Enterprise Architecture Notation

Government of Rwanda has selected ArchiMate as a notation for enterprise architecture modelling. Models will be developed and stored within Sparx Enterprise Architect using the ArchiMate Notation.

Architecture Meta-Model

Effective enterprise architecture documentation entails the use of common standards that are easily applied and understood by both architects and target audience. To this end, apart from defining the enterprise architecture framework – which outlines the artefacts or primitives that need to be modelled

– there is also a requirement to define the relationship between these artefacts which are shared across the domains.

This relationship is defined using a Meta-Model. TOGAF has defined meta-model as:

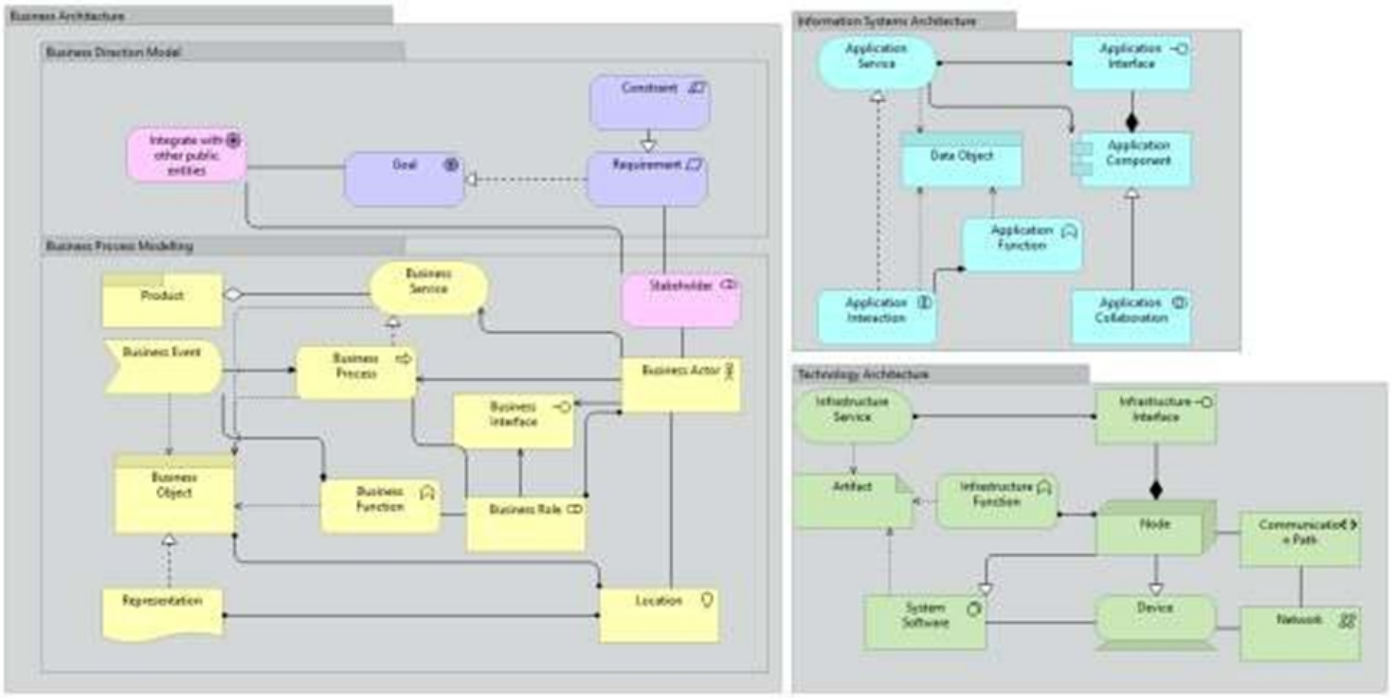
“a precise definition of the constructs and rules needed for creating models.”

It further states that a meta model is:

“a model that describes how and with what the architecture will be described in a structured way”

As stated above, the government of Rwanda has adopted and modified TOGAF for its architecture implementation. By extension, the TOGAF Meta model has also been adopted and modified to ensure that it is truly aligned to the needs and requirements of government or Rwanda

