The ABC’s of IT

IACP
Law Enforcement
Information Management
Section
2013

Presenters

- Commander Scott Edson
- Exec. Director CITIG Lance Valcour
- Major Steve Williams
- Special Agent Jim Buckley
- Major Christopher Wiles
- Captain Ed Posey
Commander Scott Edson

- 35 Years with Los Angeles County Sheriff Dept.
- Communications and Fleet Management
  - CAD, MDC, Radio Interoperability
- Law Enforcement Information Sharing Pgm
  - Department Knowledge, Crime Analyst Program
  - RMS, Crime Assessment Center
- Standards Committees
  - P25, NIEM, GJ XDM, SAR and others...

Insp. (Ret.) Lance Valcour O.O.M.

- 33 years Ottawa (Canada) Police Service, Retired 2010
- Executive Director of Canadian Interoperability Technology Interest Group (CITIG)
- CITIG is a Not-for-Profit under governance of Canadian Associations of Chiefs of Police, Fire & EMS
Jim Buckley, S.S.A.

- 28 Years Law Enforcement
- 5 Years Essex, VT PD
- 28 Years Federal, 18 years Immigration and Naturalization Service, 10 years ICE
- Deputy Chief Law Enforcement Support Center
- Currently DHS Liaison to FBI CJIS Division

Major Steve Williams

- 35 years with Florida Highway Patrol
- Chief Technology Officer
  - Information Systems Management - Law Enforcement & Motor Vehicle Systems
  - Communications Systems Management - LMR Analog & Digital
  - CAD, RMS, CMS, Rapid-ID, Facial Recognition, Data Sharing
  - In-car digital video, body worn video & license plate reader systems
- IACP-LEIM Board member
  - Communications/Technology Committee
  - Former member of Criminal Justice Information Sharing committee
  - Member of FBI N-Dex ISNOFT Committee
  - Member of Florida’s FloridaNet (FirstNet) Technical Committee
Major Christopher Wiles

Danville, VA Police Dept.
- 20 years of experience in law enforcement
- Services Division Commander
- Experience in implementing
  - RMS/Mobile
  - LPR
  - Body Worn Cameras

Captain Ed Posey

- 30 years law enforcement officer
- Operations Bureau Commander Gainesville, FL Police Department
- Worked on Implementing:
  - RMS
  - In-Car Computers
  - Moving toward “Less Paper”
- IACP LEIM Board Past-Chairman
The ABC’s of IT

Presentation Objective:
Cover broad issues that are basic to law enforcement information technology and how they apply to us today.

What We Will Accomplish
- A rapid overview of how technology is affecting the law enforcement world
- Discussion of some types of technologies and their uses
- Mix of technical and human issues
- Provide further resources
The Public Perception

Law enforcement knows everything about everybody, at all times, in all places, under all conditions.

“But I saw it on TV”

What We Won’t Do

- Give an in-depth explanation of all things (or even most things) technical
- Make a marketing campaign for any specific technology or company
- Give the final word – by the time we are done with this course, technology will have changed again
What is wrong with this statement?

68% of IT Initiatives Fail!

Law of Accelerating Returns--Kurzweil
Leading Change

- Law of Accelerated Returns means 100 years of progress in the next 25 years.
- What was the world and progress like in 1912?
- Can we even imagine what the world will be like in 2112?
- You have to be agents of change and influence the future.

Information Technology Simplified

- Information is data that is collected, generally about people, incidents and items in the field (cars, guns, electronics, etc.)
- Technology is the mechanism for collecting, storing, sharing, and analyzing the information
- Information will always be more important than technology
Why Do We Need IT?

- IT processes are the pen, paper, book and library of the current generation.
- Increase officer safety!
- Increase the ability of law enforcement to respond to, and provide assistance in all situations under any circumstances.
- Increase the numbers of criminals being identified, apprehended, and convicted.
- Decrease administration and operating costs

Why Do We Need IT?

