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E911 Anywhere® for Microsoft Teams Solution Overview

Version 1.3

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Introduction

About Us

RedSky Technologies is the leading provider of on-premise and cloud-based E911 solutions. In 1999, we developed and patented the first automated software application to manage 911 location data. As technology has evolved, we have kept pace with emerging voice technology to meet the requirements of modern enterprises. Our E911 enterprise-class software is used by 50 of the Fortune 500 companies. Using state-of-the-art software development languages and frameworks, our solutions are designed to run in the most secure enterprise, government, and virtual environments.

RedSky Technologies was recently acquired by Everbridge, however, RedSky remains a wholly owned subsidiary of Everbridge, still doing business as RedSky Technologies, Inc., An Everbridge Company. Everbridge is a public company (NASDAQ: EVBG) that is incorporated in the United States (U.S.) and headquartered in Boston, MA. Everbridge has a long history of supporting enterprise customers and offers an industry-leading mix of Critical Event Management and Enhanced 9-1-1 capabilities.

Scope

This guide is intended to provide an overview of E911Anywhere for Microsoft Teams with Direct Routing. E911 Anywhere is a cloud-based network service that routes emergency calls in the USA and Canada, sends detailed location information of the caller to emergency dispatchers at the PSAPs, and notifies on-site personnel of the 911 calls in progress.

Point of Contact

To submit recommendations for comments and changes to this manual please contact us at:

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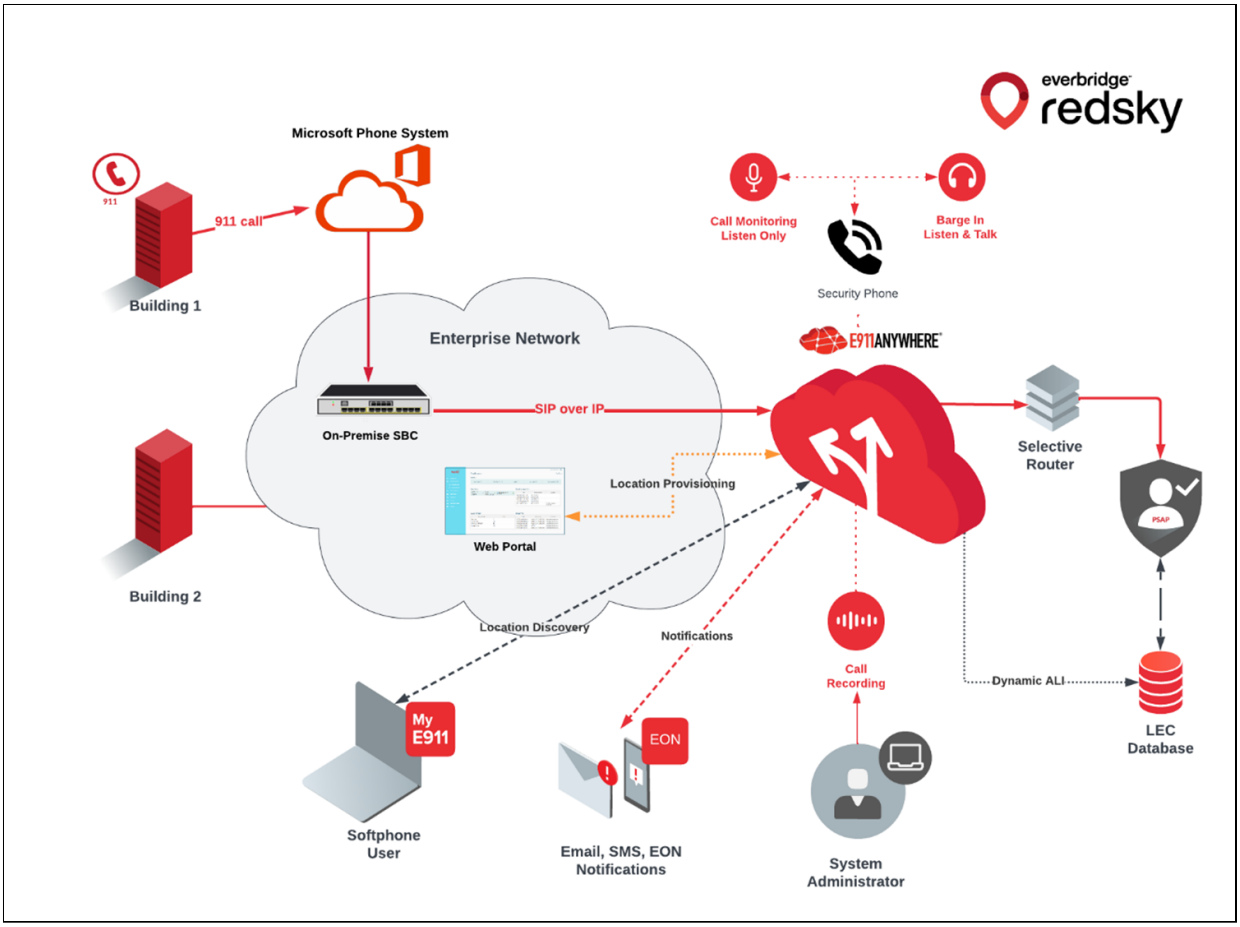
Solution Overview

