

# **CLE & e-ID Management: Issues, Prospects and Opportunities**

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# Outline of Presentation

- CLE: Overview of Value Proposition;
- Core Critical Success Factor;
- E-ID Management In Nigeria: Filling the gap;
- Providing a Universal Identification Infrastructure:
  - The NIMS;
  - The Big Picture, the Journey so Far;
  - issues, Prospects and Challenges
- Postponing the inevitable, Delaying the Transformation

We cannot solve our problems with  
the same thinking we used when we  
created them

**- A E.**

# CLE: Overview of Value Proposition: I

- Enhancement of the efficacy of monetary policy operations and economic stabilization measures and balance genuine currency transaction demands and speculative market behaviours.
- Facilitate better currency management
  - Currency in circulation - March 2011 - N1.42 trillion;
  - Outside Banks – March 2011 – N1.025 trillion;
  - Reduction n cost of currency management;
- Route to (Cashless banking) financial inclusiveness and inclusive development;
- Leapfrog global revolutionary trend in Mobile Payment
  - Impact of developments in technology and its adoption in the financial services sector;

# CLE: Overview of Value Proposition: II

- Development of the Mobile Payment Services Sector (MPSS):
  - Licensing of Mobile Payment Service Providers (MPSP) e.g. Pagatech, Fortis Mobile, UBA/Afripay, GTBank, eTranzact;
  - Potential for the MPSS to play a huge role in the development of the Nigerian economy;
- Mobile Payment Service Providers (MPSP) create employment and economic opportunities;
- Will 'stimulate consumer demand, local production and grow GDP.

# Core Critical Success Factor

- Admittedly a handful of CSFs;
- But the need for a reliable identity management sector to drive the initiative is core;
- **CLE : e-ID ... the nexus? a Universal Identification Infrastructure (UIDI)-unique, secure, accessible and reliable;**
- **Identity authentication (Identification/Verification);**
- **Tying individuals to transactions (non-repudiation and with a history);**

# E-ID Management in Nigeria

| S/N | Project                         | Biometrics included                          | Type/Number of Card issued                  | Year implemented   |
|-----|---------------------------------|--|---|--------------------|
| 1.  | INEC Electronic Voters Register | Finger prints (2x)                           | Paper/58.6m<br>Plastic cards                | 2003               |
| 2.  | NHIS Patient Cards              | Finger prints (2x)                           | 2D Bar code/>500,000                        | 2005               |
| 3.  | National ID Cards               | Finger prints (6x)                           | 2D Bar Code/>15m                            | 2001/still ongoing |
| 4.  | FRSC                            | Finger prints (1x)                           | Mag stripe 2D Bar Code (by 2006)            | 1990               |
| 5.  | University Students ID          | No biometrics                                | Smart/200,000                               | 2001               |
| 6.  | ValueCard                       | No biometrics                                | Smart/1,300,000                             | 1998               |
| 7.  | PenCom National Databank        | Finger prints                                | Smart                                       | In-progress        |
| 8.  | ECOWAS Harmonized E-Passport    | Finger prints (4x)                           | Smart                                       | In-progress        |
| 9.  | State Governments               | Some- Finger prints<br>Others- No biometrics | 2D Barcode/140,000<br>Others- Smart>150,000 | 2003/2004          |

# Independent ID Registration & Verification



Disparate Databases

Different types of ID Cards



Records of personal information of individuals because we **register separately** for **each system.**



INEC



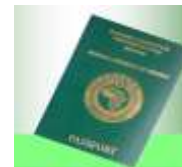
DNCR



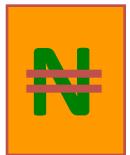
Driver License



Passport



Multiple payment points



# ID Card issuance, Not Identity Management System

- NIMC
  - National Identity Database
  - Multiple application/uses
  - Secure access
  - Regularly updated
  - Independently managed



**DNCR / SAGEM National ID Card Project**

**BANKS**

**SIM**

**JAMB**

**FIRS**

**INEC**

**Identity Registration**

**Card Production**

**Identity Verification**

**Delimitation**

**Voter Application**

**Card Production**

**Voter Register**

**Passport**

**Identity Register**

**Identity Verification**

**Passport Control**

**Passport Application**

**Passport Production**

**Border Control**

**NHIS**

**Identity Register**

**Statutory Monitoring**

**Benefit Application**

**Card Production**

**FRSC**

**Identity Registration**

**Identity Verification**

**License Management**

**License Application**

**Card Production**

**Test Management**

# Identity Management Sector

- Existing databases have not been up to international standards (ISO/IEC, NIST, IEEE, ICAO, etc);
- Non-centralized, Unreliable / Incomplete ?Regular updating not possible;
- No centralized and irrefutable way of tying individuals to transactions until now.
- The current methods rely on two-factor identity authentication are still challenged with effectively managing identities

| Two-Factor Authentication      |  |                                   |
|--------------------------------|--|-----------------------------------|
| What you know (pin / password) |  | Can be guessed, stolen, forgotten |
| What you have (card / token)   |  | Can be stolen, lost               |

# Identity Management Sector

- The National Identity Management System (NIMS) will link biometrics and unique identification number (NIN) of Nigerians to bank accounts, voter registers, immigration, law enforcement, and so on.
- A credit history!!! Unleash the opportunity in consumer credit experienced all around the world.
- Reduce fraud, fight terrorism, improve GDP, create Identity!
- The NIMS is an essential transformation tool for fostering socioeconomic development, maintainance of law and order and security of lives and properties.

# National Identity Management System (NIMS)

Modus Operandi: International **STANDARDS!**

- ✓ Data capture standards, security, network, software, hardware, archiving, testing, etc.

| Activity                     | Standards and Technology  |
|------------------------------|---|
| Enrollment / Updates         | FBI Appendix F certification, ISO/IEC 19794, NIST, ICAO, IEEE 1028-1998, etc. |
| National ID card issuance    | FIPS 201, ISO-IEC 19794-2, PKSC#11, PKI integration system controller, etc.   |
| Identification, Verification | ISO/IEC 19794, NIST, ICAO, PKI, ABIS, etc.                                    |

