

Why is Everyone Migrating to Intelligent IP Video Surveillance?

Technology, Security, Cost

Agenda

- Technology
 - IP Video: what is it and why is it so compelling
 - Advantages of IP Video Surveillance
 - Infrastructure and Operational advantages
 - *Wired and Wireless Networks*
 - *Non-Proprietary hardware*
 - “Best of Breed” integration /Open-Architecture systems
 - Unlimited Scalability
 - Video Content Analytics



Agenda

- Security
 - Advanced Detection and Delivery
 - Powerful Investigation Tools
 - Distributed Access and Shared Event Management
- Cost
 - Infrastructure Savings
 - Operational Savings
 - IP Video as a Profit Center – Enterprise ROI



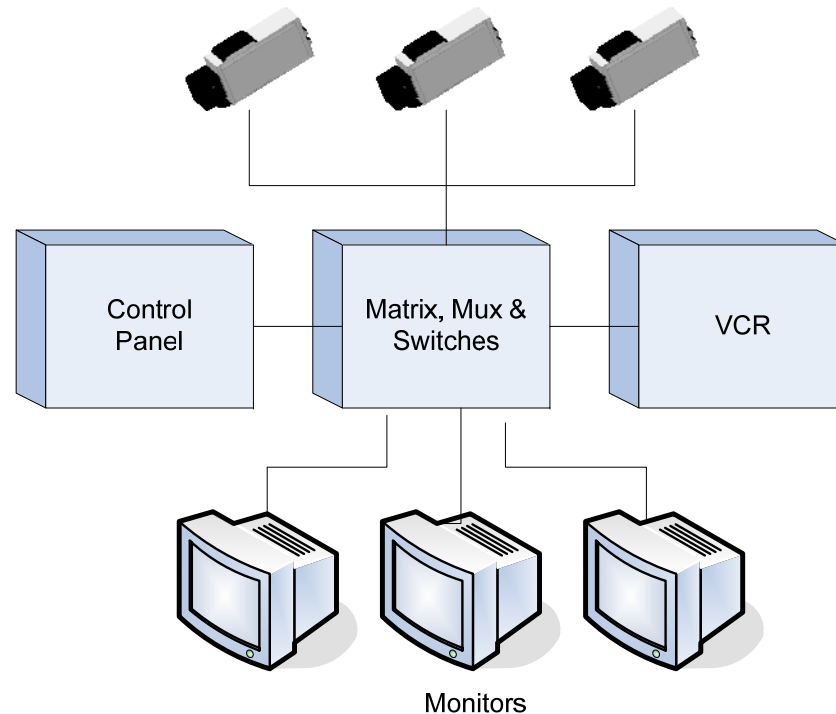
Technology

IP Video: What Is It and Why Is It So Compelling

Technological Advances of IP Video Surveillance

1st Generation:

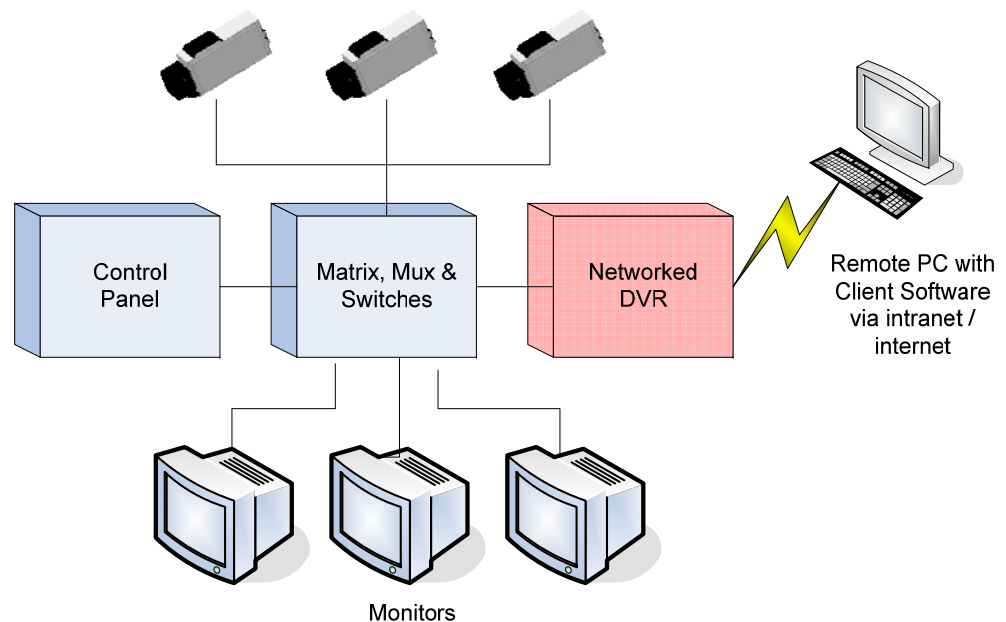
- All-Analog
- VCRs
- Closed system
- No remote monitoring
- Low quality
- VERY proprietary



