

Moving the Namibia Civil Registration and Identity System towards an Unified and Federated Service Oriented Population and Identity Management Platform

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Topics:

1. Introduction
2. Computerisation History of the NIDMS
3. Electronic National Population Registration System (eNPRS)
4. Future Developments of the NIDMS

1. Introduction

1.1 Overview of Namibia

The Republic of Namibia gained its independence from South Africa in 1990.



Total area: 824,292 square kilometre (Land: 823,290 sq km; Water: 1,002 sq km)

Regions: 14

Population Size: 2.4 million

Urban Population: 45.7% of total population

Population Growth Rate: 2.4 %

Population Density: 2.5 persons per square kilometre (estimated 2016)

Birth registration rate: 80%

Unregister Population: 20%

Income category: Upper middle income

Gini coefficient: 0.597 (2009/2010)



Sources:

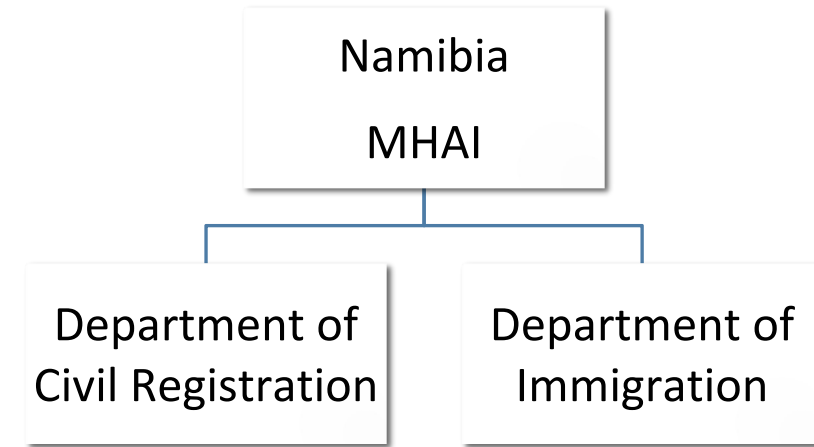
BTI, 2016. Namibia Country Report

Ministry of Finance. Fiscal Policy Strategy for the 2016/17 to 2018/19 Medium - Term Expenditure Framework

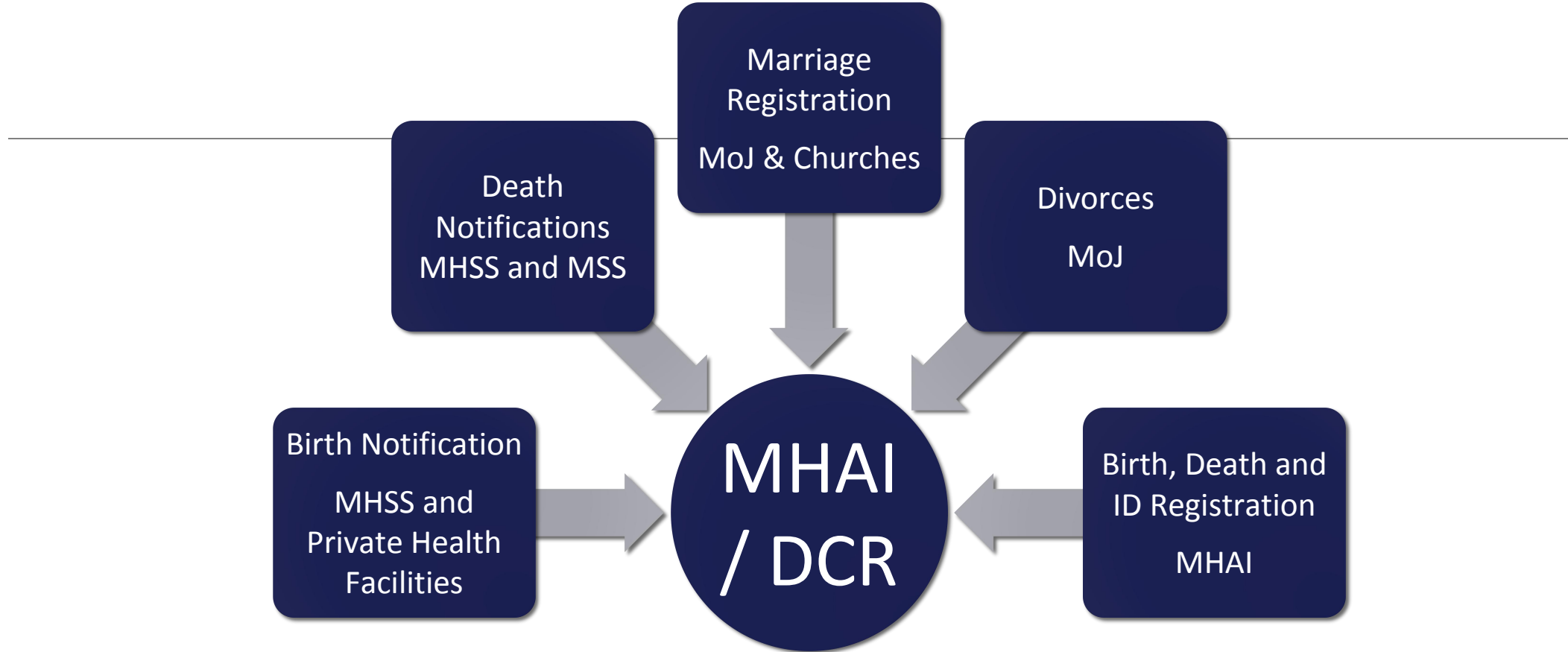
UN, 2015. Country Profile Namibia

1.2 Institutional Framework for Identity Management: Ministry of Home Affairs and Immigration (MHAI)

- The Ministry of Home Affairs and Immigration (MHAI) is responsible for managing the Namibia Identity Management System (NIDMS) that encompasses the civil register, civil identification register, immigration services and passports.
- The Department of Civil Registration is responsible for managing records of vital events in Namibia such as births, identification, marriages and deaths.
- The Department of Immigration is responsible for border control, issuance of citizenship certificates, passports, permits and visas.



1.3 Institutional Role Players in Civil Registration and Civil Identification



Key:

DCR: Department of Civil Registration

MHAI: Ministry of Home Affairs and Immigration

MHSS: Ministry of Health and Social Services

MoJ: Ministry of Justice

MSS: Ministry of Safety and Security

1.4 Other Role Players

Office of the Prime Minister

- As one of its mandates, the Office of the Prime Minister is responsible to coordinate the implementation of ICT Programmes and e-Governance within the Public Service.

Namibia Statistics Agency (NSA)

- Central statistics authority is mandated to collect, produce, analyse and disseminate official statistics in Namibia.
- The NSA is also responsible for the National Spatial Data Infrastructure (NSDI), which includes the collection, processing, management, maintenance, integration, storage, distribution, access and utilisation of spatial data and services.

