

Experience Today the
Network of Tomorrow.

Cisco Expo
2009

Cisco IP Video Surveillance Introduction



Osama I. Al-Dosary
Consulting Systems Engineer

Welcome to the Human Network.



Agenda

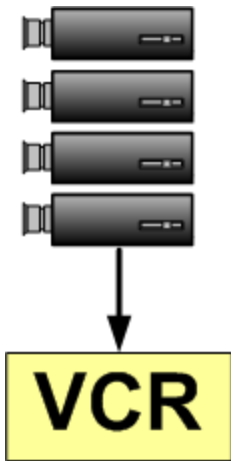
- Trends and Evolution
- Open IP Components
- Cisco's Solution

Trends and Evolution



Video Evolution

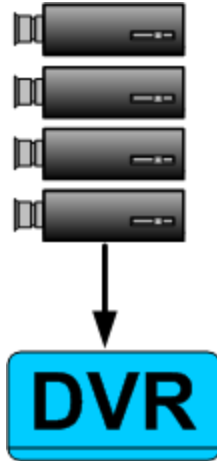
Analog Cameras



VCR & Analog

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

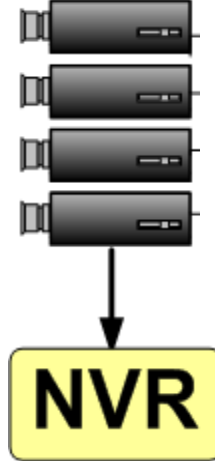
Analog Cameras



DVR

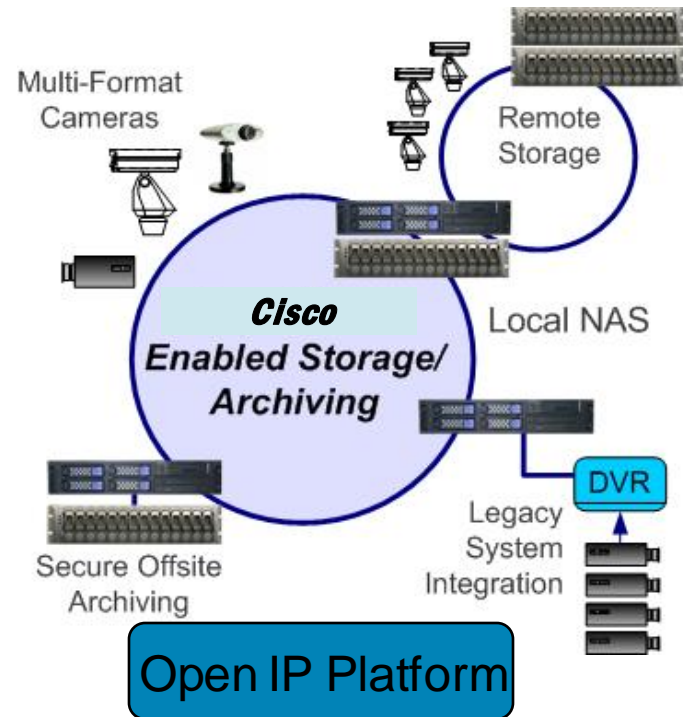
- Easier to search
- Consistent Quality

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

Commitment to Open Standards

Support of new IP Media Device API specification introduced by the PSIA to standardize how devices communicate with the network

- Defines uniform methods for how devices communicate with the network
 - Discovery and Configuration
 - Command and Control
- Ensures Systems Integrators can focus on **value added** capabilities rather than writing new **device drivers**
- Provides physical security and IT with **cost effective** options to evolve and customize solutions

Cisco Video Surveillance IP Cameras



The initial Physical Security Interoperability Alliance (PSIA) specification is endorsed by the following industry leaders: Adesta LLC, ADT Security Services, Cisco, CSC, DVTel, GE Security, Honeywell, IBM, IQinVision, Johnson Controls, March Networks, ObjectVideo, Orsus, Panasonic, Pelco, Santa Clara Consulting Group, Texas Instruments, Verint and Vidyo.

