Ethiopian National Enterprise Architecture Framework (ENEAF) - Extension

ENEAF GOVERNANCE& COMPLIANCE

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List of Acronyms

CIO	Chief Information Officer
EA	Enterprise Architecture
EeGIF	Ethiopian Electronic Government Interoperability Framework
EAF	Enterprise Architecture Framework
ENEAF	Ethiopian National Enterprise Architecture Framework
FPI	Federal Public Institution
GIF	Government Interoperability Framework
ICT	Information and Communication Technology
IndEA	India Enterprise Architecture
IT	Information Technology
MinT	Ministry of Innovation and Technology
NEAF	National Enterprise Architecture Framework
NGEA	(Nigerian Government Enterprise Architecture)
NITDA	Nigerian Information Technology Development Agency
PMO	Prime Minister Office
SDG	Sustainability Development Goal
TWG	Technical Working Group

Contents

Executive Summary

"Governance" identifies the planning, decision-making, and oversight processes and groups that will determine how the EA is developed, verified, versioned, used, and sustained over time with respect to measures of completeness, consistency, coherence, and accuracy from the perspectives of all stakeholders.In line with this, development and implementation of EA requires envisioned governance that spans national, federal and regional structures. This document reflects the proposed governance arrangement of ENEAF.

The document contains the processes, organizational structure, roles and responsibilities and the associated elements of the proposed ENEAF governance. While the structure is designed to show both the ENEAF and EeGIFaltogether, the details of ENEAF are presented in the current document and that of the EeGIF are depicted in a separate document.

1 Background

In Ethiopia, the ministries and agencies are essential for the success, sustainability and institutionalization of the reform underway and have their respective and varied mandates. Recently, nation-wide emphasis is given to digital transformation to improve government services. The United Nations e-Government Survey 2016 emphasizes three things - a Whole-of-Government approach, Policy Integration and use of Big Data Analytics - as the important means of achieving theSustainable Development Goals (SDGs). Achieving the a Whole-of-Government and Government Digital Transformation requires among others a re-arrangement of the national enterprise architecture, IT governance systems, and procedures in the ministries and agencies. This calls for a placement of a National Enterprise Architecture framework (NEAF) Governance in the country.

"Governance" identifies the planning, decision-making, and oversight processes and groups that will determine how the EA is developed, verified, versioned, used, and sustained over time with respect to measures of completeness, consistency, coherence, and accuracy from the perspectives of all stakeholders.Governance is essentially about ensuring that business is conducted properly. It is less about control and strict adherence to rules, and more about guidance and effective and equitable usage of resources to ensure sustainability of an organization's strategic NEAF objectives.

In connection with this, the notion Architecture Governance refers to the institutional mechanism, along with definedroles and responsibilities, for the development and maintenance of Enterprise Architectures within anorganization, besides the review of compliance.

National Enterprise Architecture Framework (NEAF) is an aggregation of models and metamodels, governance and compliance mechanisms, technology standards, and guidelines put together to guide effective development and implementation of EA by different government entities across the country.It provides a practice and orientation by which organizational architectures can be effectively managed and controlled at an enterprise level.

NEAF would help in envisioning the requirements of improved government services, managing complexity, managing IT portfolio, delivering a road map for changes, supporting system development, supporting business and IT budget prioritization, etc. Different issues in any organization like legacy transformation, business changes, infrastructure renewal, and application systems renewal and business/IT alignment can be resolved by designing an Enterprise Architecture (EA).

In view of this, ENEAF governance structure consisting of the enactment duties and responsibilities is proposed based on the assessments conducted earlier with the view to produce subsequently the EA reference models for ministries and agencies to use as a base for producing their respective architectures, for MinT to conduct the role of supervision to ensure other ministries and agencies comply to standards, policies and guidelines.

