



Cisco Physical Security Solutions

*Transforming the Way Organizations
and Communities Protect People,
Property, and Critical Infrastructure*

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Agenda

- Cisco Physical Security Solutions
- Cisco Medianet
- Cisco IP cameras
- Cisco Video Surveillance
- Cisco Physical Access Control
- Cisco IPICS
- Industry Applications



Cisco Physical Security Solutions

Why Cisco Physical Security Solutions?

Cisco Provides End-to-End Solution Framework

Leverage Your Existing Network Investment

Investment Protection as You Migrate

**Open Standards to Build
Best-of-Breed Solutions**



Operational Flexibility

Lower Cost

**Improved Detection,
Monitoring, Response**

Centralized Management

Cisco Physical Security Solutions

IP Cameras



Standard Definition
and High Definition
IP Cameras

- Box, dome, PTZ
- Indoor and outdoor
- Onboard analytics
- Medianet

Video Surveillance



Video Surveillance
Manager

- Forensic search
- Health dashboard
- Open standards
- Medianet

Access Control



Physical Access
Manager

- Biometrics
- Mapping
- Web services API
- Integrated video

Notification and Response



IPICS

- Dispatch console
- Mobile client
- Rich media
- PTT to IP phone

Cisco Solution Architectures: Core, Data Center, Video, Collaboration

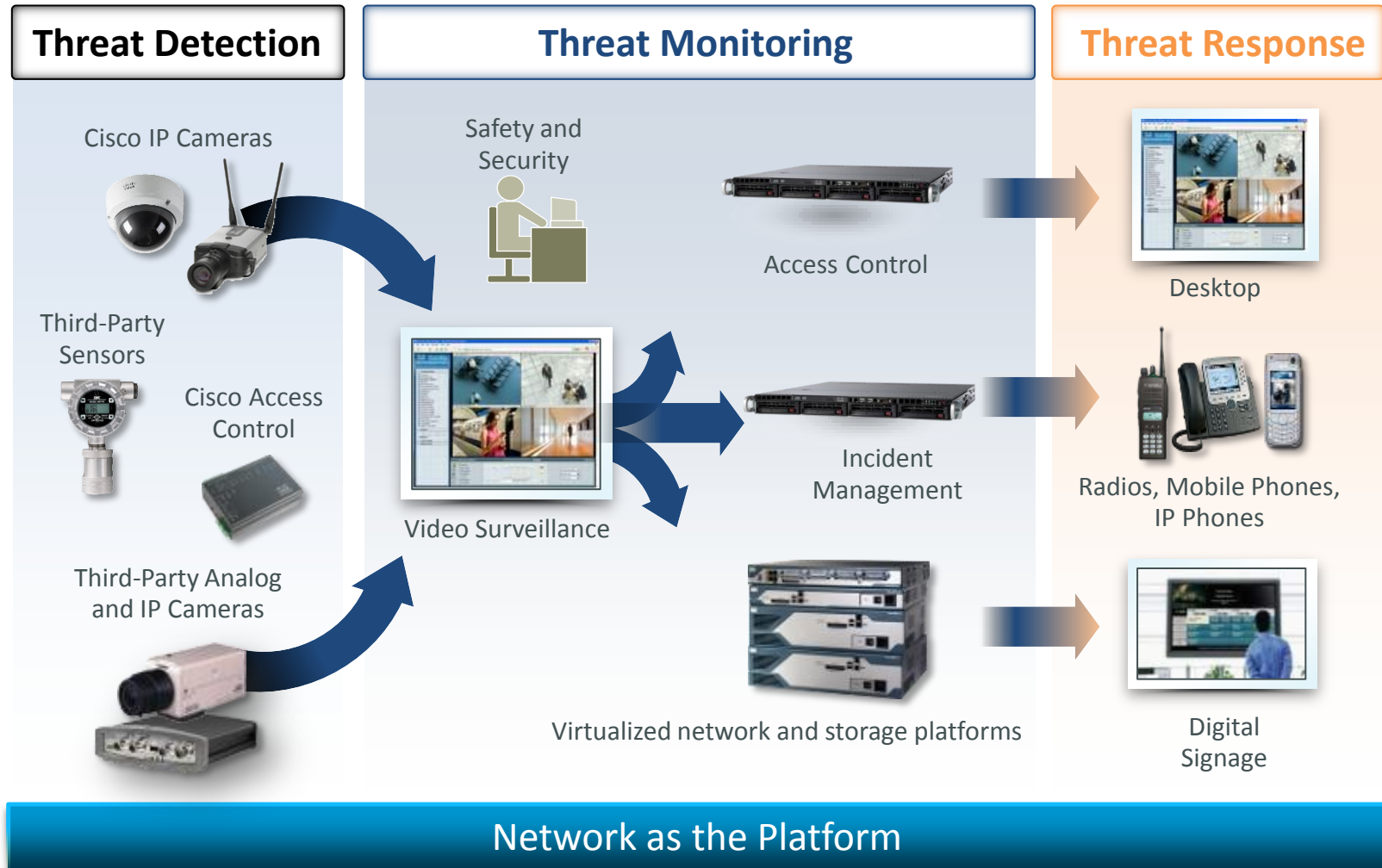
Media Trace Auto Discovery

Medianet

Auto Configuration Media Monitoring

Security Health Monitoring Quality of Service **IP Network** Auto Updates Authentication

Cisco Physical Security: Video Surveillance, Access Control, Incident Response



Physical Security Solutions

Focus areas

PSS Solution Family



Urban Security

- City Surveillance
- Campus
- Transport
- Education



Border Security

- Emergency
Collaboration
- Surveillance



Energy Security

- Generation Plant
SFOC
- Generation
- Transmission /
distribution
- Oil & Gas remote
Ops



Healthcare Security

- Centralized SFOC
- Enterprise-like
security



Connected Physical Security

• Network

• Datacenter

• Video

• Collaboration

Physical Security Solution Creation

Leveraging foundational architectures, Cisco & Partner products and services, the develops **Solution Architecture** as reusable customer solutions





Cisco Medianet

What is Medianet ?