**Reliable, Secure, and Fast Identification and verification services online and offline!**

# Provision of a Reliable Authentication Service

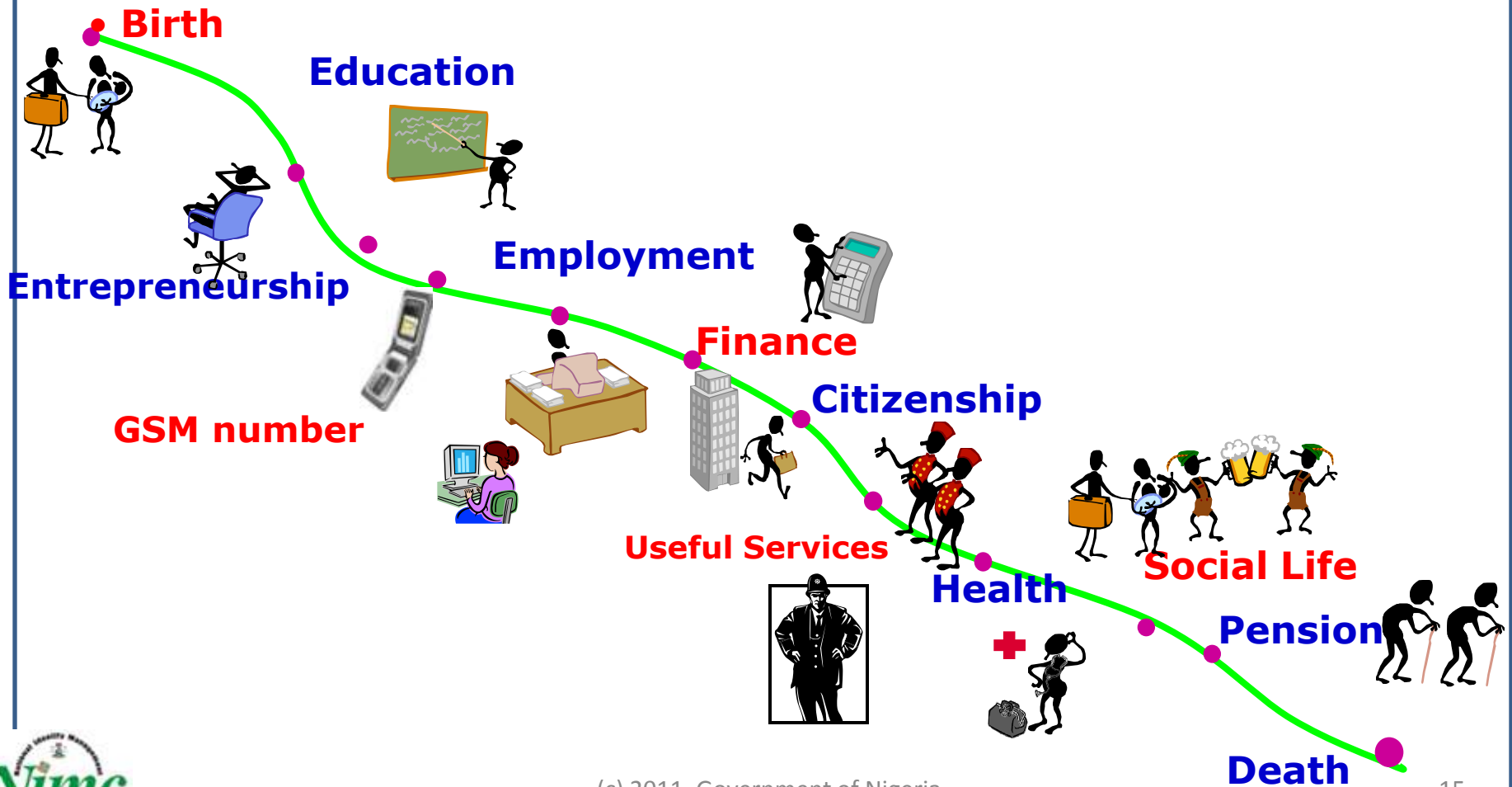
- **Authentication Service Authority (ASA)**
  - ASA's are entities licensed by NIMC to transmit authentication requests from AUA's to the NIMC NIDB.
  - Provides suitable support structure and issue resolution model to handle daily PIV requests on behalf of the AUA
  - Marshall all requests through the central NIMC authentication & Verification clearing system
  
- **Authentication User Agency (AUA)**
  - Private or public institutions that require Person identity verification (PIV) to perform their core business functions
    - E.g. Financial and Insurance institutions, embassies and Law enforcement agencies, etc.
  - Registered with NIMC
  - Marshal PIV requests through ASA.
  - Pre-negotiated billing arrangement between AUAs' and ASA's

# Revenue Model: Challenges

- How to encourage AUIs' /ASAs' to use our services
- Authentication & Verification Clearing House (AVCH)!!!
  - Data exchange and revenue generation activities with aggregators

| Some AVCH Tasks                  | Components  |
|----------------------------------|---|
| Tariff Structure definitions     | Manage tariff structure for online and offline transactions   |
| Electronic switch integration    | Integrates to Value added platforms for online real-time payment and settlements (NIBBS, interswitch, Etransact, Valuecard, Mastercard) |
| Web verification service         | Integrate with NIMS verification service  |
| Cryptography and data encryption | To prevent caching of results and ensure verification will always be through NIMS   |

# E-ID Management in Nigeria: Filling the Gap



# Acquisition of Personal Information data

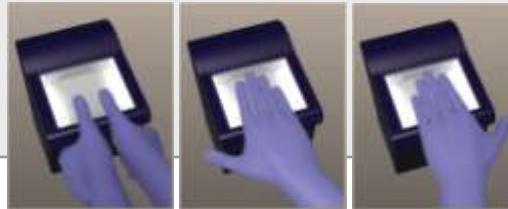
## > Registration Internet portal

- Web Pre registration form
- Web Registration booking
- Web Demand tracking
- Document availability alert



## > Recordable Biometry

- Finger Print (10 print)
- Face (ICAO; EU)
- Signature
- Iris
- Others...



## > Live capture

- Fixe Station
- Mobile Station
- ICAO compliance software



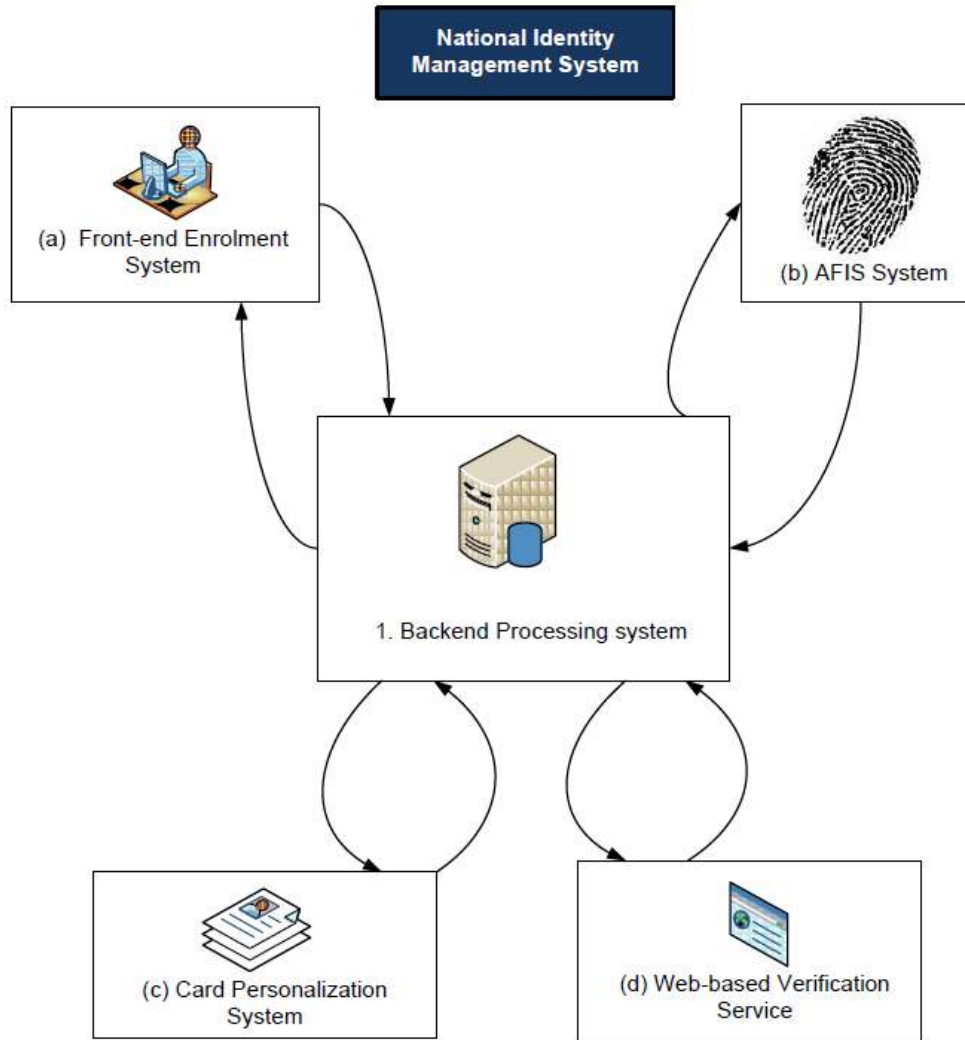
## On Site Data Quality control

- Avoid production center refusal and return/accelerate production, delivery
- The reliability of the Identity Database starts with a secure and trusted data registration and enrolment

