THE REPUBLIC OF UGANDA

NATIONAL INFORMATION TECHNOLOGY AUTHORITY UGANDA (NITA-U)

STRATEGY PAPER

ON

"RATIONALISATION AND HARMONISATION OF INFORMATION TECHNOLOGY (IT) INITIATIVES AND SERVICES IN MINISTRIES, DEPARTMENTS AND AGENCIES (MDAs)"

MAY 2012

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1. INTRODUCTION

1.1 Background

As enshrined in the National Development Plan (NDP) 2010/11-2014/15 and the National Resistance Movement (NRM) Election Manifesto, 2011-2016, Government has embraced ICT as one of the key strategies for enhancing social-economic transformation of the country, improving effectiveness and efficiency in delivery of services to the people.

Accordingly, Government established National Information Technology Authority Uganda (NITA-U) and charged it with the overall mandate to coordinate, promote and monitor the development of Information Technology (IT) in the context of social and economic development of the country.

The primary functions of NITA –U include among others;

i. co-ordinate, supervise and monitor the utilization of the Information Technology in the public and private sectors;

ii. identify and advise Government on all matters of Information Technology Development, utilization and deployment;

iii. set, monitor, and regulate standards for information Technology planning, acquisition, implementation, delivery, support, organization, sustenance, disposal, risks management, data protection, security and contingency planning;

iv. regulate and enforce standards for Information Technology hardware and software equipment procurement in all Government Ministries, Departments, agencies and parastatals;

v. provide first-level Technical support and advice for critical Government Information Technology Systems

In addition, Cabinet under Minute No: 334 (CT2011) approved the National Information Technology (IT) Policy and under Minute No: 125 (CT2011) the National e-Government

Policy Framework. These policies are aimed at streamlining, harmonizing and rationalizing the acquisition, deployment, utilization and disposal of IT services in Government as well as enhancing uptake of e-Government services.

Against this background, the Ministry of Finance, Planning and Economic Development (MoFPED), “several Government agencies have continued to procure inappropriate and fragmented IT systems”. As such, the MoFPED urged the Ministry of Information and Communications Technology (MoICT) through National Information Technology Authority Uganda (NITA-U) to expedite the rollout and optimize the utilization of the National Data Transmission Backbone and e-Government Infrastructure and provide the necessary technical assistance to Ministries Departments and Agencies (MDAs) in order to ensure full harmonization of IT operations in Government.

1.2 Problem Analysis

The Government has built the National Backbone Infrastructure (NBI), which aims at facilitating access to affordable and reliable communication services and lowering costs of communication among MDAs. Phases I and II of the NBI were completed and launched in October 2011. They entailed laying of over 1500 kilometers of fibre optic cable with 22 transmission sites, connecting of 30 MDAs, and establishment of a data center and metropolitan area network. A private contractor is being procured to manage and maintain the NBI, which will enhance reliability and resilience of infrastructure (uptime of at least 99%).

While the NBI is the super “highway” that can provide unlimited access to data connectivity and high speed internet at reduced cost to MDAs, District Headquarters, and Target user groups (Hospitals, Schools, Universities and Research Institutions), in order to optimize use of the NBI, there is a need to invest in the "feeder roads" that connect to this main “highway”. Thus, last mile connectivity of MDAs, District Headquarters, and Target user groups (Hospitals, Schools, Universities and Research Institutions) to the NBI.

In addition, there are a number of challenges relating to ICTs within Government that need to be addressed. They include:

i. Duplication of IT systems and projects by MDAs – these initiatives are being implemented in isolated and disparate (stand-alone) manner leading to wastage of resources;
ii. Lack of standards for ICT infrastructure, applications and software;
iii. Piecemeal procurement of internet bandwidth and licenses for software and applications by MDAs, depriving Government of savings arising from economies of scale;
iv. Limited sharing of information across MDAs leading to delays in decision making and implementation of Government programs; and
v. High cost of internet bandwidth, as well as unstable and unreliable internet services.

This necessitated development of a comprehensive strategy aimed at ensuring rationalisation and harmonization of the acquisition, utilization and disposal of IT services in MDAs.

2. OBJECTIVES AND BENEFITS OF THE STRATEGY

2.1 Objectives

The main objective of the policy paper is to enhance efficiency and effectiveness in service delivery to the people through deepening use of ICT.

The specific objectives to:

- To standardize, streamline and harmonize the acquisition, deployment and disposal of IT services in Government to eliminate duplication; enhance information sharing and interoperability of e-government applications.

- To ensure integration of voice, data and video communication and enhance use of shared applications and systems across government – thus reducing cost of communication, improving transparency, information security and accountability;
- To realize cost savings through economies of large scale/bulk purchase of internet bandwidth and licenses for software and applications.
- Rationalize use of available IT skills and consolidate IT skills development in Government.

2.2 Benefits

Execution of the recommended rationalization strategies will offer a number of economic, social and political benefits to government and the country at large. The envisaged benefits will include but not limited to the following:

i. Optimal utilization of the established national data transmission infrastructure (NBI)

ii. Improved sharing of information across government

iii. Secure communication at afforbadle costs across government

iv. Enhanced interoperability of e-government applications across government and reduction in duplication

v. Improved effectiveness and efficiency in hardware and software licensing regimes

vi. Cost savings to government as a result of consolidation software and applications licenses and bulk purchase of internet bandwidth

3. STAKEHOLDERS' CONSULTATIONS

The process of developing the strategy paper for rationalization and harmonization of IT initiatives and services in Government involved several engagements and discussions with a cross section of national stakeholders.

i. Rapid survey of IT initiatives in Government, which covered 102 MDAs (list of stakeholder consulted attached as Annex2). The results of the survey assisted in the preparation of the first Draft Strategy, which was discussed and approved by the NITA-U Board.

ii. The draft strategy was presented and discussed in the National Budget Conference for FY 2012/13 held in Kampala.

iii. The draft strategy was also presented and discussed by the Parliamentary Committee on ICT.

iv. Several engagements were made with of the Ministry of Finance, Planning and Economic Development to ensure that the proposed strategies are in line with the macroeconomic framework of the country.

4. FINDINGS

4.1 Availability and Access to IT infrastructure and services

A synopsis of the current status of IT initiatives and systems indicate a fairly good availability of IT infrastructure, facilities, applications and software in government MDAs. Most MDAs are in possession off websites, basic computer supplies and accessories and the distribution of e-government facilities has also been equitable. The most available facility was websites followed by shared services and server rooms. That is, 96% of the MDAs that responded to the survey reported availability of websites, 89% reported availability of shared services and those reporting availability of server rooms stood at 83% (NITA U – IT initiatives Survey 2011). The least available IT infrastructure and services were disaster recovery sites, available in only 17% of the MDAs followed by web portal (25%) and data centers existing in 31% of the MDA that responded to the survey.

Accessibility of the IT infrastructure and services however remains a big challenge as most infrastructure and facilities were reported to be malfunctional. For example, about 11% of the computers and 14 % of e-government facilities were reported to be non-functional.

4.2 Public expenditure on IT infrastructure and services

The study revealed substantial amount of public resources has gone into the setting up of various IT initiatives and systems in different MDAs. For example, the survey revealed that about UGX 190,208,317,500 has been spent setting up 13 data centres in different MDAs. Also on average, UGX 578,752,626 is spent to establish one disaster recovery site and there were about 10 such sites recorded. Further, Annual average expenditure for each MDA on licenses for applications, operating and anti-virus stands at UGX 92,640,921, UGX 2,096,405,063 and UGX 6,896,148 respectively.

The survey on data connectivity and internet usage in MDA conducted by NITA in November, 2011 shows that MDAs spent about UGX 756.8 million per month on voice communication translating into gross annual expenditure of about UGX 9,081.4million.

Table 1: Voice communication in MDAs by Category

Category of service	Number of Response	Total Cost per month	Average cost per month
Land lines	55	561,963,000	10,217,509
Mobile phones	39	194,823,000	4,995,461
Total		**756,786,000**	

According to the budgetary allocations for FY 2010/11 and 2011/12, Government planned to spend UGX 15,645.5 million on computer supplies and IT services and UGX 16,417.60million on telecommunications in the FY 2010/11. This was estimated to respectively grow to UGX 16,788.90 and UGX 17,952.50 million in the FY 2011/12. The details allocations by MDAs are appended as annex 1 & 2, the Table below only presents the summary.

Table 2: Summary of Budget allocations to Computer supplies & IT Services and Telecommunication for 2010/11 and 2011/2012 (in million Uganda shillings)

	2010/11 Approved Budget			2011/12 Draft Estimates		
Institution	Computer supplies & IT Services	Telecommunications	Total	Computer supplies & IT services	Telecommunications	Total
Ministries	6,974.9	8,670.6	15,645.5	8,196.0	8,685.3	16,881.3
Other bodies	8,487.2	7,747.0	16,234.2	8,592.9	9,267.2	17,860.1
Grand total	**15,462.10**	**16,417.60**	**31,879.70**	**16,788.90**	**17,952.50**	**34,741.40**

Source: Ministerial Policy Statements for Fiscal Year 2011/2012

In addition, government spends a substantial amount of money on maintenance of IT initiatives and systems. For the MDAs that provided the response about UGX 1.4billion is spent monthly on maintenance and servicing of IT infrastructure and facilities translating into an estimated annual expenditure of UGX 17 billion on maintenance of IT initiatives and systems.

Table 3 : Monthly maintenance expenditure on IT infrastructure, services and facilities

S/No	IT infrastructure & Facilities	Number of responses	Total Monthly Expenditure in UGX	Average Monthly expenditure in UGX
1.	Data centre	13	121,800,000	9,369,231
2.	Server room	28	72,100,000	2,575,000
3.	Disaster recovery sites	7	62,258,201	8,894,029
4.	Shared services	27	211,511,000	7,833,741
5.	Website	52	20,592,243	396,005
6.	Web portal	5	950,000	190,000
7.	Computer Accessories and Peripherals	54	646,364,526	11,969,713
8.	Records management system	3	8,250,000	2,750,000
9.	Information management systems	16	271,829,400	16,989,338
	Total		**1,415,655,370**	

Source: NITA U- IT initiatives survey

About 70% funding of IT initiatives comes from the Government of Uganda (GoU). The rest comes from development partners (donors). The private sector contribution is less than 1%.

