everbridge redsky

RedSky-Cisco Emergency Responder (CER) Interface Control Guide

Version 2.0

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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

Overview

This Interface Control Document details the technical aspects of the integration between RedSky's E911 Anywhere® and Cisco Emergency Responder (CER) Servers. E911 Anywhere is a cloud-based network services that routes emergency calls in the USA and Canada, sends detailed location information of the caller to emergency dispatchers at the Public Safety Answering Points (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

The integration between Cisco Emergency Responder and E911 Anywhere can be broken down into two steps:

1. Synchronizing the data from CER.
2. Delivering the 911 call to E911Anywhere over Session Initiation Protocol (SIP) or Public Switched Telephone Network (PSTN) trunking.

The first step is to synchronize automatic location information (ALI) data configured in CER to E911 Anywhere, including Emergency Location Identification Numbers (ELINs), Civic Addresses, and Emergency Response Locations (ERLs).
Cisco CER requires a client-side certificate for mutual authentication with the E911 Anywhere integration. The RedSky server (anywhere.e911cloud.com) trusts the certificate authority (CA) installed internally at RedSky, and this CA is utilized to generate client-side certificates used for mutual authentication. Once the client certificate is uploaded to CER, the National E911 Service Provider Voice User Interface (VUI) feature is enabled and allows CER to push ALI records directly to E911 Anywhere.

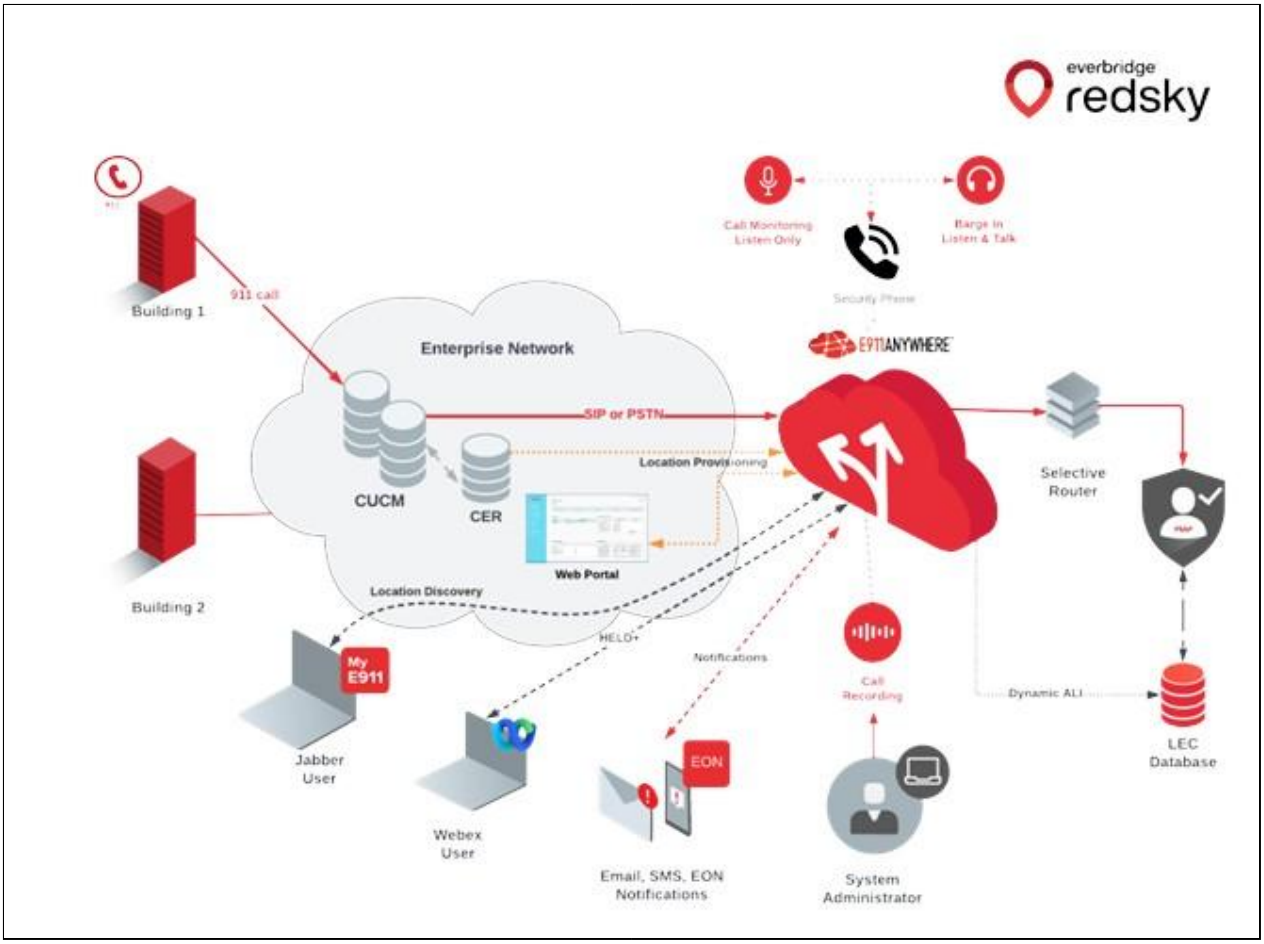
CER sends location information over port 443 (TCP), to a specific VUI URL, over a secure SSL connection. A company ID (provided by RedSky) is sent with the ALI update and is used to correlate the data with a specific tenant. The ALI records are then updated in E911 Anywhere for that organization.

If routing calls via SIP trunk, RedSky provides the customer with the public-facing IP addresses of redundant SIP gateways, and the customer provides RedSky with the public IP address the SIP traffic is coming from, the transport method (TCP/ UDP/TLS). RedSky uses this information to whitelist SIP traffic coming from the customer.

If routing calls via PSTN trunk, RedSky provides the customer with a 10-digit DID which emergency calls will be routed to. End users still dial 911, but Cisco Unified Communications Manager (CUCM) performs a called party transformation mask to dial out to the phone number that RedSky provides.

In either routing method, RedSky looks at the caller ID, attempts to find a matching ELIN within our database, and upon finding a match will route the call to the appropriate PSAP based on the civic address associated with the ELIN. The customer needs to ensure that when the 9-1-1 dial pattern is used, the call is routed to RedSky using one of the routing methods above.

Additionally, RedSky offers the capability to support softphone users with MyE911 or directly through the Webex client application interface and HTTP-enabled Location Delivery (HELD+). Notifications of the emergency call can be delivered via SMS text, email, 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.



Synchronizing ALI Data to E911 Anywhere

E911 Anywhere directly integrates with Cisco Emergency Responder. Protocols and ports used by E911 Anywhere must have IP connectivity to the Cisco Emergency Responder. If a firewall is between Cisco Emergency Responder and
E911 Anywhere, then ports must be opened to allow communication. Additionally, DNS must be configured on the CER server, and able to resolve https:// anywhere.e911cloud.com.

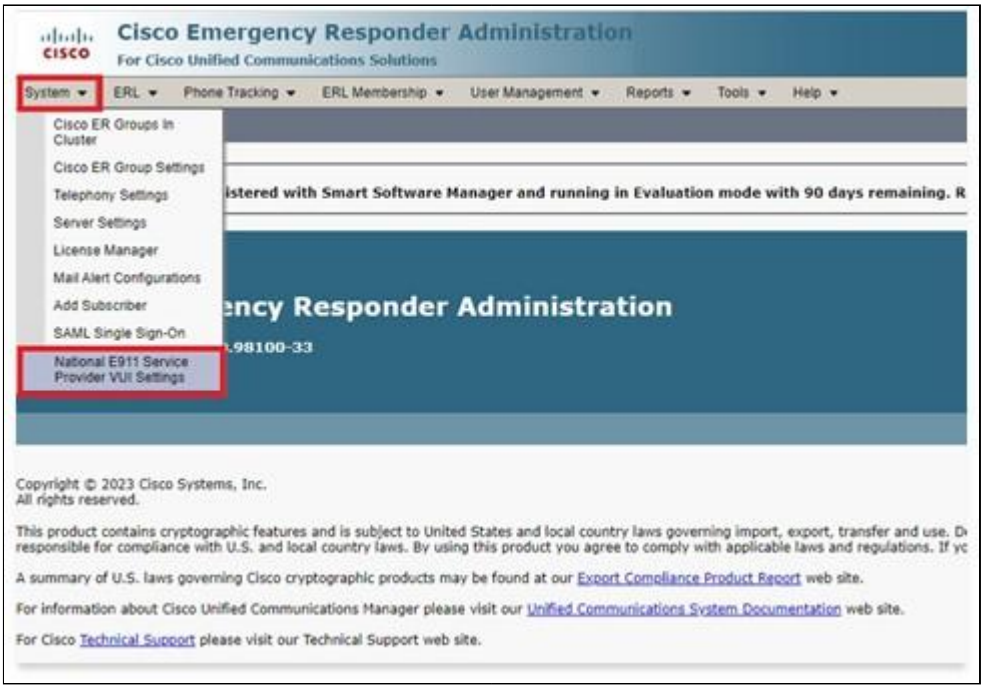
Port Requirements

SSL	TCP	443	Port opened on a firewall that is used for communication between CER & E911 Anywhere, which resides in the cloud.
SIP	TLS/TCP/UDP	5060-5061	SIP signaling for call routing to E911 Anywhere.

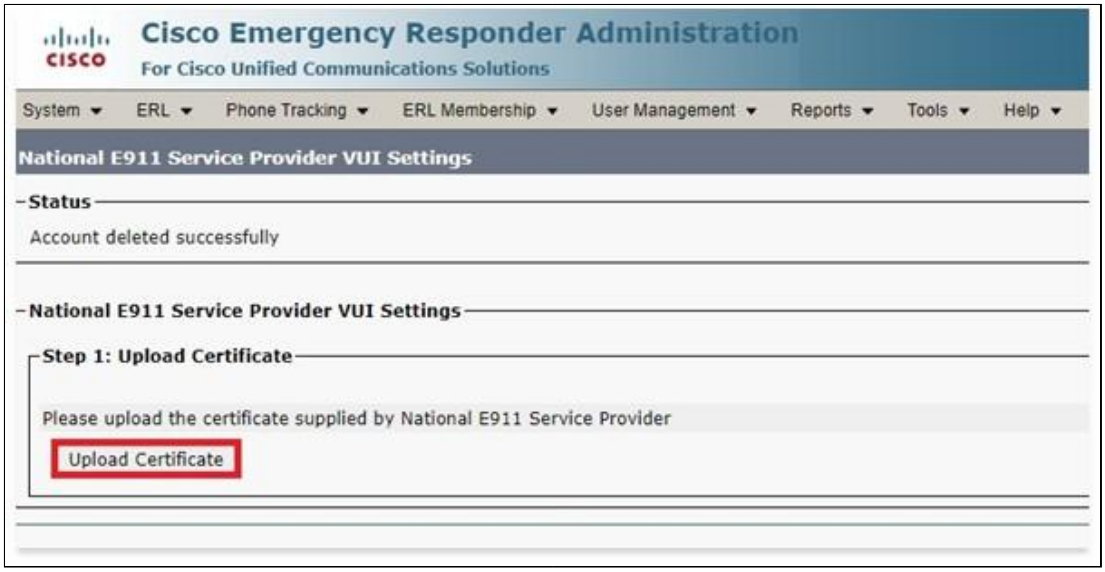
Configuring National E911 Service Provider VUI Settings

RedSky will provide the certificate to the customer to install on the Cisco Emergency Responder Server. In order to configure the National E911 Service Provider VUI, the customer must upload the RedSky National E911 Provider Certificate, test and validate the VUI, and connect their E911Anywhere account to receive ALI data.