### •Data Acquisition

- AFIS 1:N Check Database check
- On Site ICAO Compliance check

# Overall Description of the NIMS

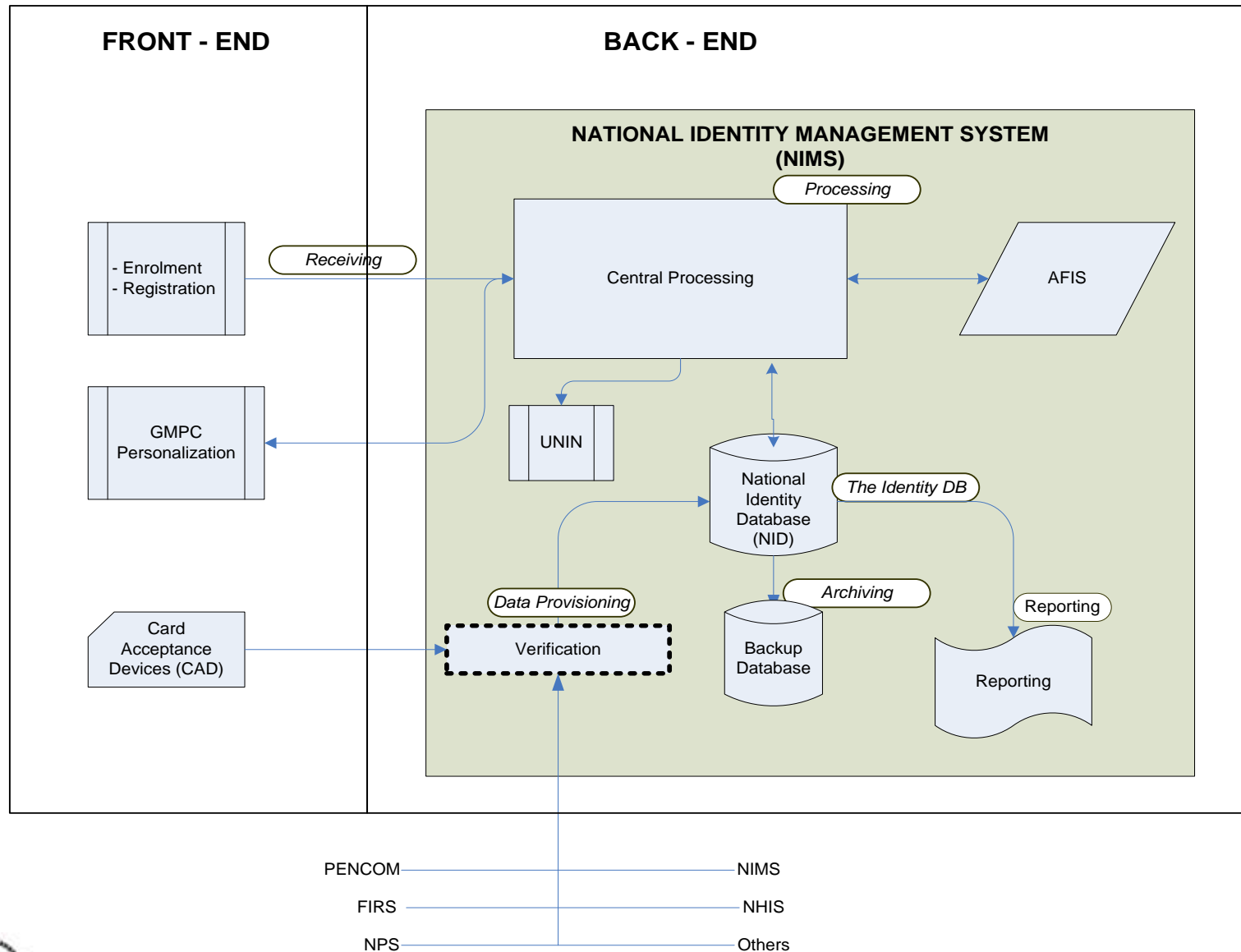


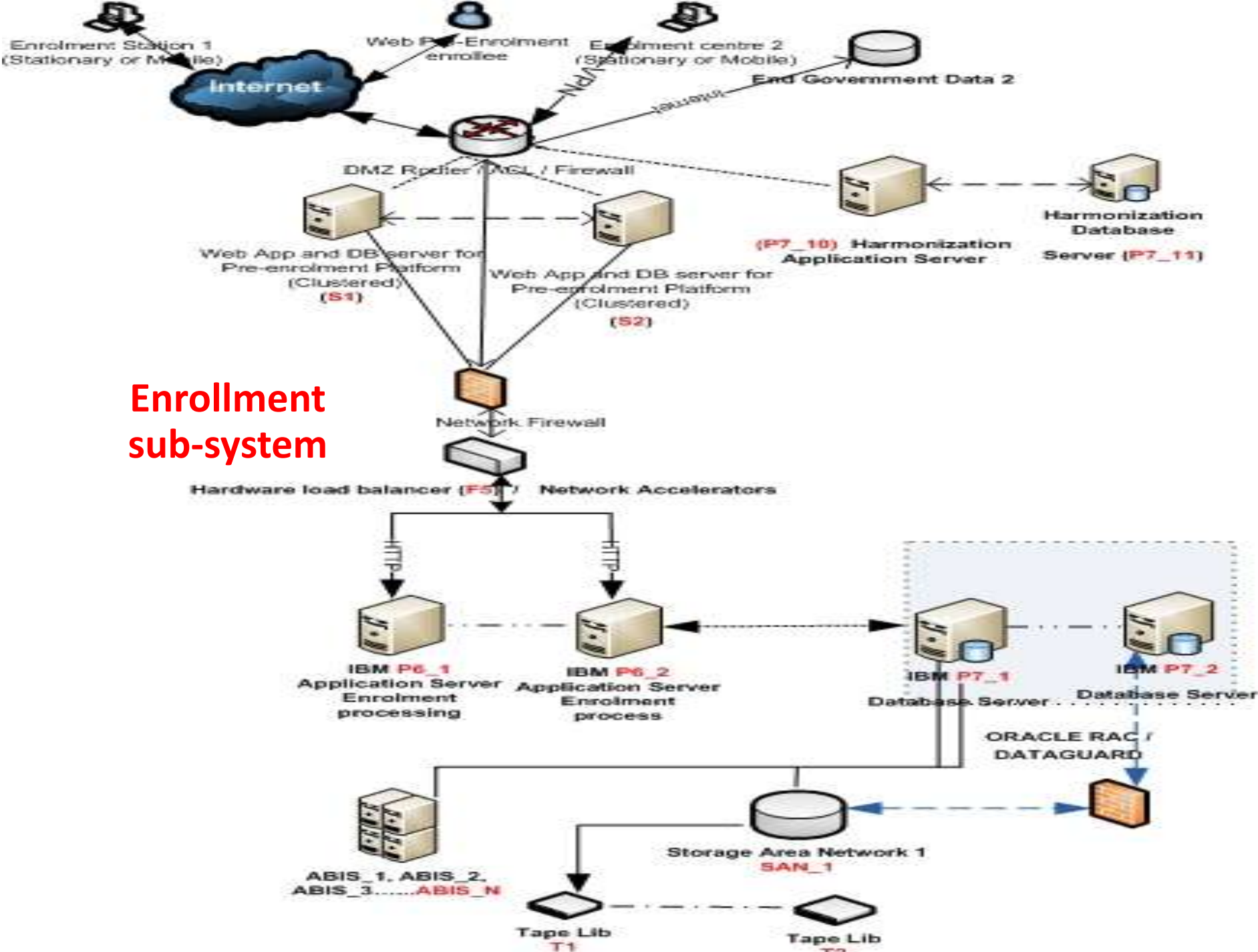
- National Identity Database
- Secure ID document
- Means to irrefutably confirm individual identity

# NIMS: Components Overview

- **Enrolment Centres for continuous enrollment of citizens and legal residents;**
- Creation of a unique National Identity Database;
- Generation, Issuance and assignment of National Identification Numbers (NIN);
- **Issuance of National smart Identity cards (E-ID);**
- Provision of Authentication Infrastructure (Backend);
- **Provision of authentication Services (Identification and Verification, devices especially);**
- Harmonization and integration of Identity Databases.