E911 Anywhere supports Dynamic E911 for Microsoft Teams with Direct Routing. RedSky has a dynamic E911 solution that can route emergency calls based on the location data embedded in the **Presence Information Data Format – Location Object (PIDF-LO)** sent with a Microsoft Teams emergency call.

The **Microsoft LIS (Location Information Server)** allows customers to map their dispatchable locations to network elements such as Subnets, Wi-Fi access Points, Switches, and Ports. As users move about the enterprise connecting to these different network elements, their new emergency location is updated automatically. When a user makes an emergency call from their Teams client or Teams phone, the PIDF-LO data for the user is embedded in the **Session Initiation Protocol (SIP)** invite and sent to E911Anywhere®. E911Anywhere reads the emergency location and routes the call to the appropriate **Public Safety Answering Point (PSAP)**. Notifications of the emergency call can be delivered via SMS text, e-mail, or screen pop alerts with **Enhanced Notifications**. Call Monitoring, call recording, and call bridging are also available to security personnel as part of the Enhanced Notifications.

Refer to Microsoft Team's Plan and Configure Dynamic Emergency Calling page for more details.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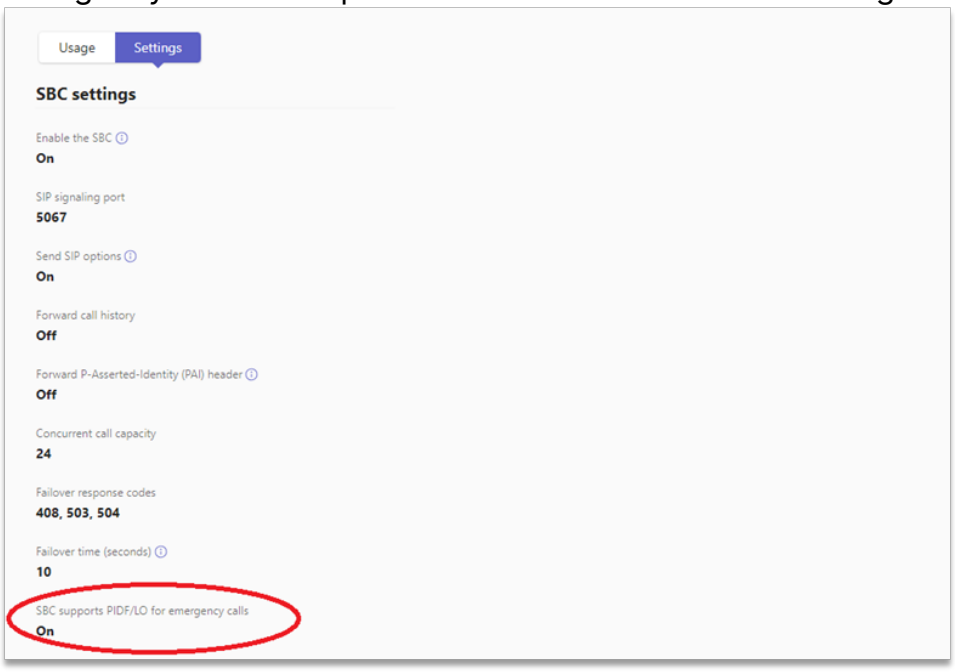
Microsoft Phone System
911
911 call
Building 1
Building 2
Enterprise Network
On-Premise SBC
SIP over IP
Web Portal
Location Provisioning
Location Discovery
Notifications
Call Monitoring
Listen Only
Barge In
Listen & Talk
Security Phone
E911ANYWHERE
Selective Router
PSAP
Dynamic ALI
LEC Database
Call Recording
My E911
Softphone User
EON
Email, SMS, EON Notifications
System Administrator

