MACQUARIE University

Faculty of Science and Engineering

Department of Computing

COMP3770/6770: Management of IT Systems and Projects

Assignment 2 – 20% of semester

PM – Implementing an EIS for the CEO in Aklan

Due : 11.55pm – Monday 6th. April

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MS Project [1]

(20 marks - 20% weight)

Scope Statement – EIS implementation for the Aklan governor

Date: February 23rd 2020
Prepared by Dr. Peter Busch

Source: Templonuevo, G., Busch, P., (2020) "Executive Information System development for Aklan, Philippines" *International Business Information Management Conference (35th IBIMA)* 1-2nd April, Seville - Spain 12 pages (accepted).

Project Background

Introduction

The Executive Information System (EIS) [2] is part of the list of information systems for different Philippine government departments. The purpose of this system is to aid the Provincial Governor to keep an eye on where diverse projects stand and to track income gained by the province from its revenue-generating aspects. Such systems are still in use today in a variety of disciplines ranging from town planning (Grifoni, D'Onofrio & Sargolini, 2018), environmental management (Renatus & Gelderman, 2016), farming (Fountas et al., 2015) and so on.

Provincial Government of Aklan – Governor's Office

The Provincial Government of Aklan (hereafter PGA) of the Philippines, constitutes 19 departments each with an appointed department head (Vargas, Rentillo & Rubio 2012). The entirety of the Provincial Government is administered by the Provincial Governor's Office (PGO) to which all departments are subordinate. The PGO's major function is the general management and jurisdiction over all programs, projects, services, ventures, plans and activities of the PGA. The Management Information System Division (MISD) is assigned to build information systems for various government offices (Vargas, Rentillo & Rubio 2012).

System Background [3]

The scope of the current process as well as its deficiencies are identified in **table 1** and **figure 1**. Reports are traditionally prepared manually and consolidation takes time and effort. The Provincial Governor uses reports from several information systems already in place to monitor the efficacy of operations and service-delivery.

It is proposed the EIS integrate established information systems for the purpose of acquiring necessary reports with appropriate user account permissions. This manual process basically applies to any report the governor requires from other departments, be it a map from the Geographical Information System (GIS) (Sexton, 2019) or Human Resource Management reports from HRMIS (Boon, den Hartog & Lepak, 2019). The EIS proposed will provide access to relevant information from various sources to provide government officials with relevant, timely and accurate reports allowing them to make plans and decisions as appropriate.

The focus of the development of EIS is for the immediate information the governor requires which can be viewed instantly on the system. With an EIS, the governor can check the system directly and reports are displayed as shown in **figure 2**.

The EIS will be a web application accessed by the governor via touch-screen desktop machine, which will aid with responsiveness and mobility. The web application contains various modules enabling connection to various databases (**figure 3**). **Figures 3** and **4** below illustrate the different information systems of the Provincial Government of Aklan, including the Executive Information System to be developed. The EIS will contain a custom-made GIS Web Application interface for project updates and geographical illustrations.

Document Tracking Reports

The Management Information System Division (MISD) developed the Document Tracking System (DTS) to address the tracking and monitoring requirements of Purchase Requests and Disbursement Vouchers. The Tracking of Purchase Requests (PR) and Disbursement Vouchers (DV) starts with the receipt of complete documents from their respective departments being

[1] Or other suitable PM software – up to you!
[2] Yes I know technology has moved on from EISs, but they are not as redundant as you might think. If you are very clever you might like to mention some alternatives in the conclusion to your report?
[3] This system background is just for your interest only. As a PM you don't have to implement these systems. I am just giving you some context here as you are working as a PM in the MISD(ivision) – i.e. the IT department of the governor's office.

the Provincial General Services Office (PGSO) for the PRs and Provincial Budget Office (PBO) for the DVs. The tracking shows the number of pending, processed, sent out, received and closed documents per department.

Revenue Collection Reports

The Provincial Government of Aklan maintains government hospitals, ports and terminals, construction development and quarrying services, provincial tourism operations as well as academic centres.

The Economic Enterprise Development Department (EEDD) has legal authority to collect non-tax revenues such as regulatory fees and business and service income accruing; in addition it also collects tax and non-tax revenues such as that from real property tax accruing to the General Fund.

The governor has to actively request preparation and submission of revenue collection reports from the Provincial Treasurer's Office (PTO).

