



Cisco rešenja za Video nadzor



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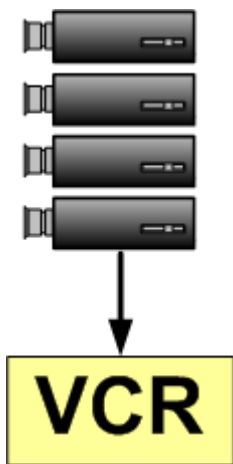
What Customer Problem is Cisco Physical Security Addressing?

- **Casinos**
 - Fraud at the gaming table
 - Las Vegas casinos lose 6 percent of their revenue to theft annually
- **Education**
 - Student and faculty protection
 - April 16, 2007: Virginia Tech – 33 killed, 15 wounded
- **Transportation**
 - Incident control for road, rail and ports
 - DHS infrastructure protection grants in 2007 totaled \$445m
- **Retail**
 - Loss Prevention
 - Shrinkage cost retailers in 32 countries \$ 98.6b or 1.36% sales
- **Manufacturing**
 - Staff and asset protection
 - FBI: surveillance cameras activated in 6,985 robberies in 2006



Video Evolution

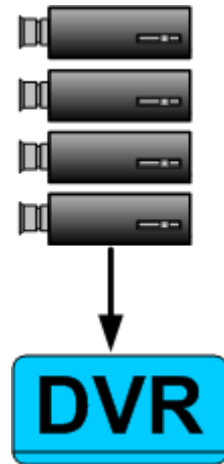
Analog Cameras



VCR & Analog

- Standalone box
- Poor image
- Hard to search
- No remote access

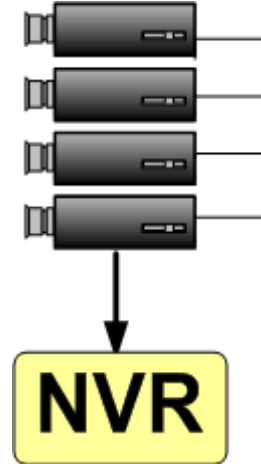
Analog Cameras



DVR

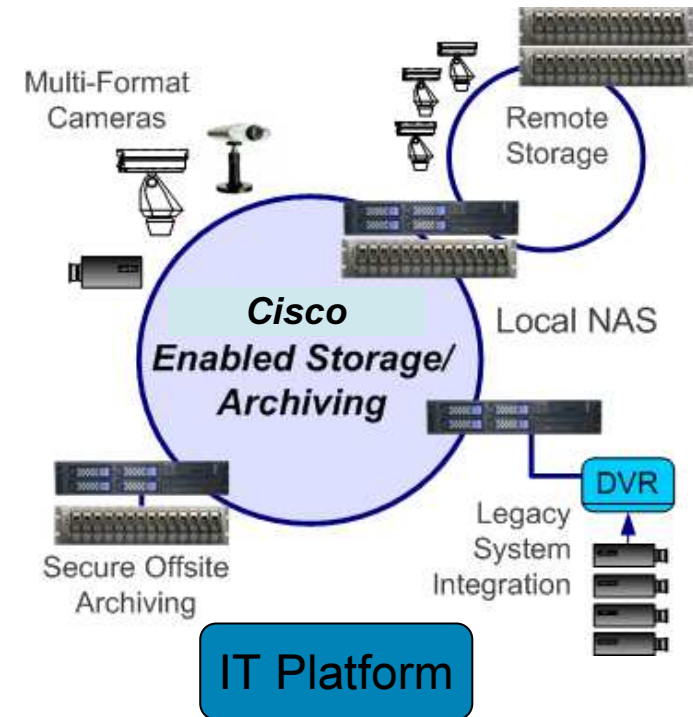
- Easier to search
- Consistent Quality

Analog Cameras



NVR

- DVR benefits
- More storage options
- Limited network connection



Cisco Video Surveillance Platform

- Secure viewing from anywhere
- Fail-safe redundant storage
- Easy integration with other systems
- Enterprise class storage and support