1.5 Legal Framework

➤ **Namibian Constitution**

- Article 4: Criteria for Namibia citizenship by birth, descent, marriage, and naturalisation.
- Article 15: Children have 'right from birth to a name' and 'the right to acquire a nationality'

➤ **Births, Marriage and Death Registration Act 81 of 1963**

➤ **Aliens Act 1 of 1937**

➤ **Marriage Act 25 of 1961**

➤ **Namibia Citizenship Act 14 of 1990**

➤ **Inquests Act 6 of 1993**

➤ **Dissolution of Marriages on Presumption of Death Act 31 of 1993**

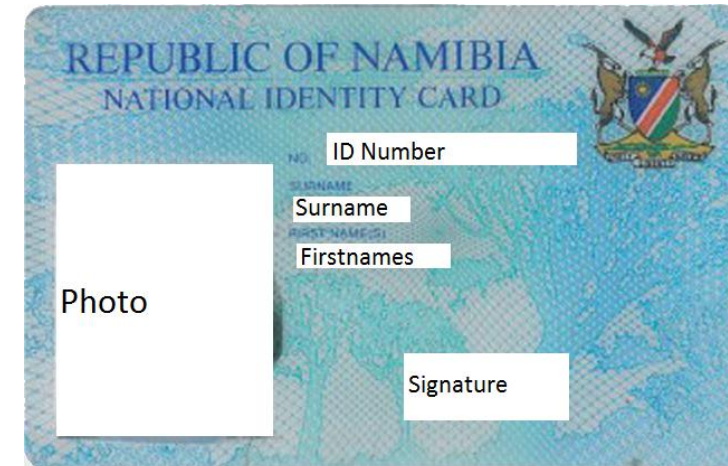
➤ **Identification Act 21 of 1996**

➤ **Child Care and Protection Act 3 of 2015**

2. Computerisation History of the NIDMS

2.1 Period Pre 2000 (1st Generation)

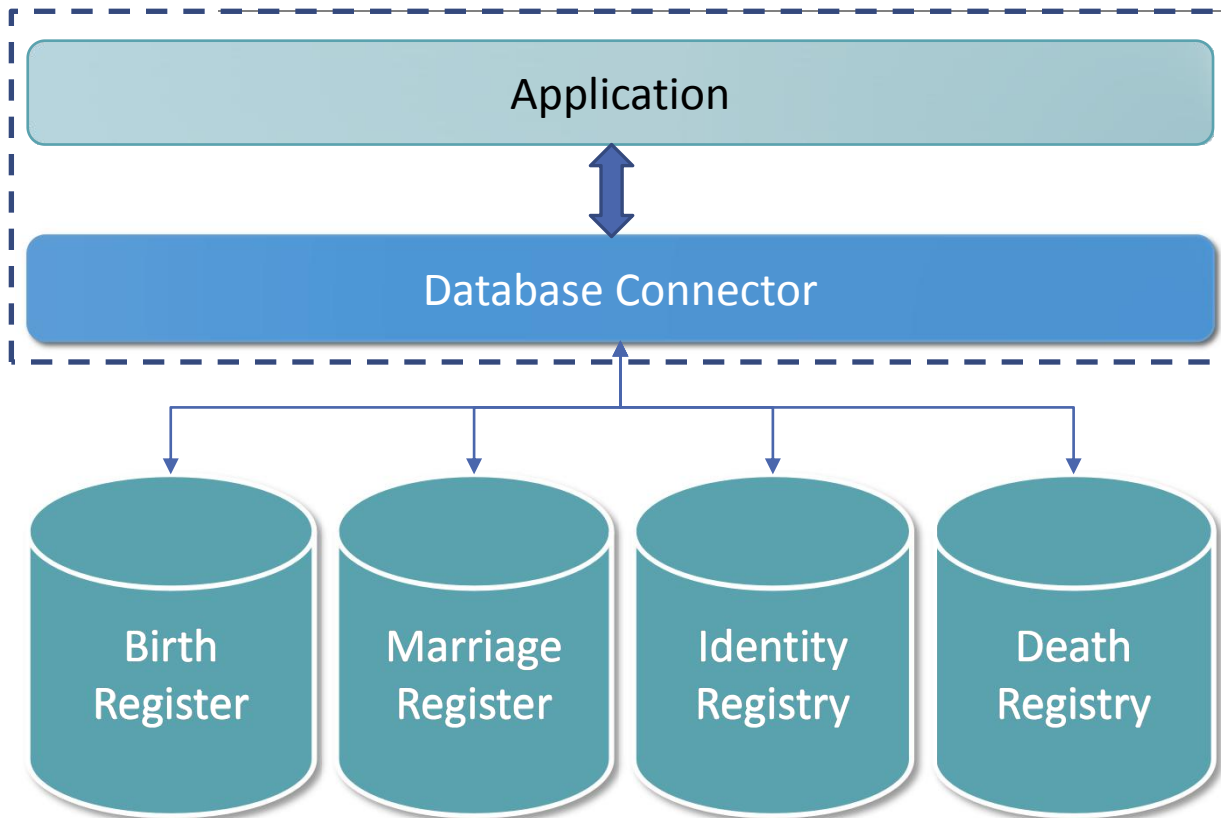
- All vital events were registered in physical civil registries (e.g., births, deaths) and hand written certificates (birth, death, marriages, etc.) were issued for each.
- Namibia Population System (NAMPOS) was established for provisioning and de-provision of National ID cards. Developed in COBOL/ISAM and run on a ICL Series 39 mainframe acquired in 1989.
- Fingerprints was captured and verified manually from 1978 to 2004.
- ID image capturing and card production system was implemented and interfaces to NAMPOS for producing National ID cards.
 - First National ID card was issued in 1978.
 - New form of ID card was introduced in 1994.



2.2 Period: 2000 to 2011 (2de Generation)

- ICL mainframe environment was mostly non Y2K compliant, which required hardware and software upgrades to address the Y2K bug. A policy decision was taken by government to decommission the mainframe and to replace it with a server based computing environment.
- The replacement system (NAMPOS) was developed in 2000 based on the data structures and functionalities of the legacy mainframe system and interfaced with the ID image capturing and card production system.
- Automated Fingerprint ID System (AFIS) was introduced in 2004 for enrolling of 10xfingerprints and to provide fingerprint search and verification functionalities.