Supported Session Border Controllers (SBCs)

Direct Routing lets you connect a **Session Border Controller** (SBC) to Microsoft Phone System to enable voice calling features, such as dynamic emergency calling. The SBC can direct the emergency call to E911 Anywhere with PIDF-LO data from the LIS. E911 Anywhere can then interpret this data and route the emergency call to the nearest PSAP.

Refer to learn.microsoft.com for more information.

Note that the SBC must be able to pass PIDF-LO data from the Microsoft LIS via a SIP connection to E911Anywhere. When configuring the SBC in Teams, it is important to enable PIDF-LO support for the SBC. The location details for the emergency call will be passed in the PIDF-LO. See the image below.



Connect your Session Border Controller (SBC) to Direct Routing

The SBC will need to be configured to send 911 and 933 calls to E911 Anywhere®. The route to E911 Anywhere will be a direct SIP trunk from the customer SBC over the Internet. These calls will not route through the normal voice provider.

RedSky provides geo-diverse SIP destinations for redundancy, and 933 testing is also supported to help validate the configuration. Calls to 933 will reach an IVR that will read back the caller's location and phone number. See the RedSky SIP Call Connectivity worksheet for specific details about the SIP trunk configuration. See here for more details.

SIP INVITE with PIDF-LO enabled:

```
<?xml version="1.0" encoding="UTF-8"?><presence xmlns="urn:ietf:params:xml:ns:pidf" xmlns:xsd="
http://www.w3.org/2001/XMLSchema" xmlns:xsi=" http://www.w3.org/2001/XMLSchema-instance"
entity="sip:rolsen@redskytechlab.com">
<tuple id="tuple0">
<status>
<geopriv xmlns="urn:ietf:params:xml:ns:pidf:geopriv10">
<location-info>
<Point xmlns=" http://www.opengis.net/gml" srsName="urn:ogc:def:crs:EPSG::4326">
<pos>41.8008 -85.5375</pos>
</Point>
<civicAddress xmlns="urn:ietf:params:xml:ns:pidf:geopriv10:civicAddr">
<country>US</country>
<A1>IL</A1>
<A2>Cook County</A2>
<A3>Chicago</A3>
<PRD/>
<RD>N Michigan Ave</RD>
<STS/>
<POD/>
<HNO>333</HNO>
<HNS/>
<LOC>Suite 1600</LOC>
<NAM/>
<PC>60601</PC>
<ELIN/>
</civicAddress>
</location-info>
<usage-rules>
<retransmission-allowed xmlns="urn:ietf:params:xml:ns:pidf:geopriv10:basicPolicy">true</retransmission-
allowed>
</usage-rules>
<method>LIS</method>
</geopriv>
</status>
</tuple>
</presence>
```

The Emergency Location of the caller is embedded in the XML tags. The method tag of LIS indicates the location was obtained from the Teams LIS. The available method tags include:

- LIS
- Assist
- CLS
- Manual
- Registered

As long as the PIDF-LO information is valid, RedSky will route all calls (aside from the **Manual** tag) to the appropriate PSAP.

The Manual tag will first route to a triage center where an operator will verbally confirm the caller's location before transferring the call to the appropriate PSAP. RedSky also offers a configuration option to override the default behavior for the Manual Method tag and send those calls directly to the PSAP.

The phone number contained in the PAI (or the From) in the SIP INVITE will be used to call back the user in the event they get disconnected from the PSAP.

See here for more details on emergency address classification and routing.