Medianet is:

- An **architecture** for successful deployment of multiple media and business applications

Medianet solutions include:

- Automatic, plug & play deployment
- Media performance monitoring, troubleshooting and capacity planning
- Media Awareness for bandwidth management

Medianet solutions require:

- Compliant products and features in both Smart Endpoints/ Applications and Smart Network Infrastructure
- DO NOT require an entirely end-to-end Cisco network with medianet enabled in every hop



Cisco Medianet Architecture

Medianet

Use Cases

Entertainment

Business Meetings

Safety and Security

Events

Education

Broadcast Communications

Advertising

Customer/Patient Care

Video Endpoints

Cisco
webex



Media Services

Any-to-Any Transcoding Content Distribution Directory
Auto Discovery Optimization Analytics Intercompany

Network Infrastructure



Security

Management

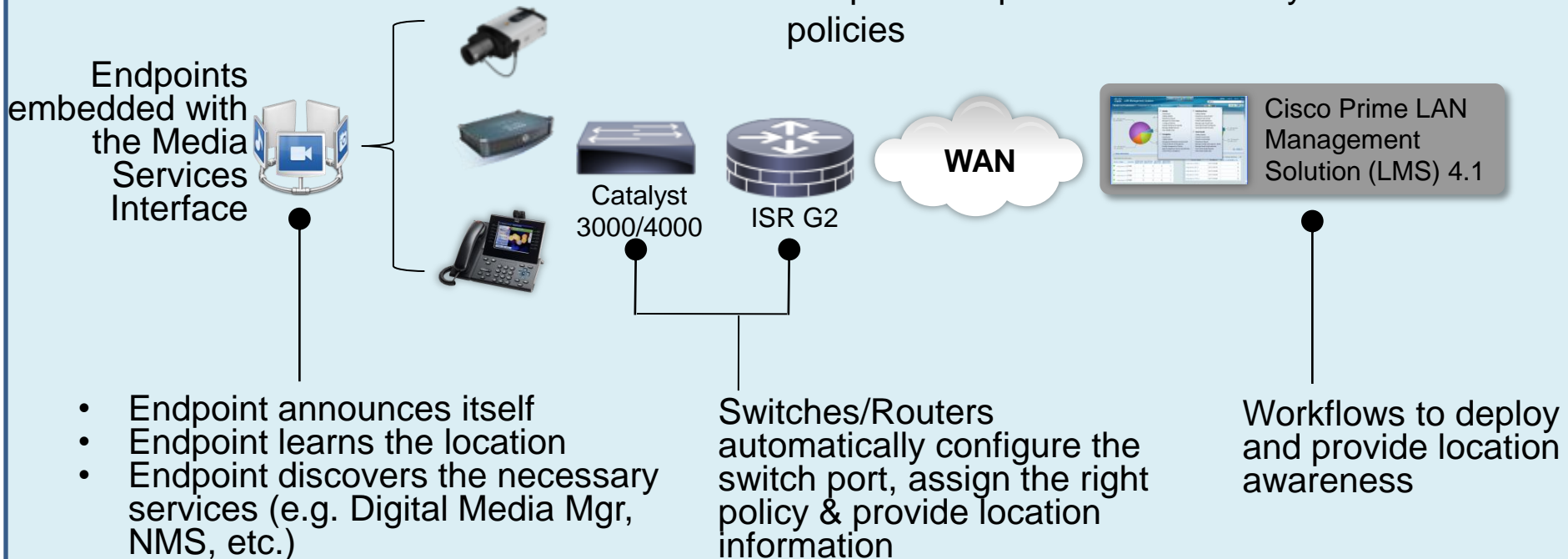
Plug & Play: Saving Operational Costs

PAIN POINTS

- Need for high-skilled personnel to deploy endpoints
- On-going support is a challenge

CISCO SOLUTIONS

- Endpoints and network elements discover each other
- Network elements provide pre-defined configurations and policies
- Endpoints request the necessary resources and policies

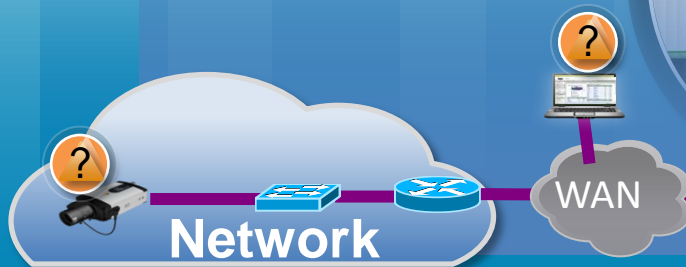


Embedded Medianet Capabilities

Autoconfiguration: Simplifying deployment

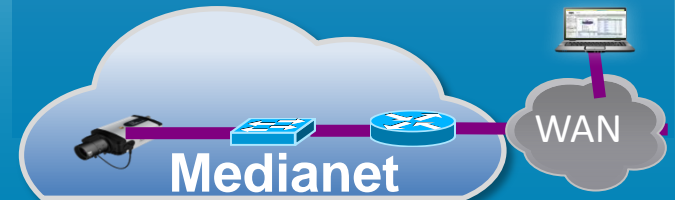
Without Medianet

- Manual, and error prone network setup and management



With Medianet

- Auto-Discovery, and Auto-Configuration with the network
- Faster, simplified deployment
- Manage large deployments



Benefits

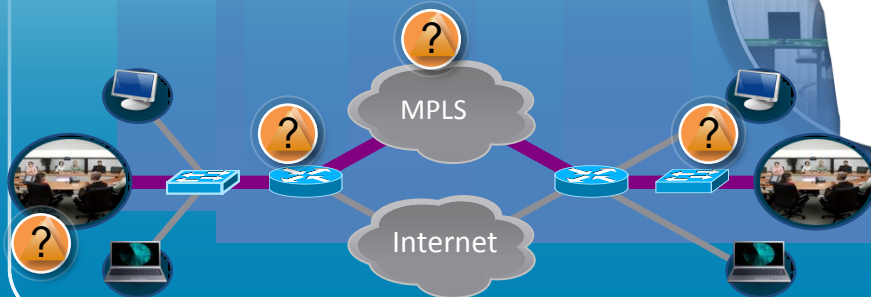
- Ensures quality of the video experience
- Automates connections to the network
- Reduces operating costs
- Tracks Assets
- Now, embedded Medianet capabilities extended to certified IP Video Surveillance Partners