Open IP Components



Solution Components: Infrastructure

- **Network**

 - TCP/IP network, typically on Ethernet.

 - Conventional switches and routers.



- **Storage**

 - Redundant RAID storage

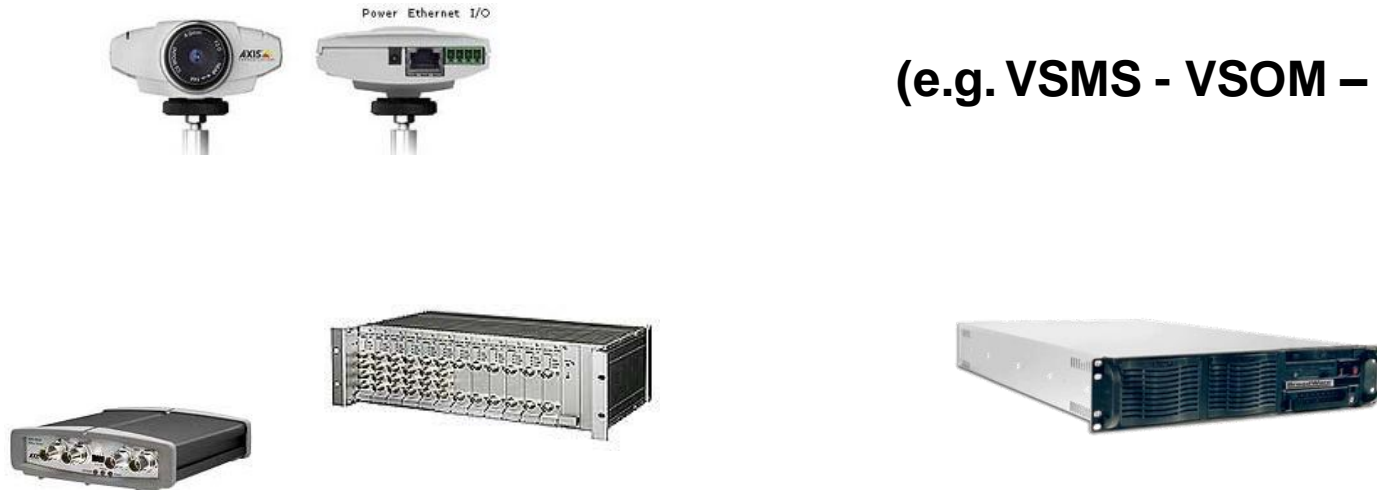
 - Direct Attached, SAN or iSCSI



Solution Components: Cameras and Applications

- **Video Encoders/IP Cameras**
Source of digital video over IP.
Compressed MJPEG, MPEG2, MPEG4.
- **Video and Application Servers**
Open servers for streaming video between cameras, storage and viewers. May also run a Web server or application sever for delivering a Web application.

(e.g. VSMS - VSOM – VSVM)



Solution Components: Client Side

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

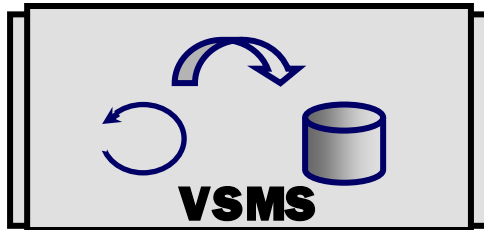


Cisco's Solution



Video Surveillance Manager (VSM)

Video Surveillance Media Server



Video Surveillance Operations Manager



Video Surveillance Virtual Matrix



Video Surveillance Media Server (VSMS)

- Video Surveillance Media Server is the core component in the 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