2.2 Continued: Electronic Namibia Civil Registration System (NCRS): Basic Client-Server 2 Tier Model



Issues:

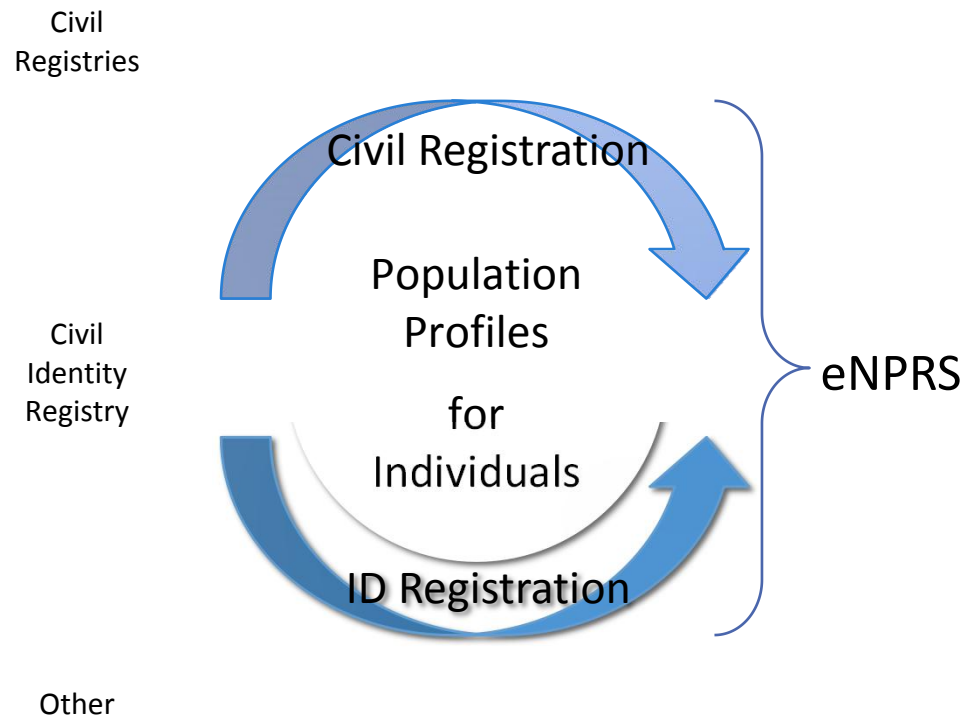
- Databases organised in silos based on civil registries, a database per registry.
 - Arrangement created duplicate person entries among databases, many versions of the truth.
 - Personal data inconsistencies between the databases.
 - Different unique identifiers for every registry/certificate.
 - Linkages between databases maintained by recording unique identifiers of registries/certificates in every database.
 - Complex cross database verification checks.
 - Complex and limited vital statistics capabilities
- Poor scalability, accessibility, usability and distribution capability.
- No interoperability with any other system.

2.3 Period: 2011 to 2017 (3rd Generation)

- The shortcomings of the eNCRS, technology advancement and changing needs of MoHAI led to the creation of a new multi-tiered enterprise web based system, National Population Registration System (eNPRS), to replace the eNCRS in 2011.
- Introduced new birth, death, marriages and marriage officers certificates that is to be processed and printed through the eNPRS as of 2014.
- MHAI Turnaround strategy undertaken 2014 to 2015.
- eNPRS was extended with a workflow enabled front office system in 2016.
- Birth notification system was completed and added to the eNPRS suite of applications in March 2017.

3. Electronic National Population Registration System (eNPRS)

3.1 eNPRS Concept and Considerations

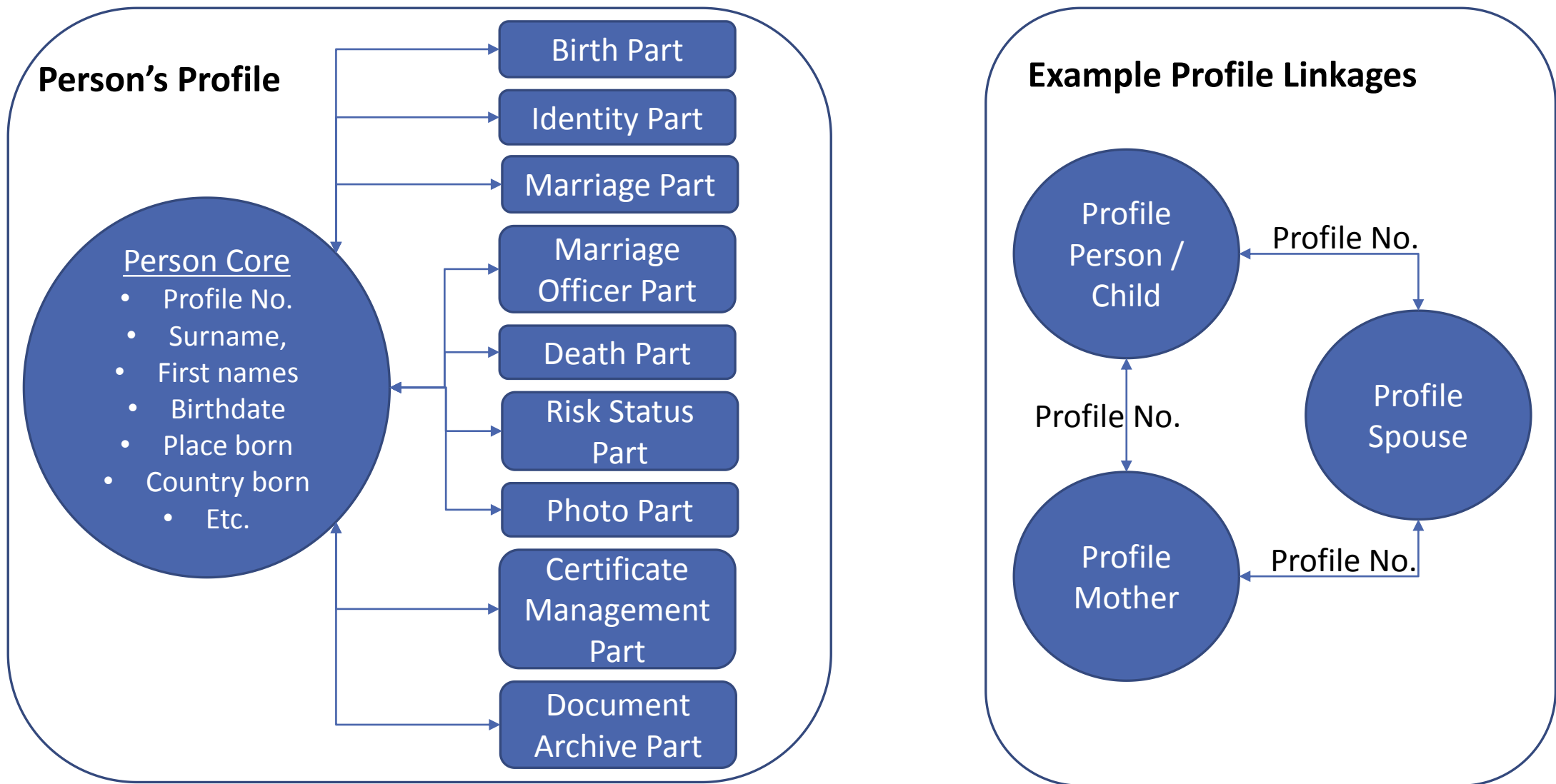


Design Considerations

1. Improve the efficiency, traceability and accountability of the civil registration and identity processes.
2. Focus on system usability and accessible by users.
3. Address data fragmentation and enhance the quality of civil registration data (completeness, correctness, availability). Standardise coding.
4. Improve interoperability of systems within the context of civil registration and identity management.
5. Increase security in the areas of confidentiality, integrity, availability, authentication authorisation and auditing.
6. Comply with legislation and policy directives.
7. **Do more with less.**

