

**INFORMATION TECHNOLOGY DIAGNOSIS**  
**of the**  
**JAMAICAN NATIONAL INSURANCE SCHEME**  
**(NIS)**

Final Report

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## Overview

The objective of this individual consultancy is to diagnose the state of the IT systems of the NIS and to propose possible improvements [5]. A specific issue would be to evaluate the possibility of building a management information system that:

- Registers and assigns unique numbers to NIS contributors
- Registers and assigns unique numbers to employers/companies
- Accesses/receives and stores payment/contributions data from external agencies
- Processes claims and calculates benefits based on plan rules
- Stores beneficiary information
- Generates benefit payments in the defined payment method(s)
- Generates management reports for compliance, benefit and payment functions

As a part of the activities to report the current state of the IT systems of the NIS, this intermediary document reports on,

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- the current state of the different systems in place today including,
    - what they are
    - who has access
    - their governance
    - what programming language was used in their development
    - what database they use
    - where they are deployed
    - operating systems
    - hardware specifications
  
  - an overview of the IT systems used by other government agencies, with which communication will be important.
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## **Acknowledgments**

The members of staff of the NIS were all very helpful and responsive. They readily provided information when requested and granted me the opportunity to sit and discuss matters related to this project with them.

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# Introduction

## 1.1 About the NIS

The National Insurance Scheme (NIS) is a compulsory, contributory, funded social security scheme covering all employed persons in Jamaica [8]. It is administered under the National Insurance Act of Jamaica [4], which was enacted in 1966.

The NIS, a part of the Social Security Division within the Ministry of Labour and Social Security (MLSS), has its head office located at 14 National Heroes Circle in Kingston, with other offices distributed across the island. There is at least one office in every parish with Jamaica administratively divided into fourteen (14) parishes.

The head office is to the south of the politicised, sometimes violent, inner-



Figure 1.1: The inner-city community of Allman Town

city community of Allman Town (see Fig.1.1), portions of which, form the geographical border for the parish of Kingston.

The Scheme offers some financial protection against the loss of income arising from injury on the job, sickness, retirement (based on total career earnings) and/or death. It is complemented by two types of schemes: those for public workers and those for public and private workers, called occupational schemes.

## 1.2 Background and Motivation of the Consultancy

One of the main challenges of strengthening the NIS' role as an effective universal safety net stems from the limitations of its information technology (IT) systems. The hardware and software are outdated, making the system very inefficient [5].

Furthermore, there is a lack of a unified system that could allow the different Government agencies to build a comprehensive database and verify the status of the beneficiaries of the NIS and their participation in other programmes.

The MLSS has expressed their interest in improving the IT systems of the NIS in order to enhance and strengthen the Scheme [5].

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## 1.3 The Approach to Conducting the Diagnosis

A system is a set of things working together as parts of a mechanism or an interconnecting network; a complex whole. IT systems are no different from any other in this respect. They are composed of myriad devices, means of communication, processes and people. These elements were all considered in this diagnosis.

Interviews were conducted with various members of the NIS staff, along with site visits at the head office and others including a parish office. A few pensioners were also interviewed to gauge their experiences. Relevant information captured during interviews has been included.

Documentation was acquired from a number of sources. When practical, these sources have been either included as an appendix or referred to in the bibliography. Photographs were also included to support the description of the processes and resources utilised in managing the Scheme. This information is the basis upon which this document's content was created.

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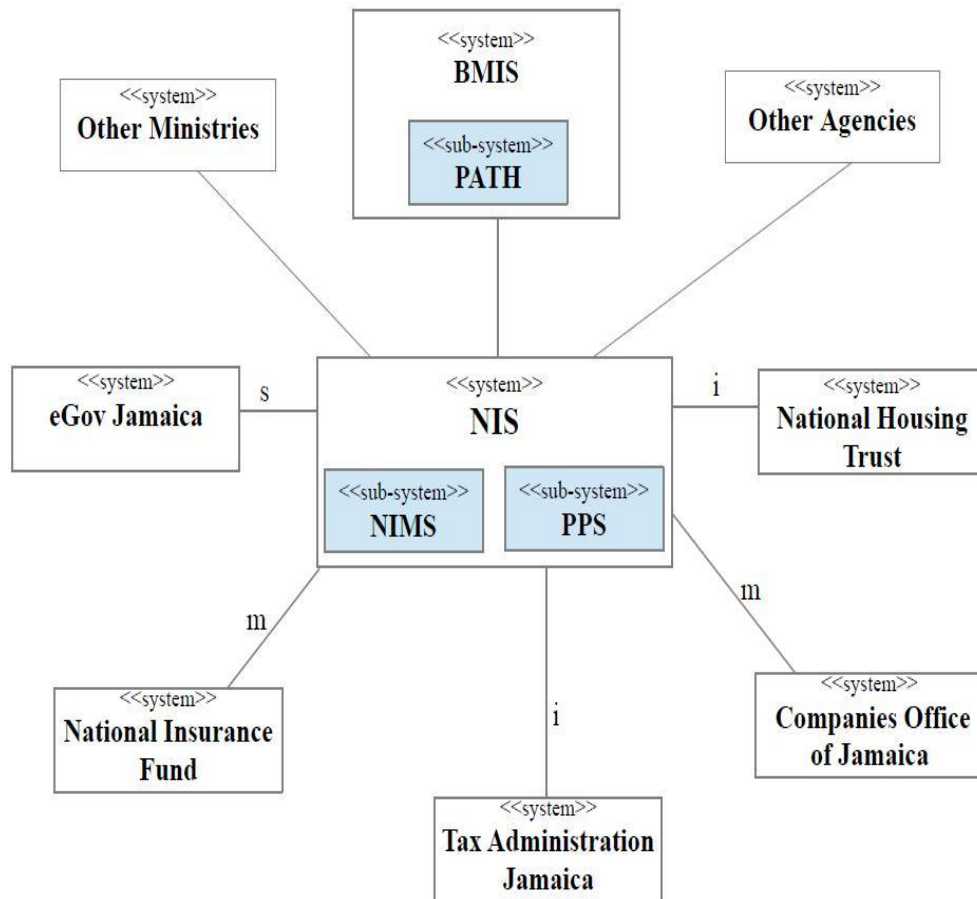


Figure 1.2: The NIS and its Operating Environment

## 1.4 The NIS and its Operating Environment

Figure 1.2 depicts the NIS and the primary organisations that it interacts with. Interaction, that is, the exchange of data and information, in this context does not suggest or imply automated electronic exchange. In fact, as



will be presented in later sections, the majority of interactions between the NIS IT system and others are manual.

At present and as shown in Figure 1.2, interaction occurs by either receiving data from and/or sharing information with, the organisations manually(m), via a semi-automated process(s) or indirectly (i) using an intermediary organisation. Figure 1.2 also refers to “other” groups of organisations the NIS envisions it will interact with in the future.

There are two (2) main programmes under which benefits are administered. They are the NIS and the Programme of Advancement Through Health and Education (PATH). These two programmes are in turn managed with the aid of the following IT systems:

- National Insurance Management System (NIMS)
- Beneficiaries Management Information System (BMIS)
- Pension Payment System(PPS)

The NIMS and PPS are in fact 2 subsystems/components of the NIS suite, with the PPS having pre-dated the NIMS and was the only electronic system in use before NIMS. The PPS was locally developed and although outdated, is still maintained by the Ministry. Pensioners are still paid using the PPS.

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The MLSS implemented NIMS in 1998. Data was originally entered into NIMS manually i.e. there was no data conversion from PPS to NIMS. The management of the PATH system was migrated to the BMIS system. The the NIMS and PPS are the two primary applications used by the NIS.

No ministry, government agency or other organisation electronically interfaces with the NIS for the purpose of the exchange of data. However, data is indirectly exchanged with:

1. eGov Jamaica Limited (eGov)
2. Tax Administration Jamaica (TAJ)
3. National Housing Trust (NHT)
4. Companies Office of Jamaica (COJ)
5. National Insurance Fund (NIF)

and is likely, at some point in the future, to be exchanged directly with,

- i. Ministry of Finance and Planning (MoF)
  - ii. Registrar General's Department (RGD)
  - iii. National Identification System (NIDS)
-

Items (i) through (iii) above are the “other” ministries and “other” agencies depicted in Fig. 1.2. The NIS’ IT systems, in addition to its present and (possible) future interaction with the aforementioned organisations will be discussed in greater detail in the sections that follow.

# IT Systems of the NIS

## 2.1 Operating Platforms

The staff at the NIS' head office manages a mix of hardware and software platforms. The NIMS operating platform consists of the following,

- Terminal emulation using OpenVMS:

OpenVMS (Open Virtual Memory System), previously known as VAX-11/VMS, VAX/VMS or (informally) VMS, is a proprietary computer server operating system that runs on VAX, Alpha and Itanium-based families of computers. It was initially released in 1977 with its latest stable release, OpenVMS 8.4 being made available on June 2010. It has a wide range of programming languages available including Python and Java [11]. Version 7.3-1 Cluster is in use at the MLSS.

- IBM Cognos:

This is IBM's line of business intelligence (BI) and performance management (PM) products. It is a web-based, integrated suite of applications [11]. At the NIS, Cognos is only responsible for the client access licences for Powerhouse.

- Powerhouse:

Powerhouse is a byte-compiled, 4th generation, programming language. Although Powerhouse is still available and continues to receive occasional minor functional and platform conformance updates, by 1999 Cognos had all but ceased major development of it on mid-range computers [11]. The MLSS is using version 7.1.

The BMIS platform is comprised of,

- C#, Windows, IIS, ODBC:

C# was developed by Microsoft and is intended to be a simple, modern, general-purpose, object-oriented programming language [11]. Internet Information Services (IIS) was also developed by Microsoft and is their primary web server. Its latest stable release, version 8.5 was made available on September 2013. ODBC (Open Database Connectivity), also

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developed by Microsoft, is a standard programming language middle-ware application programming interface (API) for accessing database management systems (DBMS) [11]. The MLSS has all required licences from Microsoft.

- IBM Informix 11.2 running on Redhat Linux:

Informix is IBM's proprietary, cross-platform, relational database management system. Its latest stable release was made available on October 2013. Red Hat Linux, assembled by the company Red Hat, was a popular Linux based operating system until its discontinuation in 2004. It was succeeded by Red Hat Enterprise Linux [11]. Redhat Enterprise version 4 is used at the MLSS.

These components are run in a cluster on an Alpha AL4100 server and ES45 server, both of which are shown in Fig. 2.1. These hardware and software systems are used to administer approximately over 100,000 NIS beneficiaries.

The NIMS software running on top this hardware platform was developed by Systems Caribbean Limited (SCL), a Barbadian company. There was no service level agreement (SLA) seen that exists between SCL and the NIS' administration. Although reported to exist, no SLA was seen that exists between IBM and the administration for Cognos and Powerhouse.

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Figure 2.1: NIS Servers

The hardware however, is supported by the SLA with HP which is described below,

Hardware Maintenance Onsite Support:

Hardware problem diagnosis, on-site support with parts and material provided,

- 4hr on-site response, 24hrs standard office days
- 24hr response for both non-standard days
- holidays are included



Figure 2.2: Server room entry with keypad

The other SLAs that were obtained are included as Appendix A.

Access to these servers and the cable distribution points is controlled via a door, through which entry and exit is restricted via an electronic keypad (Fig. 2.2). The server room itself has its temperature controlled by two (2), twenty-four (24) BTU, split, air conditioning units, and has carbon dioxide (CO<sub>2</sub>) extinguishers only.

The backbone of the system is provided by a configuration that supports a local area network (LAN), wide area network (WAN) and remote, single user connections. The MIS Unit's staff connect directly to the system through

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the LAN. The LAN services are provided using: a mix of switches, including those manufactured by Cisco, 3COM and NEWLink; CAT5e cabling, including a primary 1GB vein which runs between the building's floors; 100MB end points which are fed from the 1GB vein.

Power redundancy is provided by a generator and a 24KVA UPS located in the basement of the building and provides support to all desktop computers in the building, in addition to an 18KVA UPS located on the 3rd floor (Fig. 2.3) which supports the data center.

The 24 KVA UPS located in the basement is at the time of this report however, inoperable. Further, a manual transfer switch is used to toggle between power supplied through the mains and these backup sources. An SLA exists between the UPS' vendor, Cable Pro Data Services, and the NIS' administration.

The WAN is facilitated by a Business virtual private network (VPN) service and Metronet service consisting of ADSL, Routers and Fiber Optic/Cat 5e cabling (Fig. 2.4). These services are provided by local telecommunications company LIME (formerly Cable and Wireless Jamaica). An SLA is in place between LIME and the NIS administration (see appendix A), with similar agreed response times as the SLA between the NIS and HP.

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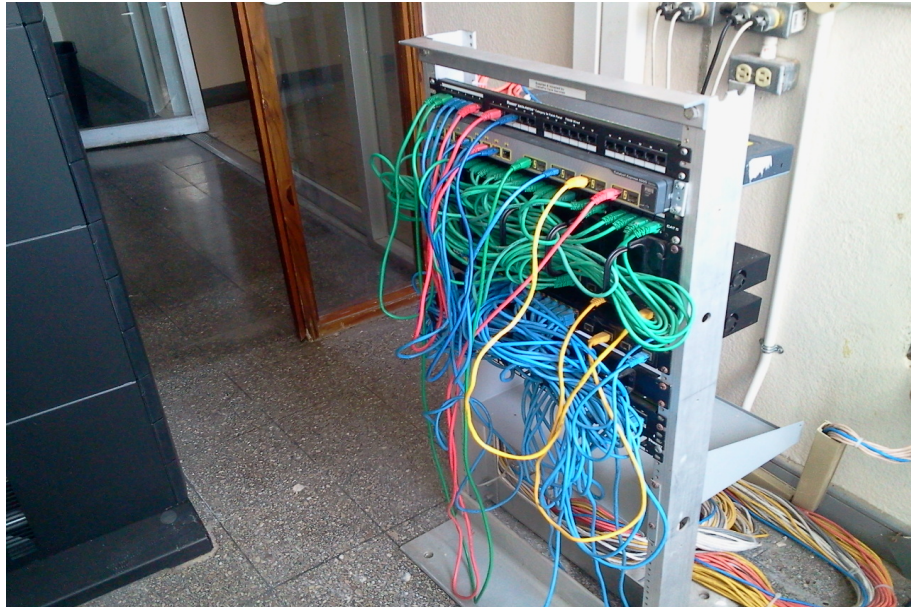


Figure 2.3: 3rd Floor cable distribution and 18KVA UPS



Figure 2.4: Fibre termination point and CAT5e cable distribution

Users can connect to these networks in a variety of ways. Those who are granted permission to access the IT system, and how they connect to the NIS are as follows:

- Head Office staff : direct connection via LAN
  - Parish Offices : connect through a combination of the Business VPN and Metronet service. The Business VPN that is used is Microsoft's Threat Management Gateway
  - Remote service providers or staff: can connect via either dial-up or the Business VPN
-

## 2.2 NIS Staff - Functions and Resources

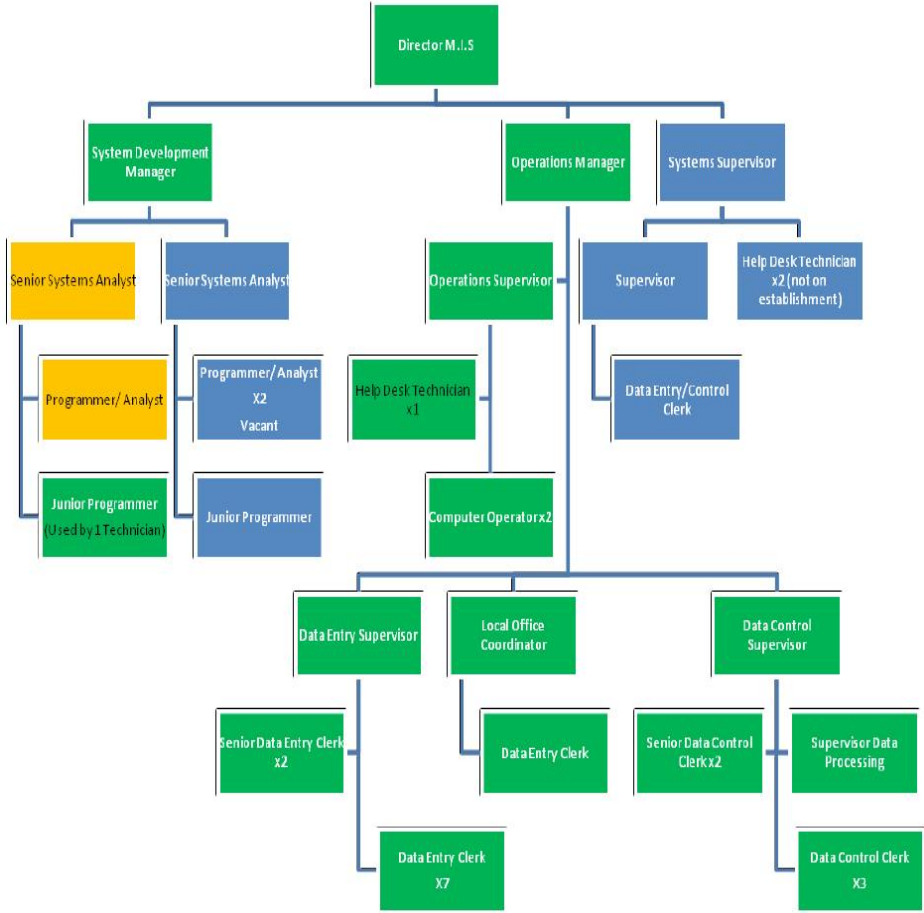
All equipment is serviced and maintained by the MIS unit with additional support provided by associated service providers through the SLAs, where available. The MIS unit is organised as depicted in Fig. 2.5,

As the chart illustrates, there are only two(2) members of the Unit that are dedicated to the NIS. Duties associated with the majority of other schemes and programmes are shared among the other members of staff within the Unit.

Positions within Ministries of the Government of Jamaica are strictly defined, and the creation of any position must follow a stringent, often lengthy approval process. Additional responsibilities to existing job functions are often included to address particular needs, when such needs are not defined in any existing roles. It is for this reason for example, that on the organisation chart the Junior Programmer is identified as being “used by 1 technician” as the post of technician is “not on establishment” i.e. has not been formally created.