A snapshot of Cisco's solution

- **Network-based video surveillance software, cameras, appliances, and routers**
 - Single and multi site surveillance
 - Live and recorded video from any place at any time
 - For wired, wireless and mobile deployments
- **Network-based physical access control software and appliances**
 - Connects existing door hardware (badge readers, locks) to the network
 - Enables centralized monitoring, control and response
- **Network-based incident communications and response**
 - Connects radios, cell phones and IP phones
 - Enables immediate response to events
- **Enables re-use of existing cameras, door panels, keyboards, displays and radios**
- **With extensive support of third party systems**



Remote and Multiple Sites, Network-Centric

Cisco Video Surveillance Manager

- Network-centric and Browser-based
- Customizable Configuration, Monitoring, Recording and Archiving

Benefits

- Access live or recorded video anywhere, anytime
- Highly scalable for easy expansion
- Easy integration of applications
- System and device flexibility and interoperability



Cisco VS Surveillance Manager

Web-based Management, Distribution, Viewing



Solution Components

- **Video Encoders/IP Cameras**
Source of digital video over IP.
Compressed MJPEG, MPEG2, MPEG4.



- **Video and Application Servers**
Linux servers for streaming video between cameras, storage and viewers. May also run a Web server or application sever for delivering a Web application.

VSMS - VSOM - VSVM



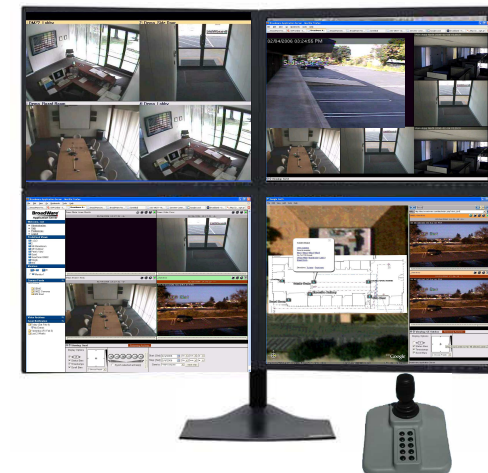
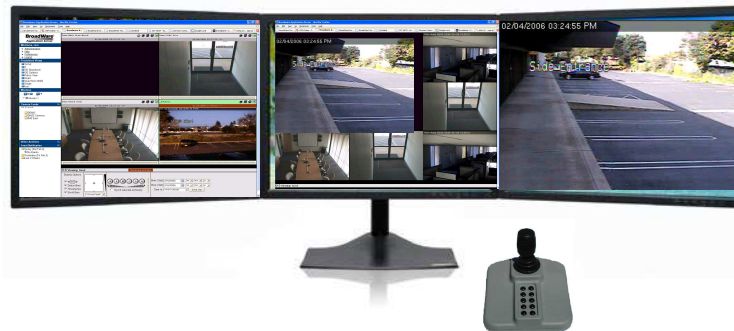
Solution Components

- **Network**
TCP/IP network, typically on Ethernet.
Conventional switches and routers.
- **Storage**
Redundant RAID storage
Direct Attached, SAN or iSCSI



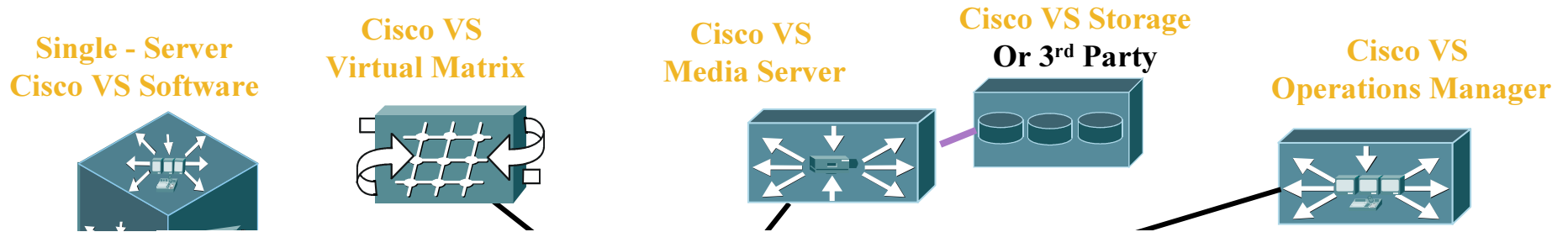
Solution Components

- **Client Stations**
Windows PCs for video decoding, display and control.
Running Web browsers or specialized Windows applications.