Embedded Medianet Capabilities

Media Monitoring: Saving Operational Costs

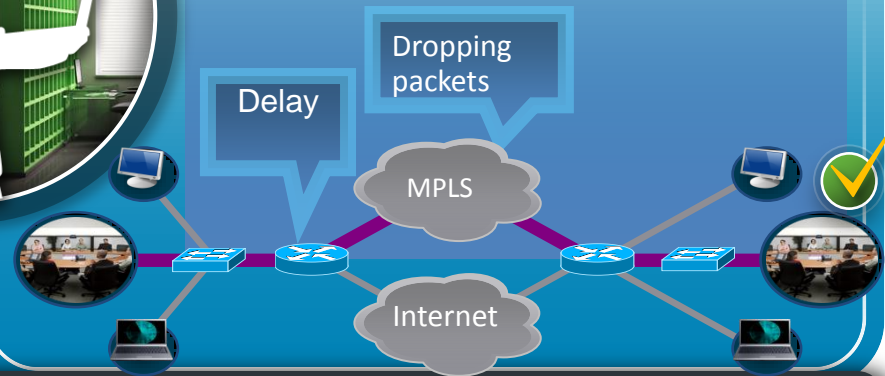
Without Medianet

- Inability to pinpoint network video surveillance problems



With Medianet

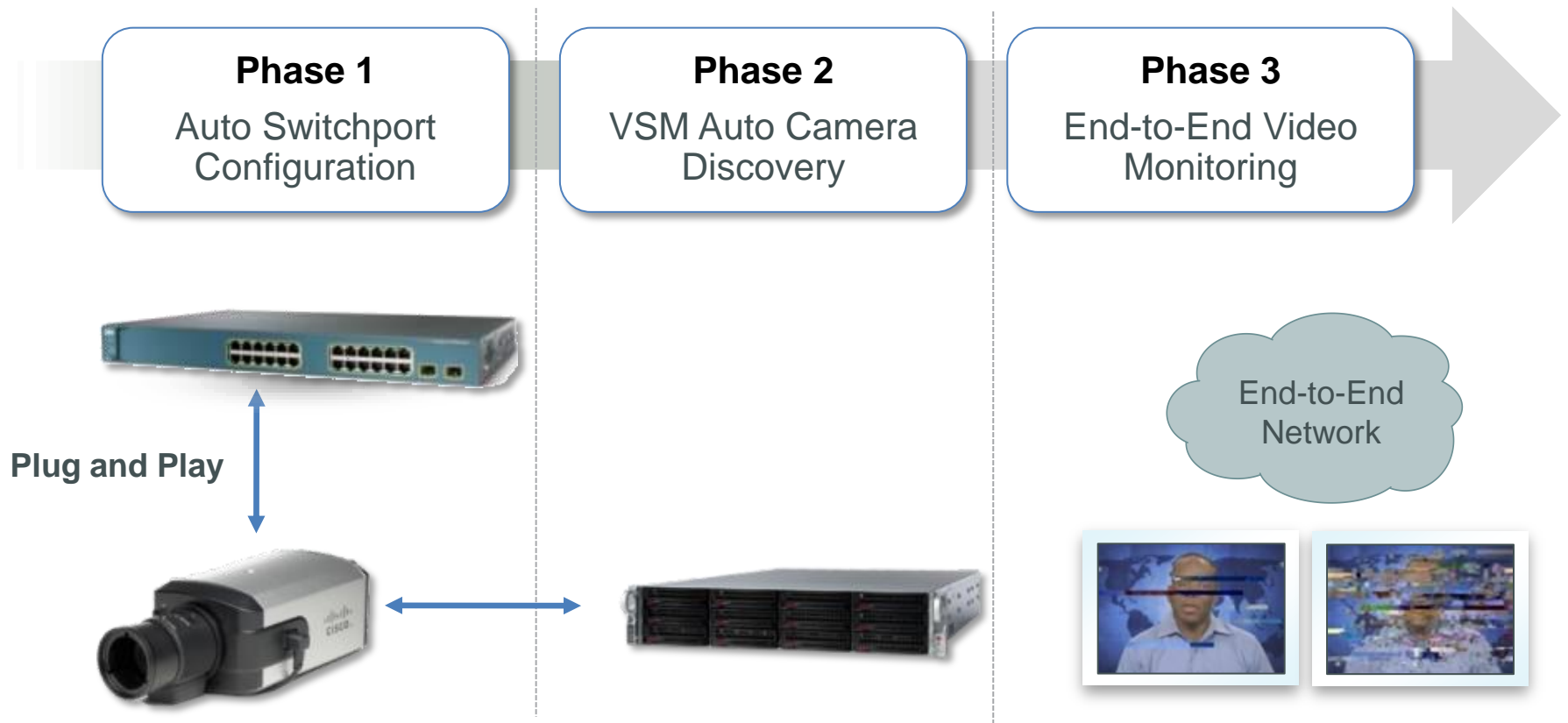
- Real time Performance Monitoring and Troubleshooting
- Fast Pre-deployment plans



Benefits

- Cost savings
- Monitoring with out probes
- Fast pre-deployment planning
- Better Network usage / capacity management
- Now, embedded Medianet capabilities extended to certified IP Video Surveillance Partners

Cisco End-to-End Advantage with Medianet










**Simplify Network IP Video Surveillance Solutions
Improved End-to-End Video Management**







IP Cameras




Cisco Video Surveillance IP Cameras

	Model	Description	Features
	7000 Series	5MP Outdoor Dome IP Camera	<ul style="list-style-type: none"> • 5 MP Resolution (2560x1920 @ 5 fps) • IP66 and VR resistant with available accessories • PoE, built-in IR illuminator ring, Medianet
	6000 Series	1080p IP Cameras for outdoor and indoor	<ul style="list-style-type: none"> • Variety of form factors (box, dome, bullet) • Feature-packed, PoE compatible cameras • Indoor and outdoor (IP66, IK10) rated, Medianet
	4000 Series	1080p HD Box IP Camera with analytics	<ul style="list-style-type: none"> • Edge-based video analytics (security, counting) • Medianet, PoE support
	3000 Series	1MP indoor and outdoor IP cameras	<ul style="list-style-type: none"> • Entry level HD cameras • Medianet support • Indoor and outdoor mounting options
	2900 Series	SD IP PTZ camera 35X	<ul style="list-style-type: none"> • Indoor and outdoor model available • 360° continuous pan and 256 presets • Up to 35X optical zoom (outdoor model)
	Standalone Encoders	4 & 8 port video encoder	<ul style="list-style-type: none"> • H.264 dual stream • 4/8 I/O ports • PTZ Control interface
	2800 Series	SD IP PTZ camera ,12X	SD, H.264, dual stream PoE+ or UPoE 12XOptical Zoom
	6900 Series	1080p HD IP PTZ camera, 20X	Full HD, H.264, dual stream PoE+ or UPoE, 20X Optical Zoom


