



Mauritius National Information Technology Strategy Plan (NITSP)

MAURITIUS NATIONAL IDENTITY CARD (MNIC) PROJECT: AN OVERVIEW OF THE MASTER PLAN

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1 Background to the MNIC Project

Phase I of the National Information Technology Strategy Plan (NITSP) focuses on the overall assessment of the national IT policy and programs to uncover gaps between the desired and actual development of IT in Mauritius. Phase II of NITSP focuses on working out detailed *actionable plans* for all the identified strategies.

To keep the momentum of the NITSP efforts and raise the general awareness of the members of the public, the Mauritius National Identity Card (MNIC) project was conceived to undergo an accelerated implementation timeframe. The project will consist of a master planning stage followed by the actual implementation.

2 Project Objectives

The MNIC project sets the approach for enhancing the national identification infrastructure and implementing a flagship application to support the Government's goals of improving the public sector effectiveness and efficiency, thereby bringing the government closer to the people. Smart card technology will be accordingly adopted for the implementation of the new national identity cards in line with a cabinet decision dated November 1997.

With a reliable identification infrastructure, the following functions can be gainfully enabled:

- a. Harnessing population information for long-term planning to support nation building.
- b. Provision of timely services to the rightful recipients of such services.

3 Approach to the MNIC Master Plan

A three-stage approach has been employed to derive the MNIC master plan. A current state assessment inaugurated this approach and was specifically aimed at assessing the existing people identification infrastructure to determine its shortfalls on administration and usage within the public sector agencies. This was followed by the architecture design defining the key components required to bridge the gaps identified in the current state assessment. Finally, a deployment plan has been conceived to formulate a long-range implementation plan of the MNIC project.

4 Current State Assessment

4.1 Objectives of Current State Assessment

- a. To assess the existing people identification infrastructure to determine its shortfalls on administration and usage within the public sector agencies; and to appreciate the issues regarding the usage of identification documents (e.g. ID card) in private sector organisations.



- b. To identify potential flagship applications for demonstrating the benefits of a more robust identification infrastructure.

4.2 Scope of the Current State Assessment

The current state analysis looks at two main domains of the people identification process:

- a. Current people identification infrastructure administration by the two main government agencies (Civil Status Division and Ministry of Social Security and National Solidarity) which are the so-called 'creators' of people identity - capturing and providing an identity to a person residing in Mauritius.
- b. Usage of the identification infrastructure by other government agencies. This refers to the agencies that use the identity created by the above 'administrators' of people identity to facilitate their organisational functions.

4.3 Major challenges faced with the present people identification system:

- a. The entire people identification administration process ('*cradle-to-grave*' cycle) is not streamlined. This results in divergent procedures; e.g. important documents (e.g. National Identity Card) are not collected at the point of its expiry of use.
- b. The identification administration process also results in multiple re-capturing of identification information by different agencies. The public often has to produce several identification documents to these agencies before it can benefit from Government services.
- c. There are multiple updates of the same information by different agencies onto different databases, resulting in duplication of work and data inconsistencies within Government.
- d. The time taken to verify the identity of the members of the public for most services is long, resulting in poor efficiency of Government services.
- e. Key information such as personal identifier and address are not standardised and accurately maintained across the entire system (from birth to death). For instance, the person identifier appears to be lengthy and is non-Year 2000 compliant.
- f. The creation of people identification records is the responsibility of the Civil Status Division. The issue of a National Identity is done through the aegis of the Ministry for Social Security. These two functions appear to be disjoint whereas a reliable identification infrastructure would necessitate a concerted approach between these two functions.

4.4 Recommendations to meet the challenges identified

The recommendations are centred around four main axes: process, people/organisation, information and technology.

Process

- i. A streamlined identification administration process is required.
- ii. All information should be captured once at source and be retained for storage and updates at a single point. This will result in the consistency of people information across all Government agencies thereby ensuring that a citizen can be uniquely identified.
- iii. The people can be referred to by all Government agencies through a single form of identification and this would reduce the need for multiple identification documents for the purpose of authentication.
- iv. Repetitive processing steps have to be eliminated.