1. After logging into CER, go to System > National E911 Service Provider VUI Settings.



2. Under Step 1: Upload Certificate, upload the redsky.bcfks file by clicking on the Upload Certificate button. This certificate file is provided by RedSky during implementation.
   - Note: Cisco transitioned to the .bcfks certificate type with CER v14.0.



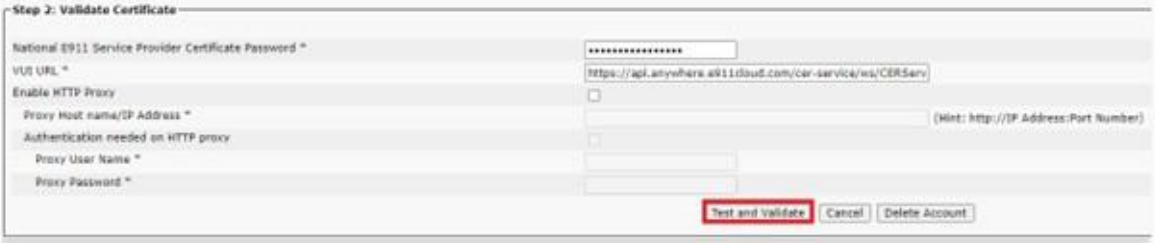
3. Select Choose File and upload the RedSky National E911 Provider VUI Certificate.

4. Once uploaded, you should receive a status message stating the certificate has been uploaded successfully.

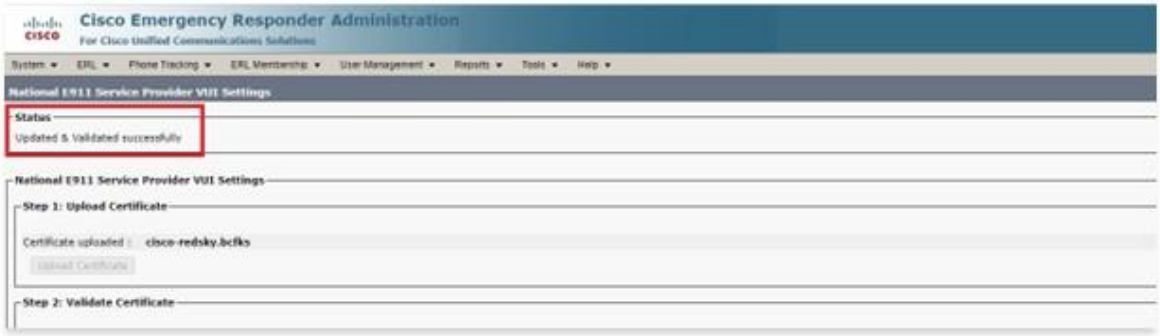
5. Under Step 2, enter the National E911 Provider Certificate Password. This should be part of the certificate file provided by RedSky.

6. Next, enter https://api.anywhere.e911cloud.com/cer-service/ws/CERService into the VUI URL field.
   - Note: the VUI URL will be different for Horizon Mobility deployments.

7. Click Test and Validate.

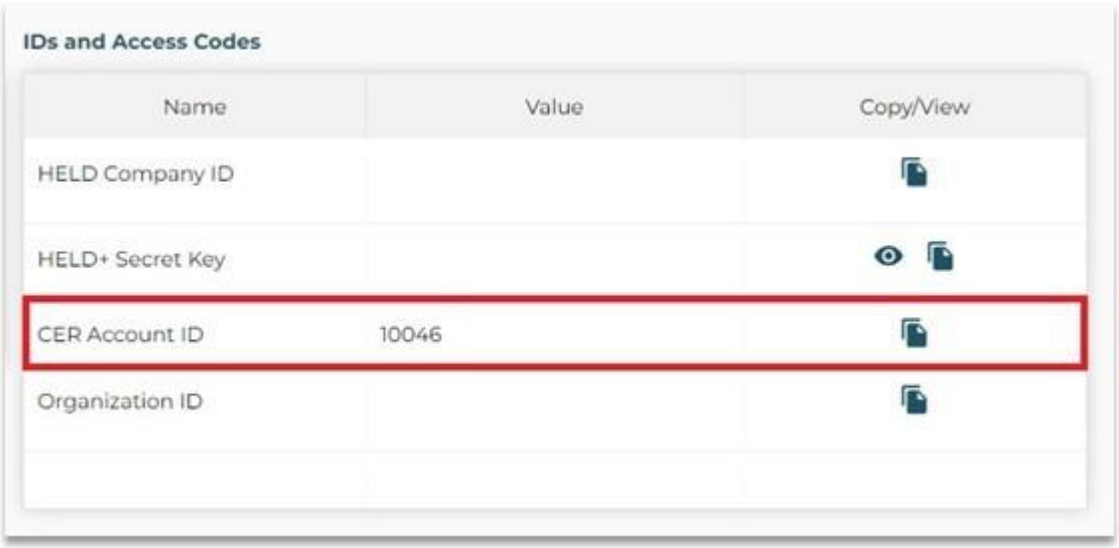


8. Once complete, you should receive a status message stating the certificate was updated and validated successfully.



9. Under Step 3: Configure Account Details, start by entering “VUI.xsd” to the VUI Schema URL field.

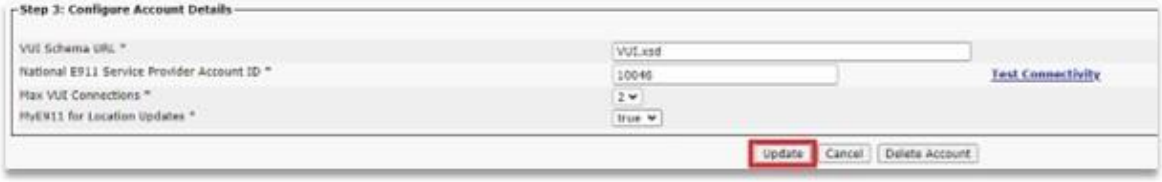
10. Next, you will need to obtain the CER Account ID from E911 Anywhere. Log into E911 Anywhere and copy the CER Account ID from the IDs and Access Codes section of the dashboard.



11. Enter the CER Account ID in the National E911 Service Provider Account ID Field.

12. If MyE911 will be used to allow remote users to update their location, set the MyE911 for Location Updates flag to true.

13. Click Update.



14. Upon receipt of the Update Successful status message, you can test connectivity to E911 Anywhere by clicking Test Connectivity.

The Test Results section should display the following:

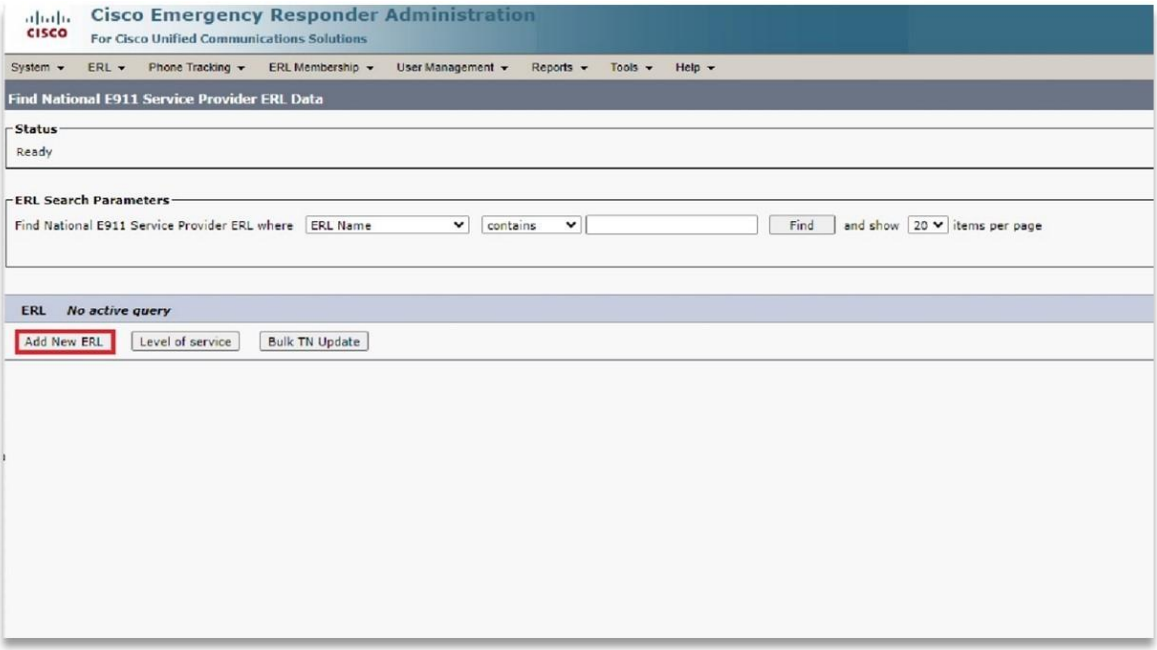
Add National E911 Service Provider ERL

To establish an ALI record in E911 Anywhere, you must start by adding a National E911 Service Provider Emergency Response Location (ERL) record. A National E911

