* are required.

Your name:\* LS Networks  
Address line 1:\* 925 SW Washington St  
Address line 2: Suite 37b - voice Lab  
City:\* Portland  
State:\* Oregon  
Zip code:\* 97265

Update Address Cancel Update

Address updates may take a few moments. Please only click the Update button once.

- Address line 2 should contain a specific dispatchable location
  - For multi-story buildings or a campus, a specific floor, suite, and room number when available
  - Open environments may include a wing or coordinates (northwest corner, etc.) or other information that would help identify a specific location (desk or cubical number)
- Select the Update Address button



## Step 8: DID Dispatchable Location update is complete

- Close the Tab or click on one of the links in the center of the page to be redirected to a LS Networks resource page



## Step 9: Return to the Trunking Destination DID page

- Close the Pop-up



## Step 10: Update Remaining DIDs as needed

- Repeat steps 6-9 until all DID's have been updated

## SIP Trunking Emergency Notification Services

LS Networks has the capability of providing emergency notification services on SIP Trunking notifying key customer contacts when an emergency call is made.

### Background

Kairi's Law requires providers and customers of Multi-Line Telephone Systems (MLTS), such as PBX's, Hosted Voice, or Unified Communications products, to do the following:

- Emergency calls from a MLTS can be completed by direct dialing 911
- When a 911 call is made, a notification must be provided to appropriate on-site or off-site personnel. The intention of this notification is to allow the notified personnel to provide assistance to the emergency services when they arrive on site.

The contents of the notification must include, at minimum

- The fact that a 911 call has been made
- A valid callback number
- The information about the caller's location

### Functionality

Emergency call notification automatically notifies a customer's designated contacts in the event an emergency call is made. This notification can be to email addresses, telephone numbers, or both. The notification can be configured by LS Networks or by a customer's PBX administrator. Emergency call notification is recommended to be set up on each SIP trunking destination. Emergency call notification is currently only available on SIP Trunks and AspenUC fixed desk lines and is not designed to be used with the Desktop App or the Mobile App. Emergency notification can be set up on an entire SIP Trunk or on individual trunking destinations/locations. If notification is set up on a trunking destination/location basis, all trunking destinations must be configured as part of a department.

### Email Notification

Users on the email list will receive an email that is sent with high importance that lists the caller, the Department, the number dialed, and the time of the call. Please note that the caller information is the actual Trunk Destination TN and Name that is loaded in the Metaswitch and not necessarily the emergency number that is transmitted to the PSAP.

- Email notifications require a descriptive name and an email address
  - Notifications can be sent to multiple email address
  - If multiple email addresses are used, they must be unique

### Outdial (Phone) Notifications

Users on the outdial notification list will receive a phone call that shows the Caller ID of the number that dialed 911, or 933 if the service is being tested. Please note that the caller ID number may be different than the emergency number transmitted to the PSAP, or the actual station number. When answered the user will hear an automated announcement that states "This is an Emergency call notification. An Emergency call has been dialed by NPANXXXXXX, the number dialed was 911/933" (depending on if this was a live call or a test call). The number that is announced (NPANXXXXXX) is the actual station number as it was sent. The Announcement then provides an option to acknowledge the message, or to listen to it again. Not selecting anything will cause the announcement to repeat. Hanging up will cause a second outdial notification. An outdial notification must be acknowledged by someone on the outdial notification list by pressing a 1, or the notification service will continue to call the numbers on the outdial notification list every 30 to 60 seconds until someone confirms the message has been received. There are two different ways that calling name will appear. The first is for numbers that are not on-net AspenUC numbers, for these calls the caller name is based what is loaded into the CNAM database. The second calling name option happens when the outdial number is an AspenUC station. The calling name is then listed as Emergency Call Notification however, depending on the device displaying the calling name, this information may be truncated.

- Outdial notifications require a descriptive name and a phone number
  - This does not have to be a LS Networks phone number
  - Outdial Notifications can be sent to multiple contacts



## Setup: CommPortal Provisioning

To get started, login to CommPortal as the PBX administrator (<https://commportal.aspenuc.com/bg/>) and follow these steps:

### Step 1: Navigate to Call Notifications

- Go to the Misc. Settings to setup Call Notifications.

