Distributed Technology in Support of Identification Applications While Enabling Cloud Infrastructure.

(Managed Services for Systems Operations)

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Presentation Abstract – Managed Services

- Distributed Technology in Support of Identification Applications While Enabling Cloud Infrastructure

- Keywords From Abstract
  - Enabling Cloud For Biometrics (Managed Services)
  - *Distributed Technology*
  - *Continuity of Operations* | Illustration
  - *Redundancy*
  - SLAs
  - Maximize Efficiency
  - Minimize Operational Costs

- Managed Services – Contract For *Services*
  1. Biometrics DB Size
  2. Daily Search/Enroll Transaction Volume
  3. Response Time Requirement
Presentation Agenda

- Managed Services/Cloud Benefits & Questions
- Managed Services Relation to Biometrics
- Conclusion
1. Reduces Carbon Footprint
2. Security Requirements Inherent In MS Implementation
3. Reduced Infrastructure Concerns
4. Leverage Applications “On-Demand”
5. Reduced Overall Costs
6. Continuity of Operations (*Illustration*)
   - Enables Disaster Recovery
   - Can Fulfill System Redundancy Requirements
   - Dual & Automated Replication
   - Geographic Distribution
Cloud (Managed Services) Questions

1. Cloud Vendor Credibility
2. Data Location
3. Security
4. System Performance
5. Transparency
6. Metering Of Services
How Cloud Computing Relates to Biometrics

- Managed Services (Operations & Maintenance) Concept For Hardware & Software –
  - Template Extraction
  - Image Quality
  - 1:1 Verification
  - 1:Many Matching
  - Image Storage
    - Fingerprint, Face, Iris
  - Template Storage
  - Biographic Data Storage
Fingerprint Biometrics Workstation or Handheld Mobile User Interface

- Front End Interface to Biometrics Cloud Services
Segmented Slap – Poor Quality Capture – Cloud versus Local Performance - Trade Off

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- **Performance of Cloud Critical For User Interface Functions - Recapture**
Biometrics Managed Services

Interface Layer

Secure Internet Connection (SIC)

Managed Services
Fingerprint, Face, Iris, DNA..
Data & Server Dual Path Within Cloud

Biometrics Clients (Workstations & Handhelds)

Biometric Matchers

Fingerprint, Face, Iris, DNA...

Location 1

SEARCH or ENROLL

Middle Tier Server

Fingerprint, Face, Iris, DNA...

Location 2

SEARCH or ENROLL
Biometrics Matching – Replication From Within

Baseline

SEARCH or ENROLL

Fingerprint, Face, Iris, DNA...

Location 1

Replicate

Redundant

Fingerprint, Face, Iris, DNA...

Location 2

Fingerprint, Face, Iris, DNA...
Biometric Search Probe Against Growing Gallery

1. Probe Searched Against Gallery

2. Probe searched against larger gallery

3. Probe searched against even larger gallery

Print Search

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<th>Current Print Population</th>
<th>Monthly Delta Print Population</th>
<th>Comments</th>
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<tr>
<td></td>
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<td>Required Search Capability</td>
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<tr>
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<td>More Storage Required</td>
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<tr>
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<td>More Storage Required, Rack, Matching Required</td>
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Time

= Gallery Print  
= Probe Print
Biometrics Server Racks in Cloud

- Operations & Maintenance (O&M) Cost Savings!
- Data Center Server Placed in Cloud
  - Managed Service Provided to Customer
  - Customer No Longer Concerned About Server Quantities
Conclusion

- Managed Services Approach
  - Contract For DB Size
  - Daily Transaction Volume
  - SLA

- Reduce Operational Costs
- Pay for What Is Used
- Facilitates Disaster Recovery
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