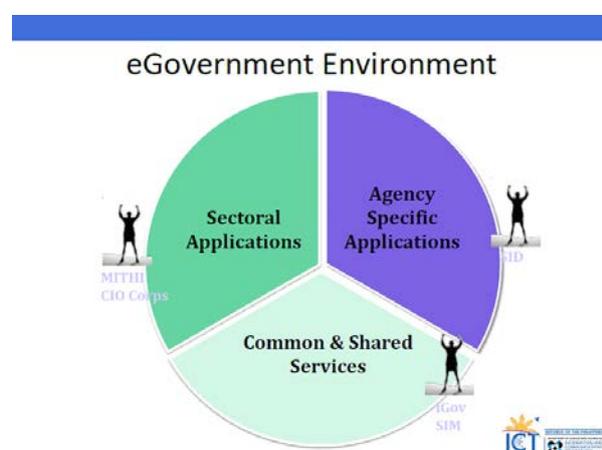


E-Government Master Plan 2.0 (2016-2022)

Introduction

The E-Government Master Plan (EGMP) is a blueprint for the harmonization and integration of information and communications technology (ICT) efforts of the government. It builds on past experiences and plans while incorporating current aspirations to create a vision for the e-government of the future.

A lot has been achieved since the EGMP (2013-2016) was launched. Strategies have been laid out and the e-government environment, consisting of three components needed for its implementation, has been prepared. These components are the **Medium-Term ICT Harmonization Initiative (MITHI)**, the **Integrated Government Philippines (iGovPhil) project**, and **agency specific applications**.



Implementing the EGMP, as mandated by Executive Order No. 47 (series of 2011), requires strong ICT governance and better ICT infrastructure. It means the development of a strong corps of **chief information officers (CIOs)** that will help implement the MITHI program, the provision of infrastructure and shared services through the iGovPhil, and connectivity to government facilities, especially in remote areas, and free Internet to all.

As the first phase of EGMP nears completion, there arises a need to review the plan to review its accomplishments, take stock of the situation and make a new plan for the future. This process had actually begun in the second half of 2015. An assessment was conducted in July, followed by a series of planning for the second E-Government Master Plan (EGMP 2.0).

EGMP 2.0, which is being presented to stakeholders for consultation in December 2015, is a continuation of the master plan. It picks up from the gaps left and lessons learned during implementation. Its goals and objectives remain the same.

Objectives

The expected outcome after implementing the master plan is an ICT-based transformation of governance and the delivery of government services and information. This is a transformation that will happen in the whole of government. It will be felt in the countryside and will help lead to a more inclusive development for the Philippines.

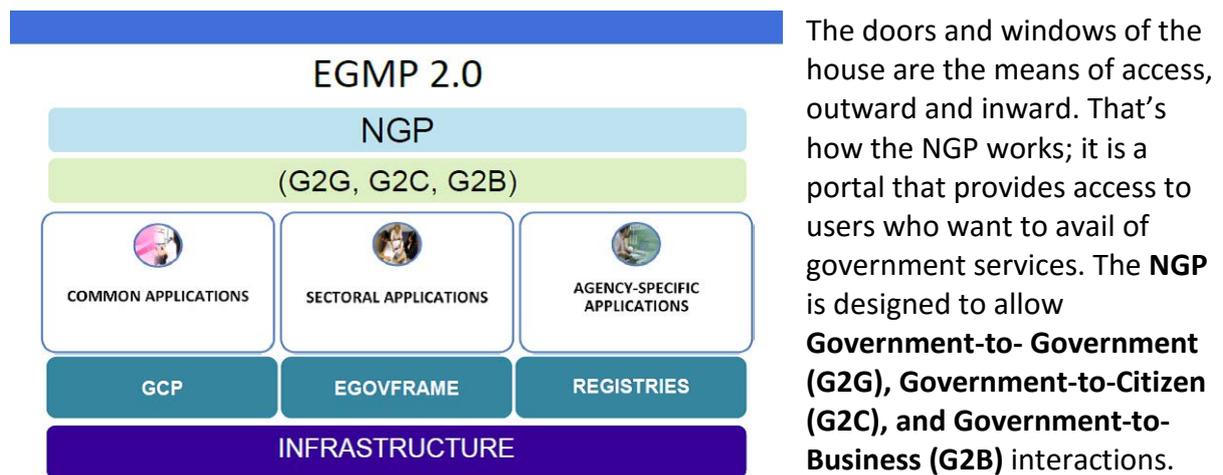
The general objective of e-government is to improve public service by building the infrastructure and shared services, automating processes, and providing online services to citizens and businesses. It must be able to offer an ever increasing portfolio of services to citizens in an efficient and cost effective manner. This will translate to a government that is not only digitally empowered but also digitally empowering by being integrated, transparent and responsive to societal needs.