### Step 2: Add Notifications

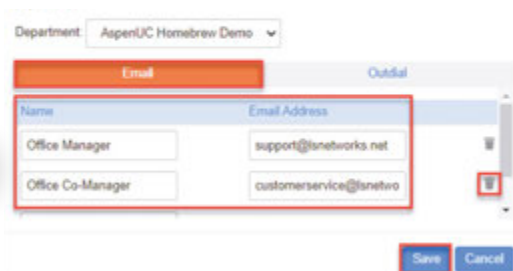
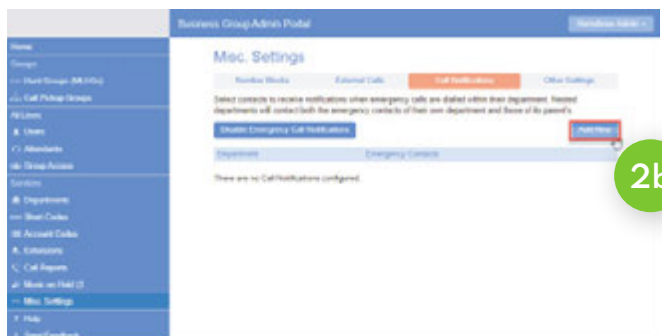
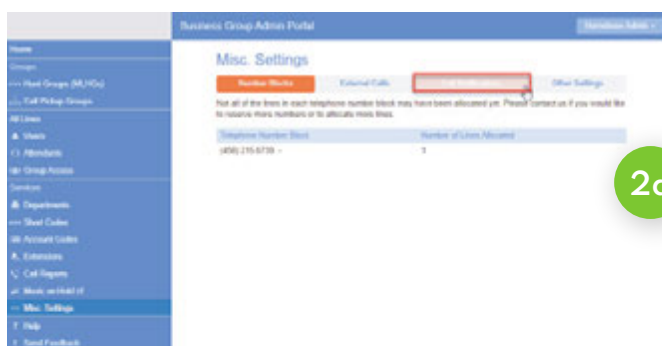
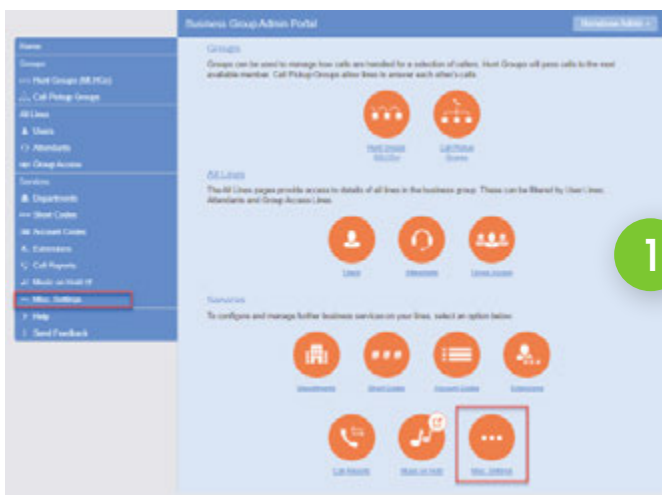
- Go to the Call Notifications Tab,
- Select the Add New button (2a)
- Select the Add New button (2b)