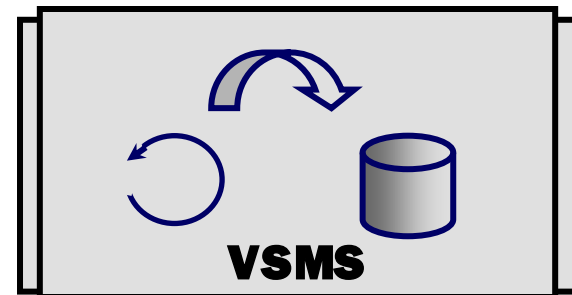
Share IT Infrastructure intelligently – Storage Systems and Bandwidth

Open and distributed

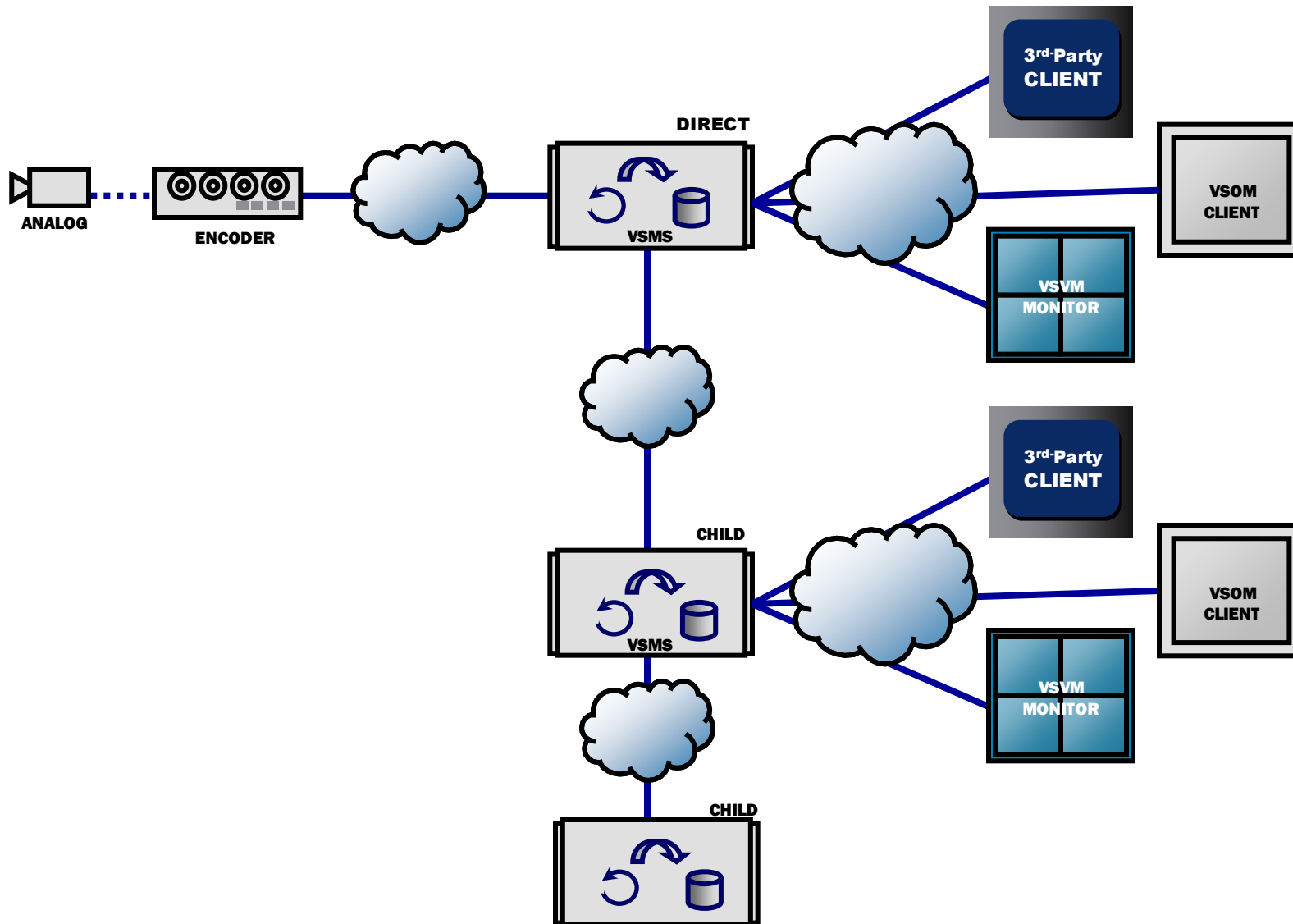
Integrate with other systems

Expand system as needed

Harden System as needed (fail-over and redundancy)



Proxy-to-Proxy



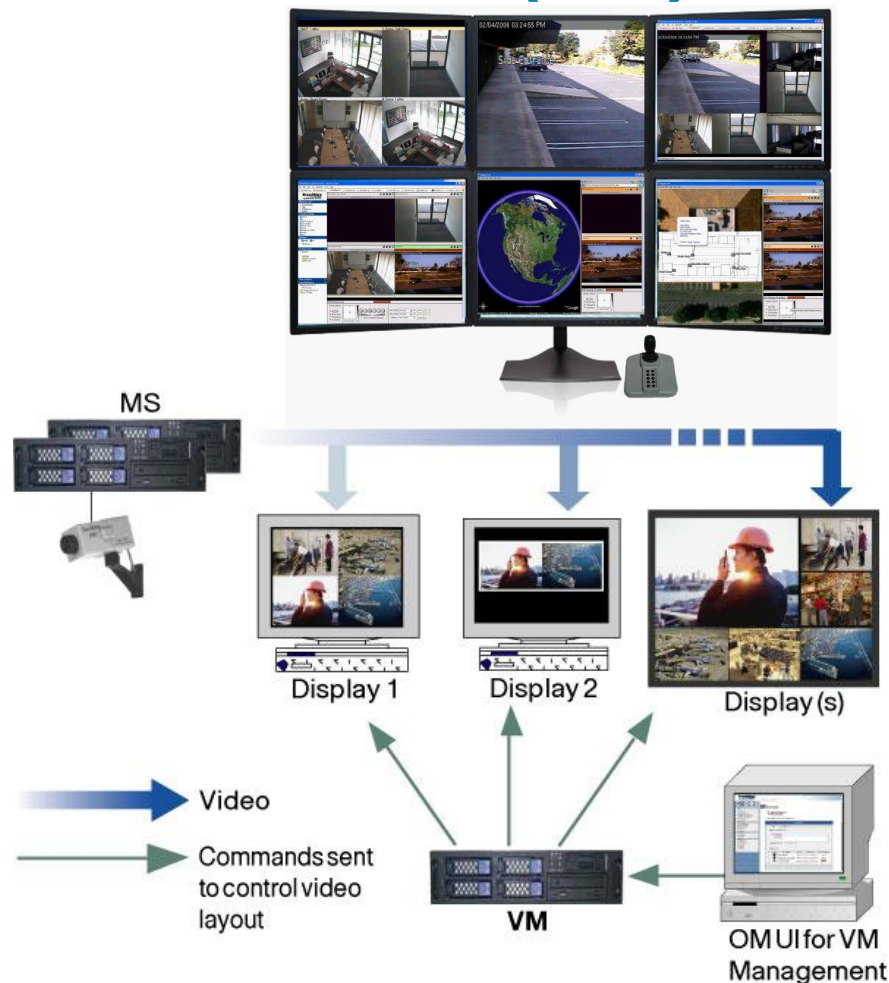
Video Surveillance Operations Manager (VSOM)

- Enterprise solution
- Highly configurable to effectively manage complex video applications
- Browser-based UI
- Multiple web-based consoles to configure, manage, display, and control video throughout a customer's IP network.
- Unlimited cameras, storage, viewers



