



هيئة  
الإمارات  
للهاوية  
EMIRATES  
IDENTITY  
AUTHORITY



SDW 2011

6 April 2011

# The Development of Digital Economy Recent Advances in Practice ... insights from the United Arab Emirates

**Conference:** 'Security Document World 2011'

**Stream:** Advances and Opportunities for National eIDs

**Venue:** Queen Elizabeth II Conference Centre, Westminster, London, UK.

**Conference Date:** 4-6 April 2011



# Agenda

- **Introduction: Emirates Identity Authority**
- **Thinking “Public” Services**
- **Reality of Internet ID and e-Government**
- **Digital Identity Project**
- **Uprising Implementation Challenges**



# Agenda

- Emirates Identity Authority
  - Thinking “Public” Services
  - Reality of Internet ID and e-Government
  - Digital Identity Project
  - Uprising Implementation Challenges



# Emirates Identity Authority

- **Federal** Government Organisation in the United Arab Emirates.
- Tasked to develop and Implement Advanced **National Identity Management Infrastructure** in the UAE.
- Support the government in key strategic areas.

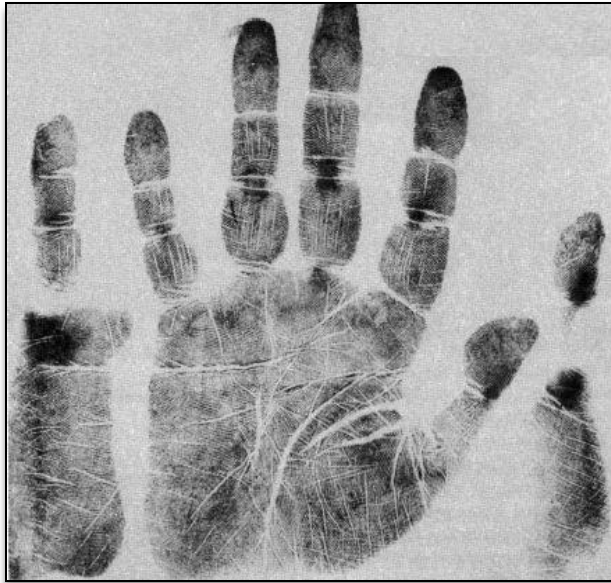




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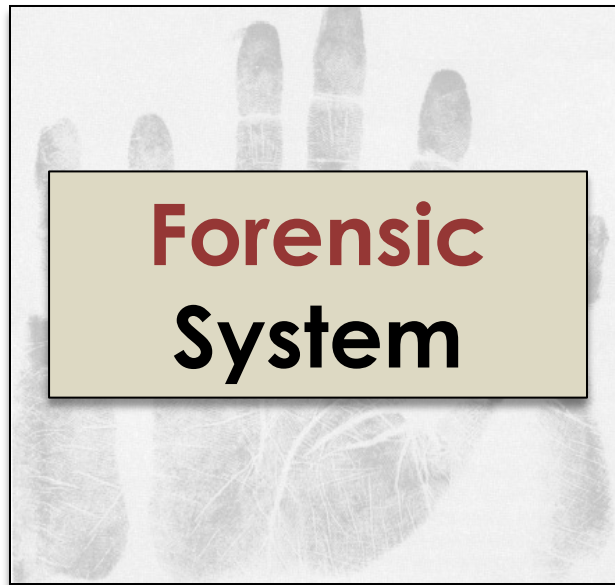
# Biometric Based Identity Documents