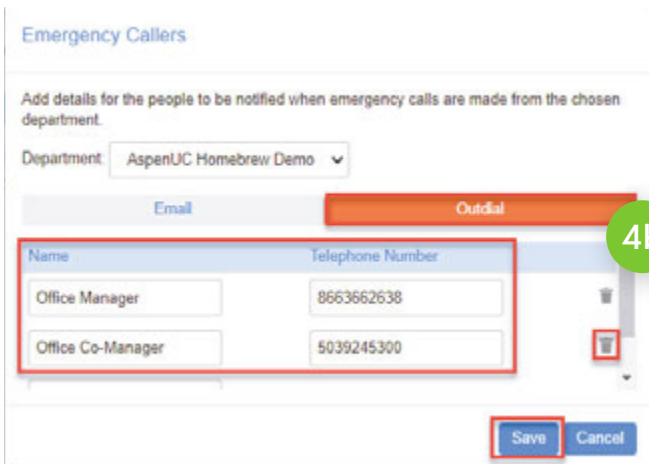
### Step 3: Select Notification Level

- Select the level of granularity for call notifications
  - This can be at a Business Group (SIP Trunk) level or Department (Trunking Destination) Level, as needed

### Step 4: Notification Setup

- (4a) For Email notifications enter a descriptive name and an email address in the appropriate fields
  - When using a single email address, it is recommended that a distribution list to send it to multiple contacts is used instead of a single contact. This ensures continuity in the event that one of the contacts is unavailable.
  - Notifications can be sent to multiple email addresses
  - If multiple email addresses are used, they must be unique
  - If only email notifications are required hit save after entering the email
  - If Outdial notifications are also required select the Outdial tab
- If only Outdial notifications are required select the Outdial tab and do not enter email information
- Be sure to select Save when all notification settings are complete





## Step 4: Continued

- (4b) For Outdial notifications enter a descriptive name and a phone number in the appropriate fields
  - The Outdial number must be a number that will live answer the call and cannot be a Auto-Attendant or a Voice Mail Box
  - When using Outdial Notification it is critical to use the correct destination telephone number, the Outdial call must be answered and acknowledged, as the system will continue to make Outdial calls until the call is acknowledged
  - This does not have to be a LS Networks phone number
  - Outdial Notifications can be sent to multiple contacts
  - If only outdial notifications are required hit save after entering the phone number
  - If email notifications are also required and have not been configured select the email tab
- If only email notifications are required select the Email tab and do not enter outdial information
- Be sure to select Save when all notification settings are complete
- Repeat steps 2 – 4 until all notification contacts have been configured for the business group and departments as needed

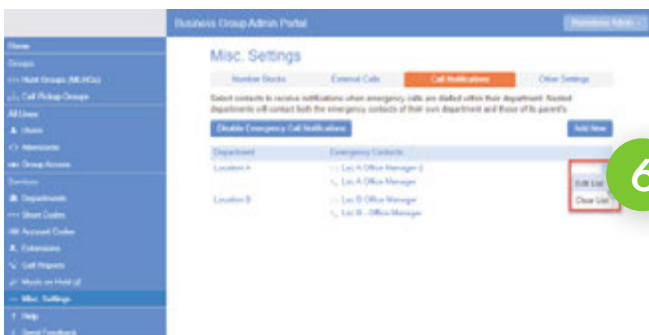


## Step 5: Review Notification Configuration

- Review the call notification settings
- The example configuration has three different notifications
  - Entire SIP trunk – any time an emergency call is made from any location these contacts are notified
  - Location A – when an emergency call is made from this location these contacts are notified (in addition to the contacts for the entire SIP trunk)
  - Location B – when an emergency call is made from this location these contacts are notified (in addition to the contacts for the entire SIP trunk)
- If the configuration needs to be modified go to step 6

## Step 6: Edit Notification Configuration as Needed

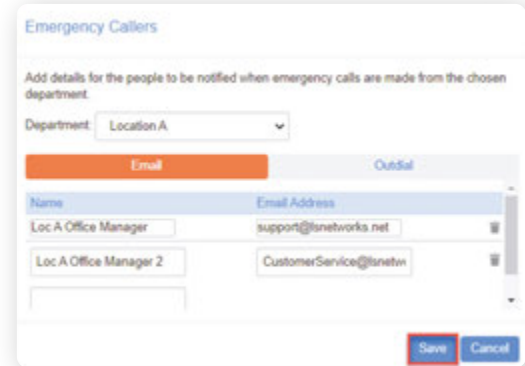
- Click on the department name or the circle with three dots to edit the department contacts
  - In the summary view the business group is also listed as a department
- Select Edit List
  - Selecting Clear list will remove all entries for this department