4.3 ICT related Challenges in MDAs

There are a number of challenges relating to ICTs sited within government. They vary in scope and intensity from one institution to another. However, the most critical challenges identified by the survey as summarized in box 1 below.

Box 1: **IT related Challenges in MDAs**

- Disparate/fragmented IT initiatives and systems
- Lack of uniform structure for ICT personnel
- Inadequate staffing and limited ICT skills
- Poor management of IT programmes and projects leading to high failure rates
- Limited sharing of information across different players
- Lack of standards on ICT infrastructure, applications and software
- High cost of ICT infrastructure and facilities including licenses coupled with procurement styles and modes that do not facilitate harnessing the economies of scale
- High cost of internet bandwidth and unstable service
- Slow generation of content leading to irregular update of websites and web portals

Based on observation of the current challenges in procurement, deployment and ulitisation of the national IT initiatives and systems in the country, the government through NITA U has come up with several strategic recommendations for harmonization and rationalization of IT infrastructure and services. These are discussed in the subsequent section.

5. RECOMMENDED STRATEGIES AND ACTIONS

Strategy 1: Use of the NBI/EGI infrastructure as the primary vehicle for all Government data, Internet and voice services starting FY 2012/13

Prescription and justifications of the strategy

The purpose of this strategy is to ensure optimal utilization of the NBI through ***mandatory use of the NBI as the primary vehicle for voice, data and Internet needs for all Ministries Departments and Agencies (MDAs), District Headquarters, and Target user groups (Hospitals, Schools, Universities and Research Institutions).***

The NBI will provide unlimited access and high capacity connectivity to support the above systems and data connectivity needs for other MDAs. The main objective the government built the NBI was to primarily support data connectivity and information sharing across government.

Currently, only 30 MDA locations and 16 district headquarters are connected to the NBI and can access e-government services. UMCS has also been piloted in 3 MDAs – NITA-U, Ministry of ICT and State House with resounding success. VoIP has been piloted in 3 MDAs (MoICT, Ministry of Internal Affairs (MoIA) and NITA-U) with resounding success. In addition, 16 IFMS sites are also connected to the NBI.

Implementation requirements and cost implications

In order to execute the above strategy and be able to realise cost savings and efficiency gains in government expenditure, there is a need to inject some resources in implementation of the strategies.

The prerequisite investments are as follows:

i. Cabling

There is a need to first invest in structured cabling facilitate integrated voice, data & email services. Structured cabling will be done for the first 30MDAs and thereafter standards will be availed to MDAs to undertake structured cabling on their own. This will require an investment of UGX 1.335BN per annum for the period of three years. This will entail assessment of user requirements, procurement of materials and professional fees for installation of the structured cables. A needs assessment study to understand infrastructure and data links requirements for MDAs. This is estimated at UGX 665M and is expected to be funded under RCIP.

ii. Last mile connectivity

Investment in last mile connectivity will begin with a feasibility study to establish the number of MDAs, District Headquarters, and Target user groups (Hospitals, Schools, Universities and Research Institutions), their location and distance from the NBI as well as the most feasible technology to reach them. The study is estimated to cost UGX 665M. Rollout of last mile connectivity will be done at an estimated annual cost of UGX 2.65BN in FY 2012/13, UGX 13BN in FY 2013/14 and UGX 13Bn in FY 2014/15. Thereafter, an estimate of 5% for maintenance of last mile connectivity – i.e. 650M per annum. (Detailed implementation plan and cost saving analysis attached).

Cost savings and other benefits

i. Last mile/data connectivity

The savings of last mile connectivity will accrue from reduction in the number of leased lines, which is an alternative for data connectivity for MDAs, District Headquarters, and Target user groups (Hospitals, Schools, Universities and Research Institutions). Currently, the average expenditure leased line by MDAs with data links is UGX 1.26Bn. The traditional is each MDAs has two links for resilience and backup. By making NBI the primary vehicle, one link per MDA will be provided hence a saving of 50%. Assume a roll out of 2 MDAs per annum, the saving on last mile and data connectivity be UGX 1.26BN

beginning FY 2013/14. After the third year, no more investments will be required in last mile connectivity for a period of over 5 years.

In addition, the use of NBI as a primary vehicle for data connectivity for MDAs will ensure that priority e-Government applications such as Integrated Financial Management System (IFMS), Integrated Personnel and Payroll System (IPPS), electronic taxation (e-Tax), Community Information System (CIS) and Local Government Information and Communication Systems (Logics) are quickly rolled out. The NBI will provide unlimited access and high capacity connectivity to support the above systems and data connectivity needs for other MDAs. Currently about 50% of the MDAs that are in need of data links have no access to it. Yet the primary purpose of the NBI is to enhance data connectivity

ii. Internet

Bulk purchase of bandwidth will bring saving in region of 65-70% per annum. Currently the government is spending about UGX 6.3billion for only 201MBps per annum. With bulk purchase the government will need about UGX 2.2billion per year to purchase the same internet bandwidth of similar capacity, thereby realising a saving of about UGX 4.1billion per annum or an equivalent of 65%. For the start, NITA–U will purchase 2STM (310MBps per month) at an estimated US$400 compared to the average expenditure of US$ 1,135 for MDAs and Market rates of US$ 600.

iii. Voice over Internet Protocol (VoIP)

Based on roll out to 30 MDAs per annum, VoIP will realize a 30% saving on voice communication. Rolling out of VoIP through the NBI will generate savings to Government as calling among MDAs, which is currently charged a normal call rate of about Ushs 250/- per minute will be treated as an inter-com attracting a nominal charge. It is estimated that by connecting 30 MDAs to VoIP, a total saving on the communication budget in the region of UGX 2.9 - 4.0 billion per annum will be achieved. This is an equivalent of 15-30% savings on the current Government budget on communication, which was estimated at 17.9Bn for FY 2012/13.

iv. Unified Messaging and Collaboration Services (UMCS)

UMCS will realise savings in terms of centralized data hosting. If MDAs were to undertake UCMS on their own, they will require an average of US$ 150,000 to install the system and about USD 600 per user per year. Doing it centrally, will cost an average of US $ 120,000 and the annual license per user is US$ 400. Assuming a roll out of 10 MDAs per annum , the savings will grow from US$ 780M in FY 2012/13 to UGX 2.3BN in FY 2014/15.

In addition, UMCS will offer a number of intangible benefits that could not easily be monetarized such uniform mailing platform for government, increased sharing of information among MDAs, integration of voice, video and emailing communication systems and reduction in unwanted, anonymous calls and unsolicited messages.

Summary of required actions

- All MDAs should use the NBI/EGI infrastructure as the primary vehicle for all Government data, Internet and voice services starting FY 2012/13
- All internet bandwidth for government to be centrally procured and distributed by NITA U.

Strategy 2: Centralized hosting Services, Data Centre Services and Disaster Recovery Services for Government Applications & Data

Prescription and justifications of the strategy

This strategy proposes central hosting and management of data centre, server rooms and disaster recovery sites. The purpose is to minimize duplication and enhance inter-operability among e-Government applications.

The performance on this strategy will be measured by changes in the number of MDAs using central Data centre and number of applications hosted in central Data centre and the expected outcome is reduction in government expenditure on hosting services, and costs for establishment, management and maintenance of data centres, server rooms and disaster recovery sites.

This strategy was based to the revelation that several MDAs have established data centres, server rooms and disaster recovery sites to which the government has spent over UGX 200 billion in the past five years and which continue claiming an annual maintenance cost estimated UGX 3billion. Furthermore, there are several MDAs who are also planning to build new data centres e.g. NSIS. The major challenges, however are that these data centres, servers and disaster recovery sites attract high maintenance costs, there is duplication of equipment, and the rapid technological changes require frequent investments to upgrade infrastructure. Other related challenges are inadequate technical capacity to manage these facilities, redundant equipment, lack of rationalisation of equipment and complementary infrastructure like power, compromise of information security and presence of facilities that do not meet required minimum international standards (environmental, Information security etc.). Furthermore, there is no information sharing among MDAs.

Implementation requirements & Cost implications

For the three years of this project, the cost implications are as follows: UGX 2.5 Bn for FY 2012/13; UGX 2.0 Bn for FY 2013/14 and UGX 2.0 Bn for FY 2014/15. This expenditure will go into:

a) Feasibility Study for a National Data Centre and Shared Services – to be funded under RCIP
b) Additional infrastructure costs in the NITA-U transition datacentre at Statistics House – UGX 2 billion – 2012/13
c) Use existing MoFPED disaster recovery centre as the transition centralized disaster recovery centre for MDAs

Cost savings and other benefits

Assuming that All VOIP & UMCS services are centrally hosted in data centre and all MDAs requiring new data centres will be centrally hosted. The estimated cost savings to accrue from such undertaking will be: UGX 2.6 Bn in the FY 2012/13, UGX 2.9 Bn in FY 2013/14 and UGX 3.2 Bn in FY 2014/15. The benefits will continue to grow over the medium to long term period until such a time when the capacity of the central data will be overstretched hence necessitating huge investments in establishment of new data centres.

In addition to saving costs and eliminating duplication, centralised hosting services, data centre and disaster recovery services for Government applications and data will offer a number of other benefits. They include: rationalizing overhead costs such as power (green computing) and maintenance costs; reduction in redundancy of equipment, quick provisioning of services; increased availability of systems, improved security and leveraging manpower or IT skills within Government.