3.2 eNPRS Person Population Profile Data Architecture Model

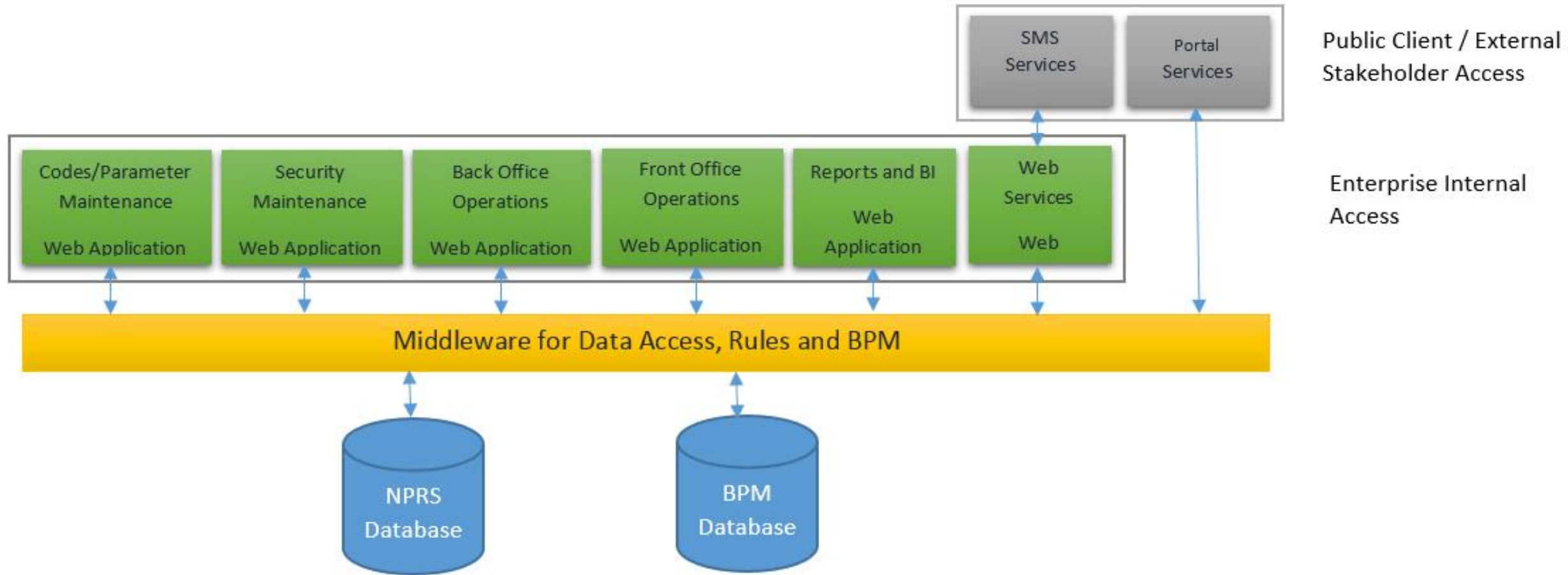
At the heart of the eNPRS lies the profiles of persons that are formed through the different civil registration and civil identification processes. Profiles represent the vital event life cycle which a person will go through during their life (i.e., From Birth to Death) which relates to civil and identity registration.



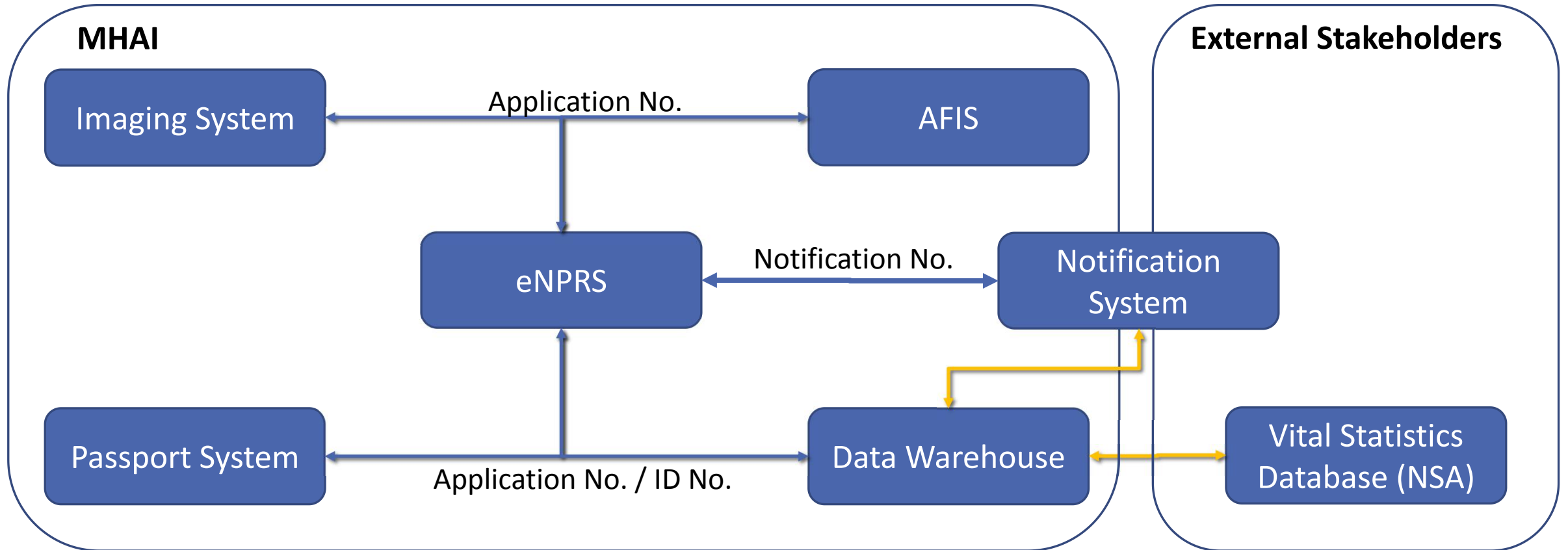
Profile No. connects all profile parts to the Person Core and secondary to each other.