- Look at the workforce today, most new hires are tech savvy -
- They have been raised on
  - Information Management
  - Technology: cell phones / navigation tools
  - On line education / training
  - Decentralized, empowered, less teaching, more group learning
  - Computers, tablets, PDA’s, smart phones
Underlying Concept of IT

- People’s efforts are supported by IT
- Information enables people to:
  - work smarter
  - work faster
- Technology delivers information
  - getting it in
  - getting it out

The Goal of LE IT

To allow any authorized person to access accurate, timely, and relevant information in any place at any time.
Business Process Problems

- Information has traditionally been paper based
- Information has not been accessible when personnel needed it most – in the field!
- Personnel waste time with paperwork
- Duplication of efforts leads to errors
- Incomplete information
- Law enforcement agencies do not work together (lack of information sharing - human issue!)

Initiatives that Affect the Law Enforcement Information Technology Landscape

Commander Scott Edson
Global Justice Information Sharing Initiative (Global)

- **Mission**—the efficient sharing of data among justice entities
- Advises the U.S. Dept. of Justice on justice information sharing and integration initiatives
- Created to support the broad scale exchange of pertinent justice and public safety information

Global Justice Information Sharing Initiative (Global)

- Promotes standards-based electronic information exchange to provide the justice community with timely, accurate, complete, and accessible information in a secure and trusted environment
- More than 30 independent organizations, spanning the spectrum of law enforcement, judicial, correctional, and related bodies
- [www.it.ojp.gov/global](http://www.it.ojp.gov/global)
Global Justice XML Data Model (GJ XDM)

- Designed specifically for criminal justice information exchanges, providing law enforcement, public safety agencies, prosecutors, public defenders, and the judicial branch with a tool to effectively share data and information in a timely manner.
- Removes the burden from agencies to independently create exchange standards, and because of its extensibility, there is more flexibility to deal with unique agency requirements.

www.it.ojp.gov/gjxdm

National Information Exchange Model (NI EM)

- Designed to develop, disseminate and support enterprise-wide information exchange standards and processes that can enable jurisdictions to effectively share critical information in emergency situations, as well as support the day-to-day operations of agencies throughout the nation.
- Will standardize content (actual data exchange standards), provide tools, and managed processes.
National Information Exchange Model (NIEM)

- Builds on the demonstrated success of the Global Justice XML Data Model
- www.niem.gov
- NIEM – “GJXML Inside”

IACP - Law Enforcement Information Technology Standards Council (LEITSC)

- Mission - to foster the growth of strategic planning and implementation of integrated justice systems, mostly CAD and RMS
- Promote the development and implementation of information technology standards
- Provide advice to the nation’s law enforcement community on technical aspects of IT standards
- Share practical solutions: CAD and RMS and tools
- Represent the voice of law enforcement in the expansion of justice and public safety information technology standards
Law Enforcement Information Technology Standards Council (LEITSC)

- International Association of Chiefs of Police (IACP), National Organization of Black Law Enforcement Executives (NOBLE), National Sheriffs’ Association (NSA), and Police Executive Research Forum (PERF)
- www.leitsc.org

Law Enforcement Information Technology Standards Council (LEITSC)

- RMS Standard Functional Specifications
- CAD Standard Functional Specifications
U-CAD-FR

- Thursday 1100 Salon H
- APCO and IJIS
- 115 CAD Functions
- 11 Topic Areas
- Law Enforcement
- Fire
- EMS
- ijis.org/docs/Unified_CAD_Functional_Requirements_FINAL.pdf

IT Security

Captain Ed Posey
What happens to your Copiers?

IT Security

- The many forms of communication we have make sharing information easier, but they also come with a greater security risk.
- Security and ease of access generally are inversely proportional.
Between 2003 and 2004, the average survival time of an unprotected computer dropped from 40 minutes to 16 minutes (SANS & Internet Storm Center).

Approximately 90% of mobile devices lack the protection to ward off hackers (Gartner).

Less than 10% of corporations are likely to have formal wireless security policies (Gartner).

With 85% of laptops and 60% of handhelds being wireless-enabled by 2006, users saw attacks crafted against those devices in record numbers (Gartner).

If you want your IT infrastructure to survive, you need to address security.

- Policy
- Hardware
- Software
- Intelligent use
  - Training
  - Prevention
IT Security

- Federal regulations mandate security
  - www.iir.com/28cfr/

- Failure to secure your information system can result in compromised information, damaged files and ultimately bringing your activities to a halt with little or no possibility of restoration

What Are the Threats?