- v. Public waiting and service processing time should be shortened with the ultimate objective of creating one-stop and eventually one-stop/non-stop services.

People/Organisation

- vi. There is need for training the people to operate in a new identification environment so as to increase the productivity of the workers and to create more enriching jobs.
- vii. The NIC unit of the Ministry of Social Security will have to be merged with the Civil Status Division in order to have one organisation to oversee the people identification administration process.

Information

- viii. All citizens will be issued with a unique identifier from birth onwards and this identifier will be used by all Government agencies for identification purposes.
- ix. A consistent definition of data (e.g. address format) must be established across Government with regard to people identification so that sharing can be enabled and a common reference can be established.
- x. Data and work redundancy should be reduced e.g. information that is common to all Ministries and Departments should be created and maintained at one site for eventual sharing within the Civil Service.

Technology

- xi. Smart card technology would support the new National Identity Card system as ratified by Cabinet in November 1997.
- xii. With the establishment of a good smart card infrastructure, the use of smart card as the new IC would also trigger off new applications to modernise Government services; e.g. pension payment and driving license could be considered as flagship applications.

5 Architecture Design

5.1 Objectives of the Architecture Design

- a. To define the MNIC blue print and its key components to bridge the gaps identified in the current state assessment.
- b. To serve as a guideline for future applications that will be built upon the proposed identification architecture.

5.2 Architecture Design

The architecture design actually constitutes the MNIC blue print and defines how the new identification infrastructure operates by summarising its components, the way the components are linked, and the way the components operate together.



Goal & Strategy

The MNIC goal is to improve the convenience, efficiency, reliability and accessibility of all government services, thereby bringing the Government closer to the people.

Process

The process perspective defines the processes redesigned to increase effectiveness, productivity, reduce errors and decrease turnaround time of services.

Organisation

The organisation perspective defines the human resource policies and practices to support the new processes.

Information

The information perspective defines the data policies and practices to enable the new processes. Standardisation of data definition and the proper maintenance of information architecture are essential to the execution of these processes.

Technology

The technology perspective defines the technology policies and practices to automate the processes and allows information to be delivered to the right person at the right time.

5.3 Proposed Process Architecture

The proposed identification administration process emphasises three main components:

- a. The collection of information from source and its maintenance
- b. The management of information at a hub level which would be the central tapping point
- c. The sharing and usage of information

The above architecture would allow to trace the identity of an individual from birth to death. This new process would allow a one-point maintenance of the individual's data thus facilitating its usage by public sector agencies. Processes would thereby be streamlined resulting in better administration of information and more efficient services for the public.

Issues addressed by the new processes for creating people information

Since the Central Population Database should, at any point in time, reflect the actual status of the population, any change concerning the particulars (e.g. address) of individuals stored on the database should be notified to the Civil Status Office within a fortnight. Failure to notify the competent authority about any changes could lead to the denial of timely services to the people concerned. The appropriate infrastructure should therefore be made available to the population to act accordingly.

Flagship Application

The design of a sound MNIC Architecture coupled with the use of smart cards will trigger off new applications that would modernise the government services.



For example, pension payment using smart card can be considered as a flagship application. This application would leverage and demonstrate the usefulness and benefits of a reliable identification architecture. This function covers around 100,000 citizens and is administered by the Ministry of Social Security and National Solidarity.

5.4 Proposed Organisation Architecture

The use of smart cards would modernise the provision of government services enabling one-stop services. It is imperative that a holistic approach be adopted in the definition of one-stop-shop government services. This would directly impact the quality of the service offered to the citizen in terms of service turnaround time, the number of visits required and the proximity of the government services from the public.

Organisational requirements for a combined identification services function

The people Identification infrastructure administration addresses the creation of people identity, thus involving the registration of birth, issue of identity card, and the recording of death. This would imply that the combined identification services would take on board the card management services from the NIC Unit of the Ministry of Social Security.