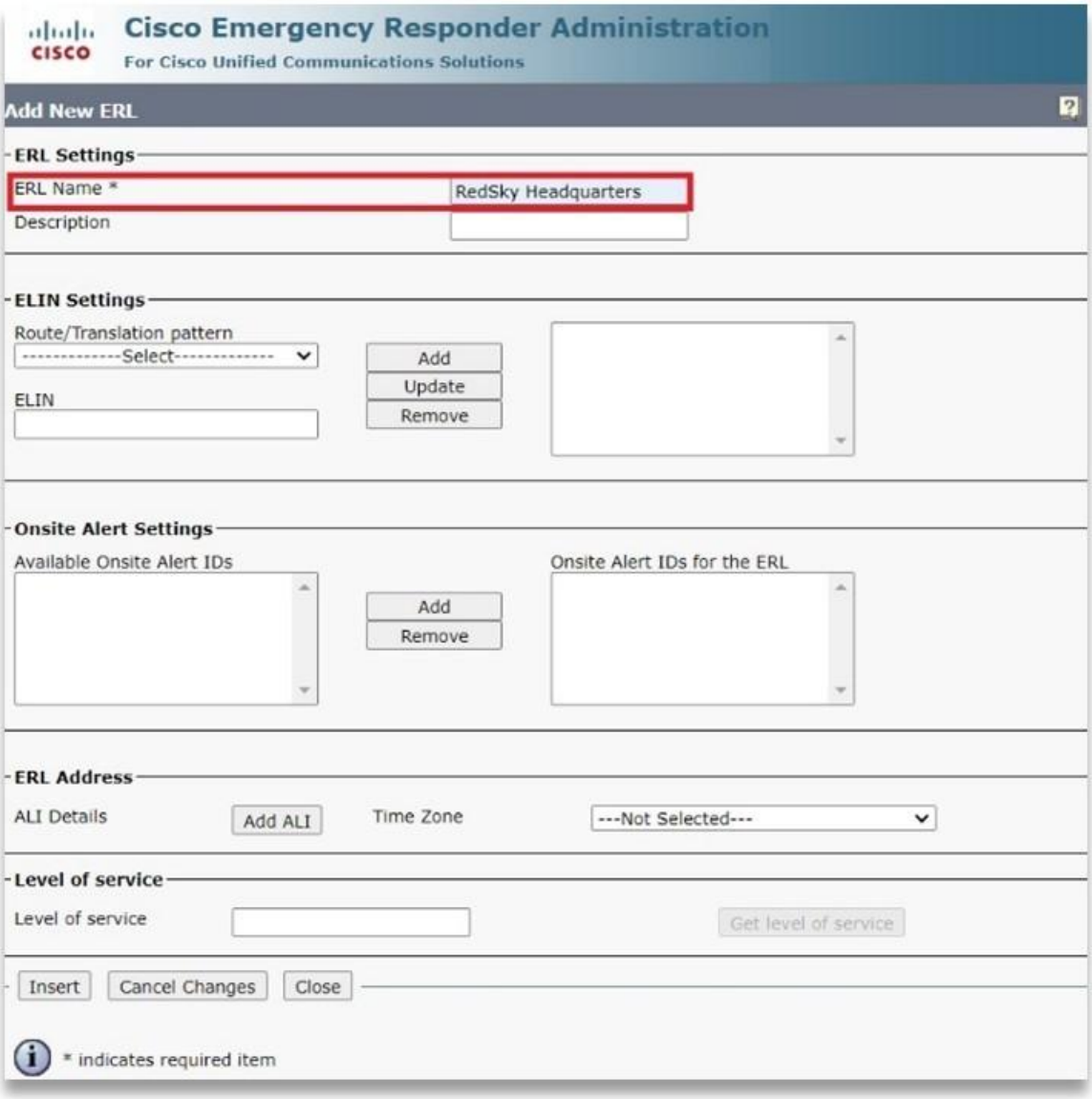
Service Provider ERL is simply an Emergency Location Identification Number (ELIN) assigned to an emergency location. These records can be populated to E911 Anywhere for dynamic updates to the ALI database.

1. Select Search and List from the ERL dropdown menu.

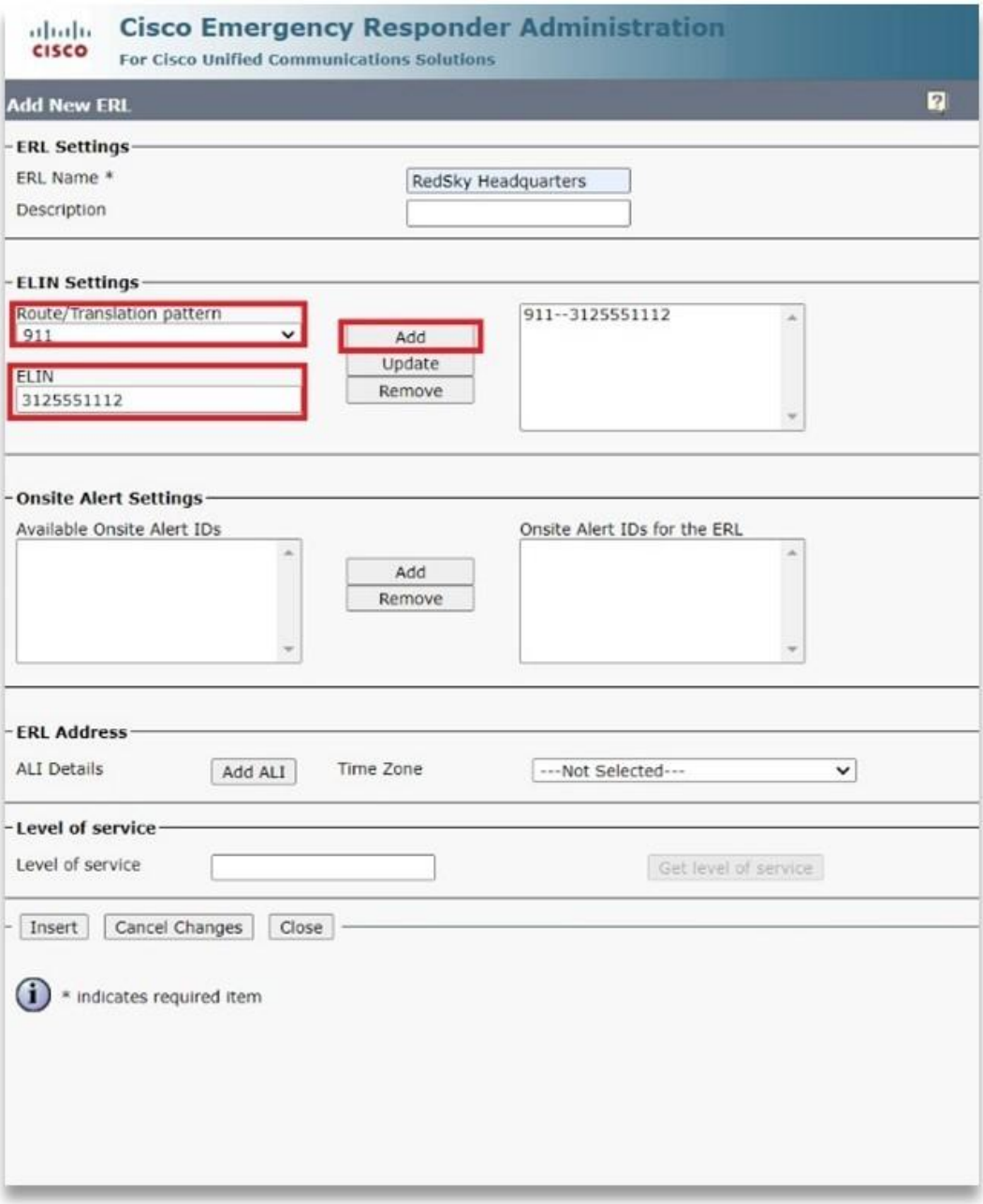
2. Select Add New ERL.



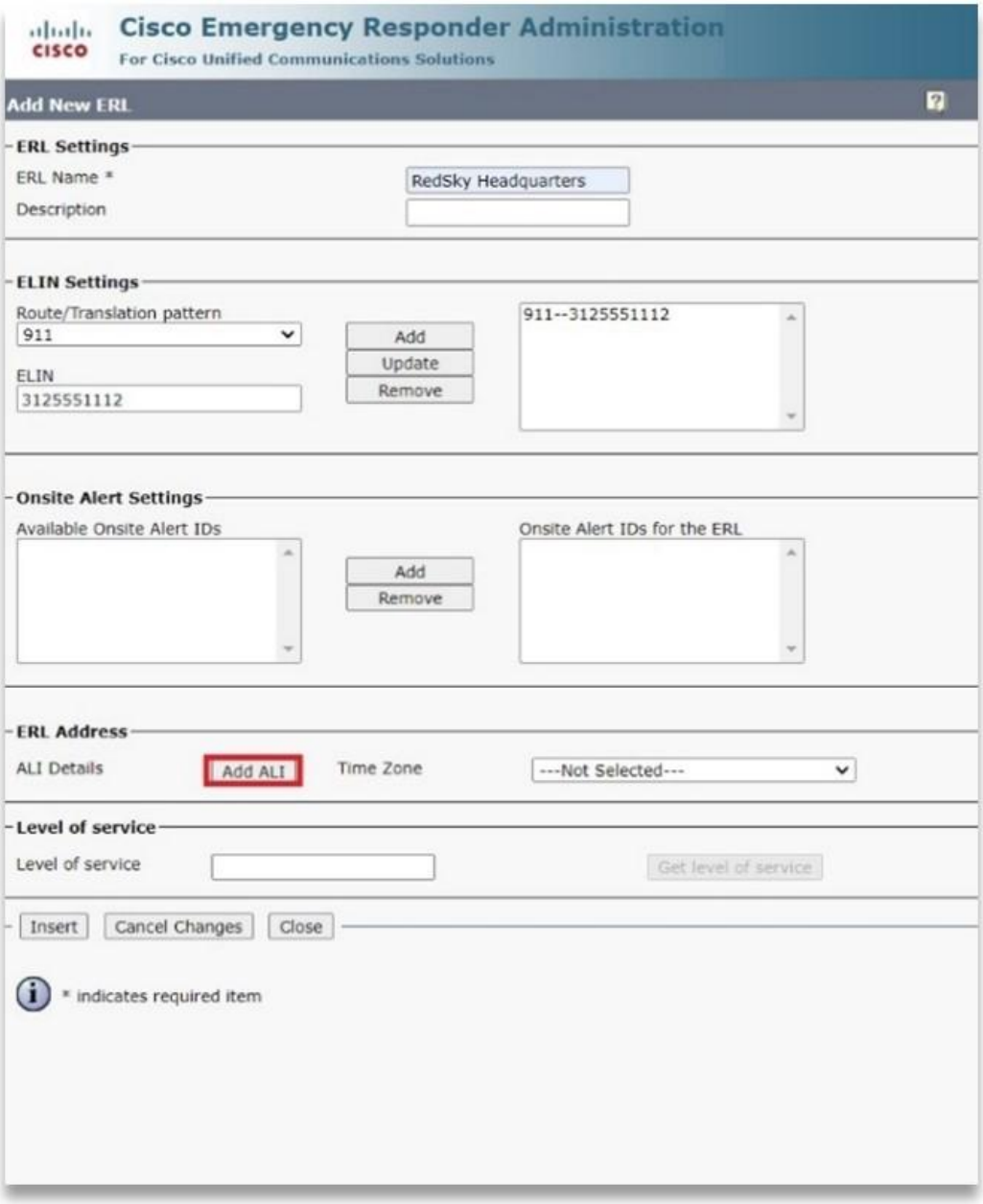
3. Enter an ERL Name.