## Step 6: Continued

- The contact edit window allows the addition of new contacts and the removal of existing contacts
- Make any changes or additions needed to email and outdial
- Save any changes



- Repeat Step 6 until all changes have been completed

## Step 7: Review Changes

- Review the call notification settings
- Validate the Notification configuration using the Notification Testing section

## Notification Testing

Once the emergency notification settings have been setup and verified, the service should be tested to verify that the Notification service is working correctly to the requested contacts. Users can dial 933 from any LS Networks voice service to verify their E911 configuration

## Caveats

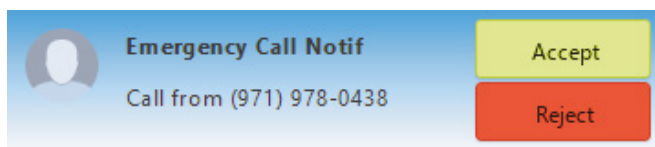
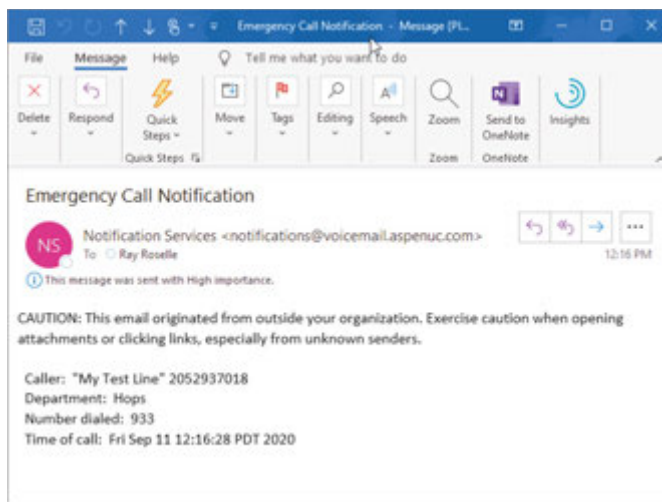
- E911 is currently not supported on the AspenUC and Mobil Apps.

## Step 1: Make a Test Call

- Dial 933 from a line on the PBX to be tested

## Step 2: Verify Configured Notification Method is Invoked

- The email or outdial contacts should receive a notice that a call was made
- See the email and outdial sections below for examples of the notification and details about the notification



## Email Notifications

Users on the email list will receive an email that is sent with high importance that lists the caller, the Department, the number dialed, and the time of the call. Please note that the caller information is the actual TN and Name that is loaded in the Metaswitch and not necessarily the emergency number that is transmitted to the PSAP.

## Outdial Notifications

Users on the outdial notification list will receive a phone call that shows the Caller ID of the number that dialed 911, or 933 if the service is being tested. Please note that the caller ID number may be different than the emergency number transmitted to the PSAP, or the actual station number. When answered the user will hear an automated announcement that states “This is an Emergency call notification. An Emergency call has been dialed by NPANXXXXXX, the number dialed was 911/933” (depending on if this was a live call or a test call). The number that is announced (NPANXXXXXX) is the actual station number as it is built in the PBX. The Announcement then provides an option to acknowledge the message, or to listen to it again. Not selecting anything will cause the announcement to repeat. Hanging up will cause a second outdial notification. An outdial notification must be acknowledged by someone on the outdial notification list by pressing a 1, or the notification service will continue to call the numbers on the outdial notification list every 30 to 60 seconds until someone confirms the message has been received.

There are two different ways that calling name will appear. The first is for numbers that are not on-net AspenUC numbers, for these calls the caller name is based what is loaded into the CNAM database. The second calling name option happens when the outdial number is an AspenUC station. The calling name is then listed as Emergency Call Notification however, depending on the device displaying the calling name, this information may be truncated. Left is an example of the Calling name and the Caller ID of an outdial call on the AspenUC desktop App.



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