The Provincial Government of Aklan adopted the Enhanced Tax Revenue Collection and Assessment System (ETRACS) - a computerized system made for Local Government Units (LGU) to fully automate operations of and between Treasury and the Assessor. ETRACS is composed of three (3) core modules: a Tax Collection Module, a Business Permit Assessment Module and a Real Property Assessment Module.

Human Resource Management Information

The Provincial Government of Aklan adopted the Human Resource Management Information System (HRMIS). Using LAMP (Linux, Apache, MySQL and PHP), the system is tailored for use of the LGU. The HRMIS incorporates: Attendance Monitoring, Leave Management, Personnel Information Management, and Certification Issuance.

Project Monitoring and Status Reports

The Provincial Government of Aklan implements (hard and soft) projects funded from various sources. These include Local Funded Projects including the 20% Development Fund, National Funded Projects, Foreign-Funded Projects, and National Government Organisation-Funded Projects. Consequently, maps are also critical to the governor's decision-making as information on geographical location, land area and property accessibility are needed for particular projects.

ETRACS has been operational and implemented in the Office of the Treasurer, the Assessor's Office and the Dr. Rafael S. Tumbokon Memorial Hospital (DRSTMH). One of the features of this system is automatic report generation along with online transaction capability. It is proposed the EIS integrate with ETRACS to obtain these revenue reports. It is important the governor have regular status updates on the quality of his or her workforce; including attendance levels, tardiness, age profiles, skill profiles, job status and gender. It is proposed the EIS will integrate in to the HRMIS to obtain such data/information through reports.

Document Tracking Reports

Document Tracking Reports include Purchase Requests and Disbursement Vouchers. Each report will show the department involved, date submitted, date required and its status.

Purchase Request

A Purchase Request is a document issued by a certain department to notify the purchasing department of items needed, along with corresponding quantities and estimated unit prices. Such a document is intended to maintain internal financial controls within the organization. The Provincial Accounting Office (PACCO) established a purchase request process to effectively oversee requisitions for purchases.

Disbursement Voucher

A Disbursement Voucher is a form used to make payments to an individual, usually a non-employee or a resident, a business establishment or a private organization for merchandise sold or services rendered.

Basic steps

This will be a *high-level project implementation!*

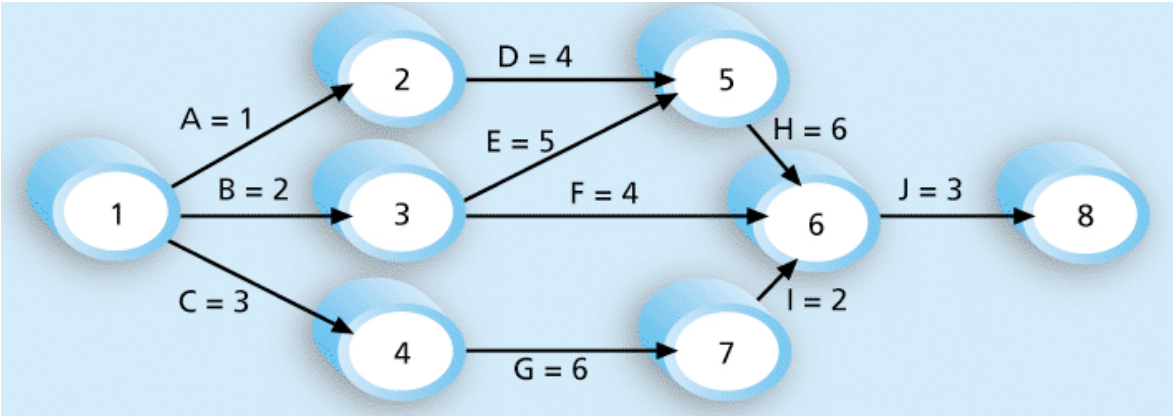
a. You are the internal PM for this scenario.
b. The governor would like the implementation of an EIS/ESS for their office.
c. The governor would like the EIS/ESS installed within the next **six (6) months** (by **early October 2020**).
d. Ignore hardware and software *minutiae*, but feel free to explore this aspect of the project if it interests you (this is all the material provided in the system background above).
e. MISD has 1 PM (you), 2 Business Analysts (BAs), 2 Systems Developers, 3 Software Engineers, 2 Database Administrators (DBAs) and 2 Administrative staff. The **MISD** therefore has **12 staff in total**.
f. The governor of PGA is prepared to spend **US$250,000** [4] over the next 6 months to get the EIS implemented. [5]
g. Read the system background above and examine table 1, along with figures 1-4 below to familiarise yourself a little with the systems in place already. All of this has been and continues to be the responsibility of the MISD. Take whichever of these you feel relevant to this exercise – *you are the PM after all*.
h. Of course, MISD staff not only work on this EIS; they still have to maintain the core mission of maintaining the systems you see in figures 3 and 4. Therefore, the above staffing is only *partially dedicated* to achieving the end goal of EIS installation in 6 months. You decide what fraction of time needs spending by the staff on this initiative of senior managements'!
i. We are only interested (simplistically) in an *intra-organisational* view of PM, not an inter-organisational view of how the EIS interacts potentially with systems in other Philippine government provinces.

