THE UNITED REPUBLIC OF TANZANIA

**PRESIDENT'S OFFICE,
PUBLIC SERVICE MANAGEMENT**

e-GOVERNMENT AGENCY

E-GOVERNMENT BUSINESS ARCHITECTURE -
STANDARDS AND TECHNICAL GUIDELINES
Document Number eGA/EXT/BSA/001

Document Title

eGovernment Business Architecture – Standards and Technical Guidelines

Document Number eGA/EXT/BSA/001

APPROVAL	Name	Job Title/ Role	Signature	Date
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1.0 OVERVIEW

1.1. Introduction

The e-Government Agency (eGA) is established under the Executive Agencies Act No.30, 1997, Cap. 245 as a semi-autonomous Institution under President's Office Public Service Management. eGA is charged with the mandate of providing coordination, oversight and promotion of e-Government initiatives and enforcement of e-Government standards to Public Institutions. In executing its duties, eGA will implement and maintain coordinated Government operations for Information and Communication Technology (ICT) that include the formulation of standards and guidelines to effectuate the purposes of the Agency.

To realize the vision of e-Government in Tanzania and successfully implement eGovernment Strategy, it is of paramount importance that **"e-Government Standards and Guidelines"** are formulated. The e-Government Standards and Guidelines' aim is to assist in the delivery of more consistent and cohesive services to citizen and support the more cost effective delivery of ICT services by Government. A worldwide agreeable practice for conducting Government wide eGovernment analysis, design, planning and implementation, using a holistic approach at all times, for the successful development and execution of eGovernment Strategy is known as **"eGovernment Enterprise Architecture"**. The e-Government Standards and Guidelines Structure is hereby designed to cover most requirements of eGovernment Enterprise Architecture. This means that eGovernment Enterprise Architecture is incorporated in "eGovernment Standards & Guidelines".

Management of e-Government Standards and Guidelines requires categorisation. There are **nine categories/areas** covering all aspects of eGovernment. The **third** area is **eGovernment Business Architecture.** Business Architecture identifies the business functions, services, processes, and information flow for accomplishing the mission of e-Government initiatives. Such initiatives involve business solutions that cross traditional functional or organizational boundaries - both within and across Public Institutions and with outside constituencies such as citizens and business. In summary, the Business Architecture aims to identify and deliver services that are critical, flexible and meet citizen needs. The Business Architecture Standards and Technical Guidelines document has been derived from the e-Government Enterprise Architecture as referred in *e-Government Architecture Vision - Standards and Technical Guidelines (eGA/EXT/AVS/001).*

1.2. Rationale

The objective of the Business architecture is to promote cross Government collaboration. It enables discovery of opportunities for cost savings and new business capabilities that help to achieve strategic objectives. It also helps Public Institutions describe "what we do" through the definition of outcome-oriented and measurable functions and services. The architecture also sets out the service to be adopted to enhance coordinated service delivery such as multichannel service delivery, one stop center for service delivery and leverage on use of mobile technology for service delivery.

The key drivers behind the target business architecture are –

    i.   Service enablement across lifecycle events

    ii.   Integrated services across Public Institutions

    iii.   Single touch point for users to receive the services

    iv.   Services to be re-engineered and developed with internal workflow.

1.3. Purpose

In line with the above rationale, the purpose of the Business Architecture is:

    i.   To define the target business architecture that defines how Public Institutions need to operate to achieve their business goals and respond to the strategic objectives set out in the Architecture Vision Standards and Technical Guidelines.

    ii.   To describe the product and/or the service strategy, the organisation, functional, process, information, and geographic aspect of the business environment.

This will ensure that the defined Business Architecture Standards and Technical Guidelines are adopted across the Public Institutions.

1.4. Scope

This document applies to all Public Institutions. The Public Institution Accounting Officers (Heads of Institutions) in conjunction with Business Process Owners and Heads of ICT Departments/Units shall be responsible for ensuring the effective implementation of these specific standards and technical guidelines associated with Business Architecture within their respective Institutions.

2.0 e-GOVERNMENT INTEGRATION ARCHITECTURE

2.1.   e-Government Business Architecture Reference Framework

A.   Business Architecture Design

The Business Architecture is defined based on the Business Reference Model (BRM). The Business Reference Model (BRM) is a functional framework focusing on providing an organized, tiered hierarchical construct representing the business functions of the Public Institutions. It aims to provide a functional view identifying common business capabilities across Public Institutions required to provide services to citizens, business and other institutions. The BRM can be viewed as the generic business architecture requirement that will drive and shape the subsequent data, application and technology architectures of the Public Institution.

The diagram in Figure I, illustrates the BRM, which contains different lines of business of Government and services offered to citizens. This is not a comprehensive list of all services offered by different Public Institutions, but can be referred by Public Institutions in detailing their respective Business Reference Model.
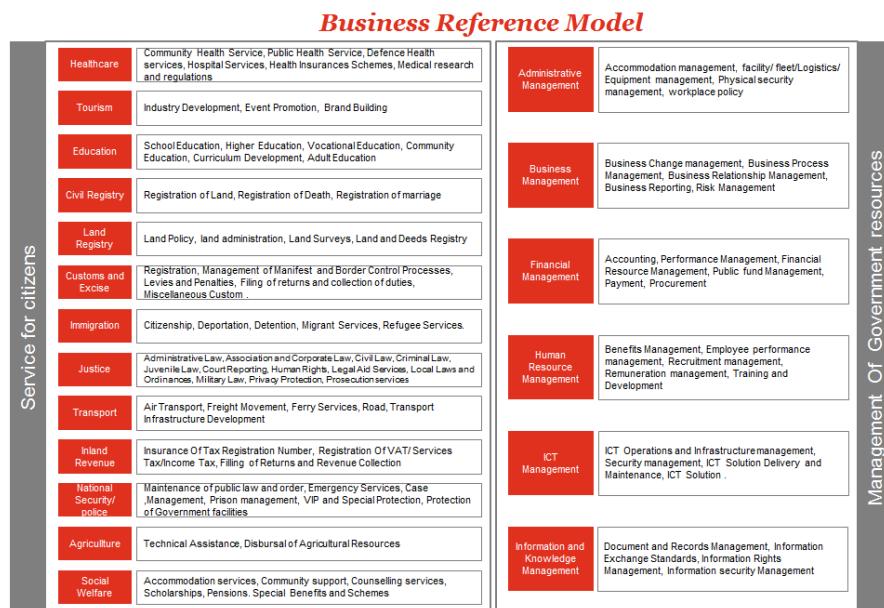
Business Reference Model

