Cisco Expo 2008

Video overvåkning

System & Operativ verdi

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Agenda

- Hvorfor?

  Physical Security Convergence Opportunities, Drivers and Challenges

  Cisco's Strategy and Vision, Value Proposition and Architecture for Customer Success

- Hva?

  Product Portfolio, Positioning and Roadmap

  Expanding Physical Security Applications with Cisco Technology and 3rd Party Interoperability

- Hvordan?

  Customer Successes and Conclusion

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Convergence Today and Tomorrow

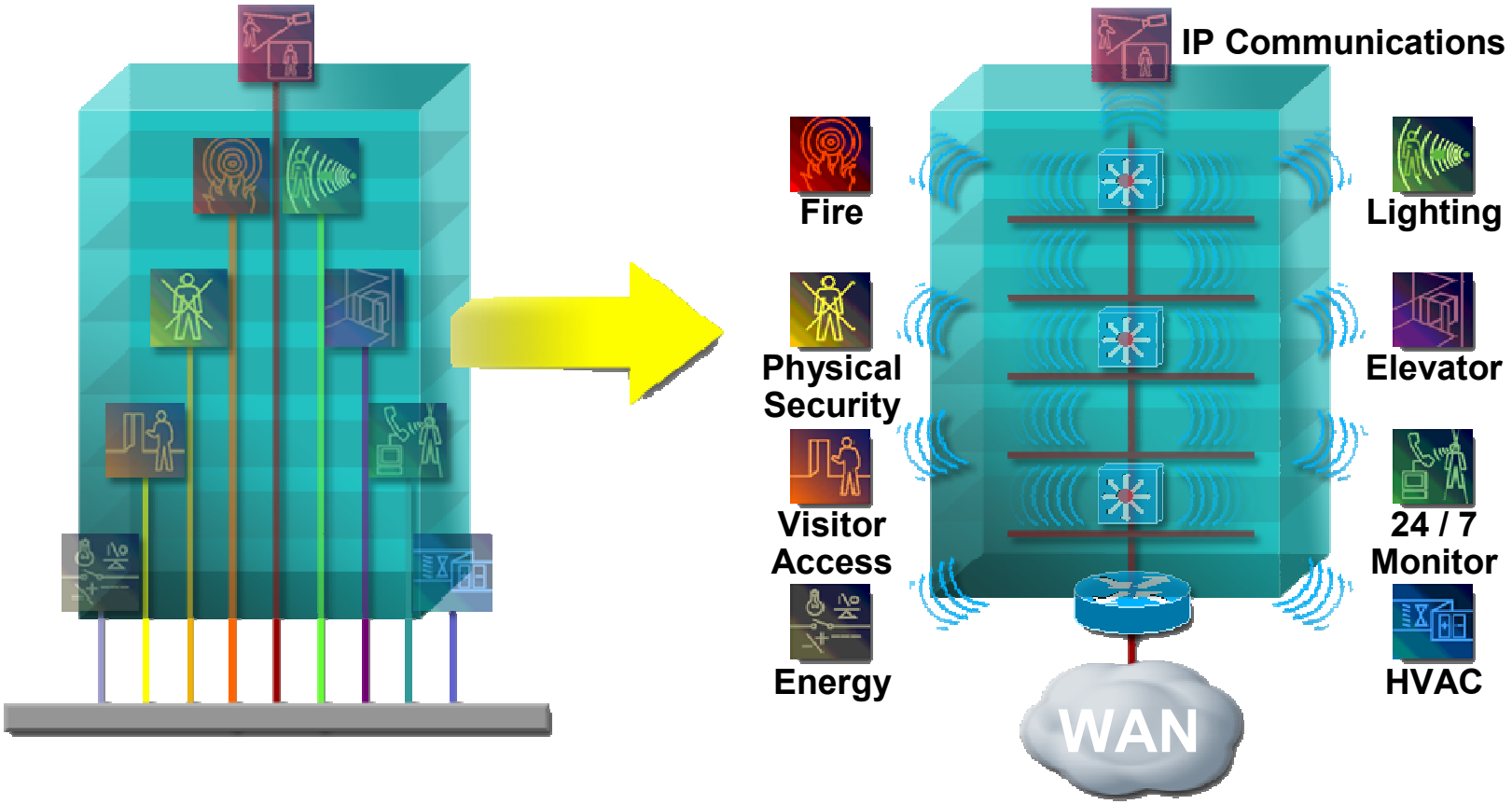
From Proprietary to Open, an IP Systems Approach

Today's Buildings

- Disparate Building Networks
- Proprietary and Redundant
- Sub-Optimal Information Usage

A Shared Vision

- Interoperable
- Efficient and Scalable
- Multi-use Systems Information
- Maximized ROI and Lower TCO



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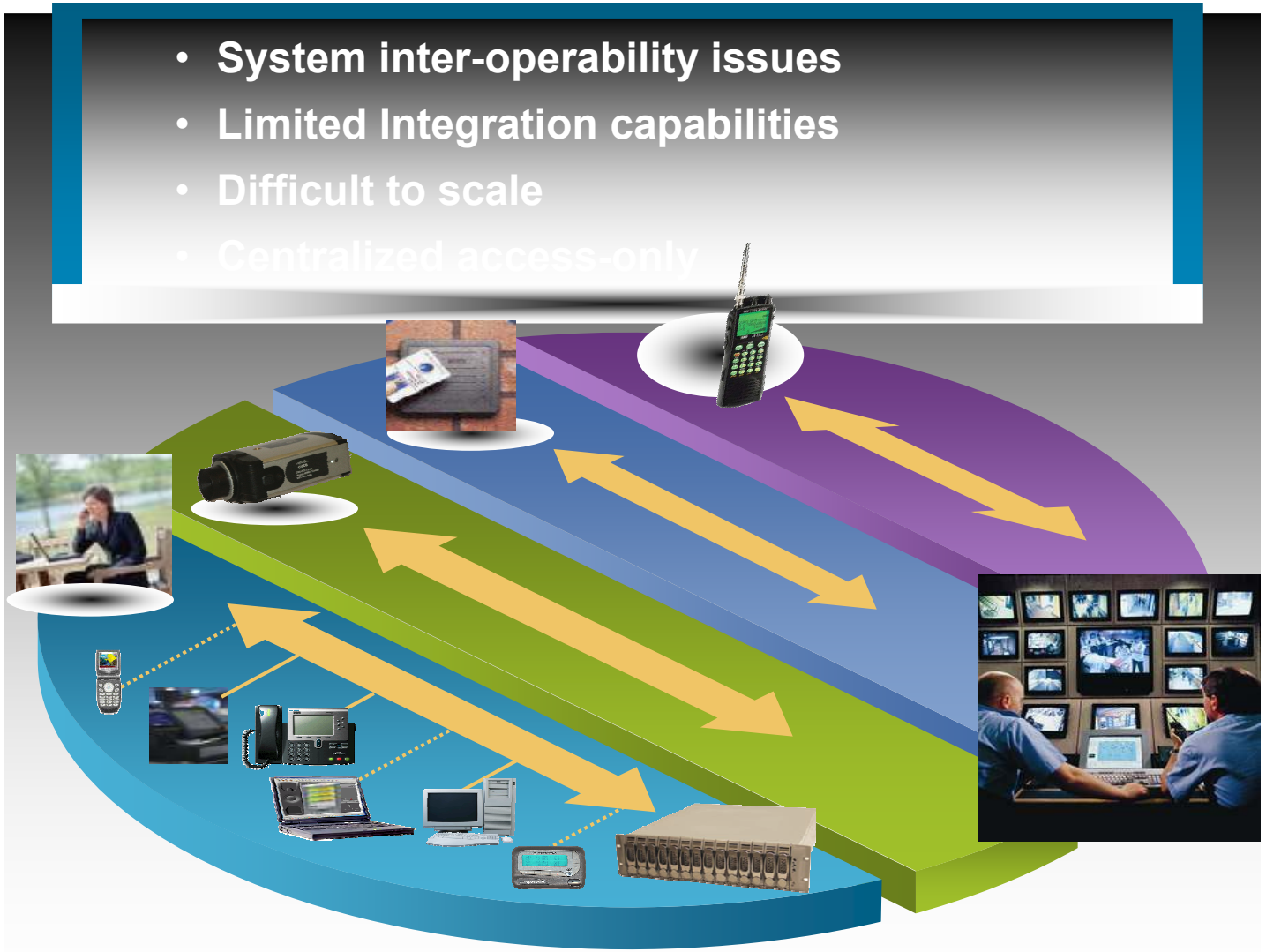
Physical Safety & Security Today