2   Purpose of this Document

Thepurpose of this document is to show the ENEAF Governance Structure. The recommended governance structure for ENEAF is a federated architecture governance model and it provides advantages in cost, schedule, autonomy, scalability, and robustness.

3   Governance Processes

The governance processes include: top-down processes and bottom-up processes. The top-down processes are activities or functions related to advisory and enforcement. The advisory and guidance services are supposed to be provided from the prime minister office digital transformation experts to the governing councils and the coordinating unit to be located at MinT as shown in figure 1 and figure 2 in the next section. The ministries, agencies and regional offices are supposed to be guided and advised by the coordinating unit, governance council and the prime minister office. While review processes are conducted by the prime minister office and the governing council, compliance checking processes are performed by the coordinating unit.

The bottom-up processes are initiated from the ministries, agencies and regional offices. These include: placing requests for advices and guidance, approval of project budgets, approval of organizational activities such as EA architecture development and setting standards specific to their organizations. The academic institutions, professional associations and development partners also involve in many ways in the process of conducting research, capacity building and consulting.

4 Proposed ENEAF Governance Organization Structure

4.1 ENEAF Ecosystem

The major stakeholders/members of the ENEAF ecosystem are depicted below in the diagram. Such stakeholders as the private firms and the citizens are not included as the scope of this current document is dealing with the parties that majorly involve in the development and implementation of the ENEAF.

Figure 1: Proposed ENEAF and EeGIFEcosystem

While the detailed roles and responsibilities of the stated members are shown in the governance structure in the next section, a high level of activities supposedly to be performed by the members shown in the previous figure are tabulated as follows.

Table 1: High Level Description of the Ecosystem Members

Ecosystem Members	Activities
The Prime Minster Office	Guidance and Approval, provides development vision resources
The Ministry of Finance	Approval, provides resources

Governing Council at MinT	Provides architecture vision
	Provides approvals and resources
	Reviews and manages
	Reports to the Prime Minister and Ministry of Finance
Central Coordinating Unit	Build, implements, manage, review
	Reports to the Governing Council, PM and Ministry of Finance
Government Ministries & Agencies	Request approvals (budget, projects, etc)
	Prepares EA and standards
Academic & Research Institutions	Provides training, research and consultancy
Professional Associations	Provides training, research and consultancy
Development Partners	Provides consultancy & financial assistance

4.2   Governance Organization Structure

The governance structure is built basically on three pillars. The prime minister office together with the Ministry of Finance are labeled as "the Sponsor" who provides development vision and resources. The governing council is labelled as "the Thinker" responsible for creating architecture and standards vision, review compliances and manages IT governance activities. The third pillar is the central coordinating unit responsible for building, implementing and managing architectural and standards related issues and labelled as "the Doer".
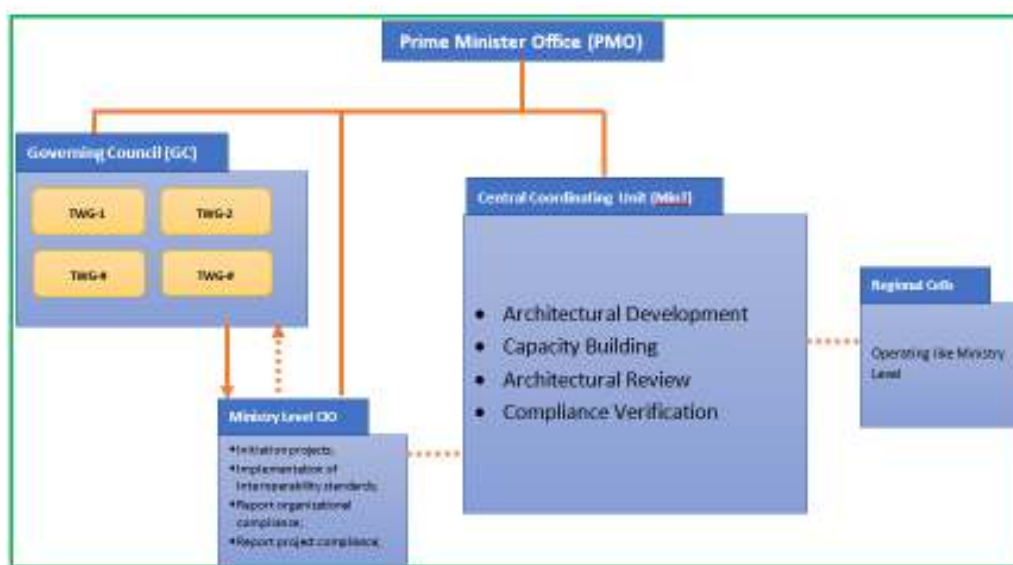