Through the EGMP, the government will simplify and re-engineer processes as needed, help make access to accurate information faster and less costly, and provide more transparency and greater accountability. In the end, this will help government make better decisions, and improve the Philippines’ competitiveness.

This time, a **Resource Pooling Strategy** will also be adopted to ensure that skilled manpower needed to operate new systems, programs and applications will be met.

EGMP 2.0 Building Blocks

Imagine e-government as house. The land and base of the house where everything stands and everything begins is the **Infrastructure**. The house itself, where you put everything you own, will be the **e-Government Framework**, the appliances inside are the **Government Common Platform (GCP)** and the door is the **National Government Portal (NGP)**.



The GCP may be likened, loosely, to a storage appliance accessible to everyone in the house. The **GCP** is a platform service where data and information are stored in a common repository, ready to be accessed, shared and used by participating government agencies. One of the expected outputs of collaboration among the government agencies using GCP are the **registries**.

Still using our analogy, the house provides the structure or frame in which useful things are attached or placed. The **E-Government Software Standard Framework (eGovFrame)** functions such that the materials to be used in creating applications are available. It is,

however, software that allows developers to create standard applications that are consistent with the ICT systems of government agencies.

- **Infrastructure**

The execution of basic infrastructure and shared services under the EGMP 2.0 continue to be done through the Integrated Government Philippines (iGovPhil) Project.

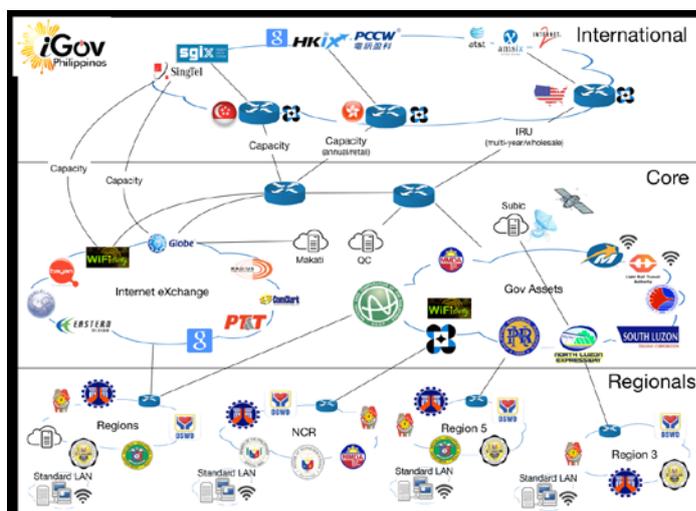
The infrastructure includes government data centers and fiber optic networks to interconnect government offices and provide high-speed communication and sharing of tasks and data. Software includes online security tools, services and applications for use by government agencies and citizens.

The project provides the necessary infrastructure, support services, and applications needed for e-governance. The infrastructure includes **Government Network (GovNet)**, **Government Data Center (GDC)**, **Government Cloud (GovCloud)**, and **Security**.

- **Government Network (GovNet)**

The Government Network (GovNet), using fiber optic technology, will connect government agencies to the data center through a fiber-to-the-office service.

