



Using Cisco Emergency Responder for E911 Calls with the Cisco 7920 Phone

Cisco Emergency Responder actively queries Cisco CallManager for new phone and user login registration events. In response to these events, Cisco Emergency Responder automatically searches known Cisco Catalyst switches in the network and finds the location of the phone and the user based on the switch port to which the phone is attached (via Cisco Discovery Protocol or MAC address). This information is then updated in a Cisco Emergency Responder location database and is used to identify a caller's location when an E911 call is placed. With this solution, users can move within a campus or between sites, wherever and whenever they want, without any intervention from the network administrator. This solution eliminates the administrative costs associated with relocating phones or users, while maintaining accurate and updated location information for E911 state and safety mandates.

Cisco Emergency Responder makes informed inbound and outbound call-routing decisions based on the location of emergency callers, and it provides crucial location information to emergency operators in public safety answering points (PSAPs). Outbound emergency calls are directed to a gateway associated with the PSAP that is nearest to the caller. In the event of an unintentional call disconnect or need for additional information, inbound calls from a PSAP are returned to the original caller.

For more information about Cisco Emergency Responder, refer to the documentation available at

<http://www.cisco.com>

The following guidelines apply to the Cisco 7920 Wireless IP Phone due to the roaming capabilities of this 802.11b phone:

- Cisco Emergency Responder can query for IP Phones via either Cisco Discovery Protocol (CDP) on the Cisco Catalyst switches or MAC address. Because CDP is sent as a link-layer multicast protocol and is used by the Cisco AP to determine the QoS settings for the Cisco 7920 phones, it is not propagated up to the Cisco Catalyst switch. This means that Cisco Emergency Responder should query the Cisco Catalyst switches for the MAC addresses of the Cisco 7920 phones.
- Cisco Emergency Responder groups devices into Emergency Response Locations (ERL) so that they can be identified by a physical location (building, floor, section of floor, and so forth). Depending on how the power levels are configured on the Cisco APs, it is possible for the signal to propagate to floors above or below the AP with which the Cisco 7920 phone is associated. Using antennas that propagate the RF signal in a more horizontal pattern can help mitigate this issue, but emergency personnel within a building should be made aware of this possibility when organizing their searches for the individual or device that initiated the emergency call.

An E911 coverage policy is an individual decision that each company has to make and adapt to all of its various physical locations.

Cisco recommends that you assign each AP to its own ERL (or, minimally, group several adjacent APs into one ERL) using the Cisco Emergency Responder configuration interface, illustrated in [Figure G-1](#). Using a code or abbreviation in the Automatic Location Information (ALI) or switch port location field can help on-site and PSAP personnel to identify that the caller is using a wireless device. This information is important for first-responders because it informs them that adjacent floors, hallways, rooms, and even other buildings might have to be searched to locate the emergency caller.

Figure G-1 Cisco Emergency Responder Configuration Screen

The screenshot displays the Cisco Emergency Responder Administration web interface. The main heading is "ERL Configuration". Below the heading is a search section with a dropdown for "ERL Name", a "contains" operator, and a "where CER Group is" dropdown set to "ECS-CCM". A "Find" button is present. Below the search section, there are links for "Configure Default ERL" and "Add New ERL". The status is "Ready".

A table titled "Matching Record(s) 1 to 3 of 3" lists the following ERL records:

ERL Name	Route Pattern--ELIN Number	Onsite Alert Ids.	Street Name	Community Name	State	Copy	Delete	Audit Trail
Default	3010--40833300....	mama1;Security	WestTasmanDrive	cisco	ca			view..
Milpitas	20911--4082220....	Security	SanCalaveras	Milpitas	ca			view..
SanJose Building	10911--4081110....	Security	TasmanDrive	cisco	ca			view..

At the bottom of the table, there are navigation links: "First | Previous | Next | Last". The page number is "Page 1 of 1".

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