Remote & Multi-site Networked Video Surveillance

Accessibility, Interoperability, Flexibility



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S Flexib|
Scalab

All in one Appliance
Cost-effective
Easy Operational Management

Video Surveillance Media Server (VSMS)

- Video Surveillance Media Server is the core component in the PSBU Media Platform, enabling distribution, archiving and management of video feeds.

Make video an information resource

- Proxy and stream live feeds

- Store and stream recorded media

Infinitely customizable

- Add custom UIs

- Use best-of-breed codec: Motion JPEG, MPEG-2, MPEG-4

- Highly Scalable – Cameras, Clients, Storage

- Share IT Infrastructure intelligently – Storage Systems and Bandwidth

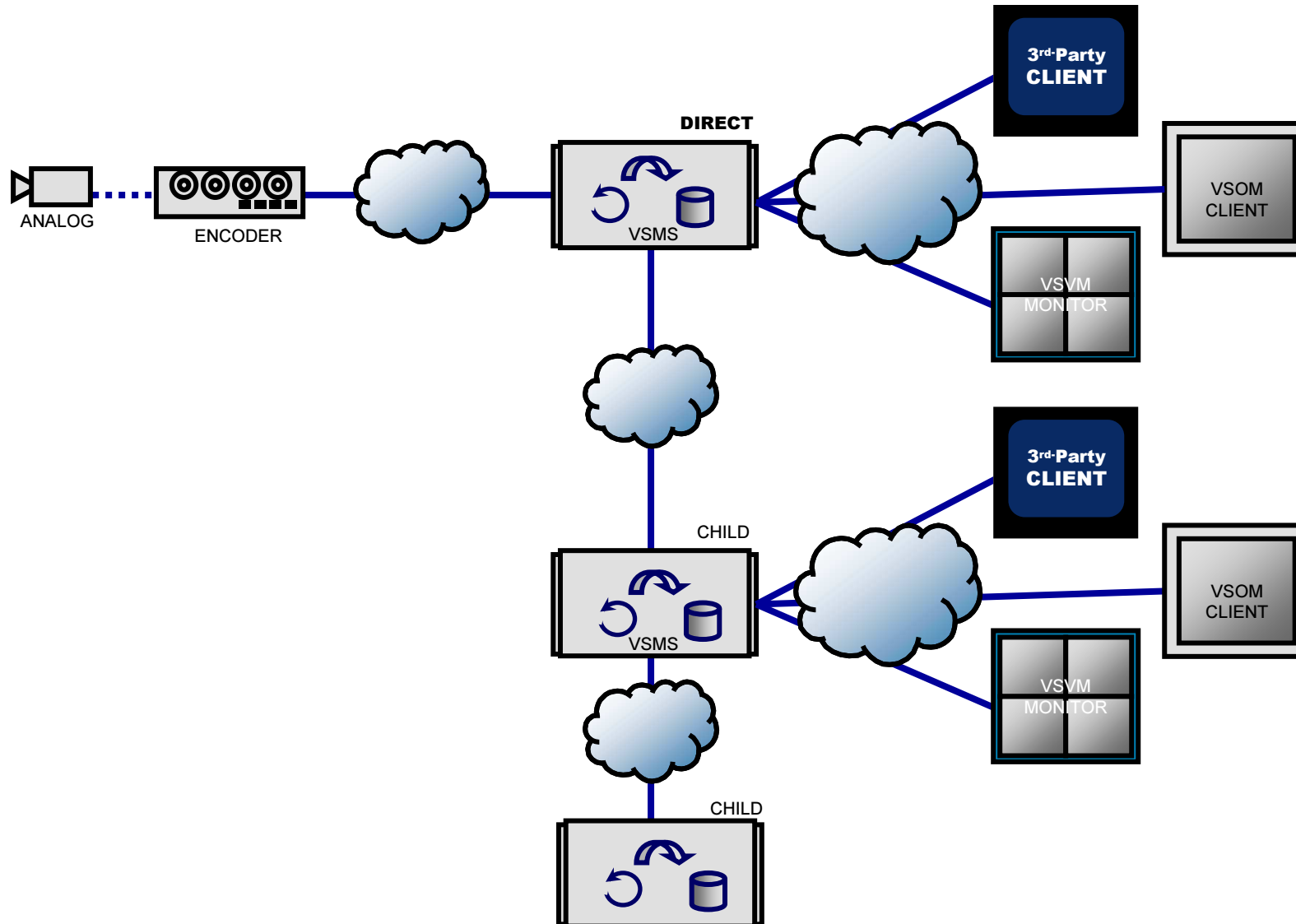