Challenge: Silo'd Analog Systems



Business Drivers for Network Convergence related to Physical Security

Organizational Demands:

- **Efficiency**
  - Relentless budget pressure
  - Core competencies
  - Faster response & resolution
  - Silo'd systems
- **Compliance**
  - HIPAA
  - HSPD-12
  - Sarbanes-Oxley
- **Business Innovations**
  - Access anywhere, any time
  - Standards based Interoperability
  - New business capabilities
  - Step-change reductions in cost

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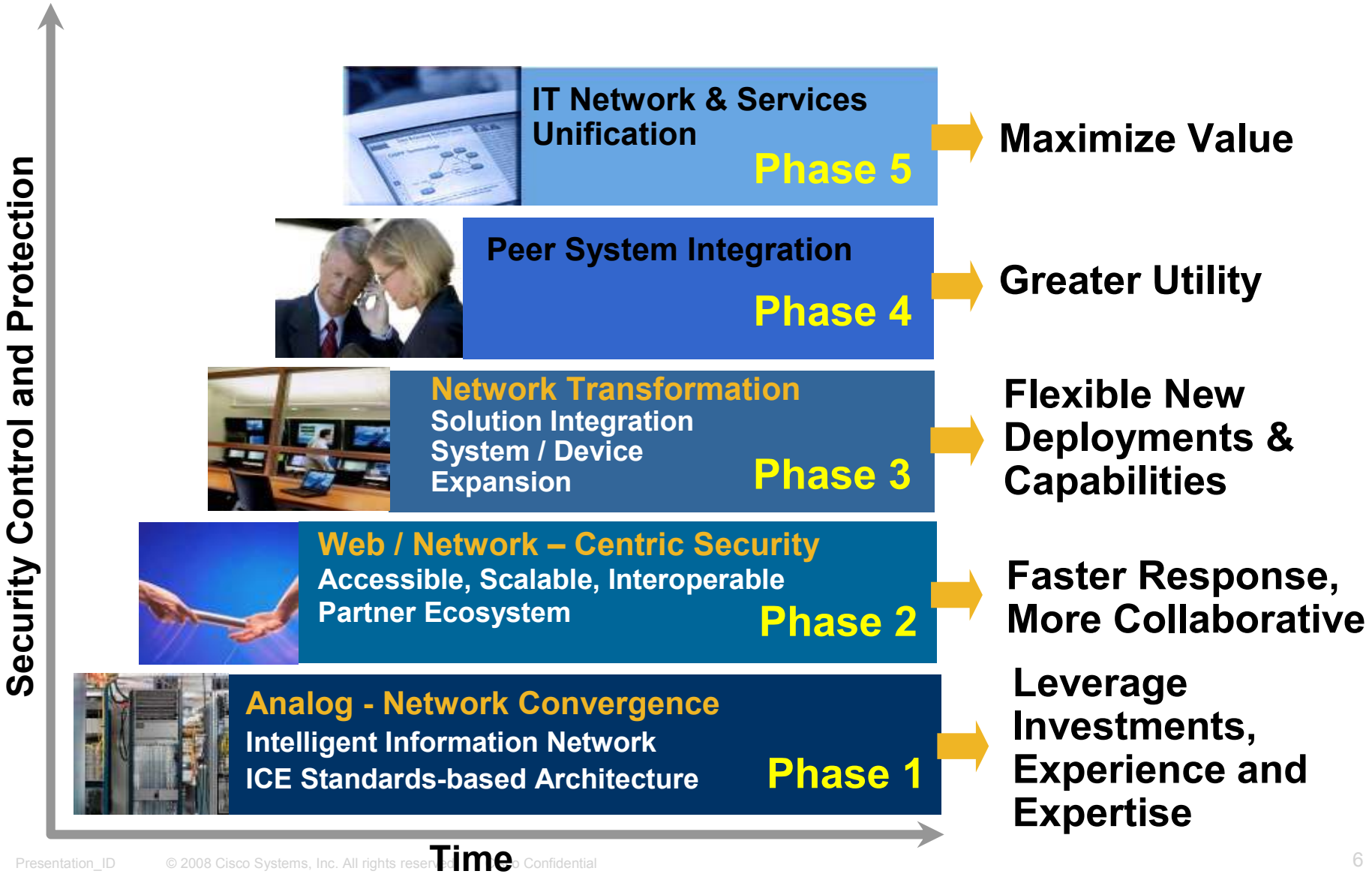
Cisco's Vision for Safety and Security
Delivering the Intelligent Converged Environment



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Cisco ICE Value Proposition
For Physical Security

Scalable and Secure

Local and remote policy-based access to video

Flexible

Smooth analog to* IP *migration*, leverage *existing investments

Interoperable

Standards-based architecture for easy integration

Network Convergence Experience & Expertise

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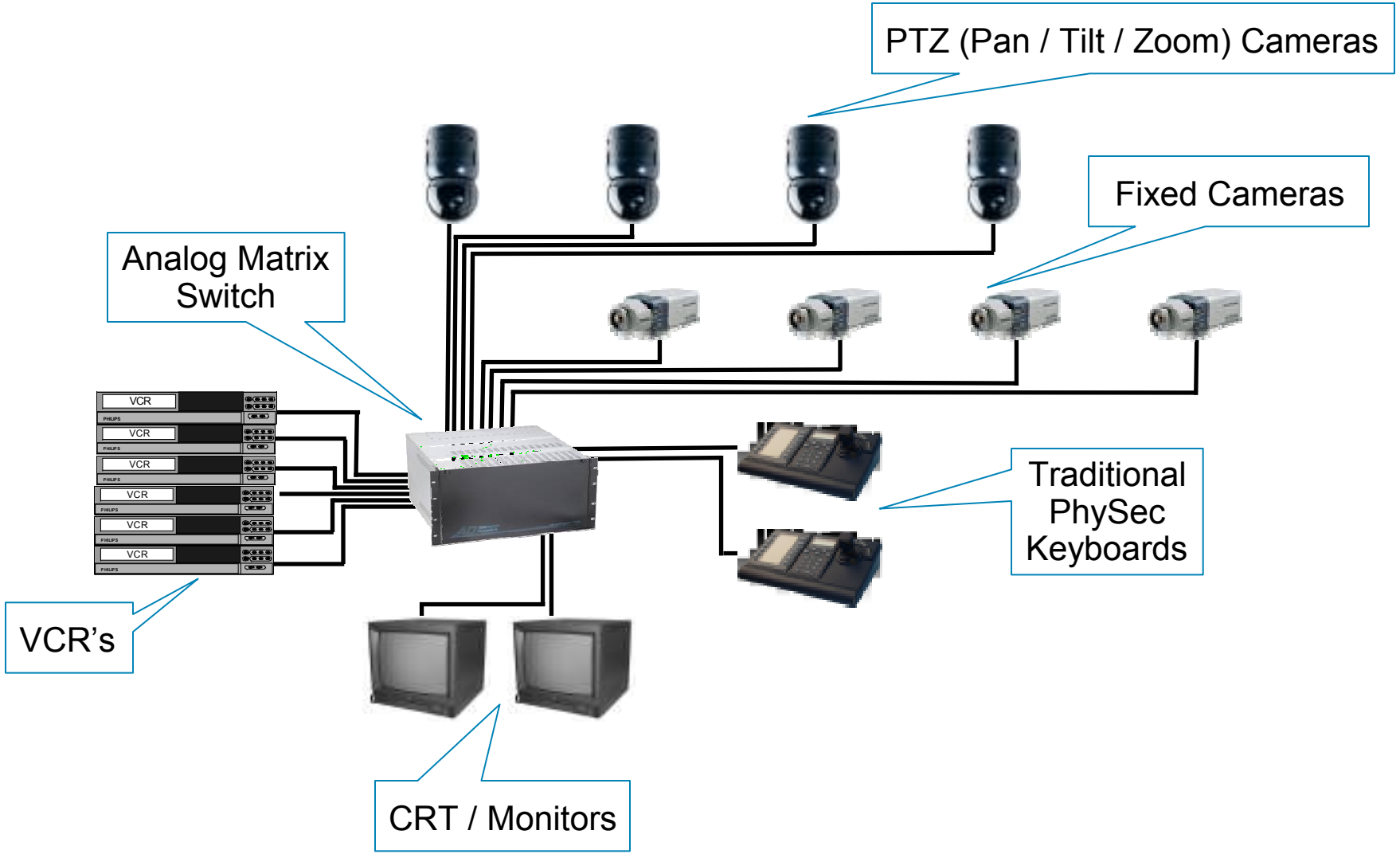
Sample Traditional Matrix Based Solution