3.3 eNPRS Conceptual Architectural Model

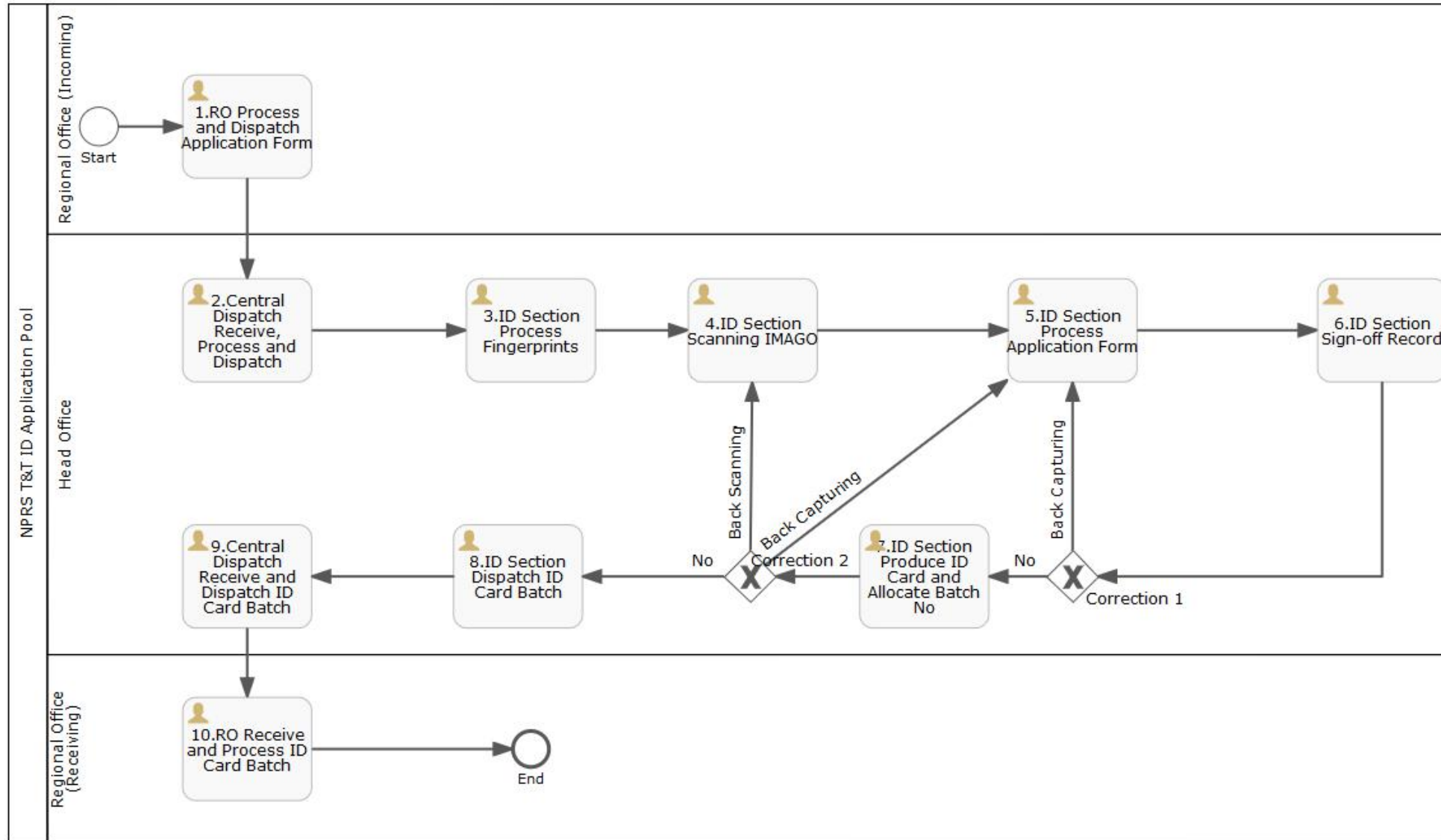
The eNPRS is divided into different components based upon functions and services for ease of development, maintenance, security and use by users.



3.4 eNPRS Linkages



3.5 eNPRS National ID Application Process



4. Future Developments of the NIDMS

4TH GENERATION

4.1 Vision NIDMS

To establish a sustainable, cost effective, stakeholder focused world class integrated National Identity Management System to strengthen Civil Registration, Civil Identification, Population Management, **and Vital Statistics** in Namibia by 2022.

Key Objectives:

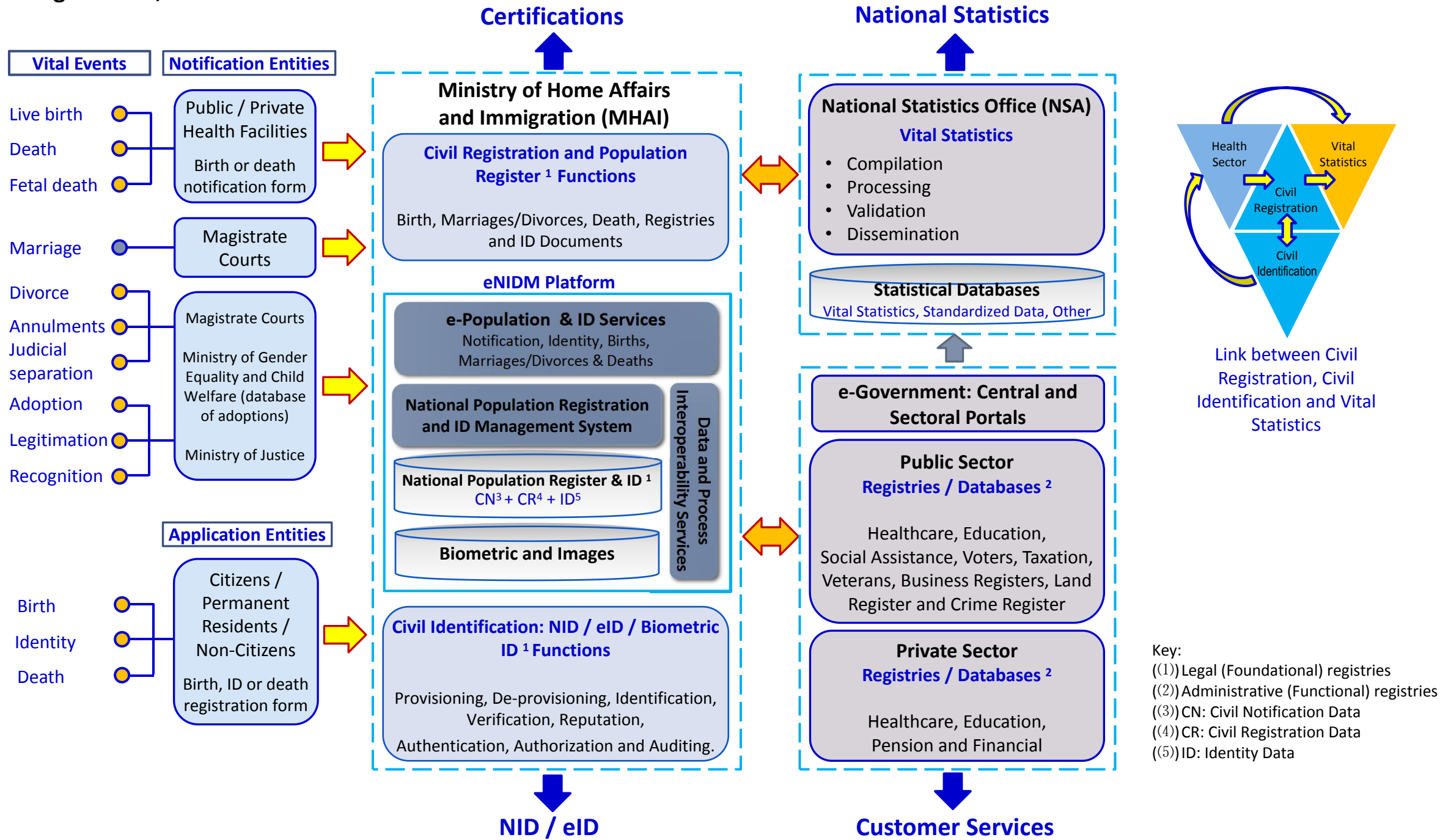
1. Establish integration between eNPRS and biometric system for registration, identification and verification services.
2. Improve official identity data quality and verification across stakeholder systems (MoUs to be signed).
3. Establish a consolidated federated identity and access management system for all MHA systems.
4. *Provide population identity and access management services for the e-Government platform.*
5. *Upscale current National ID card to a smart card that will improve identification and access to services.*

