



# IBM Digital Surveillance and Security Solutions

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# Safety and Security

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Safety and Security involves all activities that organizations, enterprises, and institutions undertake to protect the:

- Health and lives of people
- Value and ongoing usability of assets (Physical and Logical)
- Integrity and continuity of operations

## Deliberate Attack



## Accident



## Natural Disaster



Since 9/11 a spotlight has been focused on organizational needs for data, computer, network, facility, people safety/security, and therefore a **“Business Continuity”**

# Current Security Solutions... “Parts and Pieces”

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Many security “solutions” are often confined to the area being protected and are not integrated with other enterprise and business security.....



Business Security



Enterprise Security

## Current Security Solutions... “Parts and Pieces”

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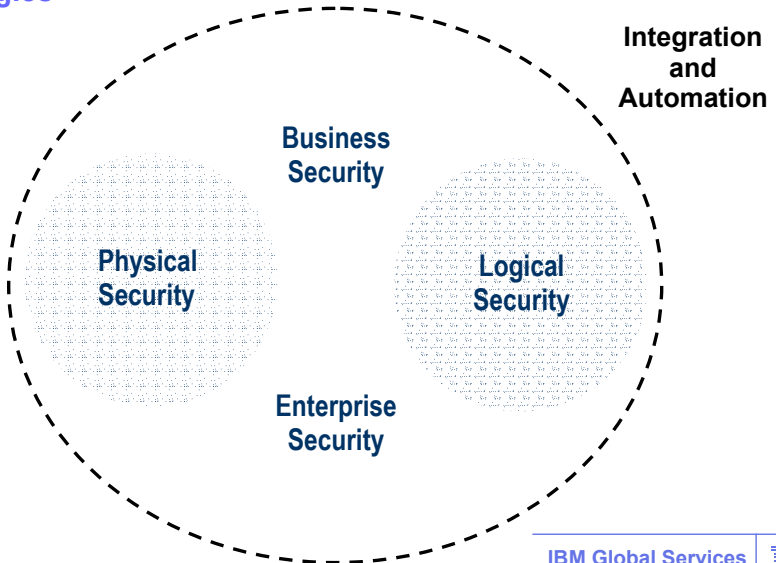
..... resulting in a large number of disparate security areas, making security less effective, cumbersome, and expensive to operate and manage.

And an Enterprise having:

- **Multiple physical access control systems**
  - Not integrated with asset, data or network security
- **Mostly “human eye” surveillance**
  - Having low efficiency in intrusion detection
- **False or inaccurate alarms**
  - Usually with complex remote access and remote controls.
- **Limited or no security linkage to IT**
  - Requiring expensive management and communications processes

# IBM Approach: An Enterprise End-to-End Solution

## IBM combines Physical and Logical Security using Digital Technologies



# IBM Approach: An Enterprise End-to-End Solution

## Business consulting and application integration services

Enterprise assets & Data access control



Network security

Wireless security



Integration & Automation



Business applications & Databases

## Infrastructure consulting, integration, automation, deployment support and maintenance services

Automation & Monitoring



IBM Video storage



Network & Storage management



Digital video recorders

Security servers



Remote security

Wireless Network

Digital Web cameras

The Internet

VPN gateways

Local IP Network

Firewalls

Wide Area IP Network

Routers

### Sites to be protected

Environmental Support Equipment Sensors & Detectors

Control Outputs



Smart card readers  
Biometric readers  
Proximity card readers  
Bar code readers  
Magnetic stripe readers  
Asset readers

Controllers & Gateways



Wiring

Ethernet cabling - Copper + fiber

Analog CCTV cameras



Digital video server



Digital CCTV cameras



Switches



IDS



Wireless LAN



Wireless LAN



Portable & fixed wireless cameras

Roving guards with handheld devices



# IBM Digital Surveillance and Security Solution

IBM's extensive knowledge of various IT and Business Environments... and their related Data and Network requirements gives us the unique ability to address the integration and automation of the Enterprise Security Components.



