MTS
Consulting Services

Model Police Station

Digital Video Surveillance Architecture

Background

- Drivers
- Definitions
- Architecture
- Architecture Advantages
- Enhanced Features
- Activities
- Demonstration

Drivers

- Inability for police to sufficiently add personnel to meet growing policing needs
- Emerging Capabilities with Digital Video Surveillance to assist police
  - Suspect Identification
  - Event Detection/Capture
  - Face Capture/Face Recognition
  - License Plate Recognition
  - Bomb Detection
  - other
- Provision of Evidence
- Reduction in Operations Costs
- Transition from Analog to Digital
- Extension of Command and Control

Modern Policing and Digital Video Surveillance

- Video Surveillance acts as a force multiplier for police
- Five basic functions for modern policing
  - Discrete Surveillance
  - Command and Control
  - Provision of Evidence
  - Deterrence
  - Re-assurance
- Video Surveillance protects police and reduces liability
- Video Surveillance greatly reduces the prosecution process, increasing guilty pleas

Definitions

- DVS – Digital Video Surveillance
- NVR – Network Video Recorder
- DVR – Digital Video Recorder
- Scalability
  - Horizontal – Ability to expand capacity by addition of servers
  - Vertical – Ability to expand capacity by increasing capability of server(s)
- NTSC or Analog Cameras - National Television Standards Committee
- IP Cameras - Internet Protocol

Evolution

Analog Cameras

VCR

Analog Video Recorder

- Tape-Based System
- Standalone Installation
- Variable Image Quality
- Limited Review Capability

Analog Cameras

DVR

Digital Video Recorder

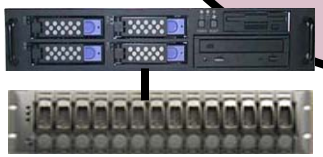
- Disk Drive-Based System
- Fixed Sized/Limited Scaling
- Limited Remote Access
- Proprietary Software