Network Settings and Topology

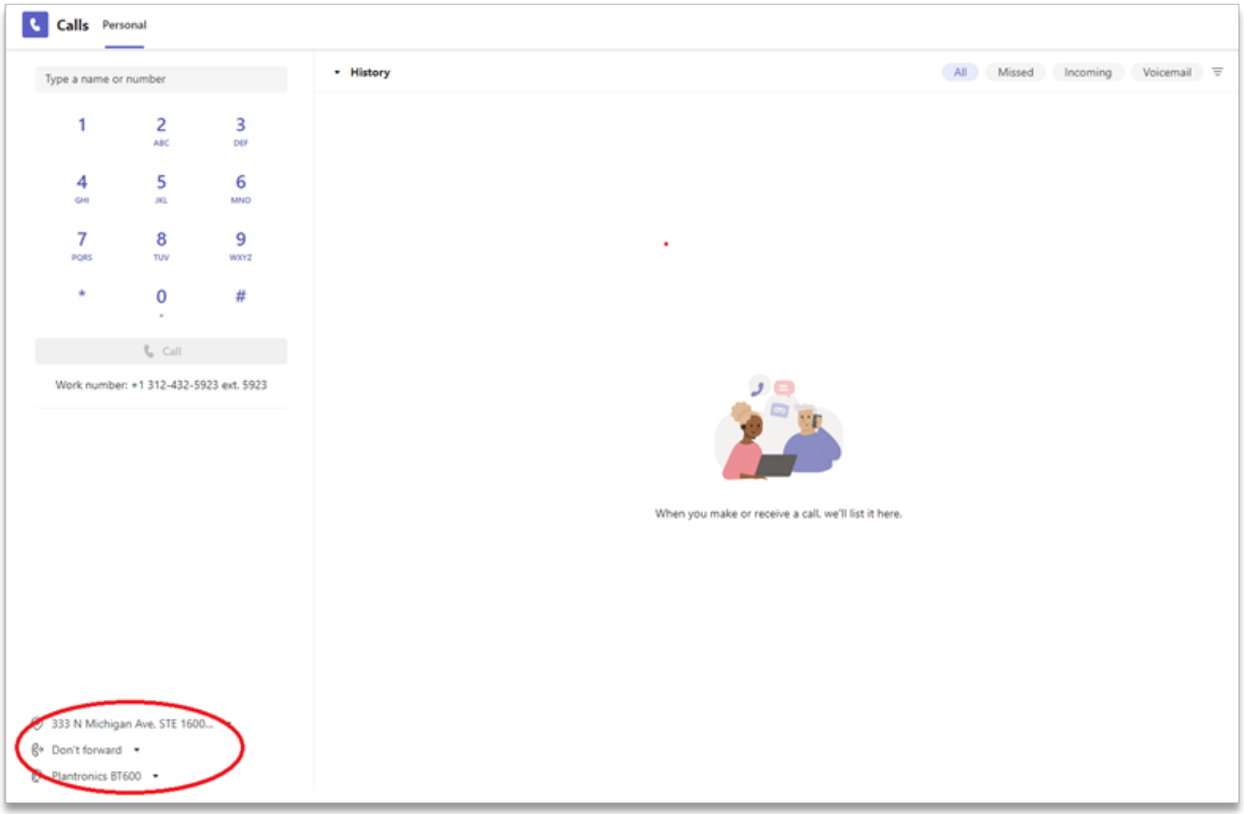
Emergency Locations and **Network Discovery mappings** are all configured in the LIS. The LIS can be configured either through the **Teams Admin portal** or through **Power Shell**. When a Teams client registers it will pass its network connectivity information up to the LIS, the LIS will then attempt to locate the device and send an emergency location back to the device.

Refer to learn.microsoft.com for more information.

The Teams LIS supports the following Network Discovery Methods:

- Ports
- Switches
- Wireless access points
- Subnets

See here for more details on configuring network settings for Location-Based Routing. A Teams user can verify their Emergency Location directly within the Teams user interface.



Remote Workers

The nomadic or remote worker can provision their emergency location using two different methods. The primary method is to provision the emergency location within the Teams user interface. MyE911 can be provided as an alternative option.

Microsoft Teams User Interface

The primary method is to provision the emergency location within the MS Teams user interface:

1. In the left navigation of the Microsoft Teams admin center, go to **Voice** > **Emergency Policies**.
2. Select **Add**.
3. Enter a name for the emergency calling policy, for example, "E911WFH".
4. Turn on **External location lookup mode**.
5. Select **Apply**.