IP Video: What is it and Why is it So Compelling

2nd Generation:

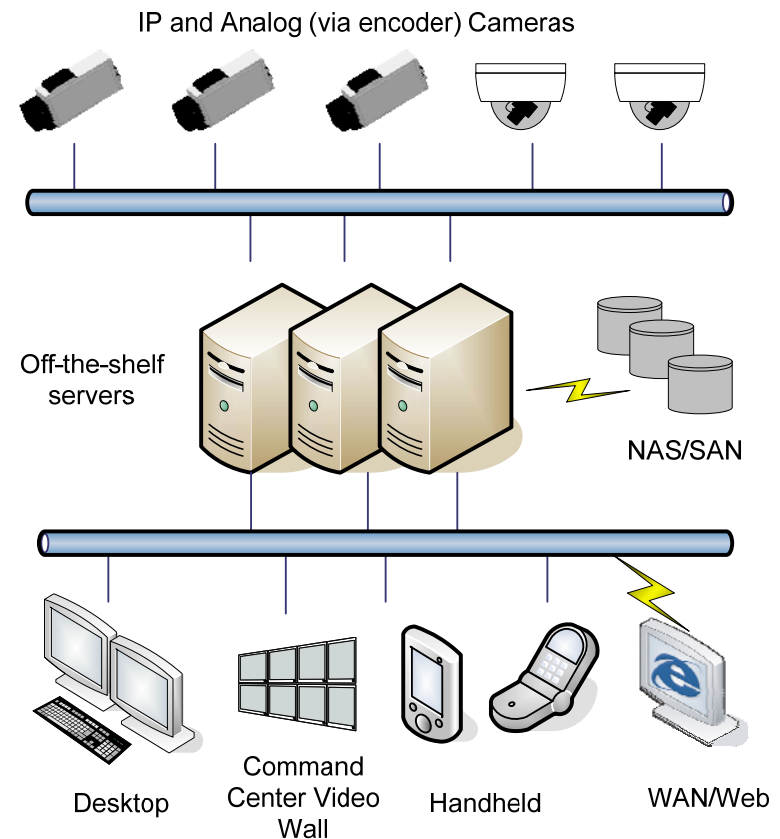
- Still Analog...
- Still in use...
- Networked DVR enables limited remote monitoring
- Low quality
- Proprietary hardware



IP Video: What is it and Why is it So Compelling

3rd Generation - IP:

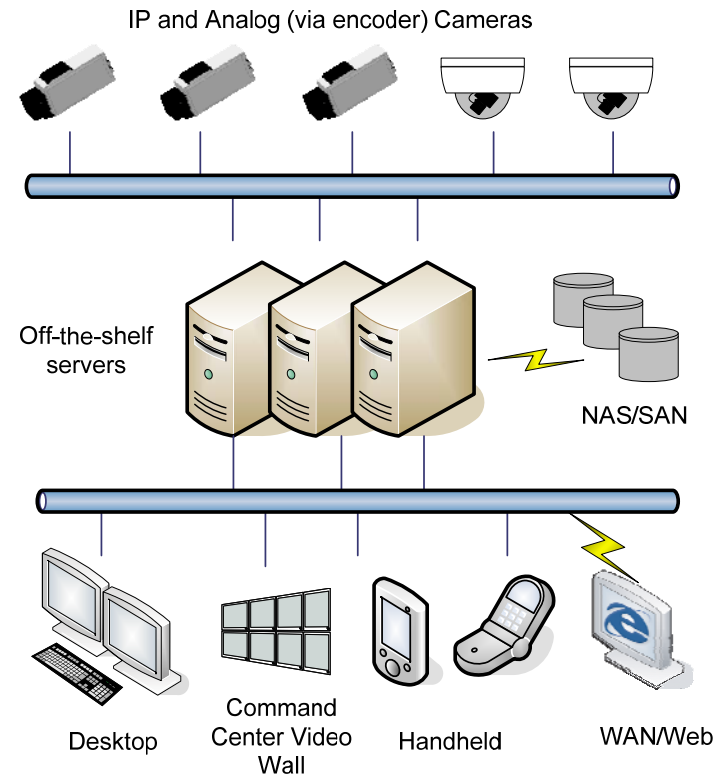
- Digital end-to-end
- Intelligent cameras and edge-devices
- Mega pixel / Hi Resolution support
- Wireless cameras
- Lower cabling cost
- Non-proprietary hardware
- Distributed recording servers
- Networked storage
- Remote access anywhere, anytime



Infrastructure and Operational Advantages

Digital end-to-end

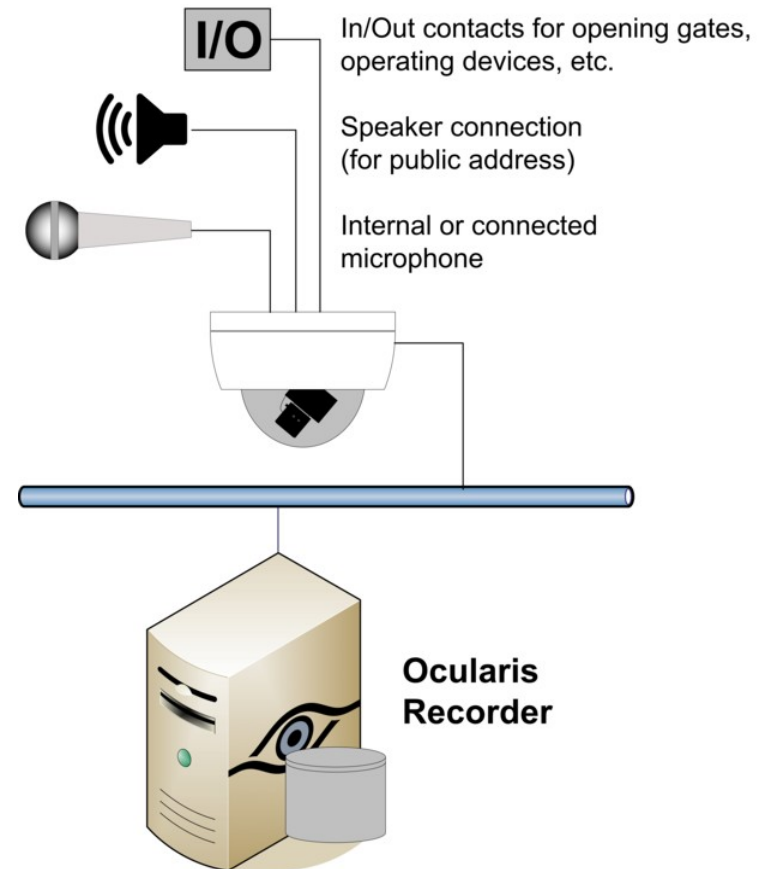
- Digital cameras
- Digital networks
- Digital recording
- Digital delivery to clients



Infrastructure and Operational Advantages

Intelligent Cameras and Edge-Devices

- Built-in: microphone, microphone input, audio out, in/out contacts
- Local CPU, storage and web server
- Content Analytics-enabled cameras