# Agenda

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## IBM Digital Surveillance and Security Solutions

- Why Digital Surveillance and Security Solutions?
- **Advances in Technology**
- **IBM Solution**
- **IBM Value Propositions**

# Why Digital Surveillance and Security Solutions?

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## Enabling Digital Technologies Because....

- **First “Responders” must have “Current” information**
- **Sharing of security breach information is vital**
- **Information needed for analysis purposes can be critical**
- **Facilities, Assets, Data, and Networks must be secure**
- **Data and Network Security are tied to Physical Security**

# Why Digital Surveillance and Security Solutions?

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## Enabling Digital Technologies Because....

- **Real time assessment improves the ability to track events**
- **Automation improves response times to emergencies**
- **Remote access to data is simplified for mobile response teams**
- **IT Infrastructure/Standards leverage existing investments**
- **Enterprise Security Command and Control capabilities increased**
- **Investigation efficiencies are realized**
- **Field Security Automation simplifies security patrol management**
- **Visitor Controls are enhanced**

# Why Digital Surveillance and Security Solutions?

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## Video Surveillance – Specific Requirements

- **Easy-to-use operational control**
- **Back-up control centers**
- **High System Availability**
- **Operator Ergonomics**
- **Simultaneous and independent viewing of 1 single camera**
- **Central management systems with remote access facilities**
- **Large recording requirement with simultaneous playback**
- **Value-add Applications**
- **Project Management approach**

# Why Digital Surveillance and Security Solutions?

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## Integrated Digital Video Security System Advantages

- Very high and consistent video picture quality
- Fast Search times
- Ability to record multiple cameras simultaneously
- Full integration of video into the security system
- Common IP communications infrastructure with common management
- Lower cost of ownership – standard computing platforms
- Video connection switching performed by the network
- Digital storage – no tapes
- Significant savings in labor costs
- Scalable
- Remote viewing capability
- Multicasting to multiple destinations
- Enables resilience, redundancy, self-healing



# Why Digital Surveillance and Security Solutions?

## ...versus Analog Video Systems

- **Low Image Quality / Low Copy Quality**
- **Long Search times**
- **Real-time recording requires a VCR for each camera**
- **Limited standardization**
- **No Integration to other Security system**
- **Separate communications infrastructure (coax)**
- **Video matrices based switching vs network**
- **No digital storage (tape based storage)**
- **Labor Intensive (handling tapes)**
- **Difficult to scale**
- **No remote viewing capability**
- **No multicasting to multiple destinations**
- **Separate management**
- **Lack of resilience, redundancy, self-healing**



# Why Digital Surveillance and Security Solutions?

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## Enabling Digital Technologies for Video Surveillance improves....

- **Cost containment for an ever increasing number of video sources**
- **Accessibility to all monitoring points**
- **Management of moves, adds, and changes**
- **Video quality (Image and motion)**
- **Audio talk-back channels for remote site locations**
- **Cost of ownership**
- **Image analysis and storage**
- **Compatibility and Interoperability with ...**
  - Camera Telemetry (Pan-Tilt-Zoom)
  - Traditional and Digital Storage facilities
  - Motion detection systems
  - Alarm systems



# Agenda

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## IBM Digital Surveillance and Security Solutions

- **Why Digital Surveillance and Security Solutions?**
- [Advances in Technology](#)
- **IBM Solution**
- **IBM Value Propositions**

## Advances in Technology: IBM Value

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- **IBM brings its value to the “Digital Surveillance and Security” infrastructure by being recognized as the world’s leading business applications, IT Systems, and Networking Systems integrator that delivers innovative solutions, targeting specific industries.**
- **The key components that enable new types of innovative Digital Surveillance and Security solutions that we can leverage are:**
  - **Converged IP Network**
  - **Digital Video Surveillance**
  - **Biometrics Systems**
  - **IBM Research Innovations**
  - **Integration & Automation**
  - **Enterprise Command Center**
  - **IBM HW and SW Components**