Service for citizens		Management Of Government resources	
Healthcare	Community Health Service, Public Health Service, Defence Health services, Hospital Services, Health Insurances Schemes, Medical research and regulations	Administrative Management	Accommodation management, facility/ fleet/Logistics/ Equipment management, Physical security management, workplace policy
Tourism	Industry Development, Event Promotion, Brand Building		
Education	School Education, Higher Education, Vocational Education, Community Education, Curriculum Development, Adult Education	Business Management	Business Change management, Business Process Management, Business Relationship Management, Business Reporting, Risk Management
Civil Registry	Registration of Land, Registration of Death, Registration of marriage		
Land Registry	Land Policy, land administration, Land Surveys, Land and Deeds Registry	Financial Management	Accounting, Performance Management, Financial Resource Management, Public fund Management, Payment, Procurement
Customs and Excise	Registration, Management of Manifest and Border Control Processes, Levies and Penalties, Filing of returns and collection of duties, Miscellaneous Custom .		
Immigration	Citizenship, Deportation, Detention, Migrant Services, Refugee Services.	Human Resource Management	Benefits Management, Employee performance management, Recruitment management, Remuneration management, Training and Development
Justice	Administrative Law, Association and Corporate Law, Civil Law, Criminal Law, Juvenile Law, Court Reporting, Human Rights, Legal Aid Services, Local Laws and Ordinances, Military Law, Privacy Protection, Prosecution services		
Transport	Air Transport, Freight Movement, Ferry Services, Road, Transport Infrastructure Development	ICT Management	ICT Operations and Infrastructure management, Security management, ICT Solution Delivery and Maintenance, ICT Solution .
Inland Revenue	Insurance Of Tax Registration Number, Registration Of VAT/ Services Tax/Income Tax, Filling of Returns and Revenue Collection		
National Security/ police	Maintenance of public law and order, Emergency Services, Case ,Management, Prison management, VIP and Special Protection, Protection of Government facilities	Information and Knowledge Management	Document and Records Management, Information Exchange Standards, Information Rights Management, Information security Management
Agriculture	Technical Assistance, Disbursal of Agricultural Resources		
Social Welfare	Accommodation services, Community support, Counselling services, Scholarships, Pensions. Special Benefits and Schemes		

Figure I: Business Reference Model

Business Reference Model Standards to be adopted during design of Business Architecture

are:

The BRM has the following components:

º Business areas: describing the functionality and activities surrounding the operations of the Public Institution

º Lines of Business: within each business area, relating to the Public Institution's functions

º Sub-functions under each lines of business: relating to the business capabilities under each lines of business

The BRM is classified under 2 high level business areas namely:

º Service for citizens - The services for citizen's business area captures the primary mission and objectives of the Public Institution with respect to the services provided to the population.

º Public Institution's back office operations: Management of back office operations encapsulates the business area pertaining to the support functions required for the smooth and effective operation of the Public Institution.

i. Services for citizens

The services for citizens (business area) as shown in the Figure I captures the primary mission and objectives of the Government with respect to the services provided to the population. The Government lines of business functions in Table II have been considered for this business area:

Table II a: Considered lines of business - services for citizens

Lines of Business	Business Sub Functions and Sub-Function Capabilities
Healthcare	This Line of Business (LOB) covers the sub-functions that include the prevention, diagnosis and treatment of disease or injury, or provision of healthcare services for the general population and supporting regulatory schemes for healthcare products and pharmaceuticals. This LOB broadly covers the sub functions: i. Community & Public Services - Supporting the protection of the physical & mental well-being of community members of the general public and monitoring community health conditions, supporting the research and control of the determinants of disease.

	ii. Hospital Services - Supporting the provision of hospital services and healthcare through institutions offering a wide range of treatments and services.

iii. Health Insurance Schemes - Providing financial guarantees against risk of disease or injury through the operation of universal health insurance schemes, providing subsidized medical treatment within the public health system.

iv. Medical Research and Regulations - Facilitating research of causative agents of disease and subsequent prevention, advising on medical regulations and standards for ethical conduct. |
| Education | This LOB broadly covers the sub functions that include pre and primary education, secondary education, special needs education, school registration, education by media.

This LOB covers sub functions:
i. Pre and primary education - Provide inputs for development, monitoring, evaluation and review of implementation of education policies, legislations and guidelines; Initiate the development and review of pre-primary and primary education curriculum, instructional materials and teaching and learning methods including physical education and ICT; Set standards for learning, development and care for children; Set standards and provide guidelines for delivery, performance and achievement in pre-primary and primary education and monitor and evaluate their implementation; quality of teaching and learning evaluation; Prepare and disseminate guidelines for identifying and nurturing gifted and talented pupils and monitor and evaluate their implementation; Conduct research on issues pertaining to pre and primary education and advise accordingly; and Collect, analyse, store and disseminate data

ii. Secondary education - Initiate the development and review of Secondary education curriculum, instructional materials and teaching and learning methods including physical education and ICT; Set standards on provision, delivery, performance and achievement in Secondary education; |

	iii. Special Needs - Supervise the Central Resource Centre (Braille Press); Co-ordinate Special Needs Teacher Training Programmes; Develop mechanisms for mobilising resources and monitor their implementation; Develop and implement mechanism for collaboration with societies for and of the handicapped; Conduct research on Special Needs Education and advice accordingly; Provide inputs for preparation of Special Needs Education Curricula; Develop, monitor and evaluate projects, programmes and mobilise resources for special needs education; and Collect, analyse, store and disseminate data and statistics on special needs education.
	iv. Diversity - Develop, monitor, evaluate and review the implementation of regulations and guidelines on cross cutting issues;
	v. Identify diversity issues that need to be mainstreamed in the curricula in liaison with Tanzania Institute of Education (TIE) and monitor their implementation;
	vi. Coordinate gender responsiveness initiatives pertaining to education and training;
	vii. Coordinate HIV and AIDS education in education institutions at all levels; and
	viii. Develop, monitor, evaluate and review implementation of guidelines on provision of care and support services to HIV and AIDS affected and infected students."
	ix. School Registration - Develop and issue guidelines and regulations on registration of schools and teachers' colleges; Scrutinize applications for ownership and establishment of schools and teachers' colleges and recommend accordingly; prepare and issue certificates of registration of schools, teachers and teachers' colleges; and Maintain and up-date a register of schools, teachers and teachers' colleges.
Civil Registry	This LOB covers the sub-functions that include the registration of births, deaths, marriage, divorces and adoptions. This LOB covers the sub sections: i. Registration of Births - Registrations of births (For example

	within 90 days), late registrations of births, birth certificate, correction on the birth certificate
	ii. Registration of Deaths - Registrations of deaths (For example within 30 days), late registrations of deaths, issuing of death certificates, corrections on death certificates
	iii. Registration of Marriages - Registration of subsiding unregistered marriages, issuing of certificate of no impediment to marriage, issuing of marriage license, issuing of special licenses to celebrate marriage
	iv. Registration of Divorces - Registration of divorces, issuing of divorce certificate
	v. Registration of Adoptions - Registration of adoptions, issuing of adoption certificate
Land Registry	This LOB covers the registration of land titles, chattel mortgages and other legal documents pertaining to land property
	This LOB covers the activities:
	i. Registration of Titles - Registration of land titles, dispositions, and encumbrances in accordance with existing legislations
	ii. Register legal documents.
	iii. Register chattels mortgages
	iv. Issue search report and filled documents upon request.
	v. Support establishment and management of District Land Registries and Village Registries
	vi. Oversee registration of documents and land related transactions through established Zones.
	vi. Prepare action Plan, progress reports and budgets for the Unit
	vii. Review registration Laws and recommend appropriate actions.