The MIS Unit is also responsible for the other systems listed in Table 2.1, and its members are required to perform other duties. These other duties

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**Key**  
Work exclusively N.I.S   
Work with N.I.S and other programmes   
Work on other programmes

Figure 2.5: Organisation Chart for the MIS Unit

SYSTEM	DESCRIPTION
Sage Accpac	NIS and PATH Accounting System
Poor Relief System	Beneficiary Management
Beneficiary Reconciliation System (BRS)	PATH's Bank Reconciliation System
Overseas Employment System	Overseas Workers Savings Information System
Work Permit System	Work Permit Management System
Employment and Labour Market System	Web-based Information System

Table 2.1: Other MIS Unit Systems

include, but are not limited to, the troubleshooting of problems and servicing of,

- two hundred and sixty six (266) desktop, personal computers across the island. These machines run one of Windows XP (101), Windows Vista (22) or Windows 7 (143) operating systems
- at least thirteen(13) printers. Each parish office has at least one(1) HP laser printer. These printers are on average nine(9) years old.

- power and cabling systems

PARISH OFFICE	NO. OF DESKTOPS	PARISH OFFICE	NO. OF DESKTOPS
Clarendon	6	St. Catherine	9
Hanover	5	St. Elizabeth	8
Head Office	138	St. James	9
Kgn. & St.A	43	St. Mary	7
Manchester	6	St. Thomas	6
Portland	8	Trelawny	7
St. Ann	7	Westmoreland	7

Table 2.2: Distribution of desktops

Table 2.2 provides details of the number of desktop machines located at each parish office. Malfunctioning devices that are not located at the head office are usually sent to the head office for repairs and are then redeployed after they have been repaired. A typical parish office is supplied with a UPS, network switches, router, desktop personal computers and a printer. Figs. 2.6 and 2.7 show the St. Ann's Bay Parish Office's network equipment.

System backups are performed on a daily and weekly basis with all being full system backups. All databases for the various systems (see Table 2.1)

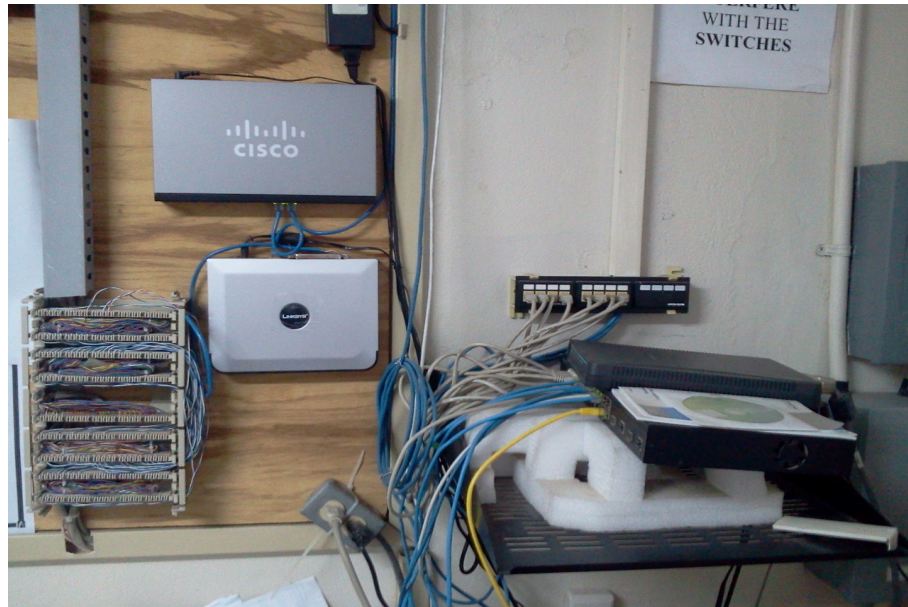


Figure 2.6: St. Ann's Bay's WAN connections

are backed up daily. The NIS systems are backed up on DDS 150 data tapes. The backups complete within approximately eight (8) to ten (10) hours.

The Sage Accpac accounting system is backed up to a network share using software scripts. These backups are stored at the Labour Division's head office in Kingston at 1F North Street.

A disaster recovery plan was reported to exist but was not seen. This plan was also reported to be in need of revision. There is also an IT Policy of the MLSS which guides the operations of the MIS Unit and is included in this document as appendix B.

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Figure 2.7: St. Ann's Bay's UPS

# Procedures and Processes

## 3.1 An Overview of the use of NIMS

The UML use case diagram of Figure 3.1 depicts the way NIMS has been used to support the processes and procedures of the administration of the NIS. Each of the use cases is described in more detail in the sections which follow.

## 3.2 Types of Benefits

A number of benefits are administered under the NIS. These benefits are paid in the form of a pension or a grant, and on either a long or short term basis. A list of the available benefits follows [8].

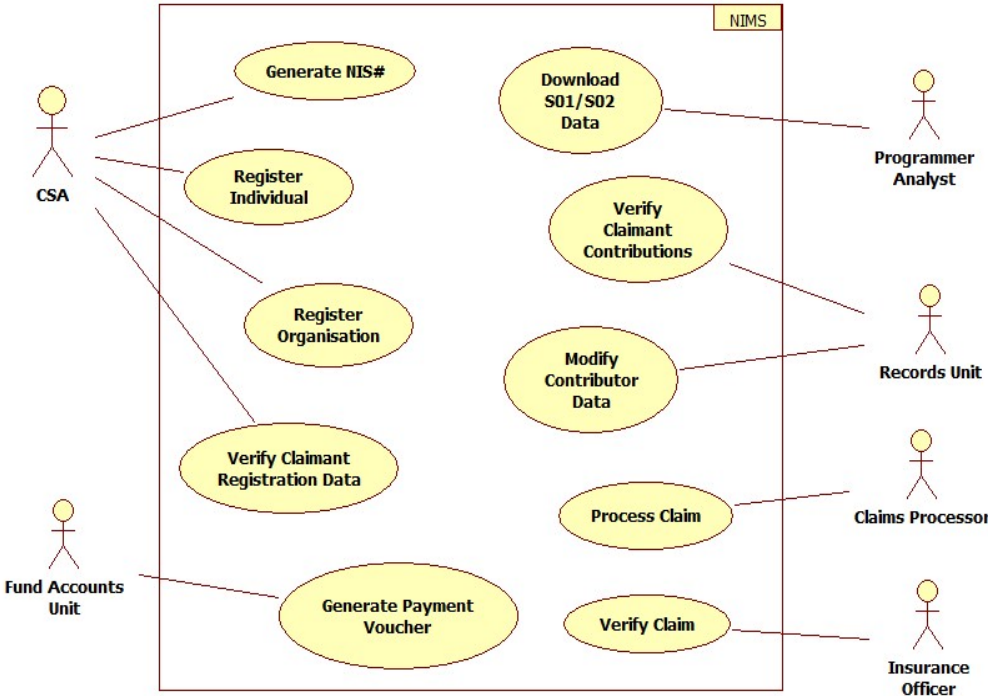


Figure 3.1: NIMS Use Cases

1. Maternity Allowance:

This benefit is payable to a domestic worker as a lump sum equal to eight (8) weeks at the existing National minimum wage

2. Special Child Benefit:

This is payable to the guardian of a child(ren) who is/are less than eighteen (18) years old, whose mother is deceased and whose father's whereabouts is unknown

3. Orphan Benefit:

This is payable to the guardian of a child(ren) who is/are less than eighteen (18) years old and whose deceased parents were either married or in an established common law relationship

4. Employment Injury Benefit:

This is payable when an employee has sustained an injury caused by accident arising out of and in the course of insurable employment or the development of any of the diseases prescribed by [4], and which can be attribute to the nature of the job

5. Employment Injury Disablement Benefit:

This is payable at the end of the employment injury period subject to

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an assessment by the Medical board of the NIS

6. Employment Injury Death Benefit:

This is payable upon the death of an employee as a result of an accident arising out of and in the course of insurable employment or the development of any of the diseases prescribed by [4], and which can be attribute to the nature of the job

7. Invalidity Benefit:

This is payable to a verified contributor to the Scheme who has been diagnosed with a permanent medical condition that renders him/her incapable of work for a period of no less than twenty-six (26) weeks

8. Retirement Pension:

Having satisfied contribution requirements, this benefit is payable for the remaining life of a pensioner

9. Spouse Allowance:

Where a pensioner is in receipt of a benefit, but whose spouse is not, nor will become eligible for one, can receive this additional sum

10. Widow's/Widower's Benefit:

This is payable to the spouse of a deceased Scheme contributor or

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pensioner

11. Funeral Grant:

This is payable upon the death of a pensioner (or spouse), contributor(or spouse) or employee whose death was as a result of injuries sustained while under insurable employment

12. Grant:

This is a one-time payment when the contribution conditions for a pension are not satisfied. Grants are payable in the following categories: retirement; widow's/widower's; special child; invalidity

13. NI Gold:

This is a health insurance plan which provides comprehensive medical coverage for all Scheme pensioners

### **3.3 Registration and Contribution Requirements**

To participate in the Scheme and thereby become eligible for a benefit, an individual must be registered. At present, there are five (5) categories of

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registrant:

1. self-employed
2. employed
3. domestic
4. unemployed
5. organisation
6. voluntary

Registration however, depends on whether a person has satisfied a set of stipulated requirements. An individual can register with the scheme once s/he is 18 years or older but can only begin contributing to the Scheme when s/he is either self employed or is employed by another individual(s) or an organisation.

If an individual is neither a citizen nor a resident of Jamaica, but will be employed within the island for at least six (6) months, then the individual must register with the NIS if there is no reciprocal social security agreement in place with the individual's country of citizenship. Otherwise, no contribution is necessary.

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Employers/organisations are required to register with the scheme.

A person can be registered as a voluntary contributor, but can only contribute if s/he was previously employed under one of the aforelisted categories. When one's status changes to voluntarily employed, one must apply to have one's status changed on the system. Such an application requires the approval of the Permanent Secretary.

### **3.4 Registration**

Both employers and their employees are required to register under the NIS. The process of registration for each is described below.

#### **INDIVIDUALS:**

A person registers under the Scheme by taking proof of age, i.e. a valid birth certificate or passport, to a Parish Office along with a completed application form (form R2, see Appendix C). A person can either independently complete the R2 form or can be assisted by a customer service representative. In the latter scenario, the person sits with a customer service representative at the office where the pair manually completes the R2 form. *All* applications, whether for registration or receipt of a benefit, independently or with

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assistance, are manually completed. Samples of the registration forms are included in appendix C. The applicant's document of proof of age is only inspected for NIS number applications. Photocopies of these documents are made and kept for benefit claims applications only.

Upon entry of the registration data by the parish officer, an NIS number is generated. This number is created using the following inputs:

- parish
- year of birth
- gender
- category of worker
- a sequence number

An example of an NIS number would be K542035. Initially, the NIS number was manually created. Although now system generated, duplicate NIS numbers have been discovered in the system. The NIS number is printed on a standard NIS card template (a slip of paper) along with the registrant's name. This piece of paper is then laminated by the officer to create an NIS card. This card is then presented to the registrant and the process ends. Figure 3.2 is a sample of an issued NIS card, with the NIS number removed.

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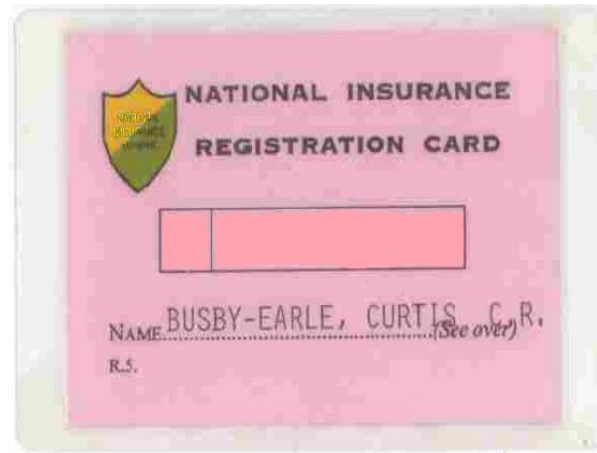


Figure 3.2: Sample NIS Card

If the registrant is self-employed, or a domestic worker in a private household, s/he is also given a stamp card (voluntary contributors are also issued stamp cards). This is used for making contributions to the Scheme. Specially issued stamps are purchased at any post office and are affixed to the card, one stamp per week. At the end of each financial year (April of one year to March of the following year) stamp cards are surrendered. For offences and penalties related to the illegal use or practices involving stamp cards, see [4].

Registrants not domiciled in Jamaica can access application forms online, complete and send them via postal service, along with certified copies of a birth certificate or passport. Copies of these documents are stored at the parish office. At the head office, copies of similar documents and those

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Figure 3.3: Boxes of stored data

associated with the processing of benefit claims are physically stored. As there still exists data from previous decades, retrieval of some of this data is facilitated with the use of physical index cards. Figures 3.3 and 3.4 show the storage of this data. There are no immediate plans to digitise the data contained in these boxes. The boxes are used as temporary storage until new filing equipment has been installed.

#### ORGANISATIONS:

To register an organisation with the Scheme an employer's representative must also submit application forms, along with the organisation's articles of

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Figure 3.4: Index cards to beneficiaries data

association and letter of registration from the Companies Office of Jamaica to a Parish Office.

At the Parish Office an application form is completed with the assistance of a parish officer as is done with an individual, if the organisation's representative so wishes. When the application form has been completed an NIS number is generated from the system, and the organisation's representative then receives a letter indicating the NIS number that has been assigned to the company.

This NIS number is however, based upon International Standard Indus-

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trial Classification Codes which classify data according to economic activity in the fields of production, employment, gross domestic product and other statistical areas. Appendix E lists the classifications used by the MLSS.

### **3.5 Contributing to the Scheme**

To begin contributing to the Scheme an individual presents his/her NIS card to his/her employer when initially employed. A total of 2.5% of the individual's gross salary, up to the maximum insurable wage ceiling (as defined by the NIS) is deducted by the employer. If self-employed or employed as a domestic worker, a minimum contribution of J\$100.00 per week can be made.

The organisation to which the individual is employed, makes contributions on the employees' behalf. The contributions amount to 5% of the employee's gross salary: the 2.5% deducted from the employee matched by another 2.5% from the employer. 1% of the total contribution is however, submitted to the National Health Fund.

If self-employed or a domestic worker, as previously stated, the individual uses the stamp card to contribute to the Scheme. All contributions are collected at a TAJ office. Employers use S01 and S02 forms to submit statutory

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deductions.

S01 forms are used to submit monthly statutory remittance payroll deductions. S01 contains aggregate data only. S02 forms are used to submit an employer's annual returns. It provides detailed information on all employee payroll deductions for all statutory deductions i.e. NIS, NHT, Education Tax and Income Tax.

Upon receipt of these forms, the TAJ uploads data on contributions to eGov, and eGov then sends the data to the NIS. If received by the NHT, this organisation first batches the period's (day, week etc) contributions and then sends the physical files to Xsomo (providers of print and digital technology services in information management) which digitises the data. Xsomo then returns the digitised data file to NHT (for verification) who then sends the digitised file to eGov. eGov then sends the formatted file to the NIS. The activity diagram in Figure 3.5 depicts these processes.

As a consequence of the manner in which data is supplied to the NIS, an individual's contributions can only be reconciled (and thereby compliance verified) and updated annually, while a company's records are updated monthly. Reconciliation is manually completed. By law, an individual is not required to ensure compliance i.e. whether contributions are being made,

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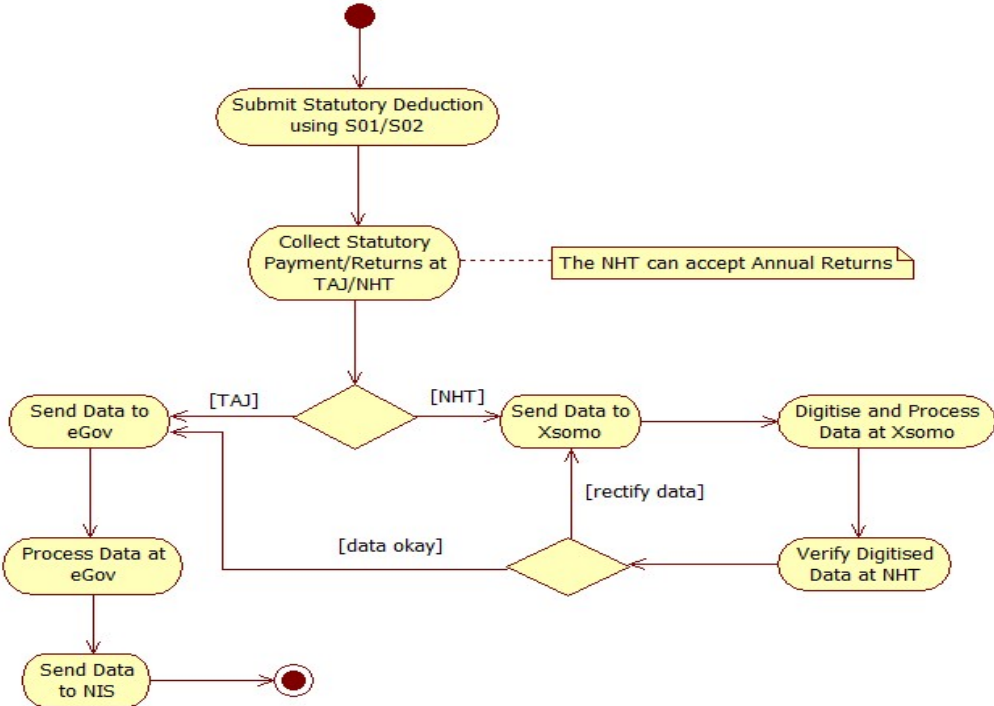


Figure 3.5: Process of receiving data on contributions

unless the individual is self-employed. Responsibility lies with the employer.

Contributions that are paid to the NIS are invested by the National Insurance Fund in real estate, money market instruments and equity markets [8].

### **3.6 Claiming for a Benefit**

To make a claim for a benefit (pension, grant or allowance), an individual visits a Parish Office and completes a form. Upon receipt of the form a parish officer manually verifies the eligibility of the individual to receive the benefit i.e. paper-based files are investigated to verify the individual's contributions over his/her years of employment. If successfully verified, a voucher is printed (see figures. 3.6 and 3.7). To collect a voucher, an individual's identity must be verified. He/she must therefore present a birth certificate or passport.

For pensions, payments are made in cycles and the process of claiming for a pension is as follows:

- an application is physically made using a form at a parish office
  - the parish officer verifies the data captured on form
  - the parish officer passes the completed and verified form to the NIS'
-





Figure 3.6: NIS voucher printing



Figure 3.7: PATH printers

Records Unit. This unit is responsible for verifying contributions. Members of the unit can modify data of employers, and individuals. This is a critical unit by virtue of what its members can do on the system

- the Records Unit passes the application documents to the Claims Unit, in particular, to a Claims Processor. Upon completing their task, the Claims processors pass the claims to Insurance Officers, who are also members of the Claims Unit, to verify the claims. They, inter alia, verify what is to be paid, taking into consideration any applicable laws
- the insurance officer passes the application documents to the Fund Accounts Unit. This unit produces the vouchers to be printed and disburses the funds

When the processing of the application has been completed the pension payments are generated by the production of a pension book. These pension books, include life certificates at the back that must be completed by the pensioner before another book can be printed. This requirement is however, only practically enforced for overseas pensioners.