Summary of required action:

- NITA-U to coordinate the initiatives of all MDAs intending to create new datacenters, server rooms or disaster recovery sites or to make significant upgrades to their existing datacenters, server rooms, and disaster recovery centers
- NITA-U to set, publish and implement a standard information inter-operability framework for easy information sharing across all MDAs.
- NITA U to develop centralized shared hosting services, national data centre and data recovery services to be used by all MDAs across Government

Strategy 3: Establishment of a centrally managed National databank

Prescription and justifications of the strategy

The purpose of this strategy is to establish a National data bank infrastructure that will act as the central repository of information that will be used for many national purposes such as elections (updating voters register), government to business (G2B), government to citizens (G2C) service delivery, (production of National IDs, Passports and Driving Permits, among others), among others.

Currently Uganda lacks a national databank implies that: one, there is no single "point of reference" for authentic and accurate data for citizens and government information; two, continued duplication of functionalities in relation to data management; three, high costs of information search and access; and four difficulties in information sharing across government.

The anticipated benefit from establishment of a national population databank will include cost savings through consolidation and integration of databanks, centralized identification of citizens, improved information security, information sharing through a unified interface and enhancement of transparency and accountability.

Implementation modalities and cost implications

Following the Presidential directive that Ministry of ICT through NITA-U should provide the secretariat and house the National Population Databank so that all the MDAs and other permitted users access it from a central point, the National Databank is being implemented in phases.

Phase 1:

This was expected to deliver for the Electoral Commission (EC) an Updated clean voters' register, a data and personalization centre for the Ministry of Internal Affairs, as well as issuing 3.5 million National Identity Cards and numbers

Phase 2:

This was to include the Mass enrolment for all citizens and alien residents, and Issuance of 11.5 million National Identity cards personalized and distributed

Phase 3:

This is currently on-going and it aims at ensuring the integration and linkage of the National Identification Register (NIR) to other databases to create the National Population Data Bank.

Financial Implication (Investment Costs)

The national data bank is anticipated to be financed through private public partnership (PPP). Through benchmarking of other countries the cost of establishment of the national data bank is estimated at USD 13million. The scope of this project (for the first three years), the required expenditure is for conducting of the feasibility Study for the implementation of the National Databank. This is estimated to costs UGX 390Million and is to be funded under RCIP

Summary of actions required

- In order to avoid duplication of efforts of identification of citizens, all government initiatives that include collection of biometrics of citizens should be designed to use the National databank as the source of identification.
- Funding for all other citizen identification initiatives across Government should be routed towards completion of the National Security Information System (National ID) to ensure completion of the development of the National databank

- All MDAs who are intending to collect or are collecting biometrics of citizens for identification purposes should work with NITA U to ensure harmonization with the National databank

Strategy 4: Promotion of Unified Messaging and Collaboration Services (UMCS)

Prescription and justifications of the strategy

The unified messaging and collaboration solution aims at ensuring secure communication at affordable costs and enhancing information sharing across Government. Unified messaging and collaboration systems (UMCS) have been piloted with high degree of success in three MDAs (MoICT, NITA-U and Statehouse).

Currently, MDAs use different emailing application systems. There is no standardization nomenclature of email addresses across government and dispersed or missing contacts databases. By and large email communication across government is not secure with lots of unwanted, anonymous calls and unsolicited messages. Furthermore there is limited information sharing, unavailability of integrated communication systems (integrating voice, data and video) and poor capacity utilization (due to huge number of junk mails).

Implementation modalities and Cost Implications

Assuming a roll out of 10 MDAs per annum, the cost implication of UMCS have been estimated as: UGX 3.4Bn in FY 2012/13, UGX 5.4Bn in FY 2013/14, and UGX 7.5Bn in FY 2014/15. These costs are derived from three major expenditure items, namely; equipment, installations and licenses.

Cost savings and other benefits

The cost saving from UMCS would accrue in the long term in form of reduced telecommunication and emailing costs. There are also advantages of centrally undertaking UMCS as compared to each individual MDA doing it on its own. Assuming a roll out of 10 MDAs per annum – this strategy would generate costing savings to the tune of UGX 0.6Bn in FY 2012/13, UGX 2.4Bn for FY 2013/14, and UGX 4.2Bn for FY 2014/15.

Other benefits of this system include: long term reduction in communication costs due to WANs/LANs; reduction in administration and maintenance costs; improved service availability and information Sharing, enhanced information security, and standardization of email addresses across government and shared contacts database. In addition, the system has a number of other features such as interactive communication, task manager, sharing of calendar schedules and fixing of appointments and meetings.

Summary of required action

- MDAs should adopt uniform standards for unified messaging and collaboration as set by NITA-U**.**

Strategy 5: Consolidation and Bulk licensing of applications and software licenses

Prescription and Justification of the strategy

This strategy aims at improving effectiveness of license administration and realisation of cost savings on license acquisition through undertaking of global long term agreements (LTAs) with software and license manufacturers/vendors.

Currently, Government faces a number of challenges relating to software and applications licenses. The government pays higher for unit of license largely due to retail purchases, which in addition deprive government off number manufacturers' after-sale services. Based on the survey findings, MDAs spend UGX 27.4billion on licenses for applications, operating systems and anti-virus per annum. Software and applications piracy is also rampant, which act can claim huge sums of money from government in case the offenders were clamped down and legal proceedings opened against them. Licences are poorly monitored and license terms and conditions are poorly interpreted. In addition, there is low exploration and exploitation of the benefits of free open source software.

Implementation and cost implications:

The resources for purchase of licenses for software and applications already exist in MDAs. It is the same resources that will used to purchase government licenses at better rates through carefully negotiated global long term contracts with vendor. In the first year, however, there is a need to undertake an assessment study of the terms and conditions as well maturity/expiry of existing contracts. This is estimated at UGX350million.

Cost saving and other benefits

Consolidation and bulk purchase of licensing for applications and software generate cost savings in form of volume discounts (estimated at 30%) and free training offers (vouchers) saving about 20% of the retail purchase. Other benefits from this strategy may include: renewal/upgrade process simplification and Information security compliance, retention of Systems experts in country from major vendors which encourage high utilization (value for money), avoidance of litigation costs and piracy cases, and centralized application portfolio management.

Summary required actions:

- NITA-U to consolidate all application and software licenses across MDAs to ensure rationalization of costs and license benefits.

6. IMPLEMENTATION ARRANGEMENT FOR THE RECOMMENDED ACTIONS

5.1 Timeframe

The strategies are planned to be executed over a period of three years. They will be implemented on a phased approach starting with structured cabling; last mile connectivity and installation of services for MDAs, District Headquarters, and Target user groups (Hospitals, Schools, Universities and Research Institutions).

Over this three year period, five major services have been prioritized to be delivered over the NBI/eGI and they include the Internet, VoIP, IFMS, IPPS and UMCS. Other services for the medium term will include e-tax, e-health, and e-learning.

5.2 Policy issues

Implementation of the strategies for rationalization will need a high level adoption and approval of government.

The cabinet shall endorse and pronounce it self on these strategies so as to give them strong policy backing and guidance. This process has been initiated through drafting of the cabinet memorandum which will be presented and discussed soon.

5.3 Governance Issues

In order to ensure a smooth transition from on-going norms and practices within MDAs towards execution of the recommended strategies, there are a few governance issues to be addressed. The first one is treatment of running contracts and/or on-going procurements. There is a need to introduce these strategies without creating breakages in access to IT services by MDAs. There will be a need study and take inventory of running contracts and on-going IT procurements across government to inform the transition decisions. Expert opinion will be sought from solicitor general on how best to treat on-going procurements and running contracts with service providers.

5.4 Institutional Issues

The lead implementing agency will be NITA-U, which is by law mandated to coordinate, supervise and monitor the utilization of IT in public and private sector and to regulate IT sector and enforce IT standards. Other implementing agencies will include Ministry of Finance, Planning and Economic Development that will be charged with budgetary allocation, budget monitoring, and value for money audit (Office of the Auditor General); and Ministry of ICT for continuous policy guidance and oversight. All participating MDAs will be the hosts and beneficiaries of the applications and will be responsible for maintenance of equipment and provision of first line support and awareness creation to users.

5.5 Technical Issues

The majority of the technical issues will be handled by NITA-U, which has already demonstrated capacity to do so through successful piloting of the initiatives such as VoIP and UMCS. NITA-U has also built its technical capacity to provide high level support through deployment of competent / skilled personnel.

There will be a need to strengthen capacity of the implementing agencies to take on additional responsibilities and/or execute the centralised roles.

7. CONCLUSION

The implementation of the recommended strategies will help to enhance efficiency and effectiveness in public service delivery through deepening use of ICT, save government of unnecessary expenditure currently arising from duplicated IT infrastructure and initiatives; information sharing and to offer a number of benefits arising from bulk purchase of internet bandwidth, software and applications and central hosting of IT initiatives, among others.

Rationalizing, centralized and integrated procurement, deployment and utilization of ICT infrastructure and initiatives across government is surely the way to go if the country is to leverage the numerous benefits of ICTs to improve public service delivery.