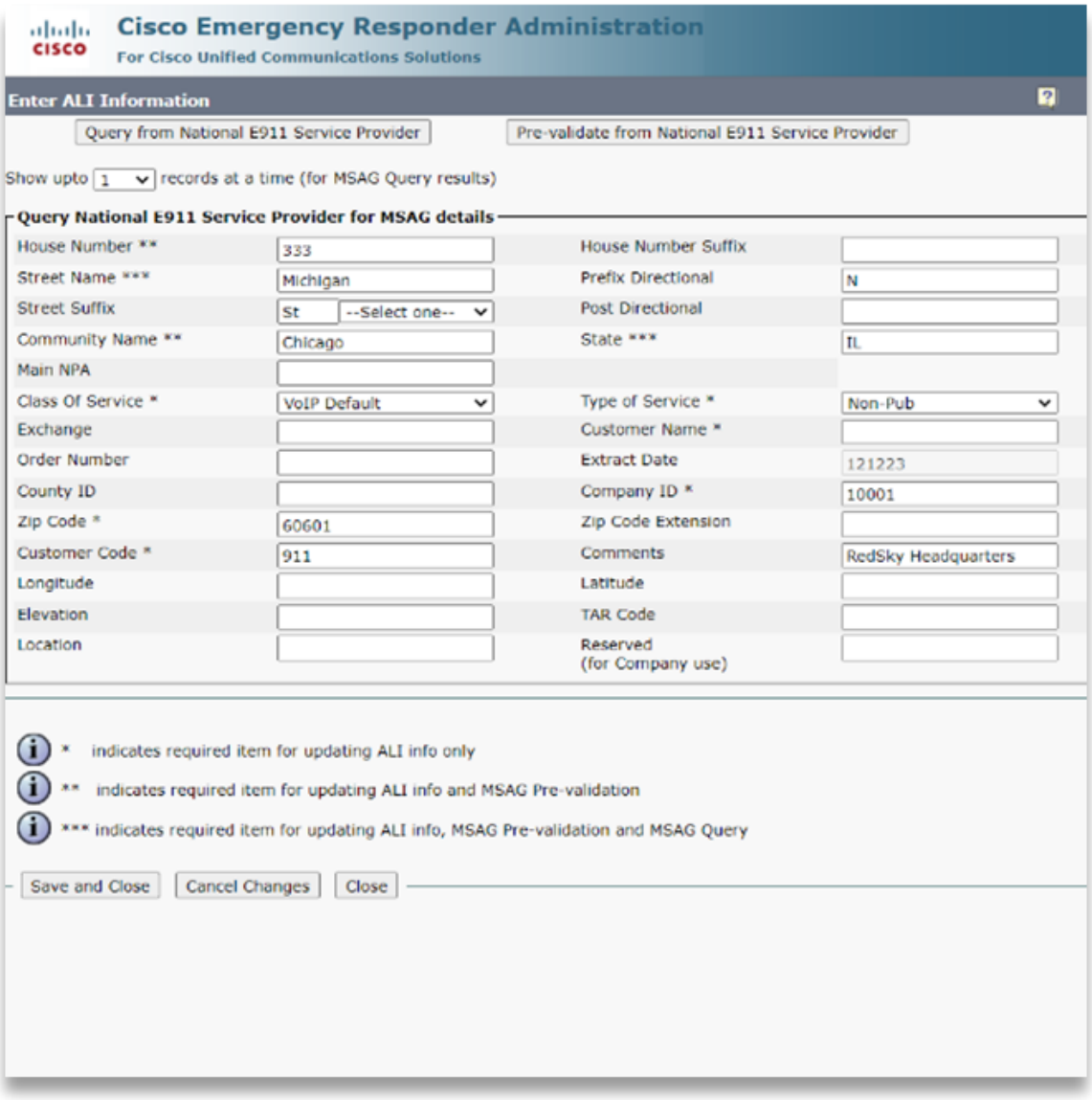
4. Select the Route/Translation pattern, enter the ELIN, and click Add.



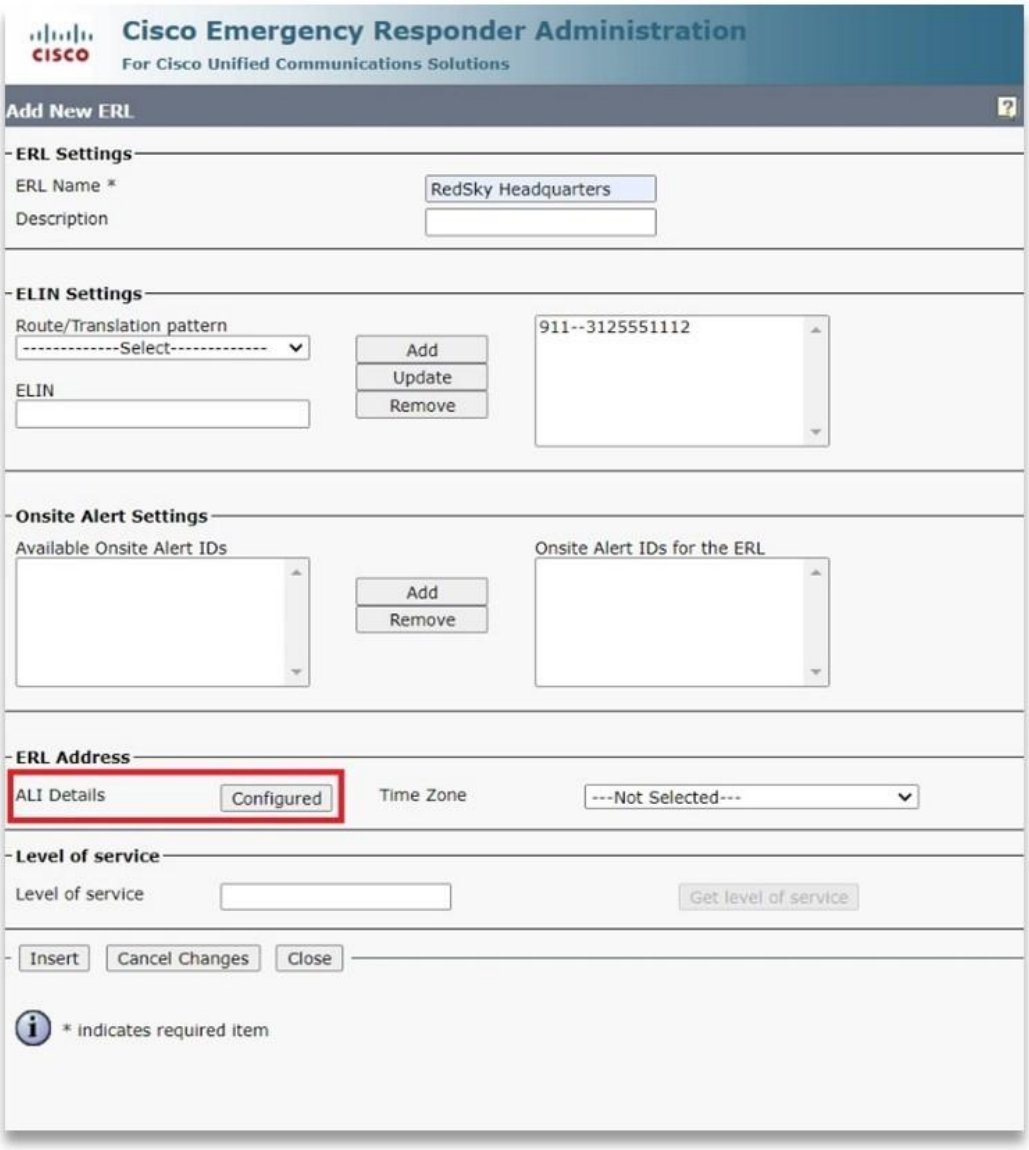
5. Next, fill out the ALI record. Click Add ALI.



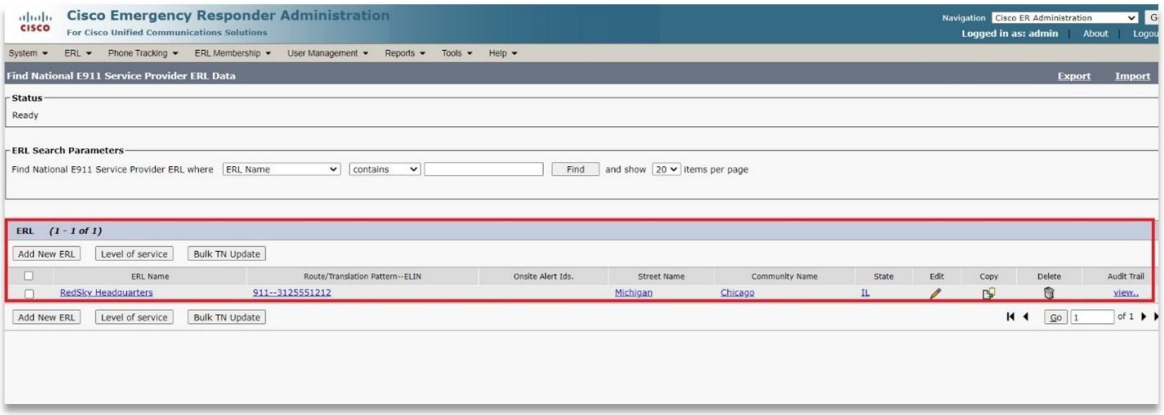
6. Fill out the ALI record with the appropriate information. By default, the Location Information will be used for the Location Name. The Comments field can be used to create a unique Location Name. For additional information,
refer to the CER ALI Field Mapping in the Appendix.