The following resources encapsulate the business area pertaining to the support functions required for the smooth and effective operation of the Government. The broad level functions under this business area are:

Table II b: Considered lines of business - Government back office operations

Lines of Business	Business Sub Functions
Administrative Management	This LOB covers the sub-functions that are concerned with the day to day administrative management and maintenance of the internal infrastructure of the Government, including administration of office facilities, fleets, logistics, and equipment management, helpdesk management, physical security management, workplace policy management. This LOB broadly covers the following sub functions: i. Accommodation Management - Determining and managing accommodation needs of Government employees, planning for, acquiring and maintaining accommodation furnishings. ii. Facility, fleet, logistics and equipment management - Maintenance, administration and operation of office buildings, fleets and other capital assets in Government possession. Managing the logistics related to business travels of Government employees. iii. Help Desk Management - Managing service centres for responding to technical and administrative questions of Government and contract employees. iv. Physical Security Management - Ensuring physical protection of personnel, assets and facilities of Government ministries, departments and agencies. v. Workplace Policy Management - Developing and disseminating workplace policies such as time reporting requirements, attendance recording, etc.
Business Management **ii. Government Back Office Operations**	This LOB broadly covers the sub-functions that handle business processes, business relationships and business change management, managing the range of business/ Government services that represent Government service capabilities, management of

	business relationships between Government agencies, partners, businesses, organisations and individuals that contribute to Government business solutions, business reporting providing information analysis and reporting on health, quality, efficiency and effectiveness of how Government conducts its business through programmes and initiatives and risk mitigation.
Financial Management	This LOB broadly covers the sub-functions that involve the use of financial data to measure, operate and predict the efficiency and effectiveness of Government activities in relation to specific objectives and handles accounting, performance management, financial reporting, payments, procurement, financial resource management and public fund management. This LOB broadly covers the following sub functions: i. Accounting - Accounting for assets, liabilities, revenues and expenses associated with the maintenance of Government programs and expenditure of Government appropriations in accordance with applicable standards, managing deposits, fund transfers and receipts for sales or service. ii. Performance Measurement -Accumulating, measuring, analysing, interpreting, and reporting cost information useful to both internal and external groups concerned with the way in which an organization uses, accounts for, safeguards and controls its resources to meet its objectives. iii. Financial Reporting - Providing financial information, reporting and analysis of financial transactions. iv. Financial Resource Management - Managing Government financial assets; providing advice on legislative responsibilities and reporting requirements; Managing the efficient, effective and ethical use of Government resources. v. Public Fund Management - Managing Government budget processes including the development of plans and programs, budgets, and performance outputs. Financing Government programs and operations through appropriation and apportionment of direct and

	reimbursable spending authority, fund transfers, investments and other financing mechanisms.
	vi. Payment - Controlling the various mechanisms of disbursements of Government funds to Government and private individuals, Government agencies, state, territory, local and international Governments, and the private sector, to effect payment for goods and services, or distribute entitlements, benefits, grants, subsidies, loans or claims.
	vii. Procurement - Managing the entire cycle associated with procurement process starting from requirement identification, risk assessment, approval seeking, agency selection etc.
Human Resource Management	This LOB broadly covers the sub-functions that deal with the activities related to recruitment and management of personnel and handles benefits management, employee performance management, recruitment, remuneration, training and development etc. This LOB broadly covers the following sub functions: i. Benefits Management - Designing, developing and implementing benefit programs that attract, retain and support current and former employees, establishing and communicating benefits programs, processing benefits actions. ii. Employee Performance Management - Designing, developing and implementing a comprehensive performance management approach & strategies that enable managers to make distinctions in performance of employees and link individual performance to Government goal and mission accomplishment. iii. Recruitment Management - Establishing procedures for recruiting and selecting high-quality, productive employees with the right skills and competencies. Managing employee transfers and separation programmes. iv. Remuneration Management - Designing compensation programmes that will attract potential employees and retain and fairly compensate existing agency employees, administering bonus and monetary awards programs, managing payroll.

	v. Training and Development - Designing, developing and implementing comprehensive skills development programmes to ensure that agency employees have the right competencies for current and future work assignments.
	vi. Workplace Relations - Designing programmes that strive to maintain an effective employer employee relationship that balances the Government needs against its employee rights.
ICT management	This LOB broadly covers the sub-functions that deal with the coordination of information and technology resources and solutions required to support or provide a service. It handles the ICT operations and infrastructure management, information security management, service management, solution delivery and maintenance, supplier, vendor management. This LOB broadly covers the following sub functions: i. ICT Operations and Infrastructure Management - Managing and maintaining standard operations within the ICT environment and supporting the ICT infrastructure, minimizing the likelihood and consequences of disaster or disruption to normal service operations, recovery of business services and applications following disastrous events or disruptions. ii. Information Security Management - Managing activities involved in protecting Government information from unauthorized access, use, disclosure, disruptions, modification or destruction. Creating, maintaining and implementing information security policies, procedures and controls. Managing user access and privileges to ICT resources. Authenticating and verifying user identity and authority to access, Tracking and monitoring user access activities. iii. ICT Service Management - Managing activities and processes involved in providing ICT services, managing the ability to meet demand for services, managing the agreed levels of service between the I.CT service provider and the service customer, managing the ICT configuration that supports service provisioning. iv. ICT Solution Delivery and Hardware Maintenance - Managing the activities associated with delivering and maintaining software services and applications to meet

	Government needs e.g. maintenance of in house, inter-agency and vendor-supplied software services and applications. v. ICT Supplier Relationship Management - Managing activities involved in managing the contractual relationships between Government MDAs and suppliers of ICT services and software solutions, Establishing, monitoring and reporting on adherence to agreed service levels.
Information and knowledge management	This LOB broadly covers the sub-functions that involve the ownership or custody and governance of information and intellectual assets possessed by Government. It handles document and records management, knowledge management, information rights management, information exchange standards etc. This LOB broadly covers the following sub functions: i. Document and Records Management - Managing operations involving ownership or custody, management, preservation, destruction and discovery of the official documents and records for an agency. ii. Information Exchange Standards - Establishing standards to facilitate business interoperability and the exchange of data and information between Government agencies, and between the Government and private individuals, businesses and organizations. iii. Information Rights Management - Managing activities surrounding the management of information rights such as freedom of information, intellectual property and copyright, and privacy of information. Establishing standards around the creation, capture, management and disposal of Government records and documentation. iv. Knowledge Management - Managing and maintaining the content of the intellectual assets of the Government comprising explicit knowledge (recorded, formal, structured, etc.,) and tacit knowledge (not recorded, unspoken, informal).

A.   Business Architecture Development based on Business Reference Model

2.2.1   The diagram in figure V illustrate how Business Architecture is developed based on the Business Reference Model:
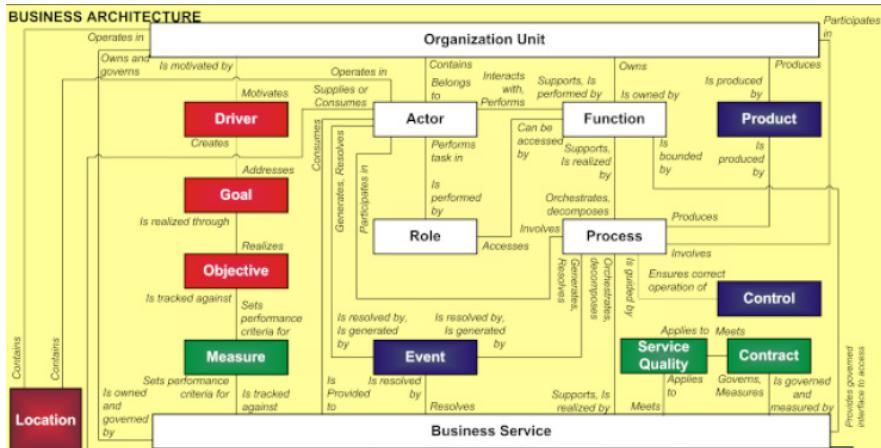

*Figure V: Illustration of Institutional Business Architecture*

Business Service	i. Defining their respective Service Catalogue which contain/ re-use all the functions/services. The "Function/Service" represents "what" and serves as a complete catalogue of all the "outputs" that is delivered to the citizen and across business units within the Public Institution.
	ii. Defining services categories both internal services, i.e. those services rendered to internal customers that are considered to be the "back-office" or "transversal" services (e.g. Financial Service, HR Service, Supply Chain Service and ICT Services); as well as external services, i.e. those services that are rendered to external customers – citizen, businesses or across Government – that are considered "front-end" or "core" services (e.g. safety and security services, health services, education services, social welfare service, amongst others)
	iii. To support the business services and functions, the scope of ICT Services in line with e-Government standards will be defined.