Infrastructure and Operational Advantages

Mega Pixel / High Resolution Support

- Improved detection
- Improved coverage
- Allows digital PTZ with little loss of detail
- Increased evidentiary acceptance

Better identification



4 CIF



2 MB

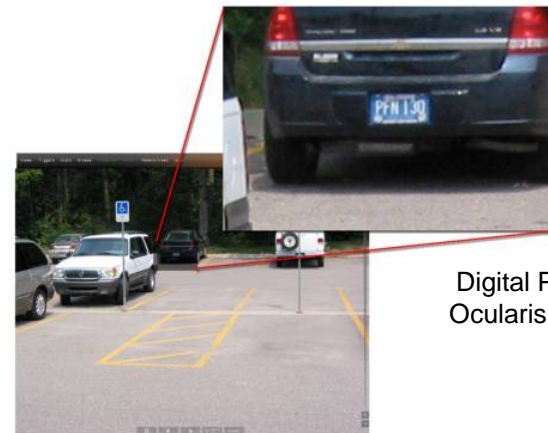
Better coverage



4 CIF



2 MB



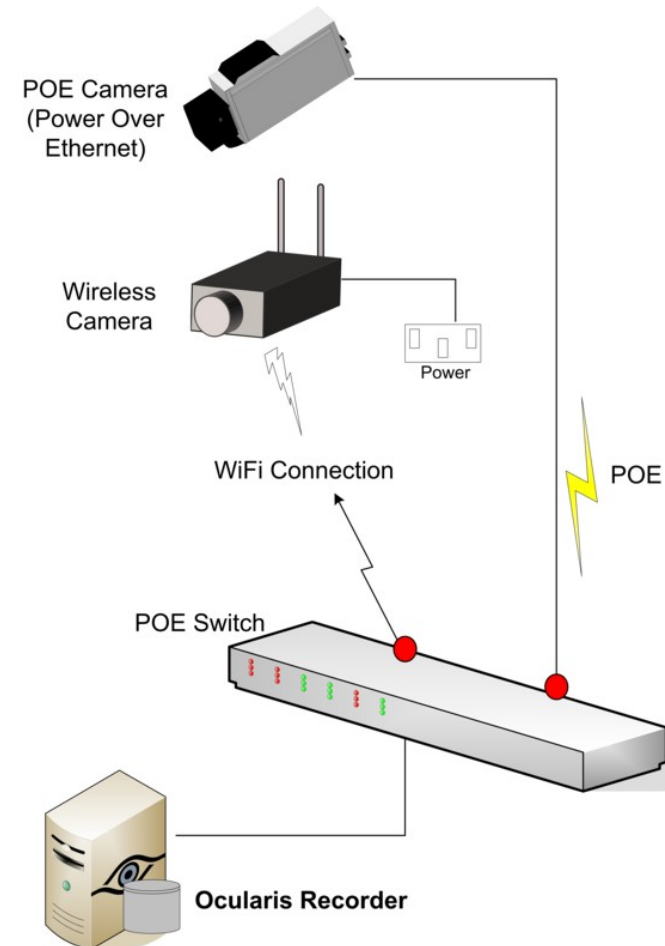
Digital PTZ in Ocularis Client



Infrastructure and Operational Advantages

Wired and Wireless Networks

- Reduced cabling cost
- POE
- Wireless Cameras
- Easy citywide coverage
- Flexible implementation (positioning)
- Immediate deployment for emergency response