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Why IP? Challenges of Traditional Video Surveillance

- Central station access only
  - No on-scene collaborative access
- Investigation delays
  - Review hours of video
- Video value limited to security
- Installation costs of traditional coax or fiber
- Number of monitoring stations is limited as costly cabling must be duplicated
- Matrix switcher cannot be easily expanded without new hardware
- Overall scalability, including the cost of expansion, is poor
- DVRs must be installed near analog matrix
- Low probability of threat detection and high false alarms
- Limited integration with additional sensory systems

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Why IP?
Network-Connected Video Surveillance

- Provides high-quality video across any number of sites
- Offers high redundancy

  In an emergency, control and monitoring can be easily transferred to any other point on the network

  The network keeps operating, even if one link or switch goes down

  Redundant NVRs allow recordings to survive

- The network allows system-wide diagnostics. Every device can be continuously monitored and an alarm raised if anything fails.
- In an analog system camera feeds have to be manually monitored, and faults may go unnoticed long periods. DVR faults may not be flagged and all recordings lost.
- Analog systems can implement limited diagnostics, but this is not an integral part of the system

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Video CODEC's

- Image Based:
  - JPEG / JPEG2000 (Typically measured in Thousands of Bytes)
  - MJPEG (Motion JPEG) (Typically measured in Thousands of Bytes)
  - Wavelet (Typically measured in Thousands of Bytes)

- Video Based:
  - MPEG-2 (Typically 2 - 20 Mbps)*
  - MPEG-4 (Part 2) (Typically ~3 Mbps)**
  - H.264 (MPEG-4 Part 10 + Higher Coding efficiency)
  - (Typically 40-50% less than MPEG-4 equivalent)***

* Used for numerous applications and quality levels
** 4CIF @ 25-30 Frames Per Second)
*** 4 CIF @ 25-30 Frames Per Second (CPU and Option Specific)

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Video Resolution

Dimensions	PAL	NTSC
QCIF	176 x 144	176 x 120
VGA	640 x 480	640 x 480
SVGA	800 x 600	800 x 600
XGA	1024 x 768	1024 x 768
CIF	352 x 288	352 x 240
2 CIF	704 x 288	704 x 240
4 CIF	704 x 576	704 x 480
D1	720 x 576	720 x 480

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Resolution Comparison
1080i (1920x1080) with CIF resolution (352x288)

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Resolution Comparison
1080i (1920x1080) with D1 resolution (720x576)

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Resolution Comparison
1080i (1920x1080) with 720p resolution (1280x720)

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Resolution Comparison
1080i (1920x1080)

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Criteria for World-Class Converged Systems

Physical Security Can Thrive on an IP Network!

- Security
- Scalability & Availability
- Bandwidth Control
- Manageability / Control
- Accessibility
- Interoperability
- Storage
- Information Utility

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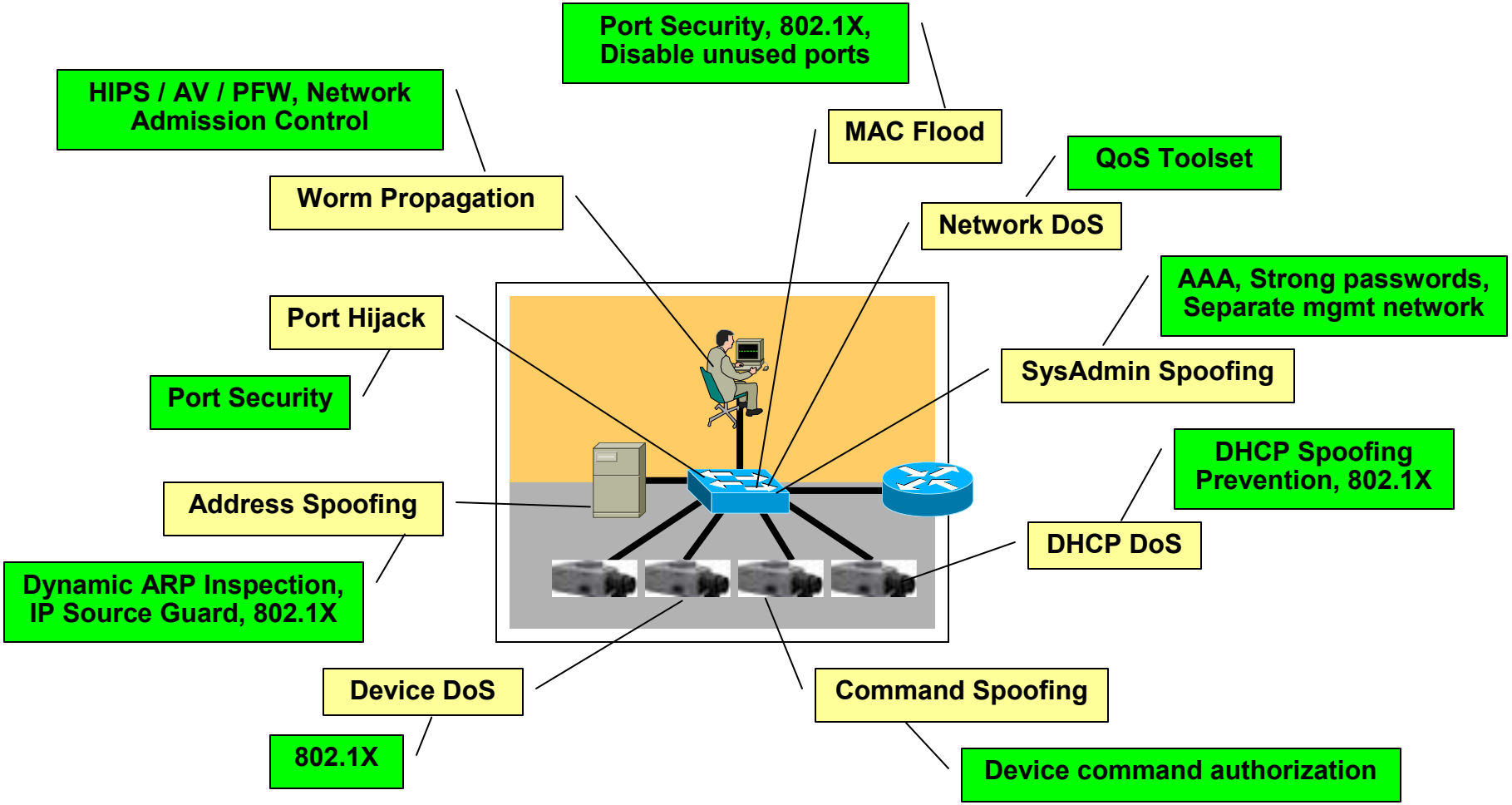
Security Protection Against Hacks & Viruses

Self-Defending Network



NOTE: Segmentation and firewalling techniques not considered here as this design assumes complete physical separation