	iv. Each service will be indicated as manual or automated; and if automated or planned to be automated, then it will indicate the name of the information system or project that is, or will be, used to automate it. v. While defining the business services, it is required to include actors for both producer/provider and the consumers (beneficiary) of a service. | Sr No.	Service	Actor(Consumer)	Actor(Producer)	System
---	---	---	---	---
1	Tax Filling	Citizen	TRA: Filling Officer	Tax Filling System
2	Procure Goods	Buyer	PPRA: Procurement Officer	Procurement System	
Organisation Unit	i. Detailing organization unit that makes provision for both process oriented ("what people do") and service oriented ("what people produce"). ii. Developing a hierarchical organisation structure indicating responsibility and ownership of functions/services down to the level where a group of likewise services are rendered, i.e. it's the macro organisational design. The hierarchy is usually cascaded as follows: Division -> Business Unit ->Function/ Service iii. To include Location as it informs the distributive and logistical nature of service delivery, which in turn informs supply chain, capacity and network design. iv. To define personnel structures for both natural line functions and virtual structures (such as governing bodies, committees, boards, councils). v. To include structures of core functions that are particular to a department and support functions which are transversal across all departments (e.g. HR, Finance, Supply Chain, and Information Management/ICT).

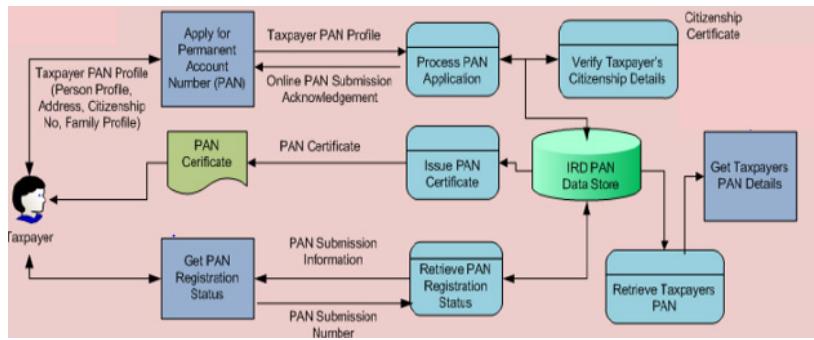| Sr. No.	Organisation Unit	Function/Services	Owner	Location
1	Unit 1	Service 1.1	Head of department- 1	Mwanza
2		Service 1.2	Head of department- 2	Kahama
3		Service 1.3	Head of department- 3	Morogoro
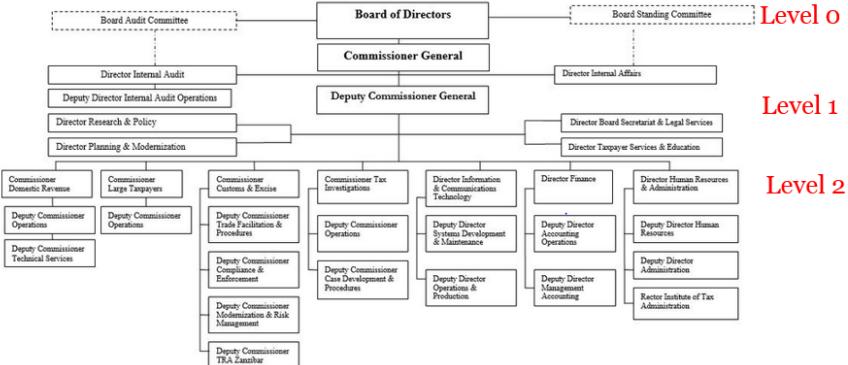
| | | Inputs and outputs (Business Information) | i. Based on information above, aggregation of all inputs and outputs of respective functions/services and the information requirement Public Institutions will develop the Data Architecture Model as depicted below.

ii. This will include both internal and external information exchange requirement among business functions/services. |

Business Process Flow	i. Developing a process model to show "How" a service is rendered. ii. For each function/service the process flow will include events and activities as a representation of human activity. This will be supported by the actors as per organization model iii. Business rules as per the internal policies and regulatory requirements will be defined. iv. Interaction between departments where processes traverse across traditional organizational boundaries will also be included.
Business Gap Report	i. Business Process Gap is the change in the way (activities, steps, flow and rules) a service is rendered or a function is performed. ii. Developing a business gap report which is a comparative analysis between Target and Baseline Business Architecture by indicating what needs to change: i.e. what needs to be retained (keep), improved (modify), created (new) and eliminated (redundant or duplicated). iii. A gap report can be done by means of a matrix – with the x-axis (columns) being the baseline elements and the y-axis (rows) being the target elements and the intersection the change indicators (such as retain, modify, new or dispose).

iv. COBIT can be considered to define the business performance gap in terms of is a change in drivers, strategic priorities, objectives, measures, targets and initiatives.

v. Organizational Structure & Location gap is a change to directorates and organization units as well as the change in the geographic locations of service outlets, offices, facilities and the climate or geological environment.

vi. Function/Service gap is a change to the portfolio of services/functions that a department performs.

vii. Information System gap is a change to the Information System portfolio that is used to automate the service/functions of a department.

viii. Information gap is a change to the information requirements of a department.

Baseline ->	New	Service B1	Service B2	Service B3	Service B4	Service B5	Service B6
Target ↓							
Dispose			X		X		
Service T1		Enhance					
Service T2			Keep				
Service T3					Replace	Replace	
Service T4	X						
Service T5	X						

Example: Service T3 will replace both Service B4 and Service B5 ; Service T1 will enhance Service B1 Service B2 and Service B6 should be disposed

Table IV: Different Layers of Business Architecture

B. Business Architecture Framework

To realize the objectives of business architecture and achieve service integration, the Government is undertaking the following initiatives:

i. Establishing A middleware based enterprise service bus with the requisite platform, server and security infrastructure to enable the exchange of business services across Government and to the community;

ii. Enhancement of the Government portal to support the service delivery interface;

iii. Enhancement of the network infrastructure connecting the Public Institutions;

The Government portal will act as eService delivery interface to deliver Government e-Services online to citizens and business. The proposed eService delivery model for the delivery of e-Services has been depicted in Figure II:
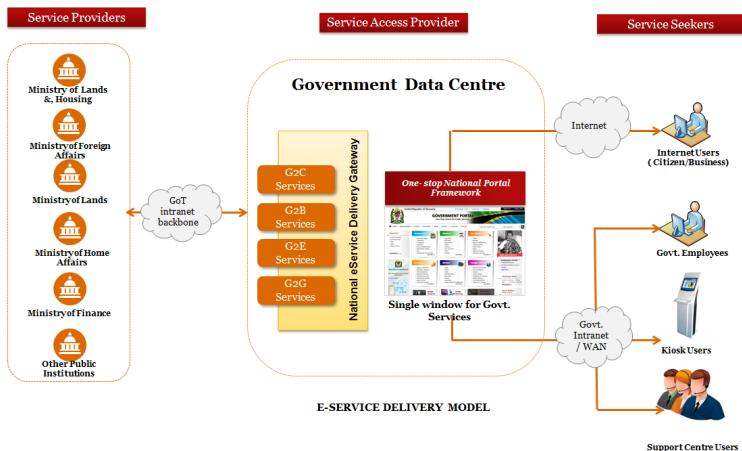
Figure II: e-Services Delivery Model

As per diagram in Figure II, it is envisioned that the Government shall deliver eServices and electronic information via an integrated service delivery platform (the "Government eService Delivery Gateway" or "Gateway") which will serve as the gateway for electronic information exchange and interaction with the participating Public Institutions.The eService delivery gateway will act as a core infrastructure for achieving standards-based interoperability between various Public Institution applications implemented at various levels and geographically dispersed locations. This shall act as a catalyst in enabling the building of standards based eServices with Gateway as the middleware to ensure interoperability.