Multi-Format Cameras

Remote Storage

Local NAS

IP Based Solution



Secure Offsite Archiving

Legacy System Integration

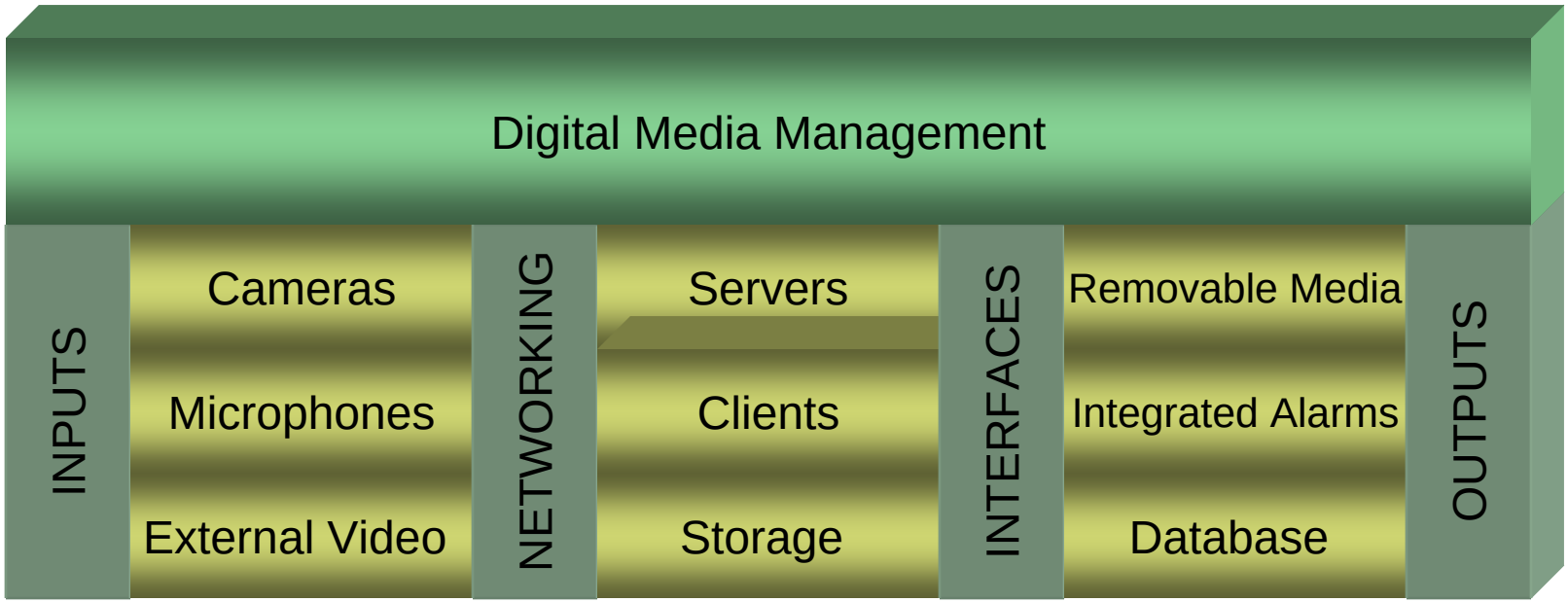
Integrated Media Architecture

- Open-architecture/multi-format
- Real-time remote viewing
- Fail-safe redundant storage
- Encryption support
- True internetworking

Digital Media Architecture

- Single architecture supports multiple media requirements
- Common format, common operations
- Manageable Evidence Process

Architecture



Notes:

External Video – from sources such as convenience store robbery

Removable Media – CD or DVD for Evidence Provision

Integrated Alarms – Triggers for surveillance such as cruiser light bar or access control event

Database – for image comparison such as Stolen License Plate, open warrants, or Pedophile database near schools

Architectural Requirements

Police Station

	Video	Audio	Mobility	Notes:
Entrance Points				Facility entry/exit
Dispatch				Facility entry/exit (audio option)
Processing				Booking process with audio capture
CID/Interview				Interview process with audio capture – access controlled
Sally Port				Suspect monitoring from dispatch or watch
Evidence/Armory				Courtroom entrance and courtroom monitoring
Facility Perimeter				Facility perimeter surveillance – vandalism and liability protection
Police Cruisers				Mobile in-car video with audio capture
Holding Cells				Record (option) and Monitor per DOC regulations

Architecture Advantages

- Having an *architecture* vs. purchasing a *product* allows for several advantages:
  - Provides for future proofing
  - Avoids proprietary products
  - Permits cost competitiveness between products
  - Allows the solution to be built in a modular fashion, over time, as budgets and priorities materialize
  - Creates a predictable objective solution

Extended Architecture

Public Schools

Police Station

Internet Via VPNs

Retail Community or community-unique congregation areas

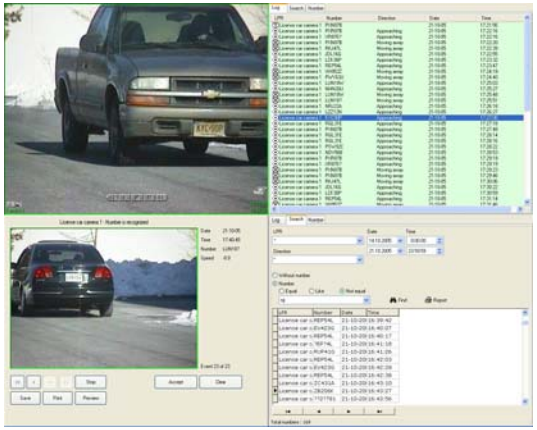
In-car video for the capture of events upon arrival to an event and for the viewing of events during response

Public Transportation Areas

Important Features for Policing

- Event-based architecture, allows for incorporation of rules and policy and creates alarming and alerting functions
- Open architecture accommodates multiple technologies and systems
- Policy must drive technology architecture, not vice versa

Enhanced Features for Policing



Integrated Video and Audio: Synchronized and Digitized for Attorney General requirements from processing through interview

Face Recognition/Face Capture: Provides useful rapid identification during processing, courtroom attendance, and other areas. Can compare to mug shots and external video sources.

License Plate Recognition: Provides useful rapid identification and comparison to known stolen vehicles either from fixed cameras or from mobile units. “Search” mode can be enabled.