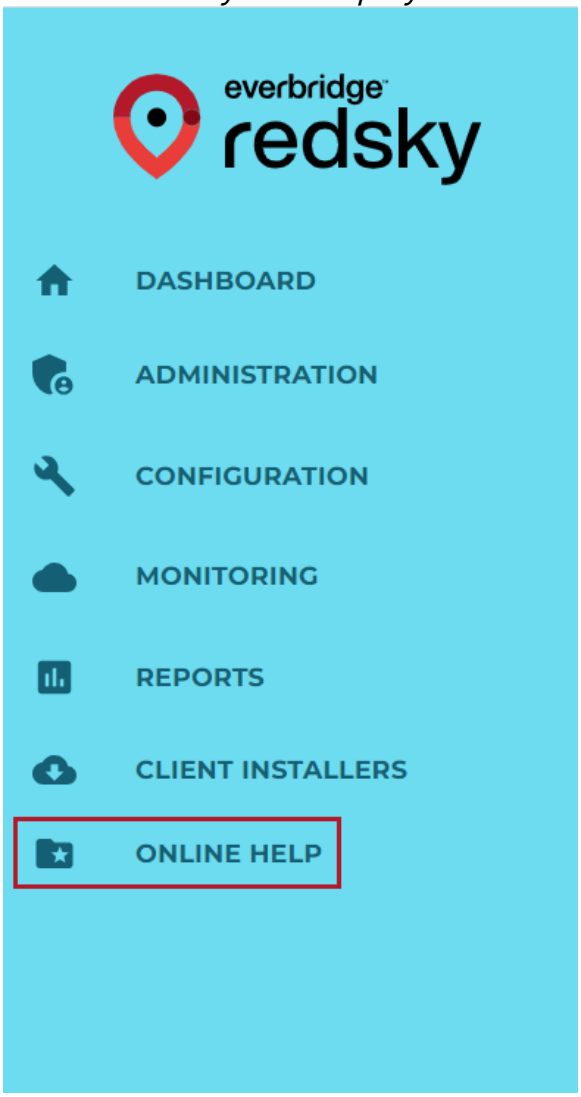
See here for more on enabling end users to configure their emergency addresses.

RedSky MyE911

MyE911 is an application for softphone users that automatically detects when a user moves outside the enterprise to validate and update locations in realtime. MyE911 works with any softphone running on Windows or MAC devices. MyE911 allows an end user to self-provision a remote emergency response location. MyE911 with E911 Anywhere will send Emergency Location Information directly to the Public Safety Answering Points with no manual intervention or interception of the 9-1-1 call.

When using MyE911, the location of the caller is determined by the calling party number. This replaces the PIDF-LO-based routing that is native to Teams. Each MyE911 user must have their own unique Direct Inward Dial (DID).

Refer to the *MyE911 Deployment Guide* in Online Help for additional information.



Alerting

E911 Anywhere can complement the native Teams notifications with a variety of different alert methods. Alert options include:

- Email
- SMS
- Emergency Onsite Notification (EON) screen pop alerting*
- Conference Bridging
- Everbridge 360™ Desktop & Mobile
- Integration with Everbridge Incident Communications

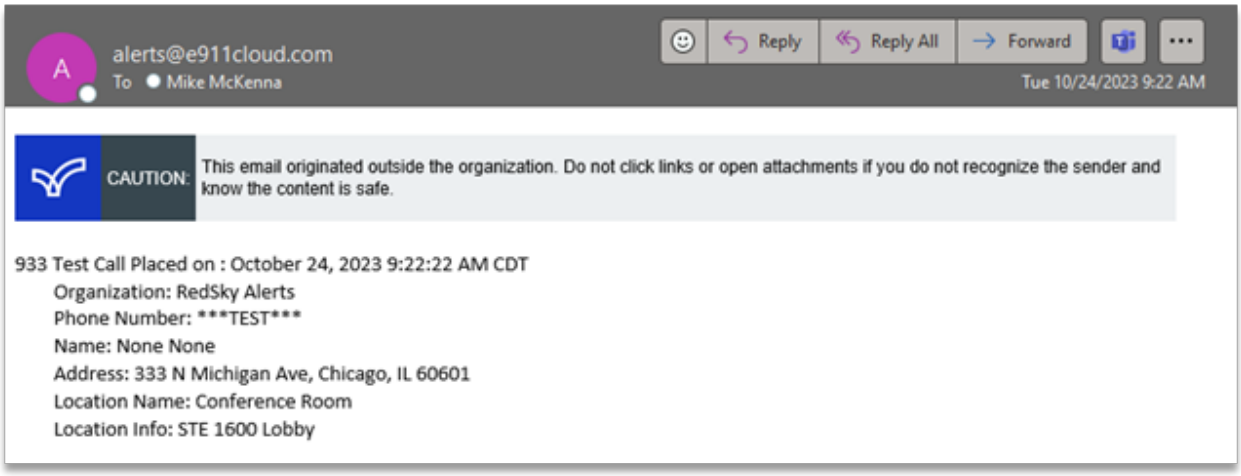
The Everbridge Incident Communications Integration can provide some beneficial alert filtering and delivery options for Team-based emergency calls. For additional information regarding the Incident Communications Integration, please refer to the E911 Cloud Solution and Incident Communications Interface Control Document.