The Gateway shall enable the Government to utilise its existing investment in business applications in order to deliver enhanced public services. In particular, it will enable the Public Institutions to provide eServices from its legacy systems without the requirement for expensive application upgrades and/or re-developments. The eService Delivery Gateway shall enable cost reduction in Development – Gateway functionality, such as, single credentials, secure two-way electronic communication, common document authentication and routing, open standards, multi-platform support and open programmatic interfaces shall ensure that Public Institutions do not need to develop their own solutions for messaging, user ID management, etc. Instead, they should make rapid use of these common cross-Government services. The Gateway shall provide the infrastructure to enable integrated transactions. This enables citizen and business focused

services to be developed, regardless of the number of public services that are involved in the process.

To enhance secure transactions online, the Government has taken initiatives to develop PKI infrastructure thus, the gateway shall provide digital signature and certificates to all stakeholders interacting with the gateway for identification, authentication and authorization.

Gateway shall provide all necessary facilities to monitor the productivity and effectiveness of the public services, as well as to track the status of any transaction at any time; and hence to inform the customer accordingly, via Internet;

a.i.i.i. Data Consolidation – Gradually over time, the Gateway shall help the Public Institutions to eliminate expensive duplication of data, which is present today in multiple legacy applications.

a.i.i.ii. Interoperability – The Gateway shall provide a cost-effective and fast way for interconnecting systems using open interoperability standards with interfaces into existing proprietary applications. The illustration in Figure III demonstrates how a client application (Public Institution application/ portlet) interacts with the eService Delivery Gateway.
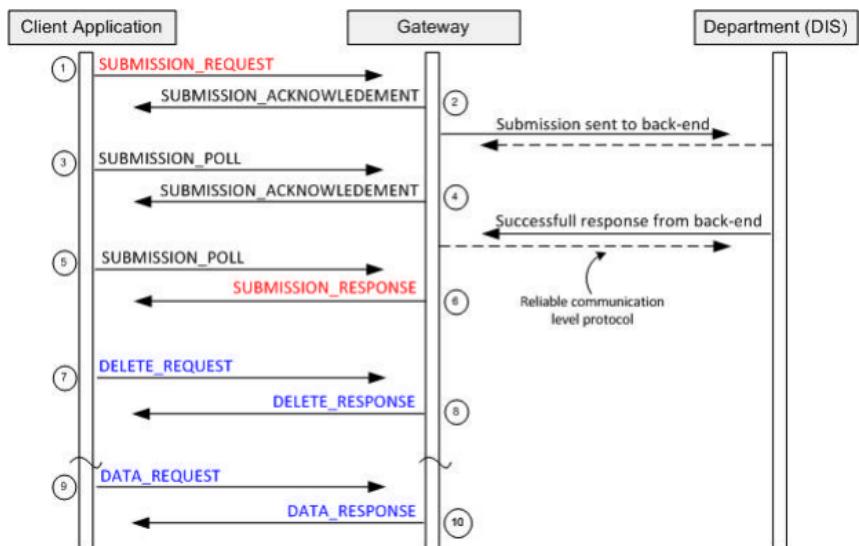
Figure III: Process Flow of between Institution and Gateway

Table 1 explains the interactions between the Gateway and the Public Institution:

Table I: Interactions between the Gateway and the Public Institution

Step	Action
1	A SUBMISSION_REQUEST is sent to the Gateway to indicate that a new document is being submitted for processing.
2	The Gateway replies to the client with a SUBMISSION_ ACKNOWLEDGEMENT only once it has validated the header (include credentials if required). The SUBMISSION_ACKNOWLEDGEMENT includes a CorrelationID to the client application which the client can use as an identifier for this document in future poll requests. The Gateway sends the submission on to the destination department of Public Institution
3	The client application waits for the period specified in the PollInterval attribute of the header of the SUBMISSION_ACKNOWLEDGEMENT message. Then checks the progress of the submission using the SUBMISSION_POLL message.
4	The Gateway has not completed processing the message so again replies with a SUBMISSION_ACKNOWLEDGEMENT to indicate this to the client application.
5	The client application again waits for period specified in the PollInterval attribute of the header of the SUBMISSION_ACKNOWLEDGEMENT message. Then checks the progress of the submission using the SUBMISSION_ POLL message.
6	The Gateway has now processed the message so replies with a SUBMISSION_ RESPONSE message to indicate to the client application that it has finished processing the document.
7	Having received a SUBMISSION_RESPONSE the client application must delete the copy of the response stored on the gateway by submitting a DELETE_REQUEST message to the Gateway.
8	The Gateway responds to let the client application know that the message (and all associated resources) has been deleted with a DELETE_RESPONSE.

9	Although not necessary in this scenario, a client can issue a DATA_REQUEST to see the current status of any submissions sent the Gateway.
10	The Gateway responds with a list of submission and their current state with a DATA_RESPONSE.

Note: A client application or Public Institution Portlet does not necessarily have to process each document sequentially as described above. Instead it could operate in a batch mode; submitting a number of documents over a period of time and then later using:

i.   DATA_REQUEST to examine the state of these submissions

ii. SUBMISSION_POLL to retrieve the corresponding response for each submission

iii. DELETE_REQUEST to delete each submission from the Gateway

iv. SUBMISSION_REQUEST to resubmit documents with recoverable errors

The Government eService Delivery Gateway and Government Portal shall serve as the Service Access Provider that will provide the infrastructure to facilitate access of Government services by the Service Seekers. E-Service Seekers are typically citizens, businesses, students, tourists, Government employees and other users who will avail themselves of these eServices by logging onto the Government portal and filling and submitting the service request forms online. Government shall leverage on the e-Payment mechanisms for electronic transfer of Service Charges into Public Institutions accounts and for handling fee related transactions. The standard model for e-Payment broadly involves the following steps;

i.   Government shall frame the e-payment policy and pass this as a legal act through the cabinet. This can be initiated by Bank of Tanzania, Ministry of Finance, and other stakeholders.

ii. The policy shall govern the e-payment mechanism and all electronic transactions made thereof. The security aspects shall also be covered in the policy.

iii. Government shall then assign banks to provide the payment gateway service who use VISA or MasterCard guarantee.

iv. The payment gateway shall adhere to the security guidelines as per PCI-DSS (Secured transactions are for example carried out through use of Verisign which these established banks may be using for the payment gateway).

SOA has been adopted to enhance integrated service delivery as demonstrated in Figure IV to enhance:

i.   Act as service providers exposing their services as web services through the middleware platform; and

ii. Act as service hosts to consumers accessing the web services through the middleware platform on the Government portal and gateway
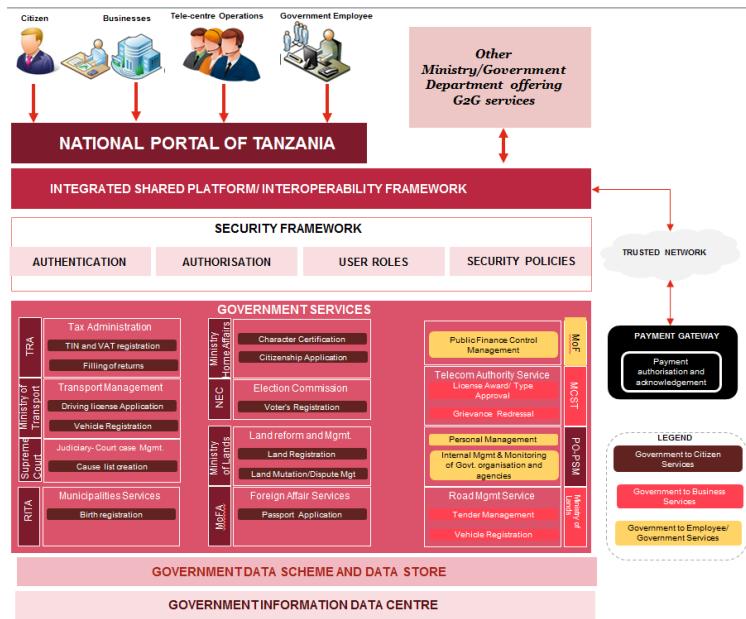

Figure IV: Integrated Service Delivery

Based on the five Government architecture reference models (Government, Business, Application, Data, and Technical) defined in e-Government Architecture Vision, a high level target service delivery landscape been defined for whole of Government. (Refer to Appendix – Illustration No. 3 for Target Service Delivery Landscape).