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Cisco Expo 2008

HVA?
Product Portfolio

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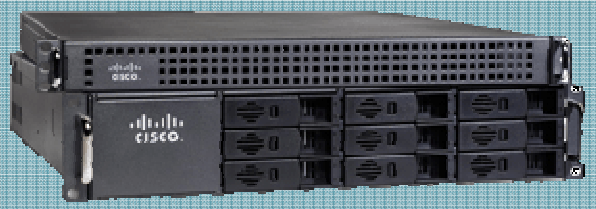
Cisco ICE Video Surveillance Portfolio

Interoperability, Investment Protection, New Capabilities

Software

Viewing, Management, Virtual Matrix
Switching, Configuration, Customization
PC and Web Clients; Application Integration



Video Recording and Storage

IP & Analog
Event-tagged
Local, Remote, Internal, SAN, DAS

IP Gateways

Analog camera encoding
Analog display & control decoding
Standalone & Rackmount

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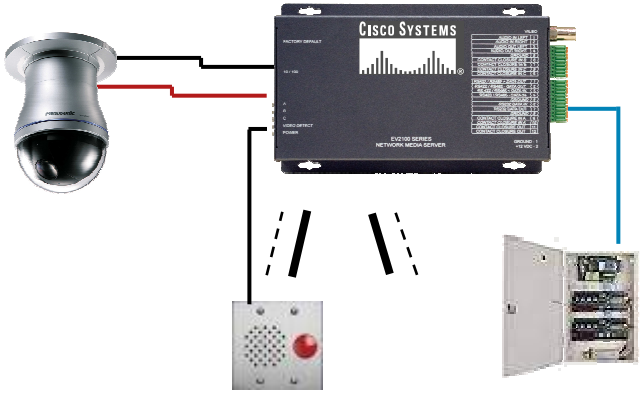
Cisco IP Gateway Encoders

Interoperability, Network Access, Best-of-breed cameras



Intercom Access Devices

Separate control and video processing architecture

- Broadcast-quality: D1/4CIF (720 x 480 at 30 IPS NTSC or 720 x 576 25 IPS PAL)
- Low latency MPEG4 supported with DSP and ASIC-based hardware
- Dual mix-streaming of Unicast & Multicast, same or different frame rates*
- Availability: Last 30 second video processed buffer
- Embedded Video Surveillance Manager Gateway Software for Configuration and Virtual Matrix Switching

1 Port Encoder Features

- Category 5/6 UTP, Dual and Single Strand Multimode or Single Mode Fiber
- 2 audio, 2 serial, 3 contact in, 1 contact out

* 2nd stream is CIF resolution only

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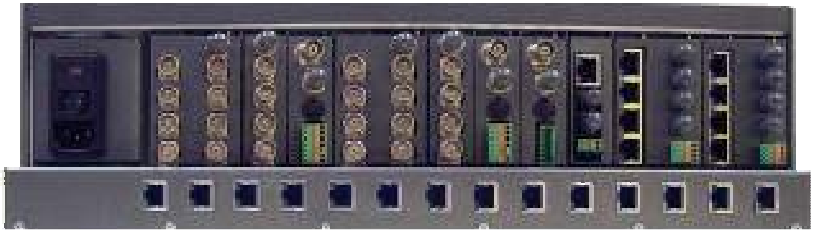
Cisco Video Surveillance Convergence Chassis

High Density Encoding / Decoding



16 Slot, 3 Rack Unit Modular Chassis

- From 1 to 64 IP Gateway encoder / decoder ports in a single chassis!
- Supports modular IP Gateways and front-side repeater switch ports
- Gigabit Ethernet, Fast Ethernet (10/100) & Universal Serial Bus chassis options
- External, 115V or 230V power supply options

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Third-Party Analog Camera Support

Domes and All Fixed NTSC / PAL Cameras

All NTSC and PAL Fixed Analog Cameras

Vendor	Model	Protocol	Baud Rate
Bosch	AutoDome (G Series)	RS-232 and RS-485	9600, 19200
Pelco	Spectra II, III, and IV	Pelco D Protocol	1200 – 9600
AD	Sensormatic Speed Dome Ultra VI and VII	RS-422	4800
Panasonic	WV-CS854/954	RS-422	4800, 9600
Cohu	iDome	RS-422	9600
Honeywell	Ultrak KD6	Pelco D Protocol	1200-9600

Bosch PTZ CCTV Cameras

Pelco PTZ CCTV Cameras

AD Ultra VI and VII PTZ CCTV Cameras

Panasonic WV-CS954 PTZ CCTV Cameras

Ultrak KD6 PTZ CCTV Cameras

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Third Party Keyboard Interoperability
Functions

- PTZ – Pan, Tilt, Zoom
- DVR Functions - Digital Video Recorder Functions (Fast Forward, Rewind, Single Frame Fast Forward, Single Frame Rewind, Instant Replay)
- Hybrid Mode

Live	
Camera Selection	YES
PTZ (Optical Zoom)	YES
DVR	N/A
Recorded	
Camera Selection	YES
PTZ (Digital Zoom)	YES
DVR	YES

- VMS Mode

Live	
Camera Selection	YES
PTZ (Optical Zoom)	YES
PTZ (Digital Zoom)	YES
DVR	N/A
Recorded	
Camera Selection	YES
PTZ (Digital Zoom)	YES
DVR	YES

Pelco Matrix Switches, KB300 Keyboard Controller

Bosch Matrix Switches, IntuiKey—Universal Keyboard Controller

All NTSC and PAL Analog Monitors

American Dynamics Matrix Switches, 2088 & CC1100 Keyboard Controller

Panasonic WV-CU650 Keyboard Controller

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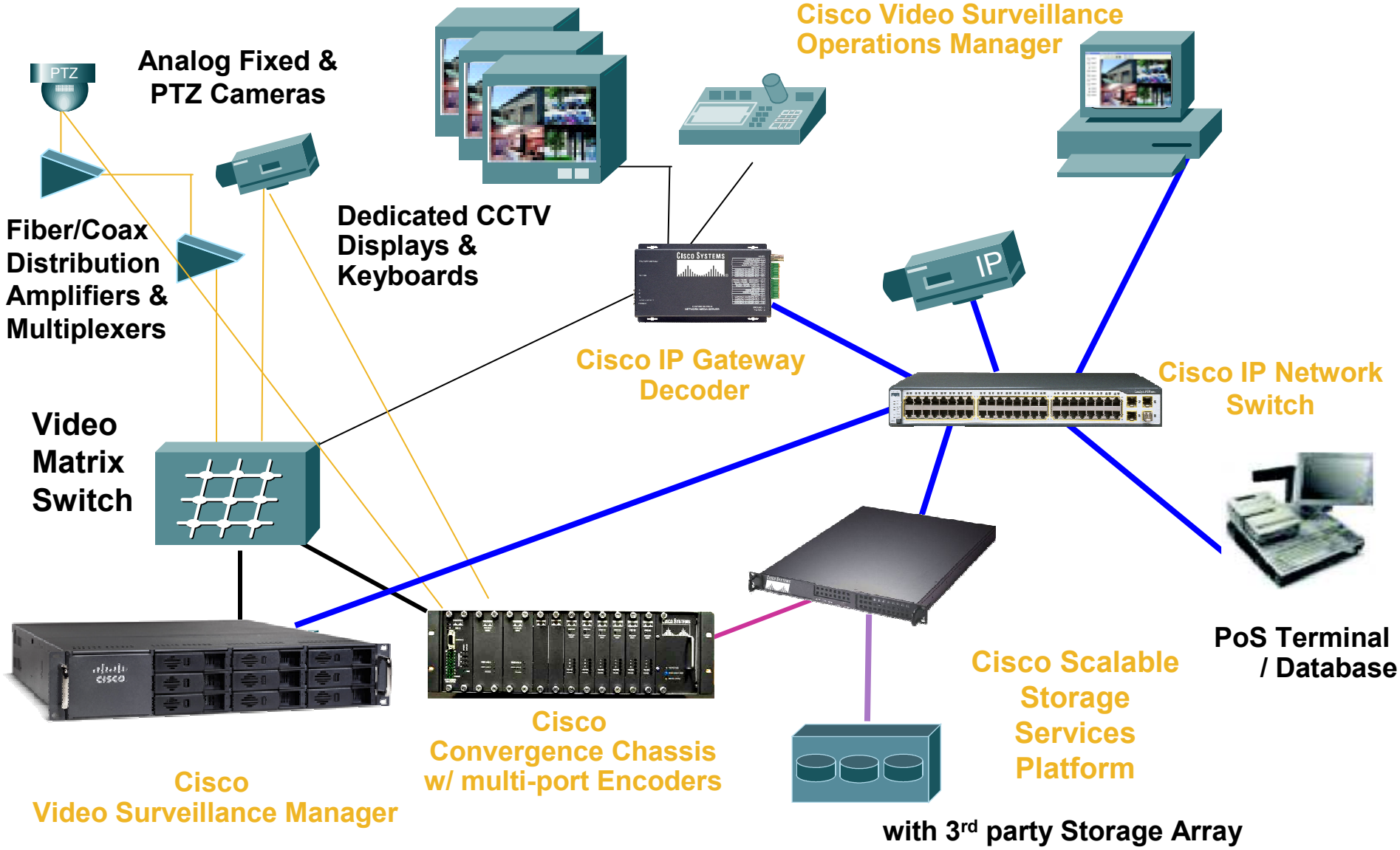
Cisco Analog to Hybrid to IP Video Surveillance