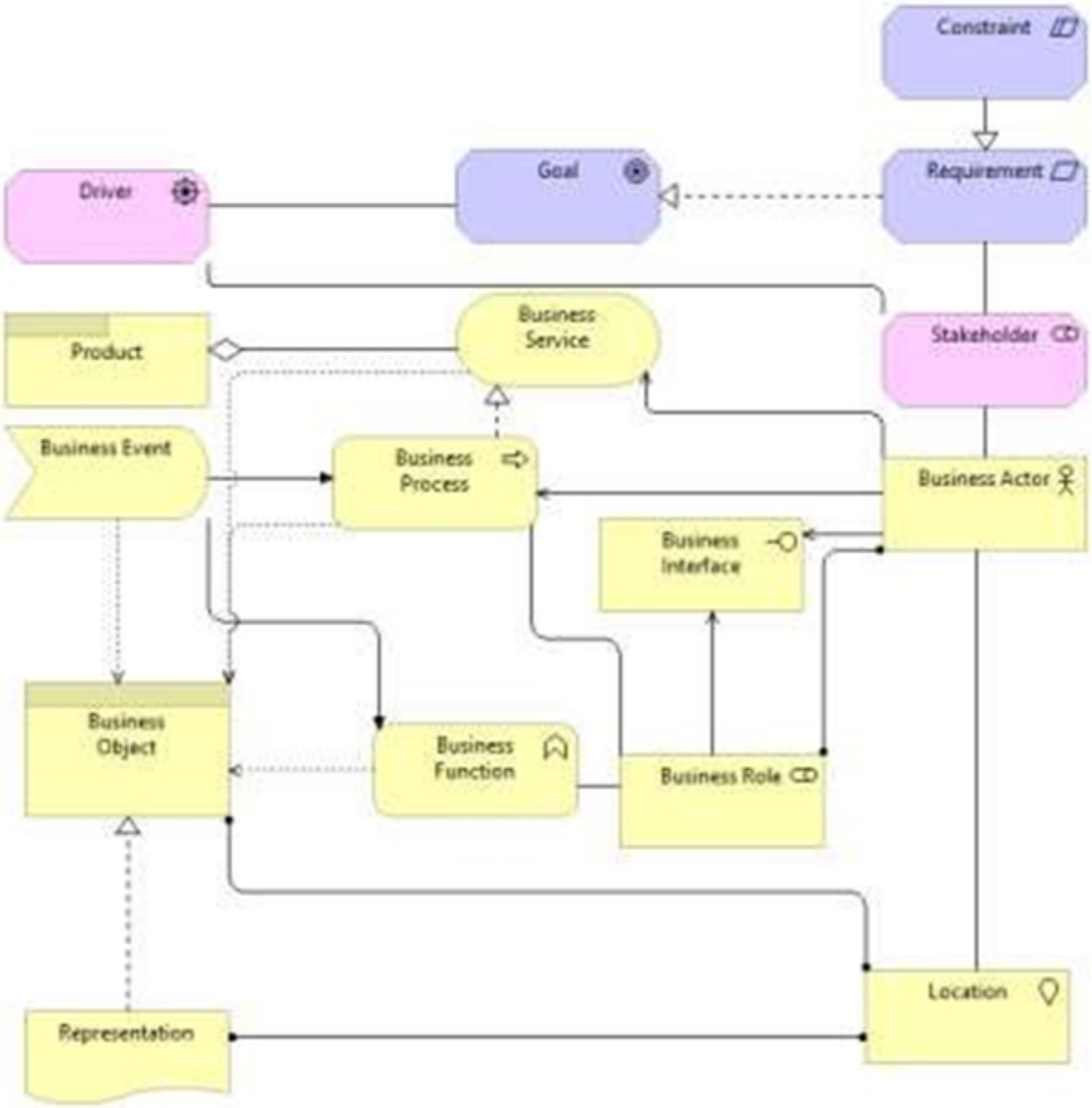
The prime role of the Meta Model is to provide definition and relationship between all artefacts and building blocks that make up enterprise architecture.



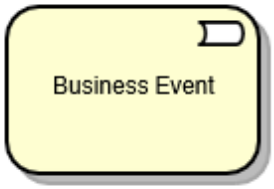
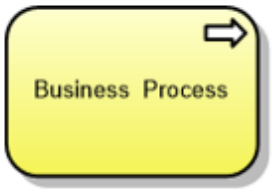
To facilitate this process, the government of Rwanda has adopted the use of *ArchiMate* notation. To this end, the Meta Model covers four layers namely:

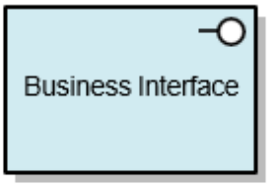
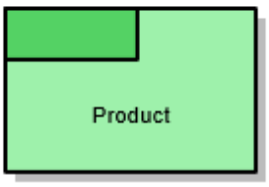
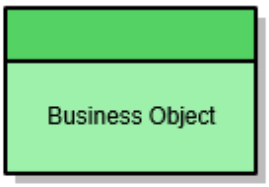
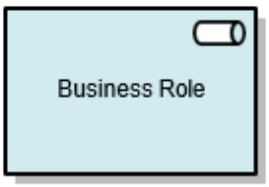
Business Layer Meta-Model

This cover phases A and B of TOGAF (*Figure 2*) i.e. Architecture vision and Business Architecture. The Business Layer Meta Model for the RGEA is depicted below.