- Human external
- Human internal
- System
- Environmental
IT Security Concerns

- The lost computer
- Computer disposal
- Managing patches and virus protection
- Uninformed employees
- Improper Password Use
- Inappropriate emails
- Spam
- The “I can fix it myself” employee
- Disgruntled employee compromising the entire agency system
- Surfing unauthorized sites

How To Secure Your System

- Develop a comprehensive and responsible computing policy.
- Communicate it with all employees, and develop methods for checks and balances.
- Employ hardware/software solutions that filter incoming traffic, firewall your network and monitor usage.
- Keep firmware and software up-to-date
- Antivirus and Malware protection
IT Security Policy is the Key

- A security policy is a preventative mechanism for protecting important agency data and processes. It communicates a coherent security standard to users, management and technical staff.
  - A policy can be used to measure the relative security of current systems.
  - A policy is important for defining interfaces to external partners.

IT Security Policy is the Key

- Password policy
  - Very sensitive databases - change every 90 days
  - Less sensitive databases - change every 6 mo.
- Rules of acceptable computer and internet use
- Email
- Software loading and use
IT Security Policy is the Key

- Establish strong identity management for access to the network. Require at least two of the following:
  - Upper case
  - Lower case
  - Special character: !, #, $, %, &
- Strictly control password management and administration.

The Password - At the Core

A good password policy is one of the most important barriers to unauthorized access.

Yet, it is one of the hardest to implement!
IT Security Policy is the Key

- Learn what methods software companies use to control the insertion of back doors in their products.
- Require the disclosure of all known back doors.
- Ban peer-to-peer software (P2P) and instant messaging (IM)

The Dangers of P2P

- P2P allows searching and sharing of any shared file
- P2P can allow searching of whole computer if not properly configured
- 8 million searches per day
- It can saturate your network
The Dangers of IM

- Yahoo, AOL, and MSN report over 1 billion IMs each per day
- High vulnerability to embedded viruses, trojan horses, and spyware
- Potentially opens file sharing, microphones, etc.

Security Challenges

Adware and Spyware create a new challenge to securing and maintaining IT systems.
Adware

Small pieces of code installed on the client machine whose primary purpose is to achieve highly targeted marketing by a number of methods:

- displaying usually an excessive number of pop-up advertisements
- installing tool bars full of adverts
- modifying browser settings such as the default home page favorites
- hijacking website searching and use

Spyware

- Also monitors a wide range of target users’ desktops activities in a stealth like manner, steals personal information and then mails it across the Internet without the knowledge or formal consent of the target user
- Traces back to Netscape and the creation of cookies
Types of Spyware

- Advertising spyware
- Surveillance spyware
  - Key loggers
  - Screen capture devices
- Trojan horses

Think It Can’t Happen to You?

- Dell Computer - spyware main reason for technical support calls
- Microsoft estimates that 50% of all PC crashes were due to spyware
How Does It Happen?

- Drive by downloads
  - persistence – will keep asking until you say yes
  - confusing legalese in the End User License Agreement (EULA)
  - creating a false pretense – you have a greeting card – and then must install greeting card viewer

- Deceptive functionality
- Use of cookies
- Browser Exploit
- Embedded Install
The Usual Suspects

- P2P (Peer to Peer) file sharing programs
  - Kazaa
  - Morpheus
  - Grokster
  - Bearshare
  - Limewire
  - Imesh
  - BitTorrent

But What Does It Do?

- Self install, monitor, access, create, delete files and other information (use of HTTP)
- Corrupt integrity of computer
- Redirect web links
- Capture authentication data
- Auto-dial
- Place toolbars
**So ... What's the Big Deal?**

- Security issues
- Personal privacy invasion
- Removal of needed programs
- Bandwidth and computing capacity consumption
- Human IT resources needed to repair
- Liability issues
- New form of cybercrime

**How Do I Know If I Have It?**

- Reduced performance and system instability
- Home page hijacking
- Programs appear that you don’t remember installing
- Suspect phone charges
- Popup ads at strange times (like when off the net)
Oops! Now What?