## Advances in Technology: Converged IP Network

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Network Convergence allows for a improved cost efficiency and the use of “open standards” for building enterprise wide surveillance and security solutions

- **IP Networking Leveraged:**
  - **Common IP Network Infrastructure.**
  - **Remote “Anywhere” Access**
  - **Rapid Security Actions**
  - **Enterprise “Shared” Digital Information**
- **Physical Security integrated within the Enterprise Network**
  - **Establishes Future Readiness**
  - **Optimizes Resources and Operational Costs**

# Advances in Technology: Digital Video Surveillance

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## Digital Video Technologies provide:

- More effective automation capabilities
- More effective integration capabilities
- Faster enterprise security actions
- Higher image quality



# Advances in Technology: Analog vs. Digital

Digital video can be treated as any other data fed over a modern unified TCP/IP network infrastructure.

## System

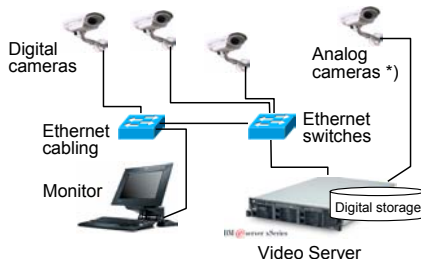
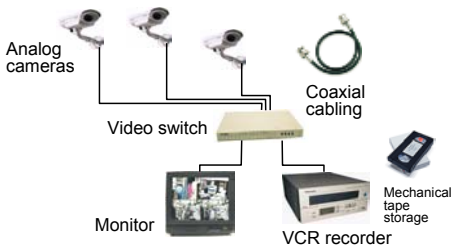
Image capture  
Image transport  
Video switching  
Video Multiplexing  
Image recording  
Image playback  
Image analysis  
Search and retrieve

## Analog

Analog CCTV Camera  
Coaxial cable  
Analog video switch  
Analog Video Multiplexer  
24Hr VCR recorder  
Video playback recorder  
Manual  
Manual

## Digital

Digital CCTV Camera \*)  
IP Network  
Networked Video server  
Networked Video server  
Networked Video server  
Networked Video server  
Networked Video server  
Networked Video server



\*) Note that Analog cameras can be re-used by digitizing their output

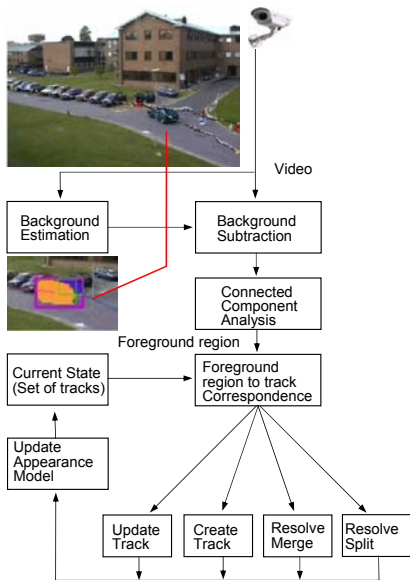
# Advances in Technology: IBM Research Innovations

## Studying “surveillance task automation”

- Monitoring of surveillance video is labor intensive
- Watching video feed needs high level of visual attention
  - Extremely demanding
  - And prone to error due to lapses in attention
- In a recent study by the US National Institute of Justice it has studied the effectiveness of human monitoring of surveillance video and one of the conclusions was as follows:
- “These studies demonstrated that such a task, even when assigned to a person who is dedicated and well-intentioned, will not support an effective security system. After only 20 minutes of watching and evaluating monitor screens, the attention of most individuals has degenerated to well below acceptable levels. Monitoring video screens is both boring and mesmerizing. There is no intellectually engaging stimuli, such as when watching a television program.”