Leverage Existing Investments and Enable New Capabilities



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Cisco IP Video Surveillance Cameras 2500 Series

- CIVS-IPC-2500
- Orderable: March 2008
- FCS: March 2008
- List Price: $1000

- CIVS-IPC-2500W
- Orderable: June 2008
- FCS: June 2008
- List Price: $1250

Camera shown with optional DC auto iris lens, available separately

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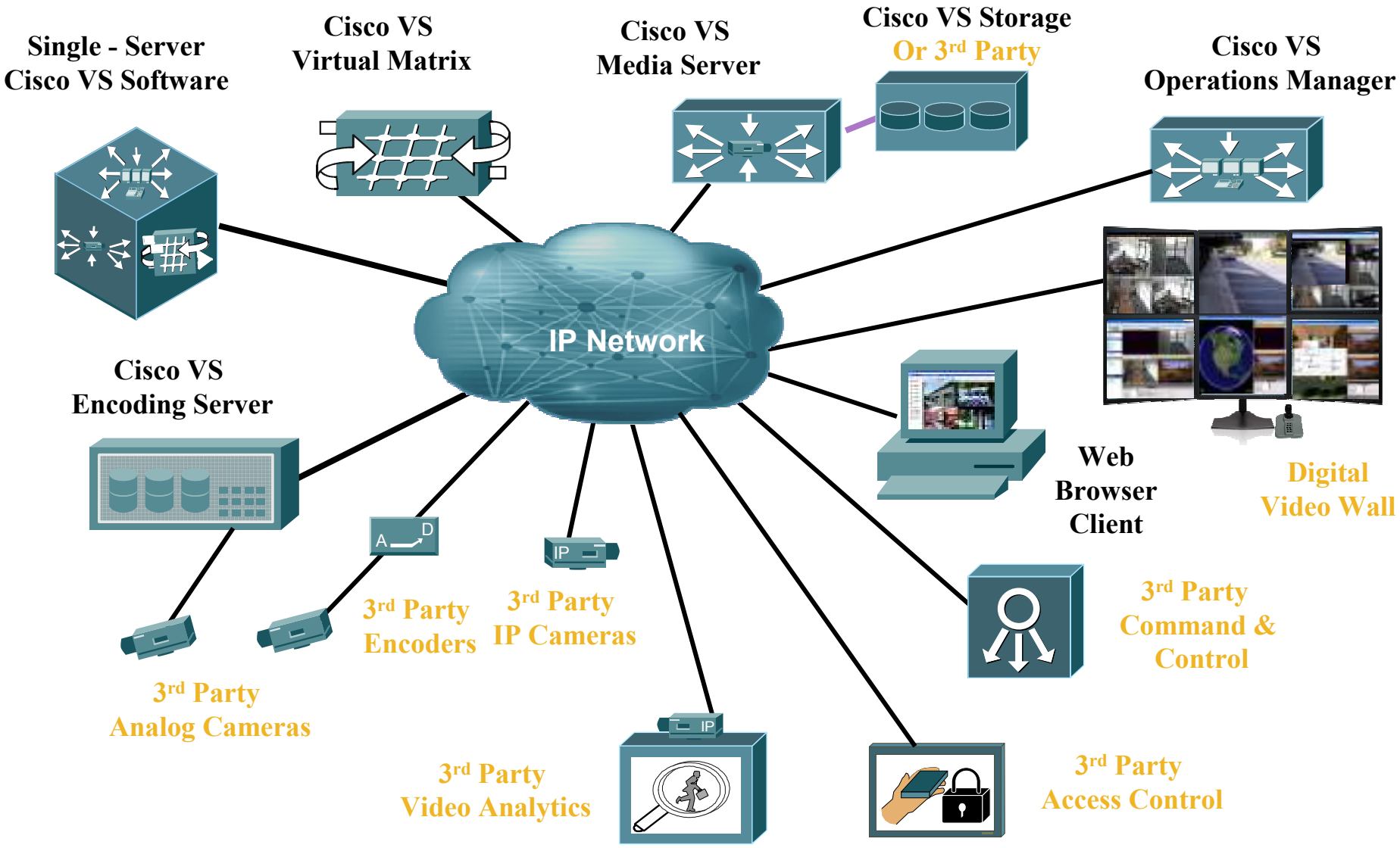
Cisco ICE Video Surveillance Flexibility
3rd Party Interoperability & System Integration



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Integration & Interoperability

Cisco ICE Ecosystem System & Application Providers

Video Sources	Transport & Route	Local/Central Aggregation & Storage	Specialty Applications	Application, Data, Integration	Command & Control
BOSCH	CISCO	IBM	INSIGHT VIDEO NET	LENEL (A UTC Fire & Security Company)	PROXIMEX
AXIS COMMUNICATIONS	Others	nexsan	VIDIENT	HIRSCH ELECTRONICS	BOEING
PELCO		NetApp	ObjectVideo		INTERGRAPH
IQinvision		hp invent	IBM		ARINC
SONY					NORTHROP GRUMMAN
TOSHIBA					UNISYS
VERINT					L3 communications
Over 30					

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Cisco VS Surveillance Manager
Web-based Management, Distribution, Viewing

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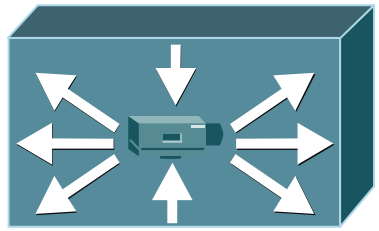
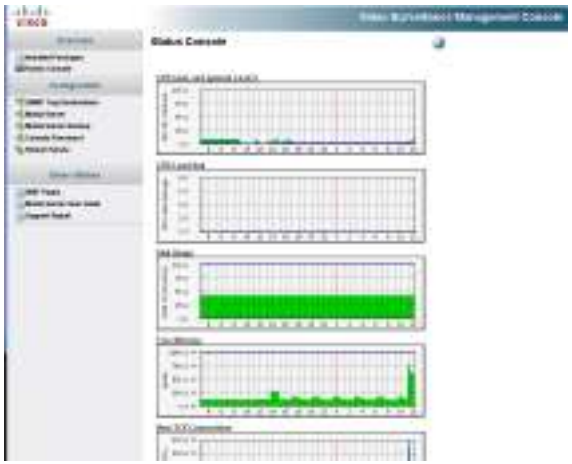
Cisco Video Surveillance Media Server
The Core Component of Video Surveillance Manager