Open and distributed

- Integrate with other systems

- Expand system as needed

- Harden System as needed (fail-over and redundancy)

Proxy-to-Proxy



Cisco Video Surveillance Operations Manager Customizable Interface and Systems Management

- Enterprise class solution
- 100% browser based UI
- Console to configure, manage, display, and control video/events throughout an IP network.
- Non-proprietary hardware
- Enables scale in number of cameras, storage, users
- Operator defined views



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



Operation Manager

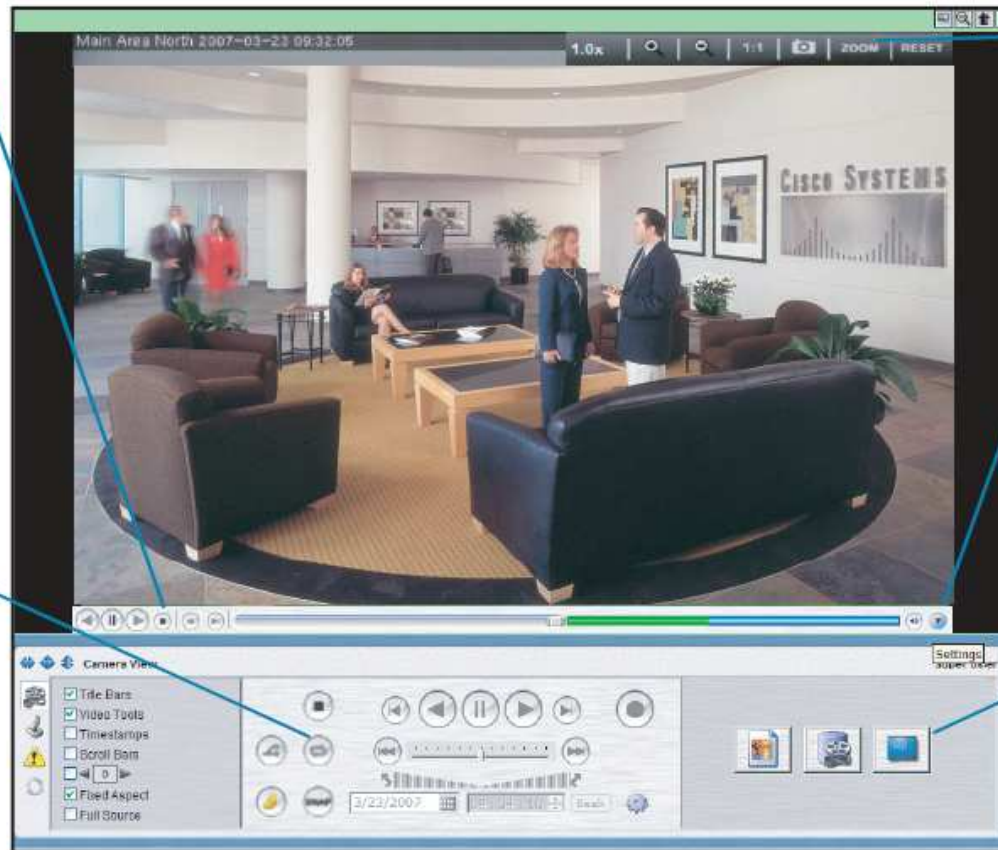
Operator Mode – flexible video displays

Instant Replay

Allows users to instantly replay video. Users can pause live video, step forward and backward, and jump back to live viewing.