**Automating the surveillance with computerized analysis can provide three enhancements:**

- more cost effective surveillance systems
- increased effectiveness of threat detection
- intelligence gathering



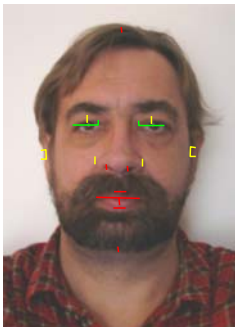
# Advances in Technology: Biometric Systems

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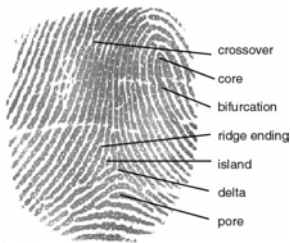
Biometrics are now digital technology and have become affordable in creating high end security solutions and making access control to physical and logical resources more user friendly.

Biometrics-based access control is an emerging technology for:

- Physical: Facility access control
- Logical: PC and Application access control



**Face**



**Fingerprint**



**Iris**



## Advances in Technology: Enterprise Command Center

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Through enterprise wide integration, security and safety data can be acted upon in real time to allow for prompt recovery actions to be taken and high business continuity, attached to a single enterprise business and security set of policies, all executed from an Enterprise Command Center (ECC).



# Advances in Technology: IBM HW & SW Components

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...to enhance and scale your solutions

- IBM Servers (pSeries, xSeries)
- IBM Total-Storage FAST Storage Server
- IBM Enterprise Storage Server
- IBM Smart Card Technology
- Linear Tape Open (LTO) Tape Library
- IBM Content Manager
- IBM WebSphere
- IBM MQSeries
- IBM DB2
- Tivoli TSM, TSRM and SANergy
- IBM SAN (Storage Area Network)
- IBM General Parallel File System (GPFS)
- IBM General Purpose Automation Executive (GPAX)
- + Independent Software Vendor Applications (ISV)



# Agenda

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## IBM Digital Surveillance and Security Solutions

- **Why Digital Surveillance and Security Solutions?**
- **Advances in Technology**
- **IBM Solution**
- **IBM Value Propositions**

# IBM Solution: IBM has an exhaustive set of capabilities....

Together with our business partners and selected suppliers IBM can offer an integrated and automated security solution, running on standard IBM servers, storage, an IP network, and based on IBM services for planning, design, implementation, support and maintenance, thereby leveraging:

- IBM experience in Networking
- IBM experience in Site services
- IBM experience in Business Continuity and Recovery Services
- IBM knowledge in Digital Media
- IBM Technologies
- IBM's ability to be a single-source IT and non IT solution provider



## **IBM Solution: Selected set of Business Partners + Suppliers**

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### **Digital surveillance and security technology, hardware and software**

- **Security solution HW components**
- **Security solution SW components**
- **Integrated security software**
- **Analog and digital CCTV cameras**
- **Video management software**
- **Networking technology**
- **Biometrics technology**

## IBM Solution: Integration

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A “End to End” solution requires expertise from:

- IT Infrastructure and Services company - IBM...

**IBM brings its value to the “Digital Surveillance and Security” infrastructure by being recognized as the world’s leading applications, IT Systems, and Networking Systems Integrator that delivers innovative solutions, targeting specific industries.**

- IBM has its leading computer hardware, storage and software products, including Digital Media products to enhance our IBM services and partner’s solutions
  - IBM is partnering with number of leading Digital Surveillance and Security solutions manufacturers.
  - IBM is partnering with leading Network equipment providers
- and... Physical Security Companies



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## IBM Value Propositions: Industry Specific

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IBM, together with its technology business partners and suppliers, can help all industries enhance their physical security through the use of computer technology, IP networks and advanced digital technologies such as digital video and biometric authentication and identification.

- **Public Sector**
- **Private Sector**
  - Life Science
  - Finance
  - Transportation
  - Etc.



## IBM Value Propositions: Benefits to You

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- **Enhanced Enterprise Security**
- **Optimized Cost**
- **Reliable Centralized Storage**
- **High Quality Data Available for Analysis**
- **Resilient Infrastructure**
- **Compliance to Industry Standards**

# An End-to-End Solution

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Digital video server



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Wireless LAN



Portable & fixed wireless cameras



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