2.2. e-Government Business Architecture Standards

2.2.1. Table III provides principle under which the eGovernment Business Architecture is designed. Institutional business architecture component of enterprise architectures should also be designed basing on this principle.

Table III: Business Architecture Design Principles

Principle #4	Identify and deliver Government services that are critical, flexible and reusable
Rationale	i. This supports the target of improving service to citizens. ii. Reusing services across Public Institutions eliminate duplication.
Implications	iii. Duplication is expensive and contributes to the proliferation of conflicting data i. Public Institutions will conduct a detailed assessment of the possible set of business service that needs to be reviewed against the business strategy / drivers. The existing processes and services will be benchmarked against leading international best practices to arrive at the re-engineered services that are critical, flexible and reusable. ii. Public Institutions will identify and deliver services that are critical, flexible and sensitive to citizen needs. Common services that could be re-used by the other departments and Public Institutions will also be identified. iii. Data and information used to support enterprise decision making requires enterprise-wide standardization. iv. Public Institutions will need to validate new systems and modifications will need to validate against the e-Government related standards and guidelines to enable systemic thinking as transactions cross traditional domain boundaries.

2.2.2. Public Institutions will adopt Service Oriented Architecture (SOA) as described in section 2.1 (B).

2.3. e-Government Business Architecture Technical Guidelines

2.3.2 Public Institutions will identify their ICT projects and portfolio driven uniquely by their business services and requirements. The business services will be defined by making use of the Business Reference Model and should highlighting opportunities for collaboration and reuse of shared services Government wide.

2.3.3 Public Institutions will provide details of their ICT projects and investments in the Government ICT portfolio system to ensure coordination of e-Government Initiatives.

2.3.4 For reducing costs and eliminating duplication within the Government the following will be implemented with respect to the business reference model;
   i.   Identifying opportunities for collaboration and reuse as described above

   ii.   Ensure alignment of ICT projects and investments to the business needs as identified in the service area

   iii.   During the concept of planning for ICT projects or investments, the BRM will be used to identify current business capabilities, streamline business processes to reduce cost or avoid cost

2.3.5 Identification and prioritisation of critical services is essential along with service documentation:
   i.   Public Institutions will deliver G2C, G2B, G2E or G2G services through the Government e-Service Delivery Gateway.

   ii.   Public Institutions will consider using online electronic means of communication and presentation of business services to citizens through the Government Portal to promote and publicize services of the respective Public Institutions.

   iii.   Public Institutions will consider the use of the Government Portal that will act as the service delivery interface to deliver Government eServices online to citizens and businesses. Existing Public Institutions portlets should be enhanced with the right infrastructure to serve as the one-stop shop for delivery of business services.

2.3.6   For Portal usage, Public Institutions will consider the following:

    i.   Public Institutions will de-link the back-end departments/Service Providers (SP) from the front-end Service Access Providers thereby ensuring separation of concerns of service access from the service implementation i.e. separates the Portal, Kiosks from the Government services which reside in the backend Public Institutions.

    ii.   Shared services will be added on to the core services as and when required, as special common services of the Gateway without affecting the core functionality of the Gateway, thereby providing flexibility and modularity.

    iii.   Public Institutions will enable transaction logging and time stamping for tracking of transactions and centralized control.

2.3.7   Respective Public Institutions portlets will initially consider providing the following features:

    i.   Basic static information publicizing institution's services and providing links to other Public Institutions web sites.

    ii.   Self service capabilities to allow citizens to register online, allow for sign up for a particular service, allow online interaction with Public Institutions, allow citizens to define their own preferences etc.

    iii.   Online forms / e-Forms download - Provide an electronic means to capture citizen's data where they are connected directly (online) to services provided by Public Institutions or download e-Forms. E-Forms are completed in offline mode as per the form's specifications and then uploaded by the citizens.

    iv.   Provide an electronic means to collect, analyse and handle citizens comments, feedback and grievances.

    v.   Provide an electronic interface to assist (online help, FAQ) or educate citizens (tutorials, guidance)

    vi.   Develop a standard look and feel providing basic usability and web accessibility features as per the recommended usability standards.

2.3.8   Public Institutions will thereafter consider semi-automated e-Services on their respective portlets:

i.   Use of online forms to submit service requests. Once submitted online an email can be triggered to the appropriate Public Institutions for further manual processing of the request. This approach has been adopted by several countries for their online birth registration service, filling for driving license etc.

ii.   The Government Portal will host e-Forms for online services. Citizens will download the e-Forms, complete and upload the forms and submit the service request.

iii.   The Government Portal will store and capture the service requests in the portal infrastructure which will serve as a central repository of service requests.

iv.   Public Institution staff will be given access to the Government Portal for verification of online data and download of the service request forms. Further processing of the service requests can be done either manually or electronically.

2.3.9   The following guidelines will be considered in designing the business services:

i.   Simplification of Application Forms with limited data inputs and auto-extracting of the data from relevant databases

ii.   Automated Verification of Applicants' Data by electronic-interfacing between various Public Institutions for cross-verification and sharing of citizens 'data.

iii.   Government-wide Training Programme to ensure effective adoption of re-engineered Government services.

iv.   Uniform Connectivity for secure and reliable connectivity across all levels of Public Institutions.

v.   Government Data Repository for secure and shared storage of all the Government data from various Public Institutions.

vi.   Digital/Electronic Signatures to ensure the legality and sanctity of computerized process and data generated via the same.

vii.   Auto-generation of Transaction ID for each and every online transaction for Application tracking and future reference.

2.3.10 Public Institutions will thereafter consider incremental roll-out of fully automated online e-Services from the Government Portal that will publish the online service request of the citizens directly to the e-Service delivery gateway.

2.3.11 Public Institutions applications (e-Service providers) integrated with the eService delivery gateway will be capable of receiving the service request electronically and processing it accordingly.

2.3.12 However subsequent rollout of the full automated online e-Services will depend on the readiness of the eService delivery gateway integration platform, ICT infrastructure and the readiness of the Public Institutions to unveil their services.

2.3.13 To develop Institutional ICT Strategy, as guided by *"Creation of ICT Strategy - Technical Guide (eGA/EXT/AVS/002)"* document, electronic enablement of eServices should be considered. The key considerations while preparing the e-Service will include:

i. Consider simplification of online service request forms by reducing the need for open ended responses via question redesign. Data already available will be pre-filled from the relevant data sources.

ii. Automated verification of applicant's data: Once the electronic service delivery gateway is operational, Public Institutions can connect electronically for cross verification and sharing of citizen's data.

iii. Consider issuing service docket numbers (auto-generated transaction identifiers) for all online service requests and transactions to facilitate request tracking and for future reference.

iv. Consider issuing digital versions of certificates for instant verification of documents (e.g. driving license, birth registration, land registration certificate etc.)

v. Public Institutions will retain digital copies of certificates for instant verification of applicants' documents.