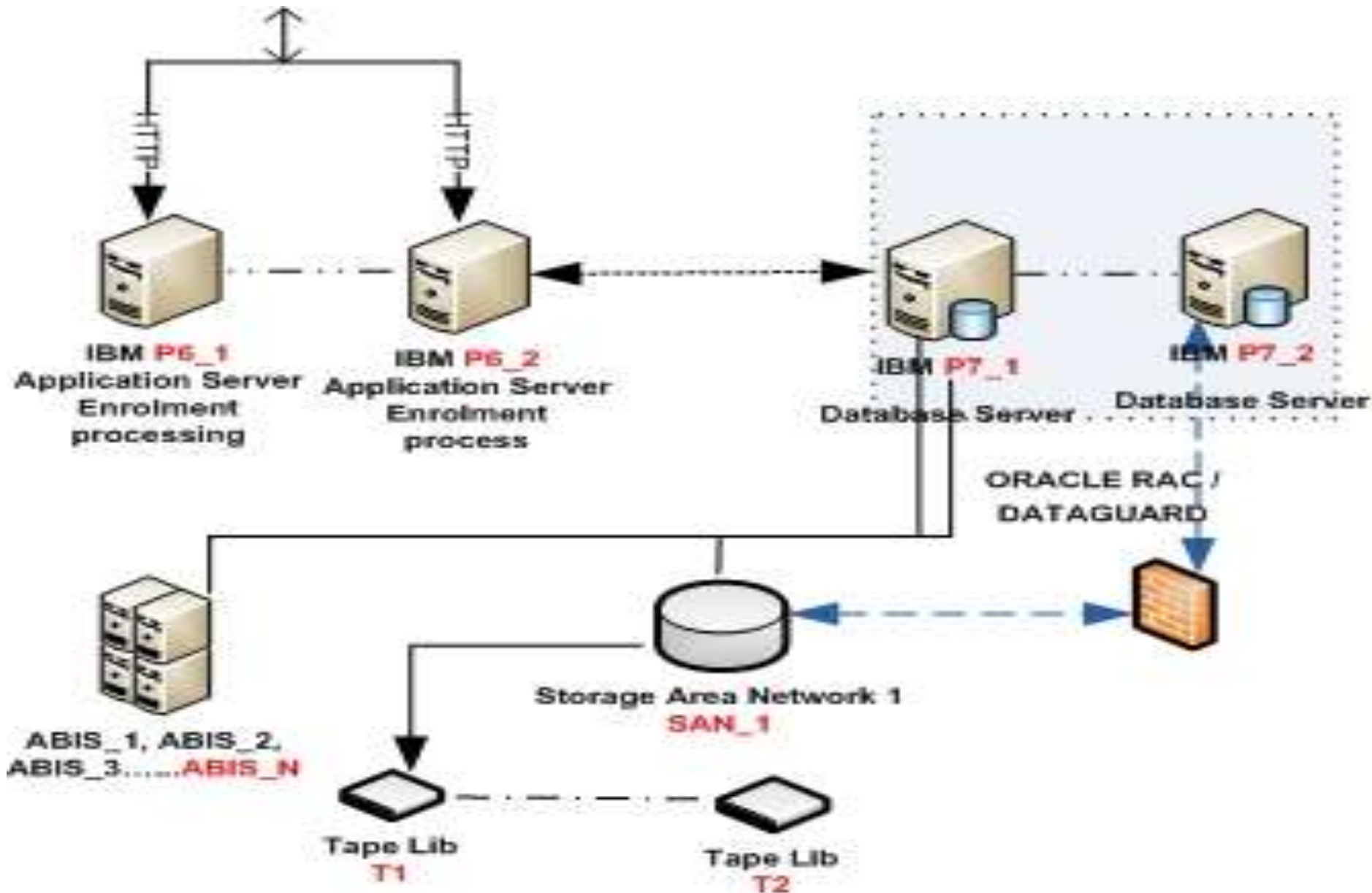
# NIMS Architecture & System Overview



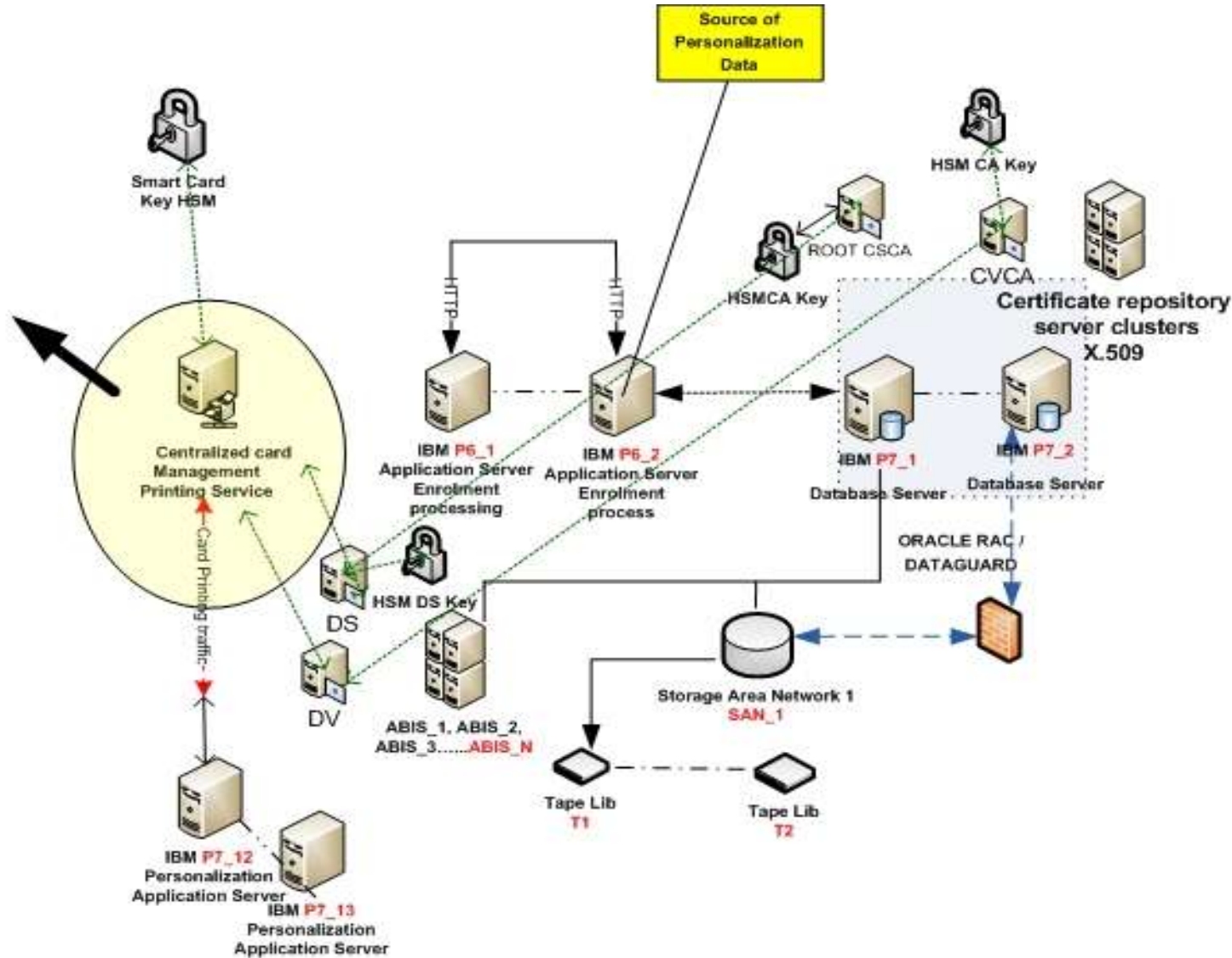


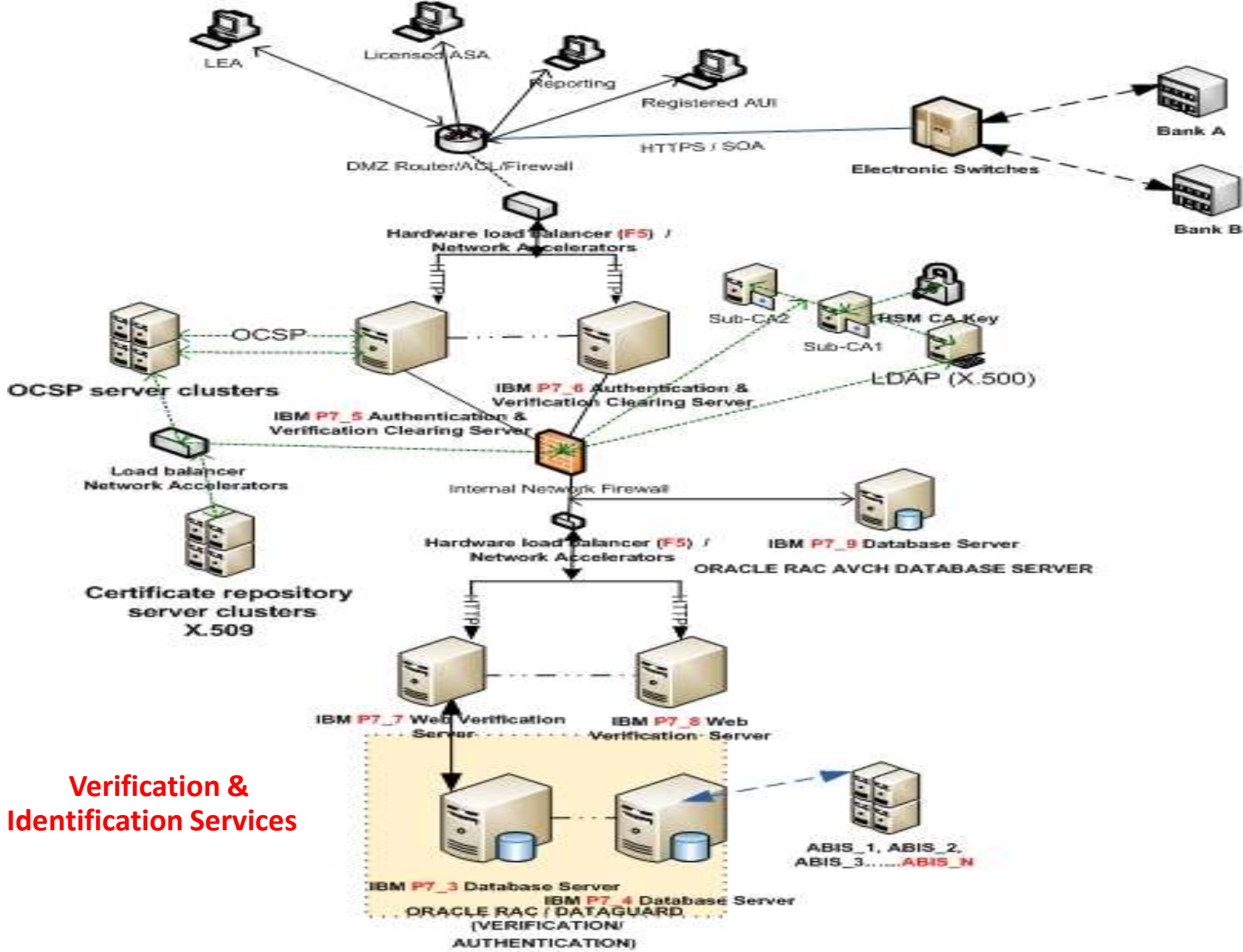
**Enrollment sub-system**

# ABIS: De-Duplication

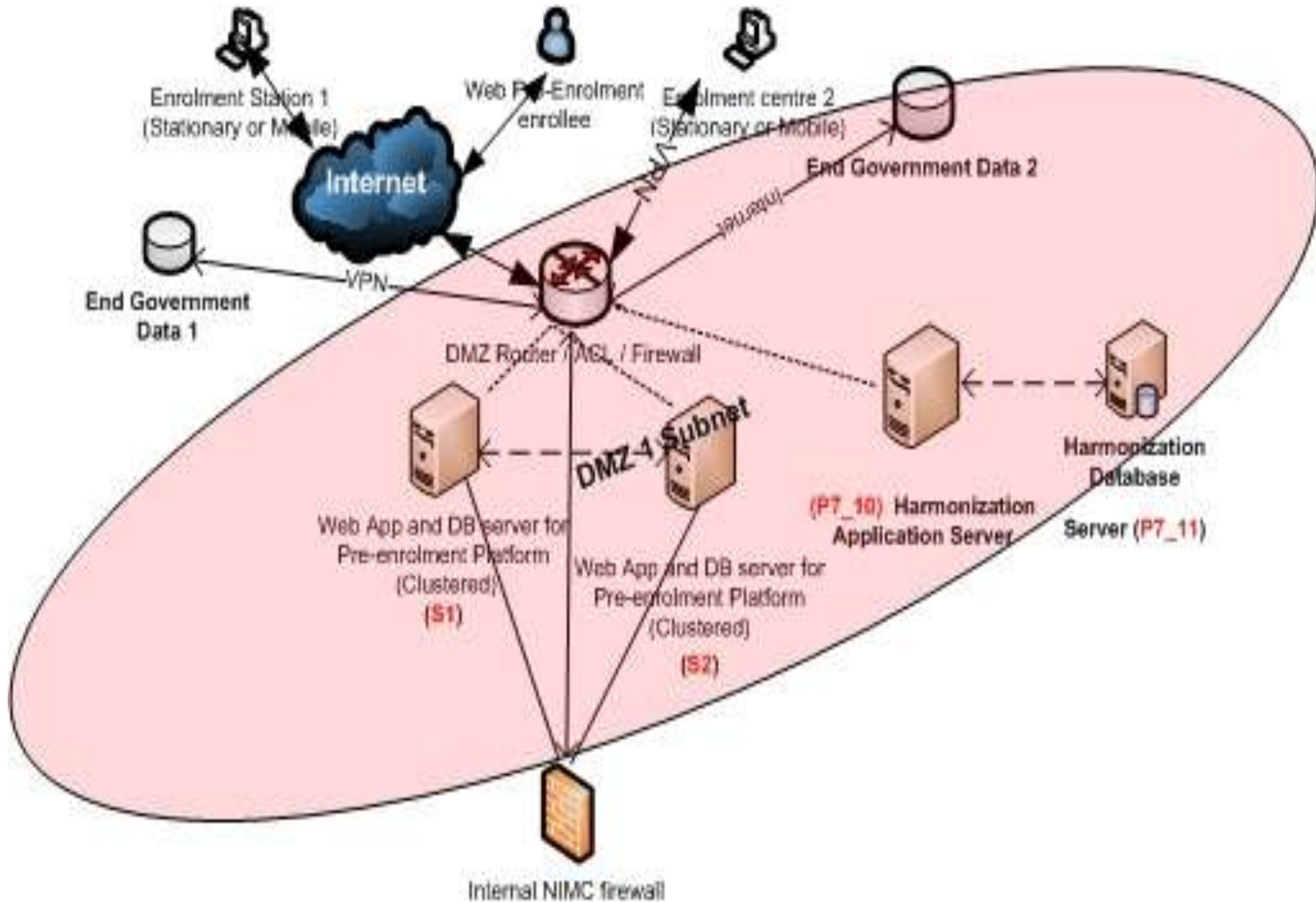