7. Save and Close the window. The ALI Details should reflect a Configured status.



8. Select Insert. You can view the configured ERL in the ERL Data page.

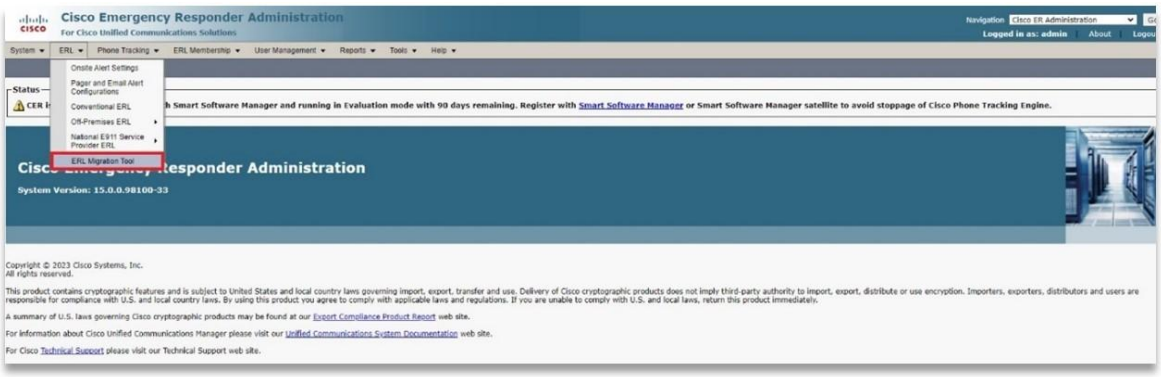


Migrating Conventional ERLs

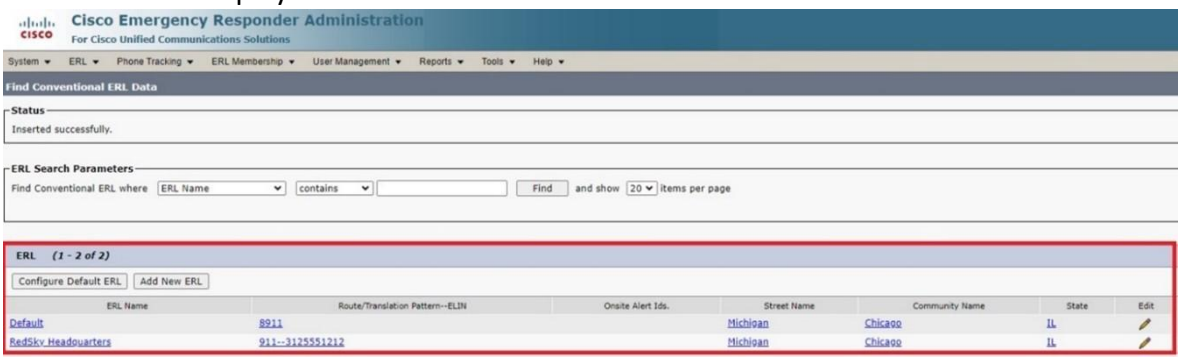
In order for ERLs record to be pushed into E911 Anywhere, Conventional ERLs must first be migrated into National E911 Service Provider ERLs. The ERL Migration Tool can be used to perform a bulk migration of Conventional ERLs to National E911 Service Provider ERLs.

Bulk pushing of National E911 Service Provider ERLs can also be scheduled by going to the ERL > National E911 Service Provider ERL > National E911 Service Provider ERLs tab.

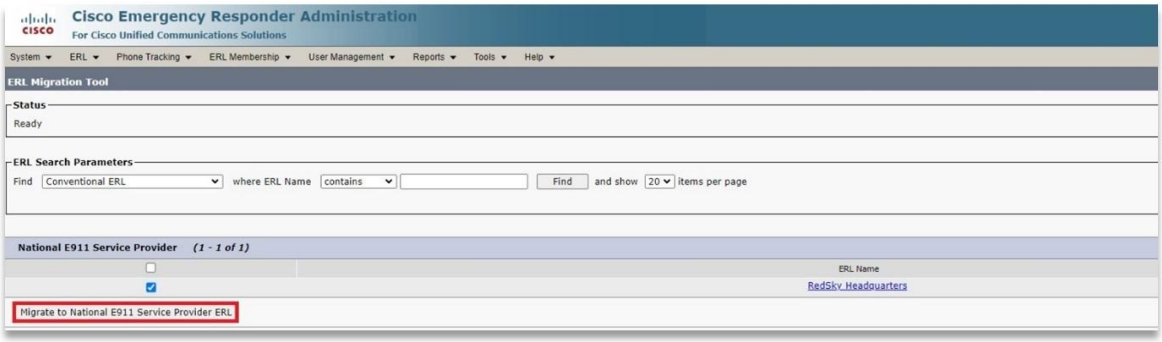
1. The details of the pushed National E911 Service Provider ERLs can be tracked in CER by going to Reports > ERL Audit Trail. The information will provide the details as to whether the ERL pushed successfully or failed and the reason. Select ERL Migration Tool from the ERL dropdown menu.



2. In the ERL Search Parameters field, select Conventional ERL from the dropdown list and click Find. This displays all conventional ERLs within CER.

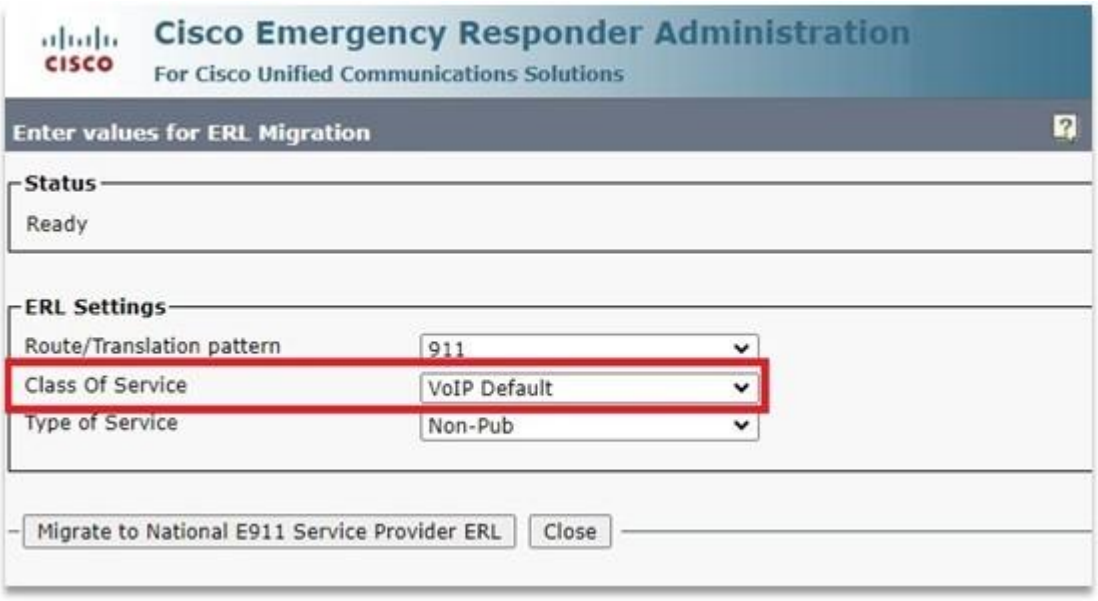


3. Once the Conventional ERLs are displayed, click the checkbox next to each ERL to be migrated to National E911 Service Provider ERL. Click Migrate to National E911 Service Provider ERL.

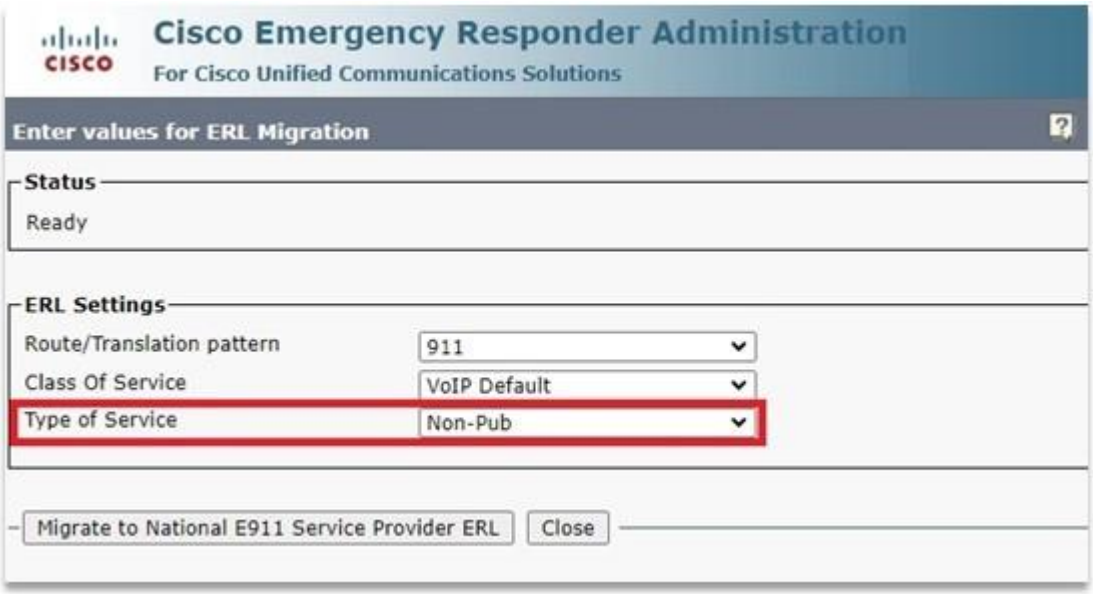


4. The Route/Translation pattern is the pattern configured in CUCM to route emergency calls to E911Anywhere. Route/Translation patterns must be configured separately under System > Telephony Settings from the main menu. Select 911 in the Route/Translation pattern dropdown.

5. The Class of Service defines the class of service for the CPN such as residential, business, VoIP. VoIP Default should be selected.



6. The Type of Service defines the type of service for the Calling Party Number (CPN), such as FX in 911 area or Non-Pub. Select Non-Pub from the dropdown.



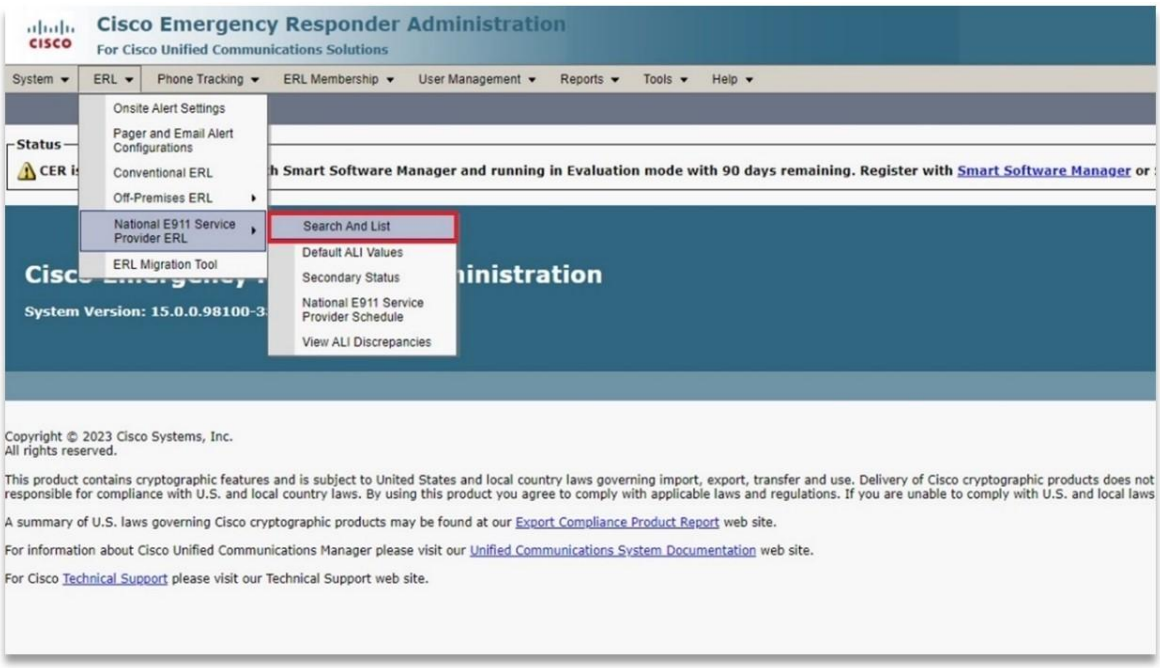
7. Click on Migrate to National E911 Service Provider ERL and close the window. You should receive a Migrated ERLs successfully status message.