[4] Why US dollars? Well the Philippines was controlled by the US for a long time (and before 1898 by Spain). But if you want to show your currency in Philippine Pesos, you might like to do that instead. Do your homework here if you wish and work out salaries in the Philippines?!
[5] Yes I know one can probably buy a turnkey system for less, but let's pretend we are going to code this system in house!

Assignment algorithm

1. Implement the above project scope (basic assignment steps) into MS Project (or appropriate PM software). *You are free to modify the WBSs as you see appropriate* (**10 marks**).

2. How long will your project take? How have you calculated this? Provide the critical path (e.g. figure below) for your implementation. You may use the network diagram feature in MS Project (or equivalent) and modify/comment to illustrate your point, rather than redrawing from scratch. Provide a discussion of your approach – how did you arrive at your costings, timeframes, how staff were allocated and so on? *Hint: higher grades tend to refer to sources of information* [6] (**10 marks**).



Note: Assume all durations are in days.

Path 1:	A-D-H-J	Length = 1+4+6+3 = 14 days
Path 2:	B-E-H-J	Length = 2+5+6+3 = 16 days
Path 3:	B-F-J	Length = 2+4+3 = 9 days
Path 4:	C-G-I-J	Length = 3+6+2+3 = 14 days

Since the critical path is the longest path through the network diagram, Path 2, B-E-H-J, is the critical path for Project X.

Figure 6-8: Determining the critical path for project X (source: Schwalbe, 2018 p. 260).

Deliverables – soft copy only

One pdf file containing your MS project (or equivalent) solutions (question 1), which includes:

a. **WBS charts**, including

   i. Gantt chart
   ii. Network diagram
   iii. Resource graphs etc.

b. Your answers to 'assignment algorithm' steps 1 and 2 above.

Submission

Place your **soft copy** (1 file) in the appropriate folder on iLearn.

[6] See assignment 1 – appendix 1.

Marking Rubric

You will note higher grades bring in examples more widely from the literature. Higher grades show greater initiative in costings, providing explanation for why staff cost what they did, reasons for time durations on tasks and so on. The critical path will be well explained, showing good understanding of what is taking place.

	Developing (Borderline Pass-Fail)	**Functional** (Pass)	**Proficient** (Credit)	**Advanced** (Distinction to HD)
Comprehending the underlying scenario	An understanding that organisations have PM strengths, expressed through basic statements articulating how some organisations may be better because of PM.	Some indication literature exists providing wider examples of CM, staffing etc. in organisations.	Recourse to the literature, illustrating similar organisation profiles with regard to CM and PM, staffing etc. and how these factors relate to the material under study.	A comprehensive study of the literature providing deeper examples of similar CM and how PM has strengthened them.
PM software	Limited use of PM software showing some understanding of the tool.	Competent use of PM software showing understanding of the software, perhaps making some basic mistakes.	Good understanding of the software, using tool appropriately without any significant mistakes.	Excellent understanding of the PM software, using tool appropriately at an expert level.
PM modelling	Limited understanding of PM modelling, some obvious mistakes.	Competent understanding of PM modelling, some trivial mistakes still in evidence, but generally an understanding of what is taking place and why.	Good grasp of PM modelling bringing in other examples of PM modelling from the literature explaining how this has improved project scenarios.	Excellent grasp of PM modelling, also drawing on the literature widely to exemplify in the case of further examples how PM modelling has aided other organisations as well.

Note this is a Turnitin assignment, meaning the software will detect if you have copied and pasted inappropriately (i.e. not used "…" quote marks where you have simply copied and pasted someone else's work).