**Law Enforcement**



**Public Sector**



Injected  
into  
→



**Law Enforcement**

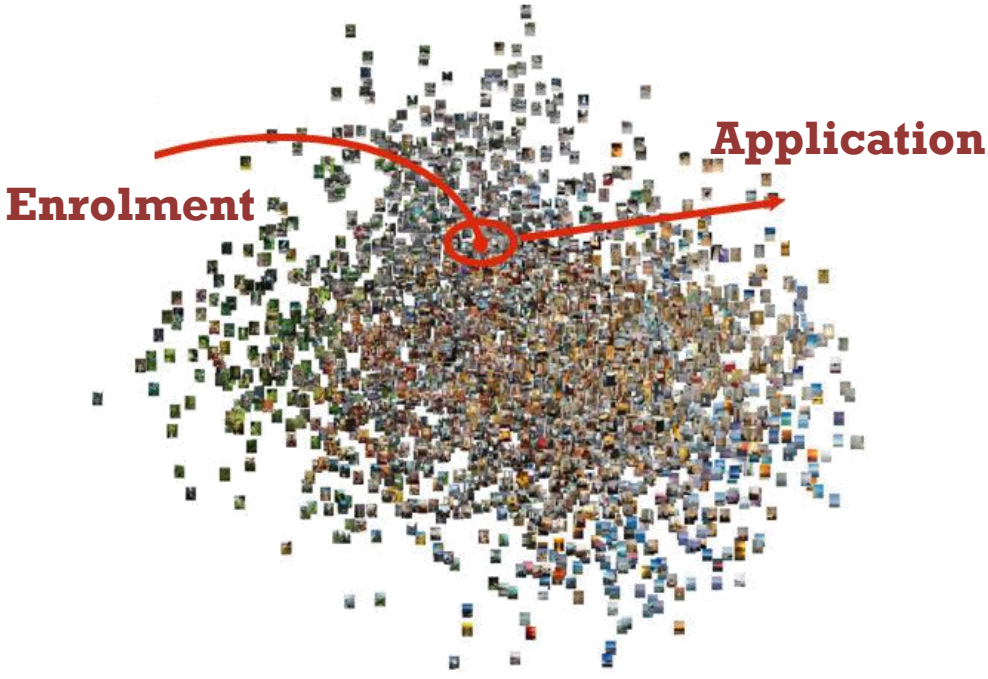
**Public Sector**

**Practicality vs. Application**

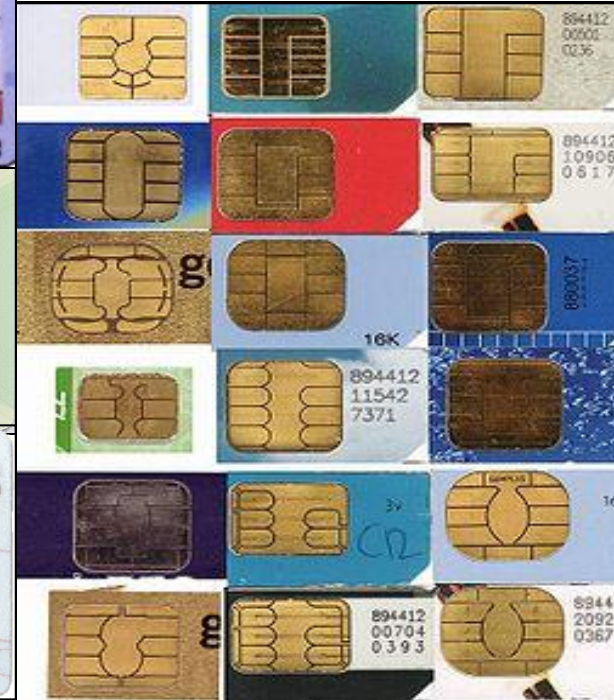
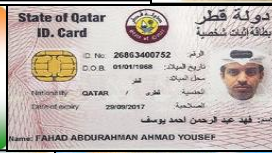
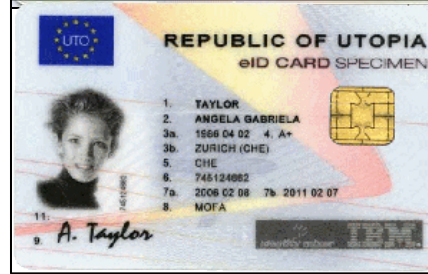


# Global Trend

- Wide Adoption



- And the end of the day, **large databases**, and no clear visibility of future plans and applications..