Watchung Architecture - Features

- PD Perimeter Security
- PD Interior Surveillance
  - Booking (w/audio) (face recognition)
  - Sally Port
  - CID (w/ audio)
  - Front Lobby (w/ audio) (face recognition)
  - Holding Cells (w/ audio)
- Court Entrance (face recognition)
- Court Room

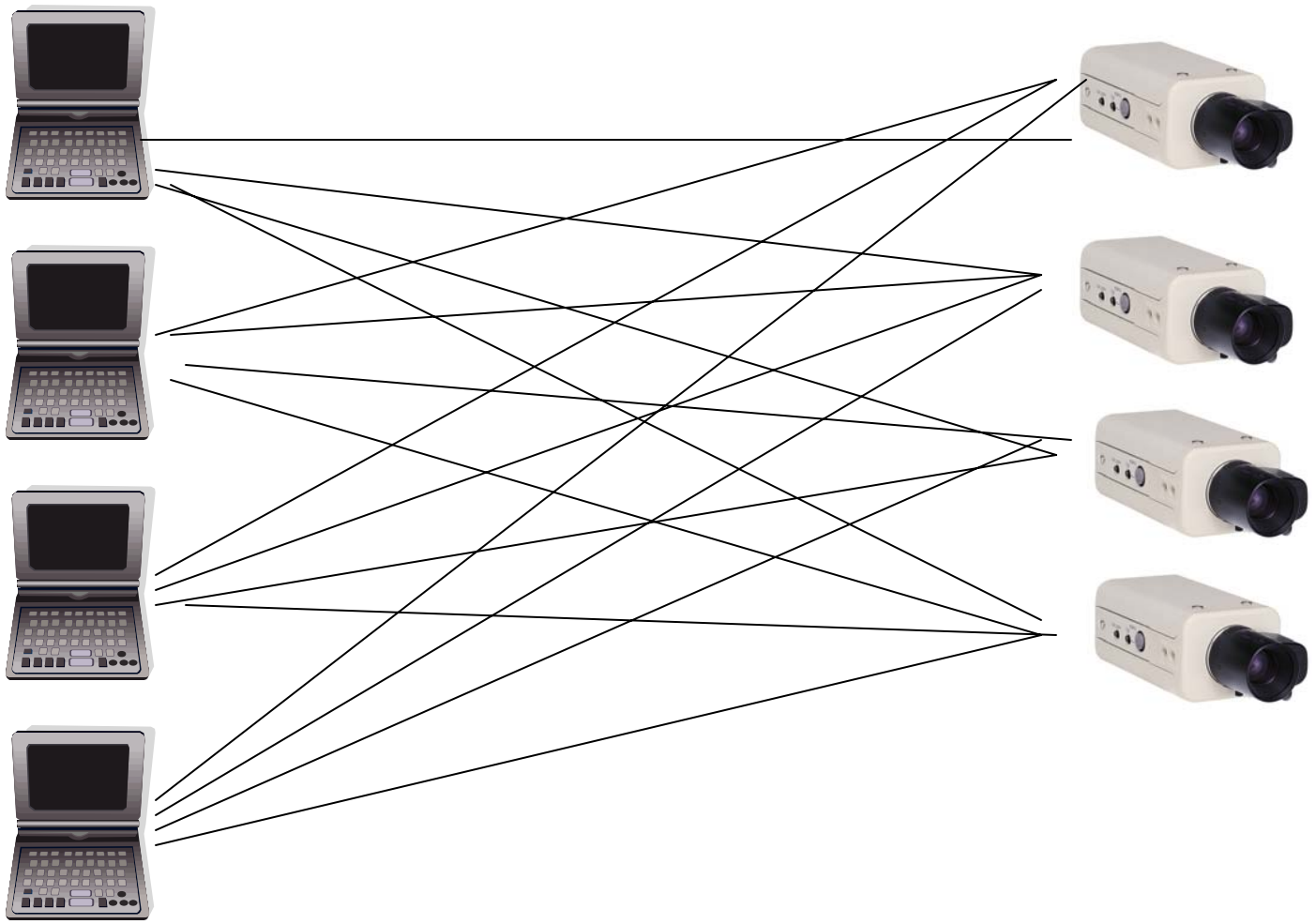
Watchung Architecture - cont

- Somerset Street – License Plate Recognition
- Watchung Square Mall/Route 22 entrances – License Plate Recognition
- Watchung Boro Hall
  - Police Antennas
  - Lobby
  - Parking Lot
- Mobile Units

Watchung Architecture

- Enterprise System
- Utilize Internet (cable modem & DSL)
- Bandwidth Management
  - Video Gateway
  - Compression
  - FPS selection
  - Image only on LPR remote
- Burn CD for evidence

Video Gateway – w/o gateway



Video Gateway – w/ gateway