All vouchers must be encashed at a post office or a branch of the Na-

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tional Commercial Bank Jamaica Limited (NCB). The location at which the voucher must be encashed is printed on the voucher. It should be noted that funds related to pension payments are sent to the Central Sorting Office of the Postal Corporation of Jamaica, which then disburses funds to the post offices based on books that have been printed for collection at the respective offices.

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# External Organisations - Data Exchange

## 4.1 Ministry of Finance and Planning

The MoF is preparing to establish a comprehensive automated pension system to, among other services, capture data on civil servants. This system is supposed to be utilized across the various ministries and other government entities. The data that will be collected for civil servants is similar to the data used by the NIS.

## 4.2 National Housing Trust

Employers annual returns are either submitted online on the TAJ portal or in hard copy using the employers annual return form (S02). The completed forms can be submitted at either a TAJ or an NHT office. The process is described in the previous section (see page 33).

## 4.3 Tax Administration Jamaica

The TAJ collects NIS payments at any of its collectorates (TAJ office) islandwide. The TAJ uses the Integrated Computerized Tax Administration System (ICTAS) to manage NIS and other statutory payments. Data on NIS payments is uploaded each night to the web portal hosted by FSL. The data is then downloaded from the site on the following day and uploaded to a web-based system (NIS Payments) designed by the MIS. TRNs are integral to the TAJ's processes.

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## **4.4 Registrar General's Department**

In 2003, the RGD implemented the Application Tracking System which is used internally by members of staff to facilitate the tracking of customers' applications: from submission through to production and delivery. The RGD also implemented an online query system which provides RGD customers with an ability to track the status of their application via RGD's website and an online payment option.

NIS relies on proof of birth for the registration of contributors and to determine eligibility for benefits as described on page 27. The NIS however, also needs accurate and timely information from the RGD when a contributor and/or beneficiary dies. For example, information on the death of a beneficiary is needed so that any payments that were being made are terminated. This exchange of data is still however, manually performed.

## **4.5 Office of the Registrar of Companies**

The COJ is destined to be made the centre for the registration of all companies and business names in Jamaica. Registration data will also be captured

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and used to generate the NIS numbers for these organisations. A system is under development that will be used to capture the COJ data, generate the NIS number and make this data available to the other government entities.

## **4.6 National Identification System**

The Government of Jamaica is designing and developing a National Identification System (NIDS), that will provide a comprehensive and secure structure to enable the capture and storage of personal identity information for citizens and persons ordinarily resident in Jamaica. The NIDS will become the primary source for identity assurance and verification. NIDS is an ongoing project whose aim is to create and issue a unique National Registration Number. It is uncertain to which government organisation responsibility for the management of this system will be assigned.

## **4.7 National Insurance Fund**

The National Insurance Fund (NIF) was formed pursuant to Section 39 of the National Insurance Act [4]. The NIF is funded by national insurance contributions and is the source from which pensions and other benefits under

---

the NIS are paid [7]. There is no exchange of data between the NIF and NIS.

The NIF directly accesses the funds of the NIS from its bank and invests these funds in money market instruments, equities and real estate [7]. When funds are needed by the NIS a letter is sent to the NIF requesting same, and the funds are deposited directly to the NIS' bank account.

At present, the NIF uses Microsoft Excel and ACCPAC accounting software to manage its investment portfolio. They are however in the process of identifying an IT system for the management of its portfolio and related tasks.

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# Possible Improvements

## 5.1 Observations and Deductions

Earlier on page 4, an IT system was described as being composed of myriad devices, means of communication, processes and people. In reporting the current state of the IT systems of the NIS each of these components was described, as they relate to the stated system. For example servers, Business VPN and CAT5e connections, registration of individuals and employers, and parish officers and other members of staff respectively.

Based on the information contained within this document, the IT systems of the NIS are best described as a collection of procedures that are heavily reliant on predominantly manual processes although there are steps involved in these processes that have rudimentary software support. For example, when

registering with the Scheme, from inception through to completion every stage involves a manual process (see page 29): completion of an application form; inspection of documents; creation of an NIS card.

Furthermore, the platforms upon which the electronic systems are built are obsolete. The NIMS software is built on Powerhouse, a programming language which no longer receives any major improvements (see page 10). This is of particular concern as coupled with the language's obsolescence, the NIS administration does not own the source code for NIMS and there was no SLA in place.

Without source code ownership, overseas developers, no SLA, an obsolete language, and no skilled, local support for either the software operating environment or the hardware platforms, the NIS does *not* have a IT system that can adequately support its procedures and associated processes.

The combined effect of the aforementioned includes, but is not limited to, the following. The NIS is unable to,

1. rapidly respond to changes in its environment
  2. efficiently and autonomously respond to errors or bugs within its system
  3. take advantage of new technology, even what may be available on its
-

existing hardware platforms. For example, it may not be possible to incorporate new hardware technology as the software may not be able to correctly detect and properly utilise it.

4. enhance or tailor its system to satisfy its own requirements
5. enhance its decision support capabilities
6. meet its strategic objectives that are dependant on its IT systems

Many examples already exist of the effect on the NIS. Data exchange between the NIMS and BMIS systems occurs manually. Each system has its own identifier for registrants and because of the lack of integration between the systems, it is difficult to verify if an individual exists on both systems. This is a key requirement as people should not benefit from both the PATH and pension programmes, but this does indeed occur [2].

The Jamaican Taxpayer Registration Number (TRN) is a unique, nine-digit identification number assigned to each individual taxpayer, business enterprise, organization (non-profit, partnership, charity, etc.) by way of an automated system [10]. It is needed to transact business with other institutions e.g. banks, schools, and examination boards, and must be used when conducting business transactions with Tax Departments or Govern-

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ment Agencies. TRNs are already included in the data that is received from the TAJ and NHT but are not used as such an identifier on the systems of, or related to, the NIS. Although the TRN has been described as unique, there are documented cases of duplicate TRNs and other related concerns [1].

Another possible unique identifier is the proposed Jamaican National Identification Number (NIN), a number that is intended to be a unique life-long identifier to every person. The NIN is to be a part of the the NIDS (discussed in the previous section) which is being designed as a unique, reliable and secure way of verifying an individual's identity in Jamaica [9]. As the NIN will become the primary source for identity assurance and verification in Jamaica, it is the recommended source of identification for use in any system to be adopted by the NIS.

There are many examples of the NIS' inability to efficiently and autonomously enhance its system to satisfy its own requirements or to correct bugs, and they include:

- there is no way to generate lists of individuals with whom a reciprocal agreement is in place with the individual's country of citizenship
  - there is a need to be able to generate a count of the number of valid contributors to the scheme
-

- at present, the system does not enforce the minimum age requirement for registration
- if the limit of what one contributes is exceeded, the system does not identify or prevent entry or acceptance of the overpaid amount. This can happen when returns are being reconciled
- if there are errors in the NIS number, for example a missing digit or two, contributions, although received and processed, may not be properly assigned to the contributor
- if a file is electronically forwarded from one member of staff to another, the system marks the file as such. The recipient can however, completely delete this record of the file being forwarded. This suggests the system's audit functions contains serious bugs or omissions in functionality

Furthermore, there is no electronic help desk system in place to log issues associated with the NIMS and only a few issues can be addressed by the MIS Unit.

When a system related problem arises, it is directly communicated to the Senior Systems Analyst or System Development Manager (see Fig. 2.5

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on page 17) of the MIS Unit. Reported problems are then investigated to determine whether they can be resolved internally by a member of the MIS Unit. If they cannot be solved internally, they are documented and sent to SCL.

SCL assesses them, estimates the cost of problem rectification and forwards the estimate as a proforma invoice to the Ministry. If the proforma invoice is approved for payment, SCL is then granted the permission to fix the problems. Most services provided to the NIS are paid for using funds held by the NIF with approval for payment of such services being made by the Ministry's Permanent Secretary.

Although the MIS Unit has all but ceased making requests to SCL for fixes and enhancements, and in the absence of a study of the details of these requests over the years in which the system has been in operation, the nature and complexity of a fix or enhancement can be correlated with the duration required to address the fix or enhancement. Small fixes therefore typically took between one to two weeks to be applied, whereas major changes typically took between six to eight weeks.

Decision support is woefully lacking. An examination of the list in Appendix D of some of the reports that are needed by the NIS administration

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will reveal that many required pieces of information are unavailable. Examples of information that are required but are not obtained from the system include reports on delinquent employers, contributors categorised by income and age, and the number of applications processed over a specified period of time.

Security is another major concern. Telnet is a network protocol used on many networks including the Internet and local area networks to provide a bidirectional interactive text-oriented communication facility using a virtual terminal connection. However, because of serious security issues when using Telnet over an open network, its use is strongly discouraged. The NIS uses Telnet to provide communication in to its systems.

The extensive incorporation of manual processes permits numerous avenues for erroneous data to be entered on the system or for fraudulent activity. It is unlikely that such errors will be noticed until many years into the future.

A simple, yet common example are errors in transcribing dates of birth of contributors. Such an error may not be noticed until the contributor is eligible for a pension, but due to the error in recording the date of birth, the contributor's eligibility is invalidated. Proving otherwise, at present, is

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another task that is performed manually. Duplicate NIS numbers, although mainly a product of the manual system that pre-dated NIMS, still exist. Other examples of manual processes which are avenues for the capture of incorrect data and security breaches include:

- completion of forms
- reconciliation of returns
- employers inadvertently leaving employees names off returns when filed
- many of the processes involved in completing a claim for a benefit or grant

while more serious examples of the effect of the many manual processes include:

1. contributions can be illegitimately entered into the system i.e. contributions can be entered when none were made
  2. when a member of staff is reassigned to another unit, the MIS Unit is not always informed and therefore if required, assigned permissions are not changed
-



3. voucher booklets have gone missing and have subsequently been encashed. The encashment of the missing vouchers typically occurs at a post office. It is difficult to place a stop order on a voucher that is to be encashed at a post office primarily due to the time taken for the order to be received by the post office
4. if, for example, an individual is in receipt of an invalidity benefit, that individual is deemed unable to work. Subsequently, if the person resumes work while still receiving the benefit and resumes contributing to the Scheme, the system is unable to recognise this. The system, therefore is either unable to or does not check those in receipt of benefits or pensions with those who are contributing

In NIMS, permissions are governed by roles (see Table 5.1). Unfortunately, there is no information or documentation available on the permissions assigned to the roles. When contacted by the MIS Unit, SCL confirmed that roles and permissions are in fact, embedded in the application's code. System roles therefore cannot be tailored to NIS roles. The MIS Unit must select the "best fit" from among those that are available.

Improvements in the combination of software systems with manual efforts can also result in improvements the IT systems. Fraudulent documents have

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ACCOUNTS_OP	COMPUTER_OP	PHONE_USER
ACCOUNTS_SUP	COMPUTER_SUP	PISR_OP
AUDIT_OP	CONTRIBUTION_OP	RECORDS_OP
BENEFITS_OP	CONTRIBUTION_SUP	RECORDS_SUP
BENEFITS_SUP	CONTRIB_OP	REGN_DETAILS
CASHIER_OP	CONTRIB_SUP	SAFETY-NET
CASHIER_SUP	DATAENTRY_OP	SCL
CLAIMS_LOGGER	DATAENTRY_SUP	SECURITY_SUP
CLAIMS_OP	DIRECTOR_OP	STATISTICS_OP
CLAIMS_PROCESSOR	INVESTMENT_OP	STATS_SUP
CLAIMS_TRACKER	MAIL_USER	UNKNOWN
COMPLIANCE_OP	MANAGER_RMIS	APPLICATION-MANAGER
COMPLIANCE_SUP	MEDICAL_OP	DICTIONARY-MANAGER
COMPLIANCE_SUP2	MEDICAL_SUP	DICTIONARY-USER

Table 5.1: NIMS roles

been submitted to the NIS which have resulted in the receipt of benefits when none were due. Such documents are usually only noticed if an individual knows how to detect one and confirmation of such is usually provided by the RGD. Electronically linking these two administrative units could result in tremendous improvements in procedures.

Other areas of concern include the use of the manual power transfer switch at the head office, the age of the devices (printers that are over nine years old), the offsite backup storage location, insufficient report generation capabilities, and the continued use of stamp cards and vouchers. [2] provides excellent photographs of the stockpiles of encashed vouchers and goes on to state that, “The absence of reconciliation of pension vouchers encashed at post offices opens the system to the possibility of fraud going undetected for protracted periods.”

From the perspective of the pensioners interviewed, the NIS is considered to be working well. Although the number of pensioners interviewed were statistically insignificant and therefore do not represent the vast majority, they were consulted to obtain a wider understanding of the issues involved in providing the service to them. There were a few, common points of concern among them. The:

---

1. length of time between applying for the pensions benefit and receipt of the first voucher booklet is too long. The waiting period reported ranged from five (5) months to over one (1) year
2. often long lines are encountered when encashing vouchers
3. requirement to have the life certificate certified by a Justice of the Peace or other authorized official, a special stamp affixed to the certificate and finally the submission of the certified and stamped document to an NIS office

The IT plan is, according to its description in draft, and has been under development since 2008. The policy is primarily a security policy and although it is an important component to the operations and management of the MIS Unit, it does not adequately address the following:

- organizational purpose and direction
- creative and productive thinking
- a basis upon which to measure performance

Microsoft will end support for Windows XP machines by April 2014. End of support refers to the date when Microsoft no longer provides automatic

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fixes, updates, or online technical assistance. There are one hundred and one (101) machines across the island, which constitute approximately 38% of the desktop machines, that are running Windows XP.

These machines will therefore soon need to be either replaced or upgraded followed shortly thereafter by the Windows Vista machines (22 of these in total). The Windows client operating system (OS) lifecycles are included in Table 5.2 and are taken from [6],

CLIENT OS	MAINSTREAM SUPPORT ENDS	EXTENDED SUPPORT ENDS
Windows XP	April 14, 2009	April 8, 2014
Windows Vista	April 10, 2012	April 11, 2017
Windows 7	January 13, 2015	January 14, 2020

Table 5.2: Microsoft Windows Client OS Lifecycles

During the visit at the St. Ann's Bay Parish Office, it was stated that the system response time was slow. Although the response time has never actually been timed, without a capacity plan to accommodate the natural growth of data, the system's response time, both real and perceived, will continue to degenerate.

# Recommendations

## 6.1 Recommendations for Improvement

Information technology plays a crucial role in organisations by facilitating communication, increasing efficiency in operations and thereby reducing costs and improving productivity and, improving organisational intelligence. The NIS would benefit from more computer-based automation and computer assisted process completion.

Based on the discussions in section 5.1, the NIMS of the Jamaican NIS is unsatisfactory in providing these important supporting functions in the NIS and should be replaced with a new social insurance software system (SISS). Furthermore, the new system should replace the manual processes and associated activities, in particular where these do not enhance or complement

the procedures of which they form a part. It should also incorporate new methods of disbursing funds to beneficiaries.

The following section will describe a high-level design for such a system. This design is intended to be the starting point for the development of a more comprehensive document that could be used as a request for proposal (RFP) or similar document.

It will *not*, however, make any recommendations on whether the system should be bought or built nor on what platform the system should be implemented. Those decisions should be made having considered responses from various vendors/developers, based upon the design document and associated RFP.

The IT plans and policies must be reviewed and amended while others must be created. The issue of the use of Telnet is not in violation of the existing IT policy, as item 18 on page 5 and item 7 on page 7 of the policy included in appendix B shows. However, its use should be reconsidered and should be replaced by the use of a secure shell or similar application that utilises encryption at the presentation or transportation layers of the OSI 7-layer model.

The disaster recovery and contingency plan must also be revised. A

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strategic IT plan must also be developed to address the shortcomings listed earlier on page 53.

## **6.2 A Design of a SISS**

We have seen that the provision of social insurance benefits in Jamaica involves a number of participants and objects or, actors and classes respectively in the UML jargon. Many however, can be grouped and classified in a way that lends to a better understanding of the inter-relationships between these entities.

For example, we discussed the procedure of registration, contribution and claims application and award, but to be able to contribute to the Scheme or to claim for a benefit, an individual (or some other approved individual related in some way to the claimant) must have already been registered. These have therefore been grouped or classed under the common name Registrant, but will be differentiated within the design of the SISS. The primary entities in the design of the SISS are listed below,

1. Registrant
  2. NIS Account
-



3. NIS Employee
4. Benefit
5. EMV Card
6. Bank
7. Gov't Agency

The major relationships that exist among these is depicted in the UML class diagram with associations and multiplicities in Figure 6.1. The class diagram is complemented with a set of object constraint language (OCL) statements which impose a set of basic constraints on the system. The high-level model of the SISS is completed with a set of UML use case and activity diagrams which follow the class diagram, that describe in greater detail how the primary procedures of the Scheme should be implemented in the SISS.