8. ANNEX1: RECOMMENDED STRATEGIES AND PROPOSED IMPLEMENTATION MODALITIES FOR RATIONALIZATION OF IT INITIATIVES

S/NO	Current State	Cost/Risk of maintaining the status quo	Cost benefit Analysis for the recommended strategy	Implementation plan	Investment funds required in Budgets
Strategy 1: Use of the NBI/EGI infrastructure as the primary vehicle for all Government data, Internet and voice services starting FY 2012/13					
1. Structured cabling	a) Most existing cabling in MDAs does not all service integration b) Partial/incomplete cabling c) Non-existing cabling	a) Slow adoption of shared services b) Low and inequitable uptake of e-government services	**<u>Investment required</u>** • Needs assessment UGX 140M for needs assessment • Roll out of structured cabling UGX 1.335BN per annum	a) Procure a firm to conduct structured cabling b) Procure materials for structured cabling c) Roll out structured cabling	FY 2012/13- UGX 1.335Bn FY 2013/14 – UGX 1.335Bn FY 2014/15- UGX 1.335BN
2. Last	a) 27 MDA		**Cost benefit Analysis**	a)Conduct a	1. Feasibility

mile connectivity	offices are already connected to the NBI b) 50% of the MDAs with branch offices do not have data links in place for various reasons including cost and availability. c) 16 IFMIS sites are using the NBI as the primary link for	a) 16 MDAs are spending UGX 1.8billion per annum on data links in the current financial year **b)** UGX 1billion is spent on IFMIS alone (for two links) c) One IFMS data link costs UGX 507million per annum. d) 50% of the MDAs that need data links will continue not having access.	a) The government has invested USD 106million primarily for data connectivity we therefore need to make use of this and avoid duplicating costs b) The NBI has excess capacity therefore MDAs will have high capacity data links that enables them to process online transactions faster. c) We will need to invest in last mile connectivity to MDA offices the cost will be established after we conduct the needs assessment.	feasibility study b) Roll out to priority users, MDAs and LGs c) Operationalize NBI phases 1 and 2 d) Implementation of Phase III of the NBI e) Ensure availability of fall back data links to the respective MDA offices	study UGX 665m 2. Roll out costs FY 2012/13 – UGX 2.65BN FY 2013/14 – 13BN FY 2014/15 – 13BN

	connectivity. d) NITA-U is working with URA is to ensure that all their branch offices use the NBI as their primary link for their data connectivity.				
1. <u>Voice</u>	d) Calling across MDAs is charged a normal voice call (local) an	c) Government planned telecoms expenditure FY 2011/12 was UGX17.91bn.	**<u>Cost Saving</u>**: a) Using the NBI for VoIP between MDAs would realize a cost saving ranging from UGX 2.7 in	d) Conduct a needs assessment to understand infrastructure requirements for	UGX 1 billion over 3 years • 2012/13 – UGX 333 million

	average of UGX 250 per minute. e) 27 MDA locations are already connected to the NBI and have EGI infrastructure that enables Voice over IP.	- Ministries = UGX 8.68bn - Agencies = UGX 9.23 bn (Budget Framework Paper/MPS, 2011/12). d) About 30% of telecomms budget is on inter-ministerial / calling among MDAs) = UGX 2.6 bln e) About USD 90 Million has been spent on establishing the NBI/EGI infrastructure, which yet to be optimally utilised	FY 2012/13 to 3.1billion in FY 2014/15 **Investment required** a) In order to achieve this saving, the government needs to carry out a one-off investment about UGX 2.5 billion for 25 MDAs. b) This includes the following investments (1) cabling expenses (UGX 1.35bn), (2) Headsets (UGX 405million), UPS (270million), Training expenses (UGX 135 million), Project management (UGX 101million) and maintenance & replacement costs (UGX 250 million)	MDAs e) Proposed to roll out 30 MDAs per year f) Installation of last mile connectivity of the NBI to other Government offices g) Implementation of Phase III of the NBI	• 2013/14 – UGX 333 million • 2014/15– UGX333 million
		Current Cost	**Overall assessment:** If	a) Review of existing	UGX 6.3 billion

2. **Delivery of Internet bandwidth over the NBI to MDAs**	a) High cost of internet bandwidth and unstable services b) Poor monitoring of internet bandwidth – MDAs normally receive less than what they subscribe for **c)** Uneven access – leaving many MDAs will little or completely no internet access **d)** Many MDAs	a) Estimated total annual expenditure on bandwidth capacity by MDAs was UGX 6.3billion (for a total of 201 MBps established by the NITA- U survey), b) The average cost per 1 Mbps is USD 1134 (equivalent to UG X 2.6million) The average market cost per 1MBps per Month ranges between USD 500 – USD 700 (equivalent to UGX 1.15m – 1.61m)	we procure internet bandwidth for all MDAs in bulk, based on preliminary market scan, we can deliver internet bandwidth at an average cost of USD400 (equivalent to UGX 0.92million) per 1MBps per month. Bulk purchase of internet capacity of the same magnitude (201MBps) would then require UGX 2.2billion per year, therefore delivering a saving of about **UGX 4.1billion or an equivalent of 65%.** **Benefit Analysis**: a) Cost Savings	contracts with ISPs in MDAs to confirm expiry dates. b) Implementation will be on a phased approach to take into account expiry of current contracts with ISPs and availability of connectivity of MDA offices to the NBI c) Put in place last mile connectivity to respective MDA offices (this cost has been included in the data connectivity	for 2012/13 • This money now lies in the different MDAs budgets

	do not have a fall back internet link		b) Cost of Internet will decrease c) MDAs which could not afford internet bandwidth will be able to afford therefore increasing internet access across MDAs. d) Centralized Monitoring/Optimization of internet Bandwidth e) Increased online access	investments below) d) Confirm overall government internet bandwidth requirements to procure bulk internet bandwidth. e) Procure bulk internet band width for government f) Operationalize NBI – phase 1 and 2 (includes set up of internet band width monitoring and management tool at NBI data	

				centre. g) Deliver bulk internet bandwidth over the operationalized NBI to MDA Offices	
3. **Data**	a)		d)	f)	
Strategy 2: Centralized hosting Services , Data Centre Services and Disaster Recovery Services for Government Applications & Data					

	a) Based on the recent IT rationalization survey, 23 MDAs that responded to the survey have data centers, 62 are using server rooms and 13 MDAs are operating data recovery sites. b) The MDAs spent UGX 200 billion setting data centres, Sever and Disaster	a) High maintenance costs b) Duplication/redundant equipment c) Data centers/server rooms do not meet the required international standards (environmental, Information security etc) d) No sharing of information between data centers. e) Poorly managed data centers	**Overall assessment:** a) Cost savings and efficiency will be realized through elimination of duplicate facilities. **Benefit Analysis:** a) Cost Savings from consolidated implementation – Shared Data Centre (electricity costs, etc.) b) Reduction in duplication/redundancy of equipment c) Quick provisioning of services/projects – no lead times for MDAs to procure equipment for IT projects d) Increased availability of	a) Conduct a Feasibility Study for a National Data Centre and Shared Services planned to be financed under RCIP at USD 180,000) b) Transition/Pilot Data Centre Services with the Data Centre at Statistics House [Already Started with UCMS] c) Use of the MoFPED Disaster Recovery Centre as the initial	1. Feasibility Study for a National Data Centre and Shared Services – to be funded under RCIP 2. Additional infrastructure costs in datacentre at Statistics House – UGX 2 billion – 2012/13

	Recovery Sites. c) Inadequate technical capacity to management the facilities d) Rapid technological changes that require frequent investments for upgrading. e) In totality MDAs spend about UGX 3billion on annual maintenance and servicing		Systems e) Lower maintenance costs f) Improved Security g) Green Computing h) Leveraging Manpower/Skills within Govt	National Disaster Recovery Site.	

	of the data centres.				
Strategy 3: Establish a centrally managed National databank					
	a) The National Databank is being implemented in phases beginning with the Presidential directive that	c) Lack of single "point of reference" for authentic and accurate citizens data. d) Lack of inter-operable standard databases and applications	**Overall assessment:** The National data bank infrastructure will act as the central repository of information that will be used for many national purposes such as elections (updating voters register), plant	a) Inventory of all initiatives for Citizen Identification and harmonization through the NSIS initiative b) Feasibility Study for the implementation of the National Databank. c) Develop a Government Enterprise Architecture	1. Feasibility Study for the implementation of the National Databank – to be funded under RCIP 2. Develop a Government

	Ministry of ICT through NITA-U should be the secretariat and house National Population Databank and all the MDAs and other permitted users access it from a central point. a) Many MDAs are spending funds to collect biometrics so as to identify citizens e.g. IPPS, Ministry	e) Duplication of functionalities f) High costs of information search and access g) Resistance to change minimizes options for building a shared databank	and animal data supporting the National Identification (production of National IDs, Passports and Driving Permits, among others), among others. **Benefit Analysis:** a) Cost savings through consolidation and integration of databanks b) Centralized identification of citizens c) Improved information security d) Enhancement of transparency & accountability	& Blueprint d) Consultancy to develop national metadata standards e) Study on the Interoperability Framework f) Consultancy to develop applications and Data security guidelines g) Implementation of regulations for the cyber laws h) Development of the data protection and privacy law and regulations	Enterprise Architecture & Blueprint - to be funded under RCIP 3. Consultancy to develop national metadata standards - to be funded under RCIP 4. Study on the Interoperability Framework - to be funded under RCIP 5. Consultancy to develop applications and Data security

	of Health, Financial institutions etc b) The on- going NSIS project will deliver the National Identification Register (NIR). This is the core for development of the National databank a) There is no inter-operability between existing e-Government applications, therefore		**Investment required** a) Feasibility study to implement the National databank b) Consultancy to develop national metadata standards c) Consultancy to develop Interoperability and architecture frameworks d) Consultancy to develop applications and Data security guidelines e) Data protection and privacy law and regulation		guidelines - to be funded under RCIP 6. Implementation of regulations for the cyber laws - to be funded under RCIP 7. Development of the data protection and privacy law and

	causing duplication of functionalities - the National databank needs to be in place to create this inter-operability b)				
Strategy 4: Promotion of Unified Messaging and Collaboration Services (UMCS)					
1.	a) MDAs use different emailing application systems. b) During the recent IT rationalization survey 67 reported	a) Unsecure communication across government b) Limited information sharing c) Non-integrated communication systems (lack of	**Cost Saving:** a) Cost Saving – At least 30% will be saved from bulk procurement of licences & centralized support services. **Benefit Analysis:** a) Long term reduction	a) Finalization of the pilot implementation (MoICT, NITA-U & Statehouse) **[June 2012]** b) Needs Assessments for MDAs/user requirements **[August 2012]** c) Arising out of the lessons learned, review , update	Total UGX 11.352 billion over 3 years. • 2012/13 – UGX 3.8 billion • 2013/14 – UGX 3.8 billion • 2014/15 –