Introducing the 6000 Series IP Camera Portfolio

	Model	Description	Features
	CIVS-IPC-6000P	1080P Box camera	<ul style="list-style-type: none">• P-Iris Lens• Medianet• PoE
	CIVS-IPC-6400	1080P Bullet Camera	<ul style="list-style-type: none">• Integrated IR• IP-66 Rated enclosure for outdoor use• Integrated IR illuminator, range up to 30m (100 feet)• Medianet, PoE
	CIVS-IPC-6020	1080P Indoor Camera	<ul style="list-style-type: none">• Indoor dome: Flush and surface mount options• Motorized focus and zoom lens• Medianet• PoE
	CIVS-IPC-6030	1080P Outdoor Camera	<ul style="list-style-type: none">• Outdoor camera, IP-66 enclosure• Motorized focus and zoom lens• -40 to 55 ° C temp range• Medianet, PoE

3000 Series IP Cameras

Model	Description	Features
 CIVS-IPC-3421V	Indoor 3" VR Dome	<ul style="list-style-type: none">• 720p Resolution• Support for PoE• 3" mini dome• Medianet support• Basic camera functions only
 CIVS-IPC-3520	Indoor Dome	<ul style="list-style-type: none">• 720p Resolution• Support for PoE• Surface/Flush/VR mountable• Similar to 6000 Series features• Medianet• MicroSD Slot
 CIVS-IPC-3530	Outdoor VR Dome	<ul style="list-style-type: none">• 720p Resolution• Support for PoE• Similar to 6000 Series features• IP66, VR dome available• Medianet• MicroSD Slot

7000 Series IP Cameras

Model	Description	Features
 CIVS-IPC-7030	5 MP Outdoor Dome IP Camera	<ul style="list-style-type: none">• 5 MP Resolution (2560x1920 @ 5 fps), H.264• IP66 and VR resistant with available accessories• Integrated IR illuminator ring (up to 20m – 66 feet)• Medianet• Remote Focus and Zoom• PoE Support• MicroSD Slot

Cisco Video Analytics

Cisco Video Analytics Base Package

- Security
 - Tripwire
 - Camera tampering
 - Loitering
- Counting
 - Multiline tripwire
 - Object classification

Cisco Video Analytics Optional “Plus” Package

- Security
 - Multi-tripwire
 - Object left behind
- Counting
 - Entry/exit
 - Dwell time
 - Occupancy

Advantages

- Base software at no charge with every camera
- Scalable, edge-based architecture: No need for external video analytics server
- New security and business applications

Cisco 4500
IP Camera



Events

Cisco Video
Surveillance Manager



**Simple and Cost-Effective IP Video Surveillance and Video Analytics Solution
with Processing in IP Cameras at the Edge of the Network**



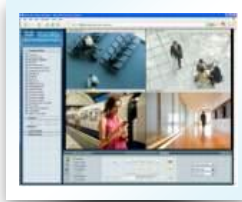
Video Surveillance

Cisco Video Surveillance Manager

Video Surveillance Media Server



Video Surveillance Operations Manager



Safety and Security Desktop



Software

Collect, Archive
Route Video

Manage and Control
Users, Video, and Devices;
View Video

Control and Display
Video on Any Video Walls

Secure Medianet-Enabled Cisco IP Network

Embedded
medianet

IP Cameras



Analog
Cameras



Physical Security
Multiservices Platform 4–24 TB
Storage



Physical Security
Storage Series Platform 120-240 TB
Storage



Hardware

Cisco Video Surveillance Manager



Video Surveillance Media Server

- Core engine for the surveillance solution
- APIs for third-party integration (analytics, command, and control)
- Support for Cisco's portfolio of endpoints
- Capable of supporting third-party cameras and encoders



Video Surveillance Operations Manager

- "Thin" web user interface for real-time/archived video viewing
- Integrated administration of all devices and storage
- Systemwide health monitoring
- Forensic tools to speed investigations



Physical Security Multiservices Platform / Cisco UCS / Storage

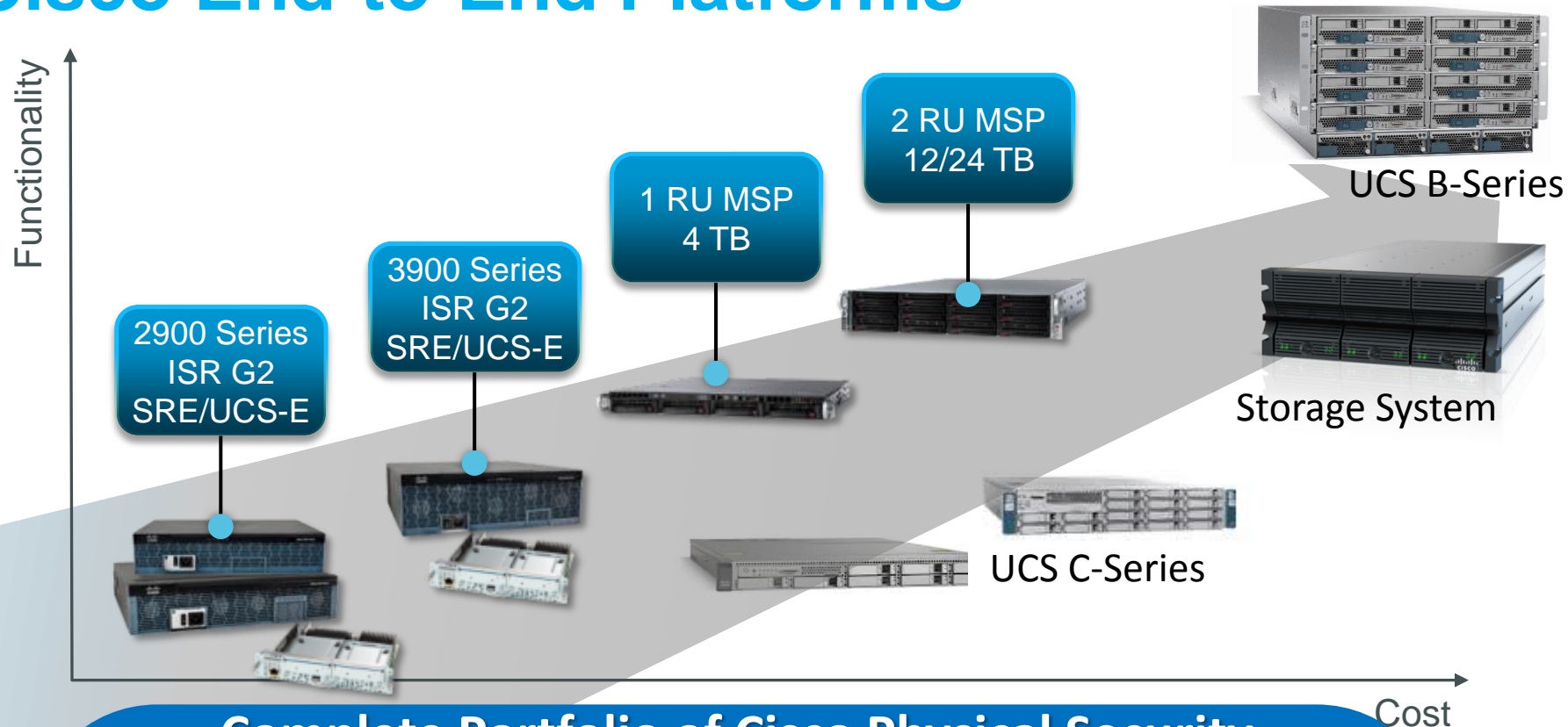
- Easy-to-use and easy-to-deploy server suite
- High storage density and high-performing motherboard
- Optional video encoder card