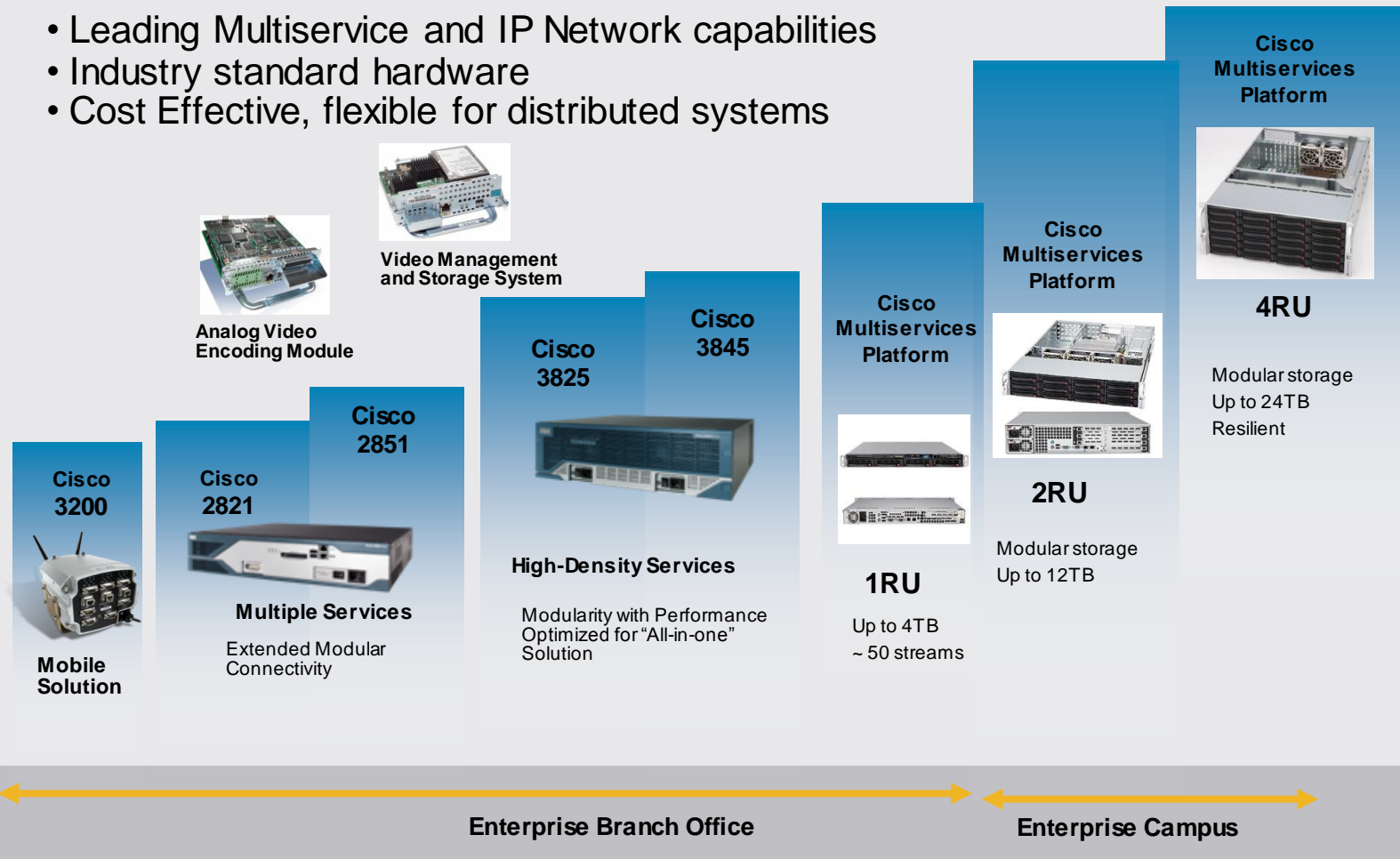
Video Surveillance Virtual Matrix (VM)