	having email services. 19 were on Exchange, 23 Linux, 4 Lotus, 6 hosted and others 19. c) Externally hosted email is prone to abuse and loss d) Lack of standardizatio n of email addresses across government and dispersed or missing Contacts databases	integration among voice, data and video) d) High cost of communication e) Unwanted, anonymous calls and unsolicited messages f) Poor capacity utilization (due to huge number of junk mails).	in communication costs due to WANs/LANs b) Reduction in administration & maintenance costs c) Improved service availability, efficiency and effectiveness d) Enhanced Information Security e) Standardization of email addresses across government and shared contacts database f) Improved Information Sharing **<u>Required Investment</u>** a) Cabling (LAN) –	and implement a nationwide roll-out plan/roadmap for the UMCS **[July 2012]**	UGX 3.8 billion 2. Cabling (LAN) – estimated at UGX 1.35billion for 27 ministries, (where cabling is done for VOIP, video and data – this cost will then be avoided) 3. Switches – this is estimated at UGX

			estimated at UGX 1.35billion for 27 ministries, (where cabling is done for VOIP, video and data – this cost will then be avoided) b) Switches – this is estimated at UGX 810million (i.e. UGX 30million X 27 ministries) c) Servers – each site will need a server - for 27 MDAs at least 50 servers will be required at the estimated cost of UGX 400million 1. License (USD 600 per user per annum) – where the MDA is		810million (i.e. UGX 30million X 27 ministries) 4. Servers – each site will need a server - for 27 MDAs at least 50 servers will be required at the estimated cost of UGX 400million 5. License (USD 600 per user per annum) – where the MDA is using lotus or other licensed applications –

			using lotus or other licensed applications – the same license fees could be converted. Total estimate for 5,000 users is US$ 3 million – equivalent of UGX 6.9 billion d) Training, change management and business process reengineering – estimated at 10% of the total cost. e) Project management – estimated at 10% .		the same license fees could be converted. Total estimate for 5,000 users is US$ 3 million – equivalent of UGX 6.9 billion 6. Training, change management and business process reengineering – estimated at 10% of the total cost – UGX 946 million

					7. Project management – estimated at 10% - UGX946 million
Strategy 5: Consolidation and Bulk licensing of applications and software licenses					
	a) Based on the recently conducted survey by NITA U, MDAs spend UGX 27,398.8million on licenses for applications, operating systems and anti-virus per annum. b) The challenges associated with application licenses i. High cost of retail	a) Wastage of resources on fragmented licenses b) Failure to leverage manufacturers services arising from bulk purchase. c) Failure to leverage free	**Cost Savings:** a) Cost Savings from bulk licensing - volume discounts of about 30% b) (ii). Free training offers (vouchers) saving about 20% of the retail purchase **Benefit Analysis:**	a) NITA-U to conduct more detailed assessments on existing S/W , their sources and consolidation requirements [June 2012] b) Develop and issue standards and guidelines for Hard and software [July 2012] c) Operationalize the guidelines for Hardware and software in MDAs and	No investment required

	licenses ii. Pirating iii. Low exploitation of open source software iv. Poor monitoring and interpretation v. of licensing terms and conditions vi. Vendor lock-in type of licenses vii. Poor understanding and utilization of benefits due from enterprise licenses	open source software licenses d) Duplication of licenses and failure to take advantage of 'group / cluster' licensing.	a) Renewal/upgrade process simplification b) Retention of systems experts in country from major vendors which encourage high utilization (value for money) c) License compliance/avoidance of litigation costs and piracy cases d) Centralized application portfolio management e) Information security compliance	LGs (dissemination and training) d) NITA-U to engage Software vendors on Enterprise Agreements [Starting June 2012] e) Procurement of licenses under global long term agreements/framework contracts f) Implementation of software licensing under enterprise agreements (deployment, monitoring, and enforcing compliance by MDAs).	

Annex 2: Implementation roadmap and cost implications

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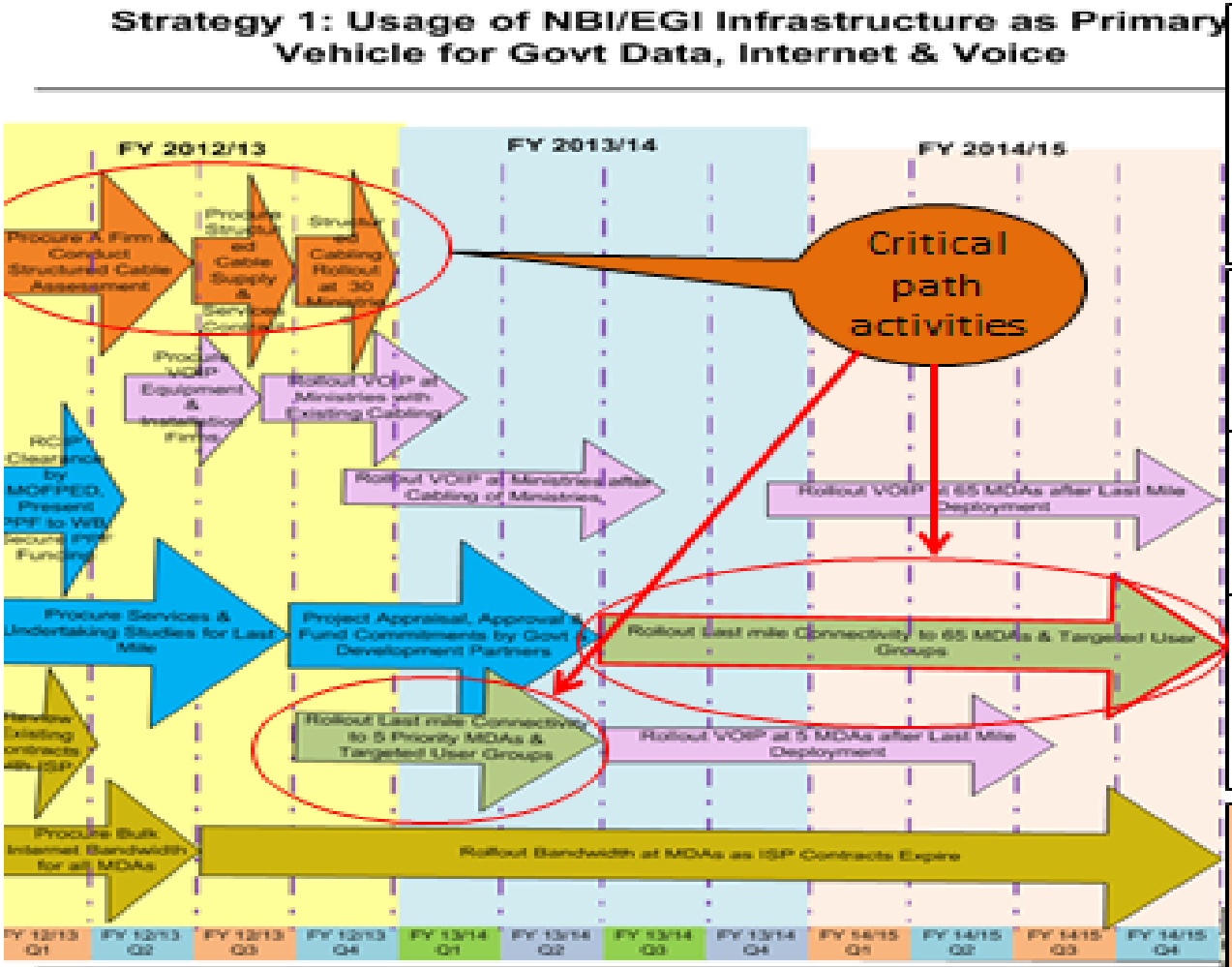


Purpose:
Optimal utilization of NBI

KPIs:
1. No. of MDAs connected to NBI
2. No. of services over the NBI
3. No. of users on NBI

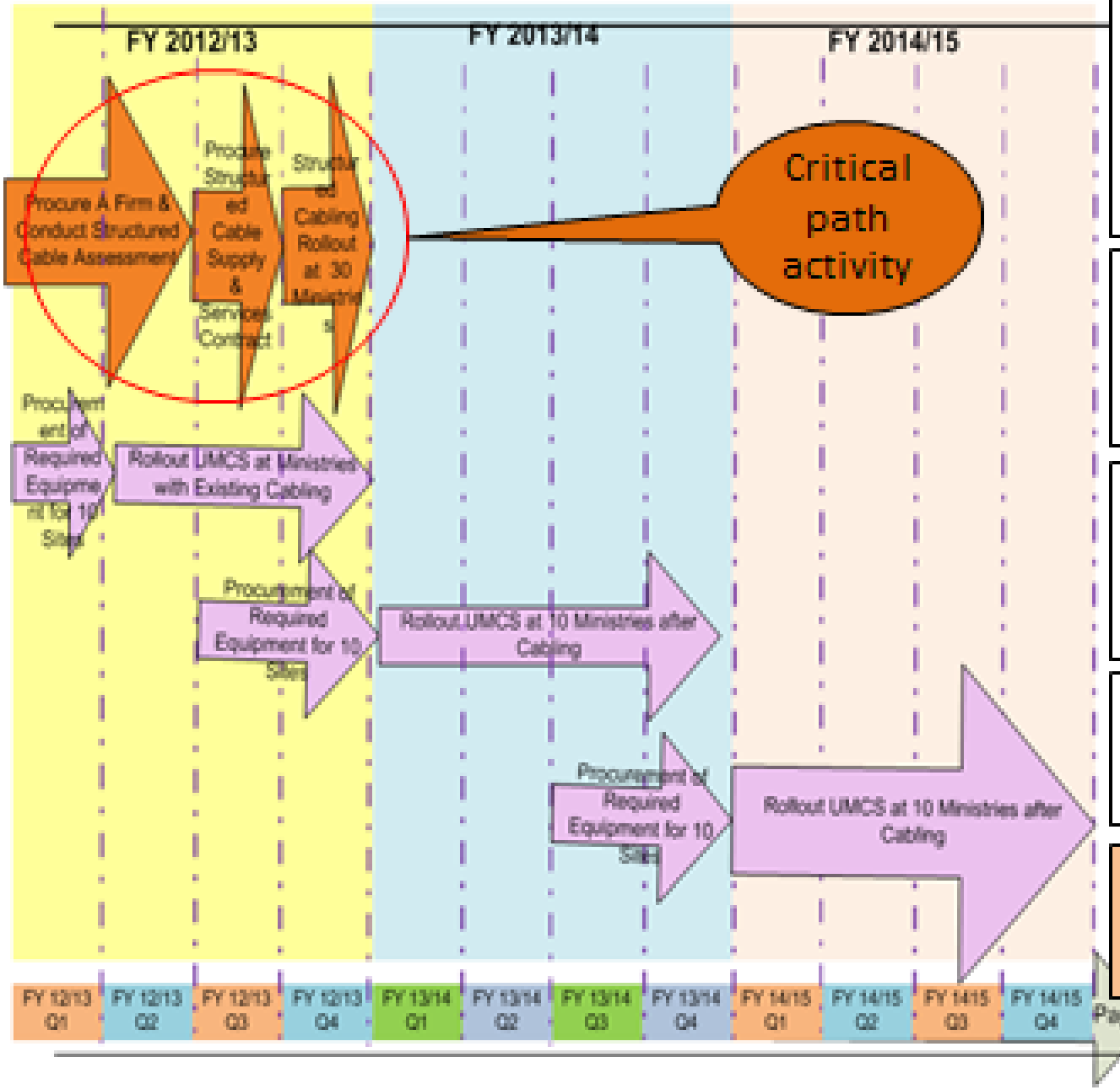
Required Investment:
FY 2012/13 - UGX 14.1 Bn
FY 2013/14 – UGX 20.9 Bn
FY 2014/15 – UGX 20.9 Bn

