

# WiFi e911™

E911 FOR CISCO WIFI NETWORKS



## FEATURES

WiFi e911™ integrates with the Mobility Services Engine for real-time location tracking

Tracks phone location to the access point

Stores a location database of all access points and all ports on Layer 2 switches

Receives real-time events when a phone moves from one access point to another

Polls Mobility Services Engine for locations of individual phones

Supports remote users on remote WiFi access points with E911 Anywhere™ Network Services

Leverages geo-coding capability of Mobility Services Engine for x/y phone positioning

Integrates with RedSky E911 Manager™ to notify campus or corporate security of emergency caller's exact location

## BENEFITS

Certified Cisco Mobility Services Engine application

Real-time location tracking of all phones on Cisco WiFi networks

Maintains a single location data store for wireline and wireless phones

Upgrade path with Mobility Services Engine will improve location tracking to within 3 meters

Easy to install and set-up

Provides precise location of 9-1-1 callers to campus and enterprise security departments

Mobile phone users on Cisco WiFi networks can be anywhere on the network. If they dial 9-1-1, enterprises need accurate location information for emergency responders. Now there is an E911 application that integrates with the Cisco 3300 Series Mobility Services Engine to track phone locations in real time. WiFi e911™ is a software module on RedSky's award-winning E911 Manager™ platform. WiFi e911™ also provides real time emergency numbers (ELIN) to Cisco Unified Communication Manager when a WiFi phone dials 9-1-1.

## DESCRIPTION

WiFi e911™ works seamlessly with the Cisco 3300 Series Mobility Services Engine and Cisco WiFi networks to track the location of WiFi phones in real time and provide routing instructions to Cisco Unified Communication Manager when a 9-1-1 call is made. The WiFi e911™ software module runs on RedSky's award-winning E911 Manager™ platform that provides comprehensive location management, notification, reporting, and 9-1-1 call routing for enterprises, universities and government agencies. E911 Manager™ and WiFi e911™ are installed on a server in the network and communicate with the Mobility Services Engine and Unified Communications Manager using published Cisco APIs. E911 Manager™ updates local PS-ALI location databases or national 9-1-1 call routing services such as RedSky's E911 Anywhere™ Network Services. When a 9-1-1 call is made, Unified Communication Manager requests the routing ELIN from E911 Manager™.

WiFi e911™ is licensed by the number of WiFi phones or wireline phones that are tracked and managed by the software.

## INTEGRATION AND SCALABILITY

WiFi e911™ uses the Cisco Mobility Services Engine to achieve the highest degree of integration and automation. The Mobility Services Engine has been specifically designed to support value-added applications like WiFi e911™ by providing an application layer interface to the Cisco Wireless Control System. Version 2.x of WiFi e911™ is expected to support multiple instances of the Mobility Services Engine as well as support geo-coded location (x/y) enabling location determination to within three meters. Version 2.x will also support the Mobility Services Engine's location definition and centralized management of the Layer 2 wired infrastructure making WiFi e911™ a single source of location management and location tracking for both wired and wireless phones.