- Technical measures
  - Firewall
  - URL and content filtering
  - Anti-virus software
- Spyware/adware specific control programs

Resources

- Spychecker: www.spychecker.com
Resources

- Spybot S&D (Search and Destroy)
  www.safernetworking.org

- Spyware Blaster:
  www.wilderssecurity.net/spywareblaster.html
Resources

- Startup Inspector: www.windowsstartup.com

Don’t Let the Phish Bite You

- Policy is important
- Right-click links
- Read headers
- When in doubt ... don’t
Mitigating IT Disasters

- Redundant systems
  - Maintained in separate areas
- Sufficient number of employees
- Consistent back-up of data
- Store archival data off site
  - Move to separate location immediately
  - Secure
  - Away from disaster potential area (50 miles)

Mitigating IT Disasters

- Voice is a form of data - especially since most voice comms. is becoming or is now digital (cellular and radio)
- Convergence - Voice over IP
- Can you bring your telephone system back on line?
- Disaster recovery policy - Documentation on how to re-create a system and get it back up and running
The Internet is fast supplanting the telephone network as the most practical and popular way for people and organizations to connect.

- The Web empowers the six “A’s” of computing: Access Anywhere, Anytime, to Anyone, Authorized and Able.
- “Car 172.17.152.26 where are you”
Using the Internet to Push Information

Sharing dynamic information with the public

New police tool: neighborhood watch by Web

By Dean Panton | Special to The Christian Science Monitor

SEATTLE - When someone burgled a home in De Pere, Wis., last July, they stole - among other things - a child’s plastic Coke-bottle coin bank, bursting with about 1,200 quarters.

Three days later the culprit entered a Green Bay bank to convert this silver into folding green - and was immediately arrested.

What fingerprinted this guy?

The hottest policing tool since lie detectors and squad cars: the Internet.

The thief had been operating in a jurisdiction which uses computer software that sends out alerts to businesses within a 30-mile radius. By the time the crook walked into the bank, tellers were already on the lookout for anyone with too many quarters.

Indeed, police and sheriffs' departments from Florida to Washington State have adopted software that tracks the license plates of suspicious vehicles, which can be useful if a suspect later tries to cash the stolen coins.

New police tool: neighborhood watch by Web

From the May 05, 2002 edition - http://www.csmonitor.com/2002/0510/p1h/10c1s.html

Sharing dynamic information with the public
Using the Internet to Push Information

Home > Police Calls For Service

Police Current Calls for Service (Tampa City Limits Only)

This information shows police calls during a one week period. The report is updated every 15 minutes.

<table>
<thead>
<tr>
<th>Dispatched</th>
<th>Address / Description</th>
<th>Grid</th>
<th>Report Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>21ST AV E / 44TH ST N</td>
<td>111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VEHICLE STOP/TRAFFIC</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3000 DALE MABRY HWY</td>
<td>178</td>
<td></td>
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</tr>
<tr>
<td>INFORMATION</td>
<td></td>
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<tr>
<td>ANCROFT CT / COMPTON DR</td>
<td>202</td>
<td></td>
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<tr>
<td>VEHICLE STOP/TRAFFIC</td>
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Using the Internet to Push Information

Hillsborough County Sheriff's Office

Chief Deputy David Gee

Who's in Jail? - Inquiry

Enter Last Name, First Name & i.e. Doe, John

Information provided should not be relied upon for any type of Hillsborough County Sheriff's Office - 10/1/2009 @ 10

Hillsborough County Sheriff's Office

Chief Deputy David Gee

Who's in Jail? - Inquiry

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Information provided should not be relied upon for any type of Hillsborough County Sheriff's Office - 10/1/2009 @ 10
Virtual Community Policing

- Receive viewpoints and feedback from the community
- Respond to the community

POLL
Do you think it's possible to clean up high-crime areas like Whalley and the Downtown Eastside?
- Yes: 75.6%
- No: 24.4%

Virtual Community Policing

Keeping in Touch

Office of the Chief of Police

Since these people are speaking for human rights, what about the rights of the hard working Downtown Eastside residents that have to face the crazed dealers everyday, being harassed daily by them. We have rights too. I have a right to walk down the street and not be surrounded by dealers, dealers that are illegally here ruin our city and our people. This human rights group needs to get a life. Maybe they should live down here for a year and then see what they have to say. They are making false assumptions. Who would anyone want to listen to a group that isn't even from our city. Get both VPD to doing a world of difference and even doctors that treat addicts are agreeing that they are造成 addicts seek help now that there is a crackdown on the dealers. Get the facts people

Office of the Chief of Police

Keeping in Touch

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Office of the Chief of Police

Keeping in Touch
Minor incident? Take it On-Line!