Savings:
FY 2012/13 - UGX 2.4 Bn
FY 2013/14 – UGX 6.6 Bn
FY 2014/15 – UGX 6.7 Bn

Assumptions:
1. Structured cabling for 30 MDAs by end of FY12/13
2. RCIP approval required for last mile connectivity

Action Required:
- All MDAs to use NBI as a primary vehicle
- Central procurement of bulk BW for MDAs

Strategy 2: Promotion of Unified Messaging & Collaborati Services (UMCS)



Purpose:
To ensure secure communication at affordable costs across Govt and enhance information sharing

KPIs:
1. No. Of MDAs connected to UMCS
2. No. of users of UMCS

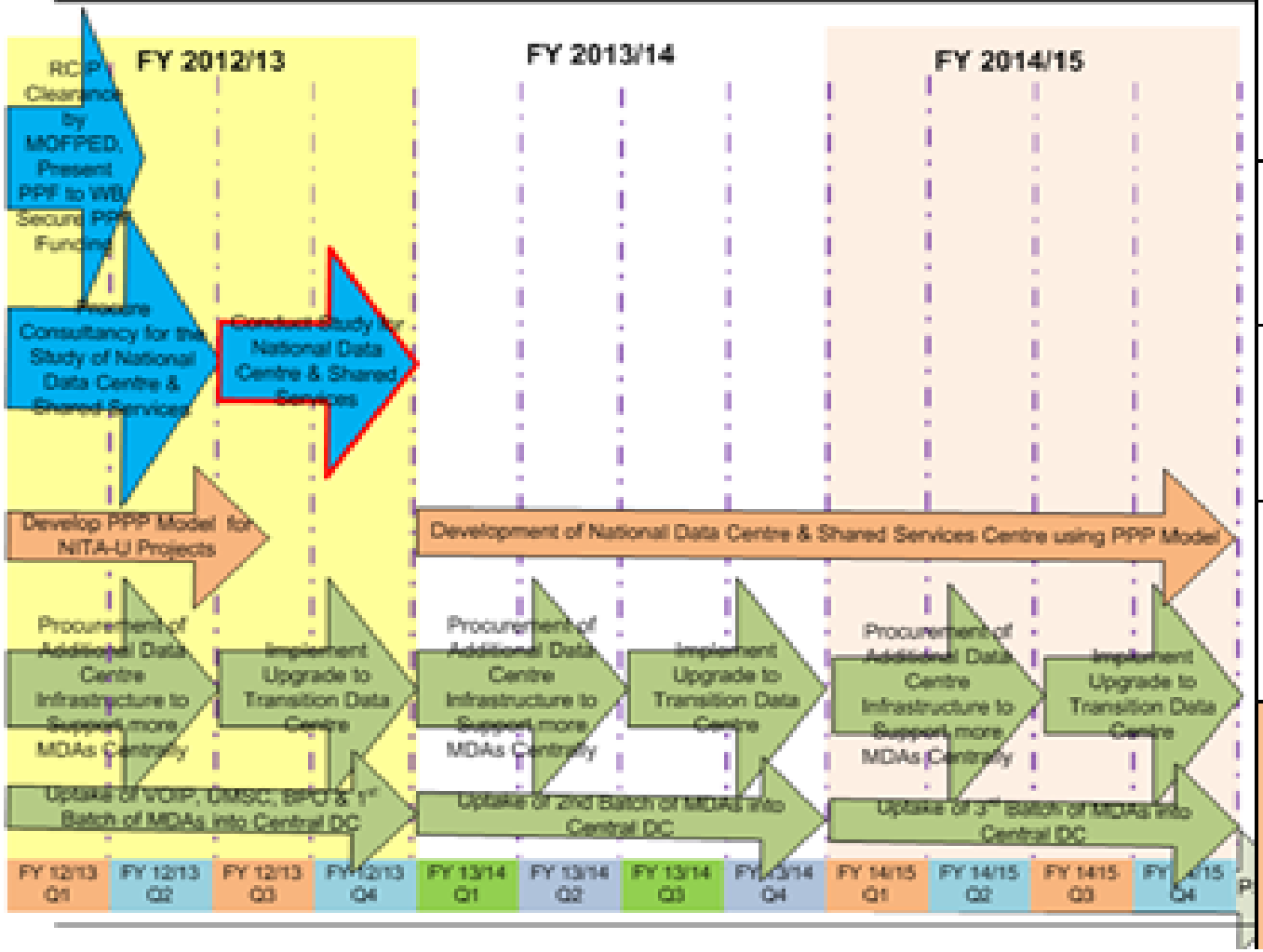
Required Investment:
FY 2012/13- UGX 3.4 Bn
FY 2013/14 – UGX 5.4 Bn
FY 2014/15 – UGX 7.5 Bn

Savings:
FY 2012/13 - UGX 0.6 Bn
FY 2013/14 – UGX 2.4 Bn
FY 2014/15 – UGX 4.2 Bn

Assumptions:
- Roll out to 10 MDAs per annum

Action Required:
- All MDAs should embrace Govt UMCS on the NBI

Strategy 3: Centralized Hosting Services, Data Centre & D and Implementing Shared ICT Services Platform



Purpose:
To minimize duplication and enhance inter-operability among e-Government applications

KPIs:
- No. of MDAs using central DC
- No. of services/ applications hosted in central DC

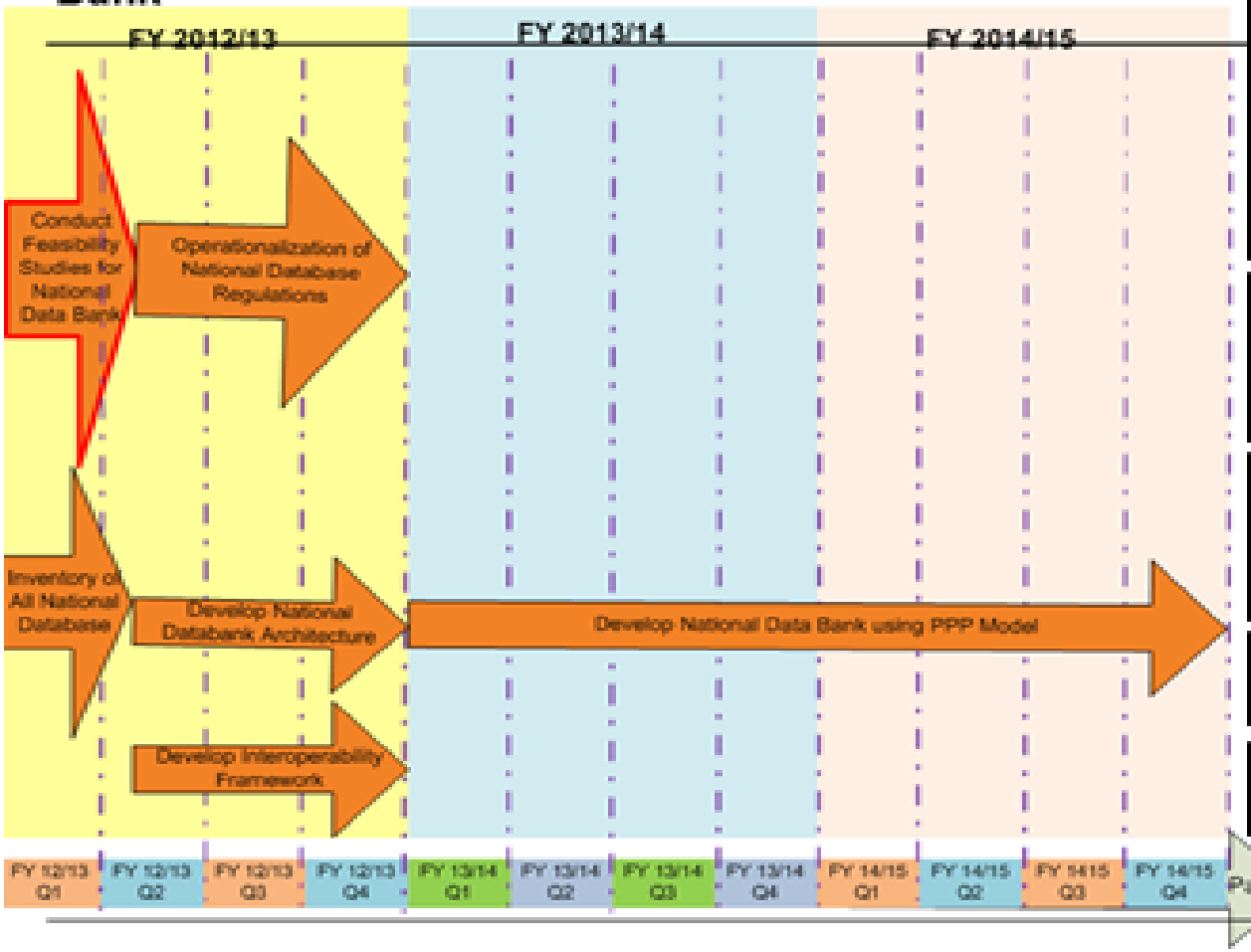
Required Investment:
FY 2012/13- UGX 2.5 Bn
FY 2013/14– UGX 2.0 Bn
FY 2014/15– UGX 2.0 Bn