The spectrum of responsibilities that would be handled by the combined identification services function would include the following, among others:

- i. Combined Identification Services
- ii. People Information Administration Function
- iii. Key Management Function
- iv. Card Production Function

5.5 Proposed Information Architecture

The following items of people information have been identified as being common to several governmental agencies:

- a. NIC number
- b. Name
- c. Address
- d. Date of birth
- e. Fingerprint
- f. Photo
- g. Signature

The information content on the smart card has been categorised in two parts: data visible on the card and data encoded in the chip of the smart card.

The national identification infrastructure would rest on a unique citizen identifier which would be the new national identity number (a reduced 10-character number). This ID number would be issued at birth and used thereafter by various governmental agencies for the purpose of positive identification.



5.6 Proposed Technology Architecture

One of the critical tasks in the MNIC project planning phase is the design of the technology architecture. Essentially, this architecture defines the overall technical architecture which is needed to support the complex and diverse information, process and organisational changes surfaced in the MNIC architecture design.

It is important to note that the technology architecture is relevant only to the extent of the planning horizon undertaken for planning stage (i.e. 3 - 5 years). This has to be constantly reviewed by the technology planners, taking into account of the changes in application requirements as well as technology advances.

6 Deployment Planning

6.1 Objective of the deployment planning

The objective of the deployment plan is to formulate a long-range implementation plan of the MNIC Project. The fundamental concepts that would drive the development of this plan encompass key initiatives (e.g. development of a Central Population Database), the project schedules, resource estimates and the expected benefits.

6.2 Approach

The framework for formulating the deployment plan is centered on the following main axes:

- a. Scoping key initiatives, time frames and assignment of responsibility centres
- b. Estimate of resource requirements and cost for each initiative
- c. Cost-benefit analysis
- d. Recommendation on appropriate initiatives for deployment

The process leading to the formulation of the deployment plan has taken into account the current environment, implementation prioritisation, and organisational issues.

6.3 Implementation options

Three implementation alternatives have been considered, namely

- a. maintaining the status quo set-up,
- b. using the existing IT infrastructure, and
- c. "re-architecturing" the IT infrastructure.

After a careful analysis of these three implementation options, the second option emerges as the most feasible alternative based on the factors of cost, risk and economic viability.



6.4 Migration considerations

The migration considerations that should be factored within the changeover process are:

- a. Need for proper and timely communications
- b. Optimal use of technology
- c. Least disruptive migration
- d. Outsourcing
- e. Human resource management

The migration strategy has been formulated in concordance with the following:

- a. The establishment of implementation teams and the MNIC Steering committee
- b. The involvement and commitment of end-users
- c. The confirmation of all resources and project tasks
- d. Skills building for end-users and new recruits

The IC conversion strategy that is being proposed would be based on two approaches. These include a decentralised registration mechanism and a centralised production system.

6.5 Public Education Function

The success of the MNIC project is highly dependent upon the perception and acceptance of the new smart card-based identification token by the public.

In order to achieve these objectives, an effective and efficient campaign is recommended.

6.6 Proposed MNIC Implementation Team

The implementation will follow a three-pronged approach and three implementation teams will have to be set up. The three mini-projects under focus would be as follows:

1. Central Population Database Project
2. National Identity Card Project
3. Development of Flagship Application – Smart Pension Service

6.7 Benefits from the MNIC Project

Intangible Benefits

The main goal of the MNIC project is to set up a robust people identification infrastructure and consequently a number of intangible infrastructural benefits would crystallise in the long run. These include the following payoffs:

- a. Effective and efficient government services for a one-stop/non-stop mode of operation in a modernised civil service environment
- b. Enhanced and timely services to the public thus bringing Government closer to the people



- c. Accessible and reliable identification infrastructure
- d. Strategic investment tool for long term planning to support nation building

- e. A springboard for the setting up of other hubs (land, establishment)
- f. Project Mauritius with an image of a modernised information based economy
- g. A catalyst for other IT projects (since reliable and up-to-date information will be available)
- h. Diffusing the widespread usage of IT in Mauritius thereby uplifting the nation's IT literacy
- i. Secure national identification token – hence discouraging forgery and fraud
- j. Building local expertise in smart card technology – this competence can eventually be exported

Tangible Benefits

The MNIC project will generate tangible benefits such as the following:

- k. No annual survey by Electoral Commissioner's Office – savings of around Rs 7 million annually.
- l. Reduced administrative costs to manage pension payment – cost reduction of Rs 2 million annually.
- m. Return from issuance of driving license on the smart card – 15,000 new driving licenses per year would net in Rs 1.5 million annually, assuming Rs 100 per smart driving license.