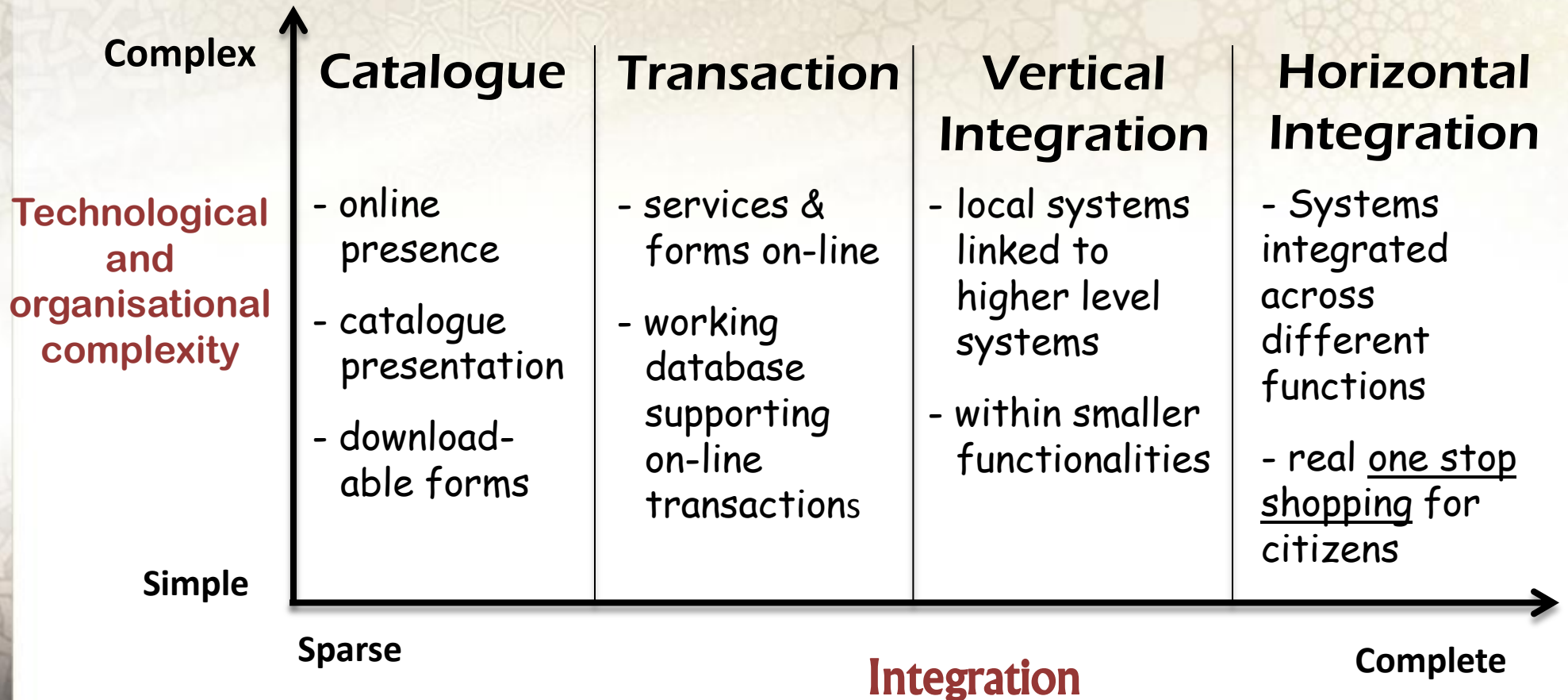




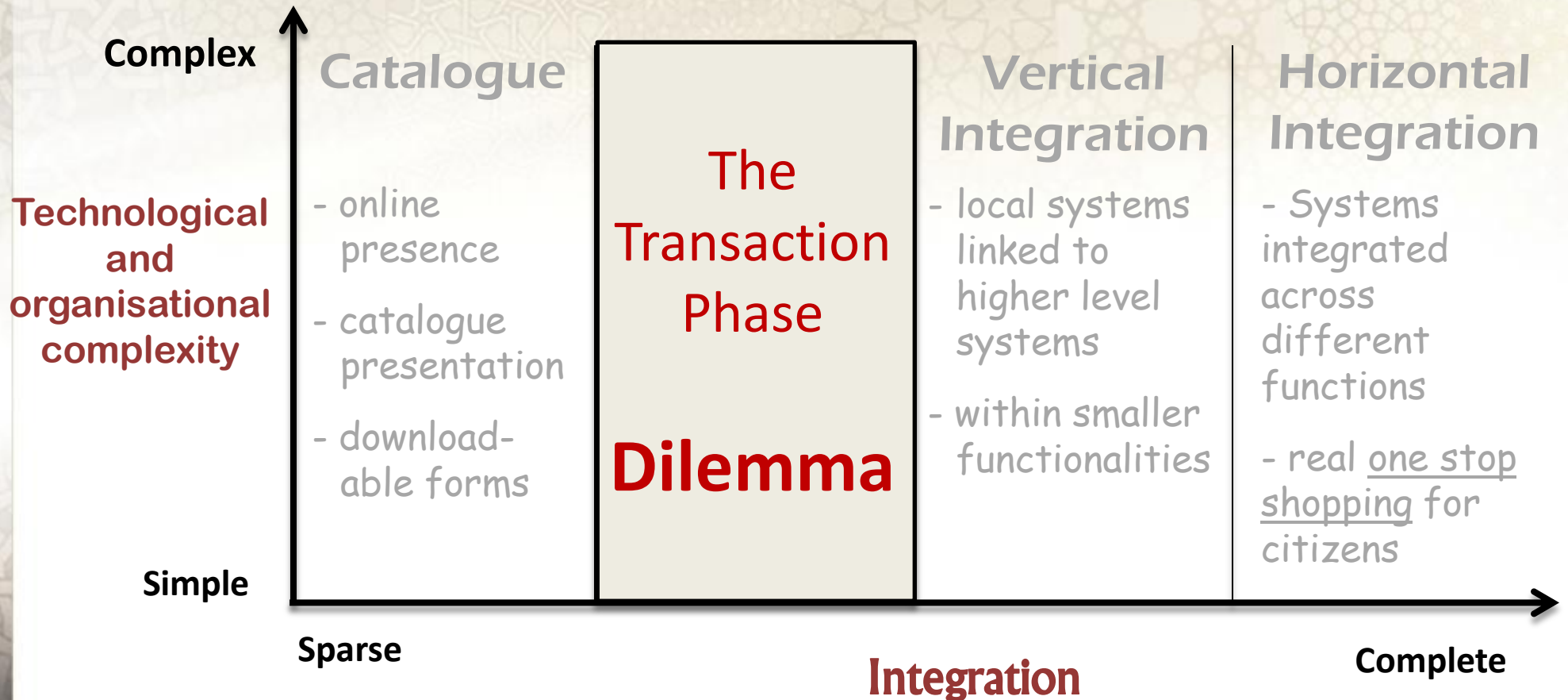
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# e-Government Transformation Stages



# e-Government Transformation Stages





# Progress Challenges

Associated with the Level of **TRUST** of parties involved in electronic transactions:

- Confirming the (Online) identity of individuals over digital networks
- Security of electronic data and info. Exchange
- Maintaining Confidentiality
- Legalisation to non-repudiation





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# UAE ID Card and e-Progress

ID Card as a  
**de-facto**  
token





# Registration Process

- **All population** are mandated to go through the **ID Card Registration**
- Ten Rolled Prints, Palm, Righter

## Rigorous and Robust Process

- Submitted data **verified** against multiple government databases
- Civil and Forensic **Biometrics** Check



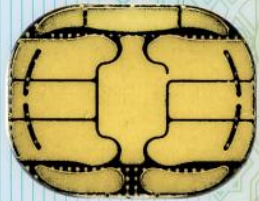
United Arab Emirates

Identity Card



دولة الإمارات العربية المتحدة

بطاقة هوية



ID Number / رقم الهوية  
784-1968-6570305-0



الإسم: احمد محمد عبد الله

Name: Ahmed Mohamed Abdulla

الجنسية: الإمارات العربية المتحدة

Nationality: United Arab Emirates



# ID Card Capabilities



Digital Signature



Digital Certificates



Encryption



Pin Code



Fingerprint



# UAE ID Card

- 8<sup>th</sup> Generation Smart **Combi**-Card (144 KB)
- Contains:
  1. Personal Data
  2. Authentication tokens
  3. Signature tokens
  4. Biometrics