Minor Incidents On-Line!

Virtual Police Report:
A service of the Fresno Police Department

This site allows you to file a police report after the Fresno Police Department. After completing the necessary information, you will be able to generate a report for your records. A valid form of identification and an email address are required to complete the report.

Incident Type:
- Burglary
- Opening mail without authority
- Intimidation
- Theft
- Vandalism
- Vehicle Burglary
- Vehicle Tampering

Incident Location:
- Property
- Business
- Auto
- Other

If this is an emergency, dial 911
For non-emergencies, call 559-621-7000.
Using the Net

Mandatory Uses:
- Online employment applications (attachments)
- Reporting graffiti (encourages photos)

Remember to make it accessible for everyone
- World Wide Web Consortium's Web Accessibility Guidelines - www.w3.org/WAI
- Federal Section 508 - www.section508.gov
- Web Accessibility in Mind - www.webaim.org - free evaluation and repair tools
Transition To IP/Wireless

Why Wireless Is Important?

• The **timeliness** of information
• The **accessibility** of information
Land Mobile Radio (LMR) Issues

- Interference
- Spectrum shortage
- Interoperability

Can You Hear Me Now?

- Digital Radio Systems
- Trunked radio systems
  - Shared
- Radio caches
- Fixed and mobile gateway solutions
- Software Defined Radio (SDR)
- Voice over IP (VoIP)
Public Safety Interoperability & 700 MHz LTE for Mission Critical Public Safety Data

IACP LEIM
On February 17, 2012, US Congress agreed to allocate the D Block to public safety and support the development of a mission-critical, nationwide public safety broadband network.
Sensor to Sensor Networks tied to Social Media
Thursday 9:30 – 10:30 – Salon G

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Location Based Services

Council says crime-fighting cameras in place ‘by WinterFest’

Got our eye on you
Networked Vehicles

Riding the Comet

A Report, Survey and Analysis of trends in the emerging ICT-Auto sector

http://www.networkedvehicle.org/

Building 3D Location & Tracking

Indoor Location Tracking

Where Are They?
Information Technology & Radio Convergence

What Law Enforcement Leaders Can Do to Develop Their Members

http://www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display&issue_id=32012&category_ID=4

Resources

SAFECOM

Public Safety Coordination and Partnerships Awareness Guide

www.safecomprogram.gov
Next Generation 911

- Wireless phone subscribers have surpassed landlines
- Wireless call are very difficult to locate if call is lost
- Today’s generation:
  - Doesn’t like to talk very much
  - They like to send instant and SMS text messages from mobile phones or PDAs.
  - Like to send photos or video with message
- Public Safety Answering Points (PSAP) need to be prepared to accept all these forms of critical information = NG911

Cell Phones are a Gold Mine for Criminal Investigations!

- Confiscate immediately upon arrest (prohibited in jails)
- Note last numbers called
- If camera capable, review photos
- Look for stored messaging
- Voice mail
- Wireless carrier can track calls made to towers
Cell Phone Forensics

- National Institute of Standards and Technology
  - DO NOT TURN OR OFF THE PHONE
  - Guidelines on Cell Phone Forensics
  - www.csrc.nist.gov

Radio Technology

Related Magazines

www.urgentcomm.com

www.mccmag.com
Wireless Voice and Data

Mission Critical Magazine
www.radioresourcemag.com

Wireless Networks

- **Ad-hoc/ Peer-to-peer**
  - Does not require a base station, access point, or gateway. Very short range
  - Clients create a mesh or peer-to-peer network
  - Defined by an SSID

- **Infrastructure**
  - Requires a base station or access point that acts as a gateway for all clients
  - Network is defined by an SSID
Wireless Comms

- Wi-Fi is now automatically embedded in nearly every new laptop
- Wi-Fi is now embedded in most new PDAs and Smartphones
- In 2007, there were 180,000 hotspots nationwide
- Some law enforcement agencies rely on Wi-Fi connectivity for comms (not recommended unless it’s your network!)