Cisco Emergency Responder Administration
For Cisco Unified Communications Solutions
Enter values for ERL Migration
Status
Ready
ERL Settings
Route/Translation pattern
911
Class Of Service
VoIP Default
Type of Service
Non-Pub
Migrate to National E911 Service Provider ERL
Close

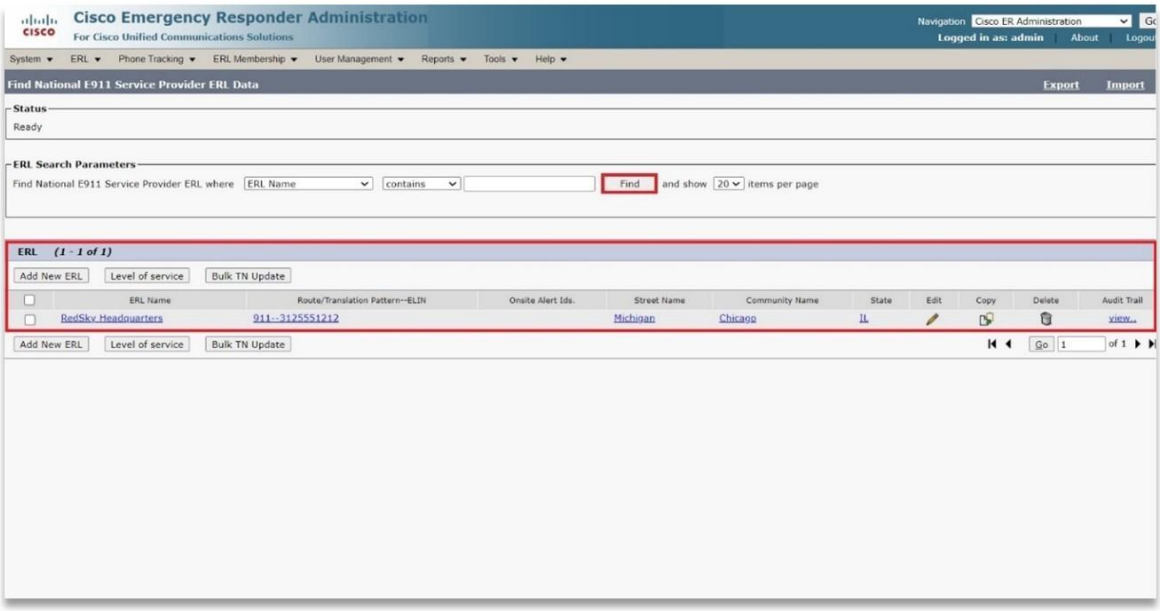
Pushing ERL Records into E911 Anywhere

Once you have successfully migrated your Conventional ERLs to National E911 Service Provider ERLs, you may start pushing the ERL records in to E911Anywhere.

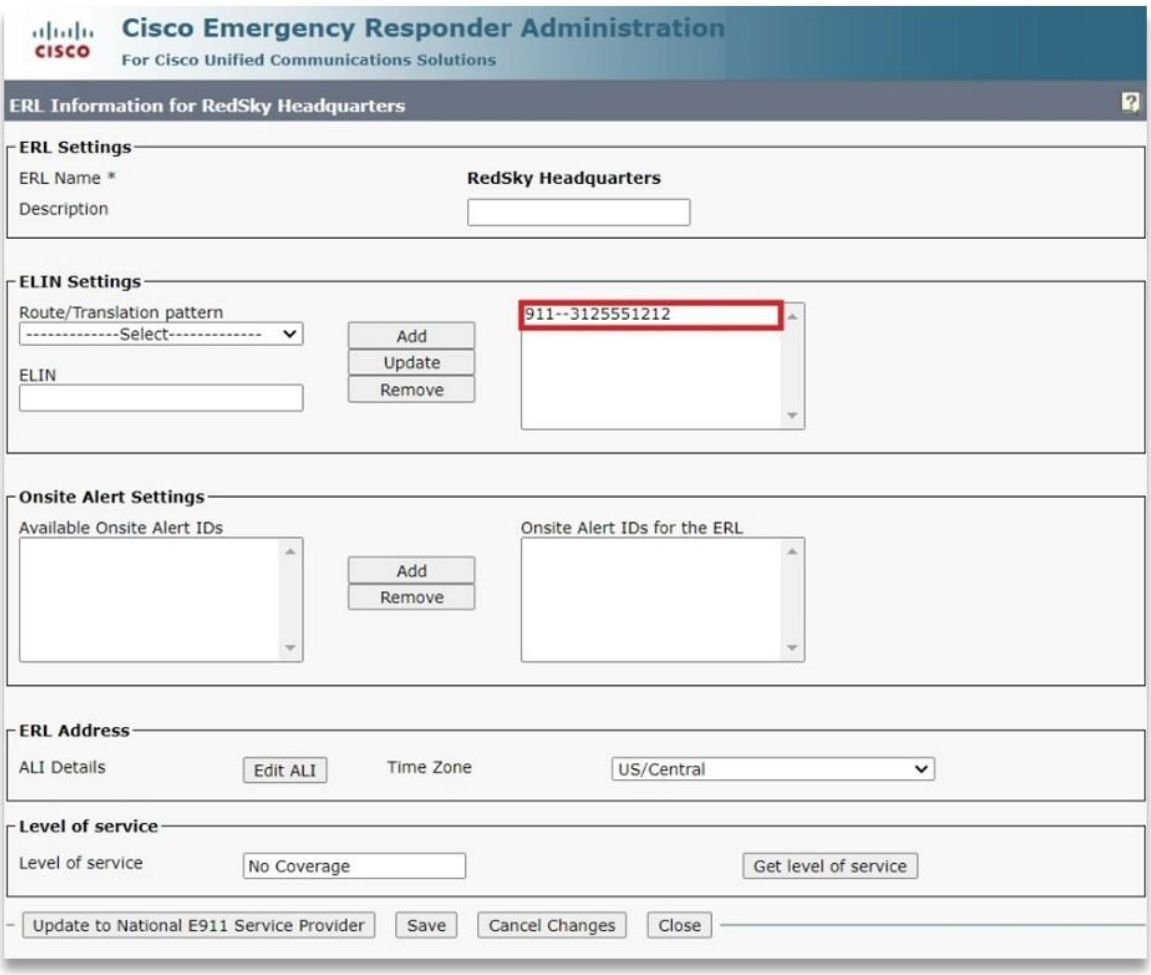
1. Select Search and List from the National E911 Service Provider ERL menu.



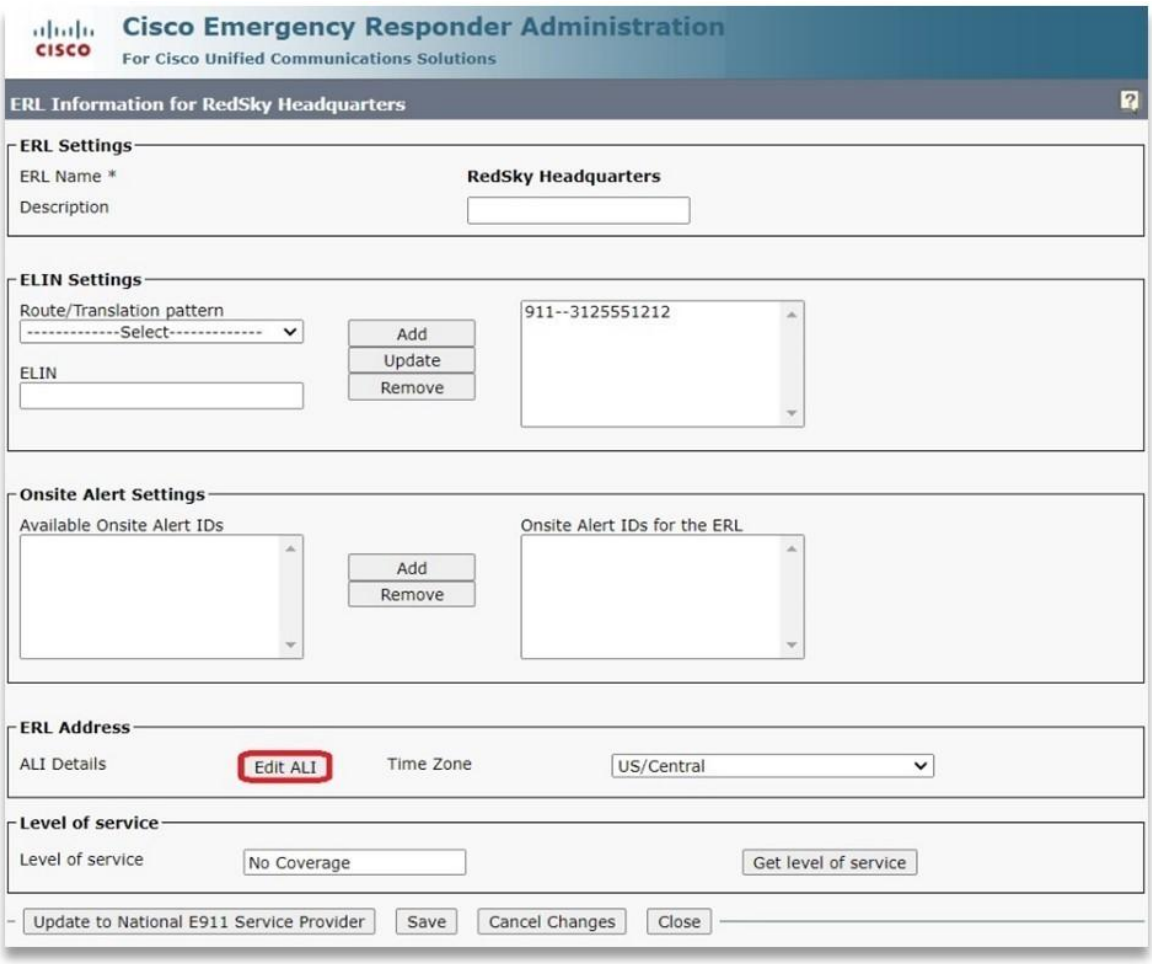
2. Click Find to see a list of National E911 Service Provider ERLs.