Cisco Safety and Security Desktop

- Remotely controlled video display application
- Simply push a defined layout of cameras to many operators
- Video Walls

Optimized IP Physical Security Solution: Cisco End-to-End Platforms



**Complete Portfolio of Cisco Physical Security
Multiservices Platforms and Cisco UCS B, C, E series for
an Optimized IP Network and Physical Security
Foundation**

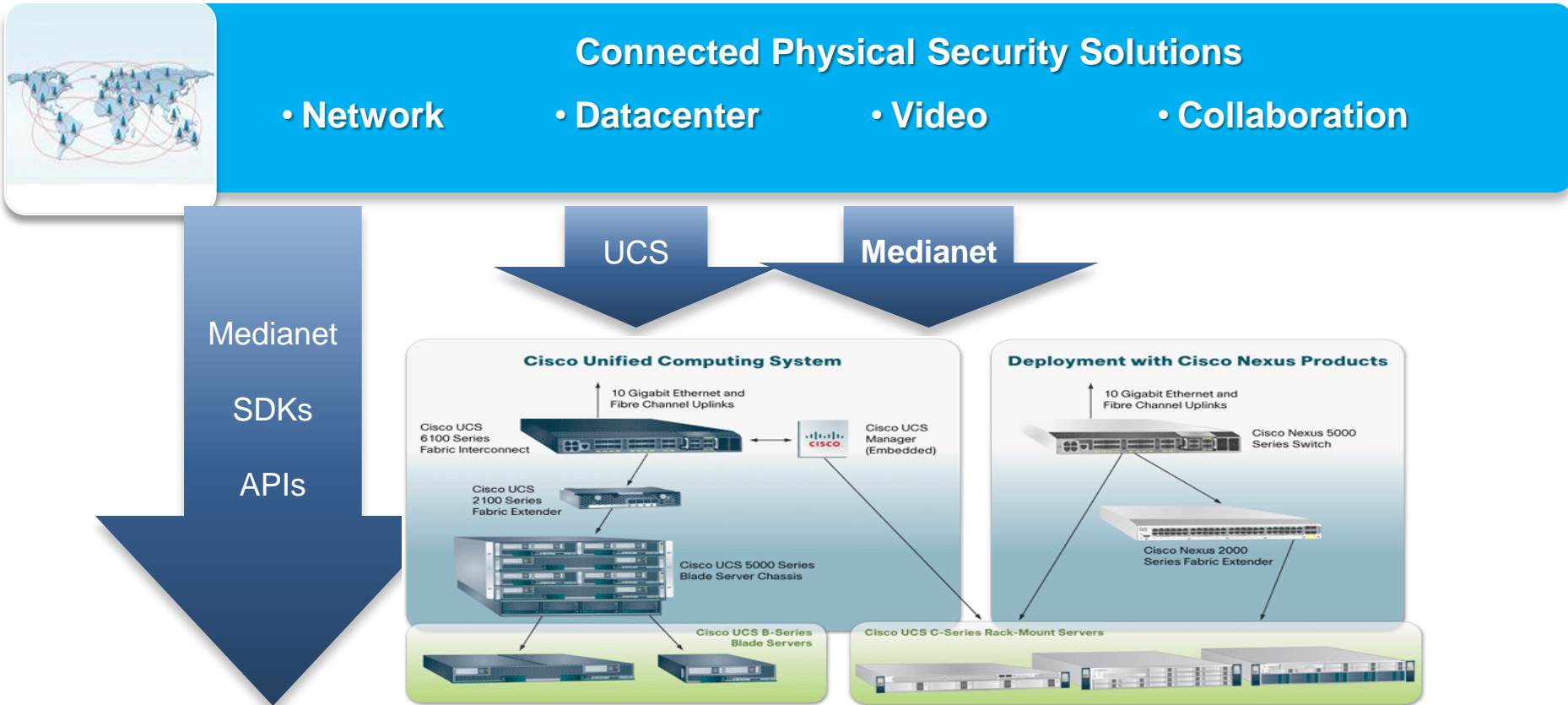
Cisco Storage Series Platform

- Two New Storage Models
 - CPS-SS-4RU
 - CPS-SS-4RU-EX
- - Scalable, high storage capacity
- 60 Disks in 4U for 120TB with CPS-SS-4RU
- Scalable to 180 Disks in 12U (360TB) with CPS-SS-4RU-EX expansion chassis
- - High Reliability
- Redundant controllers, power supplies, and interconnects
- Hot-Swappable active components
- Anti-vibration Design
- Counter-Rotating Drive Mounts
- Cool Drive Technology™
- - Active Drawer Technology
 - Up to 85% Energy Savings