Late submission of individual work will incur a 10% penalty for every 24 hours, or part thereof, it is late. So within 24 hours, the maximum mark that can be obtained is 90% of the full grade for that assessment task; between 24 and 48 hours, the maximum mark that can be obtained is 80% of the full grade; and so on.

If you require an extension, please do so via **ask.mq**.

Table 1: Current business processes

System	**Manual Business Process**	
Purpose	How the agency operates as well as how the local chief executive performs specific functions is described. Problems associated with the current environment are identified and what the new system can resolve.	
Scope	The process here only encompasses an existing manual process with regard to how the local chief executive obtains reports necessary for decision-making.	
Preconditions	The process input is the governor's need for specific information from a particular department under his administration.	
Boundaries	The activities immediately following the process input and immediately preceding the process output define the boundaries here. The starting boundary is defined by the governor requesting a detailed report from the appropriate providing department reporting directly to him. The process's ending boundary is defined by the governor receiving the report asked for.	
End Conditions	The process output is the specific report for the governor, from a particular department under his administration.	
Process Flow	**Step**	**Action**
	1	The governor asks an assistant or available staff member to contact the department head for a report (perhaps through a phone call or sends someone to the department concerned).
	2	The assistant or staff member talks to the department head or a representative (asst. deputy head/acting deputy head) to take the call in case the department head is not available.
	3	On behalf of the governor, the assistant requests a certain report.
	4	The department head or representative agrees and proceeds with the preparation of the report.
	5	The department head or representative asks appropriate personnel to produce a report which are all paper-based. The reports will still be printed out for the governor.
	6	Once ready, the report will be brought to the governor's office either by the department head, assistant department head/acting department head or authorized personnel.
	7	The report is listed into the incoming documents logbook.
	8	The report is handed over to the governor or his assistant.
Alternative Flows	**Step**	**Branching Action**
	1	In some cases the Governor has access to the information systems of a few departments.
	7	In some cases, the report does not require being listed into the incoming documents log – in which case proceed directly to step 8.
	8	In some cases the report is not only handed to the Governor, but also explained in person.
Control Points and Measurements	**Step**	**Branching Action**
	6	The person delivering the report is aware of the sensitivity of the report requested.