Repeat Segment Playback

Operator can define a segment of time in an archive to playback repeatedly.



Digital Zoom

Allows users to digitally zoom on live or archived video.



Video Enhancement

Allows users to enhance the video by adjusting the hue, saturation, contrast and brightness.



Operator Defined Views

Operator can define a view by specifying a layout and video feeds and then giving it a name.

Features Summary

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 VSVM

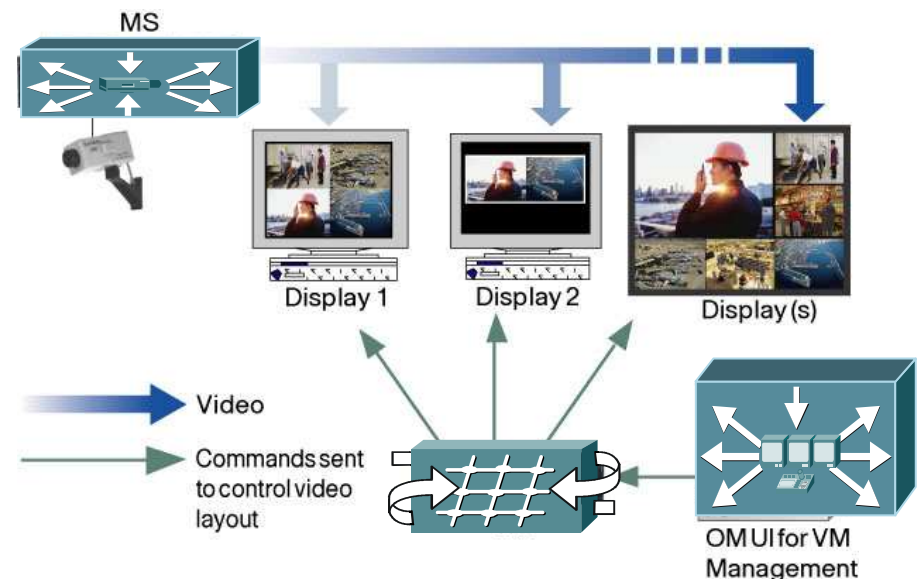
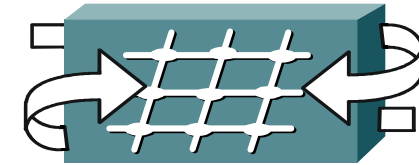
For Operators:

- Secure login
- Flexible video displays
- PTZ controls and presets
- Archive review and clippings
- Event notifications

Cisco Video Surveillance Virtual Matrix

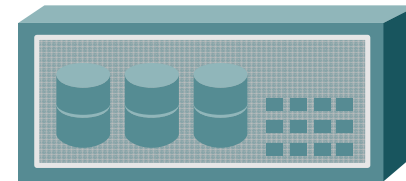
- Controls an infinite number of video displays on network
- Live & Archive video
- Distributes to Video Wall
- Event/Action

Push video to remote screens



Cisco Video Surveillance Encoding Server

- Up to 64 channels of analog video input (CIF)
Up to 16 for each card
- MJPEG and MPEG-4
- CIF, 2CIF and 4CIF resolution
- Up to 16 Alarm Inputs (per ES unit)
- RS-485 output for PTZ
- Configurable motion detection on all channels
- Internal RAID-5 storage (up to 12 TB)
- Can support external storage
- Can support additional IP Cameras



3U Chassis ONLY

Empowered Branch 4

- **IP Video Surveillance and Video Recording**
- **Cisco Video EVM-IPS-16A EVM Module** – analog-to-IP encoding capabilities for existing customer accounts where analog cameras are pre-installed
- **Cisco NME-VMSS Module** - natively terminates IP video camera streams in environments where customers have made investments in IP cameras, or are considering video surveillance for the first time

Video Surveillance System Components: Cameras

- Fixed Cameras

- Type 1—lenses of different focal lengths and/or fixed or variable irises. Flexible configuration and used in most commercial CCTV systems