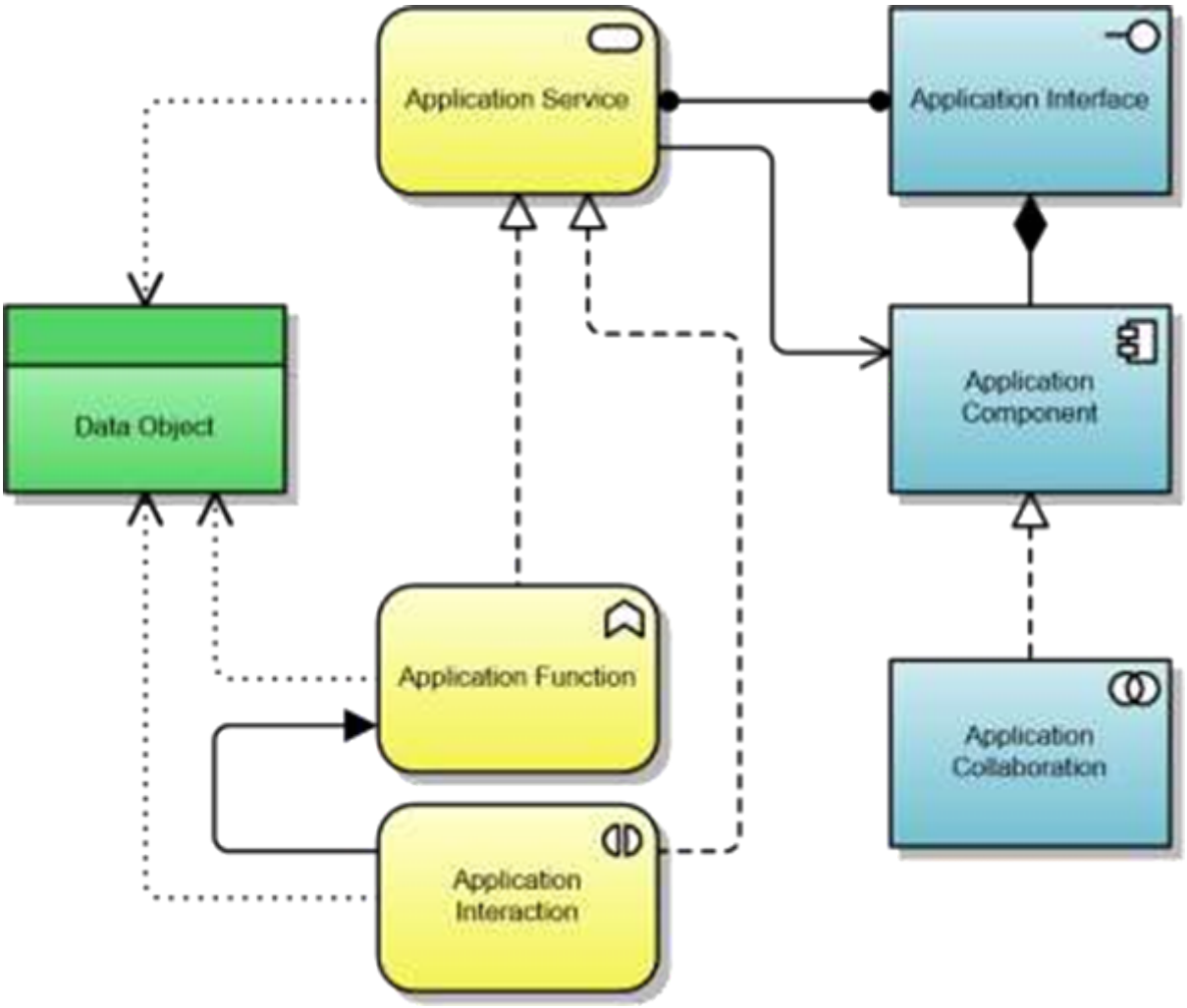
Business Layer Objects

Object Symbol and Name	Description
	**Event:** An occurrence either from within or from outside of an organization that triggers a process. Examples include A new mandate, new or change in the Act of Parliament, Birth of a child, Death, Marriage, time, customer placing an order etc
	**Business Service:** A service that a public entity provides to the citizens, private businesses, members of the public, visitors as well as to internal business users. For example Issue birth certificate, issue visas, provision of health care, policing etc.
	**Business Process:** The execution of activities in the delivery of a service or production of a product. It follows a sequence of activities and delivers a service / product to the target customer e.g. Voter registration, Registration of birth, Order processing
	**Business Function:** The role that an organizational unit performs in delivery of a service / production of a product e.g. Human Resource Management, Financial Management, Voter Registration
	**Business Interaction:** Point where a business collaborates with another business either through a business function or process/service delivery