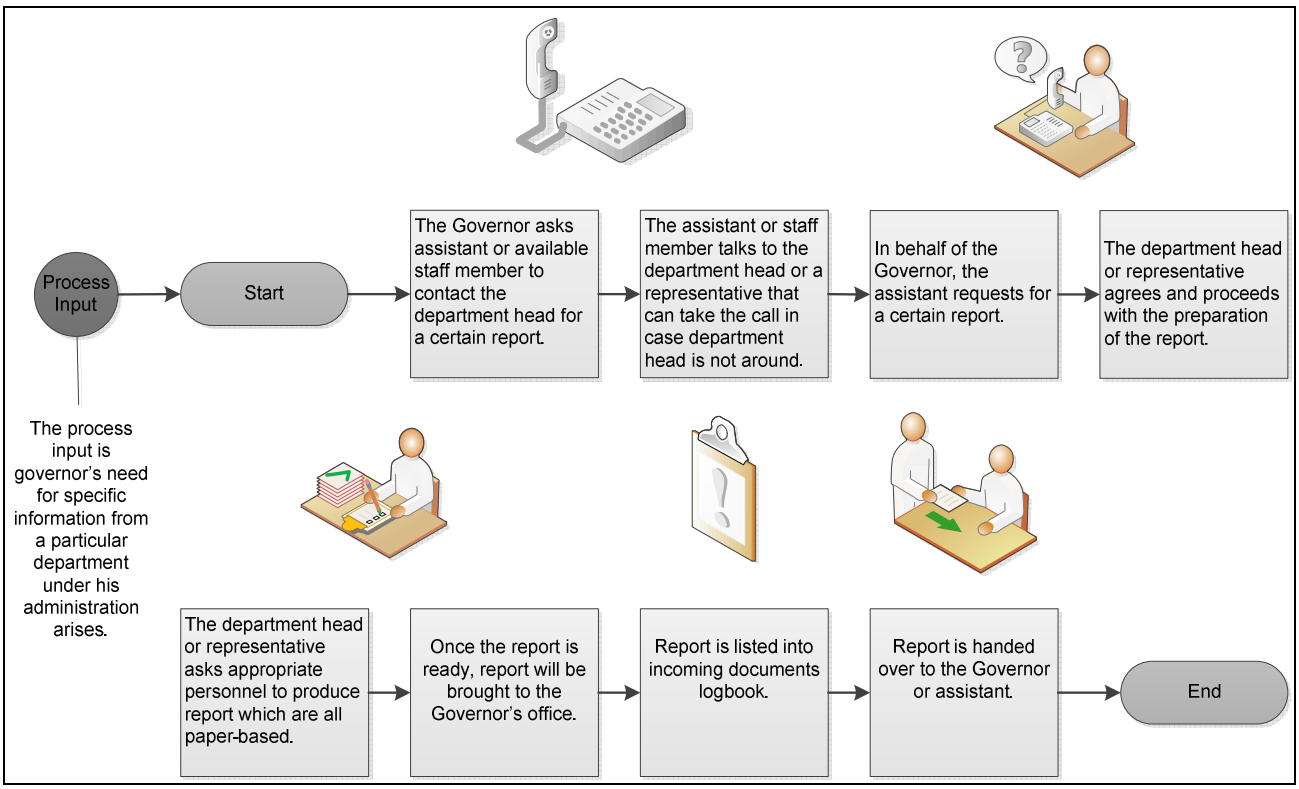


Figure 1: Business Process Flow Diagram

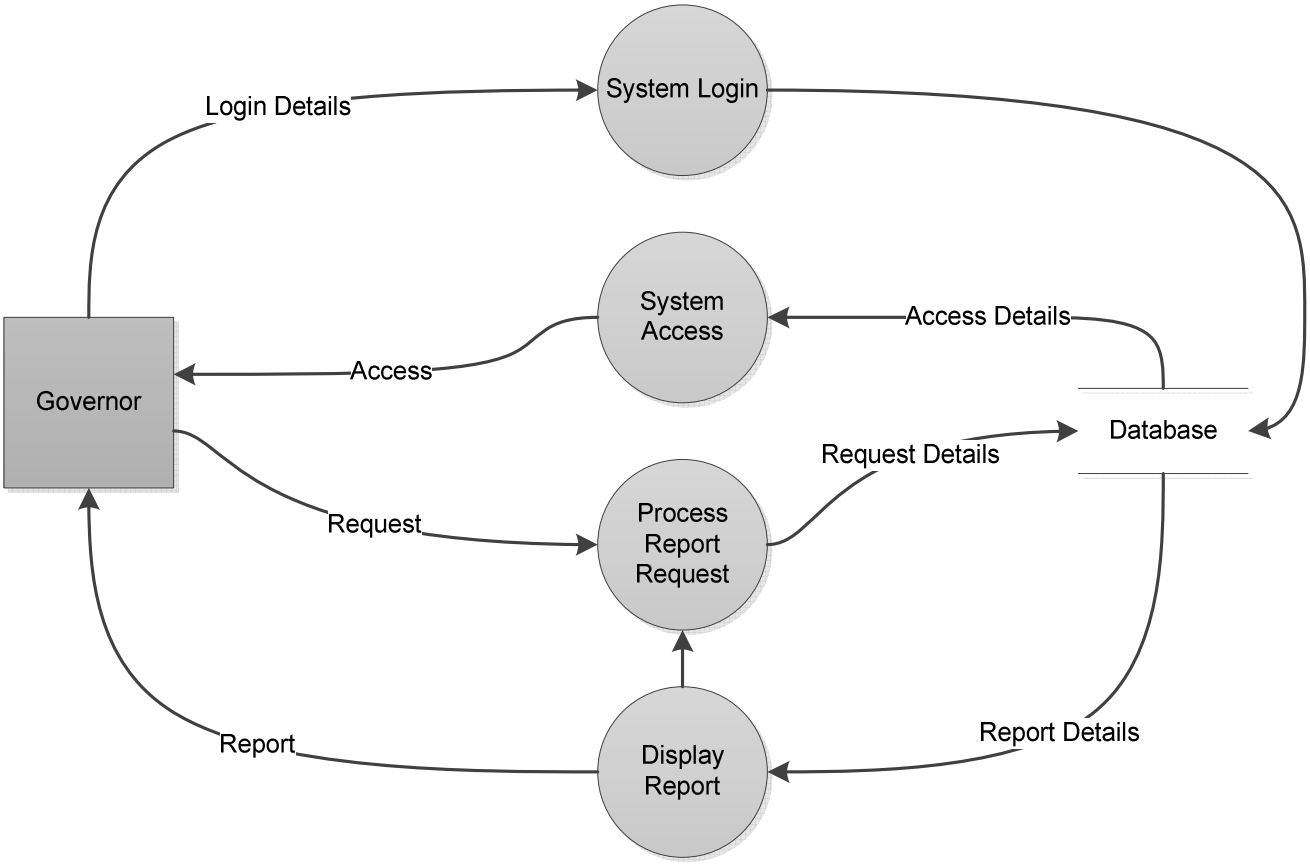


Figure 2. System Data Flow Model

