

## Cisco Video Surveillance Value Proposition

Cisco Systems® offers network-centric video surveillance software and hardware that supports video transmission, monitoring, recording, and management. These products protect customers' existing investments in analog equipment while enabling these devices to operate as part of an IP network-centric deployment. Cisco® products enable any-to-any multivendor device interoperability, allowing customers to build best-in-class video surveillance systems that optimize price, performance, and function. Cisco video surveillance works in unison with the advanced features and functions of the IP network infrastructure, i.e. switches, routers and other network security devices.

### The Cisco Vision for Physical Security

By using the power of the IP-based Intelligent Information Network, including Cisco video surveillance products, customers can build an Intelligent Converged Environment, ICE. Through the Cisco ICE architecture, video can be accessed at any time from any place, enabling real-time incident response, investigation, and resolution. As an extension of Cisco's Self-Defending Network, Cisco ICE enables customers to use existing investments in video surveillance and physical security while enhancing the safety of people and protection of assets. The open, standards-based Cisco infrastructure enables the deployment and control of new security applications and maximizes the value of live and recorded video.

### Problems Solved

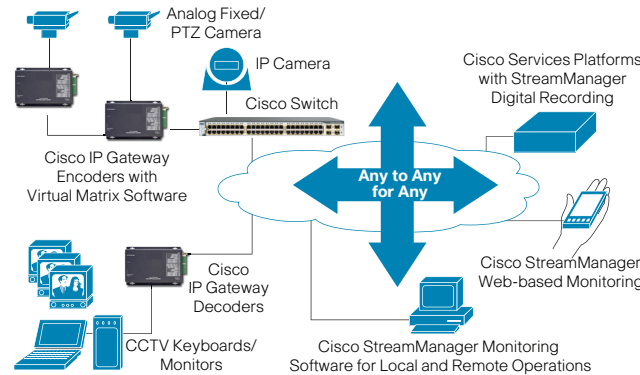
- Limited access to video—how, where and when
- Interoperability—proprietary, single-vendor implementations
- Fork-lift upgrades with operator re-training
- Responsiveness— analog tape recording, separate controls for monitoring live and recorded video
- Unrealized value of video and investments

### Cisco Expertise & Experience

As a user and a trusted advisor, Cisco has provided networking expertise for years to forward-thinking organizations that want to maximize the value of their systems, personnel, and applications, including physical security. Cisco understands how to use the power of an IP network to deliver new innovative capabilities to users while reducing cost. Cisco technologies and convergence expertise help maximize video surveillance system owners' return on investment and lower the total cost of ownership in a highly scalable and secure manner.

## Cisco ICE Video Surveillance

Figure 1. World-class Convergence: Open, Scalable, Reliable, Secure, Accessible



### Benefits for the Security Professional

#### Greater Video Surveillance Control and Protection

- Enables faster incident response, investigation, and resolution
- Access recorded video via same analog controls used for monitoring

#### Any-to-Any Connectivity

- Access to video at any time from any place
- Interoperability with existing matrix switches (if desired)
- No change to the endpoint device (camera or keyboard/ joystick controls)

#### Reliable and Scalable

- Distributed virtual matrix switch architecture minimizes single point of failure scenarios
- Fault tolerant RAID 5 storage
- Real-time connectivity status and resiliency; monitored storage with auto-failover capability
- Broadcast-quality video via hardware-based (DSP and ASIC) encoding/decoding
- Intelligent and efficient bandwidth utilization supported with Multicast video streaming

#### Flexibility

- Choice of analog or PC-based viewing of live or recorded video
- Upgradeable hardware for new software images, compression algorithms and more
- URL-based API supported for video analytics and new applications

### Open, Standards-Based Infrastructure

- Allows new applications to use live and recorded video
- Mix and match multiple vendors' cameras, keyboard controls

### Benefits for the Corporate Executive

- Reduced capital and operational costs; enables migration away from proprietary single-vendor implementations
- Increased value from video, which can be accessed and used by many users and applications
- Ability to use existing video surveillance and physical security investments
- Little to no re-training of operators with transparent migration to converged solution

### Cisco Video Surveillance Products

#### Cisco Video Surveillance Stream Manager—Services and Gateway Software

Powerful virtual matrix switching and recording software supported on Cisco Video Surveillance IP Gateways, Services Platforms, and Integrated Services Platforms provides:

- Distributed virtual matrix switching to connect and map cameras, keyboards, and displays via Cisco Video Surveillance IP Gateways; no need for a central server
- Multi-vendor camera PTZ and keyboard serial protocol translation
- Digitally recorded analog or IP camera video storage and recall with authentication, allowing display on analog monitors or PCs
- Delivers time-data stamping, bookmarking of video for archiving or review, and event-based recording
- Supports powerful network capabilities including unicast and multicast streaming and other network capabilities

#### Cisco Video Surveillance IP Gateways

Analog-to-digital video camera encoders and digital-to- analog video monitor decoders with the following features:

- High performance architecture: DSP/ASICs support MPEG-4 compression encoding/decoding, CPU running Linux manages other system/network processes
- Interoperable with leading analog cameras, keyboards, and monitors, including PTZ commands
- Superior video quality with very low latency-30 frames per second (fps) for NTSC; 25 fps for PAL; and CIF, 2CIF, 4CIF and D1 resolution
- Standalone enclosures and chassis-based modules





- Audio, contact closure, video, and data I/O ports for network, camera, keyboard, and monitor connections
- Offered with 1, or 4 10/100BaseTX/FX ports
- Dual streaming: Primary stream for live view at 1 to 30 fps with CIF to full D1 resolution; secondary video stream at reduced rate or for storage

### Cisco Video Surveillance Convergence Chassis

Rack-mountable 16-slot chassis for high density aggregation of Cisco Video Surveillance IP Gateway modules features:

- Choice of 10/100 Ethernet, Gigabit Ethernet, and USB direct to recording platform connectivity
- Optional contact closure and fiber to copper transceiver modules
- Choice of internal 115VAC, 230VAC or 1RU external/redundant power supplies



### Cisco Video Surveillance Services Platform

Network-video recording and storage featuring:

- Cisco Stream Manager Services software to enable local and remote recording deployments
- Digitally encoded video accepted from Cisco Video Surveillance IP Gateways or IP cameras
- Instant replay and time-date lookup of selected video at the touch of a button
- Ability to view live or recorded video via existing analog controls with Cisco IP Gateway decoder or Cisco Stream Manager PC client software
- 1RU chassis supporting up to 1.6 TB JBOD storage
- 2 RU chassis supporting up to 4.4 TB (usable) Raid 5 fault-tolerant storage
- When higher storage capacity is required, Cisco offers direct attached storage (DAS) through its storage partners
- SCSI and Fibre Channel options



### Cisco Video Surveillance Stream Manager—Administration Software

PC-based applications allow easy setup of Cisco Video Surveillance IP Gateways, Convergence Chassis, Service Platforms, and Integrated Service Platforms

- Auto-device discovery, video stream parameters, network addresses, and serial ports can be configured
- Watchdog application helps ensure automatic switchover from failed storage device to backup

### Cisco Video Surveillance Integrated Services Platform

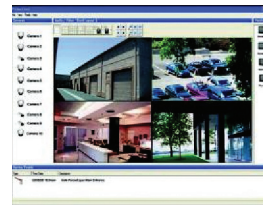
Cost-effective high-resolution digital video recording in an appliance form factor; replaces VCRs

- Equipped with Cisco Stream Manager Services software to enable network access to recorded or live video
- Works with existing matrix switches and analog keyboard controls, to eliminate operator retraining costs
- Enables access to live and recorded video from analog control station for enhanced operator productivity and response
- Supports up to 12 camera/matrix switch inputs
- Up to 64 video feeds can be aggregated using the Cisco Video Surveillance Convergence Chassis with USB ports connected to a Services Platform
- Three serial ports for interface to matrix switches, time master, and pan, tilt, zoom (PTZ) camera control
- Supports alarm inputs for integrated video physical access solution
- Optional audio/sound capture with video
- Supports up to 4.4 TB of internal storage via 12 RAID5 hard disk drive bays
- Optional virtual matrix switching provides migration path to all networked base solution
- 2-RU high, 19-in. rack-mount unit



### Cisco Video Surveillance Stream Manager—Monitoring Software

- PC client application allows viewing of video on a PC
- Video may be real-time or stored
- Client application displays the video associated with any alarm



### Current Multi-Vendor Support/Interoperability:

Cisco Video Surveillance products support any-to-any interoperability and translation with the following vendors:

- **Matrix Switches:** AD, Bosch, and Pelco
- **Keyboard:** Pelco KB300, Bosch IntuiKey Universal, Panasonic WV-CU650, AD 2088, CC1100, and Touch Tracker
- **Domes:** All Bosch domes, Pelco Speed Dome (D protocols); AD Ultra 6 and 7 series; Ultrak KD6; Panasonic WV-CS954; and Cohu i-Dome

### Cisco Video Surveillance Solution Deployments

Large-scale video surveillance, with hundreds to thousands of deployed cameras—Typical for airports, department stores, corporate headquarters, casinos, university campuses, seaports, ships, military bases, hotels, prisons, and stadiums.

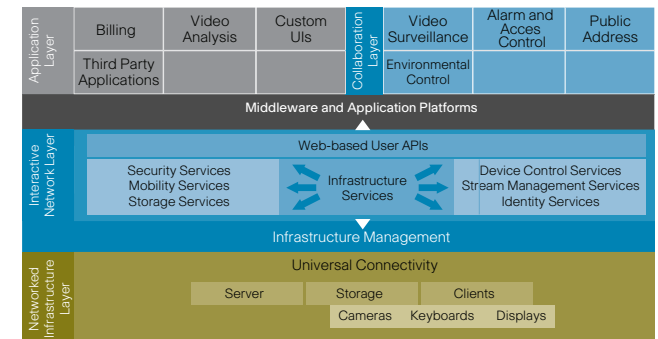
- **Low-video-camera-density deployments**—Smaller facilities with Ethernet LAN and WAN links to other sites. Typical for schools, convenience stores, banks, small retail outlets, restaurants, and car dealers.
- **Remote locations and transportation routes (known as “rings and strings” deployments)**—Very few devices per kilometer, typically use fiber-optic or wireless links to connect adjacent cameras in a serial fashion back to a central monitoring center. Typical for borders, canals, roadways, and railways. These deployments frequently require environmentally rugged, hardened enclosures and circuitry.
- **Mobile sites and vehicles**—often mobile vehicles are equipped with one or two cameras and PC-based monitoring and recording, and use mobile wireless uplinks to connect with other vehicles or sites. Typical for police cruisers, trains, and buses.

### Cisco Intelligent Converged Environment (ICE) Architecture

Cisco's extensive experience in converging and supporting a wide range of mission-critical applications has driven the Cisco Service Oriented Network Architecture (SONA). As an extension of SONA, Cisco ICE enables customers to build world-class physical security operations using the power of the Intelligent Information Network.

### Cisco ICE, SONA-Based Architecture

Figure2. Applied to Building Management Systems



### Cisco Video Surveillance Support Programs:

The Cisco Advanced Technology Partner (ATP) program provides a network of resellers and integration partners to help in any system deployment. For information on Cisco Video Surveillance, visit: <http://www.cisco.com/go/videosurveillance>