2.3.14 Public Institutions will consider mobile and broadband technologies and other emerging trends to enable citizens to access Government services and provide service feedback and log grievances from mobile devices. Separate mobile applications and mobile websites could be launched by Public Institutions to enable citizens to transact business with the Government from mobile devices.

2.3.15 Public Institutions should consider the use of social media to reach out to the public with press releases and announcements and to broadcast new services, schemes and programs, educate the public on various good practices (e.g. good healthcare practices, education around AIDS prevention) and seek the public's views and collect feedback.

2.3.16 Public Institutions should consider kiosk based service delivery interfaces at different hot-spots or postal centres to promote service accessibility to the community.

2.3.17 The use of mobile and service kiosks for shared Service Delivery Infrastructure will be enhanced by:
  i.   Encouraging various Public Institutions to route their G2C, G2B, G2G, G2E, B2C and B2B Services via the mobile and service kiosks.

  ii.   Devising suitable business models (e.g. PPP) to meet capital expenditure (CAPEX) and operational expenditure (OPEX) of using mobile and service kiosks.

  iii. Ensuring optimum spread and reach (e.g. areas with high density of population to have more service kiosks available)

  iv.   Standardizing Infrastructure and Connectivity Specifications after taking suitable inputs from those Public Institutions whose services would be offered via the different channels.

  v.   Deploying awareness programmes to ensure that all are aware of the benefits on offer via mobile and service kiosks.

2.3.18 For electronic transfer of Service Charges into Public Institutions accounts and for handling fee related transactions

2.3.19 Public Institution will utilize Government's authorized payment mechanisms to provide online payment facilities to consumers of their services. These payment mechanisms could be integrated with the Public Institution portlets and Government portals. Refer to the Appendix Illustration No. 2 Typical payment gateway operational flow.

2.3.20 Public Institutions will develop their Institutional **ICT Project Management** Procedures with a clear project management methodology needs to as guided by *"Creation of ICT Project Management Procedures - Technical Guide (eGA/EXT/ BSA/002)"* document.

2.3.21 Public Institutions will comply with *"Government ICT Projects Review Procedures (eGA/EXT/BSA/003)"* and associated Review Criteria and Review Checklist while submitting to eGovernment Agency their ICT Investments for review.

2.3.22 Public Institutions will comply with *Government Mobile Short Codes Allocation Procedures (eGA/EXT/BSA/005)* while applying for mobile short codes.

2.3.23 Public Institutions will comply with *e-Government Helpdesk & ICT Support Process (eGA/EXT/BSA/004)* for support on eGovernment services provided by eGA.

2.3.24 Further references (Templates and Technical Guides) related to e-Government Business Architecture will be developed from time to time.

3. IMPLEMENTATION, REVIEW AND ENFORCEMENT

3.1   **This document takes effect once signed and approved in its first pages.**

3.2   **This document is subject to review at least once every three years.**

3.3   **Any exceptions to compliance with this document should be approved in writing by Chief Executive Officer (CEO) of e-Government Agency.**

4. GLOSSARY AND ACRONYMS

4.1 Glossary
None

4.2 Acronyms

| Abbreviation	Explanation
BCP	Business Continuity Planning
B2B	Business to Business
B2C	Business to Citizen
BRM	Business Reference Model
COBIT	Control Objectives for Information and Related Technology
eGA	e-Government Agency
G2B	Government to Business
G2C	Government to Citizen
G2E	Government to Employee
G2G	Government to Government
HR	Human Resource
ICT	Information and Communication Technology
ID	Identification
ITIL	Information technology Infrastructure library
LOB	Line of Business
PCI-DSS	Payment Card Industry Data Security Standard
PKI	Public Key Infrastructure
PPP	Public Private Partnership
SOA	Service Oriented Architecture

5. RELATED DOCUMENTS

4.1   **eGovernment Guideline 2016 by President's Office – Public Service Management (PO-PSM)**

4.2   **eGovernment Architecture Vision - Standards and Technical Guideline** *(eGA/EXT/AVS/001)*

4.3   **eGovernment Interoperability Framework - Standards and Technical** *Guidelines (eGA/EXT/GIF/001)*

4.4   **eGovernment Information Architecture - Standards and Technical Guidelines** *(eGA/EXT/IFA/001)*

4.5   **eGovernment Application Architecture - Standards and Technical Guidelines** *(eGA/EXT/APA/001)*

4.6   **eGovernment Integration Architecture - Standards and Technical Guidelines** *(eGA/EXT/ITA/001)*

4.7   **eGovernment Infrastructure Architecture - Standards and Technical Guidelines** *(eGA/EXT/IRA/001)*

4.8   **eGovernment Security Architecture - Standards and Technical Guidelines** *(eGA/EXT/ISA/001)*

4.9   **eGovernment Architecture Processes and Governance - Standards and Technical Guidelines** *(eGA/EXT/PAG/001)*

6. DOCUMENT CONTROL

Version	Name	Comment	Date
Ver. 1.0	eGA	Creation of Document	February 2016
Ver. 1.1	eGA	Alignment with eGovernment Guideline 2016	December 2017

APPENDIX

Illustration No. 1 Baseline Business Architecture
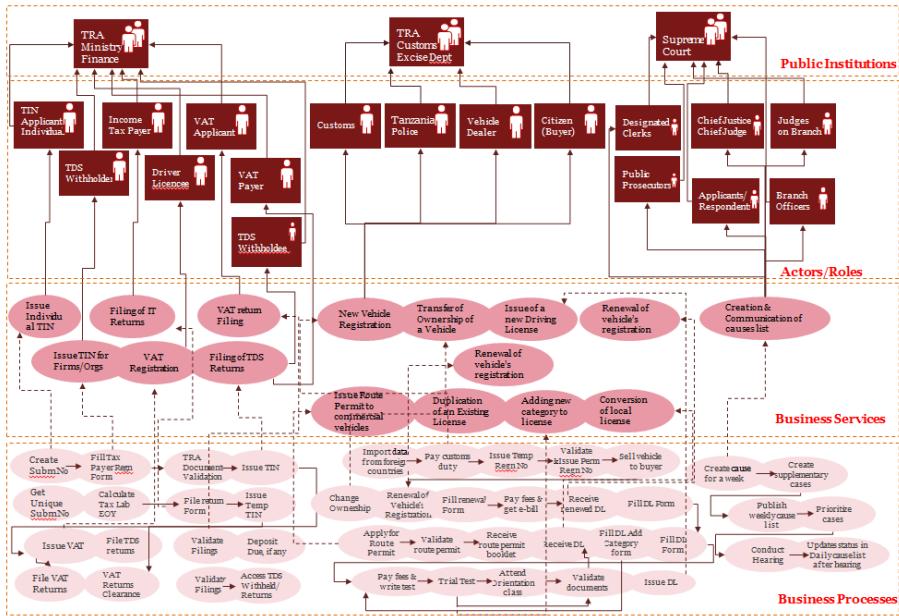
Figure AI: Baseline Business Architecture

The diagram in Figure AI represents interaction points between Public Institutions for an integrated service delivery. The integrated service delivery has been detailed by taking into consideration the different business processes, business services, actors/roles and Public Institutions.