New Virtualized UCS Solution Architecture

To support up to 500,000+ Video Cameras



Cisco embedded Medianet technologies used by Cisco and industry vendors



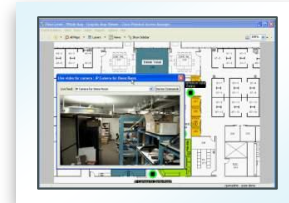
Access Control

Cisco Physical Access Control

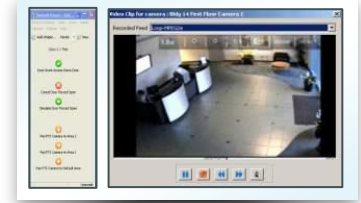
CPAM: Badge Enrollment



CPAM: Access Control Map Interfaces



CPAM: Video Surveillance Integration



Cisco Physical Access Manager Software

Secure IP Network

Hardware



Physical Access Gateway



1RU Server Platform
Scalable Storage,
Video Encoding

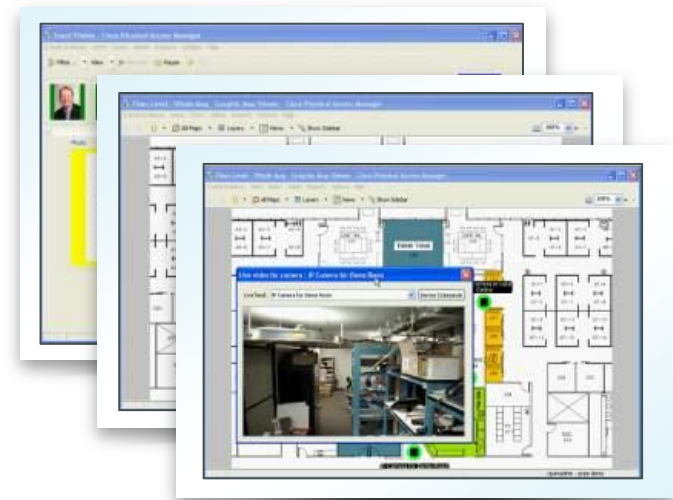


4-24 TB
Flexible Storage

Physical Security Multiservices Platform

Cisco Physical Access Manager

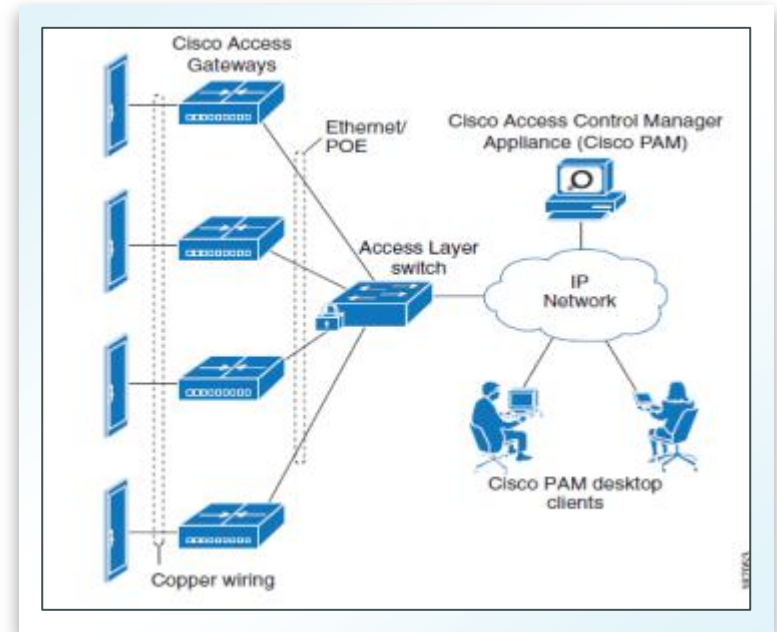
- Management application for configuring hardware, monitor activity, and enroll users
- Supports a comprehensive list of access control policies
- Easy integration with other IT systems
- Flexible reporting capability
- Easy access to video through integration with Cisco Video Surveillance Manager



Quick Launch Bar, Integrated Video

Cisco Physical Access Gateways

- Connects door locks and readers to the IP network
- Controls up to thousands of doors
- Directly configurable through a built-in Web server
- Supports offline operations if network connectivity is lost
- 250,000 credentials can be cached and encrypted
- Buffering for 150,000 events