# UAE ID Card and e-Progress



Enhancing ID Card capabilities

## Digital Identity Project



# Approach and Structure

**1** Setup  
**Infrastructure**  
for Service Providers

Provide  
**Toolkit**  
for application providers

**2**

**3** Enable and  
**Rollout**  
country wide

# Approach and Structure: Phase 1

**1** **Setup  
Infrastructure**  
for Service Providers

Provide  
**Toolkit**

for application providers

**2**

**3** **Enable and  
Rollout**  
country wide



# Progress Challenges

## Services and Applications

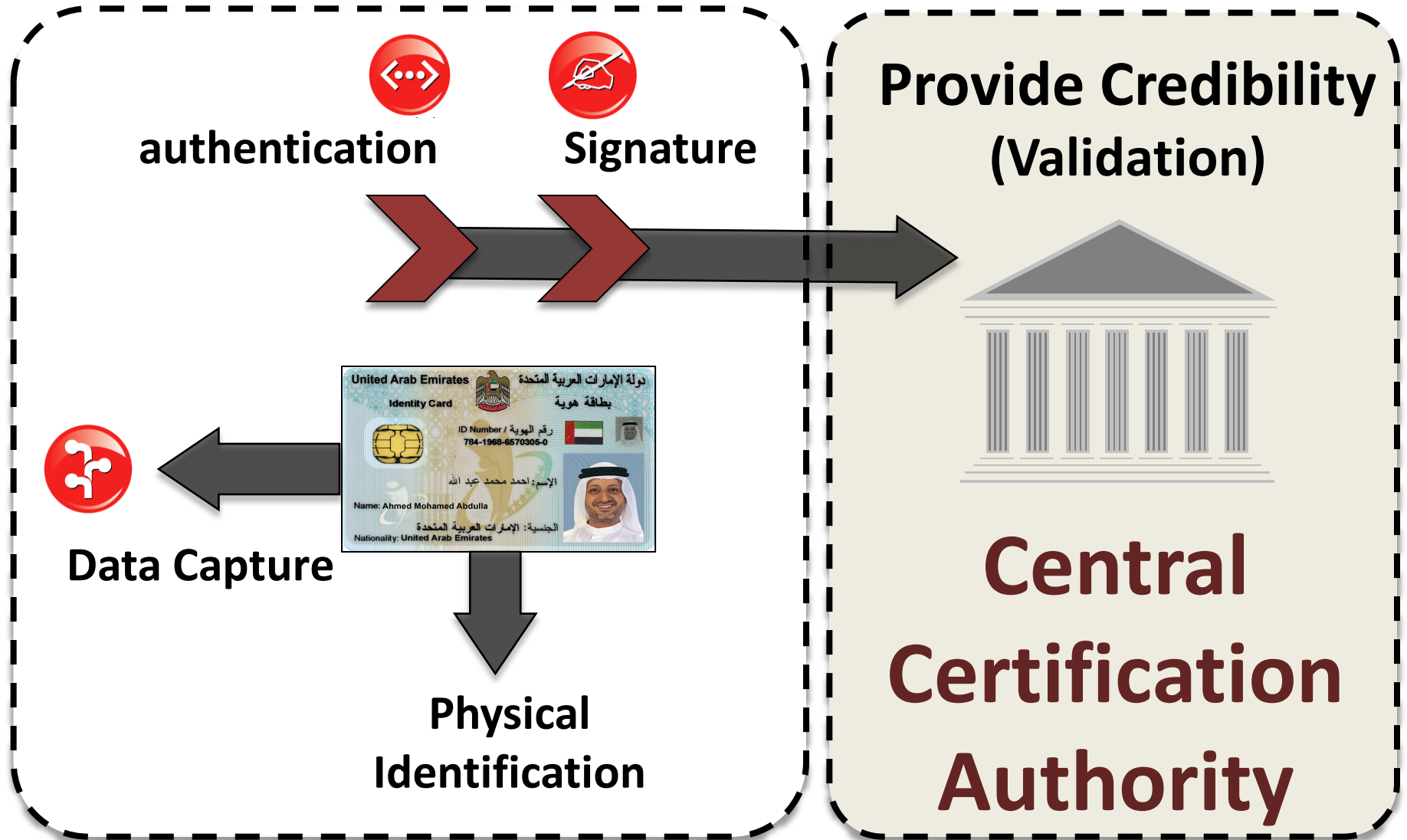
VS.

## Infrastructure

- Roads generate no benefit, transportation does
- People do not buy cars unless there are roads