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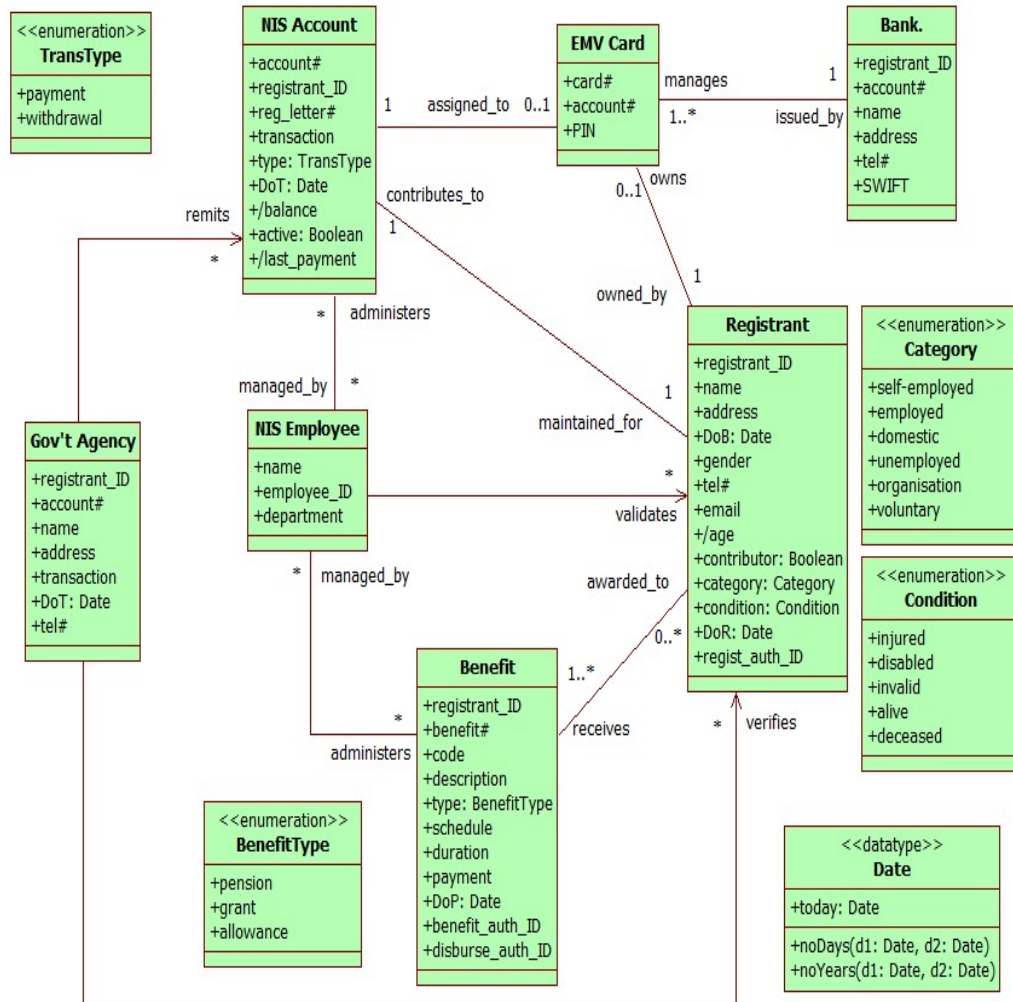


Figure 6.1: Primary relationships of the SISS

```
/* When created, a benefit's authorised by ID number is
initialised to zero */
```

```
context Benefit::benefit_auth_ID
init: 0
```

```
/* When created, a benefit's disbursed by ID number is
initialised to zero */
```

```
context Benefit::disburse_auth_ID
init: 0
```

```
/* When entered, a registrant's application authorised by ID
number is initialised to zero */
```

```
context Registrant::regist_auth_ID
init: 0
```

```
-- All registrants are initially not contributors
```

```
context Registrant::contributor
init: False
```

```
-- Set the date of registration (DoR) to today's date
```

```
context Registrant::DoR
init: today
```

```
/* By default, a registrant's condition is set to alive.
Verification will be provided by the RGD */
```

```
context Registrant::condition
init: Condition::alive
```

```
/* When created, a registrant's account does not have any EMV
card assigned. This will be changed when the bank updates the
card requisition lists it was provided by the NIS */
```

```
context NIS Account::registrant_ID
init: assigned_to.card# -> asSet() -> size() = 0
```

```
/* Initially, a registrant is not an active contributor. This
changes when the registrant begins making payments */
```

```
context NIS Account::active
init: False
```

---

```
/* An account balance for contributions is calculated by
totaling the payments (only) on the account */
context NIS Account
derive balance =
    select(type=TransType::payment).transaction->sum()

/* Withdrawals on an account can only be made if the
registrant is not an organisation and has been awarded a
benefit. N.B. Non-contributors in receipt of a benefit (e.g. a
widow) must still be registered and be assigned the benefit#
to receive an EMV card and be monitored by the system */
context NIS Account
inv withdrawal: type = TransType::withdrawal and
    maintained_for.category <> Category::organisation implies
    maintained_for.registrant_ID.receives.benefit#->asSet()->
    size() > 0

/* Determine when the most recent contribution was made. This
will be a factor in determining whether the registrant is a
contributor or an active contributor (see statements
isContributor and isActiveContributor below for distinction)
*/
context NIS Account
derive last_payment =
    select(type=TransType::payment).OrderedSet(DoT)->last()

/* A registrant becomes a contributor when a
payment(contribution) is made */
context NIS Account
inv isContributor: balance > 0 and select(type =
    TransType::payment)-> size() > 0 implies
    Registrant.contributor = True

/* A contributor is an active contributor if at least 12
monthly contributions have been made with the last being made
within the last 30 days. This constraint will be refined by
the NIS */
context NIS Account
inv isActiveContributor: active = True implies
    select(type = TransType::payment)-> size() > 12 and
    noDays(today,last_payment)<= 30

-- Calculate an individual's age
context Registrant
derive age = noYears(today,DoB)
```

---

```
-- Only companies receive registration letters
context NIS Account
inv isCompany: reg_letter# <> 0 implies
    Registrant.category= Category::organisation

/* Only individuals receive EMV cards, and may possess either
1 card or none */
context NIS Account::registrant_ID
inv totalOwned: assigned_to.card# -> asSet()-> size() <= 1 and
    maintained_for.category <> Category::organisation

-- Registrants must be at least 18 years old
context Registrant
inv minAge: category<>Category::organisation implies age >= 18

/* An individual in receipt of a pension cannot be a
recipient of an allowance */
context Registrant::registrant_ID
inv receivePension: receives.type = BenefitType::pension and
    category <> Category::organisation implies
    select(Benefit.registrant_ID = registrant_ID and
        type = BenefitType::allowance)->asSet()->size()=0

/* An individual in receipt of an allowance cannot be a
recipient of a pension */
context Registrant::registrant_ID
inv receiveAllowance: receives.type = BenefitType::allowance
    and category <> Category::organisation implies
    select(Benefit.registrant_ID = registrant_ID and
        type = BenefitType::pension)->asSet()->size()=0

/* An ID used to authorise a registrant's application must
exist in the table of NIS employee IDs */
context Registrant
inv authRegistID: regist_auth_ID <> 0 implies
    NIS Employee.employee_ID->asSet()->
    includes(regist_auth_ID)
```

---

```
/* The total number of cards in the system should match the
total number of eligible individual registrants */
```

```
context EMV Card::card#
```

```
inv assignedCards: assigned_to.registrant_ID -> asSet()->
    size() = owned_by.registrant_ID ->
    select(owned_by.category <> Category::organisation) ->
    asSet()-> size()
```

```
/* The receipt of a benefit cannot be an organisation and
must be registered in the system */
```

```
context Benefit
```

```
inv beneficiaryExists: benefit# <> 0 implies
    registrant_ID <> 0 and
    awarded_to.category <> Category::organisation and
    awarded_to.registrant_ID -> asSet() ->
    includes(Benefit.registrant_ID)
```

```
/* An ID used to authorise the award of a benefit must exist
in the table of NIS employee IDs */
```

```
context Benefit
```

```
inv authBenefitID: benefit_auth_ID <> 0 implies
    NIS Employee.employee_ID -> asSet() ->
    includes(benefit_auth_ID)
```

```
/* An ID used to authorise the disbursement of funds for a
benefit must exist in the table of NIS employee IDs */
```

```
context Benefit
```

```
inv disburseID: disburse_auth_ID <> 0 implies
    NIS Employee.employee_ID -> asSet()->
    includes(disburse_auth_ID)
```

```
/* The IDs used to authorise the award of a benefit and its
disbursement cannot be the same */
```

```
context Benefit::benefit#
```

```
inv differentID: benefit_auth_ID <> 0 and
    disburse_auth_ID <> 0 implies
    benefit_auth_ID <> disburse_auth_ID
```

```
/* Only living individuals can receive a pension. Notification
of death should be provided by the RGD */
```

```
context Benefit
```

```
inv pensionerCondition: type = BenefitType::pension implies
    awarded_to.condition <> Condition::deceased
```

---

```
/* Account numbers at any associated government agency must
match those stored on the system */
```

```
context Gov't Agency
```

```
inv accountExists: account# -> asSet() =
    NIS Account.account# -> asSet()
```

```
/* Registrant IDs at any associated government agency must
match those stored on the system */
```

```
context Gov't Agency
```

```
inv registrantExists: registrant_ID -> asSet() =
    NIS Account.registrant_ID -> asSet()
```

```
/* An individual can only be changed to a category of
voluntary if the individual was previously registered as
either self-employed or employed */
```

```
context Registrant::becomeVoluntary(registrantID)
```

```
pre: category=Category::employed or
    category=Category::self-employed
post: category=Category::voluntary
```

---

---

Continuing the previous example on the distinction between registrants and contributors, any individual or organisation is a Registrant in the SISS but not necessarily a contributor (see OCL statement `isContributor`). An individual has his/her contributor flag set to `True` in the system only when contributions are made to his/her associated NIS Account.

Generally, once contributions have begun, and having satisfied the NIS' criteria for the award of a Benefit, a Registrant can receive a pension, a grant, or an allowance. Again, certain restrictions apply, for example, a person in receipt of a pension is not eligible for receipt of an allowance such as one provided by the PATH (see OCL statement `receivePension`).

An important enhancement is the inclusion of EMV (Europay, Master and Visa) cards and commercial banks to the set of classes and procedures. EMV is a set of open specifications for integrated circuit card payment systems. EMV facilitates the interoperability between chip cards and terminals for credit and debit payment irrespective of the card issuer, terminal acquirer and card and terminal manufacturer [3].

The EMV card would replace the use of stamp cards, vouchers and cheques and can be managed in one of two ways. Either a commercial bank manages the cards i.e. printing, embossing, distribution and other

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such services or the NIS administration manages the cards. The first option is recommended as the second would introduce additional financial and human resource overheads on the NIS administration and SISS. Introducing the use of EMV cards could eliminate fraudulent activities associated with the printing and disbursement of vouchers and cheques.

An EMV card can be used as a debit card and be issued for example, when an individual has been awarded a benefit. When needed, the recipient can withdraw funds from the account associated with the card from a commercial bank. The cards can also be assigned an expiry date that can permit their use for periods of time that are on par with contemporary debit cards.

NIS Employees will be involved, as expected, in every aspect of the administration of the NIS, and their involvement will be discussed in the following sections. Gov't Agencies such as the eGov and RGD provide data and verification services respectively and these services will also be discussed in the sections that follow.

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## 6.3 Services

Under the SISS, client services will be made accesible via online system interfaces. Clients will be able to register with the NIS, apply for a benefit and track the status of their application, view their contributions and have their EMV card replaced (in the event of it being damaged or lost). These services are shown in Figure 6.2. Clients will be notified of changes, updates or requests automatically via SMS or email, or manually by an NIS or bank employee via telephone.

### 6.3.1 SISS Registration Processing

The activity graph of Figure 6.3 summarises the SISS' registration procedure. The procedure begins with an individual or company visiting the webpage of the NIS and completing an appropriate registration form. This form is submitted to the NIS where an employee who previously assumed the role of parish officer would inspect the form and its contents. The employee can now be more appropriately called a client services agent (CSA) as registration would become independant of the parish of residence.

When the SISS assigns a client completed registration form to a CSA

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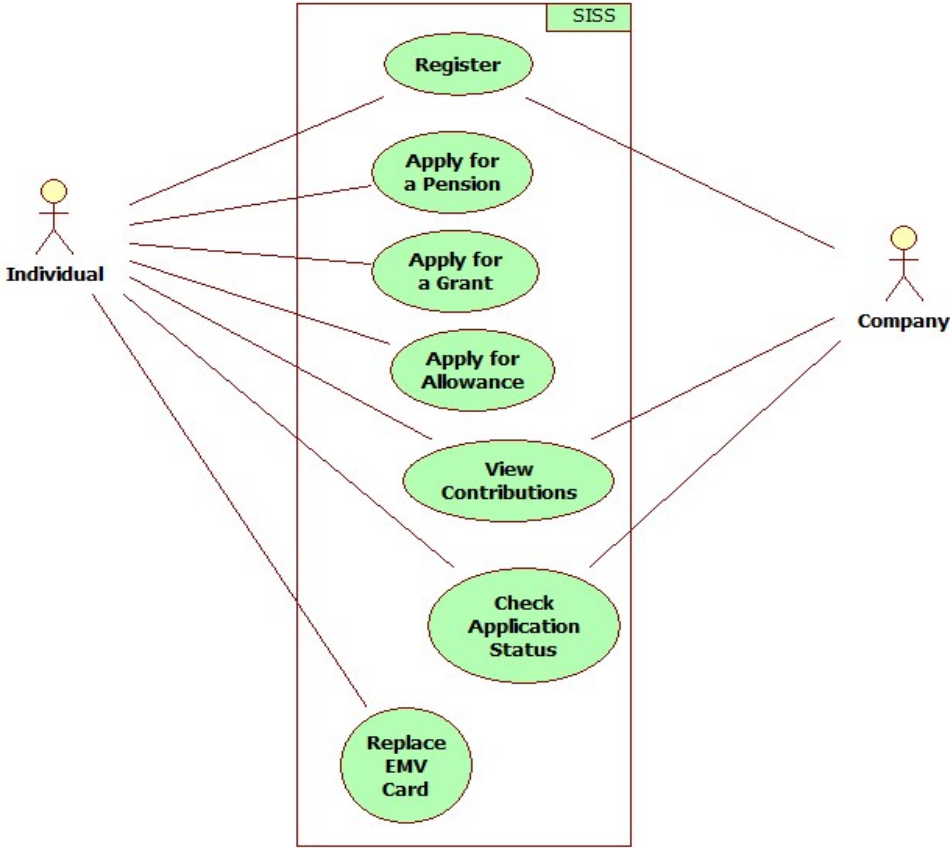


Figure 6.2: Client services provided by the SISS

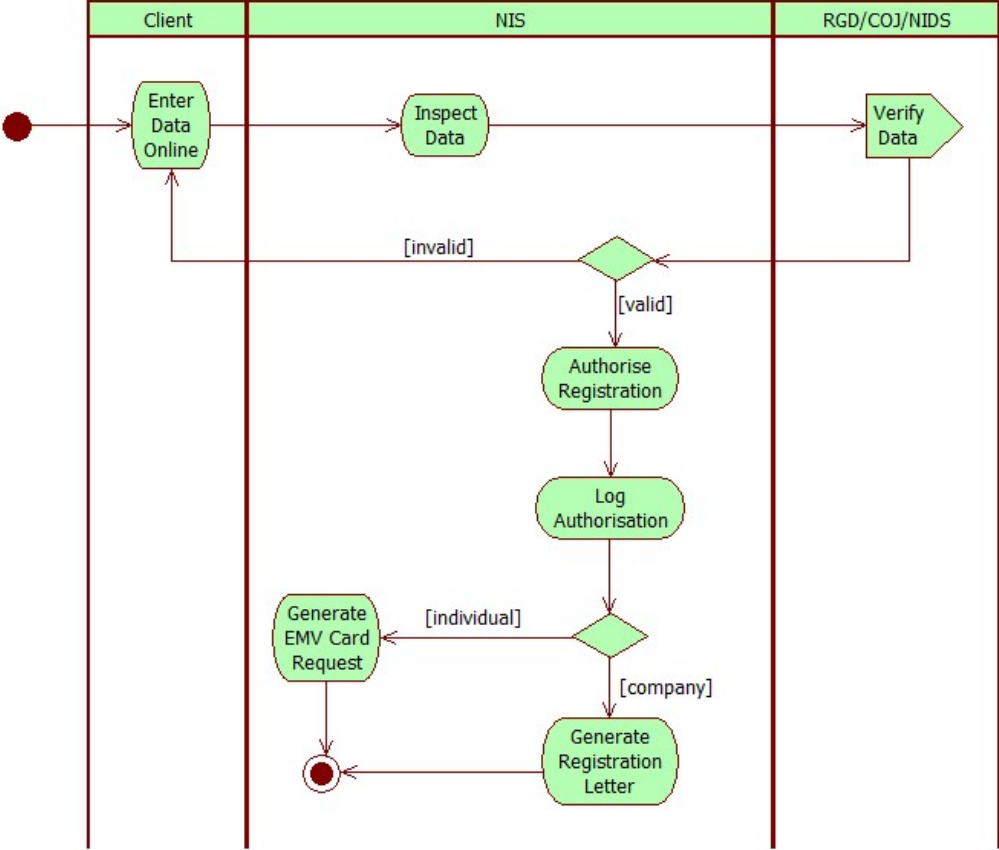


Figure 6.3: The registration procedure of the SISS

for inspection, it simultaneously submits elements of the data captured on the form for verification by other government agencies. For example, the individual's NIN, record of birth and the company's registration letter to the NIDS, RGD and COJ respectively.

When verified, the application for registration is then automatically assigned to a CSA supervisor for authorisation. When the application is authorised, the SISS generates either a request for an EMV card for an individual or a letter of registration for a company. EMV card requests will be batched and forwarded to the bank for further processing. The bank, upon issuing a card to an individual, sends notification to the SISS that the process has been completed.

Figure 6.4 depicts the use cases and actors for the processes involved with registering with the NIS under the SISS.