- Video “engine” –

  Collects, manages, distributes, archives video
- Highly scalable – cameras, clients, storage
- Simultaneous multiple codecs support
- Simultaneous multiple encoders support
- Flexible - simultaneous archives at different frame rates, durations, locations
- Platform or end-to-end solution





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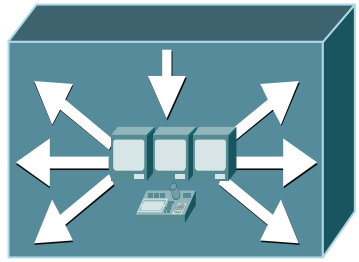
Operations Manager Features Overview



For Administrators:

- Customizable branding and look and feel
- Device Management
- Scheduled and event-based video recording
- User and role management
- Activity and system reports
- Ability to push pre-defined views to any number of monitors with VM
- Allows configuration data to be mass imported from a spreadsheet

For Operators:

- Secure login
- Flexible video displays
- PTZ controls and presets
- Digital zoom and instant replay
- Archive review and clippings
- On-demand recording
- Event notifications

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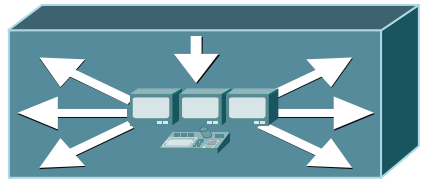
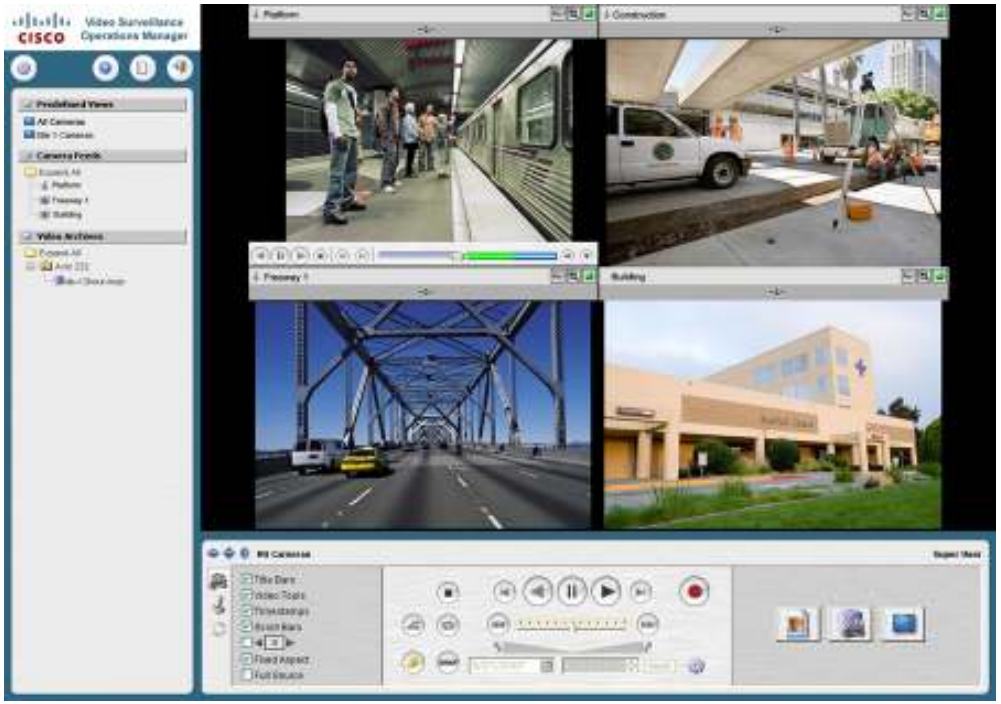
Operations Manager

Operator Mode – flexible video displays



- Display live and archived video streams simultaneously
- PTZ controls
- Archive controls – play, pause, step forward and backward
- ‘Record Now’ feature while viewing live video
- Control of viewing attributes (aspect ratio, title bars, time stamps, etc)
- Snapshots



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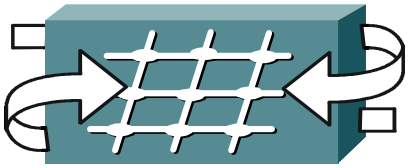
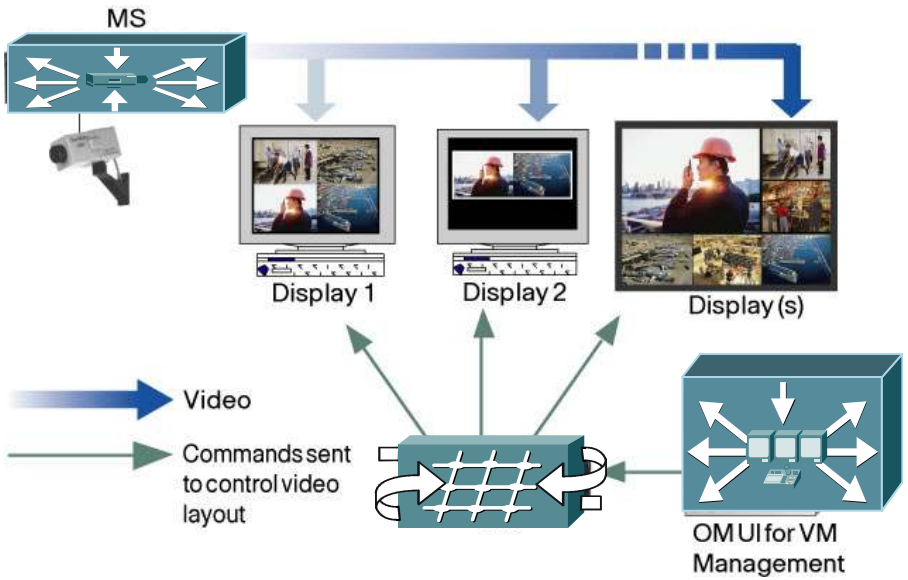
Cisco Video Surveillance Virtual Matrix

- Controls an infinite number of video displays on network
- Live & Archive video
- Distributes to Video Wall
- Event/Action

  Push video to remote screens





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HVORDAN?

BaneTele EMC² where information lives ERICSSON LEADING YOU FORWARD NOKIA Nokia for Business PANDUIT DATAMETRIX Empowering Communication ementor IBM FUJITSU SIEMENS