Illustration No. 2 Typical payment gateway operational flow

The diagram in Figure AII demonstrates a typical example based on the explanation provided in the relevant section.
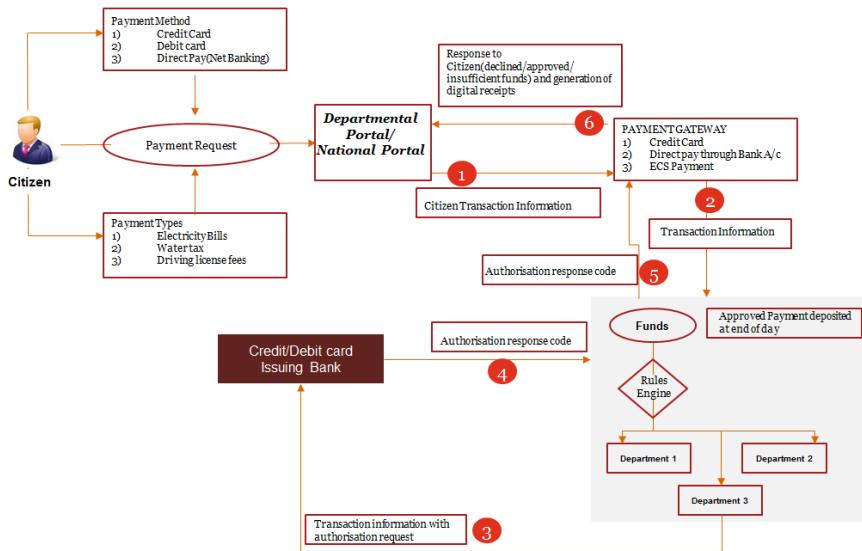

Figure AII: Typical Payment Gateway Operational

Illustration No. 3 Example of the Target Service Delivery Landscape

Based on the five Government architecture reference models (Government, Business, Application, Data, and Technical) a high level target service delivery landscape has been illustrated in Figure AIII. The target service delivery landscape focusses on multi-channel service delivery, the delivery of G2C, G2B, G2G and G2E eservices through the service delivery interface and underlying enterprise service delivery gateway to enable seamless information exchange across Public Institutions. The Target Service Delivery Landscape in Figure AIII illustrates the five (5) reference models in a unified Government service delivery scenario:
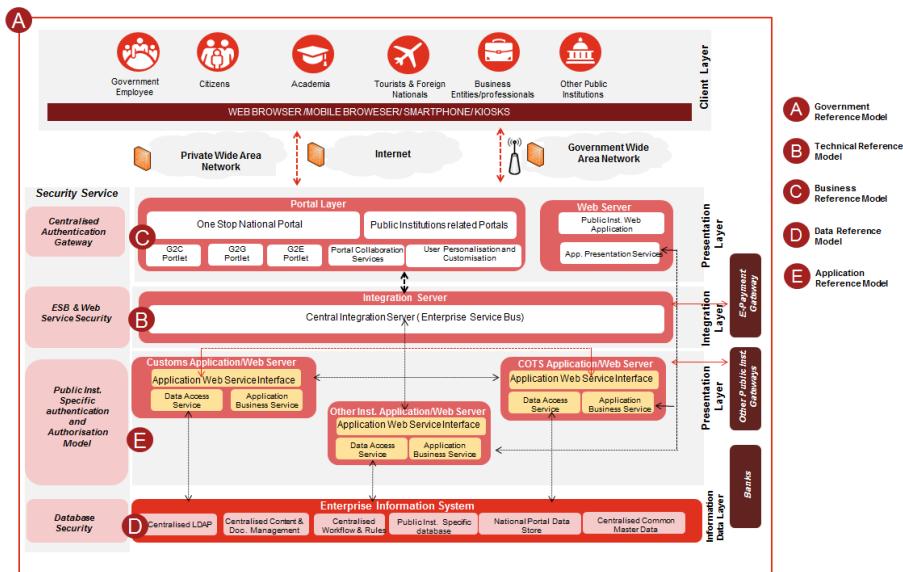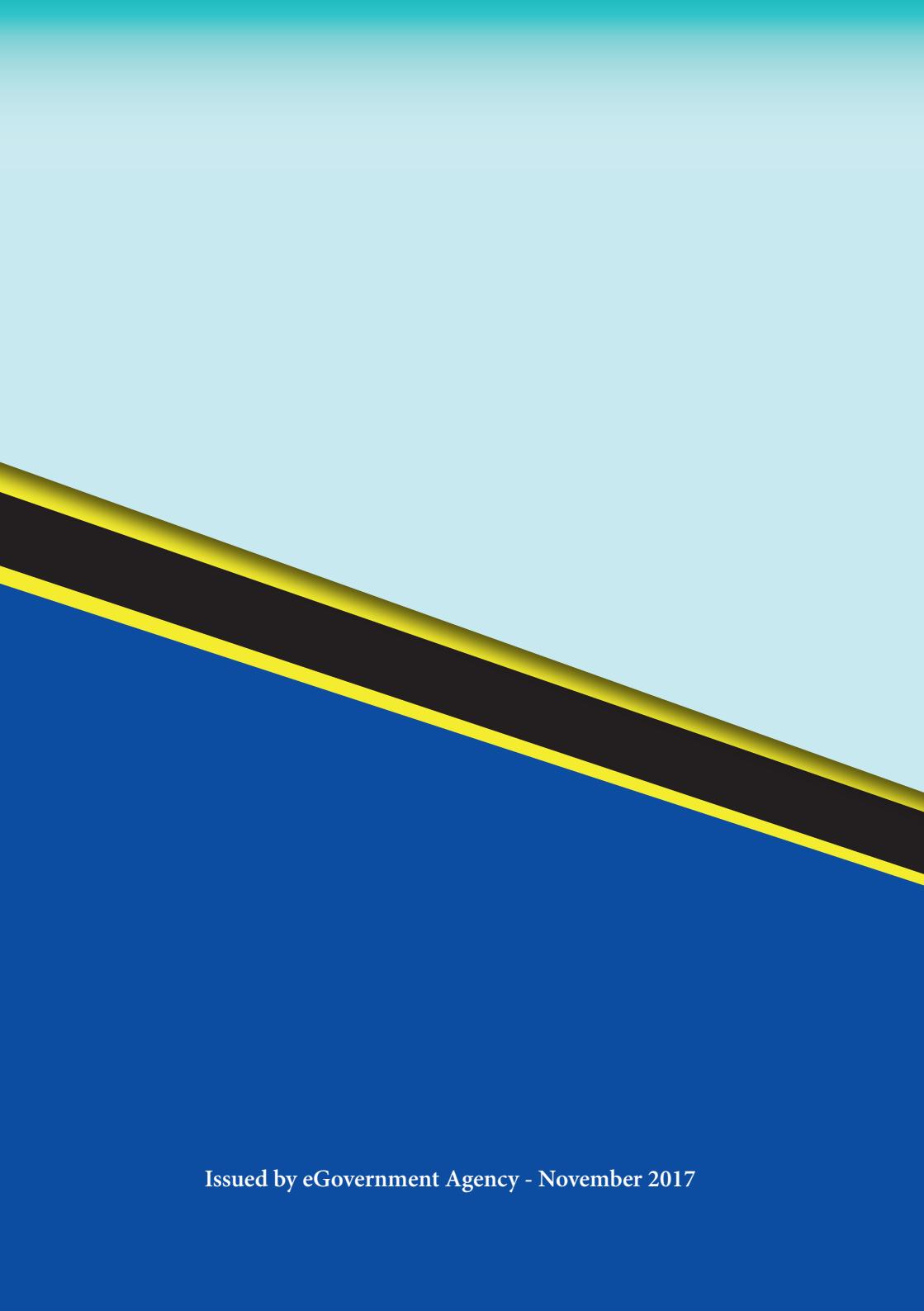

Figure AIII: Example of Target Service Delivery Landscape