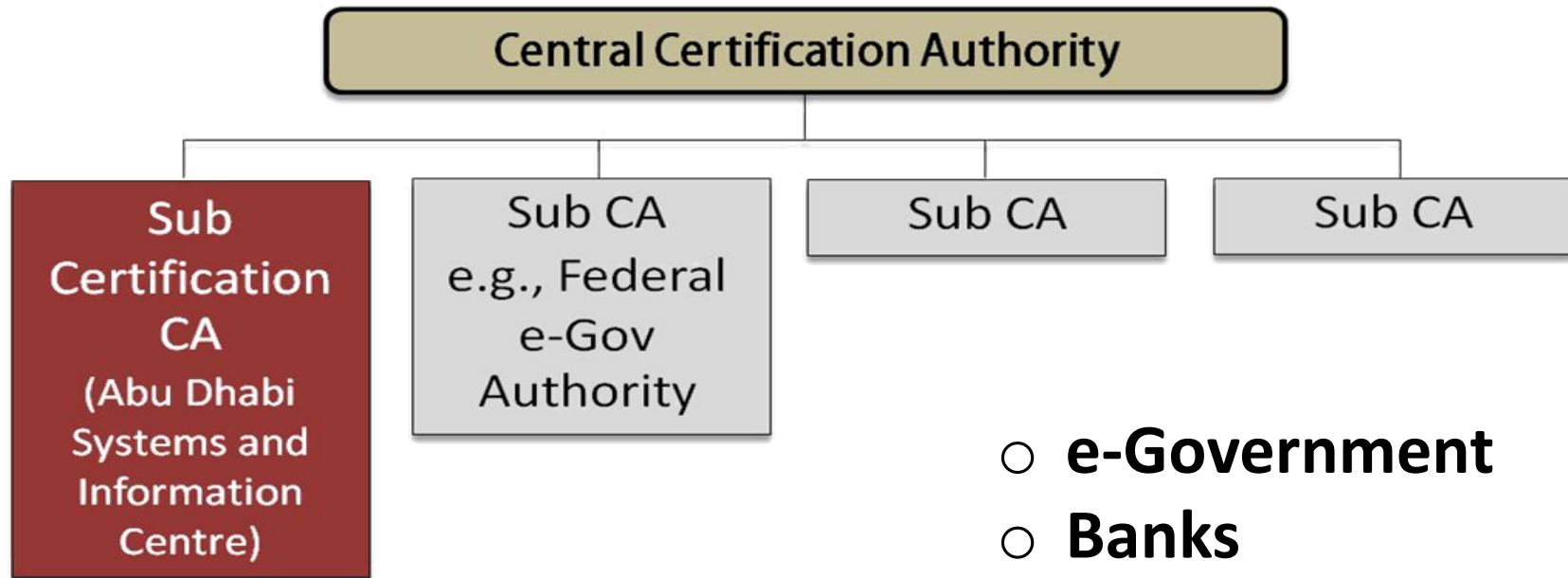
# Enabling Business Functions



# Infrastructure for Service Providers

- PKI and Identity related

## Services to Service Providers:



- **e-Government**
- **Banks**
- **Commercial Entities**

# Infrastructure for Service Providers

- Implemented as **services over the cloud**:
  - To support for multiple Services Providers
  - To integrate into multiple channels (Web, mobile, kiosks)