### **6.3.2 SISS Claims Processing**

The activity graph of Figure 6.5 summarises the SISS' claims processing procedure. This procedure is initiated when a contributor or other acceptable claimant completes an online application form. The SISS assigns the completed form to a CSA who inspects the form and initiates the SISS' veri-

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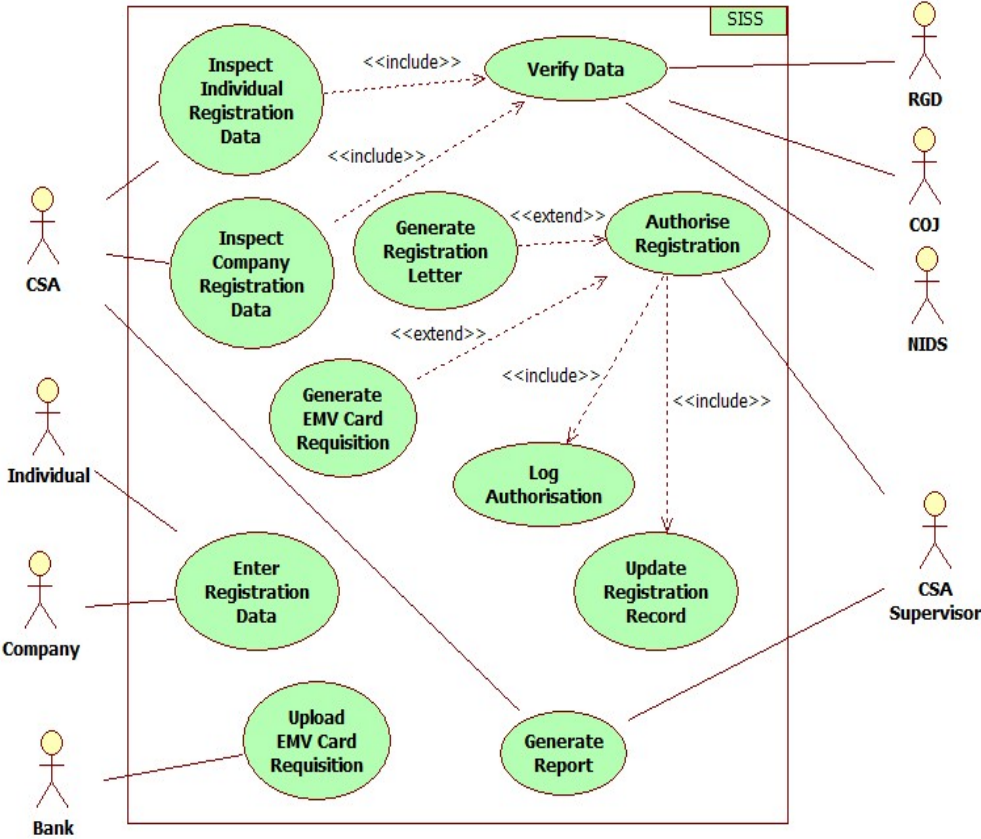


Figure 6.4: The registration processes of the SISS

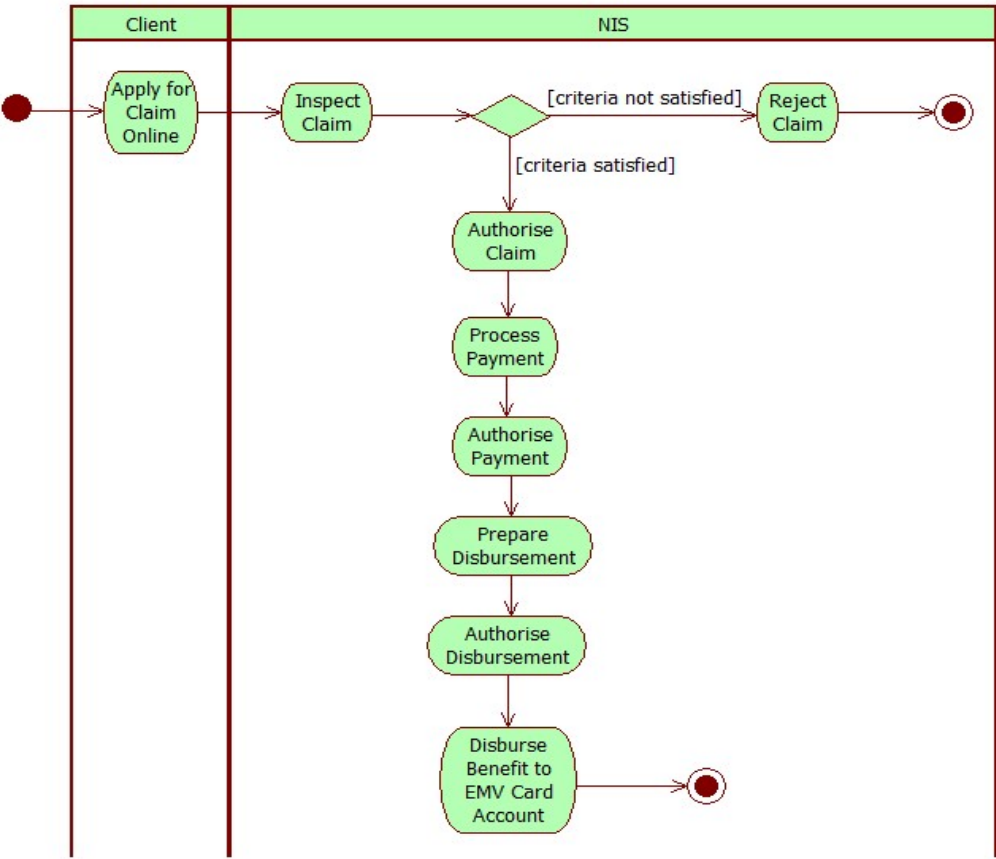


Figure 6.5: The claims processing procedure of the SISS

fication process. This verification process includes ensuring the claimant (or associated contributor) has made the requisite contributions to the Scheme. If the criteria for the award of a benefit have not been met, then the claim is rejected otherwise, processing of the claim continues as described below.

The claim would be authorised for payment by a claim supervisor and the processing and the disbursement prepared and made by a Fund Account Officer (FAO) (see related OCL statements `authBenefitID`, `disburseID` and `differentID`). The process ends with the disbursement of the funds to an EMV card account.

If the claimant is neither a registrant nor a contributor, then the claimant must first be registered in the system and issued an EMV card. An example of such a claimant is the widow of a deceased contributor who never registered with the NIS, but can qualify for a widow's benefit. Figure 6.6 depicts the use cases and actors for the processes involved with the processing of claims with the NIS under the SISS.

### 6.3.3 SISS Data Exchange

Many of the procedures will require the exchange of data between the SISS and other government agencies. The use case diagram of Figure 6.7 illus-

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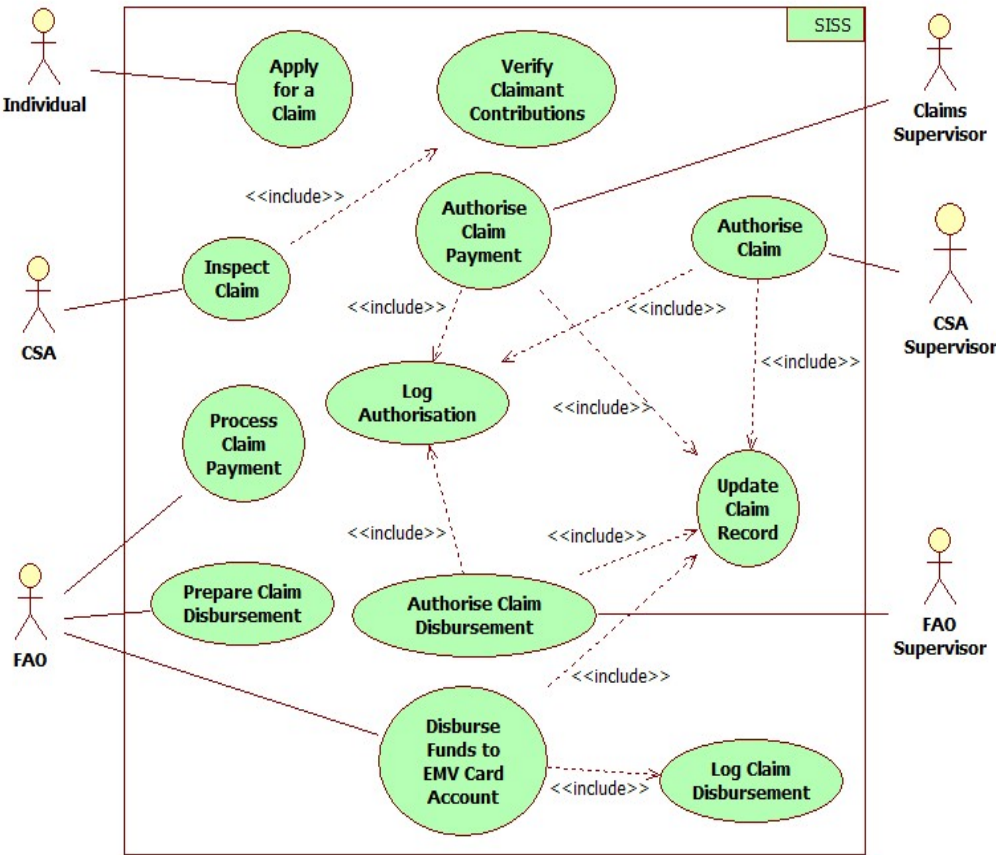


Figure 6.6: The claims processing processes of the SISS

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trates the primary sources of data that will be needed by the SISS. The SISS will receive from: eGov, the S01 and S02 data; RGD, the records of births, marriages and deaths; COJ, company registration data; NIDS, national identification data. By forging electronic links with these government systems, the SISS will eliminate the need for many manual processes, for example the need for the completion of life certificates by beneficiaries of pensions.

The SISS will also exchange data with other NIS systems, for example the Sage ACCPAC accounting system, and others listed in Table 2.1 (see page 19). A deeper investigation into these exchanges and the systems themselves will, however be required to ascertain the specific structure of the data to be provided by and to each system.

Finally, the SISS will also be exchanging data with the bank that will be providing the EMV card services. This data will be in the form of the card requisitions to the bank that were described earlier, and updates from the bank when cards have been issued, replaced and other changes related to the card assigned to the NIS cardholder.

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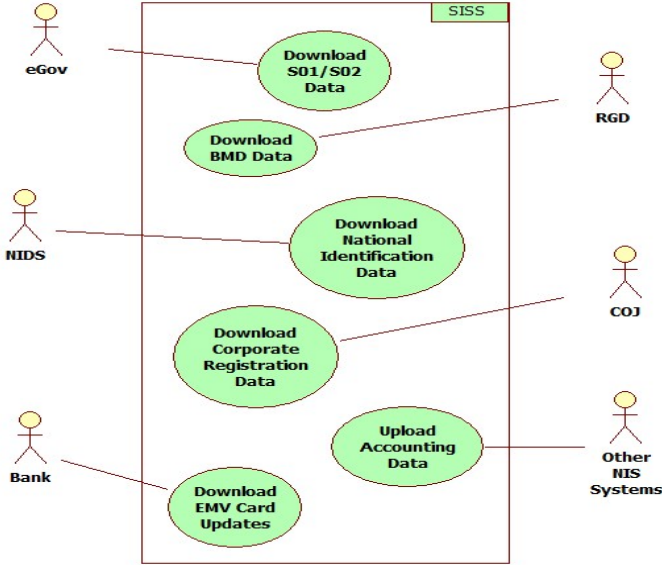


Figure 6.7: Data exchange with other systems

### 6.3.4 Reports

The design of the SISS discussed in the previous sections will easily facilitate both the elimination of the need for some the reports listed in Appendix D and the creation of all that remain in the list.

Reports 15-17 for example, will no longer be required as vouchers, cheques and drafts will be replaced by bank accounts. These accounts will also enable electronic banking services such as Real Time Gross Settlement (RTGS) and Automated Clearing House (ACH). All other reports listed can be created as

the required data will already be captured and stored in the SISS. In particular report 18, the number of benefits awarded under the Reciprocal Social Security Agreements by country, would be easily extracted from the registration data entered by clients, as the country of residence can be included in the online version of the application form.

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# Glossary

**ACH** Automated Clearing House (ACH) is an electronic network for financial transactions in the United States that processes large volumes of credit and debit transactions in batches

**Alpha** A 64-bit reduced instruction set computer (RISC) developed by Digital Equipment Corporation

**API** An Application Programming Interface specifies how some software components in a system should interact with each other

**BMIS** The Jamaican Beneficiaries Management Information System, the software application used to assist with the administration of the PATH

**BTU** A British Thermal Unit is a measure of power used in various industries for example, in the air conditioning industry

**CAT5e** A type of twisted pair cabling (electrical wiring)

**COJ** The Office of the Registrar of Companies which registers local and overseas companies, and individuals carrying on business in Jamaica

**DBMS** Database Management Systems are specially designed applications that interact with the user, other applications, and the database itself to capture and analyse data

**eGov** eGov Jamaica Limited, formerly Fiscal Services Limited, is the public body with responsibility for implementing Information and Communications Technology (ICT) projects across the Government of Jamaica

**Executive Agency** In Jamaica, a public body designated as such, and pursuant to the Executive Agencies Act (2002)

**IBM** International Business Machines, an American multinational technology and consulting corporation

**Itanium** A family of 64-bit Intel microprocessors

**IT System** A computer based system composed of myriad devices, means of communication, processes and people

**KVA** Kilo-Volt Ampere is a unit of measure of power in an electrical circuit

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**MLSS** Ministry of Labour and Social Security, the Jamaican Government's entity responsible for matters affecting individuals in their capacity as workers, employers and members of the country's labour force

**MoF** Ministry of Finance, the entity with responsibility for developing the Government's fiscal and economic policy framework and collecting and allocating public revenues

**NHT** The National Housing Trust, the entity established in 1976 to increase and enhance the stock of available housing in Jamaica. It also provides financial assistance to contributors who wish to build, buy or repair their homes.

**NIDS** The National Identification System, a system being designed by the Jamaican Government

**NIF** The Jamaican National Insurance Fund, the source from which pensions and other benefits under the NIS are paid

**NIMS** The Jamaican National Insurance Management System, the software application used to assist with the administration of the NIS

**NIN** The proposed Jamaican National Identification Number

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**NIS** The National Insurance Scheme. The compulsory, funded, social security scheme in Jamaica

**Object-Oriented Programming** A programming paradigm where systems are built as compositions of software objects

**Operating System** An Operating System is a collection of software that manages computer hardware resources and provides common services for computer programs

**OSI model** The Open Systems Interconnection (OSI) model (ISO/IEC 7498-1) is a conceptual model that characterises and standardises the internal functions of a communication system by partitioning it into abstraction layers

**Parish** A territorial division. Jamaica is administratively divided into fourteen (14) parishes

**PATH** The Jamaican Programme of Advancement Through Health and Education

**PPS** The Jamaican Pension Payment System, the application used to generate pension payments

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**Public Body** In Jamaica, a public body is one of: a department of Government, a statutory body or authority, a company which is owned by Government

**RGD** A Jamaican Government executive agency and only repository of birth, death, marriage and fetal death records in the island

**Router** A router is a device that forwards data packets between computer networks

**RTGS** Real time gross settlement systems (RTGS) are funds transfer systems where the transfer of money or securities takes place from one bank to another without the need for any waiting period

**SLA** A Service Level Agreement refers to the contracted delivery time of a service or expected level of performance that one party provides to another

**Switch** A network switch is a computer networking device that is used to connect many devices together on a computer network

**TAJ** Tax Administration Jamaica, the island's revenue collecting agency

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**TRN** A unique, nine-digit identification number assigned to each individual taxpayer, business enterprise and organization in Jamaica

**UML** The Unified Modeling Language is the de facto standard language for the graphical modeling of software

**UPS** An Uninterruptible Power Supply is an electrical device that provides emergency power when a primary power source fails

**VAX** VAX was an instruction set architecture, developed by Digital Equipment Corporation in the mid-1970s

**VPN** A Virtual Private Network extends a private network across a public network, such as the Internet

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# Appendices

# **SLAs of the MIS Unit**

### **UPS (Cable Pro Data Services)**

1. All work carried out under this Agreement shall be to the highest standards and carried out by competent servicemen and all materials supplied by the Contractor shall be of the highest quality and shall be obtained only from merchants or manufacturers of the highest repute and further all work carried out and materials supplied or used hereunder shall be as may be approved by the Owner's insurers, PROVIDED THAT except as hereinbefore stated this Agreement excludes all implied warranties and conditions as to merchantability and fitness.
2. On the occasion of each and every visit, the Contractor's servicemen shall enter a maintenance record book to be provided by the Owner in respect of machinery and/or equipment examined or attended to, the date of the visit, any defects found, the work carried out and the time spent, such entry being signed by such servicemen and countersigned by the Owner's designated representative.
3. Except where otherwise specified in this Agreement the Contractor shall carry out all examinations and working hours specified in the second schedule.
4. The Contractor shall produce to the Owner on request at any time satisfactory evidence that it is fully insured with a reputable insurer for all purposes of this contract against all third party risks in relation to persons and property and against liability whether at common law or under statute in respect of accident or injury to workmen employed on the job whether or not being employees of the Contractor.
5. The Contractor shall not be responsible for failure or delay in performance hereunder by reason of fire, flood, riot, strikes, labor disputes, or freight embargoes, acts of God or of the public enemy, war or civil disturbances, any future laws, rules, regulations or acts of any government (including orders, rules or regulations issued by any official or agency of such government) affecting a party that would delay or prohibit performance hereunder, or any cause beyond the reasonable control of the Contractor.
6. The Contractor shall not without the written consent of the Owner assign the benefit or burdens of this agreement to any person, firm or company (save an assignee of the whole of the maintenance business of the Contractor), such consent shall not be unreasonably withheld.
7. The Owner undertakes to operate the machinery and/or equipment strictly in accordance with any operating recommendations that may be made by the Contractor of any unusual operating conditions and shall not permit any person other than an employee of the Contractor to service or interfere with the machinery or equipment or its operation.
8. The Contractor shall indemnify the owner against any loss, injury, delay, destruction or damage to the owner's equipment or any part thereof which results from the negligence of the Contractor, its servants or agents.

9. Every provision of this Operating Agreement is intended to be severable. If any term or provision is illegal or invalid for any reason whatsoever, the illegality or invalidity shall not affect the validity of the remainder of this Operating Agreement.
10. This Agreement may be amended or modified from time to time in writing with the express agreement of both parties.
11. The failure of any party to seek redress for violation of or to insist upon the strict performance of any covenant or condition of this Operating Agreement shall not prevent a subsequent act, which would have originally constituted a violation, from having the effect of an original violation.
12. The rights and remedies provided by this Operating Agreement are cumulative and the use of any one right or remedy by any party shall not preclude or waive the right to use any or all other remedies. Said rights and remedies are given in addition to any other rights the parties may have by law, statute, or otherwise.
13. The Contractor's regular working hours are Twenty Four Hours Per Day, Three Hundred & Sixty Five Days Per Year.



## **LIME**

### MAINTENANCE ANNEX B

1. Maintenance services are carried out during C&WJ's normal working hours which are 8.00 am to 5.00 pm Monday to Friday(except public holidays) ("Business Hours")
2. All Faults shall be reported charge free, to the number 1-888-888-8888 which is available twenty four (24) hours per day. A Fault means a fault on the C&WJ Network.
3. Upon receipt of notification of a Fault, C&WJ shall use its reasonable endeavours to correct such Fault within twenty-four (24) hours.
4. If a circuit is unusable for more than:
  - (i) 24 business hours; or
  - (ii) four business hours where the outage is caused directly by the failure of C&WJ Equipment or negligence of its employees,

and it is found that a Fault was the cause of such circuit not being usable for such period, then the Customer shall be entitled to a pro rata rebate on the rental charge in respect of the affected Circuit based on the period of outage in excess of the period set out in subparagraph (i) or (ii) above, as the case may be.

# MLSS IT Policy

## 1. Policy Statement

"It shall be the responsibility of the I.T. Department to provide adequate Protection and confidentiality of all corporate data and proprietary software Systems, whether held centrally, on local storage media, or remotely, to ensure the continued availability of data and programs to all authorized members of staff, and to ensure the integrity of all data and configuration controls."