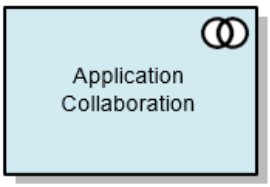
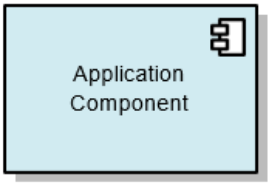
Object Symbol and Name	Description
	**Business Actor:** A person, organization, or system that has a role that initiates or interacts with activities e.g. a person, an organizational unit (team), a government ministry, department, community, group of people
	**Business collaboration**: a collective of two or more business roles that perform a task together
	**Business interface**: Point of access where a business / government institution interacts with the customer in delivery of a service e.g. a Portal, Front Desk Office, Letter
	**Product:** a physical object that is generated by a business / government and is offered as a whole to (internal or external) government stakeholders e.g. Identity Card, Licence, House, Server, Computer, phone
	**Business Object:** A business object is defined as a passive element or entity that has relevance from a government or government institution perspective e.g. Customer, order, Building
	**Business Role:** The function or responsibility that a business actor has within or external to the environment e.g. Manager, Agent, Consultant, Consellor

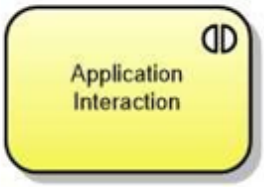
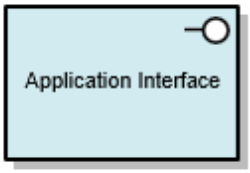
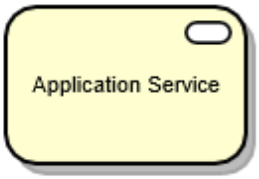
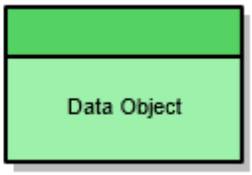
Information System Layer Meta Model