6.8 MNIC Deployment Initiatives

Project	Starts	Finishes
Central Population Database	01 Jul 1998	31 Dec 1999
NIC – Smart Cards	01 Jul 1998	30 Mar 2001
Smart Pension Service	01 Jul 1998	31 Mar 2000

The MNIC project has been estimated to have an overall project value of Rs 255 million.

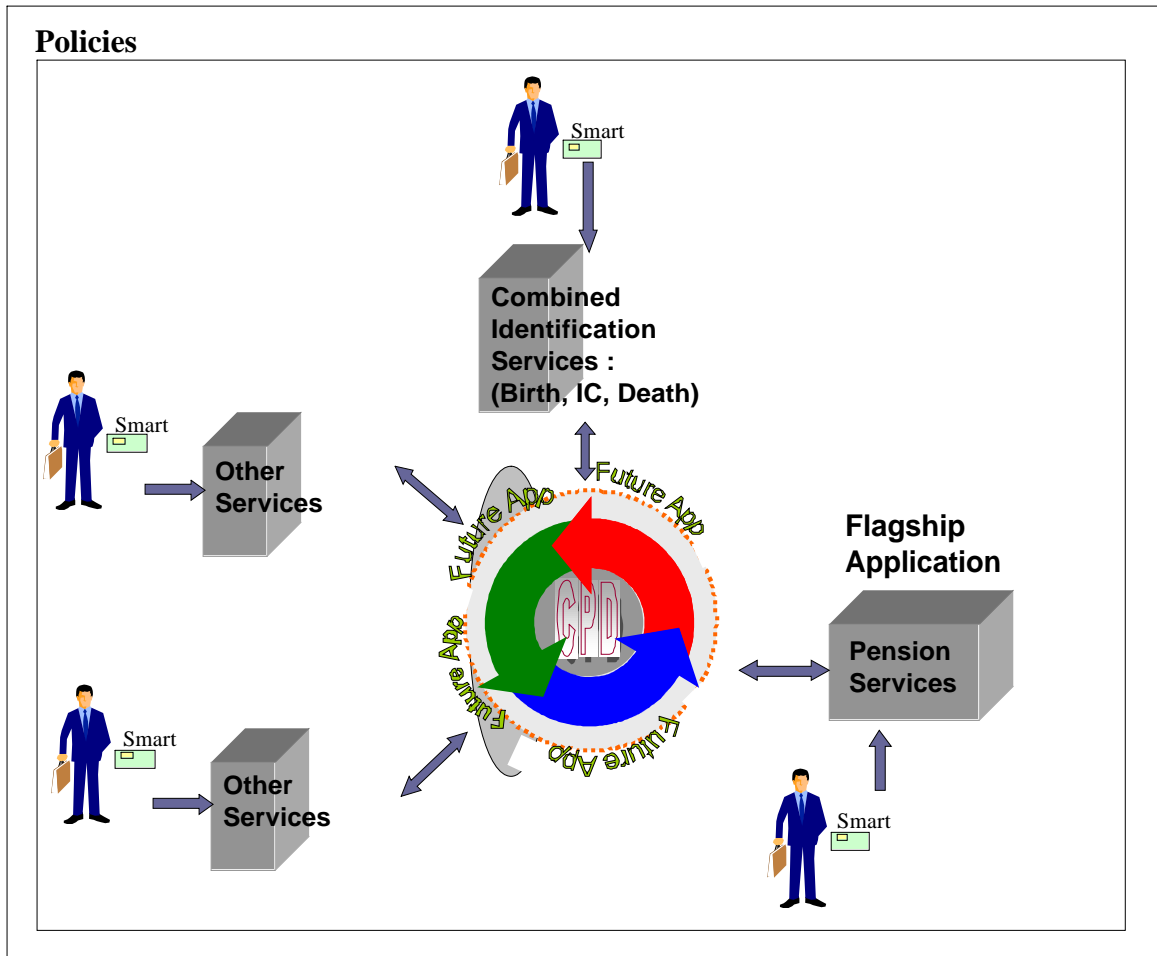
7 Conclusion

The goal of the MNIC project is to improve the convenience, efficiency, reliability and accessibility of all government services, thereby bringing the Government closer to the people of Mauritius. The key strategies supporting this MNIC goal are as follows:

- a. To adopt a one-stop service approach to ensure greater convenience be accorded to our people.
- b. To modernise the Government operations by reviewing its policies and redesigning work processes for greater efficiency.
- c. To create an integrated infrastructure to improve the reliability and accessibility of all government services which utilise it.



The conceptual architecture diagram on the next page summarises the philosophy behind the MNIC project.



CPD: Central Population Database
Box : One Stop Service

Innermost ring : Integrated Infrastructure
Concentric rings: Redesigning of work



APPENDIX 1

CONTRIBUTION

Working Team Composition for the Mauritius National Identity Card (MNIC) Project

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Name: Robin Unuth
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Organisation: Central Informatics Bureau

PROJECT CORE TEAM MEMBERS

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Name: Shashiraj Bhatoolaul
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PROJECT EXTENDED TEAM MEMBERS

Name: Mrs. H. Diljore
Organisation: Civil Status Office

Name: N. Deerpalsing
Organisation: Ministry of Social Security

Representatives of the following Ministries/Departments:

Traffic Branch (Police Department)
Passport and Immigration Office (Police Department)
Ministry of Education and Human Resource Development
Ministry of Health and Quality of Life
Ministry for Civil Service Affairs



Electoral Commissioner's Office

Working Team Report on National IT Strategy Plan (Phase II)



APPENDIX 2

ACKNOWLEDGEMENTS

It is a pleasure for us to acknowledge the assistance and contribution of the following persons to this effort :

Honourable Sarat Dutt Lallah	Minister of Telecommunications and Information Technology
Mr. Sushil Baguant	Chairman, National Computer Board
Mr. Tamas Saha	Executive Director, National Computer Board
Mrs. H. Diljore	Controller, Civil Status Division
Mr. N. Deerpalsing	Commissioner, Ministry of Social Security and National Solidarity

Representatives of the following Ministries/Departments:

Traffic Branch (Police Department)
Passport and Immigration Office (Police Department)
Ministry of Education and Human Resource Development
Ministry of Health and Quality of Life
Ministry for Civil Service Affairs
Electoral Commissioner's Office



STRATEGIC ACTION PROGRAMMES

Programme 1 : Central Population Database Project

Description

This project considers the procurement of the requisite hardware, software, communications system and training to enable a database management system of the entire population. This project should also take care of the data conversion planning for the consolidation of the database, training of defined personnel and the establishment of data sharing mechanism. Further, the approach will be defined for tackling the issues of address and name formats.

Implementor

Leader: Civil Status Division

Others: Central Informatics Bureau, National Computer Board

Completion

By December 1999

Programme 2 : National Identity Card Project

Description

This project would ultimately lead to a 'one citizen-one smart card' national identity configuration. This would involve two distinct sets of activities: the registration, processing, production and issue of cards to existing holders of the NIC (bulk conversion process); the issue of cards to citizens who would eventually become eligible (on an as-and-when needed basis). The acquisition of smart card technology and infrastructure and the management of the awareness campaign programme should also form part of the project scope.

Implementor

Leader: Ministry of Social Security

Others: Central Informatics Bureau, National Computer Board

Completion

By March 2001

Programme 3 : Development of Flagship Application

Description

This project would effectively tap the benefits of a reliable identification infrastructure. The first flagship application would be a pension payment system (via smart cards) and involves the acquisition of the relevant hardware, software, networking equipment and training.

Implementor

Leader: Ministry of Social Security

Others: Central Informatics Bureau, National Computer Board



Completion
By March 2000

Working Team Report on National IT Strategy Plan (Phase II)