### ***Summary of Main Security Policies***

1. Employees will be accountable for any breaches of the Ministry's security policies.
2. All files or folders etc. created and stored or copied on MLSS's computers, laptops, servers and removable external storage devices will be deemed as the property of MLSS and thus can be restricted, modified or deleted based upon any contravention of or adherence to the IT policies specified herein.
3. In the event of any unauthorized file(s) being discovered e.g. videos, music, pictures etc., they will be removed from the workstation/server immediately.
4. Confidentiality of all data will be maintained through discretionary and mandatory access controls
5. Internet and other external service access will be restricted to authorized personnel only.
6. Access to data on all laptop computers should be secured through encryption or other means necessary, to provide confidentiality of data in the event of loss or theft of equipment.
7. Only authorized and licensed software may be installed on MLSS's computer systems, and installation may only be performed by I.T. Department staff.
8. The use of unauthorized software is prohibited. In the event of unauthorized software being discovered, it will be removed from the computer immediately.
9. Data may only be transferred for the purposes determined in the Organization's data-protection policy.
10. All diskette drives and removable media from external sources must be virus checked before they are used within the Organization.
11. Passwords must consist of a mixture of at least 5 alphanumeric characters, and must be changed every 42 days and must be unique and last 5 passwords will not be used.
12. Workstation configurations may only be changed by I.T. Department staff.
13. The physical security of computer equipment will conform to recognized loss prevention guidelines.
14. To prevent the loss of availability of I.T. resources measures will be taken to backup data, applications and the configurations of all workstations where possible.
15. Business continuity plans will be developed and tested on a regular basis

16. Users will be kept informed of addendums/revisions of current procedures and policies.
17. All purchases of new systems hardware or new components for existing systems will be made in accordance with Information Security and other organisational policies, as well as technical standards. Such requests to purchase must be based upon a User Requirements Specification document and take into account long-term organisational business needs
18. Except for minor purchases, hardware must be purchased through a structured evaluation process which must include the development of a detailed Request For Proposal (RFP) document. Information Security features and requirements must be identified within the RFP
19. All new hardware installations are to be planned formally and all interested parties notified ahead of the proposed installation date. Information Security requirements for new installations are to be circulated for comment to all interested parties, well in advance of installation
20. All equipment must be fully and comprehensively tested and formally accepted by users before being transferred to the live environment
21. Secondary and backup power generators are to be employed where necessary to ensure the continuity of services during power outages.
22. Sensitive or confidential information may only be faxed when more secure methods of transmission are not feasible. Both the owner of the information and the intended recipient must authorise the transmissions beforehand
23. Sensitive or confidential information should only be sent via public telephone lines where more secure methods of transmission are not feasible. Both the owner of the information and the recipient must authorise the transmission beforehand
24. Information classified as Highly Confidential or Top Secret, may never be sent to a network printer without there being an authorised person to safeguard its confidentiality during and after printing
25. IT management must authorise the issue of portable computers. Usage is restricted to business purposes, and users must be aware of, and accept the terms and conditions of use, especially responsibility for the security of information stored in such devices
26. Persons who are issued with portable computers and who intend to travel for business purposes must be made aware of the information security issues relating to portable computing facilities and implement the appropriate safeguards to minimize the risks
27. Off-site computer usage, whether at home or at other locations, may only be used with the authorisation of IT management. Usage is restricted to business purposes, and users must be aware of and accept the terms and conditions of use, which must include the adoption of adequate and appropriate information security measures
28. Any movement of IT hardware within the organisation is to be strictly controlled by authorised IT Operations personnel
29. Only personnel authorized by the IT Operations Department are permitted to take equipment belonging to the organisation off the premises

30. Changes to routine systems operations are to be fully tested and approved before being implemented
31. System clocks must be synchronised regularly especially between the organisation's various processing platforms
32. Users should be vigilant and exercise great care when downloading information and files from the Internet to safeguard against both malicious code and also inappropriate material
33. Persons responsible for Human Resources Management are to ensure that all employees are fully aware of their legal and corporate duties and responsibilities concerning the inappropriate sharing and releasing of information, both internally within the organisation and to external parties
34. Employees are not permitted to load unapproved screen savers onto the organisation's PCs, laptops and workstations
35. Desktop workstations, laptops, printers, scanners and any other equipment provided by the IT department should be used exclusively by employees of the organization. Children, strangers etc should not be permitted to utilize equipment without approval from management.

## **2. Virus, Spyware & Malware Protection**

1. The I.T. Department will have available up to date virus scanning software for the scanning and removal of suspected viruses, spyware and malware.
2. Corporate servers, workstations and laptops will be protected with virus scanning software.
3. All workstation and server anti-virus software will be regularly updated with the latest anti-virus patches by the I.T. Department.
4. No disk or storage media that is brought in from outside the Organization should be used until it has been scanned using the corporate anti-virus software
6. All systems will be built from original, clean master copies whose write protection has always been in place. Only original master copies will be used until virus scanning has taken place.
7. All removable media containing executable software (software with .EXE and .COM extensions) should be write protected wherever possible.
8. The use of shareware e.g. Limewire, kazaa etc. is strictly prohibited, as shareware is one of the most common infection sources.
9. All removable media brought in to the Organization by field engineers or support personnel will be scanned by the IT Department before they are used on site.
10. To enable data to be recovered in the event of a virus outbreak, wherever possible, regular backups will be taken by the I.T. Department.
11. Users will be notified of virus incidents.
13. Anti-virus policies and procedures will be reviewed regularly.
14. In the event of a possible virus infection the user should inform the I.T. Department immediately. The I.T. Department will then scan the infected machine and any removable media or other workstations to which the virus may have spread and eradicate it.

### 3. Physical Security

Physical Security of computer equipment will comply with the guidelines as detailed below.

1. All external opening windows should have locks
2. All computer hardware should be prominently security marked by branding or etching with the name of the establishment and area location. Advisory signs informing that all property has been security marked should be prominently displayed externally. The following are considered inferior methods of security marking; text comprised solely of initials or abbreviations, marking by paint or ultra violet ink (indelible or otherwise), or adhesive labels that do not include an etching facility.
3. PC's fitted with locking cases will be kept locked at all times.
  - a) When it is impossible or undesirable to anchor hardware, mobile equipment should be moved to a security store or cabinet outside normal hours of occupation
4. Wherever possible, computer equipment should be kept at least 1.5 metres away from external windows.
  - a) All external windows to rooms containing computer equipment at ground floor level or otherwise visible to the public should be fitted with window blinds or obscure filming.
5. No extraneous material should be stored on top of computers.
6. The computers should operate in adequately air conditioned areas to provide a stable operating environment to reduce the risk of system crashes due to component failure.
7. No water, rain water or drainage pipes should run within or above the computers, servers, network and other ICT equipment to reduce the risk of flood damage.
8. The floor within the server rooms should be a raised false floor to reduce the risk of damage to computer equipment in the case of flooding.
9. Power points should be raised from the floor to allow the smooth shutdown of computer systems in case of flooding.
10. Where possible, generator power should be provided to the ICT equipment to help protect the computer systems in the case of a main power failure.
11. Access to server rooms is restricted to IT Operations staff only.
  - a) All contractors working within server rooms are to be logged and supervised at all times by IT Operations staff and should be given prior notice of their visit and provided with details of all work to be carried out, at least 48 hours in advance of its commencement.

## 4. Access Control

1. Users will only be given sufficient rights to all systems to enable them to perform their job function. User rights will be kept to a minimum at all times.
2. Users requiring access to systems must make a written request approved by their Head of Section to the I.T Department.
3. Where possible, no one person will have full rights to any system. The I.T. Department will control network/server passwords and system passwords will be assigned by the system administrator in the end-user department.
4. The system administrator will be responsible for the maintaining the data integrity of the end-user department's data and for determining end-user access rights.
5. Access to the network/servers and systems will be by individual username and password, or by smartcard and PIN number/biometric.
6. Usernames and passwords must not be shared by users.
7. Usernames and passwords should not be written down.
8. Usernames will consist of surname and initials.
9. All users will have an alphanumeric password of at least 8 characters.
10. Passwords will expire every 42 days and must be unique.
11. Intruder detection will be implemented where possible. The user account will be locked after 5 incorrect attempts.
12. The I.T. Operations Department should be notified of all employees leaving the Organization's employment. The I.T. Department will then remove the employee's rights to all systems.
13. Network/server supervisor passwords and system supervisor passwords will be stored in a secure location in case of an emergency or disaster, for example a fire, in the I.T. Department.
14. Auditing will be implemented on systems where necessary to record login attempts/failures, successful logins and changes made to all systems.
15. I.T. Department staff will not login as root on to UNIX, Linux systems, but will use the su command to obtain root privileges.
16. Use of the Administrator username on Windows systems should be kept to a minimum.
17. Default passwords on systems such as Oracle and SQL Server must be changed after installation.
18. On UNIX and Linux systems, rights to rlogin, ftp, telnet, ssh will be restricted to I.T. Department staff only.
19. Where possible users will not be given access to the UNIX, or Linux shell prompt.
20. Access to the network/servers will be restricted to normal working hours. Users requiring access outside normal working hours must request such access in writing to the I.T. Department.
21. Access to the resources on the network will be strictly controlled to prevent unauthorised access. Access to all computing and information systems and peripherals shall be restricted unless explicitly authorised
22. File systems will have the maximum security implemented that is possible. Where possible users will only be given Read and File scan rights to directories.

23. Remote access control procedures must provide adequate safeguards by means of robust identification, authentication and encryption techniques
24. System hardware, operating and application software, the networks and communication systems must all be adequately configured and safeguarded against both physical attack and unauthorised network intrusion

## **5. LAN Security**

1. LAN equipment, hubs, bridges, repeaters, routers, switches etc. will be kept in secure network rooms. Network rooms will be kept locked at all times.
2. Access to network rooms will be restricted to I.T. Operations staff only. Other staff, and contractors requiring access to network rooms will notify the I.T. Operations Unit in advance so that the necessary supervision can be arranged.
3. Users must logout of their workstations when they leave their workstation for any length of time. Alternatively Windows workstations will be locked and password protected.
4. All unused workstations must be switched off outside working hours.
5. All network wiring should be fully documented.
6. All unused network points should be de-activated when not in use.
7. Users must not place or store any item on top of network cabling.
8. Redundant cabling schemes will be used where possible.
9. The use of LAN analyzer and packet sniffing software is restricted to the I.T. Operations Unit.
10. LAN analyzers and packet sniffers will be securely locked up when not in use.
11. Intrusion detection systems will implemented to detect unauthorized access to the network
12. All servers will be kept securely under lock and key.
13. Access to the system console and server disk/tape drives will be restricted to authorized I.T. Operations staff only.
14. All hubs, bridges, repeaters, routers, switches and other critical network equipment will also be supplied with UPS power, to keep the network and servers running until the generator take over.
15. All UPS's will be tested periodically.
16. The I.T. Department should keep a full inventory of all computer equipment and software in use throughout the organization.
17. Computer hardware and software audits will be carried out periodically via the use of a desktop inventory package. These audits will be used to track unauthorized copies of software and unauthorized changes to hardware and software configurations.



## 6. Server Specific Security

This section applies to Windows, UNIX, and Linux servers.

1. The operating system will be kept up to date and patched on a regular basis where appropriate.
2. Servers will be checked daily for viruses.
3. Servers will be locked in a secure room.
4. Where appropriate the server console feature will be activated.
5. Remote management passwords will be different to the Admin/Administrator/root password.
6. Users possessing Admin/Administrator/root rights will be limited to trained members of the I.T. Department staff only.
7. Use of the Admin/Administrator/root accounts will be kept to a minimum.
8. Assigning security equivalences that give one user the same access rights as another user will be avoided where possible.
9. Users' access to data and applications will be limited by the access control features.
10. Intruder detection and lockout will be enabled.
11. The system auditing facilities will be enabled.
12. Users must logout or lock their workstations when they leave their workstation for any length of time.
13. All unused workstations must be switched off outside working hours.
14. All accounts will be assigned a password of a minimum of 8 characters.
15. Users will change their passwords every 42 days.
16. Unique passwords will be used.
17. The number of grace logins will be limited to 5.
18. The number of concurrent connections will be limited to 1.
19. Network login time restrictions will be enforced preventing users from logging in to the network outside normal working hours.
20. In certain areas users will be restricted to logging in to specified workstations only.

## 7. Unix & Linux Specific Security

1. Direct root access will be limited to the system console only.
2. I.T. Department staff requiring root access must make use of the su command.
3. Use of the root account will be kept to a minimum.
4. All UNIX and Linux system accounts will be password protected.
5. rlogin facilities will be restricted to authorized I.T. Department staff only.
6. ftp facilities will be restricted to authorized I.T. Services staff only.
7. telnet facilities will be restricted to authorized users.
8. ssh facilities will be restricted to authorized users.

9. Users' access to data and applications will be limited by the access control features.
10. Users will not have access to the \$ prompt.
11. All accounts will be assigned a password of a minimum of 8 characters.
12. Users will change their passwords every 42 days.

## **8. Wide Area Network Security**

1. Wireless LAN's will make use of the most secure encryption and authentication facilities available.
2. Users will not install their own wireless equipment under any circumstances.
3. Dial-in modems will not be used if at all possible. If a modem must be used dial-back modems should be used. A secure VPN tunnel is the preferred option.
4. Modems will not be used by users without first notifying the I.T. Department and obtaining their approval.
5. Where dial-in modems are used, the modem will be unplugged from the telephone network and the access software disabled when not in use.
6. Modems will only be used where necessary, in normal circumstances all communications should pass through the Organization's router and firewall.
7. Where leased lines are used, the associated channel service units will be locked up to prevent access to their monitoring ports.
8. All bridges, routers and gateways will be kept locked up in secure areas.
9. Unnecessary protocols will be removed from routers.
10. The preferred method of connection to outside Organizations is by a secure VPN connection, using IPSEC or SSL.
11. All connections made to the Organization's network by outside organizations will be logged.

## **9. TCP/IP & Internet Security**

1. Permanent connections to the Internet will be via the means of a firewall to regulate network traffic.
2. Permanent connections to other external networks, for offsite processing etc., will be via the means of a firewall to regulate network traffic.
3. Where firewalls are used, a dual homed firewall (a device with more than one TCP/IP address) will be the preferred solution.
4. Network equipment will be configured to close inactive sessions.
5. Where modem pools or remote access servers are used, these will be situated on the DMZ or non-secure network side of the firewall.
6. Workstation access to the Internet will be via the Organization's proxy server and website content scanner
7. All incoming e-mail will be scanned by the Organization's e-mail content scanner.

8. E-mail should only be used for business purposes, using terms which are consistent with other forms of business communication. The attachment of data files to an e-mail is only permitted after confirming the classification of the information being sent and then having scanned and verified the file for the possibility of a virus or other malicious code
9. Incoming e-mail must be treated with the utmost care due to its inherent Information Security risks. The opening of e-mail with file attachments is not permitted unless such attachments have already been scanned for possible viruses or other malicious code
10. Data retention periods for e-mail must be established to meet legal and business requirements and must be adhered to by all staff
11. Persons responsible for setting up Intranet access must ensure that any access restrictions pertaining to the data in source systems, are also applied to access from the organisation's Intranet
12. IT staff responsible for setting up Internet access are to ensure that the organisation's network is safeguarded from malicious external intrusion by deploying, as a minimum requirement, a configured firewall. Human Resources management must ensure that all personnel with Internet access (including e-mail) are aware of, and will comply with, an acceptable code of conduct in their usage of the Internet in addition to compliance with the organisation's Information Security Policies
13. Due to the significant risk of malicious intrusion from unauthorised external persons, Web sites may only be developed and maintained by properly qualified and authorised personnel
14. Staff authorised to make payment by credit card for goods ordered on the Internet, are responsible for its safe and appropriate use
15. To reduce the risk of unauthorised intrusion, only qualified authorised persons may amend the Web site with all changes being documented and reviewed
16. The organisation will use software filters and other techniques whenever possible to restrict access to inappropriate information on the Internet by staff. Reports of attempted access will be scrutinised by management on a regular basis.

## **10. Purchasing, Development and Maintenance of Software**

1. All requests for new applications systems or software enhancements must be presented to senior management with a Business Case with the business requirements presented in a User Requirements Specification document
2. The organisation should generally avoid the selection of business critical software which, in the opinion of management, has not been adequately proven by the early adopters of the system. The selection process for all new business software must additionally incorporate the criteria upon which the selection will be made. Such criteria must receive the approval of senior management

3. All office software packages must be compatible with the organisation's preferred and approved computer operating system and platform
4. To comply with legislation and to ensure ongoing vendor support, the terms and conditions of all End User Licence Agreements are to be strictly adhered to
5. The implementation of new or upgraded software must be carefully planned and managed, ensuring that the increased Information Security risks associated with such projects are mitigated using a combination of procedural and technical control techniques
6. Upgrades to software must be properly tested by qualified personnel before they are used in a live environment
7. The decision whether to upgrade software is only to be taken after consideration of the associated risks of the upgrade and weighing these against the anticipated benefits and necessity for such change
8. Software faults are to be formally recorded and reported to those responsible for software support / maintenance
9. Only designated staff may access operational program libraries. Amendments may only be made using a combination of technical access controls and robust procedures operated under dual control
10. Only designated staff may access program source libraries. Amendments may only be made using a combination of technical access controls and robust procedures operated under dual control
11. Formal change control procedures must be utilised for all changes to systems. All changes to programs must be properly authorised and tested before moving to the live environment
12. Formal change control procedures with comprehensive audit trails are to be used to control Program Source Libraries
13. Formal change control procedures with comprehensive audit trails are to be used to control versions of old programs
14. Software developed for or by the organisation must always follow a formalised development process which itself is managed under the project in question. The integrity of the organisation's operational software code must be safeguarded using a combination of technical access controls and restricted privilege allocation and robust procedures
15. Emergency amendments to software are to be discouraged, except in circumstances previously designated by management as 'critical'. Any such amendments must strictly follow agreed change control procedures
16. All proposed system enhancements must be business driven and supported by an agreed Business Case. Ownership (and responsibility) for any such enhancements will intimately rest with the business owner of the system
17. The development of bespoke (custom) software is only to be considered, if warranted by a strong Business Case and supported both by management and adequate resources over the projected life time of the resultant project
18. Formal change control procedures must be utilised for all amendments to systems. All changes to programs must be properly authorised and tested in a test environment before moving to the live environment

19. Management must ensure that proper segregation of duties applies to all areas dealing with systems development, systems operations, or systems administration
20. New systems must be tested for capacity, peak loading and stress testing. They must demonstrate a level of performance and resilience which meets or exceeds the technical and business needs and requirements of the organization
21. All new and enhanced systems must be fully supported at all times by comprehensive and up to date documentation. New systems or upgraded systems should not be introduced to the live environment unless supporting documentation is available
22. Vendor developed software must meet the User Requirements Specification and offer appropriate product support

## **11. DEFINITIONS**

### **SERVER ROOM/AREA**

Room containing Mainframe, minicomputer, fileserver plus all inter-connected wiring cabinet ,fixed disks, telecommunication equipment, ancillary, peripheral and terminal equipment linked into the mainframe, contained within a purpose built Server Room/Area.

### **ICT (Information And Communication Technology) EQUIPMENT**

All information and communication technology equipment including computers, laptops, servers, switches, routers, hubs, modems, printers, and peripheral equipment etc.

### **LOCKDOWN DEVICE(S)**

A combination of two metal plates, one for fixing to furniture, or the building structure, and the other for restraining the equipment which is immobilized when the two plates are locked together. The plate for restraining the equipment should incorporate an enclosure or other mechanism which will hinder unauthorized removal of the outer PC casing and render access to internal components difficult.

