



# NETWORK DISCOVERY

## REAL-TIME LOCATION IDENTIFICATION FOR IP PHONES



### FEATURES

- >> Tracks IP phone movement real-time
- >> Captures precise information from newly registered phones including IP address, port and network device
- >> Determines proper ELIN and ERL associations based on the location of the network switch and IP port
- >> Updates call server with the new ELIN to ensure proper 911 call routing and location identification
- >> Provides real-time reports to allow "hands-off" E911 management

### BENEFITS

#### Automated

Automatically captures location changes in real-time and updates call server with new information.

#### Scalable

Supports traditional and IP endpoints for the entire enterprise from a single E911 Manager server.

#### Flexible

Administrators can specify various levels of location definition from port/desktop level identification to network region or subnet level identification.

#### Cost-Effective

A single-server solution means E911 configuration and software maintenance is done once – no dual entry or management of multiple servers is required.

Tracking the location of IP phones as they move from place to place is a significant challenge inherent with IP technology. Network Discovery is an optional feature of E911 Manager that communicates with the call server in real time to capture the precise location of IP phones and their users to provide continuous E911 protection where it's needed.

### FUNCTIONALITY

With Network Discovery, E911 Manager is automatically notified by the call server in real-time when an IP phone registers on the network. Using industry standard discovery protocol, Network Discovery determines the location of the phone based on its IP address, port and network device.

A network matrix is maintained in E911 Manager that contains critical associations of Emergency Response Locations (ERL) to Emergency Location Identification Numbers (ELIN). Each network device or port is assigned to an Emergency Response Location (ERL) that describes the distinct building, floor and quadrant location. Each ERL has an associated ELIN which is the ten-digit telephone number that is sent over the Public Switched Telephone Network (PSTN) when a 911 call is placed. This number is associated with a unique Automatic Location Identification (ALI) record stored in the regional databases that provide the caller's location to emergency dispatchers so response teams can be dispatched where they are needed.

### REAL-TIME LOCATION CHANGES

When an IP phone plugs into the network, it registers with the call server and gets an IP address. E911 Manager executes a Network Discovery to determine the port and network device of the user and assigns the proper ELIN that corresponds to the user's location. E911 Manager updates the call server with the proper ELIN so that if the user dials 911, the ELIN will be outputted over the PSTN and the proper ALI record will display at the PSAP indicating the caller's location.

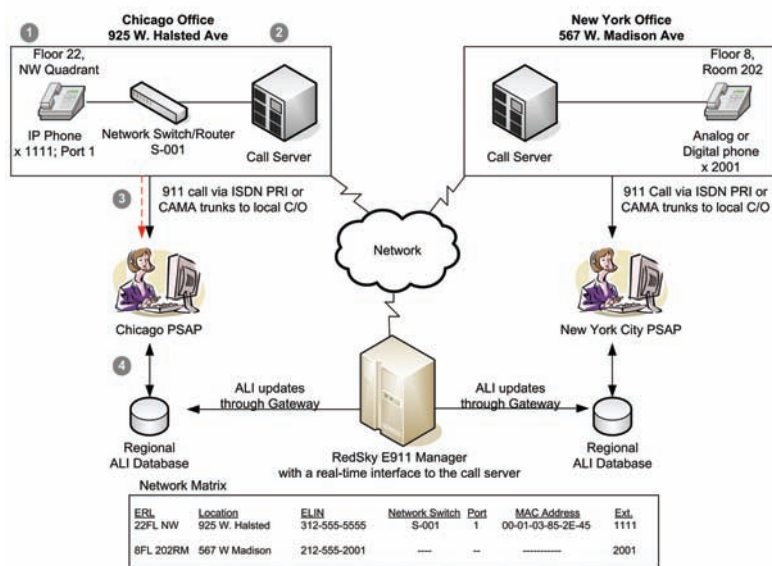
While the majority of location updates now occur in the call server for IP phones as opposed to the ALI database, regional ALI database providers are still requiring ongoing updates to ensure database synchronization. Changes can take place in the network that impact the regional ALI database. Automated ALI updates executed with E911 Manager are a reliable way to ensure complete and accurate data.