IPICS

Incident Response

Cisco IPICS

IP Dispatch Console



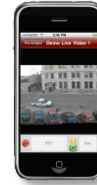
IPICS Server Software



P25 ISSI Gateway Software



Mobile Client App



IP Phone PTT App



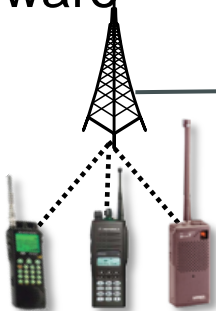
LMR Gateway Software



Cisco
IPICS
Software

Secure IP Network

Hardware



**P25/VHF/UHF
PTT Radios**



P25 ISSI Gateway



1RU, 2RU Server Platforms

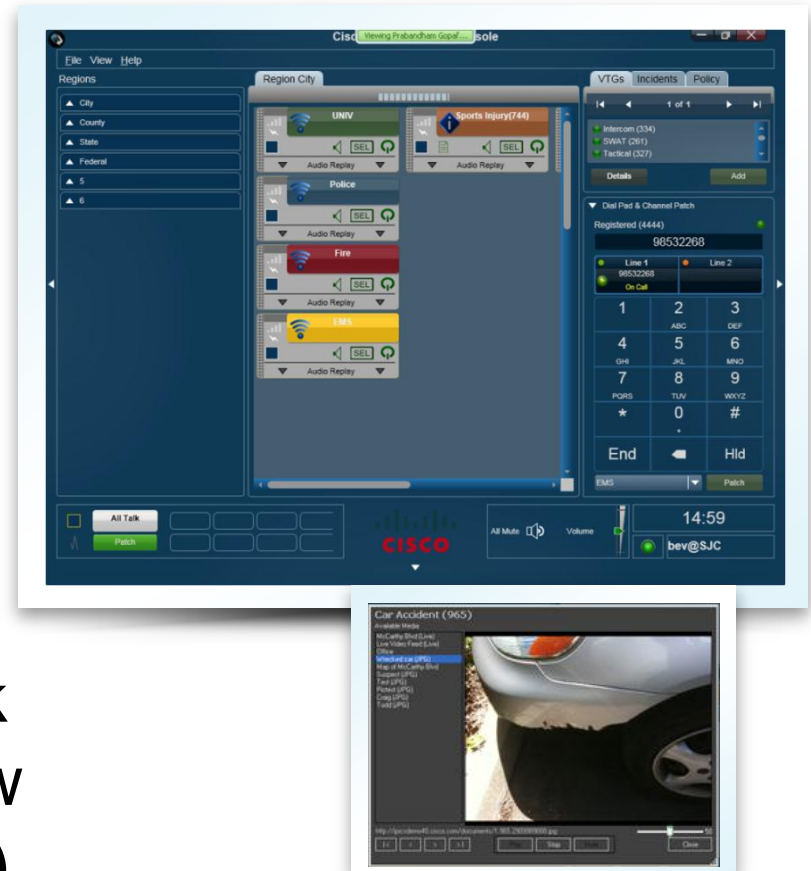
Scalable Storage, 4–24 TB Flexible Storage
Video Encoding



**Physical Security
Multiservices
Platform**

Cisco IPICS Dispatch Console

- Communicate with onsite personnel using all media
- Push video images and data to first responders
- Collaborate with first responders and other organizations
- Use with any radio network for smooth evolution to new radio protocols (P25, Tetra)

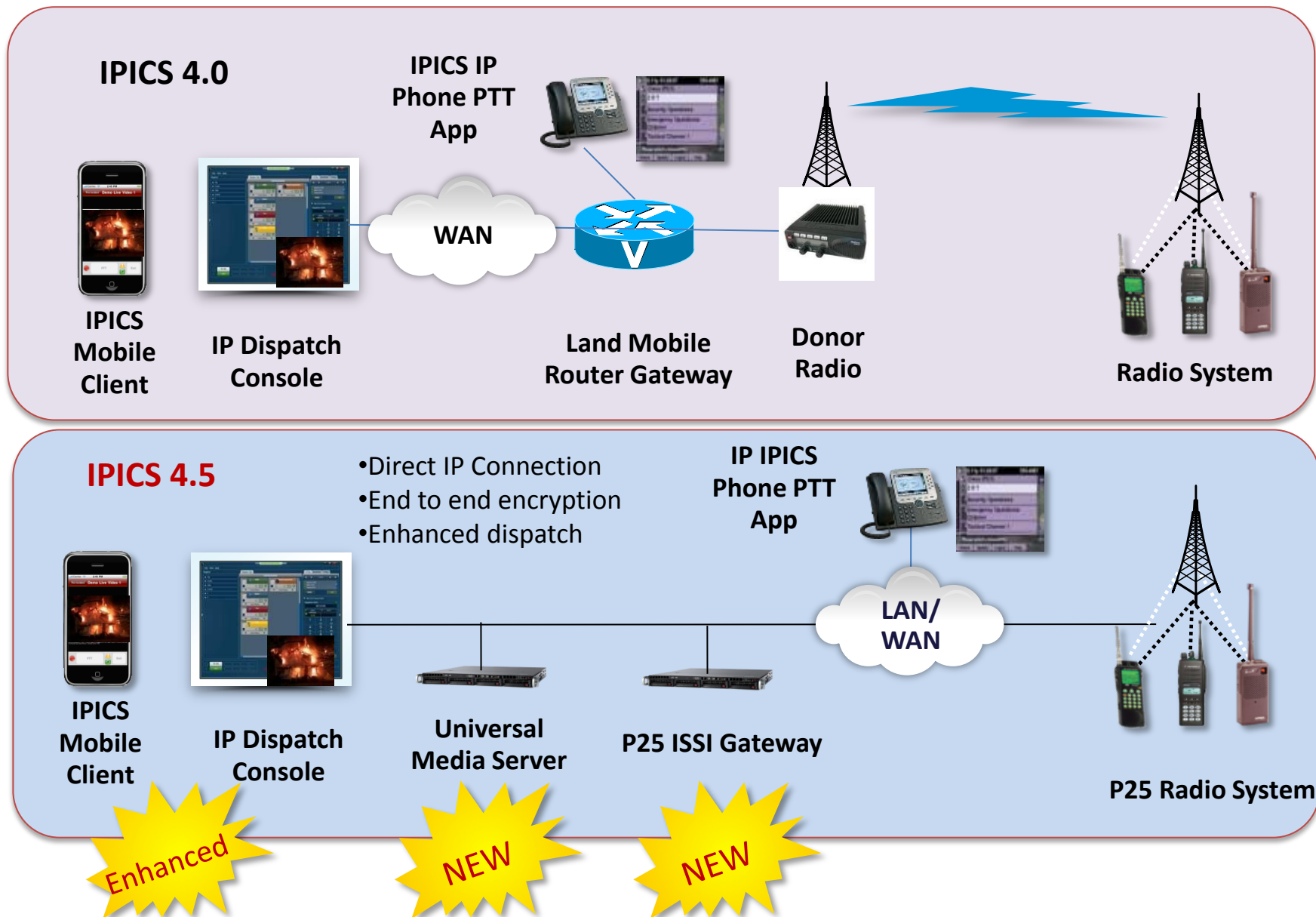


Cisco IPICS Mobile Client

- App for Apple iPhone
- Integrated PTT with radio interoperability
- Rich-media incident management
 - Increased situational awareness
 - Increased collaboration: Citizens/others
 - View incidents, status, media
 - Receive/send video, images
- 3G and Wi-Fi support
- Secure access