# Card Personalization

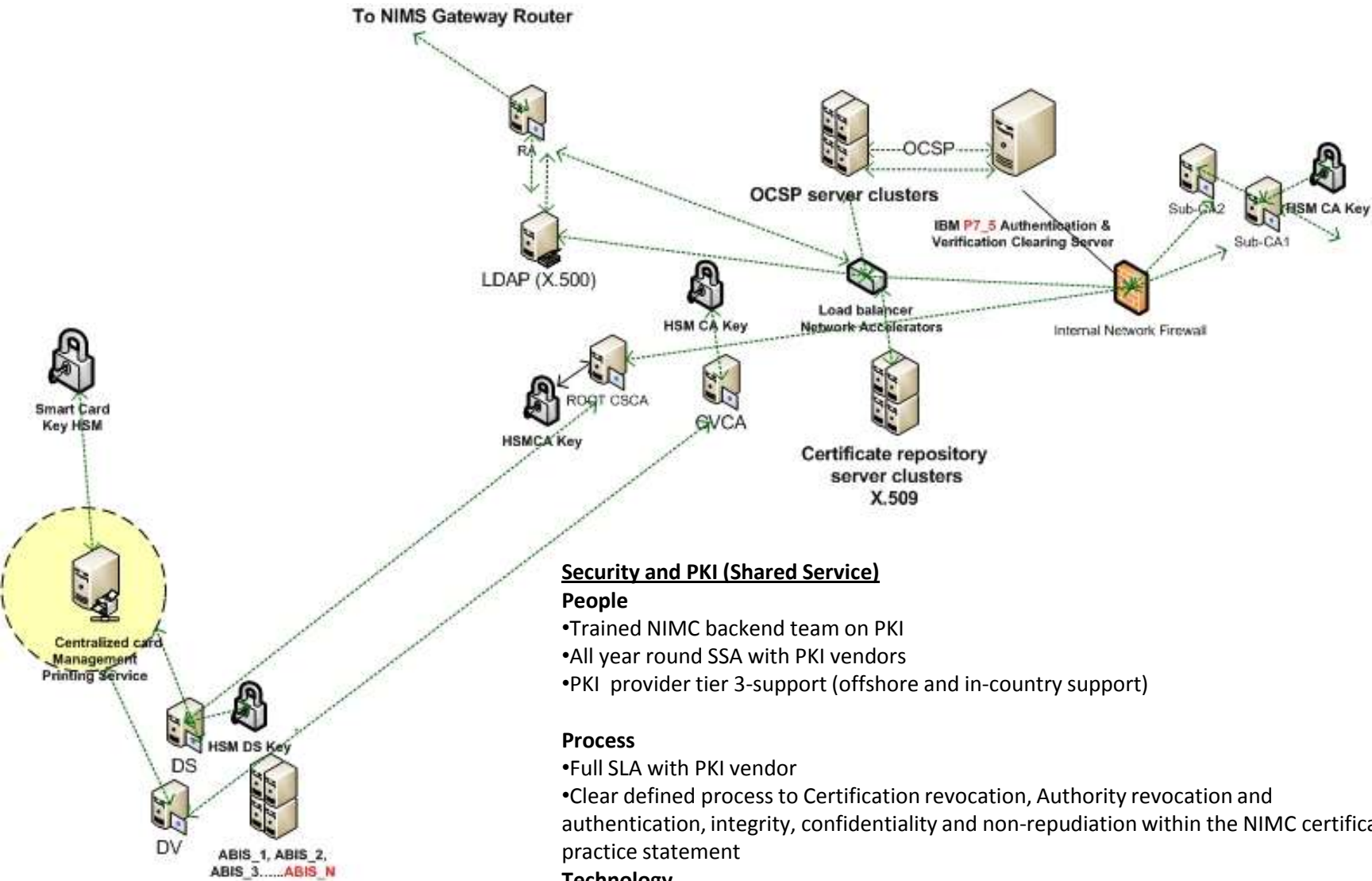




# Harmonization



# Security and PKI



## Security and PKI (Shared Service)

### People

- Trained NIMC backend team on PKI
- All year round SSA with PKI vendors
- PKI provider tier 3-support (offshore and in-country support)

