



Physical Security Convergence



Peter Elford
Public Sector Systems Architect
pelford@cisco.com

Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

1

Agenda

- A Review of Convergence
- Physical Security Convergence
 - Video Surveillance
 - Radio Networks
 - Asset Tracking
- Why this is a good thing

Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

2

What's Convergence ?

The Data Network



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

3

What's Convergence ?

The Data Network



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

4

What's Convergence ?

The Network

Video

IP

Voice

Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

5

What's Convergence ?

The Network

IP

**Asset
Tracking**

**Radio
Networks**

**Video
Surveillance**



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

6

Outcomes of Convergence

- Improvements in overall TCO
- Improvements that impact legacy technology
 - MAC's are simpler in a IP Telephony environment
- Innovation in converged applications
 - Unified communications/messaging
 - Collaborative tools
- Interoperability across technology/organisation silos
- Organisational challenges to extract best value from technology and solution innovation (ie. Convergence)
 - Need to take a Big Picture approach

Presentation_ID © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

7

Video Surveillance



Presentation_ID © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

8

Traditional Video Surveillance

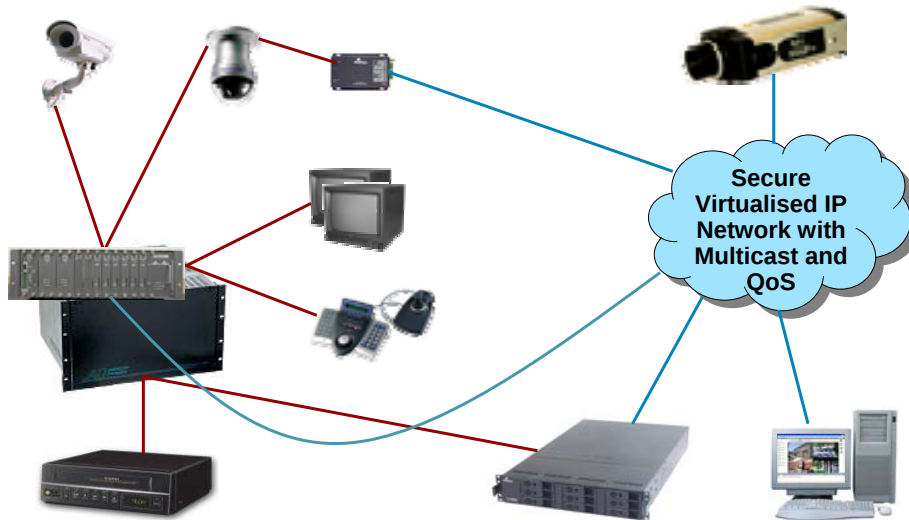
- **Separate analogue cabling**
 - Matrix costly and limited in expansion
- **Central station access only**
 - No remote access
 - No on-scene collaborative access
 - No mobile access
- **Security and Video only**
 - No other sensors
 - No process control
 - No customer satisfaction
- **Investigation delays**
 - No review from remote locations
 - Review hours of video



Presentation_ID © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

1

The Path to IP Video Surveillance



Network-Based Surveillance

- Access video from anywhere on network
- Leverages existing investment in network and legacy security infrastructure
- “Distributed Matrix” increases availability and scalability
- Facilitates migration to digital content
- Opens up opportunities for more advanced and/or integrated usages of video (analytics)



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

11

Video Analytics

- Processing video to detect events
- Drives productivity and quality
 - Operators are poor at watching video for long periods
 - Good at confirming something an incident once flagged
- Examples
 - Congestion detection** - too many people in too small a space
 - Motion detection** - person or vehicle moving across a scene
 - Abandoned object detection** - suitcase abandoned in airport
 - Counter flow** - person moving against an immigration route
 - Tripwire** - detection and alarm upon breach of a defined line
 - Shape-based detection** - vehicle detection.
 - Object tracking and theft detection** - object removal