This covers the definition and usage of application and data concepts



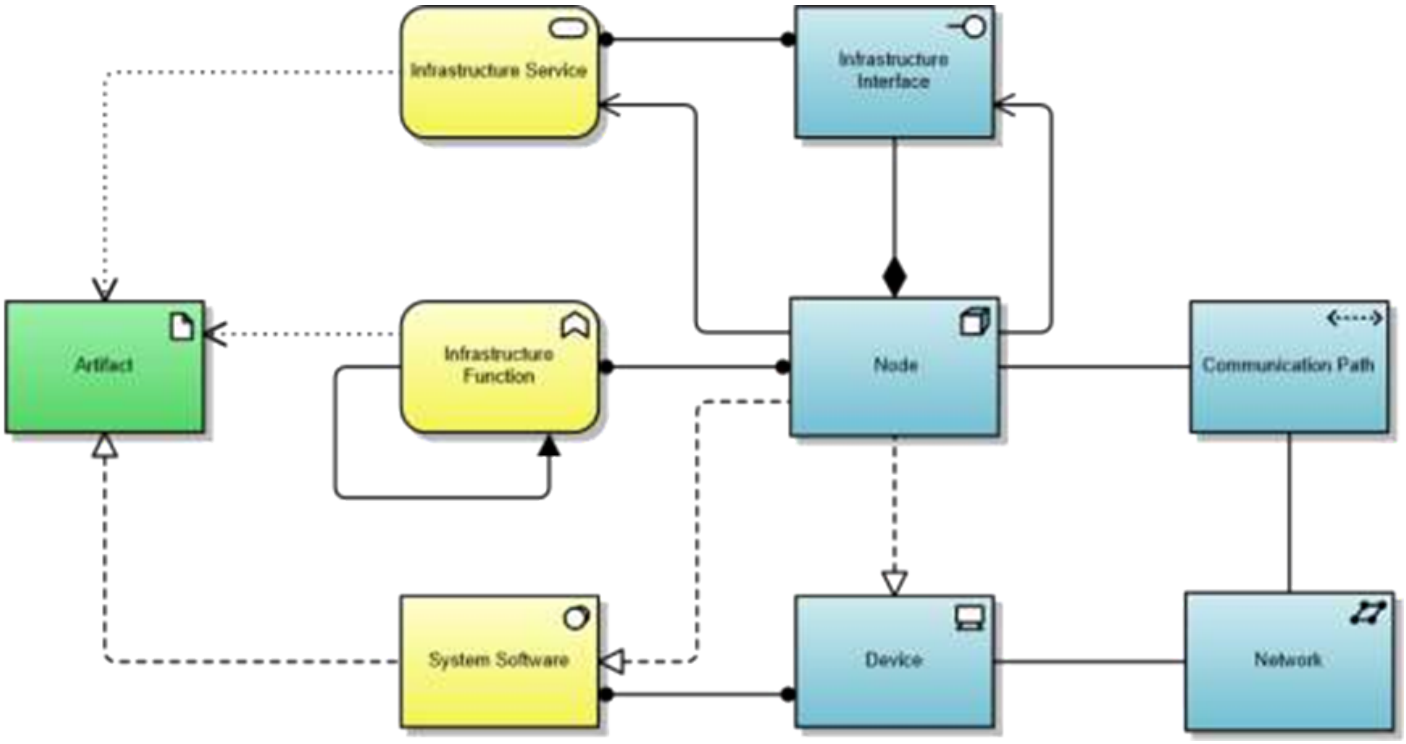
Information Systems Layer Objects

Object Symbol and Name	Description
	Application collaboration is defined as an aggregate of two or more application components that work together to perform collective behaviour. [Active element.]
	An encapsulation of application functionality aligned to implementation structure e.g. HR Module, Finance Module

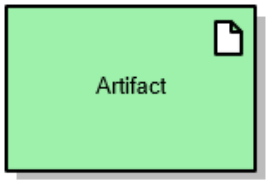
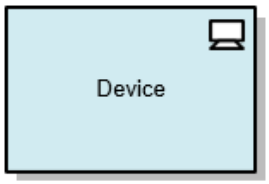
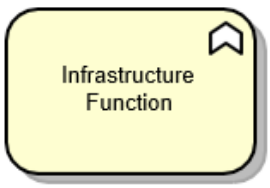
Object Symbol and Name	Description
	An application interaction is defined as a behavior element that describes the behavior of application collaboration.
	An application function is defined as a behavior element that groups automated behavior that can be performed by an application component.
	An application interface is defined as a point of access where an application service is made available to a user or another application component.
	A modular, deployable, and replaceable part of a software system that encapsulates its behavior and data and exposes these through a set of interfaces.
	A data object is defined as a passive element suitable for automated processing. **Logical Data Component:** An encapsulation of data that is recognised by a business domain expert as a thing. Logical data entities can be tied to applications, repositories, and services and may be structured according to implementation considerations.

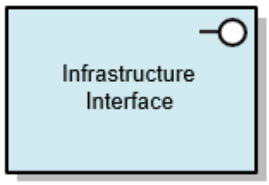
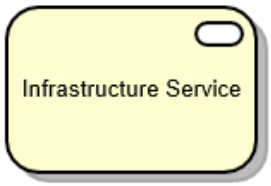
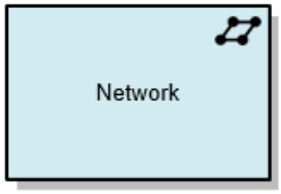
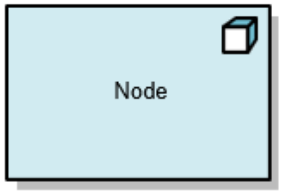
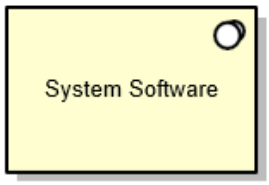
Technology Architecture Layer Meta Model

This covers the definition and usage of Technology concepts



Technology Layer Objects

Object Symbol and Name	Description
	An architectural work product that describes an architecture from a specific viewpoint. An architectural deliverable may contain multiple artifacts and artifacts will form the content of the Architecture Repository e.g. network diagram, a server specification, Use Case models, Activity diagrams etc
	hardware resource upon which artifacts may be stored or deployed for execution e.g. Tablet, laptop, computer
	A behaviour element that groups infrastructural behaviour that can be performed by a node.

Object Symbol and Name	Description
	A point of access where infrastructure services offered by a node can be accessed by other nodes and application components.
	An externally visible unit of functionality, provided by one or more nodes, exposed through well-defined interfaces, and meaningful to the environment.
	A communication medium between two or more devices.
	A computational resource upon which artefacts may be stored or deployed for execution.
	System software represents a software environment for specific types of components and objects that are deployed on it in the form of artefacts.

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