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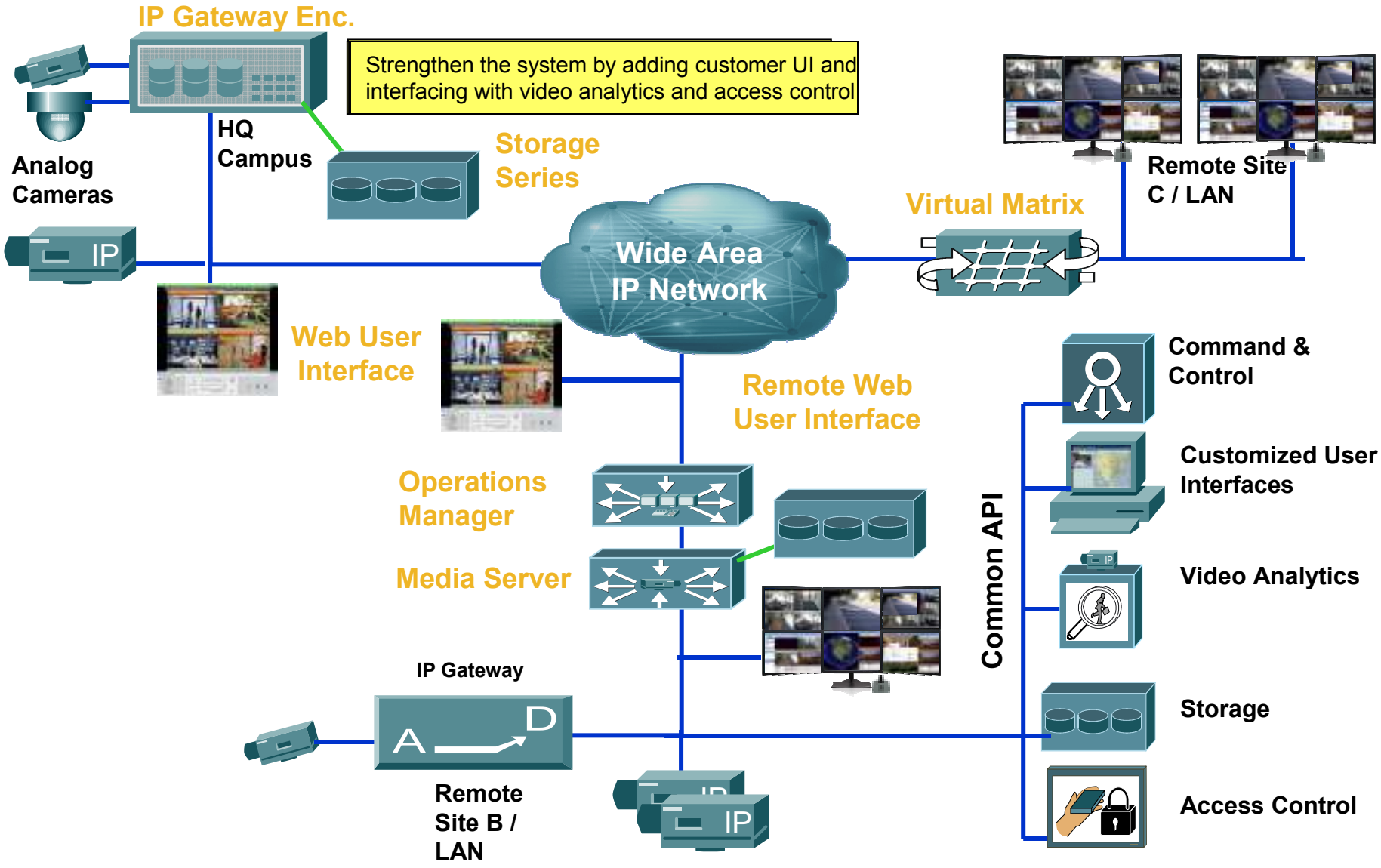
Cisco Video Surveillance Manager

Smooth Migration from Analog to Network-Centric Deployments



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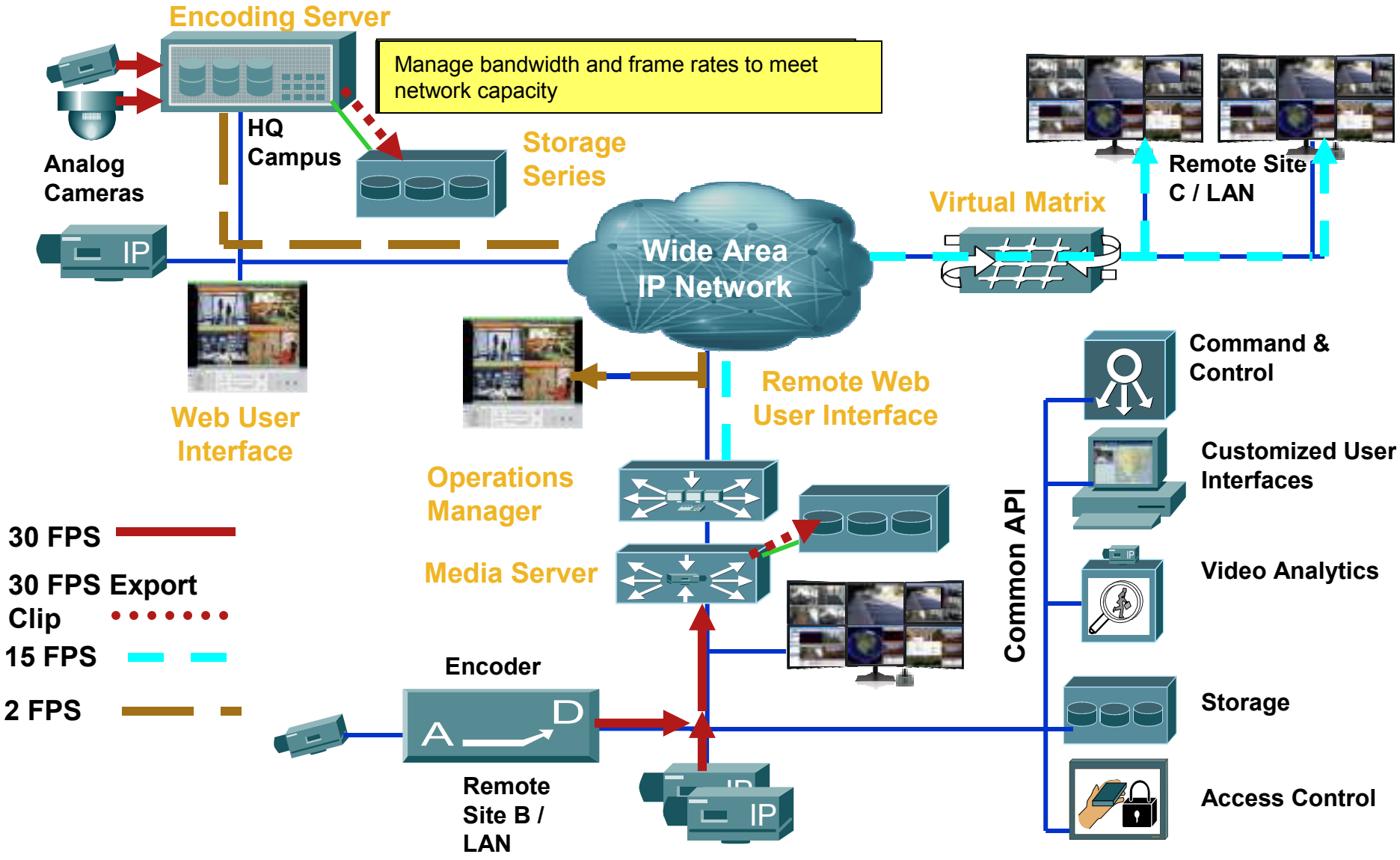
Cisco Video Surveillance Manager Traffic Flow



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Video Surveillance Design Tips

- Decide how many cameras are required, what video quality for viewing and recording is required, how many days of recording are needed. Calculate the requirement of bandwidth and recording storage.
- Each device is assigned to the same virtual net and can interconnect.
- Can bandwidth be accommodated on the existing LAN/WAN?
- Local storage can reduce network traffic and improve redundancy.
- Compressed video can be transmitted across the network using TCP, UDP Unicast or UDP Multicast protocols
- If no movement is detected, then the bandwidth used is dramatically reduced - effective in low activity areas such as buildings that are unoccupied at night.

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Exponential Synergies: Innovative Capabilities

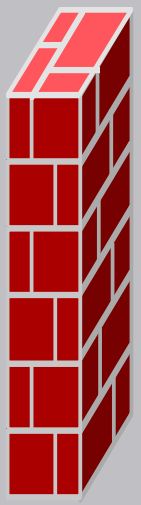
Physical and Logical Security Convergence