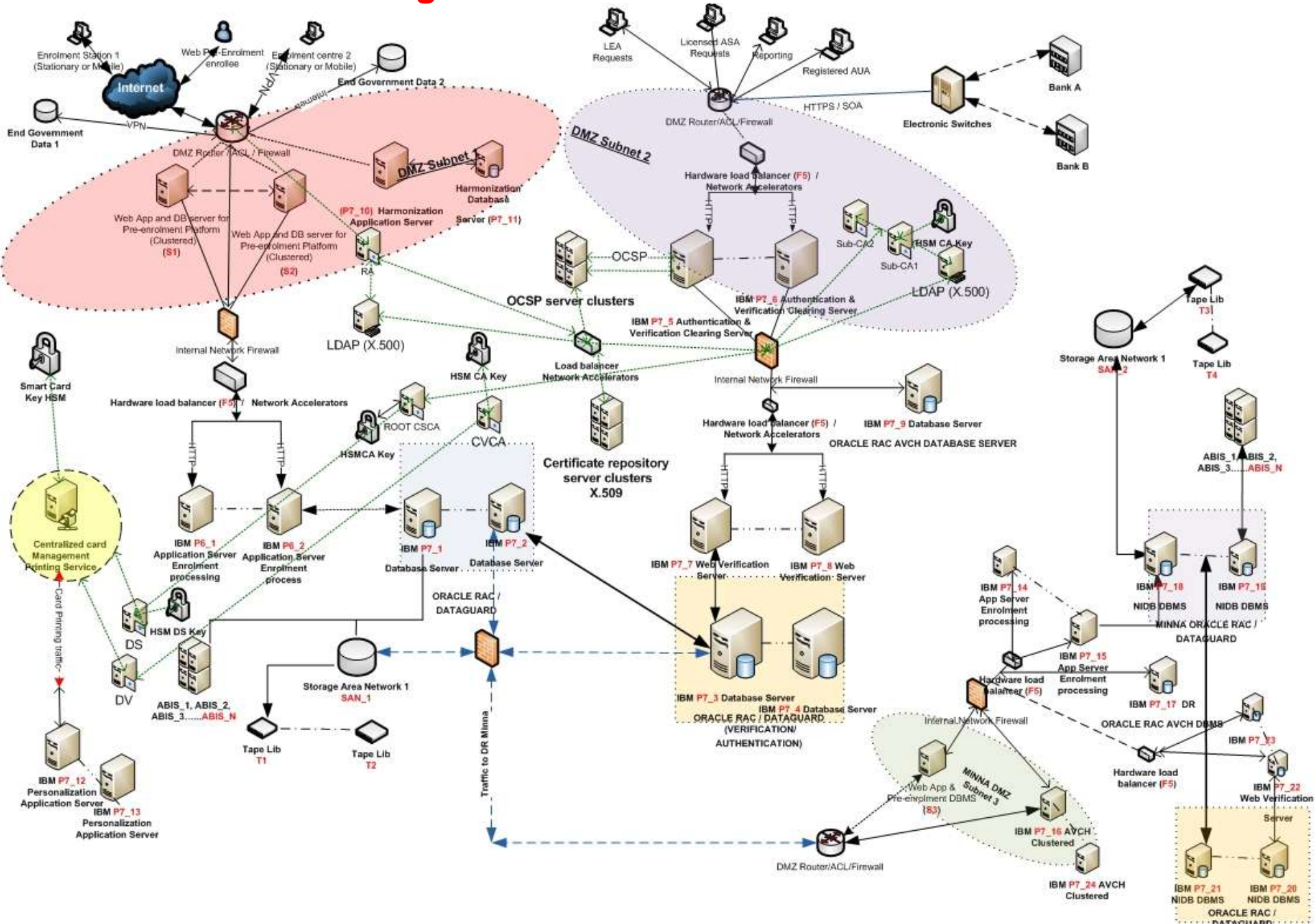
### Process

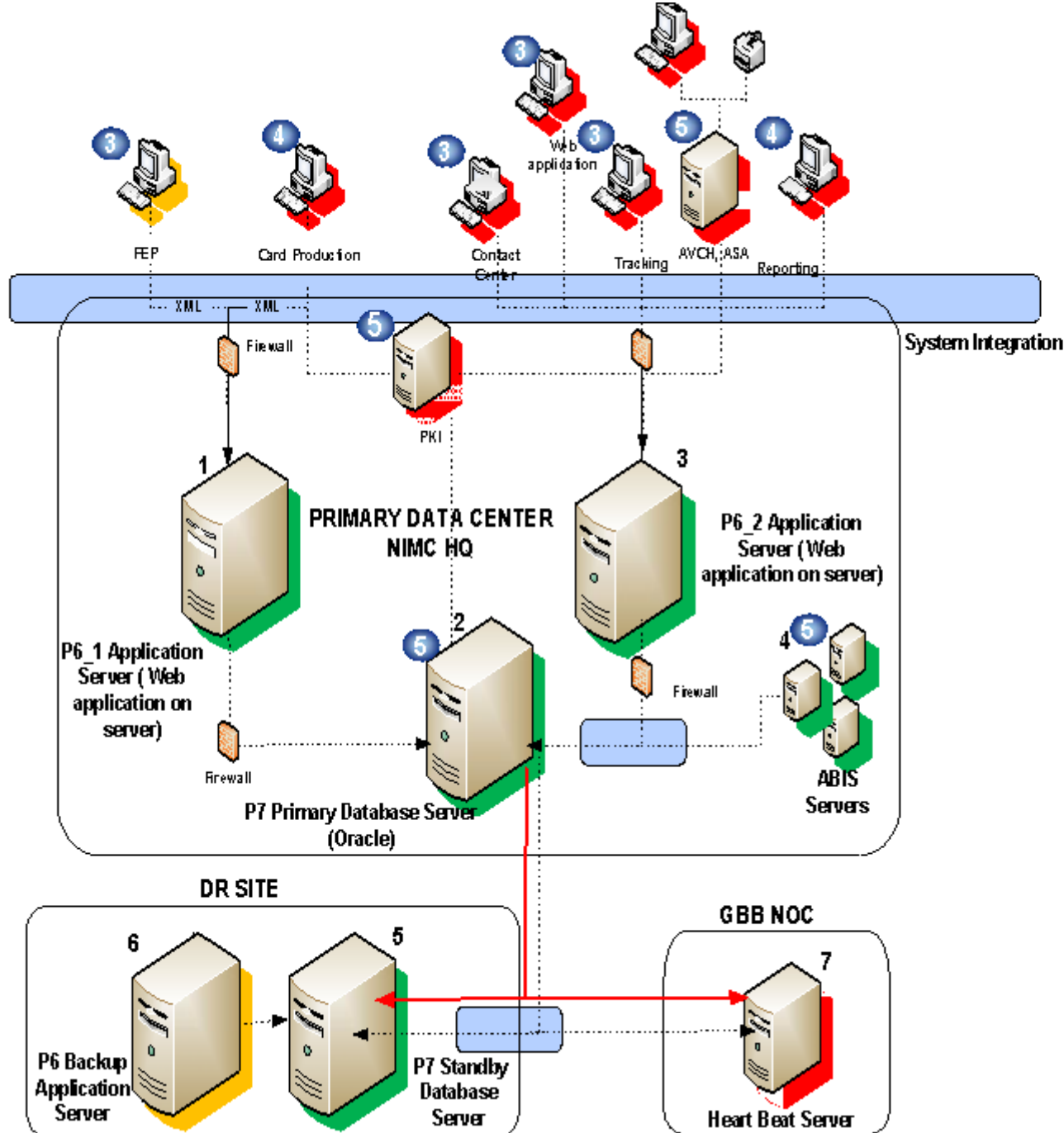
- Full SLA with PKI vendor
- Clear defined process to Certification revocation, Authority revocation and authentication, integrity, confidentiality and non-repudiation within the NIMC certification practice statement

### Technology

PKI (RA, Root CA, Country Signing CA (CSCA), Country Verification CA (CVCA), OCSP responders, ETC

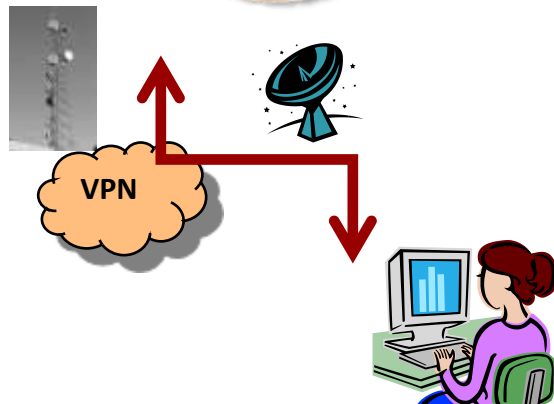
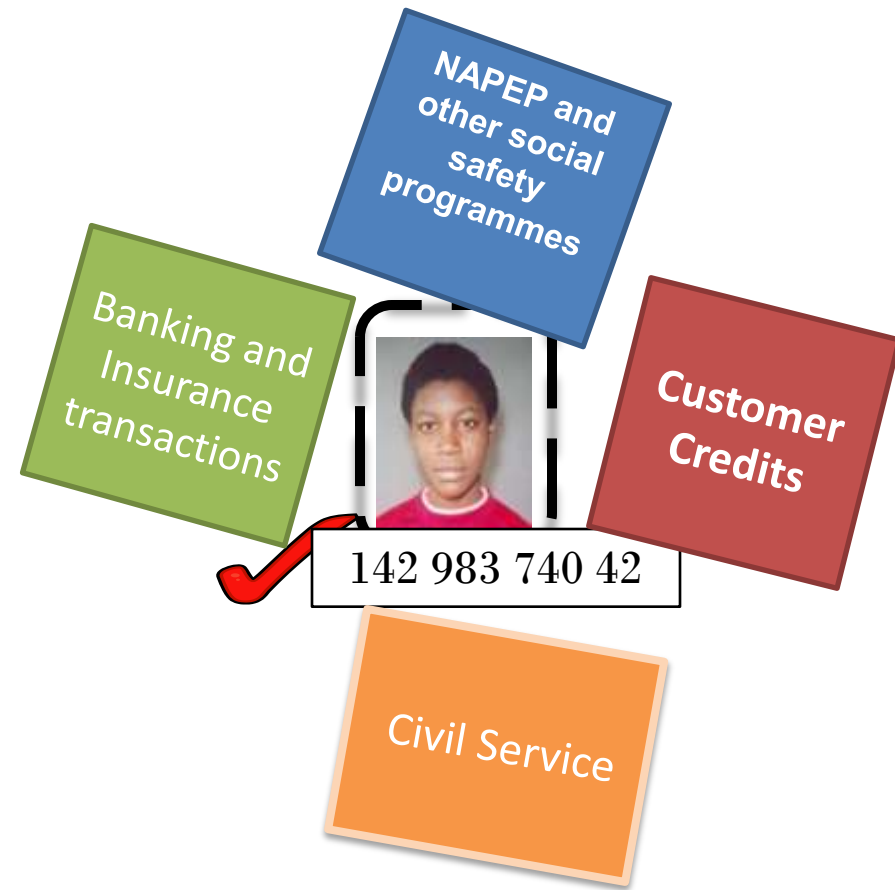
# The Big Picture





| LEGEND                              |                       |
|-------------------------------------|-----------------------|
| <b>Complexity of Implementation</b> |                       |
| ①                                   | Not Complex           |
| ②                                   | Slightly Complex      |
| ③                                   | Averagely Complex     |
| ④                                   | Significantly Complex |
| ⑤                                   | Highly Complex        |
|                                     | NOT DEPLOYED          |
|                                     | ONGOING               |
|                                     | DEPLOYED              |
|                                     | BACKUP LINKS          |