## e-ID Services

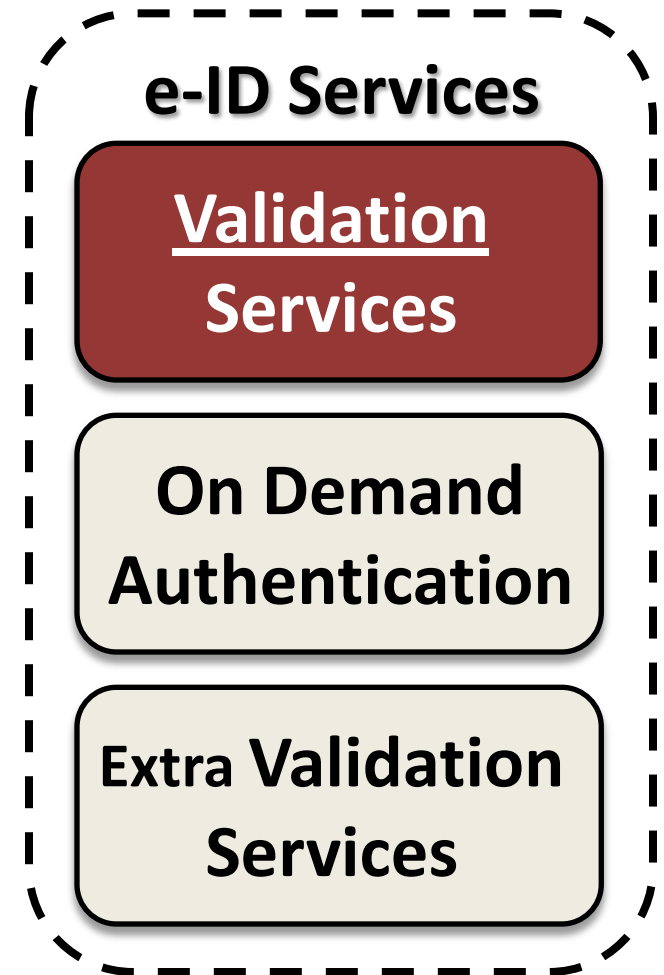
Validation  
Services

On Demand  
Authentication

Extra Validation  
Services

# Public Sector EIDA e-ID related Services

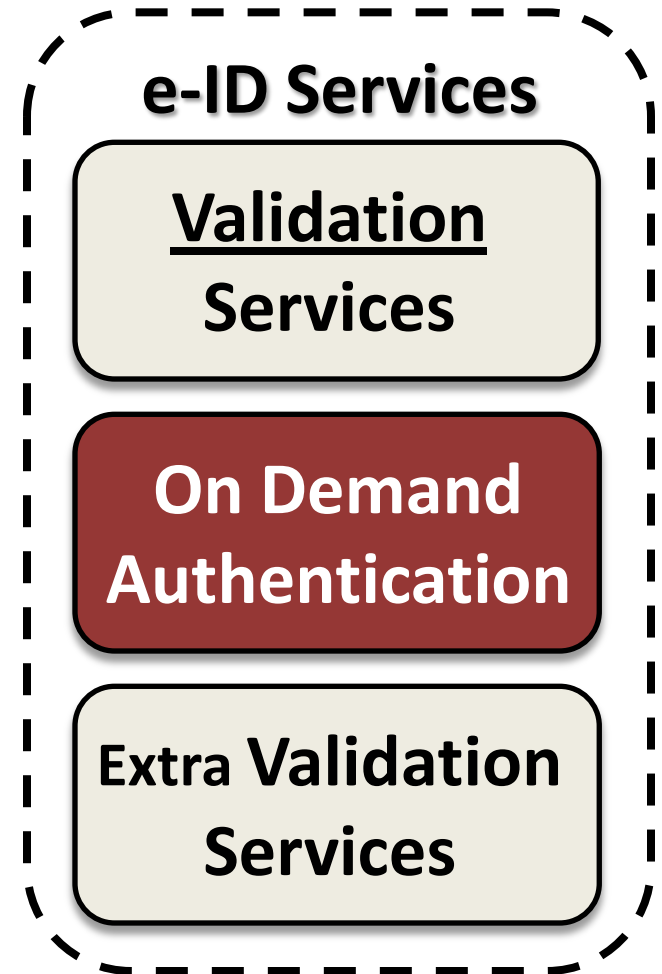
- **PKI Validation Services**
  - Used in a business scenario where a Service Provider handles the authentication process and needs only PKI validation
  - A secure 'valid/not valid' engine providing **Real Time validation** of ID certificates through OCSP



# Public Sector EIDA e-ID related Services

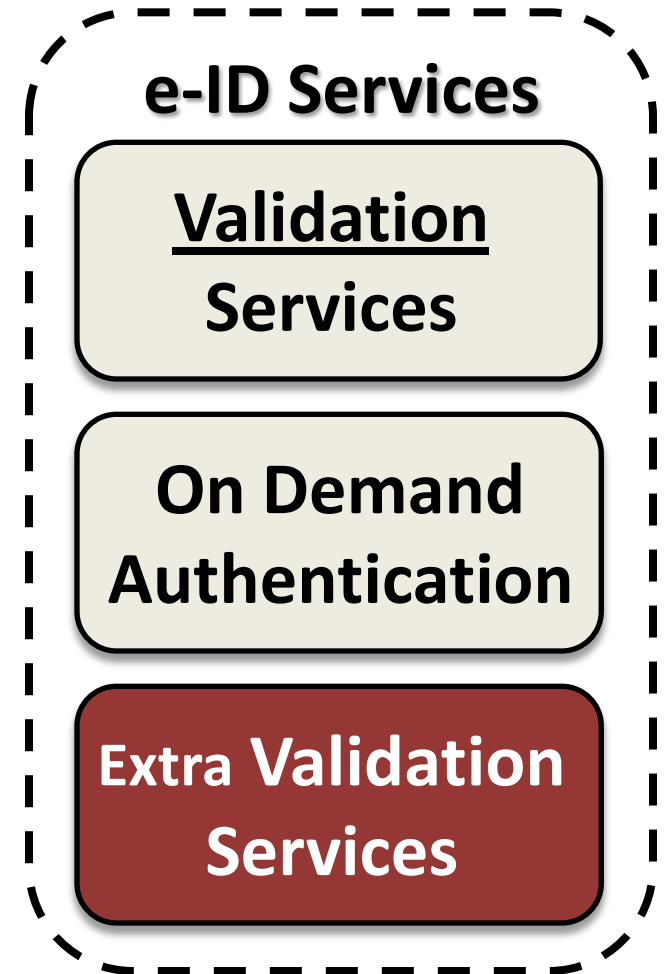
- **Identity Data Provider Service**

- For Service Providers that **hand off the complete authentication process** to Emirates ID.
- Offers Authentication as a Service (e.g. **On-demand Authentication**)
- Implements the SAML IdP (Identity Provider) protocols
- Provides **2-factor** ID Card authentication



# Public Sector EIDA e-ID related Services

- **Extra Validation Services**
  - **Added-values services** such as:
    - PIN Change**
    - Biometric Verification**





# Approach and Structure: Phase 2

**1** Setup  
Infrastructure  
for Service Providers

**2** Provide  
Toolkit  
for application providers

**3** Enable and  
Rollout  
country wide

# Providing the “CONNECT”

- Reader **Independent**
- **Multi-Platform** support
- **Architecture** (Desktop, Client-Server, Web)
- **Multiple Development environments** (Java, C#, .Net)
- **Zero footprint integration on the client (end user) environment.**
- **Plug and Play**

تحتوي البطاقة على شريحة الكترونية ذكية تضم معلومات عن حامل البطاقة وبصماته وصورته الشخصية و توقيعته الرقمي.

ID Card contains a smart chip which holds biographical identity information, photo, biometrics & digital signature.



وتتضمن التركيبة التكنولوجية للبطاقة أعلى مستويات الأمان والدقة من خلال ثلاث تقنيات رئيسية:

State of the art secure technology based on three factor authentication:

البصمة Biometrics

الرقم السري Secret PIN

البطاقة الذكية Smart Card

# Public Validation – Added Value Services

- **Leverage the UAE ID Card signing capabilities**

- **Signature Validation Services**

- **Support main file formats (MS- Office XML, PDF, Web Forms)**





# Public Validation – Added Value Services

- **Support of non-repudiation & law enforcement requirements**
  - **Time-stamping service**
  - **Notary and Archive services**



# Public Validation – Added Value Services

- **GCC Interoperability**

- **Support of GCC ID cards validations**



# Approach and Structure: Phase 3

**1** Setup  
Infrastructure  
for Service Providers

Provide  
**Toolkit**  
for application providers

**2**

**3** Enable and  
**Rollout**  
country wide



# Facts ...

- **Habits**
  - Strong tradition of relying on **username/password**
- **Barriers**
  - Need for **smart-card reader and software**
- **No awareness promotion**
  - ID-cards are **perceived as merely physical documents**
  - Unawareness about **security benefits**



# Availing benefits ....

- **Reduced investments** in setting up the security infrastructure required for 2FA
- **Single integration** point to all eID services
- **Usability** enabling zero-footprint integration on the client (end-user) environment
- **Simple integration** using standard protocols (SAML, XML, SOAP)
- **High quality of service** with anticipated 24/7/365 availability SLAs
- **Long-term costs saving** in operations and customer support.