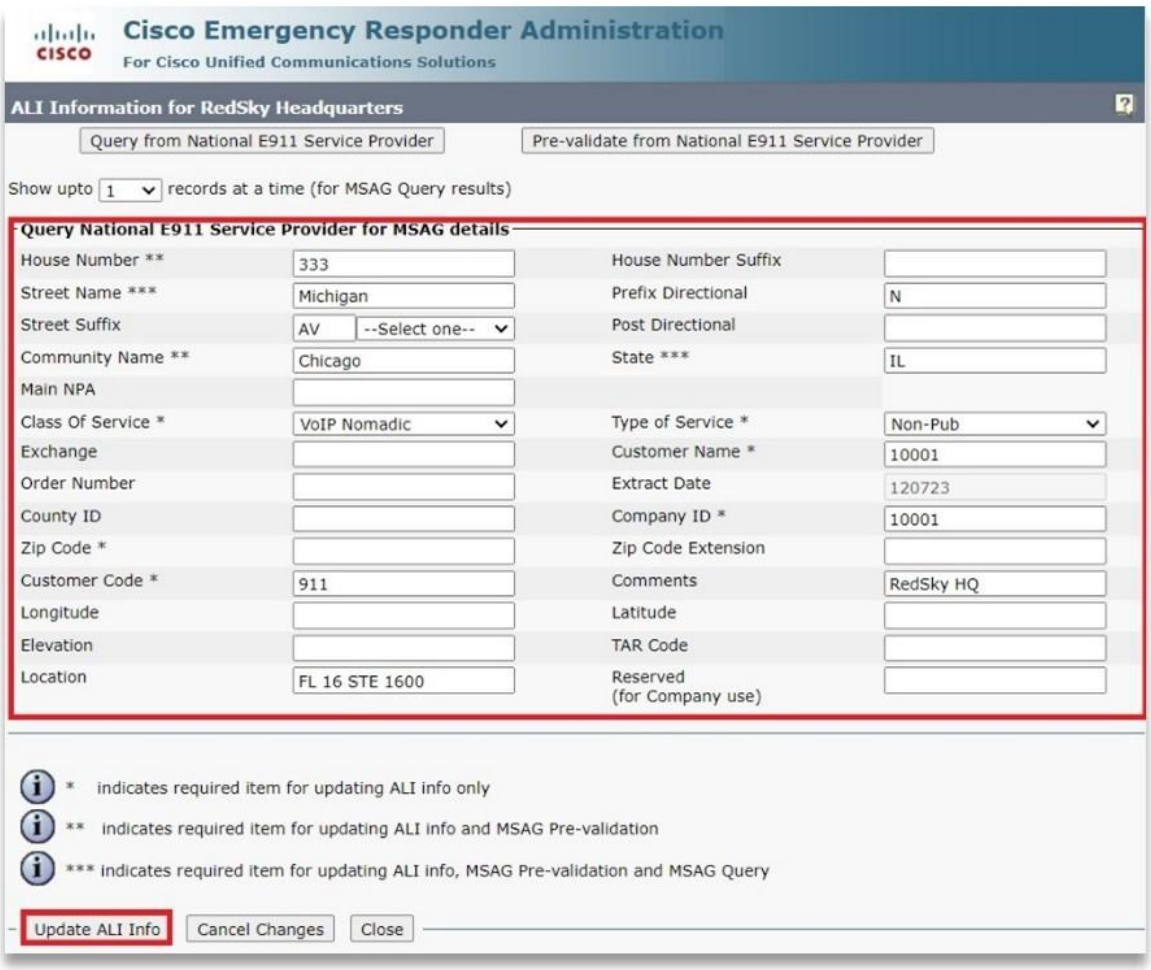
3. Click the Edit icon to validate the ERL information. Ensure that the Route Pattern and ELIN were added correctly.



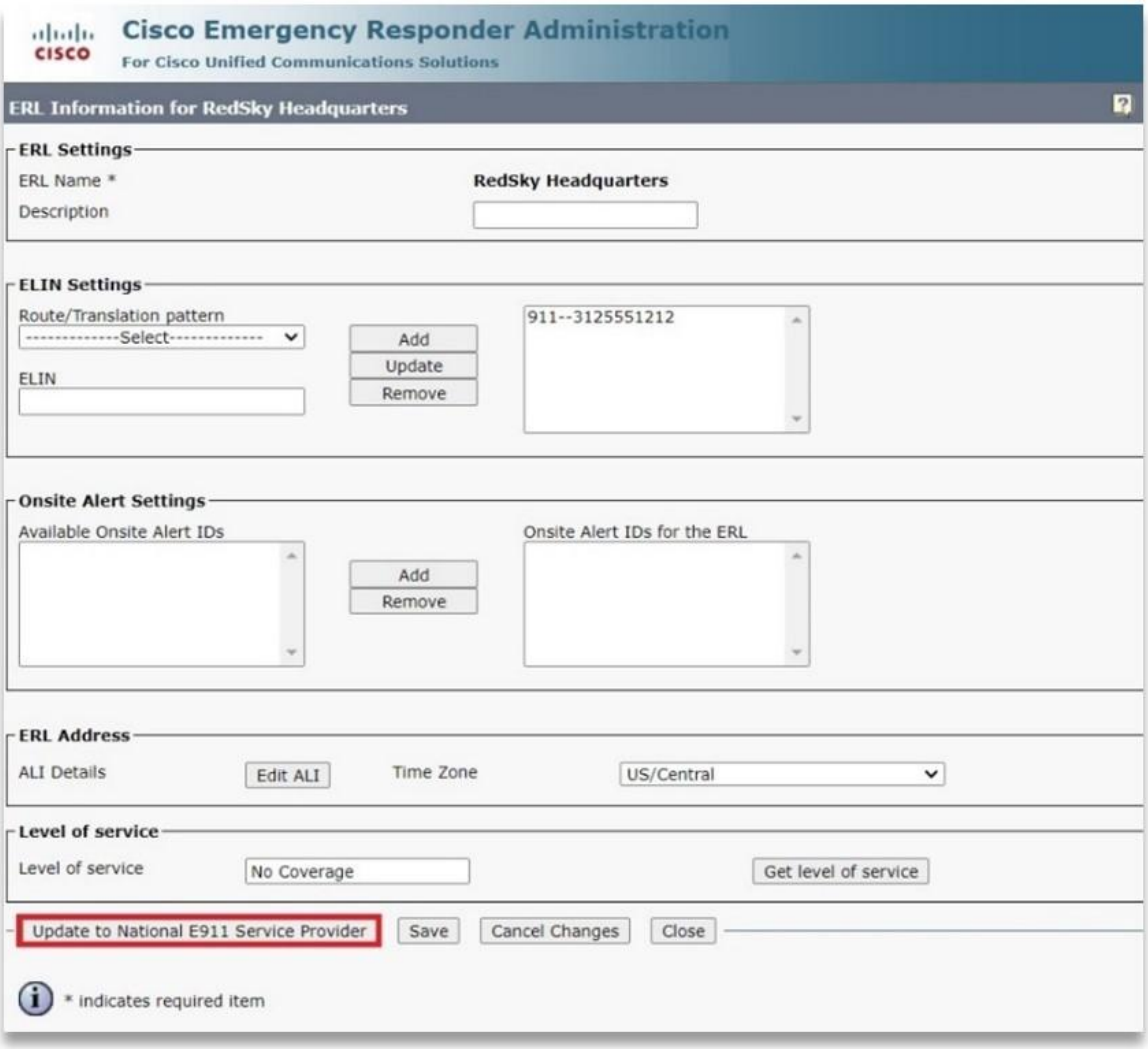
4. Click Update ALI Info after verifying the ERL information.



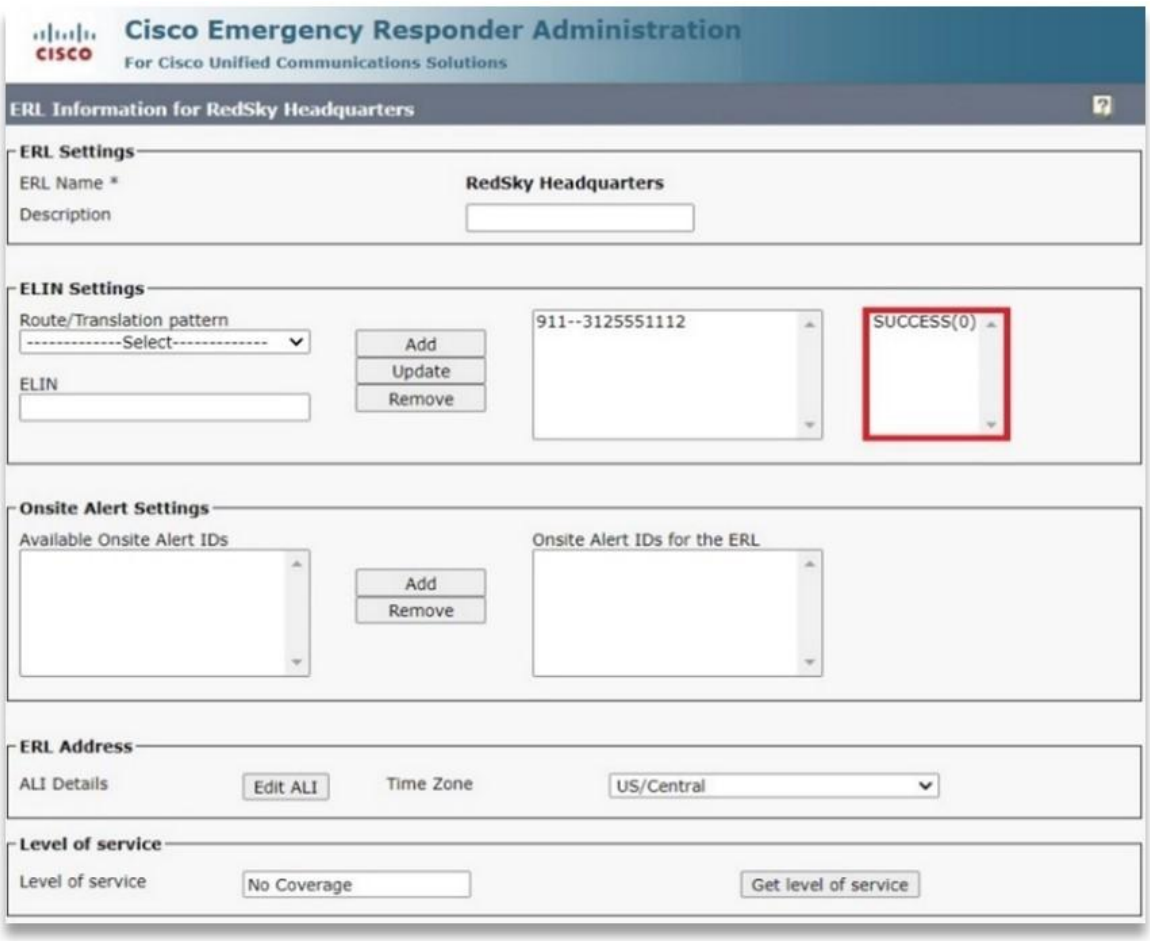
5. The Query from National E911 Service Provider and Pre-Validate from National E911 Service Provider buttons are not supported. Verify the ALI information and select Update ALI Info.