> **NOTE:** An **Enhanced Notifications** license is required for EON, Conference Bridging, and call recording, as well as the Incident Communications Integration.

The various alert methods will contain the location information that was passed from the Teams client at the time of the emergency call. RedSky can provide customizable templates and numerous forms of emergency call alerts.

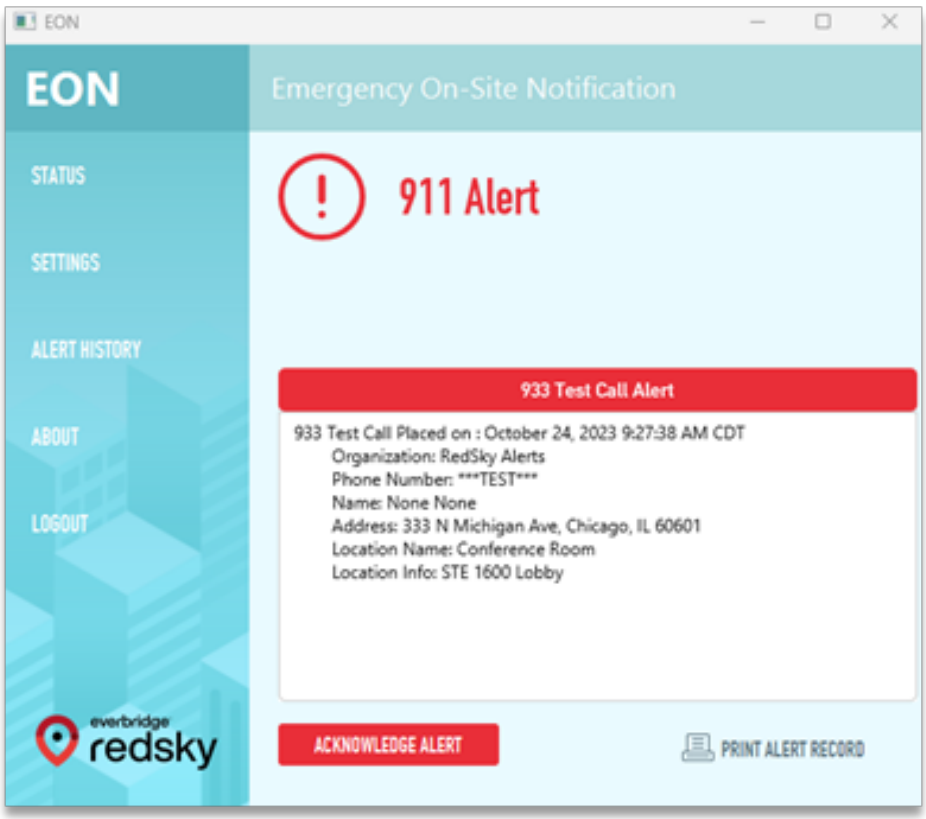
Email Alerts

RedSky will provide unlimited email alerts to necessary personnel.



Emergency Onsite Notifications Client (EON)

RedSky offers **Emergency Onsite Notifications** (EON), a premium client that provides real-time notifications to onsite security personnel of an emergency call in progress, including the detailed location record of the caller with a loud, audited alarm.



Everbridge 360™ Alerts

Everbridge 360™ provides additional features such as message templates, a full-screen takeover option, and automated Incident Response with the Everbridge Incident Communications integration. These notifications can be displayed to the Everbridge 360™ Desktop Client and Mobile Application.