Cyber Crime
Cops ... Meet Cyber Criminals

- Anonymity – result of privacy regulations and ease of establishing identity
- Time and distance insensitive ... criminals no longer have to “be” at the scene of the crime
- Hard for law enforcement to coordinate multiple sources of information from multiple locations (often international or national)
- Whose jurisdiction is it anyway?

Cyber Criminals ... Meet Virtual Cops

FBI Pursuing More Cyber-Crime Cases

On Aug. 12, 2002

A federal grand jury indicted Chad “Farr” Eberhard, 37, the former chief executive of Sanborn, Mass.-based Orbit Communications Corp., on charges of being the hackers to take down the Web site of a large internet services company called webnations.com. The attack, FBI investigators said, made the company’s Web site temporarily unavailable, as well as the Web sites for Amazon.com and the Department of Homeland Security. The attacks caused more than $2 million in damage, prosecutors said.

Eberhard, along with 150 other defendants, was indicted as part of a Justice Department investigation co-sponsored by “Operation CyberHammer.” But it was the widespread attack that drew him into a spot in the spotlight for law enforcement, a group of
Policing Computers

- Just like we use IT to facilitate our mission, criminals also use IT to facilitate theirs!
- Digital forensics is a very critical component of our mission today
- Not just computers
  - Cell phones
  - PDAs
  - Digital cameras

Help!

- National White Collar Crime Center www.nw3c.org
- FBI Regional Computer Forensic Labs - www.rcfl.gov
- InfraGard - www.infragard.net
- Local or regional computer forensic labs
Major Applications

Major Steve Williams

• CAD
• Radio System
• RMS
• Mobile Data Systems
• Other databases:
  - Mapping
  - Regional information sharing projects - LInX; CopLink, etc.
  - AFIS
  - Forensic databases - facial recognition / DNA databases
  - Jail booking information / Photos
Computer Aided Dispatch

- Wireless E-911 – Phase I and Phase II compliant
- How about VoIP – receiving internet based calls

E911 Phase I & II Compliant?

- April 1998 – all PSAPs required to be Phase I compliant:
  - Access the 10 digit call back number
  - Locate the exact cell tower the call through which the call is routed
- October 2001 – all PSAPs required to be Phase II compliant:
  - Able to establish the callers location
  - Use of XY coordinates within a radius of 50 meters 67% of time and 150 meters 95% of the time
RMS – No Longer a Paper Island

- Must fully integrate into other functions – CAD/mobile data
- Open standard!
- Global Justice XML (GJ XML) Data Model (GJXDM) 3.1
  [http://it.ojp.gov/](http://it.ojp.gov/)
- Wayfarer: [www.ncsconline.org/d_tech/gjxdm/](http://www.ncsconline.org/d_tech/gjxdm/)

Mobile Data Computing Uses

- More Secure Dispatch
- Instantaneous NCIC, state database queries
- Electronic reporting
- SOPs, policies, guideline manuals
- Photos, photos, photos!
- Mapping software
- Building diagrams
- Pre-planned incident procedures and maps
- Virtual roll call - less redundancy!
Smile, You’re on Police Camera

- In-car cameras becoming standard
- Digital systems allow for integration with mobile data systems
- Helps maximize agency efficiency
  - Offense prosecution
  - Liability reduction

Smile, You’re on Police Camera

- Wireless load issues – Don’t do it!
- IACP Leader of Standards – “Impact of Video Evidence of Modern Policing”
**Smile, You’re on Police Camera**

- Can give critical clues for solving crimes
- Documentation of homeland security incidents
- Major metropolitan areas now deploying fixed and mobile cameras
- Photo enforcement increasing

**Smile, You’re on Police Camera**

- License Plate Recognition (LPR)
  - Hot trend today!
  - Good with “plain” tags
  - Poor with tags that have intricate or colorful backgrounds
  - Getting better daily!
The Face Looks Familiar, but I Can’t Quite Place the Name