Figure 2: Proposed ENEAF and EeGIF Governance Structure

5 Governance Roles and Responsibilities

The roles and responsibilities of the entities defied in the governance structure including the membership constituencies are presented as follow.

A) Governing Council (GC)

The Governing council is the highest body for decision making of EA and eGIF related activities. The council is responsible for overseeing and supervising the entire process of cross-organizational e-Service delivery in line with the digital transformation plan. The Committee will work to ensure all standards are complied with.

Membership

- ✓ Headed by Delegate from the PMO
- ✓ State Minister of MInT will be the Secretary
- ✓ Members: State Ministers of
  - ➢ All Ministries Represented by their CIOs or equivalent
  - ➢ Attorney General
  - ➢ Three Private Sector Representatives
  - ➢ Donor Representatives
  - ➢ Representatives from Professional Associations
  - ➢ Representatives Higher Learning Institutions

Roles and Responsibilities:

1. Topics and decisions of the Council are to be prepared by the Secretary.
2. The council should approve all strategic initiatives in the field of IT developments of the ministry:
   - ✓ take decisions and responsibility of reengineering processes needed for the implementation of new projects.
   - ✓ Meet annually to assess the compliance level of stakeholders with the provision of the framework.
   - ✓ Coordinate (where necessary) or assist in the development, promotion and adoption of standards, guidelines and policies that will help ensure the actualization of the purpose of this framework.
   - ✓ Coordinate the review and update of the framework in line with the provision the EeGIF.

- ✓ Envision and serve as decision-making arm the execution arm
- ✓ provides guidance and assistance to the government ministries and agencies and enable them to enhance EA maturity
- ✓ guides the development of EA reference models, repository and detailed standards at national, federal and regional levels identified in the roadmap
- ✓ Reviews and approves documents generated by the chief architect
- ✓ Meet annually to assess the compliance level of stakeholders with the provision of the ENEAF.
- ✓

B) Technical Working Group (TWG)

Various Technical Working Group shall be formed by and from the members of the Governing Council who will be responsible for formulation, revision, monitoring and actual implementation of the EeGIF and report to the GC as and when required.

C) Central Coordination Unit (MInT)

The Central Coordination Unit is the responsible unit under MInT who will be tasked with the responsibilities of devising, enacting, drafting, enforcement and monitoring of the eGIF. The central coordinating Unit will mainly be responsible for:

- a. Architectural Development
- b. Architectural Review
- c. Capacity Building
- d. Compliance Verification

Roles and Responsibilities:

1. Responsible for ICT strategy planning, implementation and supervision processes. Dealing with public relations on information society issues.

2. Has a right to get information from government bodies about the use of ICT systems and about the results of systems development processes.