# Marketing the product

- **Government entities don't market?**
- **Private Sector Partnership** to market the card readers and the software ...

**(Certified Retailers)**



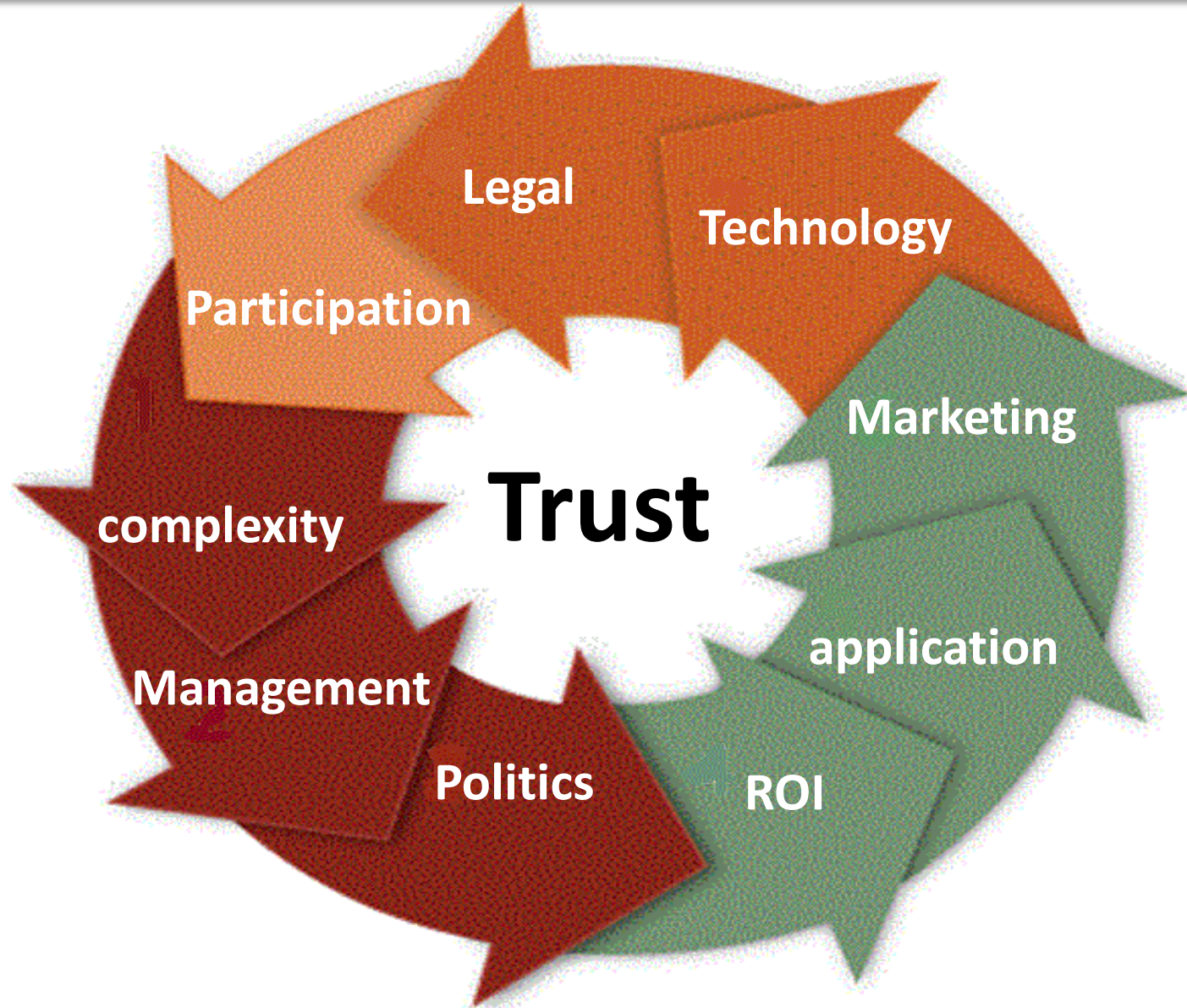


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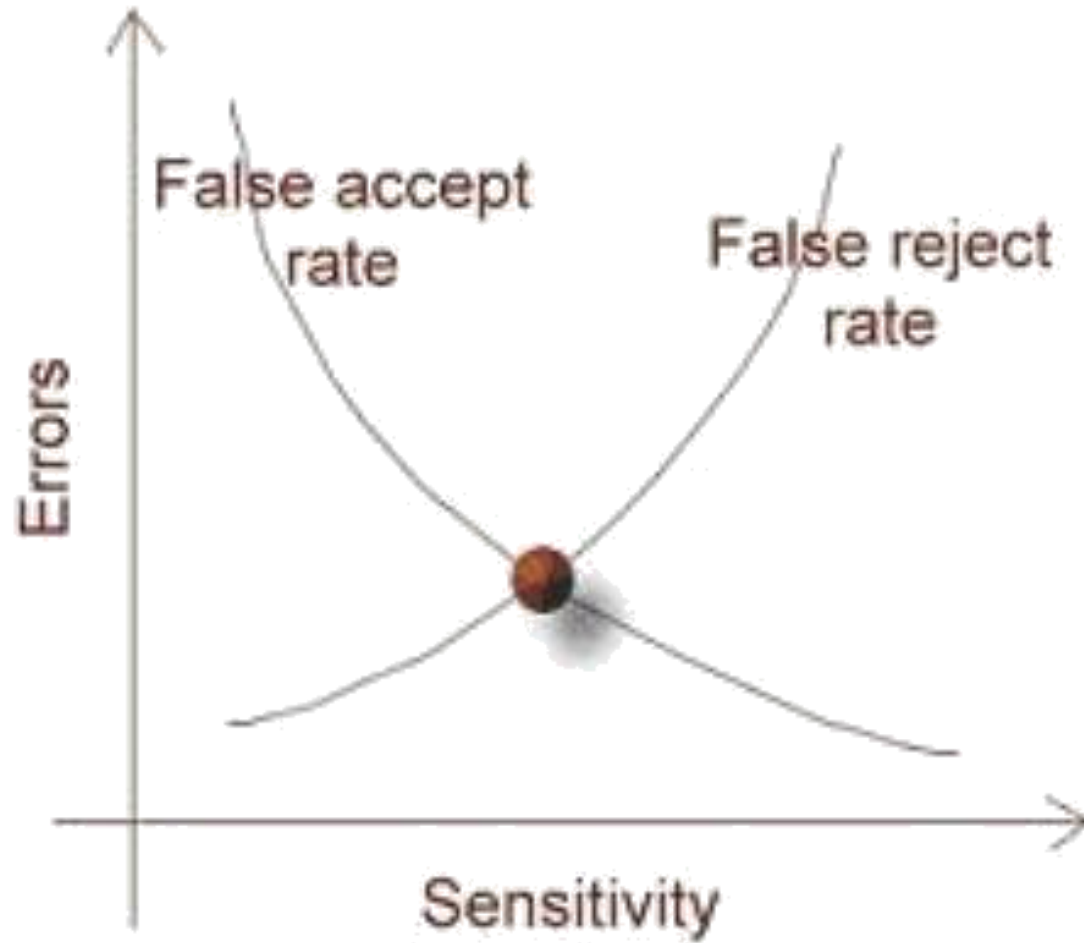
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# Challenges



# Technology Related Challenges



**For every \$1 spent in IT, there is at least \$1 of intangible investment in broadly defined “organizational capital”**

- How much **public value** does e-Government create?
