Optical Memory Cards in Federal Government

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Optical Memory Cards

Presentation Content

- Introduction & Overview
- Technology & Business Discussion
- Standards & Requirement Issues
- Forecast
Introduction & Overview

Optical Memory Card:
- Key Characteristics

Federal Government Users:
- Defense Logistics Agency
- Department of Homeland Security
- Department of State
Optical Memory Card

Key Characteristics:

- High Data Capacity
- Security/Counterfeit Resistance
- Durability/Reliability
- High speed transactions
- Full standards compliance
Optical Memory in Logistics

US Defense Logistics Agency Global Deployment

- U.S. NAVY SHIPBOARD 2 SITES
- U.S. ARMY 24 SITES
- DLA DEPOTS 20 SITES
- CUBA (GITMO) 1995
- HAITI 1995
- GERMANY 41 SITES
- ITALY 2 SITES
- BALKANS 6 SITES
- AFGHAN 2002
- U.A.E. 1 SITE
- SOMALIA 1994
- BAHRAIN 1 SITE
- KOREA 18 SITES
- OKINAWA 1 SITE

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Optical Memory in Secure ID

Department of Homeland Security (INS):
- Green Card 1997
  - About 8 million issued

Department of State:
- Border Crossing Card (LaserVisa) 1998
  - About 7 million issued

- Optical Memory Stores:
  - Demographics
  - Facial Image
  - Fingerprint Image(s)
  - (BCC) Biometric Templates

- The largest biometric based deployment in N. America
Optical Memory in Secure ID

Citizenship & Immigration Canada:
- Permanent Resident Card 2002
  - About 500,000 issued

• Optical Memory Stores:
  – Demographics
  – Facial Image
  – Landing information

• Component of US/Canada Smart Border Action Plan
Optical Memory on the Border

Overseas Arrivals

Canada

USA

Mexico

Overseas Arrivals

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Optical Card Readers on the Border

- 2002/3 US Reader deployment
  - Congressional Appropriation
  - Feb 03 Pilot intercepts over 350 impostors
  - April 03 DHS Presolicitation Notice for 1,000 readers
  - Planned for Southern US border and major airports

- 2002/3 Canada Reader deployment
  - 230 readers purchased
  - Deployment to start 2003
Recent Key Developments

• Optical/Contactless technology
  - Optical Memory provides mass storage:
    • Original transportable face, fingerprints, iris images
    • In line with ICAO/NIST recommendations
  - Contactless chip activated for local use
    • Time limited access
    • Physical access controls
    • Facilitation applications

• TSA Evaluates OMC for TWIC
Technical & Business Discussion

Why Optical Memory Card?:
- Application Requirements

Cost Effectiveness:
- “Futureproof” technology
- Mission Critical support
Why Optical Memory Card?

Application Requirements:

• High capacity, scalable storage
• Tamper & Counterfeit Resistance
• Durability and Longevity
• High speed transactions
• Coexistence with other card technologies
• Full standards compliance (ISO, ICAO, ANSI)
• Global interoperability
Why Optical Memory?

High Capacity, Scalable Storage

Highest card data storage capacity

Up to 2.8 Megabytes
  e.g., facial image, demographics, biometrics, etc.

Advantages and Opportunities:

Flexibility in planning and design
Change/add features *without reissuing card*
Exploit newly emerging trends
Add value
## Secure, Scalable Storage

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<th>Stored Feature</th>
<th>Canada</th>
<th>US</th>
<th>Mexican</th>
<th>Italy</th>
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Why Optical Memory?

Tamper & Counterfeit Resistance

Secure because:

- Stored data **CANNOT** be changed
- Optical media meets legal requirements of a “document”
- Unique matching of Card and Encoder/Reader
- Memory can be marked with eye visible data

Advantages

- Unequalled counterfeit resistance
- Secure automated authentication
- Tampering with authentic data impossible
- Supports visual authentication
Market Feedback on Security

“The most counterfeit resistant ID card in the world”
US Immigration & Naturalization Service
Forensic Document Lab
1998

“The most secure publicly issued ID document in the world today”
State of Florida
Fraudulent Identification Unit
2002
Why Optical Memory?

Durability

Withstands constant use & inconsiderate handling

“The Optical Memory Card is the most durable and reliable media … in over thirty years of DoD logistics experience.”

Advantages

Reliability

Border Entry is a mission critical application
Defense Logistics is a mission critical application

“Futureproofed”
Update/change programs/services without reissue
Leverage return on investment
Standards & Requirement Issues

International Standards

- Technology
- Application
- Coexistence of multiple technologies

Requirements:

- Federal Interagency Interoperability
- International Interoperability
- Transportability of data
Optical Memory Standards Compliance

Basic Technology
• ISO 7810 (ID-1)
• ISO 11693 & 4 (Optical Memory Card)
• ISO 10 373 Part 1 & 5 (Test Methods)

Applications
• ICAO Doc 9303 Part 3 (Travel Documents)
• Technical Reports:
  – Coexistent Technology
  – Logical Data Structure
Needed Standards: A Strategic Opportunity

Federal Interagency Interoperability
- GSA Specifications (equivalent of IC Chip)
- Optical/Contactless IC Hybrid

International Interoperability
- Smart Border Action Plan
  - Harmonization of Inspection Infrastructure
  - Controlled exchange of data
- Global Interoperability
  - Patriot Act
  - Border Security Act

Transportability of biometric images
- NIST recommendations
- ICAO recommendations
Biometrics Transportability

Standards Activities:
- Interoperability
- Compatibility
- Data Exchange

Loss of detail can mean:
- Reduced Accuracy
- Compromised Security

Objective

System A

Exchange Standard

Risk

System A

System B

System B

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Biometrics Transportability

Original “True” Image as the standard:

- **Maximum accuracy**
- **Maximum security**

Supports visual (human) verification:

- Face is the international standard for Border Inspection
- Fingerprint is the international standard for Law Enforcement

**Fully Transportable across system boundaries**
Optical Memory Cards - Forecast

US:
- Continuing expansion of user base
- Features in US VISIT (Entry/Exit)
- Possible new applications, e.g., TWIC
- Use of technology in federal sphere, e.g., employee ID

N. America:
- Smart Border Action Plan
- NAFTA role

International:
- Expanded use as national ID and travel card
- Coexistence with contact & contactless chips
Optical Memory Card - Summary

NAFTA Region Interoperability

Large Optical Memory Capacity

Flexibility

Cost Effectiveness

Reliability

Long Life

Optical Memory Security

Optical Memory Durability

International Standards Compliance

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