- Controls an infinite number of video displays on network
- Easily integrates with other systems
- Flexible delivery of live & archived video
- Distributes to Video Wall
- Controls multiple video displays from a single station
- Event/Action
 - Push video to remote screens



New line of Multiservice Platforms

- Leading Multiservice and IP Network capabilities
- Industry standard hardware
- Cost Effective, flexible for distributed systems



Scalability, Resiliency, Serviceability

Multi-Services Platform (MSP)



Integrated Services Router (ISR) Video Surveillance Modules



EVM-IPVS-16A: Analog Video Encoding Module



NME-VMSS: Video Management and Storage System

Cisco IP Video Surveillance Solution

Cisco 2821



Multiple Services

Extended Modular Connectivity (EVM, NM, AIM, WIC/VIC)

Cisco 2851

Cisco 3825

Cisco 3845

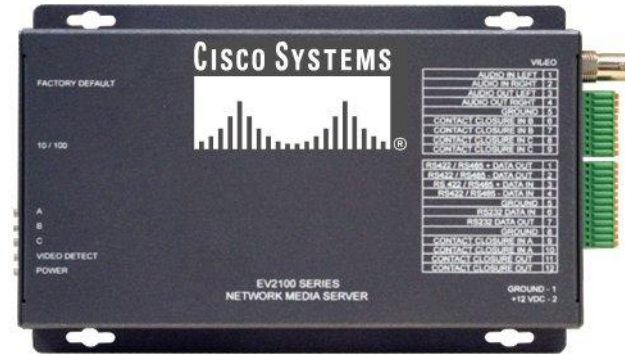


High-Density Services

Modularity with Performance Optimized for "All-in-one" Solution (HSDM, NM, EVM, AIM, WIC/VIC)

Enterprise Branch Office

Cisco IP Video Surveillance Cameras and Encoders



Cisco SD IP Cameras

Wide Dynamic Range (WDR) Imaging

- CMOS based digital imager and dedicated co-processor that replaces traditional CCD technology
- Every pixel has its own dedicated Analog to Digital Converter (ADC) vs. CCD with only 1 ADC for an entire array
- Pixel-independent shutter speed
- Pixel-independent exposure



Benefits

Optimal image in multiple lighting conditions

Cisco Imager



Typical Imager



Cisco imager can pick up details in extreme lighting conditions a common in warehouse applications