- How do we **measure** public value creation in e-Government?

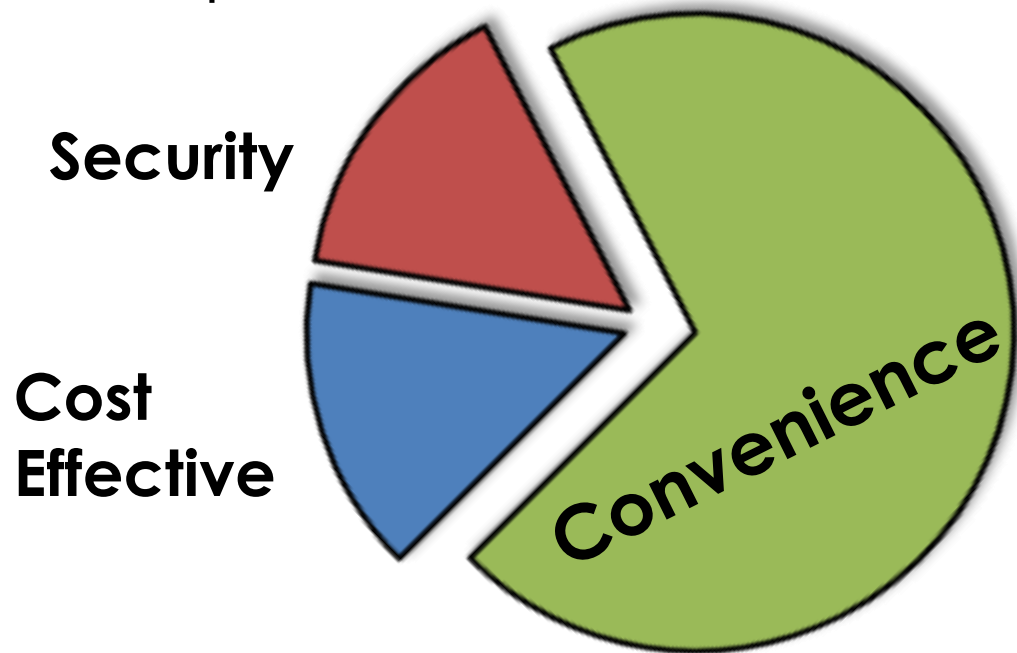
**For every \$1 spent in IT, there is at least \$1 of intangible investment in broadly defined “organizational capital”**

- **High cost** versus **uncertain returns**
- Low **public take up** of e-services
- Citizens' **concerns** about privacy and security issues



# Digital Identities ...

- a **strategic focus** in the development of eGovernment
- **Service Driven Design**  
Approach to create public value





Thank you ...

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... تَشْكُرًا

Thank You ...