- Type 2—fixed lens mounted on a camera circuit board (board camera), packaged in a small case, dome or tube

- Low cost solution, particularly in a home or retail environment

- Pan, Tilt, Zoom Cameras

- Rotate horizontally 360°, vertically through 90° with powered zoom can be set to auto-scan or move through range of pre-sets and zooms in weatherproof domes when used outside

- Analog Cameras

- Use a continuous signal vs. digital, breaks everything into numbers

- Scan viewing area a line at a time and convert the varying intensities of red, green and blue (RGB) light into analogous electrical signals

- IP Cameras

- Equipped with an electronic photosensitive sensor

- Typically supports multiple users, and web browser accessible

- Located anywhere with a network connection (Wired/Wireless)

- Few are actually natively digital



Cisco Standard Definition (SD/HD) IP Camera Overview

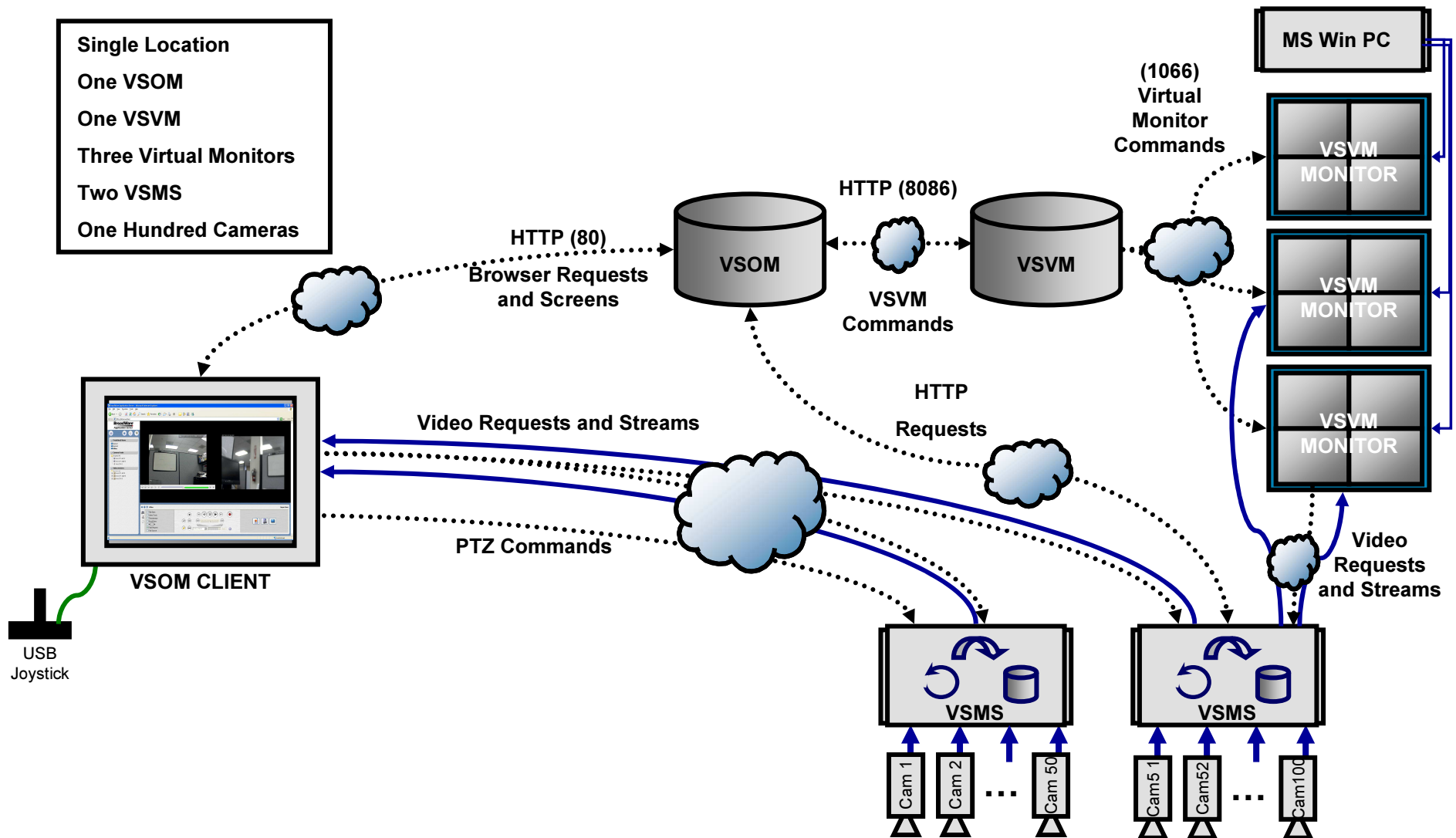
- Cisco Standard and High Definition IP Cameras
 - Wired Power over Ethernet (POE)
 - Wireless 802.11b, g, n
- Leverage Cisco camera experience from multiple areas
- Cisco Design for Physical Security Camera – Not just web cams
- High Quality, Excellent Video Images – On Par with Analog Cameras (NTSC, PAL)
- Fully Featured - Day/Night, Audio, Contacts, Alarms
- One camera suitable for many applications – Indoor/Outdoor Variable Lighting
- Networking Features
- More IP Cameras are on the Roadmap

