Protecting our Nation – Biometrics in Government
• Biometrics in Government
  – Trends and High Profile Programs
  – Biometrics in Law Enforcement and Global Security
  – Fingerprint Biometrics
  – Cross Match Case Studies
Trends – Biometrics Growth and Applications

• Government Sector Biometrics
  – Growth per IBG: $164 million in 2002 - $1.2 Billion in 2007
  – Largest vertical market for biometric applications
    • ID card programs
    • Benefits program fraud prevention
    • Background checks
    • Logical and physical authentication
    • Passenger screening
    • Visitor tracking
## Trends – Biometrics Programs in Government

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<th>US VISIT</th>
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### US VISIT
- Visa recipients will be enrolled at embassies and consulates - push out security
- Identities will be verified at all ports of entry including airports, seaports, border check points, etc.
- Visa status monitored when visitors are in US
- Visits and departures will be recorded

### FAST Program - Background Checks
- DHS and Canadian Customs program using fingerprint background checks to expedite border crossing of cleared cargo transporters

### Smart Cards
- International Civil Aviation Organization (UN agency) - developed standards for using facial recognition within travel documents
- Other biometrics can be added to facial
### Trends – Biometrics Programs in Government

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<th>Smart Cards</th>
<th>Common Access Cards</th>
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| • Pilots underway in Los Angeles and Philadelphia  
• Stage 2 of pilot - 10,000 workers in LA-Long Beach and Philadelphia-Wilmington - includes biometrics and background checks  
• Ultimately cards for 12 to 15 million transportation workers with unescorted access to secure areas |
| PKI encrypted smart card for network authentication and digital signatures  
• 2.5 million cards issued  
• Issuing approximately 10,000 cards per day  
• Next generation testing with biometrics |
| TSA Airport Access Control | • Aviation and Transportation Security Act of 2001 authorized $23 million for security projects at airports  
• TSA is testing biometrics at 20 airports  
• Verifying the identity of aviation employees  
• Biometrics being used - facial recognition, fingerprints, hand geometry, iris and voice |
Biometrics for Law Enforcement and Global Security

- Fingerprint live scan for background checks – more reliable than other biometrics
- Fingerprints – mature enough to deter crime and terrorism
- Easy comparison against FBI’s extensive IAFIS database and terrorist database
Biometrics for Law Enforcement and Global Security

- FBI’s IAFIS
  - Almost 50 million digitized criminal fingerprint records
  - World’s largest biometric repository – 4 X larger than all of fingerprint repositories in Europe combined
  - Receives, searches and stores fingerprint submissions – generates responses within 2 hours
  - Processes latent prints found at crime scenes
  - Since inception, latent print searches using IAFIS from cases have resulted in 700 positive IDs – 3 x the total number of latent identifications made in the 15 years prior to IAFIS
  - International standards developed for the exchange of fingerprints to Canada, the UK and member countries of Interpol

Source: Michael D. Kirkpatrick, Assistant Director CJIS, Congressional Testimony
Forensic Quality Finger and Palm Prints – Most Tried and True of Biometrics

- DC snipers identified by a latent fingerprint found in Alabama. Using an INSIDENT AFIS system from Cogent, a single fingerprint helped to crack this major case.

- Case involving kidnapped and killed Polly Klaas solved when law enforcement lifted a latent palm print from Richard Allen Davis from Polly’s bed the day after her kidnapping and murder.

- Case involving Richard Marc Evonitz and the Silva and Lisk girls was solved when a palm print and fingerprints from Kristin Lisk were found in trunk of his car- 5 years after the girls were abducted.

- FBI spy Robert Hanssen – strongest evidence came from 2 latent fingerprints found on plastic bag used for contents of a dead drop for KGB.
• FBI’s Flyaway program – Interim Distributed Image System (IDIS) - remote latent fingerprint terminals
  – Used to submit 10-prints and latents of victims in NY and PA 9/11 terrorist attacks
  – 7 IDIS systems and 32 CJIS employees deployed – 22 successful IDs in NY; 1 in PA
  – Also used to record fingerprints, photos and demographic data of detainees in Iraq, Afghanistan and Guantanamo
Case Study

Singapore Border Management
Singapore Case Study

• Challenge
  
  - Growth in visitor arrival and departure volumes in Singapore
  
  - Ministry of Manpower in Singapore needed a cost effective and highly reliable system to manage traveler clearance into country with ability to:
    
    • Deter illegal immigration or worker entry
    • Protect against terrorist activity
    • Combat Visa and passport forgery
    • Prevent criminals from escaping the country
Singapore Case Study

- **Solution**
  - Government engaged NEC to develop an “immigration express system” using smart card and fingerprint capture for 1:1 verification of identity
  - NEC brought in Cross Match to provide forensic quality fingerprint capture devices
    - Passengers given an electronic passport (smart card) with encoded information, photo and forensic quality fingerprint biometric
    - At checkpoint, visitor inserts card with encoded data and places thumb down on Verifier scanner
    - 1:1 match occurs – gate does not need to be manned
Singapore Case Study

• Benefits
  - Manages growth in visitor arrival and departure
  - Alleviates government operations and manpower resource constraints
  - Deters terrorist and illegal immigrant entry
  - Prevents entry due to passport forgery or fake IDs
  - No delays – clearance in 5 – 10 seconds
Port of Palm Beach – Port Security
Port of Palm Beach Case Study

• Challenge
  – Florida state law requires all seaport employees and delivery personnel to have a fingerprint background check
  – Port of Palm Beach seaport needed a fast and efficient way to conduct background checks
• Solution
  – Potential employees of port or delivery personnel passing through the gate more than five times in a 90 day period now being printed with ID 1000 and submitting records electronically to the Florida Dept of Law Enforcement
  – Fingerprints are captured producing an electronic file containing 10 fingerprints – EFT file
  – File is then submitted to FDLE for comparison against the state criminal database
  – If no hit, the record is submitted to the FBI for a check against the IAFIS
Port of Palm Beach Case Study

• Benefits
  – Solution eliminated the potential threat of hiring convicted felons
  – Reduced turnaround time for background checks from months and weeks to hours
  – Results enable Port to make an informed decision about who gets an ID badge
Case Study

FBI – Tracking Terrorist Detainees
FBI Case Study

• Challenge
  – FBI needed a way to identify terrorists and conduct further investigative efforts on Al-Qaeda detainees in Afghanistan and Guantanamo
  – Needed a highly rugged and portable identification system that could perform in extreme environments
  – Needed to transmit records to FBI in real time
FBI Case Study

- **Solution**
  - FBI Criminal Justice Information Services Division (CJIS) purchased ID 1000 systems
  - Deployed to Afghanistan and Guantanamo
  - Captured the fingerprints, photos and demographic information from Al-Qaeda detainees
  - Transmission via analog phone lines and satellite communications to CJIS HQ, Clarksburg, WV
  - Information is compared against IAFIS and used to build upon terrorist database
• Benefits
  – Extremely easy to use
  – Can withstand extreme temperatures
  – Plugs into a motor vehicle cigarette lighter
  – Speeds up identification process
  – Remote area information capture
  – Essential tool in US efforts to prevent terrorism
  – System now being used in Iraq for similar purposes