Savings:
FY 2012/13- UGX 2.6 Bn
FY 2013/14– UGX 2.9 Bn
FY 2014/15– UGX 3.2 Bn

Assumptions:
- All VOIP & UMCS services are centrally hosted in DC
- All MDAs requiring new DC services are hosted in central DC

Action Required:
- All MDAs requiring new DC services to be hosted in central DC.
- To use MFPED DR site in Jinjaas DR for central DC

Strategy 4 Establish a Centrally Managed National Data Bank



Purpose:
To minimize duplication and enhance inter-operability among e-Government applications

KPIs:
- No. of MDAs utilizing the national Data bank
- No. of services offered to citizens from National Data bank

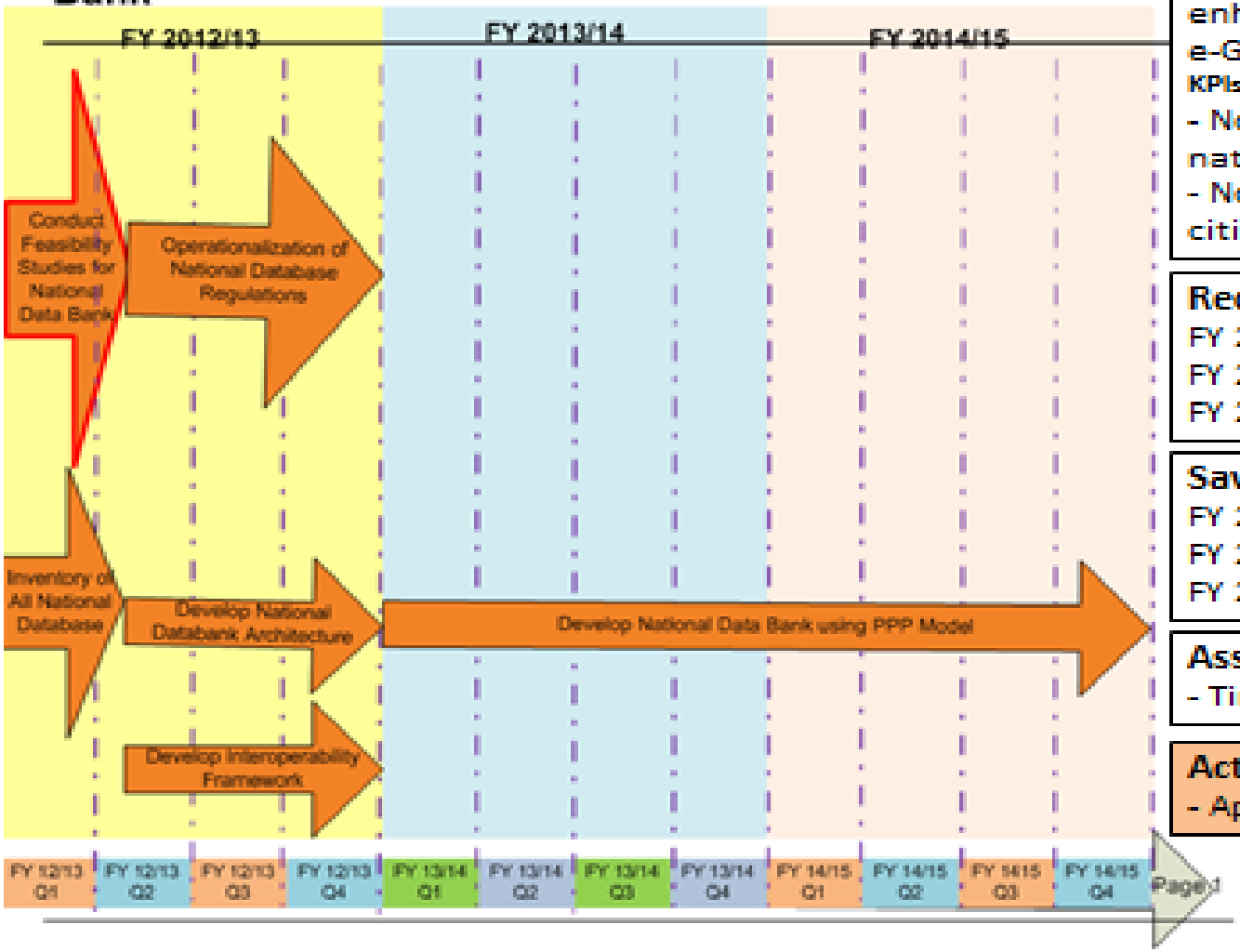
Required Investment:
FY 2012/13- UGX 0.39 Bn (RCIP)
FY 2013/14 – UGX PPP (TBD)
FY 2014/15 – UGX PPP (TBD)

Savings:
FY 2012/13 - TBD
FY 2013/14 – TBD
FY 2014/15 – TBD

Assumptions:
- Timely approval of RCIP

Action Required:
- Approval of RCIP

Strategy 4 Establish a Centrally Managed National Data Bank



Purpose:
To minimize duplication and enhance inter-operability among e-Government applications

KPIs:
- No. of MDAs utilizing the national Data bank
- No. of services offered to citizens from National Data bank

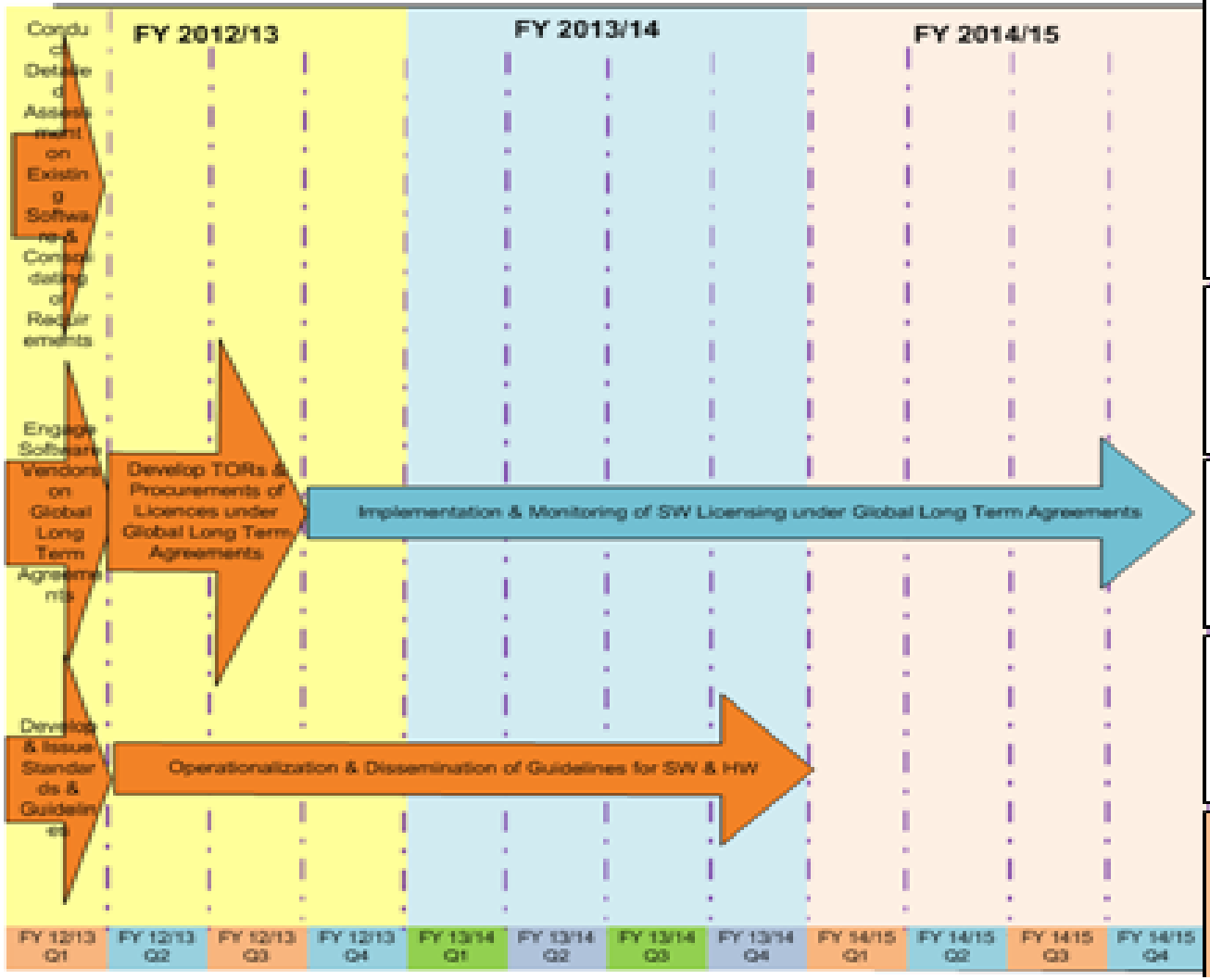
Required Investment:
FY 2012/13- UGX 0.39 Bn (RCIP)
FY 2013/14–UGX PPP (TBD)
FY 2014/15–UGX PPP (TBD)

Savings:
FY 2012/13- TBD
FY 2013/14–TBD
FY 2014/15–TBD

Assumptions:
- Timely approval of RCIP

Action Required:
- Approval of RCIP

Strategy 5: Consolidation and Bulk Licensing of Applications & Software



Purpose:
To improve effectiveness of license & ensure cost savings

KPIs:
1. No. of MDAs using Global Long Term Agreements (LTA)
2. LTA achievement %
3. Users' Satisfaction