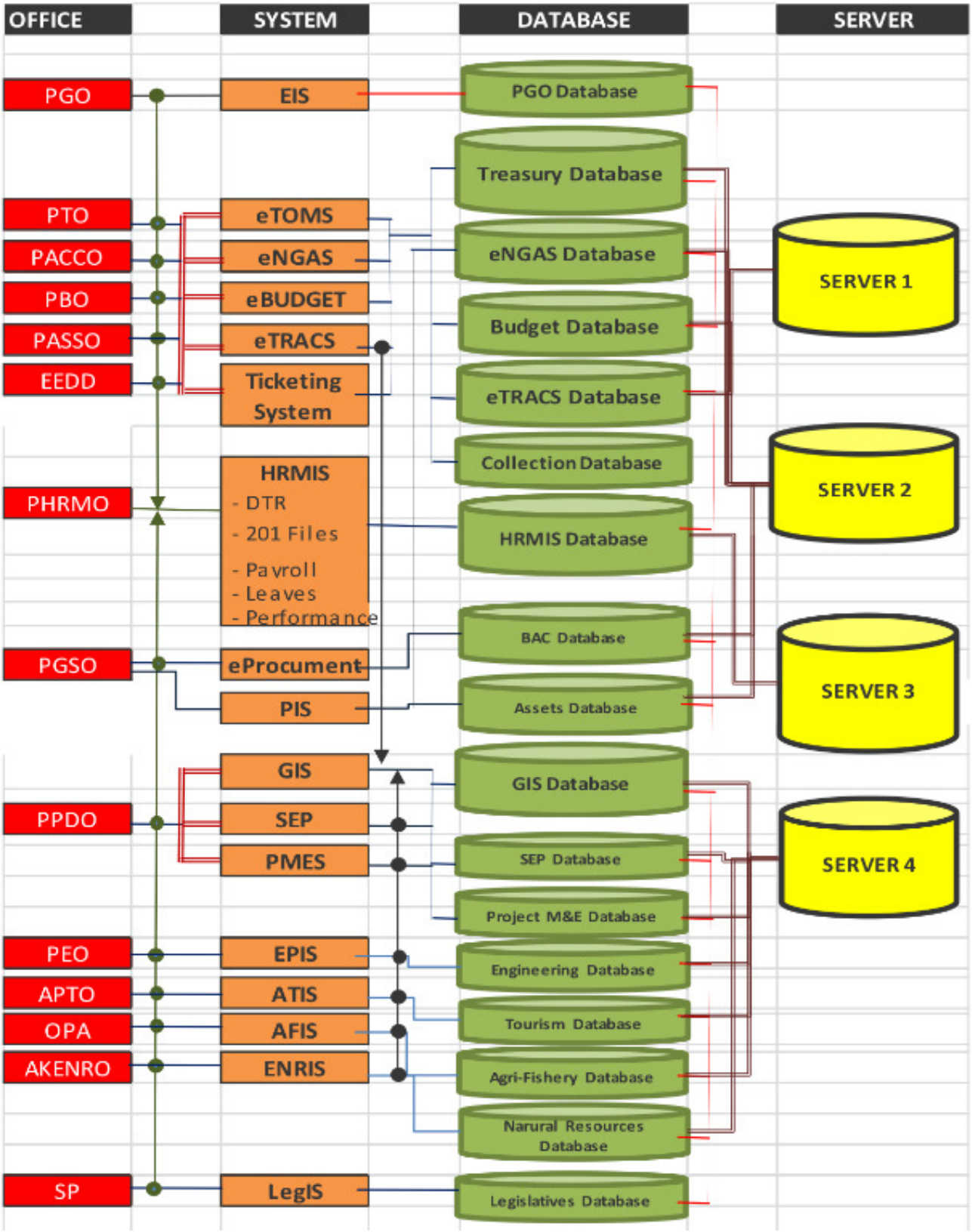


Figure 3. Conceptual Framework
(source*:* Vargas, Rentillo and Rubio, 2012 - permission granted to reproduce).