4.2 Legal Framework Development

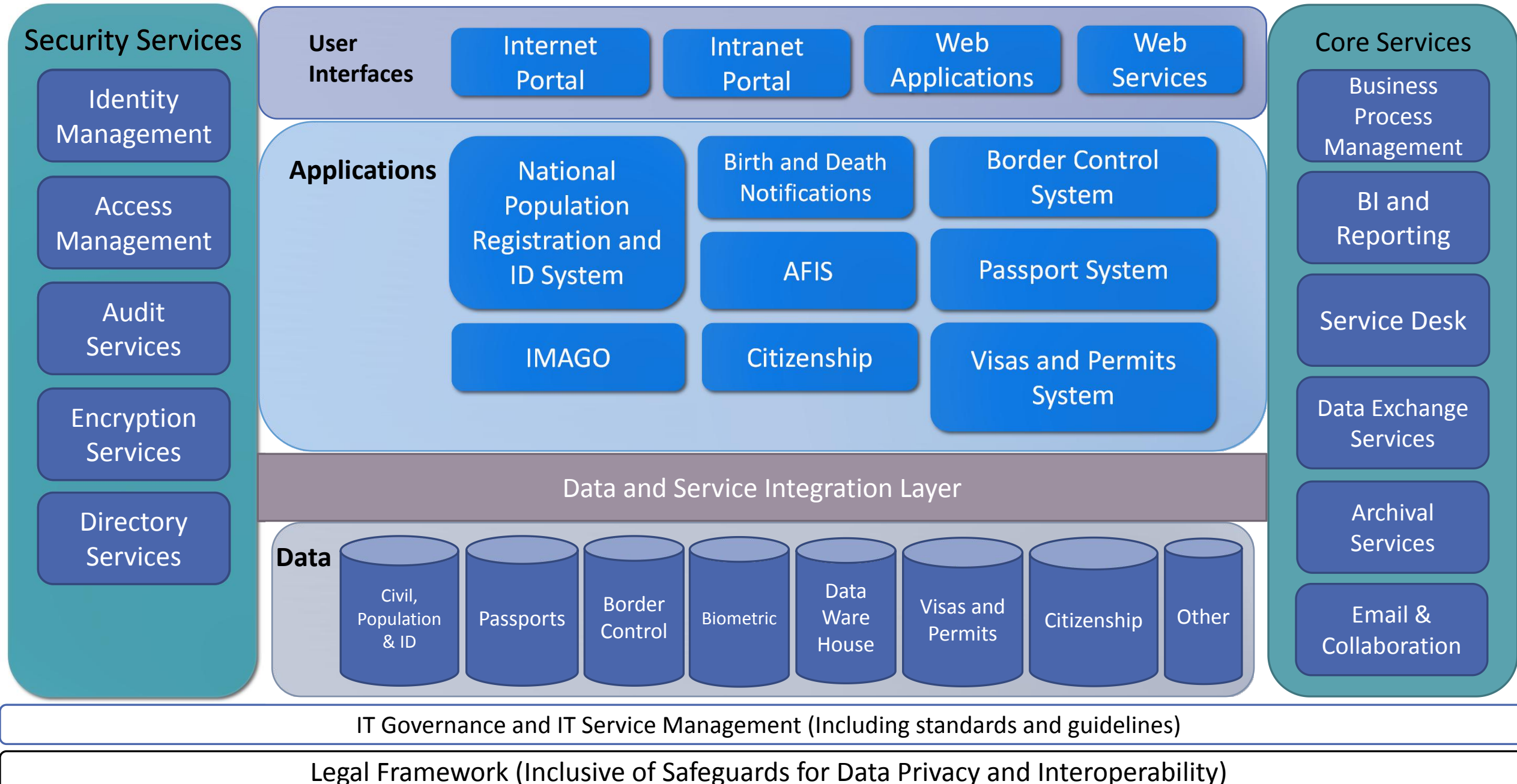
Namibia has a outdated legal framework, which requires a upgrade that will respond to the needs of an electronic National ID Management System, including digital identities, digital identification, digital signatures and electronic transactions. To address the legal shortcomings, bills are being completed for the following:

- MHA is finalising the Civil Registration bill to replacing the Identification Act; the Births, Marriages and Death Registration Act; and the Aliens Act.
- MHA is also preparing a new Marriage Bill.
- The Ministry of Information and Communication Technology is finalising the Electronic Transactions and Cyber Crime Bill that will address most of the e-issues.