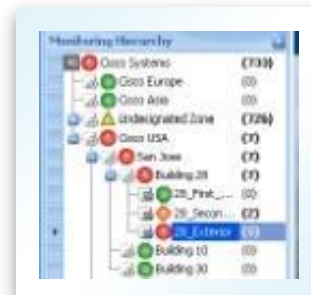
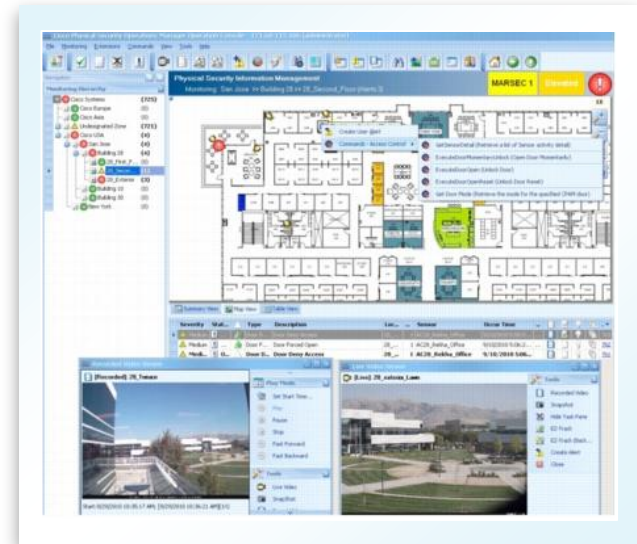


IPICS 4.5 New standard IP interface



Cisco Physical Security Operations Manager

- Scalable command and control interface that unifies Cisco Video Surveillance Manager, Physical Access Manager, and IPICS
- Improved security operations with unified command and control
 - Interactive maps
 - Control sensors and devices
 - Video matrix and guard tour
- Powerful incident management with policy-based event correlation
 - Correlates security events and alarms
 - Event-based video recording
 - Predefine operator tasks for events
- Advanced trend and incident reporting



- Video surveillance
- Access control
- Incident response
- Other systems



Industry Applications

Enterprise Application

Identify Occupancy of Buildings, Rooms, Lobbies (Virtual Lobbies)

Cisco 4000 Series IP Camera with Cisco Video Analytics



Cisco Video Surveillance and Cisco IPICS

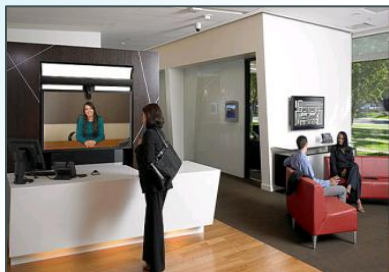


- Virtual Lobby Ambassador
- Energy savings in buildings
- Accurate occupancy counts/usage/traffic for buildings and rooms

“Three people in lobby of building 10 need help.”



Cisco TelePresence
Virtual Lobby
Ambassador Solution



Hospital Security Application

Secure Hospital Operations, Entrances/Exits, Visitor Areas

Cisco 4000 Series IP Camera
with Cisco Video Analytics



- Cisco PSOM
- Cisco Video Surveillance
- Cisco Physical Access Control
- Cisco IPICS

Automated
Workflow

Live/
Recorded
Video
Collaboration

Asset RFID
Newborn
Protection

Response



“Unauthorized
entry into
emergency
room area.”



- IP speaker/intercom
- Email to employee
- Text to security
- Voice call
- Paging
- Radio alert
- Digital signs

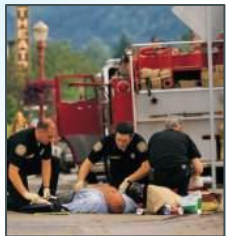
S+CC Application

Urban Security, City Surveillance, Emergency Response

- Cisco IP Cameras
- Cisco Video Analytics



911 Response



Transportation



- Cisco Video Surveillance
- Cisco IPICS
- Cisco Ecosystem Applications



- Effective public safety
 - Force multiplier
 - Deter crime
 - Safer community
 - Identify and prosecute
- Port/border security
- Traffic management

“Pedestrian traffic incident at 1st and Main.”



City Public Safety Command Center

- IP speaker/intercom
- Email to employee
- Text to security
- Voice call
- Paging
- Radio alert
- Digital signs



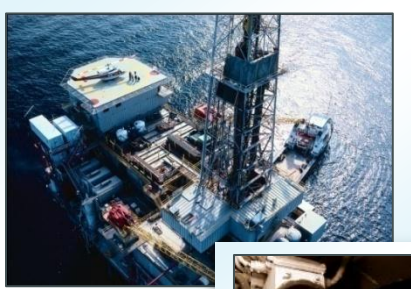
Energy Security Example

Remote Monitoring of Oil Pressure Gauges

Cisco 4000 Series IP Camera
with Cisco Video Analytics



Oil Rig



Pressure
Gauge

Cisco Video Surveillance
and Cisco IPICS



- Remote platform monitoring
- Ensure secure operations
- Reduce lawsuits/costs
- Improve response

“Warning: Oil
pressure too
high.”



- IP speaker/intercom
- Email to employee
- Text to security
- Voice call
- Paging
- Radio alert
- Digital signs

Manufacturing Application

Ensure Secure Manufacturing Operations

Cisco 4000 Series IP Camera
with Cisco Video Analytics

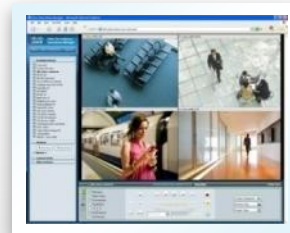


Manufacturing
Operations



Line
Problem

Cisco Video Surveillance
and Cisco IPICS



- Worker safety
- Ensure secure operations
- Reduce liability
- Improve response

"Malfunction:
Line stop in
sub-assembly
area."



- IP speaker/intercom
- Email to employee
- Text to security
- Voice call
- Paging
- Radio alert
- Digital signs

Education Application

Identify and Help Reduce Loitering

Cisco 4000 Series IP Camera
with Cisco Video Analytics



Cisco Video Surveillance and
Cisco IPICS



- Effective campus safety
 - Enables safe learning
 - Provides unified security
 - Efficient use of IT network
 - Ease to use and operate
 - Lower costs

“Student in
restricted area.”



- Door annunciator
- Email to employee
- Text to security
- Voice call
- Paging
- Radio alert

Cisco Physical Security for Education

Security Can Respond to Student Concerns in Real Time

Campus police issue lockdown through automated building controls.

Cisco Access Control

Emergency notification sent to campus digital signs.

Cisco Digital Media System

A suspicious person is following a student on campus.



Suspicious Person

Wireless video stream sent to campus police and first responders.

Cisco Video Surveillance and Unified Wireless Network

Student feels threatened and calls campus police.

Emergency notification sent to campus community (IP phone, SMS, email, etc.)

Cisco IPICS



Student



THANK YOU

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