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

12

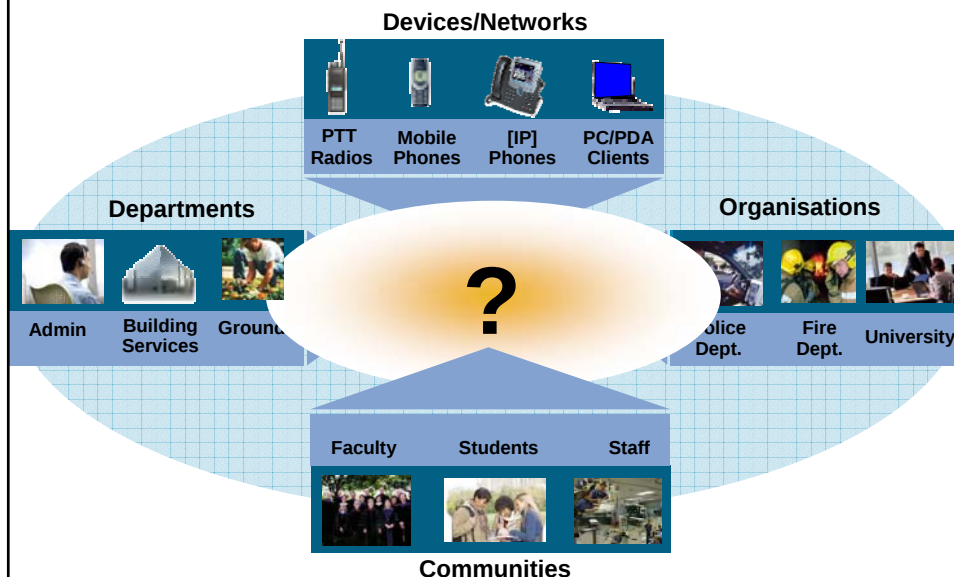
Radio Networks



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Confidential

13

Dissolving Communications Silos



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Confidential

14

Safety and Security Communications Needs

Requirement/Expectation

Intra Institution Communication
Operational Efficiency

Improved Safety and Security for
faculty, staff and students
Coordination for Public Events
Emergency Services Coordination

Communication Need

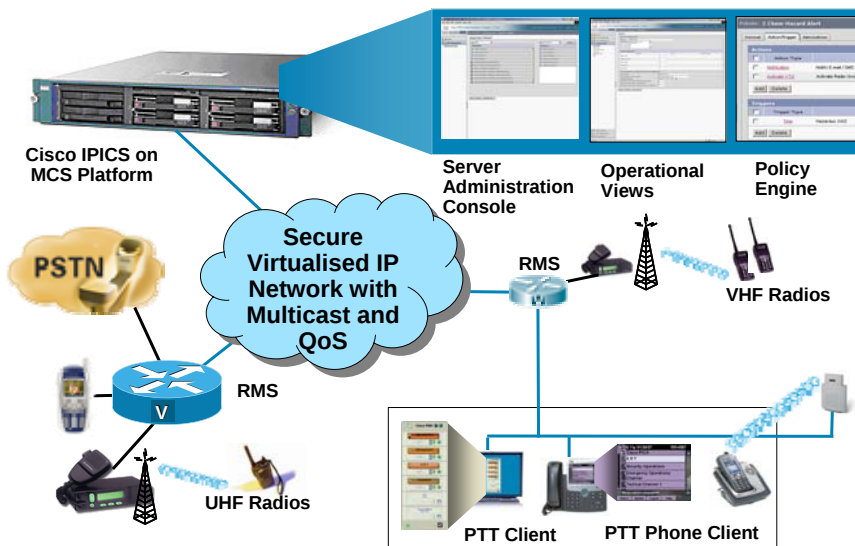
Improve communications
with all personnel —
regardless of location or
type of radio system or
communications equipment

Achieve greater situational
awareness, effective event
escalation / de-escalation,
and span of control for
incident management

Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

15

Cisco IPICS* Solution



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

*IP Interoperability and Collaboration System

16

Cisco IPICS PMC

**Push-to-talk (PTT) client
for effective and
efficient operations**

- Provides PTT functionality for PC users
- Extends communications of PTT radio-only or broadcast environments
- Enables communication over multiple channels



**Push-to-Talk
Management Center**

**Reduces the Number of Communication Devices Needed for
Monitoring and Communicating over Multiple Channels**

Presentation_ID © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

17

Cisco IPICS Phone Client

**Push-to-Talk service for
Cisco Unified IP Phones... a
powerful collaboration tool**

- Enables push-to-talk (PTT) functionality on select Cisco Unified IP Phones
- Extends voice reachability of PTT radio-only or broadcast networks
- Allows communications over a channel with a push of a button



**Phone Users Can Now Respond to Incidents or Emergencies,
Boosting Responsiveness and Operational Effectiveness**

Presentation_ID © 2007 Cisco Systems, Inc. All rights reserved. Cisco Public

18

Cisco IPICS Benefits

- Improved communications
 - Daily operations
 - Emergency response
- Integrated Communications, Incident Management, Notification, Alerting
- On-demand push-to-talk between multiple emergency services and local security/grounds staff
- Dispatch with multiple radio networks from any location
- Push-to-talk communications to any device
- Investment protection, reduced costs, enabling new applications and technologies



Presentation_ID © 2007 Cisco Systems, Inc. All rights reserved.

Cisco Public

19

Asset Tracking



Presentation_ID © 2007 Cisco Systems, Inc. All rights reserved.

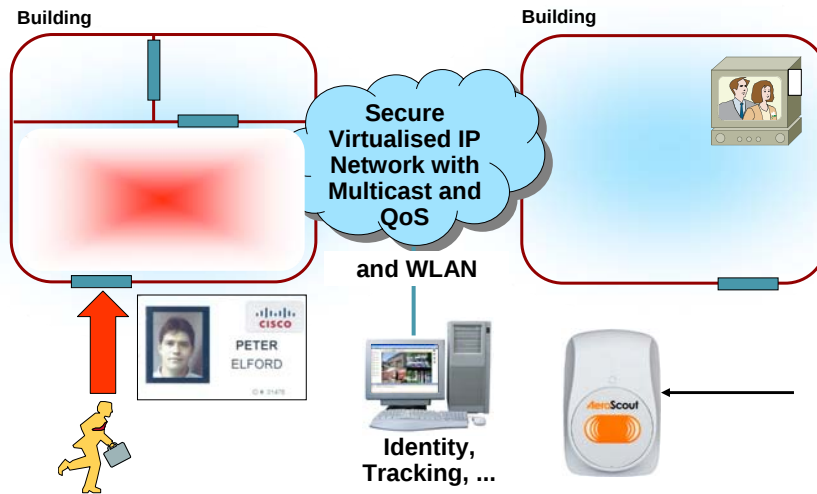
Cisco Public

20

Sorts of Assets

Locations or places

Things or objects



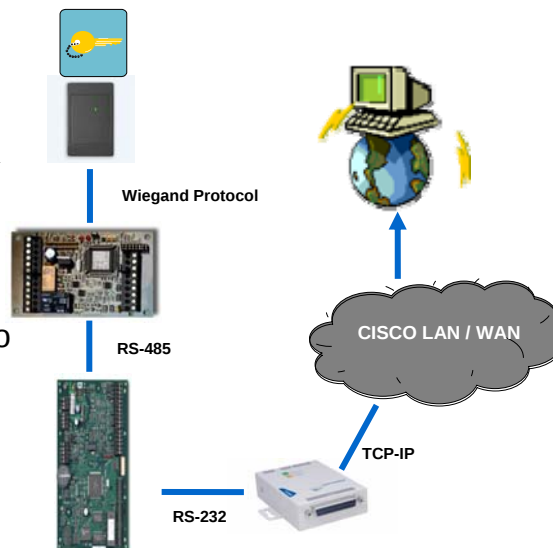
Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved.