With the fiber optic technology, government agencies can communicate faster, coordinate activities more effectively, facilitate collaborative work, and increase productivity. This will result in speedier and more efficient delivery of goods and services to citizens.



This diagram shows the three major layers in GovNet. The top layer, also referred to as the **international layer**, is characterized by the Internet exchanges that the Philippine government is involved in. The **central or core layer** is the middle infrastructure where all Internet traffic converge. The **lower or regional layer** is for the regional networks.

GovNet is expected to be completed by the end of 2015, connecting 160 government agencies in Metro Manila. The fiber optic loop in Cebu had been completed since 2014 and is connecting 12 government agencies. Future plans to expand the fiber optic project to cover major areas of the country are ongoing. The cities considered for this expansion represent seven regional centers, namely, Cebu, San Fernando (Pampanga), Tuguegarao, Butuan, Iloilo, Davao, and Legazpi (Bicol).

- **National Government Data Center (NGDC)**

The National Government Data Center (NGDC) satisfies one of iGovPhil's goals of building the physical infrastructure to interconnect government agencies through the fiber optic network, making data exchange and collaboration among government agencies faster and more cost-efficient. The NGDC serves as the launching point for many government services such as cloud computing, web hosting, server colocation, and other operations.

Currently, two NGDCs are already operational and are accepting applications for colocation services. Ten agencies have collocated their servers in NGDC1 and four in NGDC2. Another data center is being developed somewhere in Central Luzon that will serve as a disaster-recovery facility and is expected to be operational by 2017.

- **Government Cloud (GovCloud)**

Virtualization and cloud technology allow governments to streamline ICT resources to cut back on hardware and operations costs and improve overall efficiency. As an Infrastructure-as-a-Service (IaaS), GovCloud enables improvement of government processes through the virtualization of servers, storage devices, software requirements, and compute resources. Costs are managed because hardware acquisition and maintenance are reduced. Data protection is also ensured. Easy upscaling and downscaling of ICT resources are made possible as and when required to accommodate increased or changing demand or capacity. All these benefits from cloud computing are expected to realize the EGMP objectives for an ICT-based transformation of governance and an effective delivery of government services and information, especially when government agencies are mandated to migrate public-interfacing online services to the GovCloud in pursuit of a Cloud-First Policy.

At present, the GovCloud hosts the **shared services** of the iGovPhil Project, such as the Philippine National Public Key Infrastructure (PNPKI), Forms Generator (FormsGen), Government Project Management Information System (PMGov), National Archives and Records Management Information System (NARMIS), Government Web Hosting Services (GWHS), Gabay Aral Learning Management System, and Government Payment System or PhPay. A total of 208 virtual machines are deployed in the Cloud. There are currently 33 government agencies and projects that have availed of GovCloud's services. Migration from the old Cloud (Open Nebula) to the more stable new Cloud (oVirt) is ongoing and is almost complete.

Although its setup was initially small-scale, designed to support iGovPhil-developed applications, the GovCloud is set to continue expanding resources to accommodate more agencies that are in need of cloud computing. The DOST-ICTO and the DOST-ASTI responds to the need to scale up its current cloud infrastructure for a whole-of-government deployment through the Next Generation Cloud, a program that will have the required security assurance and network isolation to ensure data protection.

- **Security**

The iGovPhil Project requires a strong online security system that will ensure reliability, effectiveness, and stability of e-government initiatives. Since ICT security is a top priority, there is a need to adopt measures to address this through hardware, software, and capability development and training.

A service delivery life cycle (SDLC) is to be implemented once the required human, hardware, and network resources and processes are set in place. Trained and competent manpower for the Security Operations Center (SOC) and Network Operations Center (NOC) will be necessary for the creation of an overall security policy and program, formation of a detailed process definition for each of the service cycle based on an approved security policy, and the implementation of at least three different network environments: development, staging, and production.

- **Shared Services**

The operations of shared services for EGMP 2.0 remain under the iGovPhil Project, except for the government email system, which has been transferred to ICT Office. A new service – Gabay-Aral, a learning management system – was launched in 2015. The following are the shared services being managed by the iGovPhil Project, and which are part of EGMP 2.0 implementation:

- **Philippine National Public Key Infrastructure (PNPKI)**

This service provides a secure and private mechanism for exchanging data and financial transactions over an unsecured public network such as the Internet.