4.3 Civil Registration, Civil Identification and Vital Statistics Context Model for Namibia



4.4 MHA/ eNIDMS: Reference Architecture



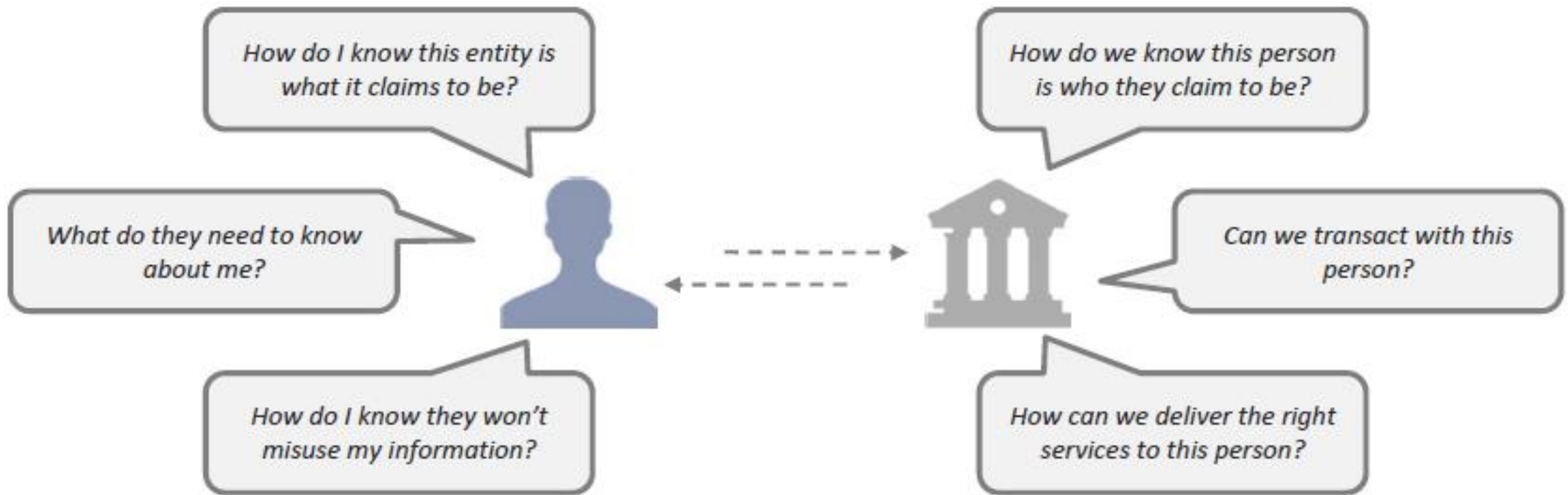
4.5 Digital Identity Goals and Problems



4.6 Official Electronic Identity (eID) Interoperability

Definition:

Official eID interoperability can be thought of as a constantly shifting interconnection among MHA as an official ID provider, citizens and permanent residence as ID users, and official ID consumers that permits the transmission of eID information between them via a secure, privacy-protected channel.



4.7 Government Interoperability Solution

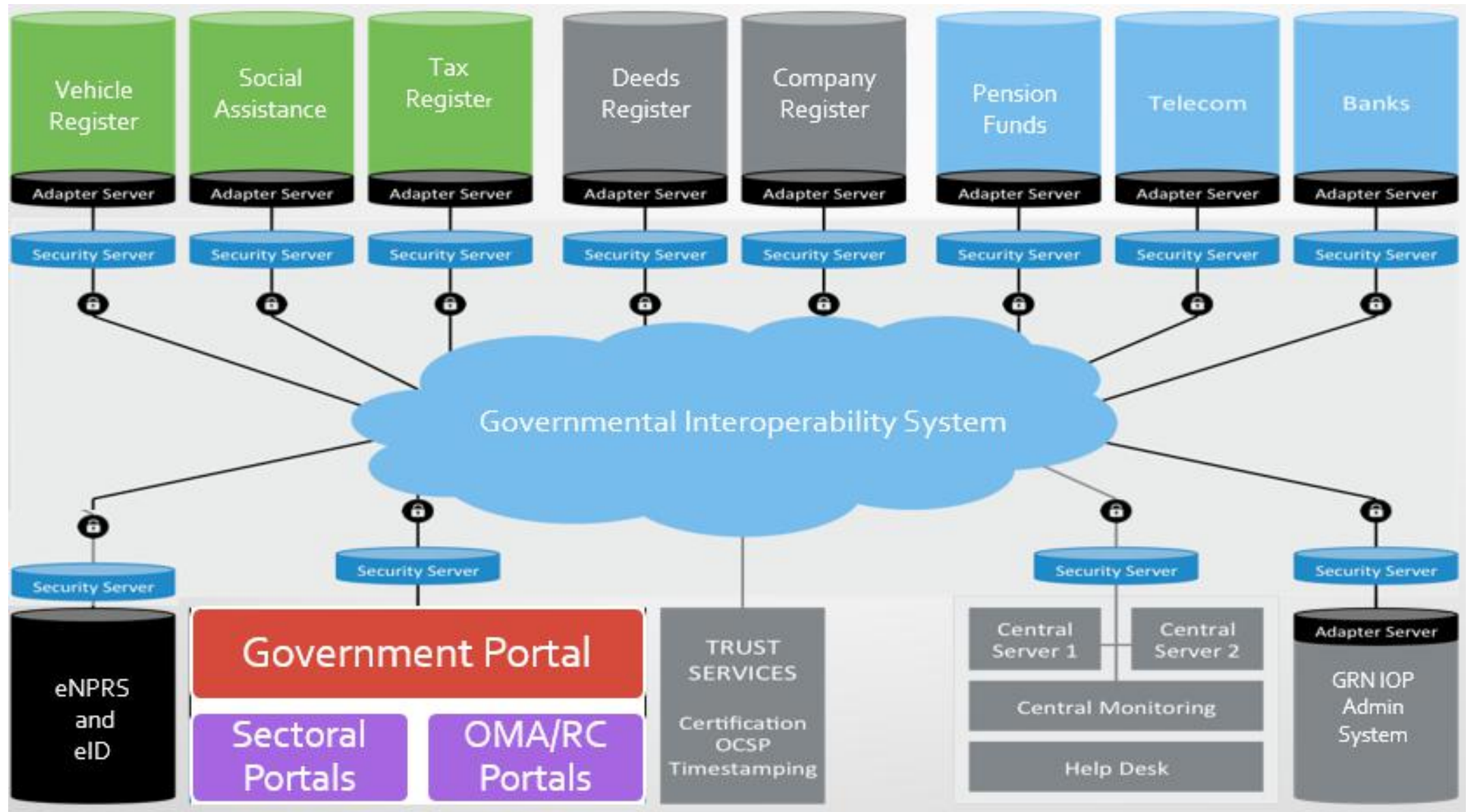
To address the IOP needs of stakeholders, the Office of the Prime has developed a framework and implemented a governmental IOP solution to improve:

- **Cooperation** within government to develop the public services;
- **Exchanging information** in the government to fulfil legal requirements or political commitments;
- **Sharing and reusing of information** in the government to increase administrative efficiency and to reduce the administrative burden on citizens and businesses.
- **Public service delivery** to citizens and business by facilitating the one-stop shop delivery of public services;
- **Reducing costs** for public administration, businesses and citizens through efficient and effective delivery of public services.