6. Click Update to National E911 Service Provider to validate and push the record to E911 Anywhere.



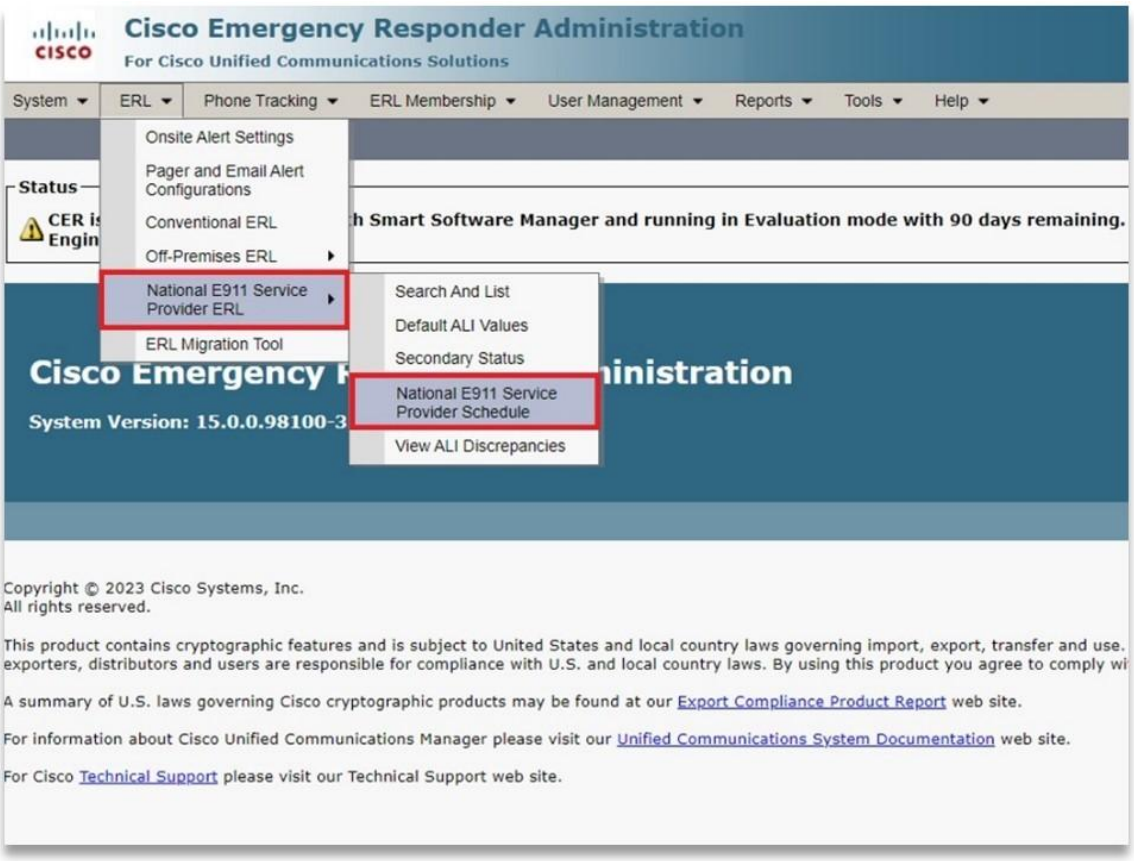
7. A response of SUCCESS indicates that the record was pushed to E911 Anywhere and that the address was validated.



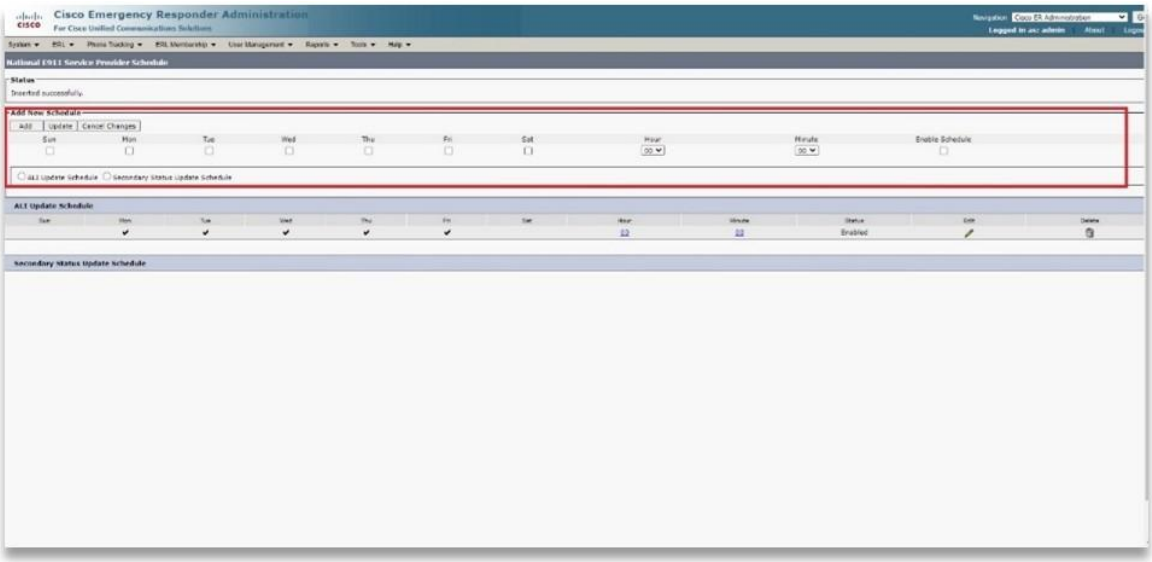
National E911 Service Provider Schedule

The National E911 Service Provider Schedule page allows you to specify the day of the week and time when ALI update requests are sent to RedSky. It is recommended to run the schedule once per day and outside of business hours due to the added network traffic.

1. Go to National E911 Service Provider ERL > National E911 Service Provider Schedule.

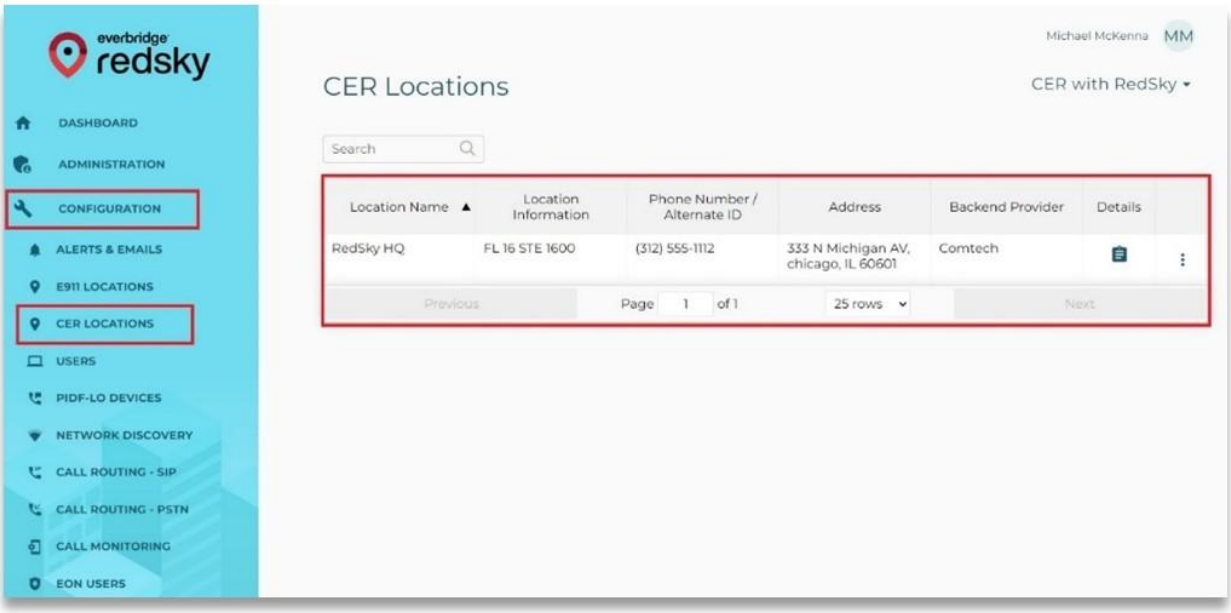


2. Select the days of the week and time of day that you want to run the switch port and phone update process. The schedule is based on a 24-hour clock with 00 hours and 00 minutes equaling midnight.



Verify ERL Records in E911 Anywhere

Log into https://anywhere.e911cloud.com with respective user credentials. ERL Records will be listed under Configuration > CER Locations.



NOTE: CER Locations cannot be added or edited in the E911 Anywhere portal.

Appendix

CER Field Mapping

Field	Usage
House Number	Required by RedSky
House Number Suffix	Optional
Street Name	Required by RedSky
Street Suffix	Optional
State	Required by RedSky
ZIP Code	Required by RedSky
ZIP Code Extension	Not Used
Community Name	Required by RedSky
County ID	Not Used
Location*	Optional - Used for enhanced location information (e.g., Floor and Room)
Longitude	Not Used
Latitude	Not Used
Elevation	Not Used
Prefix Directional	Optional
Post Directional	Optional
TAR Code	Not Used
Main NPA	Not Used
Customer Name	RedSky-provided Account ID
Customer Code	911
Company ID	RedSky-provided Account ID
Main Telephone No.	Not Used
Order Number	Not Used
Class of Service	VoIP Default
Type of Service	Non-Pub
Reserved	Not Used
Extract Date	Not Used
Exchange	Not Used
Comments	Optional – Used for Location Name in RedSky