IP Camera Features

- Day/Night Capability
- Dual streaming
- Analog Output
- MPEG-4 compression technology
- Progressive Scan
- Audio
- Motion Detection
- Alarm I/O
- Event Schedule
- System Logs
- Browser Based Configuration
- Cisco Discovery Protocol (CDP)
- Multicasting
- QoS
- HTTPS
- IP Address Filtering
- User Access Rights
- 802.1X
- Wireless Network Security

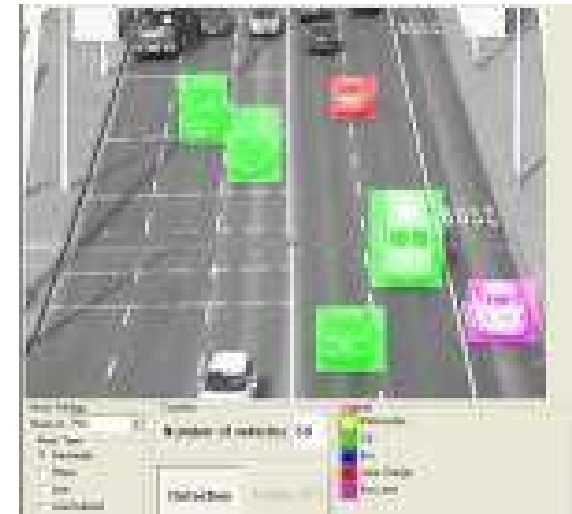


Single Site System Example Diagram



Video Surveillance System Components: Analytics

- Security Operators cannot effectively monitor multiple video monitors simultaneously. Studies have shown a 95% drop off in event detection after only 22 minutes of observation
- Analytics process video to detect events
- Integrated IP-based analytics:
 - Real time at the Camera or Encoder (IP Gateway)
 - Post-processing from an operator's PC on recorded video
 - Identify events as they occur **and** provide tools to analyze previous situations.



