



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

(Managed Services for Systems Operations)

Ramsey Billups

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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***
- ***Redundancy***
- SLAs
- Maximize Efficiency
- Minimize Operational Costs

Illustration

- **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

Cloud (Managed Services) Benefits



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

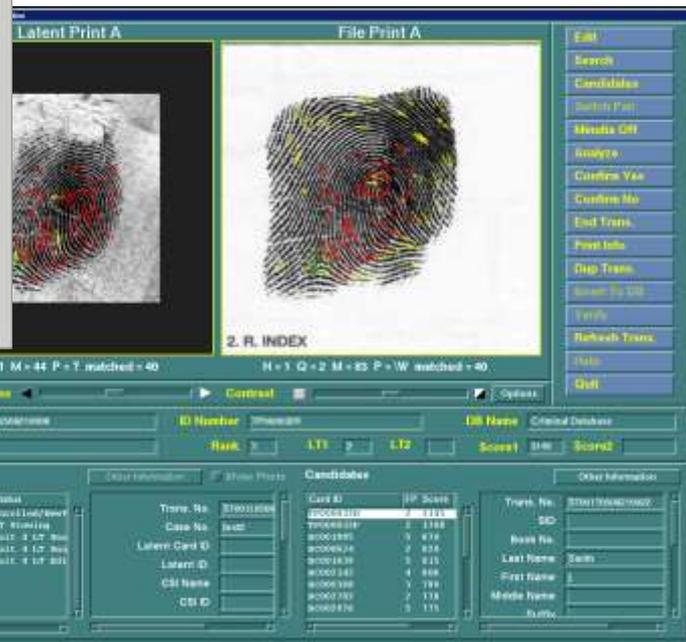


- Managed Services (Operations & Maintenance) Concept For Hardware & Software –
 - Template Extraction
 - Image Quality
 - 1:1 Verification
 - 1:Many Matching
 - Image Storage
 - Fingerprint, Face, Iris
 - Template Storage
 - Biographic Data Storage

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



LiveScan
COGENT SYSTEMS

Evaluate Document
Click Zoom in Button to display image!

ID No.
FB001M0205290005

Finger Position:
Two Thumb

Cancel

Zoom In

Recapture

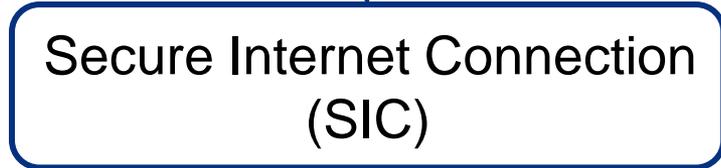
Confirm

Back

| R. Thumb | R. Forefinger | R. Middle Finger | R. Ring Finger | R. Little Finger | |
|-----------------|------------------|------------------|------------------|------------------|--|
| | | | | | |
| Poor Quality :6 | Good Quality :11 | Good Quality :11 | Good Quality :9 | Good Quality :10 | |
| L. Thumb | L. Forefinger | L. Middle Finger | L. Ring Finger | L. Little Finger | |
| | | | | | |
| Poor Quality :7 | Good Quality :11 | Good Quality :11 | Good Quality :11 | Good Quality :9 | |
| L. Flats | | L. Thumb | R. Thumb | R. Flats | |
| | | | | | |

Performance of Cloud Critical For User Interface Functions - Recapture

Biometrics Managed Services

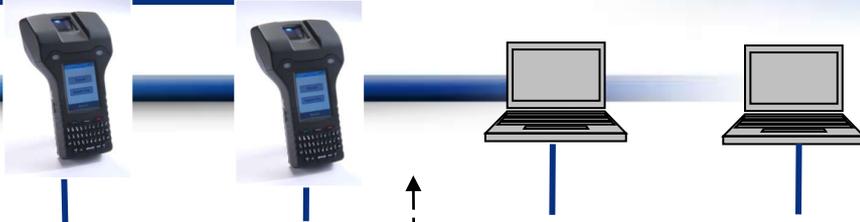


Procuring
Organization



Service Provider
Service Provider

Data & Server Dual Path Within Cloud



Biometrics Clients (Workstations & Handhelds)



