



Cisco IP Interoperability and Collaboration Systems (IPICS) Technology Backgrounder

Today's Communications Challenge

- The vision: Delivering the right information at the right time, in the right format – and to the right person.
- Similar challenge across vertical industries: Organizational and operational silos lacking interoperability, collaboration.
- In the public safety, different agencies and organizations using expensive land mobile radio networks operating on different frequencies.
- Greater need for these groups to cooperate and collaborate across local, state, national and even international lines.
- Communications challenges across public and private sector: State and local governments, healthcare, retail and financial organizations.
- Replacing all communications systems is economically unfeasible and cannot be done in a timely way.

Response to Date

- Recent public disasters underline inadequacy of today's communications systems.
- Present systems challenged because of their proprietary nature, incompatibility and lack of resilience.
- Solutions to date limited and niche, too radio-centric, very costly, or depend on a single standard.
- Large challenge demands enormous scalability and flexibility.

Cisco's Response to the Challenge

- Cisco IPICS technology addresses all of these challenges as part of its vision for the Intelligent Information Network.
- Cisco's vision of the future: An IP network with voice, video and data on the same network.
- Cisco IPICS technology delivers the interoperability that customers across all sectors are demanding to ensure economic competitiveness, customer responsiveness and enhanced security.
- Cisco IPICS technology is an intelligent, network-centric, standards-based solution that addresses communications interoperability and delivers voice, video, data, sensor and messaging information.
- Cisco IPICS technology enables customers to quickly access information from a full range of media including video, data, instant messaging and security cameras, to provide the most complete picture available of a situation.
- Cisco IPICS technology allows agencies to not only streamline communications, but also to simultaneously dispatch the information to public safety personnel, as well as their police, fire and EMS counterparts across professional, jurisdictional and geographic lines.

The Market for Cisco IPICS Technology

- Communications interoperability is a requirement in multiple markets. The critical first step in communications interoperability is voice interoperability.

- Cisco is targeting enterprise safety and security, enterprise operations (across multiple verticals including finance, healthcare, retail, etc), as well as the public sector such as in public safety, the Department of Defense.
- The market is growing at a rapid rate and is therefore difficult to assess. Industry estimates for the cost for replacing all Land Mobile Radio equipment today is \$20 – 40 B.

What are the components of Cisco IPICS Technology

Cisco IPICS technology consists of several components:

- Cisco IP Interoperability and Collaboration System Server Hardware
- Cisco IP Interoperability and Collaboration System Server Software
- Cisco IPICS Push to Talk Management Center (PMC) Application and Cisco IPICS Voice over IP XML Services

Key Definitions

- **PTT** – Push-to-talk technology, one-way communications system used by many public safety networks, using land mobile/wireless frequencies
- **CSA** – Cisco Security Agent, a client agent that is vital to the Cisco Self-Defending Network and integrated as part of our multi-layer security system from the network to the desktop
- **SDN** – Cisco Self-Defending Network
- **PMC** – Push-to-talk management center, a software client application that runs on PCS and simulates a multi-channel walkie talkie or push-to-talk radio
- **LMR** – Land mobile radio, referring to a range of radio spectrum commonly used by public safety, dispatch services and other public and private entities needing accessible, affordable communications. Commonly characterized by one-way capabilities, heavy usage and lower quality transmission. Cisco also has a Cisco Land Mobile Radio (LMR) Gateway solution that links to existing LMR systems and can make the critical adaptation of LMR audio and signaling to IP.
- **Hoot and holler** – Similar to radio communications but runs via a wired phone network; used primarily in such industries as financial, transportation and retail that need instant, time-critical business and operational information

Cisco in the Public Safety Market

- In August 2005, Cisco was recently recognized by leading industry analyst firm Frost & Sullivan, as the leading provider of networking services in the public safety market.
- Cisco recognizes the need to provide the highest degree of shared situational awareness of everything from criminal acts to natural disasters across the chain of command.
- Cisco's goal: To achieve a more collaborative operations model that allows public safety stakeholders to rapidly respond and react to incidents, and ultimately set more aggressive prevention goals.
- Cisco Connected Public Safety Solutions deliver advanced IP communications, security and wireless capabilities that enable a highly responsive and resilient environment by connecting personnel, from headquarters to field operations to actionable information.
- Again, the IP network allows agencies to simultaneously and on the spot accelerate decisions, allocate resources and automate tasks and procedures, providing them with far greater control in safeguarding their communities.

Cisco IPICS Technology Future Plans

In future releases of this product, Cisco will integrate stronger policy based monitoring and alerting, and additional resources such as video surveillance, RFID and sensor networks, as well as other data resources to support enterprise operations, safety and security, public safety and other markets. Cisco will also continue to integrate additional Cisco advanced technologies such as speech recognition, instant messaging and presence based functionality into this system.