So far, 11 new Registration Authority (RA) officers have been appointed; three from the central office and eight from the field offices. Manuals on how to install the certificate chain for Macintosh and Linux have been developed.

- **Forms Generator (FormsGen)**

The Forms Generator is a web-based application that produces forms used by various government agencies. The toolkit generates electronic versions of the agencies' paper-based forms.

It is already operational and being pilot tested by iGovPhil. It has already published 95 forms for 35 client agencies. An operations manual has been drafted and a policy document has been issued and posted on the project website.

- **Government Project Management Information System (PMGov)**

This service is a web-based project management tool that helps manage projects, from design to monitoring. Its use in government offices is currently being evaluated.

- **National Archives and Records Management Information System (NARMIS)**

This service aims to improve public access to government services and maximize government resources by integrating and enhancing existing assets. It helps speed up document research and document processing, thus, providing citizens better and faster service.

It is currently being used by 14 government agency clients.

- **Government Web Hosting Services (GWHS)**

This service implements Administrative Order 39, series of 2013, mandating government agencies to transfer their websites to the hosting services of ICT Office and to use a government web template. It is now hosting 162 agencies in the production server and 81 in the staging server. It is also hosting 203 agencies that are not mandated to transfer.

- **Gabay-Aral (Learning Management System)**

Gabay-Aral, an online Learning Management System (LMS), enables educators to create and distribute online courses with collaboration features. It is being used by 20 state universities and four national government agencies.

- **Government Online Payment System or PhPay**

This service allows the public to make online payment for government transactions. It is in the last stages of development and will be ready in 2016.

- **E-Government Framework (eGovFrame)**

A lot of problems arise in most ICT systems of government agencies because they were created using different computer languages and software. This makes system maintenance complicated, contributing to unnecessary administration expenses.

The **E-Government Software Standard Framework (eGovFrame)** addresses this issue. It is a set of reusable and consistent computer codes that can be used to create systems with basic functions. It contains a set of rules, code patterns and libraries that can help create, maintain, and reuse consistent ICT systems for government agencies.

Through the use of the eGovFrame, developers can create software that is both efficient and of excellent quality. These systems can also be maintained easily by other developers because of their consistent and reusable codes.

The eGovFrame is advantageous to government users because it removes dependency on private vendor's development software, promotes consistency among the different ICT systems, improves quality and reusability of application software, and allows easier system maintenance.

Without the eGovFrame, government ICT projects will continue to conduct unnecessary creation of software and investments for its development, and suffer from interoperability difficulties.

Objectives

The eGovFrame's primary objective is to increase the quality of e-government services, enhance the efficiency of ICT investments, and allow the consistency of code development and reusability.

It also acts as a standard for ICT managers to manage the maintenance environment and allows them to better handle their tasks using the library of e-government-specific components.

The use of a common development environment helps provide consistency in software architecture and design, thereby simplifying the understanding and reusability of systems.

In particular, the eGovFrame aims to improve the reuse of existing common components of all eGovernment software applications, develop additional common components, and promote the use of common components.

Strategy

The project will be a collaborative effort between the government, academe, and industry.

Project components will be developed in-house by the Department of Science and Technology through the Information and Communications Technology Office (ICT Office) and the Advanced Science and Technology Institute (ASTI). Other components will be outsourced through the academe and industry.

Development methodologies and techniques eyed for this project are agile programming and "hackathons." The project is expected to be implemented and completed within 12 months.

- **Government Common Platform**

The **Government Common Platform (GCP)** is a cloud-based repository of data and information, easily accessed by participating government agencies for use and sharing. In the process, the government agencies enhance their efficiency – and save money – by sharing resources, eliminating duplication of work, collaborating, and exchanging knowledge and experiences.

All of these redound to improved public service, better policy decisions and sound e-governance.