- Private sector way ahead of public sector
- Facial recognition very effective tool!
- Leaders:
  - Pinellas County, FL Sheriffs Office
  - North Carolina DMV and Highway Patrol

How Facial Recognition Works

- Two types of algorithms
- Faceprint
  - A facial template or map is created
  - Compared to other face prints
How Facial Recognition Works

- Local Feature Analysis
  - Analyzes the face by detecting predetermined landmarks and measuring topographical angles between the marks
  - Each human has approximately 70 – 80 landmarks

- Texture of skin
  - Unique to each individual
  - Must be able to capture at least 90 pixels between the eyes, but should best achieved with at least 120 pixels
  - NIST mug shot standards – 120 pixels between the eyes
  - System maps skin into regions and starts measuring:
    - Type of texture
    - Pore structure
Facial Recognition – The Bottom Line

- Most accurate facial imaging combines the use of the two algorithms
- Best use is when you compare a single image against mug shot databases
- Technology still not there for scanning large crowds of people and picking out targets

Managing Technology Implementation

Commander Scott Edson
Cloud Computing

- Defined
  - Too technical so let's call it a "cloud"
- Who owns the data that consumers store?
- Will law enforcement agencies have easier access to information in the cloud than locally? (e.g. Information Sharing)
- What happens to the data if the company goes bankrupt?
- Loss of connectivity? Size of connectivity?
Cloud Computing

- Why not?
- Annual budget payment?
- Government cloud?
- CJIS
  - Cloud for Justice Information Systems
- Clouds are viable…

So You Want a New Technology?

- Planning
- Early buy-in / Involve all impacted
- IT Assessments/Reassessments
- Developing a RFP
- Choosing an Application
- Deploying the Application
- Maintaining the Application
- Have a replacement date for the Application
**Success Factors**

- User involvement
- Executive management support
- Clear statement of requirements
- Realistic expectations
- Proper planning
- Project management skills and milestones
- Competent staff
- Clear vision and objectives
- Hard-working focused staff

**User Involvement**

- **Most critical to ensure success!!!**
  - You must listen to the users!
  - Do not ask “what do you want...”
  - Ask “what do you do now and want to do better?”
  - What are your requirements?
  - Must be open to change your business process...
Example Project: JMS

- New Jail Management System Project
- Start by listening to the regular users and staff

Failure Is Not An Option!

- Standish Group's Chaos survey (relating to 2000), only 28 per cent of all IT projects in the US, in government and industry alike, hit their targets for budget, functionality and timeliness.
- 30% of projects are canceled
- 75% of completed projects are late
- Only 61% of originally scheduled features/functions make it to the end product
The Failed IT Project

What the experts hear:
- The system we bought doesn’t:
  - Work
  - Do what we want it to do
  - Integrate with other systems
- The officers/dispatchers hate it
- Our chief doesn’t support the project
- The company didn’t deliver what we expected
- We missed important deadlines
- We can’t capture time-savings and show redeployment of officers

Failure Is Not An Option?

Money
- We’re not in the business of technology – how do we justify the cost much less locate funds?

Competition for Attention
- There are lots of things on the Chief’s plate that compete for his/her time. Prioritize your needs!

Lack of an Organizational Strategy
- Organizational strategy sets the business goals. Technology must support the business goals. What if there is no organizational strategy?
10 Project Failure Signs

- **Lack of a project charter.**
  Projects need a clear and concise goal that everyone understands and supports, generated by business requirements

- **Management not engaged.**
  Inability to get decisions made

- **Project Management.**
  Lack of experience/skills

- **Buyer Confusion.**
  Buyer/user of the technology unsure of own wants and needs. Loss of demand

10 Project Failure Signs

- **Timelines and Resources.**
  Pulled in too many directions and/or concentrating on "actual" part of job

- **No Risk Analysis.**
  No evaluation of risk scenarios, mitigation plans, or review schedules

- **Change Management.**
  No process or budget for changes

- **Delays are Ignored.**
  No re-shaping or re-estimating of scope
10 Project Failure Signs

- Early Missed Deliverables. Things do not get better with time. The first 5% of the project should be the easiest.
- Skeptical or Aloof Team. Team does not believe project is achievable or realistic. No ownership or commitment.
- You Must Ensure Business Requirements Drive the Technology!