Infrastructure and Operational Advantages

Non-Proprietary Hardware

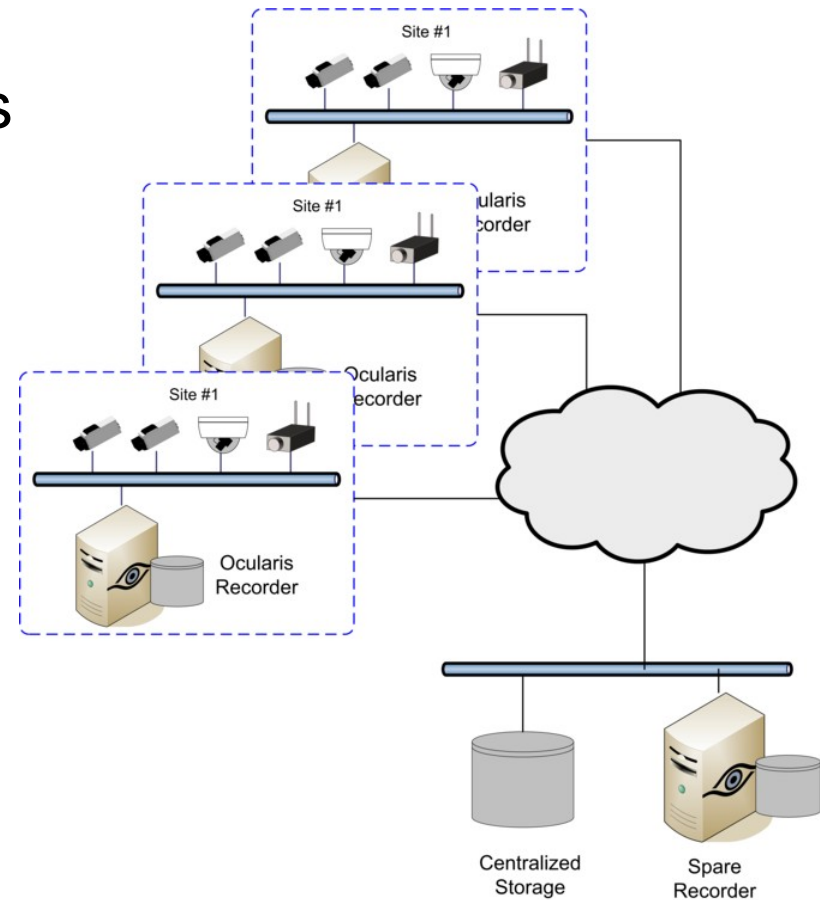
- Off-the-shelf hardware
 - Server, computers, monitors, storage...
- Standards-based networks
 - Network switches, cabling, Wi-Fi gear
- Simplicity in system maintenance
 - Wide-spread knowledge and simple
- Upgrade single components - memory, CPU, etc.
- *Enables using best-of-breed hardware components*



Infrastructure and Operational Advantages

Distributed Recording Servers

- Reduced bandwidth requirements
- Enhanced system performance
- Built-in redundancy
- Local and NAS/SAN storage



Infrastructure and Operational Advantages

Networked Storage

- Redundancy and reliability
- Reduced storage cost
- Unlimited storage scalability



Local Storage

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Centralized Storage

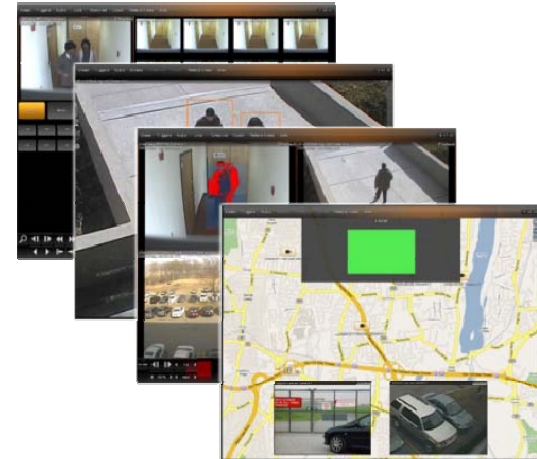
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Infrastructure and Operational Advantages

Remote Access Anytime, Anywhere

- Multiple video clients
 - Desktop
 - Handheld
 - Web/WAN
 - Command Center Video Wall



Unlimited Scalability

- No limitation on number of sites and cameras per system
- Scalability limitations eliminated due to distributed processing and capability to operate on multiple networks and network segments
- System size is now limited by the number of human operators needed to process tremendous amounts of video -
 - *...Making the incorporation of Video Intelligence and Content Analytics almost imperative*