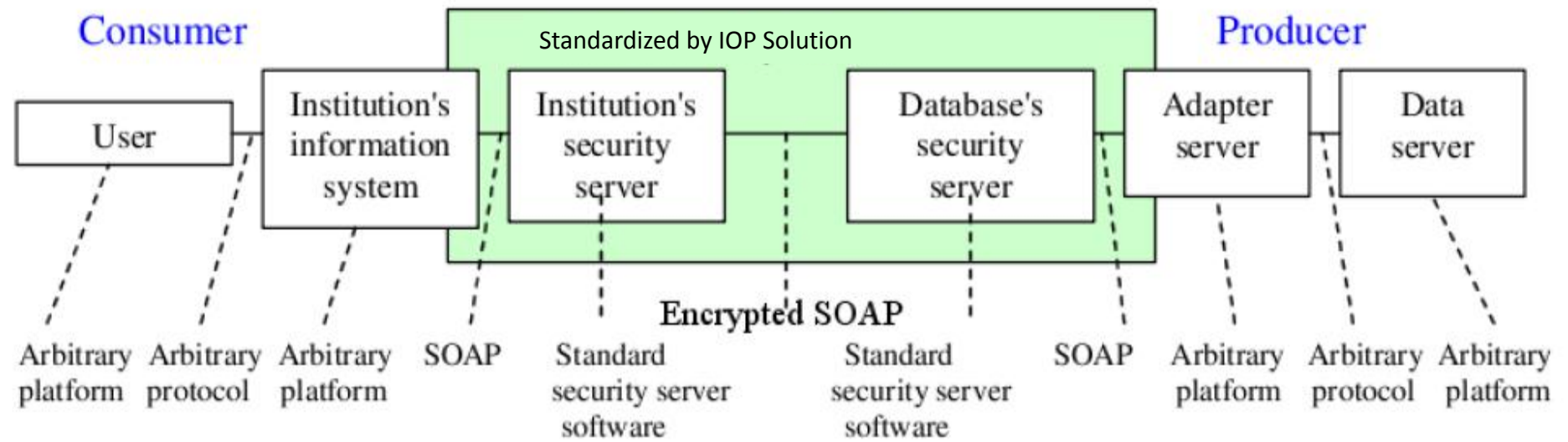
4.8 Adopted IOP Guiding Principles

- User centrality
- Security and privacy
- Administrative simplification
- Transparency of the processes
- Preservation of the information
- Reusability of webservices
- Technological neutrality and adaptability
- Efficiency

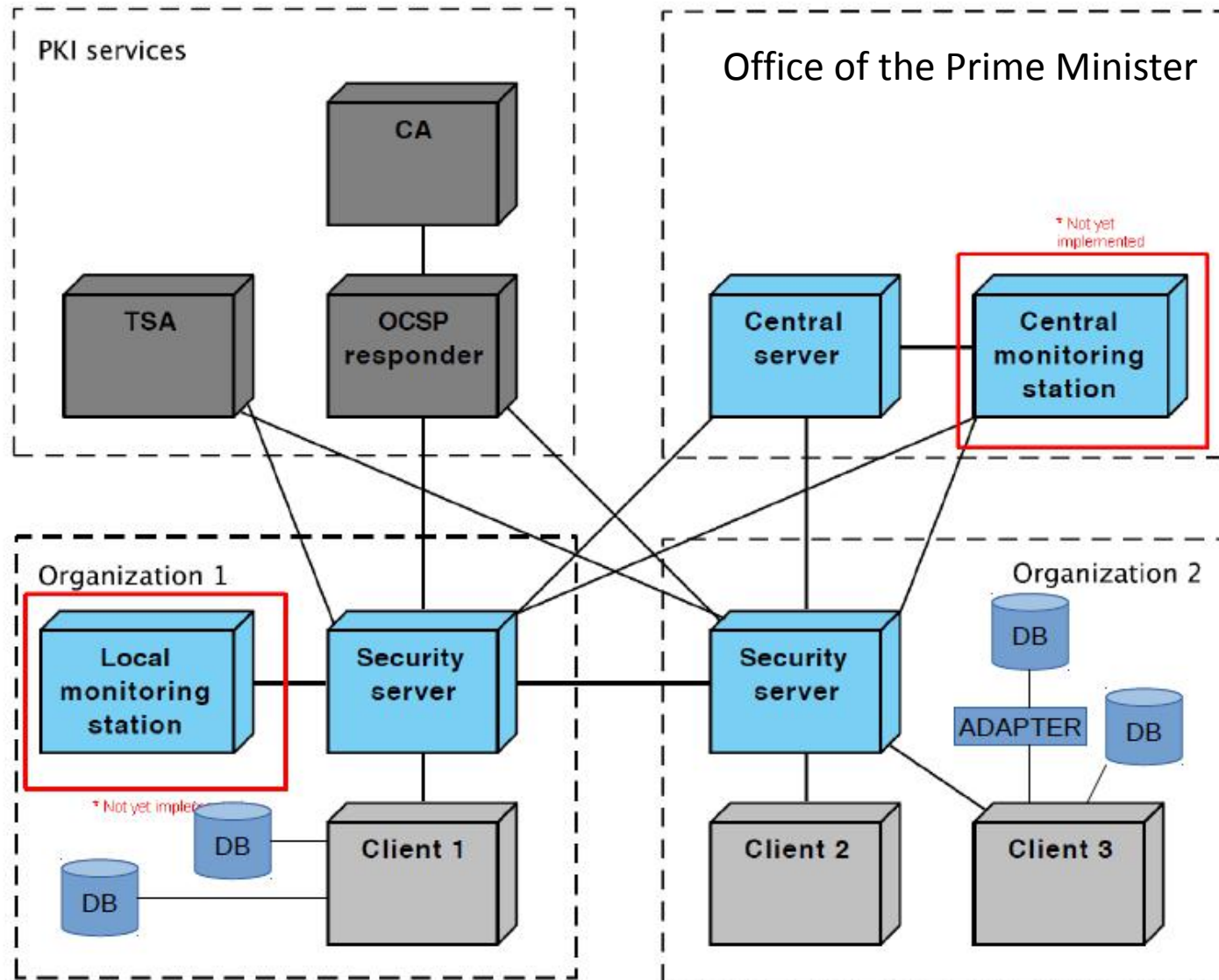
4.9 Government of Namibia (GRN) Interoperability (IOP) System Model



4.10 GRN IOP Solution Data Exchange Components



4.11 GRN IOP Solution System Architecture



4.12 Conclusion

The establishment of ID IOP on the governmental IOP solution have many benefits but also raises a number of serious concerns about data protection and privacy (or confidentiality, anonymity, disclosure, notice, secrecy, data destruction and being “forgotten”). To ensure trust in ID IOP solutions, these challenge will need to be addressed in law and technically.

Example of two privacy challenges that needs to be address:

- **Observability:** Potential that others may gain ID data.
- **Likability:** Potential to link between ID data (e.g., ID No) and an individual as well as potential links between different data sets that contain ID data which can be connected for further analysis.

The End.

More information can be obtained from:

MHAI website at <http://www.mhai.gov.na> and

World bank Namibia Identity Management System Analysis Report at
<http://pubdocs.worldbank.org/en/184451466711154296/1617304-Namibia-ID4D-Web.pdf>