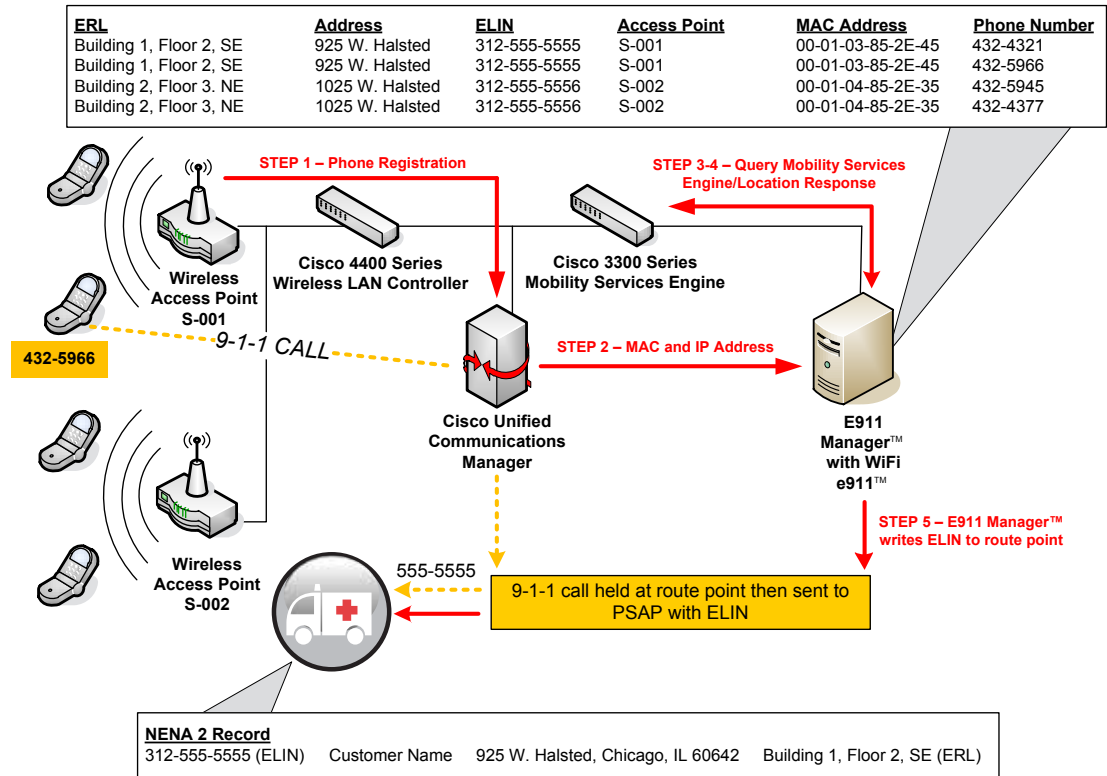


## HOW IT WORKS

The diagram shows the WiFi e911™ application loaded on the E911 Manager™ server. Also shown are the Cisco 3300 Series Mobility Services Engine, the Cisco 4400 Series Wireless LAN Controller and Cisco Unified Communications Manager.

The Cisco Wireless Control System manages all access points, controllers and WiFi network performance through a Graphical User Interface. The Mobility Service Engine serves as the application gateway for third-party applications to interface with Cisco WiFi Networks. My WiFi e911™ uses the interfaces on the Mobility Services Engine to gain access to and interact with the Wireless Control System.

As part of the initial set-up, WiFi e911™ queries the Mobility Services Engine using SOAP to get a list of MAC and IP addresses for each access point and location controller in the Wireless Control System. Each access point has an associated “coverage area” or physical description of the range of the access point that is the functional equivalent of the Emergency Response Location (ERL) for wired IP telephony E911.



Each access point and its associated coverage area are downloaded into a table in the WiFi e911™ application and an administrator establishes the ELIN, the building and the physical description (ERL) for the access point. E911 Manager™ then creates a NENA2-formatted location record (ALI) and can populate the local LEC PS-ALI database or forward to a cloud-based alternative such as E911 Anywhere™ Network Services for future 9-1-1 calls.

When a phone initially registers with Unified Communications Manager, E911 Manager™ receives a notification event with the MAC address and IP address of the phone. Using the MAC address, WiFi e911™ queries the Mobility Services Engine for the access point serving the phone. Once the initial access point is established, WiFi e911™ “listens” for SNMP trap notifications sent by the Mobility Services Engine. When a phone moves from one access point to another, the ELIN for that phone is updated in E911 Manager™. In addition to the trap-based notifications for phones that have registered, E911 Manager™ also queries the Mobility Services Engine via SOAP calls to get the list of MAC addresses for the devices allocated to each access point.

When a WiFi phone dials 9-1-1, the Unified Communications Manager holds the call at a route point and requests the ELIN for the dialing number from E911 Manager™. E911 Manager™ consults its data tables and provides the ELIN which represents the last known access point location of the phone. Unified Communications Manager sends the ELIN along with the call to the Public Safety Answering Point (PSAP) where the ELIN triggers a “data dip” that retrieves the location record for the access point of the 9-1-1 caller.

## REQUIREMENTS

### SERVER

WiFi e911™ is a software module of E911 Manager™, which is a Microsoft .NET application that runs on a customer-provided Pentium 4 server running Windows 2003 Server OS. E911 Manager™ is compatible with leading industry virtual server implementations, like VMware.

### E911 ANYWHERE™ NETWORK SERVICES

A RedSky subscription service for national 9-1-1 call routing or LEC-provided PS-ALI account.

### WIFI NETWORK

Cisco 3300 Series Mobility Services Engine v6.x and later  
Cisco 2100 and 4400 Series Wireless LAN Controllers v5.x and later

### CALL SERVER COMPATIBILITY

- Avaya – ProLogix: Definity v8-v10, ACM v2.1; Definity G3: v9.5, v10, ACM v1.3; S8x00 Media Servers: ACM v1.x-v5.x, Aura
- Nortel – CS2100 SE09, 09.1, 10; CS1000 v4.5, v5.x, v6.x; Meridian 1: Options 11c/61c81c; Meridian SW: v23 and v25 only
- Cisco – CCM v4.1.x, v4.2.x; UCM v5.x, v6.x, v7.x

## ABOUT US

RedSky is the leading provider of E911 software solutions to the enterprise market with more customers, more technology, and more experience than any other provider. Hundreds of customers, including 50 Fortune 500® companies, use RedSky’s software to automate their E911 processes.

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