Mode of Attack

Physical Attack

Information Attack

Physical Security



Information Security

Targets

Brand

People

Facilities

Computers

Intellectual Property

$$$

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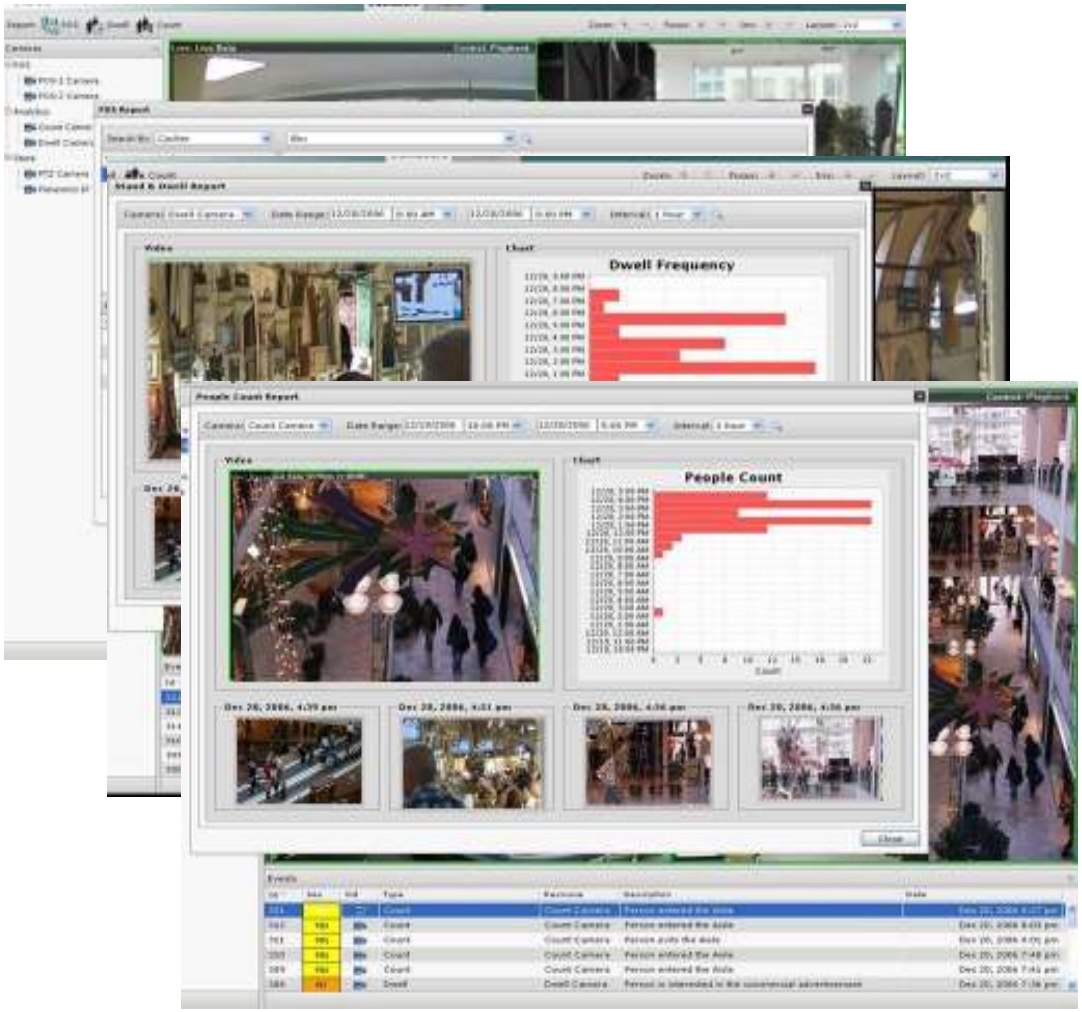
Maximize ROI - More Responsive & Collaborative

Enabled Through Integration and Greater Interoperability



3rd Party Application Ecosystem

Video + PoS transactions

Video Analytics
- Dwell Time
- People Counting
- Motion

Command and Control

3rd Party Devices & Systems Ecosystem

IP cameras, Encoders

Access Control

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Value Creation – Enabled through Convergence
Network IP Telephony + Video Analytics

Enhanced Customer Satisfaction
More Productive Sales

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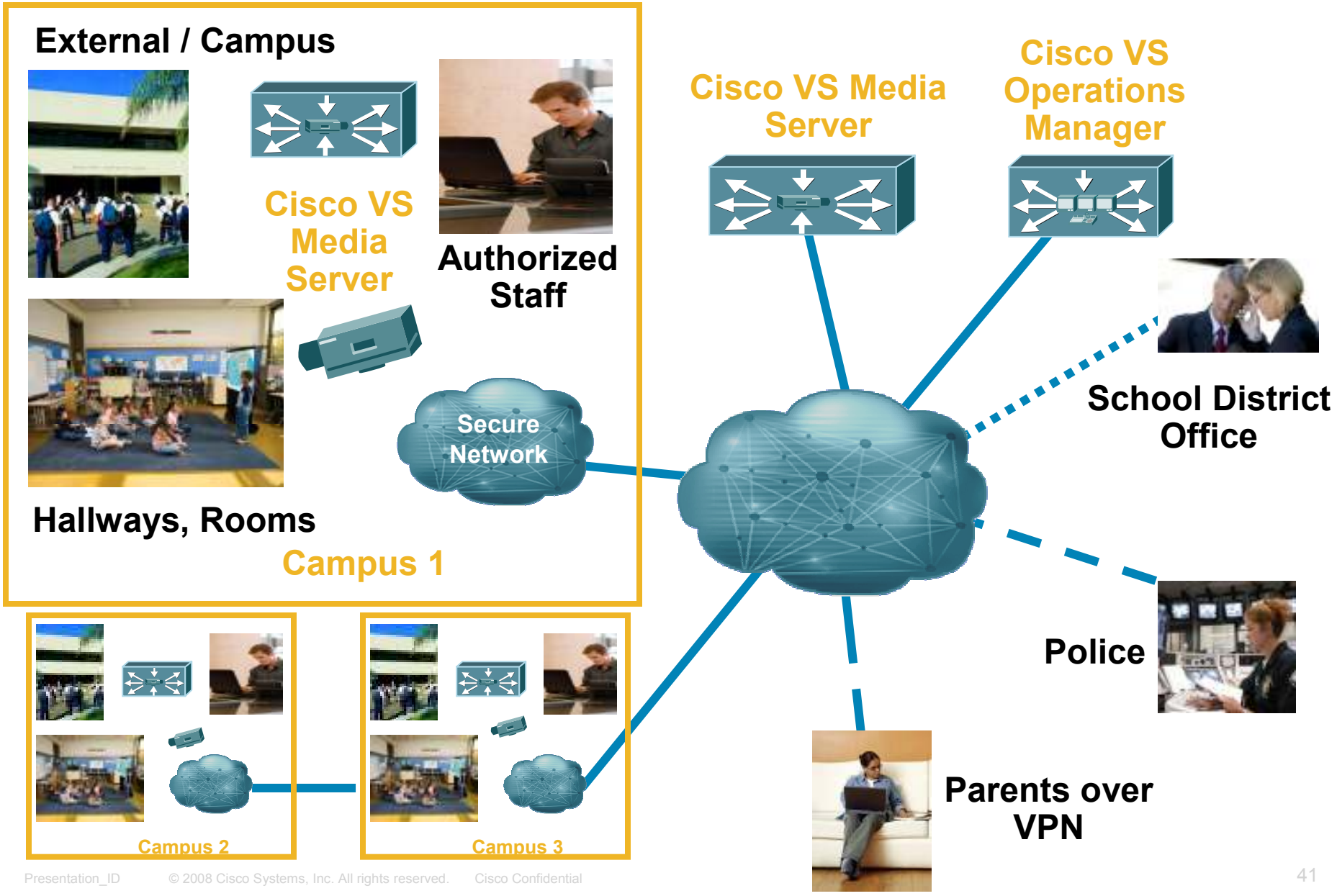
Education

Cisco Video Surveillance: on the Job



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Cisco Corporate Physical Security Experience: Lower TCO and Maximized ROI

Converged Physical-Security, HR, Finance, Sales Network

- Policy-based access and segmentation
- QoS prioritization
- IT monitors system health, remediate problems, maintains servers

Cisco Physical Security Ops Results

- ***Centralized S&S operations to 4 global locations***
- ***Hybrid Network of Analog and IP devices***
- ***Reduced false alarms by 90%***
- ***Reduced storage requirements by 50% and number of servers by 40%***
- ***Reduced maintenance costs by 20%***
- ***Decreased MTTR (NVR)***

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Questions and Where to Go Next…

For all general networking information, see the Cisco Web site:

http://www.cisco.com

For Networking Training:
http://www.cisco.com/web/learning/index.html

For more on Cisco Video Surveillance:

http://www.cisco.com/go/videosurveillance

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