Early Warning Signs of Project Failure

- Failure to consult the users
- Failure of management to provide guidance
- Insufficient amount of planning prior to project
- Irrational promises made and lack of accountability
- Focus on only a portion of the full project
- Project performance reliant on due-date or actual versus budget-to-date estimations
Early Warning Signs of Project Failure

- Underutilization of resources. Wasting of "best" resources
- Delivering on original scope when conditions have changed
- Multi-tasking

Deploying Technology

- Technology planning and implementation is difficult, time consuming and often doesn’t work as promised the first time!
- Technology planning requires an in-depth understanding of your business processes, user needs, legal requirements, procedural issues, technology and how to align each of them.
Deploying Technology

- It’s expensive
  - One time costs to acquire
  - On-going costs to maintain
- It’s difficult to manage
  - Comprehensive and unique
  - Must have a project manager

Planning for New IT

- Obtain Management Approval
- Establish the Scope of the Project
- Seek Help / Complete Site Visits
- Form a Working Group of End Users
- Get Your Team Educated
- Develop Overall System Needs
- Develop a System Design and Schedule
- Develop a Cost Estimate
Who Leads the IT Project?

- Who should lead the IT project?
  - Project Managers
  - Consultants
  - Technical managers
  - Records managers
  - Operational managers

Who NEVER Leads the IT Project?

- SERVICE PROVIDERS REPRESENTATIVES!!!
- And yet, many law enforcement IT projects are driven by the company representatives, rather than the agencies
- Why?
  - Lack sufficient human resources dedicated to the project or technical knowledge
  - Consider independent consultant
Working with Service Providers

- When Service Providers provide references:
  - Talk or Visit them, dive deeply
  - Opinions may differ
- Will the provider modify their product to fit your business need (custom), or will you modify your business processes to fit their product (COTS)?
  - Be careful not to be forced to change business process
- Don't reinvent the wheel to do your Request for Information (RFI) or Request for Proposal (RFP)!
  - Look at similar projects and take what you need from them

Working with Companies

- Treat Service Providers with openness and respect - it should not be an adversarial process
- Skill set of the Project Manager is important
  - Detail oriented person
  - Able to identify and minimize risk
  - Builds collaboration and support for the project through effective communications
- Maintenance and Sustainment Plan
Funding from Grants

- More and more agencies competing for grants
- Fewer grants today than in the past
- Keys to securing grants
  - Planning and research
  - Collaborate with regional partners
- Have a strong needs assessment
  - Define the problem, causes, and symptoms that will be addressed by the grant
Funding from Grants

Effective grant writing means better chances of being awarded:
- Use problem statements and show how grant will fix problem
- Describe possible outcomes if not fixed
- Show urgency of problem
- Numbers and numerical data critical
- Use combinations of narratives, bullets, and statistical tables, graphs, etc.
- Be sure to follow request for proposal outlines and answers all questions in request for proposal

Funding from Grants

Know the grants for which you are applying. Follow the instructions to the letter, including using their language in the grant:
- Most grants are very competitive
- Some grants can fund positions
- Some grants can fund overtime
- Some grants can fund equipment
- Some require matching funds
Show Me the Money!

- United States Dept. of Justice - Office of Justice Programs

Show Me the Money!

- United States Dept. of Homeland Security Responder Knowledge Base
Resources

Commander Scott Edson

Guide for Applying Information Technology in Law Enforcement

By NLECTC

www.justnet.org

This guide offers the law enforcement community a description of what information system technologies are currently available and information to help you determine how to incorporate them into your agency’s day-to-day operations.
Resource

www.search.org

Resource

Justice Information Sharing Practitioners Network

www.jispnet.org
The IACP

- [www.theiacp.org](http://www.theiacp.org) and click in Technology

Topics:

- In-Car Cameras
- Mobile Computing Technologies
- Network Infrastructure
- Record Management Systems
- Voice Communications
QUESTIONS?

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