SEARCH or ENROLL

Middle Tier Server

Middle Tier Server

SEARCH or ENROLL



Biometric Matchers

Fingerprint

Face

Iris

DNA

Fingerprint

Face

Iris

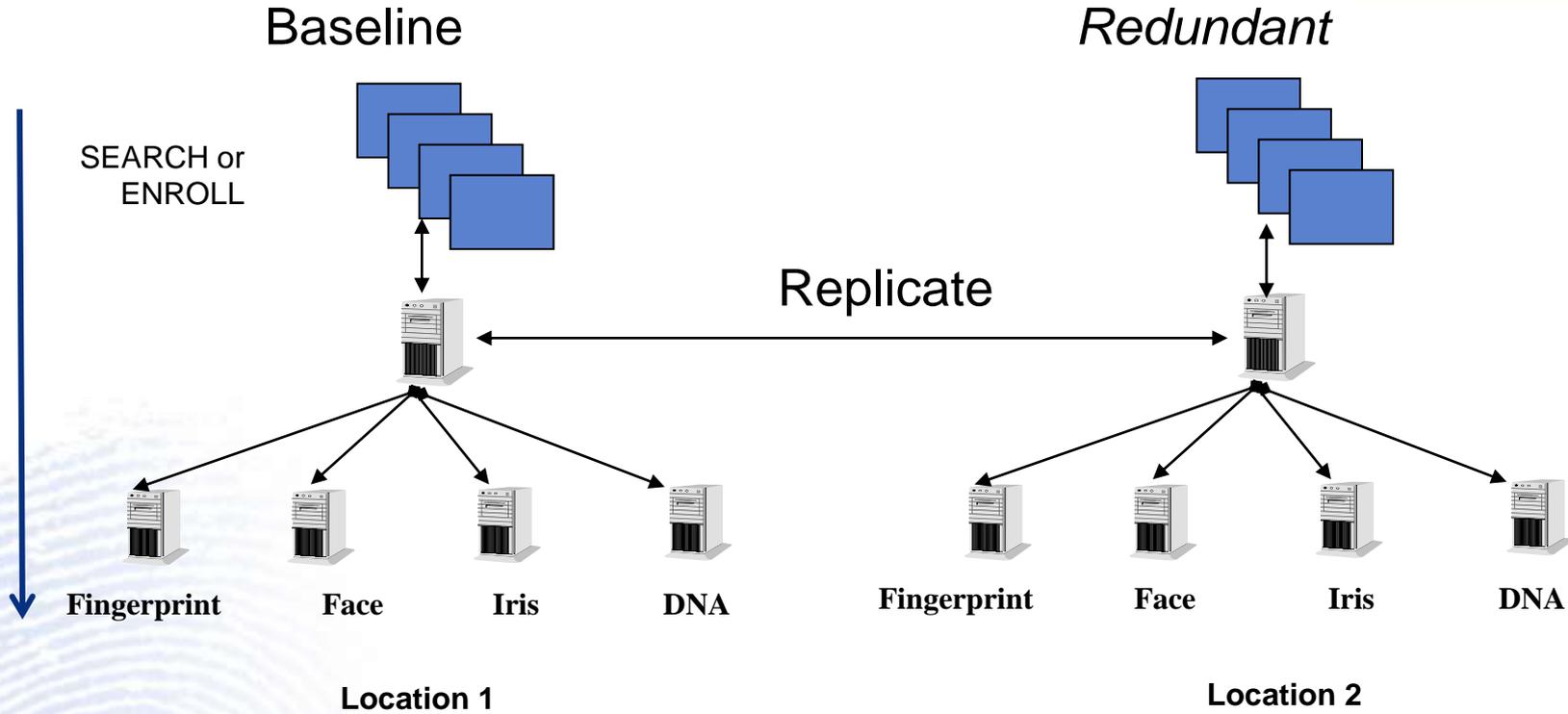
DNA

Location 1

Location 2

Fingerprint, Face, Iris, DNA..

Biometrics Matching – Replication From Within



Fingerprint, Face, Iris, DNA..

Biometric Search Probe Against Growing Gallery



Print Search

1. Probe Searched Against Gallery

Current
Print
Population

Monthly
Delta
Print
Population

Comments

| | Current Print Population | Monthly Delta Print Population | Comments |
|---|--------------------------|--------------------------------|--|
| 1. Probe Searched Against Gallery | | | Required Search Capability |
| 2. Probe searched against larger gallery | | | More Storage Required |
| 3. Probe searched against even larger gallery | | | More Storage Required, Rack, Matching Required |

Time



= Gallery Print

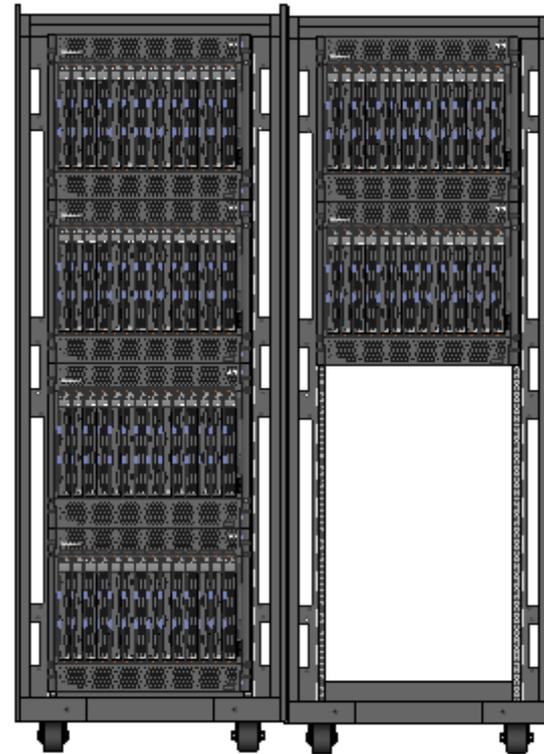
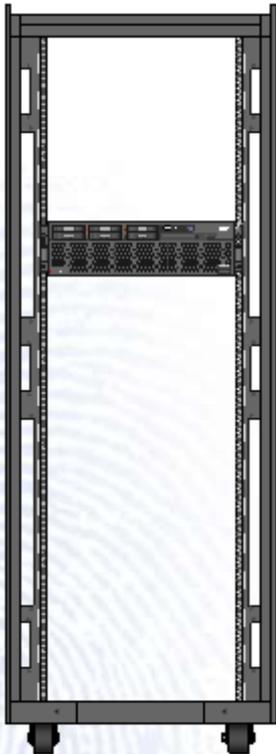


= Probe Print

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

Contact Information



Ramsey Billups

VP, Federal Systems 3M Cogent, Inc

1881 Campus Commons Drive - Suite 250

Reston, VA 20152(USA)

rbillups@cogentsystems.com