Video Content Analytics

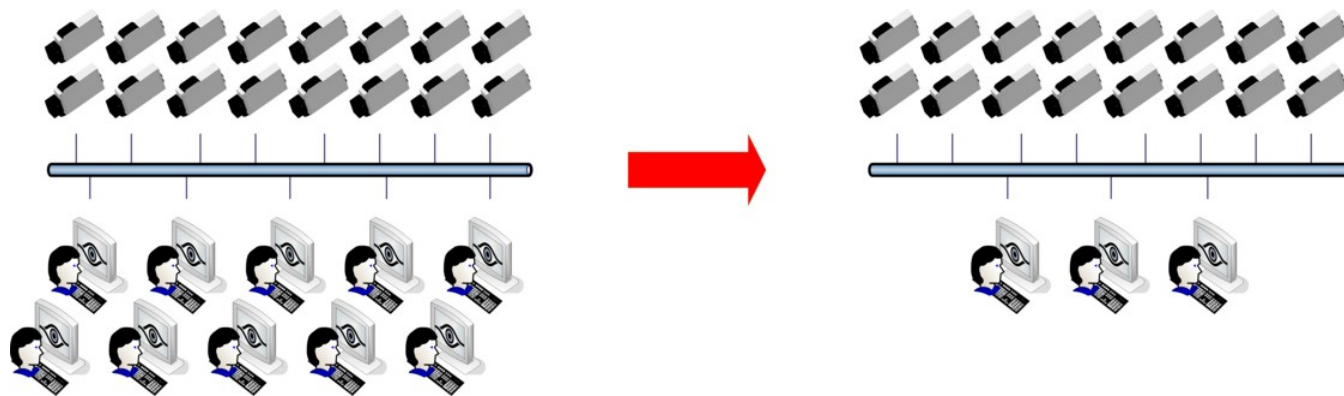
- Detection of VERY specific movements and behaviors:
 - Motion detection – size, shape, speed and direction
 - Non-Motion Detection, e.g. stalled vehicle, abandoned object
 - Behavioral Analysis, e.g. tailgating at entry points, loitering
 - Accurate Optical Character Recognition (OCR), e.g. LPR
- Interoperability with video analytics on edge devices; Multiple detectors and unlimited rules per camera



Security

Advanced Detection and Delivery

- Filtered events with Video Content Analytics
- Rules-based identification of alerts
- Verification through integration with physical security systems
- Enhanced security through improved efficiency
 - More cameras – fewer operators



Powerful Investigation Tools

- Enable operators to quickly access video or recorded events and get a clear (i.e. hi-res) picture
- Image enhancements made possible by using hi-resolution (megapixel) cameras
 - Optical PTZ and PTZ patrolling (with motion analysis on patrol presets)
 - Digital PTZ into live and recorded images
 - Graphical timeline indicating areas of Event/Non-Event
 - “Time Slicing”



Distributed Access and Shared Event Management

- Higher system-wide efficiency via synergistic operation
- Critical consideration in large-scale systems
 - Handheld video clients enable monitoring while on the beat
 - Event-Driven Push Video – either automatic (rules-based, on event) or peer-to-peer between operators
 - Blank Screen Monitoring – users are pushed only video alerts
 - Shared event handling among operators at different locations – all operators have access to same alerts list, can review, add remarks and information and export clips for evidence





Cost

Infrastructure Savings

- Non-proprietary hardware
- Storage efficiency
- Lower cabling cost
 - Network tree topology
 - Utilize existing IP Networks
 - Eliminate coaxial cabling



Operational Savings

- Incorporation of intelligent video analytics
 - Filtered events
 - Fewer operators – enhanced security
 - Improved detection – enhanced security – immediate response
- Reduced maintenance and equipment cost



IP Video as a Profit Center – Enterprise ROI

- Enterprise-wide impact
- Marketing – merchandising – operations – maintenance – insurance
- Example: retail scenario
 - Video-integrated loss prevention
 - Video access can be sold to vendors for monitoring customer behavior
 - Legal (slip and fall)
 - Video Content Analytics can provide queue alerting
 - Stickiness and crowding around certain displays can help better design the store layout.



Conclusion

Q & A



Conclusion

Thank You.