Cisco Public

21

Building Access at Cisco

- Badge works globally
- Tightly coupled to HR database
- Badge MAC's trivial
- Same operational management as video surveillance

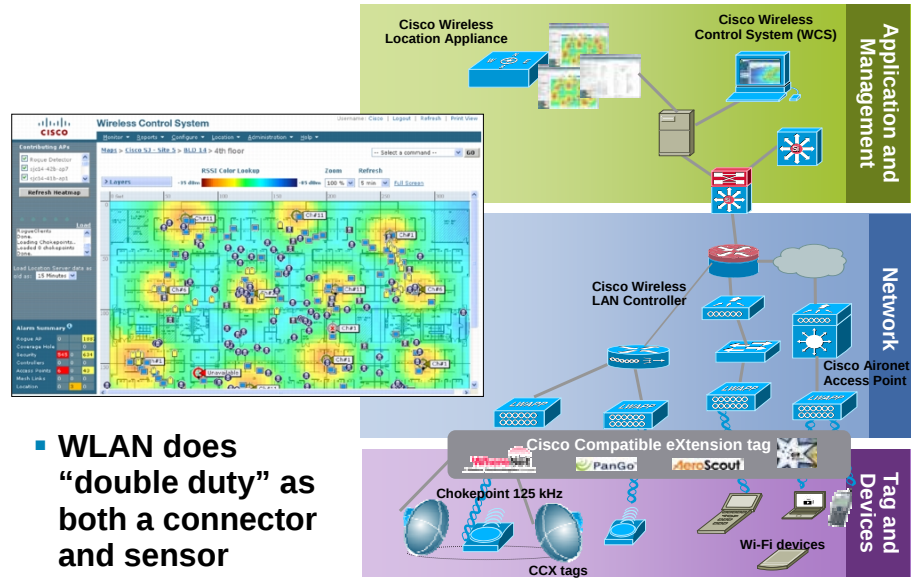


Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved.

Cisco Public

22

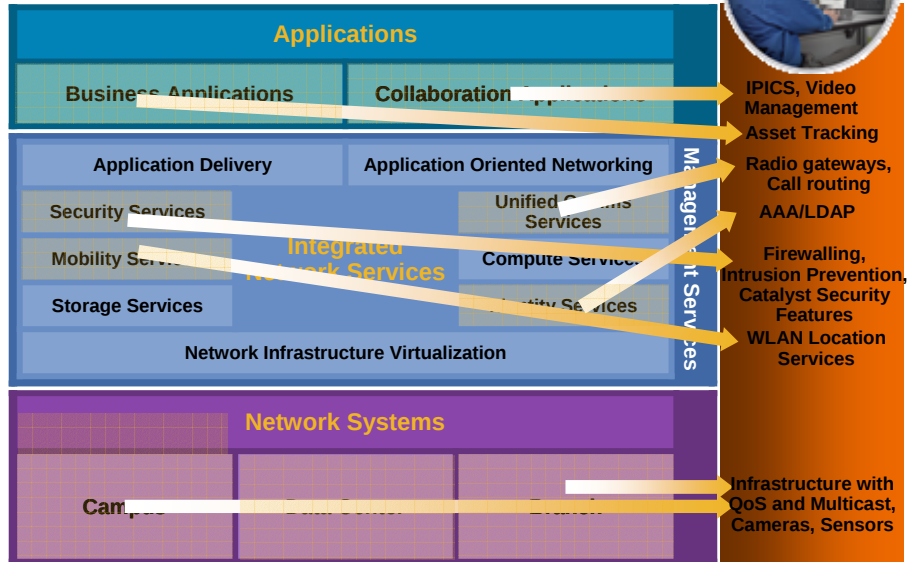
Wireless Location Service



The Big Picture



Services Oriented Network Architecture and Physical Security



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved.

Cisco Public

25



Presentation ID: © 2007 Cisco Systems, Inc. All rights reserved.

Cisco Public

26