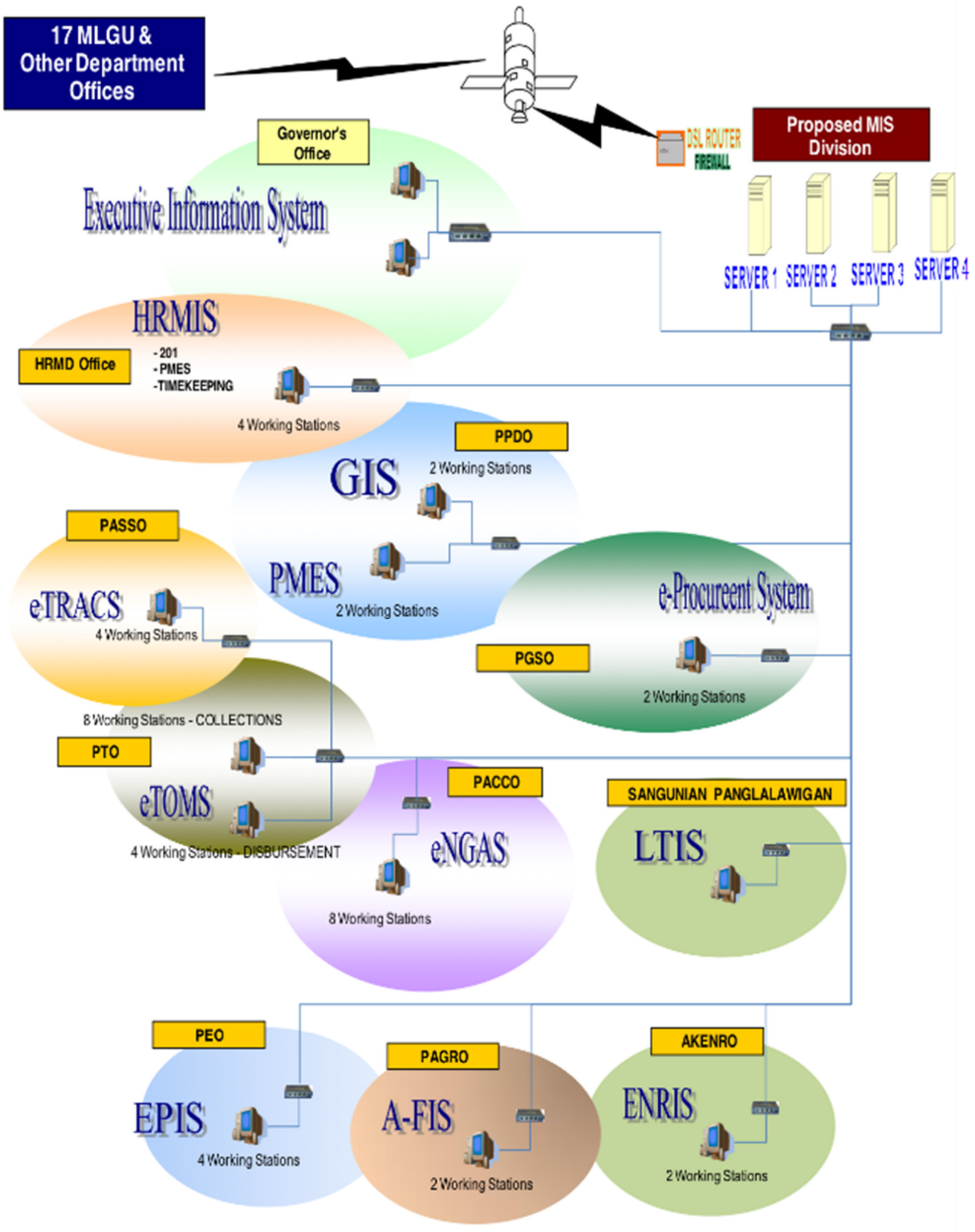


Figure 4. Information System Layout
(source*:* Vargas, Rentillo and Rubio, 2012 - permission granted to reproduce).

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