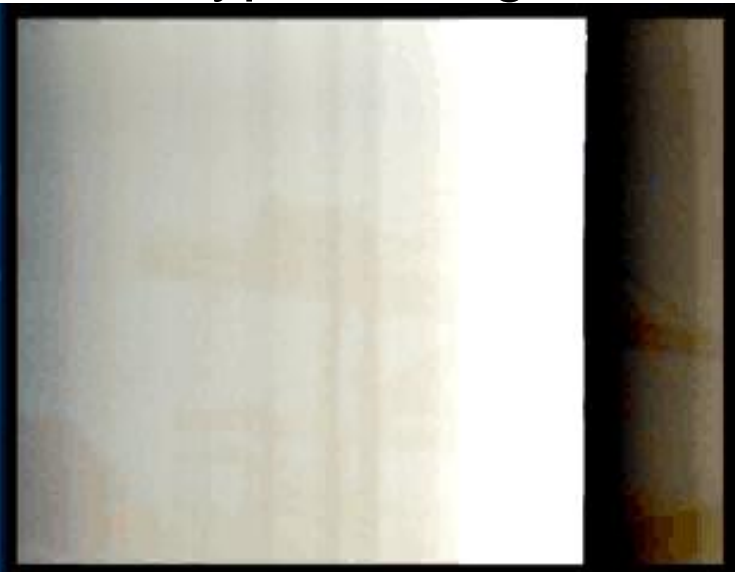
Cisco SD IP Cameras

No Saturation with strong lighting

Cisco Imager



Typical Imager

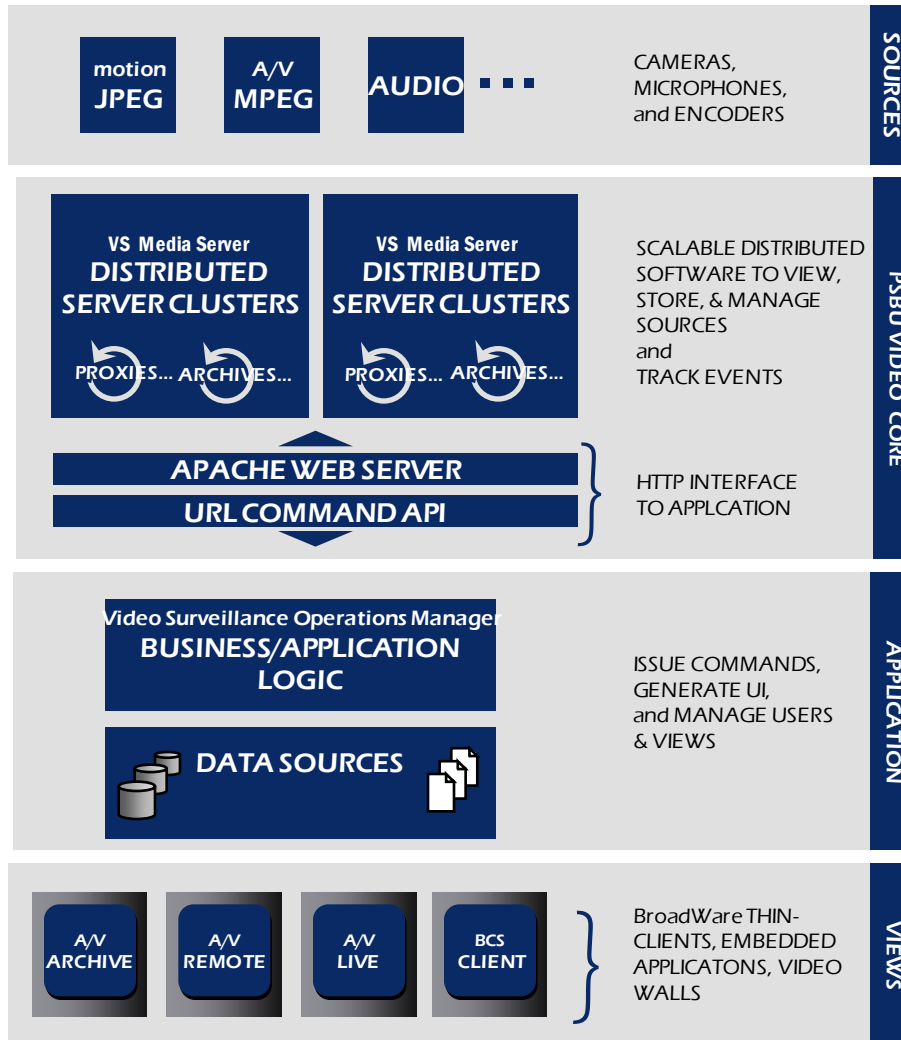


Cisco imager provides color detail even in extreme lighting with a manual iris lens, CCD technology is completely over-saturated

Summary



Platform for Video Systems



- Multiple formats and devices supported for video and audio sources

Video Surveillance Media Server (VSMS)

- support multiple simultaneous viewers with low latency
- support any required storage capacity
- HTTP command interface integrates easily with other applications

Video Surveillance Operations Manager (VSOM)

- Applications created using any standard development environment
- Open interfaces for database, image analytics, and other functionality

Video Surveillance Virtual Matrix (VSVM) Interactive Media Clients (IMC)

- Thin-clients provide a broad range of viewing options

For More info:

- **The Web** cisco.com/go/physicalsecurity
- **Email Me** dosary@cisco.com

