



## How Wireless Communications Supports Fast Emergency Response

Land Mobile Radio over IP improves command and control, avoids costly radios, and speeds up emergency response

### **A Cisco on Cisco Case Study: Inside Cisco IT**

# Overview

- Challenge

  - Resolve issues of interoperability among disparate handheld and mobile radio systems

- Solution

  - Deploy a land mobile radio (LMR)-over-IP solution that can integrate with Cisco IPICS, an advanced IP-enabled communications backbone

- Results

  - Reduce costs, increase flexibility, and improve emergency response

- Next Steps

  - Extend LMR over IP to global Cisco locations and use the Cisco Unified Communications Manager (formerly CallManager) group-page feature to send messages to radios, PCs clients, and Cisco IP phones

# Challenge

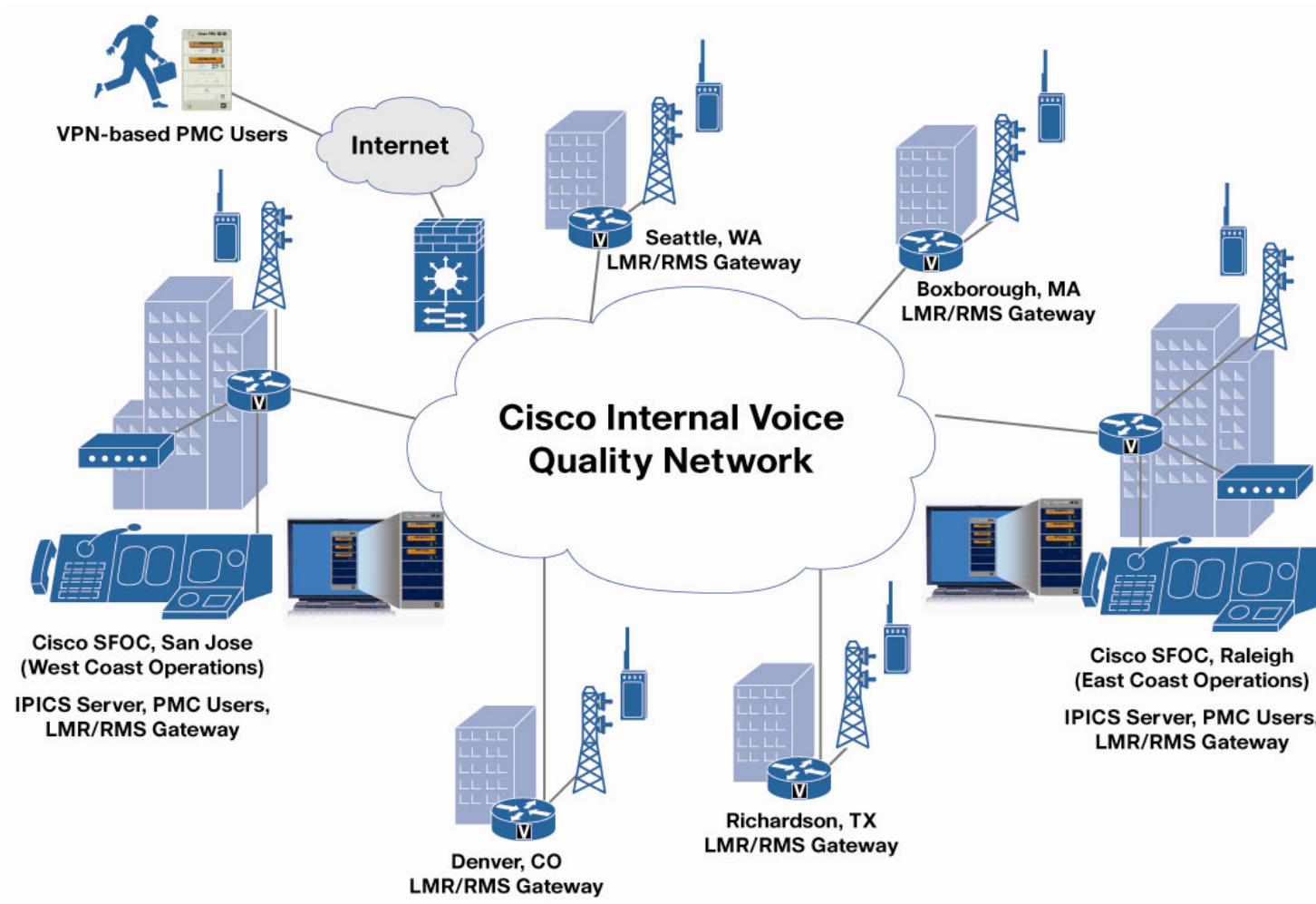
- Lack of interoperability between mobile radio systems slowed response to medical and other emergency situations.
- Cisco executives away from campus could not use their phones to join radio conversations with personnel on the site of an incident.
- LMR could not integrate with other Cisco communications modalities such as IP, cell and land-line phones, and paging systems.



# Solution

- Cisco LMR over IP solution uses the Cisco multicast-enabled IP network.
  - Rooftop antennas receive transmissions from handheld or mobile radio receivers, convert them into analog output streams, and transmit them over the Cisco network.
- Cisco LMR Gateway software enables dispatchers to conference telephone users into radio conversations, connect dissimilar radio networks, and emulate Push-to-Talk (PTT) radio, enabling Cisco to avoid buying radios for employees with laptops or PCs.
- By integrating with the Cisco Internet Protocol Interoperability and Collaboration System (IPICS), Cisco LMR over IP extends its power and reach.
  - Ability to mesh with other Cisco enterprise communications modalities enables Cisco LMR over IP to remain a critical part of the Cisco emergency response system.

# Cisco LMR over IP Solution



# Results

- More efficient command and control as Cisco SFOCs connect directly with officers' radios—and faster emergency response
- Reduced costs by eliminating expensive point-to-point circuits and purchase of additional radios
- Enhanced operations during special events and other non-emergencies
- Flexibility and resilience because incidents can be remotely managed
- Expansion of communications capabilities through integration with the newer and more extensive Cisco IPICS framework

# Next Steps

- Cisco Security Operations plans to extend LMR over IP to additional sites in Canada, Mexico, Central America, and South America
  - Europe, the Middle East, and Africa are also being considered. Cisco is working with local radio vendors to manage licensing and government interactions.
- Cisco plans to use the Cisco Unified Communications Manager group-page feature to send messages to the speakers and displays of Cisco IP phones, as well as PC clients and radios.
- Cisco is considering incorporating a “dial-out” feature that, when triggered, will contact designated responders at their offices, homes, or cell phones, or by pager.

“The Cisco Safety and Security team needs to be able to participate rapidly in decision-making if an emergency or incident occurs—regardless of where in the world we happen to be.”

Debbie Quintana

Cisco Global Security and Facilities Operations Manager

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