### UNRESTRICTED EMERGENCY RESPONSE LOCATIONS

With Network Discovery, there are no limitations for geographic descriptions based on subnets or network regions. Administrators can define Emergency Response Locations that meet the needs of each facility as opposed to forcing ERLs to adhere to existing subnets or network regions that may not convey sufficient detail for effective E911 response.

### EASILY INTEGRATED AND SCALABLE

Network Discovery operates within the organization's existing data network, so it integrates seamlessly into the existing infrastructure with minimal cost. The Network Discovery feature, runs in tandem with the E911 Manager server which can scale to support thousands of traditional and IP endpoints located in hundreds of locations across the country. This scalability helps organizations conform with internal operational requirements as well as legal and regulatory requirements.



## How E911 Manager with Network Discovery Works

1. When extension 1111 registers on the network, E911 Manager executes Network Discovery to capture the network switch, IP port, extension and MAC address of the phone.
2. E911 Manager determines the proper ELIN/ERL association and establishes the new ELIN in the call server for extension 1111 for 911 calling.
3. When extension 1111 dials 911, the call server will send the ten-digit ELIN to the Public Safety Answering Point (PSAP) serving this location.
4. The associated ALI record that indicates the caller's location will automatically populate the dispatcher's screen.

## REPORTING AND TRACKING

Tracking phone movement on the network is important to many administrators managing IP phones. E911 Manager provides a suite of reports and alerts that track phone movement so that administrators can be notified of a wide range of events including a user changing locations or a port that is unassociated to a location for proper E911 identification.

This real-time alerting and reporting allows administrators to monitor the system from anywhere on the network and efficiently protect the enterprise.

## EASILY ADMINISTERED

E911 Manager is architected using Microsoft's .NET framework and provides state-of-the-art functionality, security and administration for today's modern enterprise. Web services built into E911 Manager enable administrators to monitor and access the application from any browser-based PC, making management easy and effective. The result is an automated system, running on a single E911 Manager server, capable of supporting thousands of employees across multiple facilities regardless of geographic boundaries or systematic parameters.

## ABOUT US

RedSky Technologies, Inc. helps large organizations of all types capture, manage and deliver the detailed location information necessary to provide effective 911 emergency response. Over 200 customers, including 50 Fortune 500® companies, use RedSky's E911 Manager to automate their E911 processes. Headquartered in Chicago, Illinois, RedSky has partnerships with other leaders in the telecommunications and 911 industries to help shape 911 policy, leverage emerging technology, and comply with evolving regulatory requirements.

For more information on E911 Manager, Network Discovery or any of our other software or services, visit our website at [www.redskyE911.com](http://www.redskyE911.com) or call us at 877-RedSky1.

## REQUIREMENTS

### Network

Traditional E911: ISDN-PRI or CAMA trunks to a 911 Systems Service Provider (e.g., LEC)

VoIP E911 using LIS: Public IP over IPsec VPN, Private IP via MPLS, point-to-point ISDN-PRI to an Emergency Services Gateway Provider

ALI Database Accounts with Local Exchange Carriers or a VPC  
Multiple accounts are required for customers with geographically dispersed locations or a single account with a VPC for VoIP E911 service.

E911 Manager Server with Network Discovery enabled  
E911 Manager is a Microsoft .NET application that runs on a customer-provided Windows 2003 server.

### Call Servers/PBX Supported by E911 Manager

Avaya Communication Manager running on Avaya S8x00 media servers, Avaya Definity, Cisco Call Manager v4.x, Nortel Meridian and Nortel Communication Server 2100.

### Location Audits

Identify all buildings and building addresses; identify locations for all phones, network switches and IP ports for each building; assign Emergency Response Locations (ERL) and Emergency Location Identification Numbers (ELIN).