# Identity Verification: A Common Challenge in Nigeria



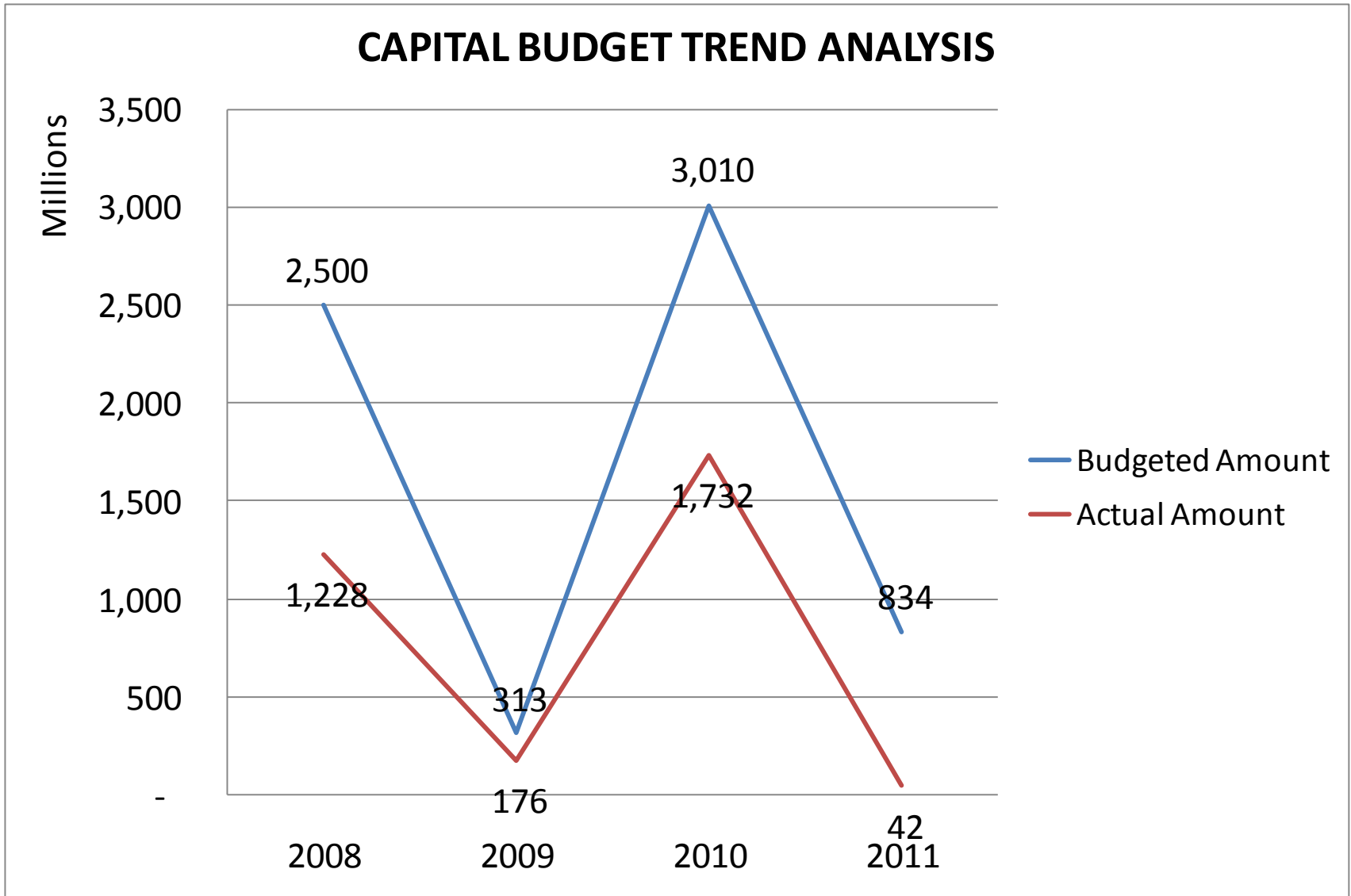
# Issues and Challenges

- Centralising the Identity Authority;
- Privacy issues especially in a cultural context;
- Marketing the NIMS / Mass appeal;
- Stakeholder Revenue Model;
- Political support and supervision;
- Dealing with vested interests;

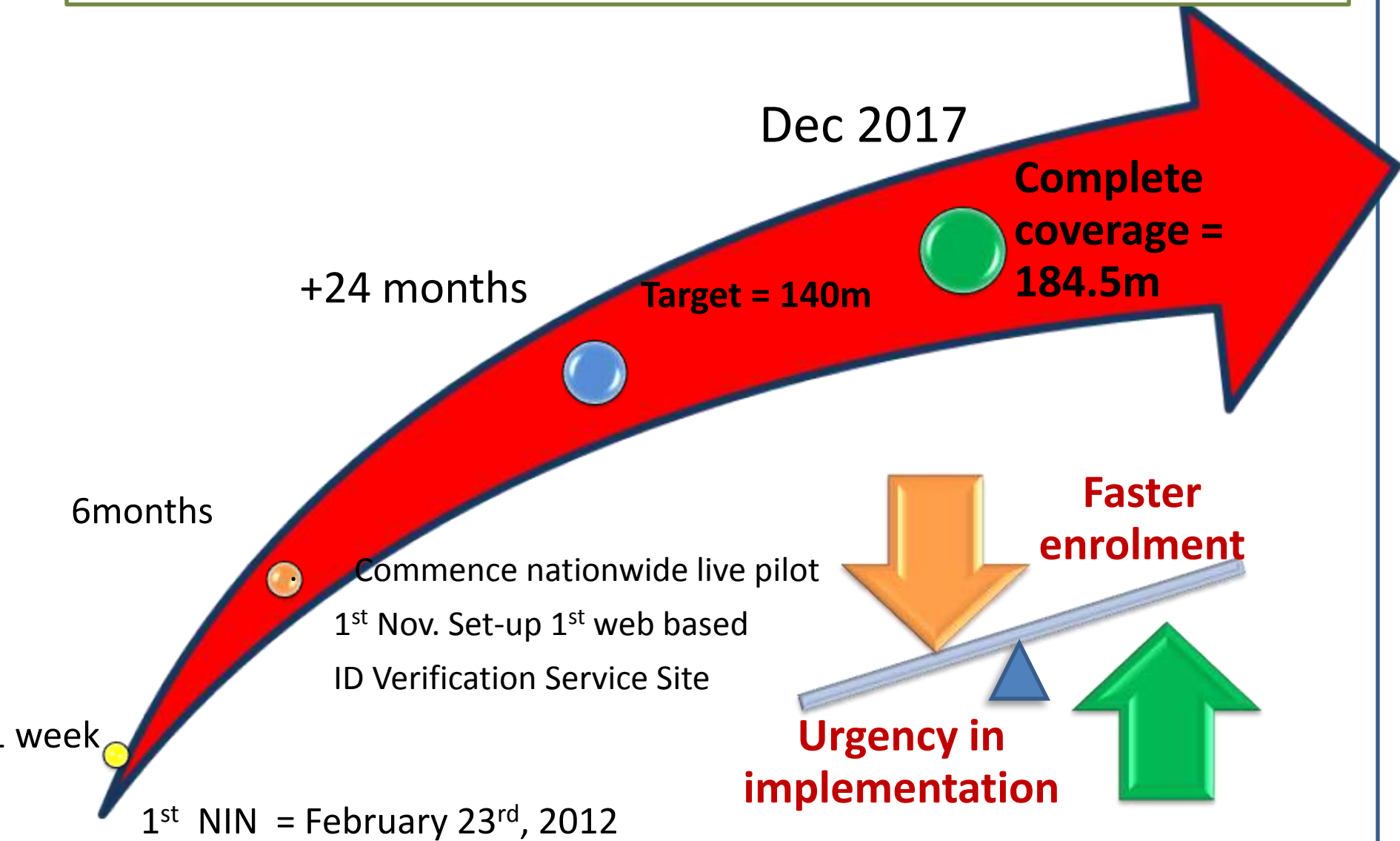
# Issues and Challenges

- Cynicism carried over from the past;
- Inability to attract and retain requisite staff/Slow capacity building;
- Private sector ambivalence and 'fence sitting'
- Contract for Card procurement;
- Shorttermism;
- Parallel development of specific sector/agency specific 'NIN' at the expense of NIMS under the misconception that NIMC is not ready;
- Budget;

# Capital Budget 2008 - 2011



# Implementation: Roll Out



# Implementation Objectives

- **Seamless interface of all components to provide a robust identity management infrastructure, especially harmonization;**
- **Certain components such as the Security and PKI as well as the Network connectivity are shared components that support the operations of the other key components and processes.**
- **NIMC Vision: to provide assured identity system. Therefore to put in place a robust scalable People, Process and Technology systems across each key vertical of the NIMS.**

# Implementation Objectives

- Leveraging standards in technology, a well implemented business continuity plan and a mature legal framework for vendor management and service levels;
- NIMS is central to the success of a cashless economy project - a secure UIDI is a precondition for financial inclusion;
- Congruence of plans and deployment inevitable:
  - Complementary CBN policy is essential;
  - Annual debt finance is less than 65% of total loss due to identity-related fraud in banks;
  - Deployment Strategy focused on *Update-able database and secure identity authentication*'
  - 'Live pilot commenced February 23, 2012 in FCT;

# Postponing the Inevitable, Delaying the transformation

- Postponing the inevitable, Delaying the transformation
  - Every project that duplicates the NIMS
  - Lack of funding support both in terms of Equity for an industry or an institution is postponing the inevitable
- Leveraging standards in technology, a well implemented business continuity plan and a mature legal framework for vendor management and service levels;
- The operations of the NIMS over the years would be a guaranteed success. **THE NIMS IS TRANSFORMATIONAL IN IMPACT.**
- NITEL;
- NEPA/PHCN
- PENCUM
- Build the NIMS and business will come (President Roosevelt).