Video Surveillance System Components: Analytics

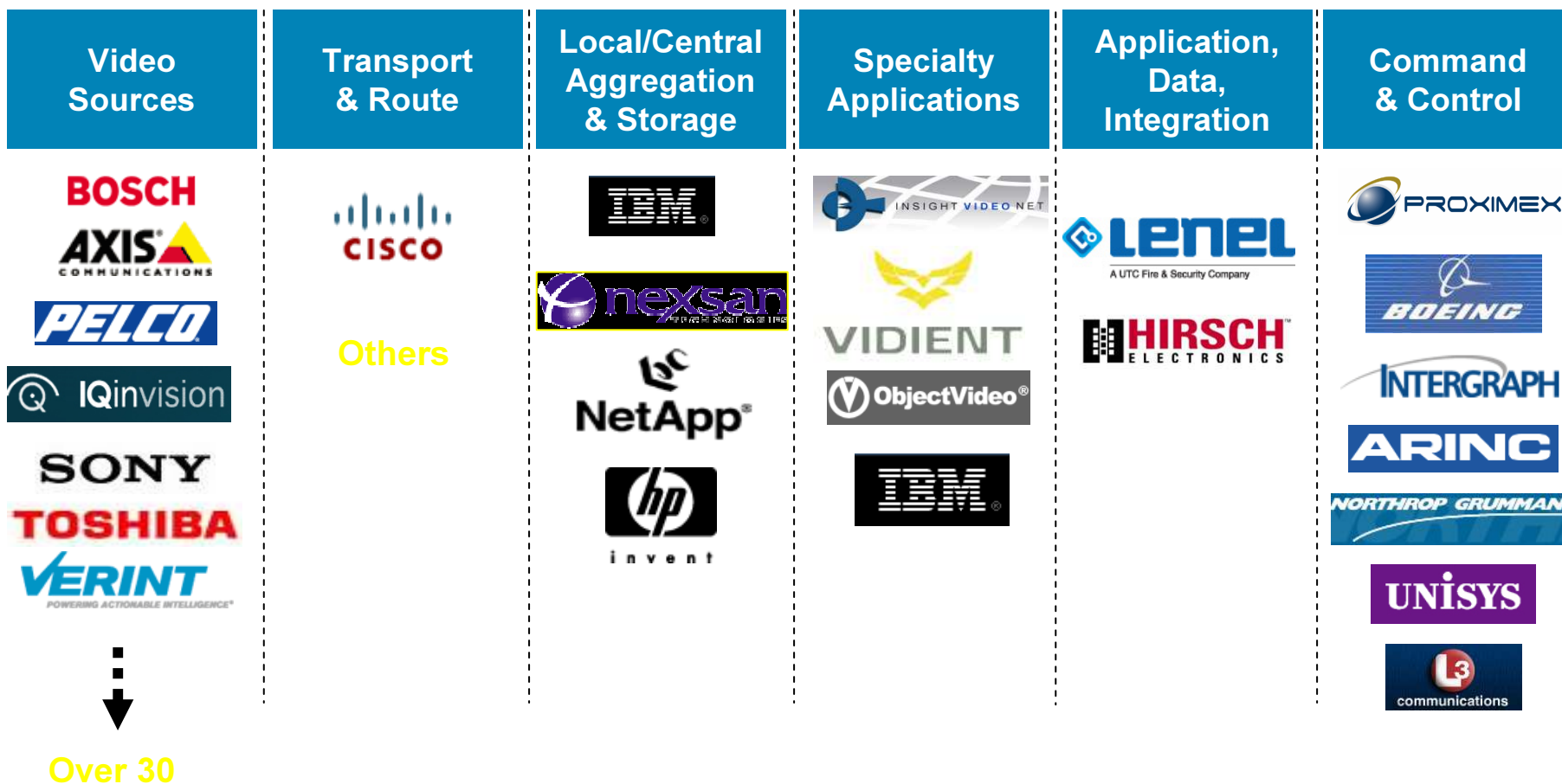
Sample Algorithms/Behavior Detection:

- Erratic/suspicious behavior—stopping at more than one car in a parking lot
- Congestion detection—too many people in a space
- Motion detection—object/person moving across a scene
- Abandoned object detection—suitcase abandoned in airport
- Wrong Way flow—object/person moving against a route
- Tripwire—detection and alarm upon breach of a defined line
- Shape-based detection—vehicle detection
- Object missing detection—object removed from a scene



Integration & Interoperability

Cisco ICE Ecosystem System & Application Providers



Supported Edge Devices



Why Cisco?

- **Cisco's Vision**

The network is the platform to deliver and integrate multiple physical security applications

It enables previously siloed, non-networked systems to interoperate

Physical security applications will migrate into network infrastructure products

- **Why Cisco?**

Cisco understands the network

Track record of delivering convergence

Cisco brings together IT and Physec

24x7 global services and support



Where can I get more information?

- <http://cisco.com/go/physicalsecurity>