### **PERSONAL COMPUTERS (PC's)**

Individual computer units with their own internal processing and storage capabilities.

### **LOCAL AREA NETWORK (LAN)**

A communication system linking computers within a restricted geographical area such as a building.

### **WIDE AREA NETWORK (WAN)**

A communications system which covers a larger geographical area than a LAN. It usually links more than one LAN together.

# Sample Forms

# MINISTRY OF LABOUR AND SOCIAL SECURITY

FORM: R2

## APPLICATION FOR NATIONAL INSURANCE NUMBER

<b>FOR D.P. USE ONLY</b>				
National Insurance Number				
Parish	YOB	Sex	SI	No.

This Form is to be completed using BLOCK LETTERS.  
Bring supporting documents\* to verify

- (i) Birth Date
- (ii) Marriage Date
- (iii) Spouse's Date of Birth

All dates must be entered in the format year, month, day (YYYYMMDD) e.g. Date of Birth:- 1969/12/25

**1. Applicant's Name**

Do NOT write in boxes immediately below shaded area.

Surname	First Name	Middle Name

Maiden/Other Name (if any)	TRN Number

**2. Sex (Tick (✓) the appropriate box)**

- Male  
 Female

**3. Date of Birth**

Y	M	D

FOR OFFICIAL USE ONLY	
* Verified by:	
Passport No.	
Birth Cert.	
Baptismal Cert.	
School Record	

**4. Address of Applicant**

Lot/Apartment Number

Street Name/District

Post Office/Postal Agency	Code

Parish Name	Code

**5. Country of Birth**

Name of Country	Code

**6. Nationality**

Nationality	Code

**7. Applicant's Occupation**

Occupation	Code

**8. Are you self employed?**

Y/N

**9. Marital Status (Tick (✓) one (1) of the boxes below)**

Single	Common-law	Married	Divorced	Widowed	Separated	Code

**10. Have you ever registered under NIS?**

If 'yes' give NIS NUMBER

NIS Number

\* Birth Certificate, Baptismal Certificate, Passport Number.



**(THIS SECTION IS TO BE COMPLETED BY PERSONS WHO ARE MARRIED)**

11. Spouse's Name

Surname	First Name	Maiden Name (if Applicable)

12. Spouse's Date of Birth

Y	M	D

FOR OFFICIAL USE ONLY	
* Verified by:	
Passport No.	
Birth Cert.	
Baptismal Cert.	
School Record	

13. Date of Marriage

Y	M	D

FOR DP USE ONLY	
* Verified by:	
Marriage Cert.	
Others (specify)	

**(THIS SECTION IS TO BE COMPLETED BY ALL APPLICANTS)**

14. Parish of Birth

Parish Name	Code

15. Name of Mother/Guardian

Surname	First Name	Maiden Name

16. Name of Father/Guardian

Surname	First Name

**(THIS SECTION IS TO BE COMPLETED IN RESPECT OF THE EMPLOYER)**

17. Employer's Reference No.

Ref. Number

18. Name of Employer

Name /Company Name

19. Business Address of Employer

Lot/Apartment Number

Street Name/District

Post Office/Postal Agency	Code

Parish Name	Code

20. I hereby certify that the aforesaid statements are true to the best of my knowledge and belief.

.....  
Signature or Mark (X)

.....  
Date

.....  
Signature or Witness/J.P.

.....  
Date

**INSTRUCTIONS FOR COMPLETING THE NATIONAL INSURANCE  
EMPLOYER/BUSINESS REGISTRATION FORM**

.....

If there are any questions about how to complete this form, please call the nearest Ministry of Labour and Social Security office at the number listed in the telephone directory.

After your completed application is submitted, the local office will inform you of your employer/business registration number.

**USE BLOCK LETTERS ONLY**

1. Please enter the full name of the firm, company or business as used for official purpose.
2. Please enter the full name of the proprietor or managing director as used for official purpose.
3. Enter the street/district address of your business.
4. Enter parish where your business is located.
5. Enter your telephone contact number.
6. Enter your mailing address, if different from business address.
7. Indicate the nature of the business that is operated.
8. Indicate the location of the place where the records for the business be kept.
9. Enter the collectorate office where payments will be made.
10. Enter the total number of Directors in the Establishment.
11. Enter all the names of the Directors in the Establishment. You may attach a separate sheet of paper with the names.
12. Enter number of branches in establishment.
13. Enter the date from which the employer becomes liable to contribute N. I. S. i.e. date from which employee/s was/were employed.
14. Enter the total number of employees in the establishment.

**NB THE PERSONS WHO COMPLETE THIS FORM MUST GIVE THEIR FULL NAME IN THE BLOCKS PROVIDED AND THEIR POSITION IN THE FIRM**

- \* Business refers to establishment without employees.
- \* Certify that the information given is correct.
- \* Do not write in the area marked 'FOR OFFICE USE ONLY'

NATIONAL INSURANCE ACT

EMPLOYER/\*BUSINESS REGISTRATION FORM

(Employers please answer all questions. \*Businesses please answer Q 1-14 only)

1. Business Name

2. Proprietor/Managing Director  
  
*Surname* *First Name*

3. Business Address  
  
*Street No.* *Street/District.*

4. Parish

5. Telephone

6. Mailing Address  
  
*Street No.* *Street/District*

*Parish*

7. Nature of Business \_\_\_\_\_

8. Location of Records \_\_\_\_\_

9. Collectorate of Payment \_\_\_\_\_

10. Number of Directors \_\_\_\_\_

11. Names of Directors \_\_\_\_\_  
(Please add information on separate sheet of paper if necessary)

12. Number of Branches in Business Establishment \_\_\_\_\_

13. Date Liability Commenced (Date must be written as ddmmyy)

14. Number of Employees in Business Establishment \_\_\_\_\_

I certify that the information given is correct  
  
*Surname*

*First Name*

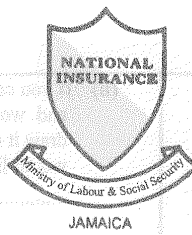
\_\_\_\_\_  
Position In Firm

Signature ..... Date .....

**FOR OFFICE USE ONLY**

Collection Code	_____
Industry Code	_____
Parish Code	_____
Ref. No.	_____
Checked by	_____
Date	_____

NATIONAL INSURANCE ACT, 1965



**CLAIM FOR  
OLD AGE BENEFIT**

**FOR OFFICIAL USE**

Claim No.

National Ins. No.

Date stamp of local National Insurance Office indicating date of receipt of claim

**IMPORTANT:** Please read the instructions on page 5 before completing.

This benefit is explained in the leaflet "OLD AGE PENSION" which is available at any National Insurance Office

**PART 1. PERSONAL PARTICULARS**  
(Every claimant must fill out this part)

1. Enter your name. <i>(Please use BLOCK CAPITALS)</i>			* Mr. * Mrs. * Miss
..... <i>(First Name)</i>	..... <i>(Middle Name)</i>	..... <i>(Surname)</i>	
2. What other names have you been known by, apart from the one given above? .....			
3. Enter your full address. .....		4. Your Jamaican National Insurance Number: .....	
5. Your age .....	6. Your date of birth (Year, Month, Date) .....	7. Sex (Tick <input checked="" type="checkbox"/> ) <input type="checkbox"/> Male <input type="checkbox"/> Female	
8. Place of birth .....	9. Is your birth certificate enclosed? <input type="checkbox"/> Yes <input type="checkbox"/> No	10. Is other evidence of birth enclosed? <input type="checkbox"/> Yes <input type="checkbox"/> No	
11. Enter your father's full name. .....		12. Enter your mother's full name at your birth. .....	
13. Marital Status: <input type="checkbox"/> SINGLE <input type="checkbox"/> MARRIED <input type="checkbox"/> SEPARATED <input type="checkbox"/> WIDOWED <input type="checkbox"/> DIVORCED			
14. (a) Have you ever before claimed a benefit under the Jamaican National Insurance Scheme, or under the Sugar Workers Pensions Scheme? <input type="checkbox"/> Yes <input type="checkbox"/> No			
(b) If "Yes", state (i) the benefit you claimed..... (ii) the claim number, if you know it..... (iii) the result of the claim.....			
15. If your husband or wife was registered under the Sugar Workers Pensions Scheme, place his or her registration number here ▶			
16. (a) If you are a widow or widower, and your late husband or wife paid Jamaican National Insurance contributions please state- (i) his or her full name..... (ii) his or her Jamaican National Insurance Number..... (iii) his or her last address in full..... (iv) his or her date of death.....			
(b) Have you enclosed his or her death certificate? <input type="checkbox"/> Yes <input type="checkbox"/> No			
(c) If death certificate has already been sent in with a claim for Funeral Grant, or Widow's or Widower's Benefit, or Employment Injury Death Benefit, please state so and describe the claim. ..... .....			

17. (i) At what Post Office or Postal Agency would you like your pension paid if one is awarded?

.....  
.....  
.....  
.....

(ii) If you cannot go to the Post Office to draw the pension and would like arrangements made for someone to draw it for you please state the reason and say who you would like to draw the pension for you.

.....  
.....  
.....

**PART 11. PARTICULARS OF EMPLOYMENT AND RETIREMENT**

(Every claimant must fill out this part)

18. Are you claiming to be treated as retired?

Yes

No

19. Please state the date of your retirement. ( Year, Month, Date)

(Please see instruction (7) on page 5)

20. Please give particulars of your retirement by filling out either Section A or Section B below.

If you are, or will be in the next four months, age 70 (in the case of a man), or age 65 (in the case of a woman), leave this question unanswered and go on to question 21.

**SECTION A USE THIS SECTION ONLY IF YOU HAVE ALREADY GIVEN UP REGULAR EMPLOYMENT.**

(a) What was the nature of your last regular employment?

.....

(b) On what day did you last work? .....

(c) Have you had any gainful occupation since?  Yes  No

If "Yes", please state-

(i) the occupation .....

(ii) whether you worked for an employer or were self-employed .....

(iii) the number of hours worked weekly .....

(iv) your gross weekly earnings, \$.....

(d) Do you intend to have any gainful occupation in future?  Yes  No

If "Yes", please state-

(i) the occupation .....

(ii) whether you will be working for an employer or will be self-employed .....

(iii) how many hours a week you expect to work .....

(iv) what you expect your gross earnings to be \$.....

**SECTION B USE THIS SECTION IF YOU HAVE NOT YET GIVEN UP REGULAR EMPLOYMENT BUT INTEND TO DO SO WITHIN THE NEXT FOUR MONTHS.**

(a) What is the nature of the employment from which you will be retiring? (iii)

.....

(b) Do you intend to have any gainful occupation after the date entered at question 19 above?  Yes  No

If "Yes", please state-

(i) the occupation.....

(ii) whether you will be working for an employer or will be self-employed.....

(iii) how many hours a week you expect to work.....

(iv) what you expect your gross weekly earnings to be \$.....

21. If you have reached "deemed retirement age" - that is, in the case of a man: age 70; or, in the case of a woman: age 65 - please state when you last worked .....

22. (a) List all your employers for the last three years of your employment in Jamaica since 1966.

Name and Address of Employer	Works No. (if any)	Occupation	Periods of Employment	
			From	To

(b) Did any of these employers deduct wage-related contributions from your pay because you were earning \$12.00 a week or more, or \$46.00 a month or more?  Yes  No

If "Yes", place an "X" against that employer's name.

**PART III. PARTICULARS OF DEPENDENT SPOUSE**

(You must fill out this part if you are claiming an increased benefit for a wife or husband or a common law partner)

23. If you are claiming an increase for a spouse give his or her name ..... **YOU MUST ALSO COMPLETE A SEPARATE CLAIM FOR THIS PURPOSE ON FORM BE 14 WHICH YOU CAN OBTAIN AT ANY NATIONAL INSURANCE OFFICE.**

24. State his or her age .....

**PART III. PARTICULARS OF SUGAR INDUSTRY EMPLOYMENT**

(You must fill out this part if you were at any time a registered Sugar Worker in Jamaica)

25. Enter your Sugar Workers Pensions Scheme Registration Number .....

26. Give details of your employment with sugar manufacturers or with registered cane farmers in Jamaica since 1961

Name and Address of Employer	Type of work	Periods of Employment	
		From	To

**PART V. PARTICULARS OF FOREIGN EMPLOYMENT**

(a) Have you ever worked as an employed or self-employed person in any other country besides Jamaica?  Yes  No

(b) If "Yes", please supply the information requested below:

Country	Period		Social Security Number
	From	To	

**PART VI.**

**DECLARATION AND CERTIFICATE**  
*(This part must be filled out on every claim)*

**SECTION A. Claimant's Declaration and Signature**  
*(Cross out either (a) or (b) as appropriate)*

I DECLARE THAT

\***(a)** I last worked on, or my last day of work will be on .....20.....

**OR**

\***(b)** I attained, or will attain, age 70 ( *in the case of a man*) or age 65 ( *in the case of a woman*) on .....20.....

I ALSO DECLARE that the information given on this form relates to myself and is correct.

I CLAIM OLD AGE BENEFIT.

Signature or Mark

of Claimant X

Date.....20.....

**SECTION B. Witness' Certificate and Signature**

*(Cross out either (a) or (b) as appropriate)*

I HEREBY CERTIFY THAT

\***(a)** the claimant signed the above declaration in my presence.

**OR**

\***(b)** the claimant made the necessary mark to the above declaration in my presence. The contents of the foregoing claim and declaration were first carefully read over and explained to the claimant, who, being unable to read or write, in order to express full understanding of their meaning and to vouch thereto, affixed the necessary mark as aforesaid.

I ALSO CERTIFY that the claimant is known to me and that the particulars given are correct to the best of my knowledge and belief.

Signature of Witness XX.....20

Date.....

Address.....

Occupation or

Qualification

\*Cross out sections which do not apply

## INSTRUCTIONS

PLEASE READ THESE INSTRUCTIONS BEFORE COMPLETING THE FORM

- (1) Use this form to claim Old Age Benefit. If you wish to claim an increase for a dependent wife or husband you must make a separate claim on Form BE 14 which you may obtain at any National Insurance Office.
- (2) Do not put off claiming the benefit or your claim may be too late, causing you to lose money.
- (3) Be sure to answer every question that applies to you or there may be a delay in your getting your pension or grant.
- (4) Where a box (  ) is provided for your answer, please place a check mark ( ✓ ) in the box next to the word that will answer the question.
- (5) If you have a birth certificate send it with this form. If you have not got a certificate send in the form without it. You can send in the certificate later. If you do not have a birth certificate but have other documents which would help the Ministry to determine your age, please send them. Examples of such documents are: vaccination certificate, baptismal certificate, school record or passport.
- (6) On this form any reference to husband, wife, widow or widower includes a common-law relationship, that is, a single man living with a single woman, a widower living with a single woman, or a widow living with a single man.
- (7) For the purposes of question 19, the date of your retirement is -
  - (a) the day you reach age 70 (*if you are a man*) or age 65 (*if you are a woman*) **whether or not you have retired;** or
  - (b) if you are age 65 or over (*in the case of a man*) or age 60 or over (*in the case of a woman*) the day after you finally cease to be gainfully occupied and have no intention of engaging in other occupation inconsistent with retirement; or
  - (c) the day you reach age 65 (*man*) or age 60 (*woman*) if you retire before you reach that age.
- (8) If you have any stamp cards give them in along with this form.
- (9) Before you fill up Part VI, you must take the form to someone who knows you but is not related to you. You must fill out Section A of Part VI in the presence of that person and sign the form at "X". That other person should complete Section B and sign at "XX".
- (10) If you need any help in filling up this form, you may get in touch with a Local National Insurance Office where you will get help. There is a Local Office in each parish capital.
- (11) When you have completed this form, you must take or send it to a Local National Insurance Office.
- (12) **If you also contributed to the Social Security Scheme of another country besides Jamaica, please complete PART V.**

**WARNING:** ANY PERSON WHO KNOWINGLY MAKES A FALSE STATEMENT ON THIS FORM IS LIABLE TO PROSECUTION







EMPLOYER'S MONTHLY STATUTORY REMITTANCE PAYROLL DEDUCTIONS\*

Please Read Notes and Instructions Overleaf before Completing This Remittance

<b>Section A - GENERAL INFORMATION</b>		2. Taxpayer Registration Number: ▶ _____	
1. Employer's Name: _____		3. NIS Reference Number: ▶ _____	4. Month of Remittance: Year _____ Month _____
5. Business Address (Apt. No., Street No. and Name, Postal Zone and Parish) _____		6. Business Mailing Address: (if different from 5.) _____	
7. Email Address: _____	8. Telephone Numbers: Office: Mobile: _____	9. Tick Appropriate Box: <input type="checkbox"/> Revised Remittance <input type="checkbox"/> New Address <input type="checkbox"/> New Tel. No.	
10. Number of persons employed for the month: _____	11. Number of NHT and NIS Contributors: _____	12. Number of HEART Trainees: _____	13. Gross Emoluments (monthly) as per NIS, NHT and HEART: \$ _____

<b>Section B - DETAILS OF STATUTORY CONTRIBUTIONS AND DEDUCTIONS FOR REMITTANCE PERIOD.</b>					
	CONTRIBUTION (a)	TRAINEE TAX CREDIT (b)	INTEREST (c)	AMOUNT PAYABLE (d) = [(a) - (b) + (c)]	AMOUNT BEING PAID (e)
14. H.E.A.R.T. . . . .					
15. NIS (Employer's plus Employees contribution)					
16. NHT (Employer's plus Employees contribution)					
17. Income Tax (P.A.Y.E.) . . . . .					
18. Education Tax . . . . .					
<b>19. TOTALS</b> (Add Lines 14, 15, 16, 17 and 18) . . . . .					

**Section C - DECLARATION**

I declare that the amount of Statutory Deductions entered in Section B above is the total amount for which I am accountable for the month indicated at Box 4 above in respect of statutory contributions from emoluments paid.

This Declaration is made with the full knowledge and understanding that any false statement made herein by me or on my behalf will render me liable to penalties and/or criminal proceedings.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

December 19, 2013  
Date



**FOR OFFICIAL USE**

NOTE: \* "This form relates to payroll deductions collectible by the Commissioner of Inland Revenue in relation to taxes and contributions payable under the following provisions: income tax under the Income Tax Act, education tax, H.E.A.R.T., N.I.S., and N.H.T. contributions, respectively under certain provisions of the Income Tax Act being made applicable by virtue of the Education tax Act (section 5), Human Employment and Resource Training Act (section 12 (6)), National Insurance Act (section 5), National Housing Trust Act (section 11)"

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## INSTRUCTIONS

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1. Use a blue or black ink pen only. Do not use a pencil. Please type or print the required information.
2. This form must be completed by all Employers who are required to deduct and pay over statutory contributions and taxes on behalf of their employees.
3. The declaration overleaf should be completed and submitted to the Collector of Taxes with a remittance for the total amount of contributions and tax deducted due by the employer on the fourteenth (14th) day of each month for the preceeding month.
4. The amount should be sent to the Collector in currency or by certified cheque made payable to "the Collector of Taxes".
5. All cheques must be crossed; with address and telephone numbers written on the back.