3. Responsible for drafting the ICT budget in the state budget in cooperation with the Ministry of Finance. The Unit supervises the most important development projects which might also look into the compliance to EeGIF;

4. Responsible for coordination of drafting of the main ICT-related legal acts (Digital Signature Act, Personal Data Protection Act, Telecommunications Act, Databases Act, etc.) The Unit should have a right to present opinions and approve all ICT-related legal acts which could be initiated by the appropriate ministry;

5. Monitors the compliance of the reference models and standards

6. Checks interoperability across platforms and services

7. Ensures cost effective implementation of EeGIF and standards

8. Ensures consistent integration among ministries and agencies

9. Ensures improved and optimized resource utilization

10. Has the right to initiate new ICT-related legal acts

11. Responsible for management of the work of CIO working groups, planning and implementing CIO training activities.

12. Coordinates international cooperation activities in the field of ICT. Often international cooperation is performed in other ministries (e-health issues – Ministry of Health, basic ICT infrastructure issues – Ministry of Innovation and Technology, etc.) but the central coordination should be performed by the Central Coordination Unit.

13. Initiates cross-government projects and programs.

14. Responsible for general guidance, recommendations and standards.

15. Prepares EA and standards learning packages

16. Organize training for stakeholders

17. Create links with Vendors, Academic institutions and IT professional associations for preparation of trainings, learning materials, and organize certifications

D) Ministry Level Chief Information Officer (CIO)

The Central Coordination Unit needs to have contact points in ministries to cooperate with them. CIOs should be nominated at the ministry level (normally he/she should be at the level of a Head of Department or an advisor to the ministry) with the following responsibilities:

Roles and Responsibilities:

1. Create and implement ICT action plan at the ministry level.

2. Plan and prepare for approval the annual ICT budget for the ICT Council of the ministry. The ICT budget should be in line with both the government ICT action plan and the ministerial action plan.

3. Implement different projects related to procurement, supervision of projects, ICT training issues of ministries, etc.

4. Organize ICT systems maintenance and user help desk.

5. Organize end user training on ICT issues.

6. The CIO should be a member of the ICT workgroup of CIOs of ministries led by the Central Coordination Unit.

E) Regional Cells

The Regional Cells, based on the federal structure of the Ethiopia, will act like Ministry level CIOs and collaborate with the Central Coordinating Unit (MinT) for capacity building and compliance.

6 Governance Checkpoints and Success/Failure Criteria

The following items if enacted are key to the successful accomplishment of ENEAF and EeGIF.

1. The previously depicted governance structure is of generic. While re-organization of the structure and definition of the roles and responsibilities can be further looked contextually at the PM, MinT and the rest of the ministries and agencies, certain important roles if considered carefully would make the exercise of developing EA and ensuring compliance is of paramount importance. These include the involvement of Chief Enterprise Architect, Enterprise Business Architect, Enterprise Application Architect, Enterprise Data Architect, Enterprise Technology Architect and Enterprise Security Architect.

2. Communication is at the canter of all success and effectiveness of EA and GIF undertakings. Communication plan that lays down the processes relating to Why, How, When, and With Whom communication need to take place. For any enterprise architecture communication to be effective, it must be integrated with its core processes and structure. To achieve this, a robust architecture communication framework is required. Among others building awareness, entertaining feed-back mechanisms, creating shared understanding among the ecosystem members, facilitation and coordination that involve clear and genuine flow of information, regular preparation and submission of reports that involve immediate or quick exchange of comments and suggestions to enhance the level of EA and standards maturity are crucial for the success and effectiveness of the EA and GIF undertakings.

3. Such communication tools as creating portals that help to manage knowledge of the members of the ecosystem and bring them to exchange knowledge by uploading and downloading documents, organizing EA and GIF repositories to store EA principles, reference models, guidelines, standards and policies are crucial for the success of the EA and GIF

undertakings. What's more conducting various trainings in various ways, reviewing and updating EA and GIF repositories, using emails, preparing videos, organizing seminars, workshops and conferences that present case studies contribute to the success of the EA and GIF undertakings.

4. Strategic control of giant IT projects through Public-Private partnership (PPP) should be given emphasis of these projects to show enduring and sustainable results.

5. Enforcing the EA and GIF compliance through various means such as EA and GIF maturity assessment has great contribution to the maintenance of EA and GIF activities which would ensure success in all endeavours.