Required Investment:
FY 2012/13- UGX 350M
FY 2013/14 – NIL
FY 2014/15 – NIL

Savings:
FY 2012/13- UGX 2.2Bn
FY 2013/14 – UGX 9.1Bn
FY 2014/15 – UGX 9.5Bn

Assumptions:
1. Guidelines will be operationalized beginning Q4 FY12/13

Action Required:
All new SW Licenses & renewals in MDAs to be done under Global LTAs

Annex 3:

Projected 10 Year Cost Benefit Analysis

	Projection for FY 2012/13	Projection for FY 2013/'14	Projection for FY 2014/15	Projection for FY 2015/'16	Projection for FY 2016/'17	Projection for FY 2017/'18	Projection for FY 2018/'19	Projection for FY 2019/'20	Projection for FY 2020/21	Projection for FY 2021/'22
SUB TOTAL STRATEGY 1										
COSTS	8,423,320,000	19,283,520,000	19,283,520,000	4,880,546,000	5,088,735,800	5,307,335,090	5,536,864,345	5,777,870,062	6,030,926,065	6,296,634,868
SAVINGS	2,431,200,000	6,562,110,000	6,705,655,500	7,040,938,275	7,392,985,189	7,762,634,448	8,150,766,171	8,558,304,479	8,986,219,703	9,435,530,688
	5,992,120,000	12,721,410,000	12,577,864,500	2,160,392,275	2,304,249,389	2,455,299,358	2,613,901,826	2,780,434,417	2,955,293,638	3,138,895,820
SUB TOTAL STRATEGY 2										
COSTS	3,455,600,000	5,639,600,000	7,823,600,000	8,495,000,000	9,951,000,000	12,135,000,000	14,561,666,667	17,473,666,667	21,113,666,667	25,562,555,556
SAVINGS	780,000,000	1,560,000,000	2,340,000,000	3,120,000,000	3,900,000,000	4,680,000,000	5,460,000,000	6,240,000,000	7,020,000,000	7,800,000,000
	2,675,600,000	4,079,600,000	5,483,600,000	5,375,000,000	6,051,000,000	7,455,000,000	9,101,666,667	11,233,666,667	14,093,666,667	17,762,555,556
SUB TOTAL STRATEGY 3										
COSTS	2,470,000,000	2,000,000,000	2,000,000,000	0	0	0	0	0	0	0
SAVINGS	0	0	0	3,513,840,000	3,865,224,000	4,251,746,400	4,676,921,040	5,144,613,144	5,659,074,458	6,224,981,904
	2,470,000,000	2,000,000,000	2,000,000,000	3,513,840,000	3,865,224,000	4,251,746,400	4,676,921,040	5,144,613,144	5,659,074,458	6,224,981,904
SUB TOTAL STRATEGY 4										
COSTS	390,000,000	0	0	13,445,250,000	21,885,500,000	1,280,500,000	1,280,500,000	1,280,500,000	1,280,500,000	1,280,500,000
SAVINGS	0	0	0	15,000,000,000	15,000,000,000	15,000,000,000	15,000,000,000	15,000,000,000	15,000,000,000	15,000,000,000
	390,000,000	0	0	1,554,750,000	6,885,500,000	13,719,500,000	13,719,500,000	13,719,500,000	13,719,500,000	13,719,500,000
SUB TOTAL STRATEGY 5										
COSTS	360,000,000	0	0	0	0	0	0	0	0	0
SAVINGS	2,157,750,000	9,062,550,000	9,515,677,500	9,991,461,375	10,491,034,444	11,015,586,166	11,566,365,474	12,144,683,748	12,751,917,935	13,389,513,832
	1,807,750,000	9,062,550,000	9,515,677,500	9,991,461,375	10,491,034,444	11,015,586,166	11,566,365,474	12,144,683,748	12,751,917,935	13,389,513,832

ANNEX 4 LIST OF STAKEHOLDERS CONSULTED DURING THE DEVELOPMENT OF THE RATIONALISATION AND HARMONISATION OF IT SERVICES IN GOVERNMENT

1 ACCOUNTANT GENERAL'S OFFICE
2 AMNESTY COMMISSION
3 BANK OF UGANDA
4 CAPITAL MARKETS AUTHORITY
5 CHIEFTANCY OF MILLITARY INTELLIGENCE
6 CONTROL CENTRE OF TRYPANASOMIASIS IN UGANDA
7 DAIRY DEVELOPMENT AUTHORITY
8 DEPARTMENT OF ADMINISTRATOR GENERAL
9 DIRECTORATE OF ETHICS AND INTEGRITY
10 DIRECTORATE OF PUBLIC PROSECUTIONS
11 EAST AFRICAN RIFT VALLEY RAILWAYS
12 EDUCATION SERVICE COMMISSION
13 ELECTORAL COMMISSION
14 EXPORT PROMOTION BOARD
15 INSPECTORATE OF GOVERNMENT
16 INSURANCE REGULATORY AUTHORITY OF UGANDA
17 JUDICIARY
18 KAMPALA CITY COUNCIL AUTHORITY
19 LAW REFORM COMMISSION
20 LOCAL GOVERNMENT FINANCE COMMISSION
21 METEOLOGICAL DEPT
22 MINISTRY OF AGRICULTURE
23 MINISTRY OF E.A.C AFFAIRS
24 MINISTRY OF EDUCATION
25 MINISTRY OF FINANCE
26 MINISTRY OF FOREIGN AFFAIRS
27 MINISTRY OF GENDER LABOUR&SOCIAL DEVELOPMENT
28 MINISTRY OF HEALTH
29 MINISTRY OF ICT
30 MINISTRY OF INTERNAL AFFAIRS
31 MINISTRY OF JUSTICE
32 MINISTRY OF LANDS
33 MINISTRY OF LOCAL GOVERNMENT&PUBLIC ADMINISTRATION
34 MINISTRY OF PUBLIC SERVICE
35 MINISTRY OF TRADE INDUSTRY AND TOURISM
36 MINISTRY OF WATER
37 MINISTRY OF WORKS&TRANSPORT
38 NAADS
39 NARO
40 NATIONAL ANIMAL GENETIC RESOURCES CENTRE&DATABANK
41 NATIONAL CIRRICULUM DEV'T CENTRE
42 NATIONAL COUNCIL OF HIGH EDUCATION
43 NATIONAL COUNCIL OF SPORTS
44 NATIONAL DRUG AUTHORITY
45 NATIONAL ENTERPRISE CORPORATION
46 NATIONAL ENVIRONMENTAL MANAGEMENT AUTHORITY

47 NATIONAL HOUSING&CONSTRUCTION COMPANY LIMITED
48 NATIONAL MEDICAL STORES
49 NATIONAL PLANNING AUTHORITY
50 NATIONAL SOCIAL SECURITY FUND
51 NATIONAL WATER&SEWERAGE CORPORATION
52 OFFICE OF THE AUDITOR GENERAL
53 OFFICE OF THE PRIME MINISTER
54 PARLIAMENT
55 POPULATION SECRETARIAT
56 POSTA UGANDA
57 PPDA
58 PRESIDENTIAL INITIATIVE ON BANANA INDUSTRY DEV'T
59 PUBLIC SERVICE COMMISSION
60 REGISTRAL GENERAL
61 RURAL ELECTRIFICATION AGENCY
62 STATE HOUSE
63 UGANDA AIDS COMMISSION
64 UGANDA BLOOD TRANSFUSION SERVICES
65 UGANDA BUREAU OF STATISTICS
66 UGANDA COFFEE DEVELOPMENT AUTHORITY
67 UGANDA COMMUNICATIONS COMMISSION
68 UGANDA ELECTRICITY DISTRIBUTION COMPANY
69 UGANDA ELECTRICITY GENERATION COMPANY LTD
70 UGANDA HUMAN RIGHTS COMMISSION
71 UGANDA INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY
72 UGANDA INVESTMENT AUTHORITY
73 UGANDA MEDIA CENTRE
74 UGANDA NATIONAL BUREAU OF STANDARDS
75 UGANDA NATIONAL CHAMBER OF COMMERCE
76 UGANDA NATIONAL COUNCIL OF SCIENCE&TECHNOLOGY
77 UGANDA NATIONAL ROADS AUTHORITY
78 UGANDA NTIONAL EXAMINATIONS BOARD
79 UGANDA POLICE FORCE
80 UGANDA PRISONS SERVICE
81 UGANDA PROPERTY HOLDINGS LTD
82 UGANDA REVENUE AUTHORITY
83 UGANDA ROAD FUND
84 UGANDA TOURIST BOARD
85 UGANDA WILDLIFE AUTHORITY
86 UGANDA WILDLIFE EDUCATION CENTRE

ANNEX 5- LIST OF MDAs CONNECTED TO NBI

1	Accountant General's Office
2	Directorate of Ethics and Integrity (DEI)
3	Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)
4	Ministry of Defence
5	Ministry of East African community Affairs (MEACA)
6	Ministry of Education & Sports
7	Ministry of Energy and Mineral Development
8	Ministry of Finance, Planning and Economic Development (MoFPED)
9	Ministry of Foreign Affairs
10	Ministry of Gender Labour and Social Development (MoGLSD)
11	Ministry of Health
12	Ministry of Information and Communications Technology
13	Ministry of Internal Affairs (MoIA)
14	Ministry of Justice and Constitutional Affairs (MoJCA)
15	Ministry of Lands, Housing and Urban Development (MoLHUD)
16	Ministry of Local Government (MoLG)
17	Ministry of Public Service (MoPS)
18	Ministry of Tourism, Wildlife and Heritage
19	Ministry of Trade, Industry and Cooperatives
20	Ministry of Water and Environment
21	Ministry of Works and Transport
22	National Information Technology Authority NITA-U
23	Office of the Auditor General
24	Office of the President
25	Office of the Prime Minister
26	Office of the Vice President
27	Parliament of Uganda
28	State house
29	Uganda Police Force
30	Uganda Prisons Service