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## NOTES

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- |  |   |
|--|---|
| <b>2. Taxpayer Registration Number:</b>          | Employer's TRN must include the Branch Number, where applicable.<br>NB: Sole Proprietors who are employers are required to include a Branch Number. For example, 1 2 3 4 5 6 7 8 9 - 0 0 0 1                                      |
| <b>4. Month of Remittance:</b>                   | The year and month of the remittance.   |
| <b>5. Business Address:</b>                      | The current address of the business location.   |
| <b>9. Tick Appropriate Box:</b>                  | New Address: If the business address has been changed.<br><br>Revised Remittance: If the Net Tax payable is being amended.<br><br>New Tel. No.: If the business telephone number has been changed.                                |
| <b>13. Gross Emoluments (monthly):</b>           | Gross Emoluments is Total Gross Salary including all taxable perquisites paid to all employees for the month less the salaries of those employees who are under eighteen (18) years of age and over sixty-five (65) years of age. |
| <b>14. H.E.A.R.T (Contributions):</b>            | An employer is entitled to deduct from his/her contribution the prescribed tax credit for a trainee for the month in accordance with the Heart Act 1982.  |
| <b>17. Income Tax (P.A.Y.E.) Amount Payable:</b> | Total amount being paid less any refunds paid within the month.   |
| <b>19. TOTAL - Amount Being Paid (e):</b>        | Exact amount being paid with this remittance.   |




# EMPLOYER'S ANNUAL RETURN\*

# S02

Please Read Instructions before Completing this Return

<b>Section A - GENERAL INFORMATION</b>		2. Taxpayer Registration Number: (TRN) (Branch Sequence No.)	
1. Name of Employer:		—	
3. NIS Reference Number:	4. Return/Calendar Year	5. Telephone Number:	6. Email Address:
▶	▶ 20		
7. Business Address: (Street No. and Name, Postal Zone, Parish)		9. Number of persons employed during Return/Calendar Year:  (include persons who at any time during the year were employed by you. - part-time, temporary and casual workers)	10. If business closed down during the Return/Calendar Year, state date of closure.  (y y y) (m m) (d d)
<input type="checkbox"/> Check if New Address			Date of closure:
8. Mailing Address: (If different from 7)		▶ <input type="text"/>	11. If return is not original indicate type:  (If information being filed is in addition to that filed previously for the year tick Supplemental, if it is a correction of information for the year tick Amended).
<input type="checkbox"/> Check if New Address			<input type="checkbox"/> Supplemental <input type="checkbox"/> Amended

Section B - SUMMARY OF TAXES AND CONTRIBUTIONS DUE, REMITTED AND PAYABLE			
	(a)	(b)	(c) = (a) - (b)
	Total Due/Payable for Return/Calendar Year	Total already Paid for Return/Calendar Year	Balance Payable/(Refundable)
<b>NOTE: If there is a balance payable at (c), ask a Compliance Officer to prepare a Payment Advice to address the balance.</b>			
N.I.S. (Total column (h) of Schedule A) . . . . .	12		0.00
N.H.T. (Total column (i) of Schedule A) . . . . .	13		0.00
Education Tax (Total column (j) of Schedule A) . . . . .	14		0.00
Income Tax (Total column (k) of Schedule A) . . . . .	15		0.00
<b>Total (Add Lines 12, 13, 14 and 15) . . . . .</b>	<b>16</b>		<b>0.00</b>

<b>Section C - DECLARATION:</b>  <b>NOTE: Any false statement herein will render you liable to penalties and/or criminal proceedings.</b>  I _____ submit as a part of this return: (Name of Employer/Responsible Officer)  ____ pages of Schedule A, ____ pages of Schedule B and ____ pages of Schedule C.  I declare that the particulars given in this return are in accordance with the requirements of the applicable laws and that the total emoluments paid to each of my taxable employees and all statutory deductions have been fully and correctly stated to the best of my knowledge and belief.  <div style="text-align: center;">             _____            Signature of Employer/Responsible Officer      Date         </div> <b>Please complete if return is prepared by person other than employer:</b>  _____ Name  _____ Title/Position  _____ Signature      _____ Date      Contact/Telephone Number(s)	<b>FOR OFFICIAL USE</b>		
	No. of Schedule A pages received: No. of Schedule B pages received: No. of Schedule C pages received:  Signature of Collector of Taxes      Parish      Date		

\*Note: "This form relates to the annual returns for employee payroll deductions by an Employer, collectible by the Commissioner General in relation to taxes and contributions payable under the following provisions: income tax under The Income Tax Act (67), education tax, N.I.S. and N.H.T. contributions, respectively under certain provisions of The Income Tax Act (67) being made applicable by virtue of The Education Tax Act (Second Schedule, Section 4), The National Insurance (Contributions) Regulations, 1966, Section 20 and The National Housing Trust (Monthly Returns) Regulations, 1994".

## NOTES & INSTRUCTIONS:

If completing form by hand:

- Use block letters.
- Use a pen only (*blue or black ink*)

### **Who Must File:**

Every employer is required by law to make a return of the pay and statutory deductions of every person who was in their employment (whether full-time, part-time or temporary) for the year stated.

### **Where and When to File:**

This return together with the relevant schedules are to be submitted at any Revenue Service Centre, Tax Office or NHT Office after December 31<sup>st</sup> (of the Calendar/Return Year), but not later than the 31<sup>st</sup> day of March of the following year. Returns may also be filed online at [www.jamaicatax-online.gov.jm](http://www.jamaicatax-online.gov.jm).

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### **Instructions for S02 - Employer's Annual Return**

Complete all relevant lines/fields in Sections A, B and Section C.

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### **Schedule A - Employee Emoluments, Deductions & PAYE Taxes & Contributions**

List ALL persons employed during the year; whether full, part-time or temporary.

Copy totals to S02, Section B, column (a).

**Employee List Number:** Enter sequential number.

**(d) Gross Emoluments Received in Cash:** Enter the total value of each employee's gross emoluments received as money. For example: salaries, wages, overtime pay, bonuses, commissions etc.

**(e) Gross Emoluments Received in Kind:** Enter the total value of benefits/perquisites received including Accommodation Benefit, Motor Vehicle Benefit and Other Perquisites. Add columns (c), (k) and (l) of Schedule B and transfer totals to this column.

**(f) Superannuation/Pensions, Agreed Expenses, Employee Share Ownership Plan:** Enter the total amount deducted for each employee. Complete and attach Schedule C (Employee Deductions) and transfer totals from Schedule C to this column

**(g) Number of weekly NIS and NHT Contributions:** Enter the total number of weekly contributions (NIS and NHT

contributions) made on behalf of the employee for the year of assessment.

**(h) NIS:** Enter the total NIS payable (that is, the employee's plus employer's contribution) for each employee.

**(i) NHT:** Enter the total NHT payable (that is, the employee's plus employer's contribution) for each employee.

**(j) Education Tax:** Enter the total Education Tax payable (that is, the employee's plus employer's contribution) for each employee.

**(k) PAYE Income Tax/ (Refunds):** Enter amount calculated as tax less any refund amount for the calendar year for each employee. If refund amount is in excess of tax, show amount in parentheses (brackets) as a negative figure.

Total columns (h), (i), (j) and (k) and transfer to Section B of Return; column (a), Lines 12, 13, 14 and 15 respectively.

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### **Schedule B - Employee Benefits/ Perquisites**

Total columns (c), (k) and (l) and enter in column (e) of Schedule A.

#### ACCOMMODATION

**(b) Annual Rent Paid by Employer for Quarters or Residence:** Enter the annual rent paid for any quarters or board or residence provided to any employee by reason of any office or employment of profit. Where the premises are owned by the employer enter the annual commercial rent which the premises would fetch if placed on the open market.

**(c) Taxable Value of Quarters or Residence:** The taxable value will be, in instances:

1. Where cash payments are made whether to a third party, landlord or to the employee, the total amount paid for the allowance is subject to income tax at 25%.
2. Where the employer is the landlord for the accommodation, the value of the accommodation shall be deemed to be the market value of the said accommodation.
3. Where an employee is provided with accommodation on the same premises where the employment is exercised or resides elsewhere and it can be established that it is

necessary for the employee to have that accommodation for the exercise of his employment; the employee shall be taxed on an amount not exceeding thirty percent (30%) of his gross emoluments excluding the cost/value of the accommodation.

4. Where an employee occupies premises owned or operated by any exempt body as defined in Section 12(h) of the Income Tax Act; the tax is computed on thirty percent (30%) of the gross emoluments excluding the cost/value of the accommodation.

**(d) Address of Quarters/Residence for which Rent is being Paid:** Enter the address/location of the quarters/residence

**(e) Name of Landlord:** Enter the name of the landlord; if employer owns premises, enter "Same as Employer".

#### MOTOR VEHICLE

**(h) Original Cost of Motor Vehicle:** Enter the actual price paid to acquire the motor vehicle.

**(i) Age of Vehicle:** Enter the age (in years) of the motor vehicle; that is, the number of years between the motor vehicle's year of manufacture and year of assessment being reported.

**(j) % Private Usage:** Enter the percentage of use that the motor vehicle was used for private purposes.

**(k) Vehicle Benefit Subject to Tax:** Enter the taxable value of the Motor Vehicle Benefit. Refer to Schedule at Appendix A, Regulation 11 of The Income Tax Act or Technical Bulletin or the Employers' Guide to PAYE available online at [www.jamaicatax-online.gov.jm](http://www.jamaicatax-online.gov.jm).

#### OTHER

**(l) Other Perquisites or Benefits in Kind:** Enter the value of any other benefit.

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### **Schedule C - Deductions:**

List ALL persons employed during the Calendar/Return Year; whether full, part-time or temporary and show the relevant deductions for each employee.

Copy totals from column (g) of Schedule C to respective employee rows of column (f) of Schedule A.

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**Schedule A - Employee Emoluments, Deductions & PAYE Taxes & Contributions**

Employer's Name: \_\_\_\_\_ Employer's TRN: \_\_\_\_\_ Return/Calendar Year: 20 Page \_\_\_\_\_ of \_\_\_\_\_

Employee List Number	EMPLOYEE DETAILS			EMOLUMENTS (\$)		DEDUCTIONS (\$)	(g)	CONTRIBUTIONS AND TAXES (\$)					
	(a) Employee Name <i>In alphabetical order, surname first.</i>			(b) Employee TRN <i>Eg. 101-222-333</i>	(c) Employee NIS <i>Eg. Z123456</i>	(d) Gross Emoluments Received in Cash <i>Salaries, Wages, Fees, Bonuses, Overtime pay, Commissions, etc...</i>	(e) Gross Emoluments Received in Kind <i>Add columns (c), (k) and (l) of Schedule B.</i>	(f) Superannuation/Pension, Agreed Expenses, Employees Share Ownership Plan	(g) Number of weekly NIS and NHT Contributions	(h) NIS <i>5% of Total Gross Emoluments. Limit to current maximum</i>	(i) NHT <i>5% of Total Gross Emoluments.</i>	(j) Education Tax <i>5% of Total Gross Emoluments after Deductions and NIS.</i>	(k) PAYE Income Tax/(Refunds) <i>25% of Total Gross Emoluments after Deductions, NIS and Nil-Rate (NR).</i>
	SURNAME	FIRST NAME	MIDDLE INITIAL										
Sub-total													
Sub-total from overleaf													
Grand Total from Page _____ attached													
<b>Grand Total</b>													

NOTE: (USE ADDITIONAL SHEETS AS NEEDED).

Schedule A - Employee Emoluments, Deductions & PAYE Taxes & Contributions

Employer's Name: \_\_\_\_\_ Employer's TRN: \_\_\_\_\_ Return/Calendar Year: 20 Page \_\_\_\_ of \_\_\_\_

Employee List Number	EMPLOYEE DETAILS			EMOLUMENTS (\$)		DEDUCTIONS (\$) (Other than NIS)	(g) Number of weekly NIS and NHT Contributions	CONTRIBUTIONS AND TAXES (\$)					
	(a) <b>Employee Name</b> <i>In alphabetical order, surname first.</i>			(b) <b>Employee TRN</b> <i>Eg. 101-222-333</i>	(c) <b>Employee NIS</b> <i>Eg. Z123456</i>	(d) <b>Gross Emoluments Received in Cash</b> <i>Salaries, Wages, Fees, Bonuses, Overtime pay, Commissions, etc...</i>		(e) <b>Gross Emoluments Received in Kind</b> <i>Add columns (c), (k) and (l) of Schedule B.</i>	(f) <b>Superannuation/Pension, Agreed Expenses, Employees Share Ownership Plan</b>	(h) <b>NIS</b> <i>5% of Total Gross Emoluments; Limit to current maximum</i>	(i) <b>NHT</b> <i>5% of Total Gross Emoluments.</i>	(j) <b>Education Tax</b> <i>5% of Total Gross Emoluments after Deductions and NIS.</i>	(k) <b>PAYE Income Tax/(Refunds)</b> <i>25% of Total Gross Emoluments after Deductions, NIS and Nil-Rate (NR).</i>
	SURNAME	FIRST NAME	MIDDLE INITIAL										
Sub-total													

# Desired Reports



1. the number of pensioners at a given point in time and for specified periods
2. the number of benefits paid per benefit type at a given point in time and for specified periods
3. the amount expended on each benefit type at a given point in time and for specified periods
4. the number of persons registered at a given point in time and for specified periods
5. the number of employers, active and inactive at a given point in time and for specified periods
6. a listing of delinquent employers by industry and contribution arrears at a given point in time and for specified periods
7. a listing of employers registered at a given point in time and for specified periods
8. the contributors by income and age bracket at a given point in time and for specified periods
9. the number of self employed persons at a given point in time and for specified periods
10. the number of voluntary contributors at a given point in time and for specified periods
11. contributions collected at a given point in time and for specified periods
12. the number of applications logged to the system at a given point in time and for specified periods, by parish and island-wide
13. the number of applications processed at a given point in time and for specified periods
14. a listing of applications processed by employee at varying stages of the process at a given point in time and for specified periods
15. the number of pension order books and vouchers returned at a given point in time and for specified periods
16. the number of bank drafts returned at a given point in time and for specified periods
17. the number of stop orders placed at a given point in time and for specified periods
18. the number of benefits awarded under the Reciprocal Social Security Agreements by country and, totals at a given point in time, and for specified periods
19. the number of contributors for whom contributions were logged
20. summary of updates from Tax Administration Jamaica

# Industry Codes

## International Industry Codes

1. SUGAR ESTATE/ CANE FARMING
2. FARMING/ LIVESTOCK PRODUCT
3. AGRICULTURAL SERVICES
4. FORESTRY/ TIMBER/ FIREWOOD
5. FISHING, HUNTING
6. METAL MINING/ BAUXITE
7. NONMETALLIC MINING/ QUARRY
10. SUGAR MILLING/ REFINING
11. FRUIT/ VEGETABLE PROCESSING
12. BREAD AND BAKERY PRODUCTS
13. MEAT/ FISH/ BUTCHERING ETC
14. OTHER FOOD PRODUCTS
15. BREWING AND DISTILLING
16. AERATED WATERS
17. TOBACCO PRODUCTS ETC
20. TEXTILES, NOT MADE UP
21. ROPES, TWINE, CORD
22. MADE-UP TEXTILES PRODUCTS
23. SHOEMAKING/ SHOE REPAIR
24. SAWMILL PRODUCTS
25. WOODWORK EXCL. FURNITURE
26. FURNITURE/ FIXTURES ETC
27. PAPER AND PAPER PRODUCTS
28. PRINTING/ PUBLISHING
29. LEATHERY EXCL. SHOEMAKING
30. CHEMICAL PRODUCT/ SOAP ETC
32. CEMENT AND CEMENT PRODUCT
33. STRUCTURAL CLAY PRODUCTS
34. OTHER NON-METAL PRODUCTS
35. BLACKSMITH/ WELDER/ MUFFLER
36. TINWARE
37. METALS/ RAZORS/ ZINC/ STEEL
38. MACHINERY PRODUCE/ REPAIR
39. ELECTRICAL APLLIANCES
40. CAR REPAIRS/ GARAGES
41. SHIP/ PLANE BUILD/ REPAIR
42. OTHER VEHICLE MANUFACTURE
43. JEWELLRY/ WATCH MAKING
44. CURIOS/ STRAW/ WICKER/ TOYS
45. OTHER MANUFACTURERS
47. CONSTRUCTION/ PLUMBING
48. ELECTRIC LIGHT AND POWER
49. WATER/ SANITARY SERVICES
50. RETAIL- FOOD/ GROCERY ETC
51. WHOLESALE- MAINLY FOOD
53. BANKING/ OTHER FINANCE
54. INSURANCE
55. REAL ESTATE/ HOUSING COOPS
56. RAIL TRANSPORT
57. WATER TRANSPORT
58. AIR TRANSPORT
59. OMNIBUS TRANSPORT
60. OTHER PASSENGER TRANSPORT
61. OTHER ROAD TRANSPORT
62. TRANSPORT SERVICE/ AGENCY
63. STORAGE/ WAREHOUSING
64. COMMUNICATION/ TELEPHONE
65. CENTRAL GOVERNMENT ADMIN
66. EDUCATION/ RESEARCH/ SCHOOL
67. HEALTH

68. RELIGION- CHURCH
69. WELFARE/ CREDIT UNION ETC
70. TRADE ASSOCIATIONS
71. PROFESSIONAL/ LABOUR/ UNION
72. LIBRARY/ MUSEUM/ GARDENS
73. OTHER COMMUNITY SERVICES
74. LAW/ LEGAL/ ATT-AT-LAW
75. ACCOUNT/ AUDIT/ BOOKKEEPING
76. ENGINEERING AND TECHNICAL
77. TECH. / BUSINESS SERVICES
78. MOTION PICTURES, THEATRES
79. RECREATIONAL SERVICES
80. DOMESTIC SERVICE
81. RESTAURANT/ CAFÉ/ BARS ETC
82. HOTEL/ ROOMING HOUSE/ CAMP
83. LAUNDRY/ CLEANING/ DYEING
84. BARBER/ BEAUTY/ HAIR SALONS
85. PHOTOGRAPHIC SERVICES
86. OTHER PERSONAL SERVICES
89. ODD JOB/ DESIGN/ HIREAGE
90. NON-FOOD RETAIL/ WHOLESALE
91. NON-FOOD RETAIL/ WHOLESALE
92. NON-FOOD RETAIL/ WHOLESALE
93. RESTAURANT/ CAFÉ/ BARS ETC
99. AND OPEARTIONS CEASED
52. SEE 90