Objectives

Currently, there is no common platform where agencies can share resources or data. Some agencies maintain their own databases and there is no system that considers the whole of government in sharing credible data and information on-demand.

The general objective of GCP is to provide a common platform for government agencies, enabling them to use and contribute information in a secure, reliable, and standardized manner. It will also enable decision makers to access up-to-date and contextually relevant information.

Among the outputs expected from the GCP implementation are:

- Formulation of principles, policies and standards that will govern, manage, share and integrate enterprise data across public sector institutions.
- Creation of registries for public sector use.
- A secure system for the seamless exchange of information.
- Seamless integration of business process workflow across and within public sector institutions.
- Comprehensive and relevant information and policies for an effective decision-making practice.

Strategy

Providing a single system of sharing and disseminating data and information for the whole of government is problematic and next to impossible because of the varied interests and functions of government agencies.

But the problem can be overcome by organizing government agencies into **collaborative groups** based on the types of data and information that are relevant and meaningful to them. Each collaborative group can focus on valuable sharing or exchanges, eliminating those completely useless to its services or functions.

An agency can become a member of more than one collaborative group, so there will be interlocking and interlapping directories for the whole of government GCP.

A **GCP Office** is proposed to manage the whole thing. It will be set up by the iGovPhil Project.

To share resources, the systems and applications used by government agencies to generate, open and exchange documents and resources must be interoperable. For this, policies and frameworks are being developed by iGovPhil to promote interoperability in government. The government is also implementing unified ICT-enabled business processes designed to work seamlessly across public sector institutions, and establishing information infrastructure that will allow the exchange, collaboration and sharing of data.

- **National Government Portal (NGP)**

The **National Government Portal (NGP)** is a website that serves as the gateway for citizens to access reliable government information and services. In short, it is the point of communication between the government and users of the Internet.

All government services will be shown as links on a single web page, making it convenient for users to select or search the online transactions they need.

Objectives

The general objective is to provide a seamless government services to the public, which is Level 4 (connected presence) in the UN web index. Online government service in the country is currently pegged at Level 2 (enhanced presence).

The NGP will integrate Government-to- Government (G2G), Government-to-Citizen (G2C), and Citizen-to-Government (C2G) interactions, thereby promoting greater access to services and increased transparency.

Specifically, the NGP aims to:

1. Implement Administrative Order No. 39, which mandates government agencies to submit their websites to the Government Web Hosting Service (GWHS).
2. Provide an avenue for citizen engagement and means of feedback and two-way communications between the government and its constituents.
3. Harmonize and create a mechanism of collaboration between and among content producing and technical organizations to develop and ensure sustainability of the GWHS and the NGP.

Strategy

The implementation will be done in three phases:

Phase 1. Continuous development of agency websites through the adoption of templates and the use of a content management system (CMS). Assist agencies with online forms through the Forms Generator application of the iGovPhil project, hold capability building activities, and develop support mechanisms to enable faster deployment. Activities during this phase will jumpstart the transition toward the integration of websites with the National Government Portal.

Phase 2. Create the integrated government portal, strengthen security, and improve accessibility. Build a self-service facility for content providers and web administrators and a mechanism to support collaboration between content providers and web developers.

Phase 3. Promote the adoption of the integrated NGP by encouraging departments to have a single domain for all their agencies, strengthen information governance, and identify information that can be shared among government agencies, business partners and clients.

- **Other Components of EGMP 2.0: Development of Sectoral Applications and Registries**

Other components of the EGMP 2.0, such as the development of sectoral applications and agency applications meant to create authoritative registries, are expected to be implemented through the efforts and full cooperation and collaboration of MITHI.

The office of the Deputy Executive Director for eGovernment will lead the development of the next E-Government Master Plan. Planning sessions are expected to be held during the first quarter of 2016 to finalize the draft EGMP 2.0 and its supporting tool, such as the “revised information systems strategic plan,” to minimize duplication of efforts and ensure interoperability and interconnection of applications and databases to achieve an integrated electronic government.