

ANALYSIS AND DESIGN ENTERPRISE ARCHITECTURE USING TOGAF ADM IN ACCOUNT TEAM AND SALES AND MARKETING SUPPORT DIVISION OF PT. INTI

Afifah Nurul Izzati¹, Yuli Adam Prasetyo², Rahmat Mulyana³

^{1,2,3}Information System Department, Industrial and System Engineering Faculty, Telkom University

¹afifah.afifah26@gmail.com, ²y.adam.prasetyo@gmail.com, ³rahmatmoelyana@gmail.com

Abstract

PT Industri Telekomunikasi Indonesia (Persero) or abbreviated PT. INTI is one of the State Owned Enterprises (SOEs) engaged in the telecommunications industry. PT. INTI in 2016 plans to change the business focus of the company distributor telecommunication equipment into a manufacturing company that provides products of telecommunications equipment. Thus, PT.INTI must develop the marketing and sales process, so PT. INTI can provide the best service, and competes with other leading provider of products telecommunications equipment. The marketing activities and sales process relate with account team and sales and marketing support. To increase the sales and develop the marketing, account team and sales and marketing support need design of enterprise architecture including integration between business architecture, data architecture or information, application architecture, and technology architecture . To support the design of enterprise architecture in this study will require a framework. Framework used is TOGAF ADM focusing Preliminary architectural design phase, Architecture Vision, Business Architecture, Information System Architecture, Technology Architecture, Opportunities and Solution Architecture . The result of this research are gap analysis, business architecture blueprint, data architecture blueprint, application architecture blueprint, and technology architecture blueprint, and IT roadmap. This result can be recommendation for account team and sales and marketing support to improve their service and performance.

Keywords: Manufacturing Company, Enterprise Architecture, Account Team, Sales and Marketing Support, TOGAF ADM

1. Introduction

The development of rapid information technology is very important for decision making for individuals, companies, and governments. With the implementation of information technology, it will facilitate decision-making and also helps to provide business solutions. In addition information technology has a role to achieve the goal of a company. PT Industri Telekomunikasi Indonesia (Persero) or abbreviated PT. INTI is one of the State Owned Enterprises (SOEs) engaged in the telecommunications industry. PT. INTI has the vision of becoming the first choice for customers in transforming dreams into reality. PT. INTI has three main directors there are president directors, directors of financial and directors of business. Each of these directors are integrated to support business trip in PT. INTI. In business directors in charge of three divisions, there are account team, sales and marketing support division, and product development division. Account team is intended to support and assist the director of business in managing and running the company, which essentially covers the sale of products and / or services. In sales and marketing support division has the function of managing and running the company, which essentially covers the field of providing solutions for customers. . PT. INTI implement SAP (System Application and Products in Data Processing) for some business function. With the passage of time and the development of technology, PT. INTI in 2016 plans to change the business orientation of the company distributor telecommunication equipment into a manufacturing company that provides products of telecommunications equipment. With the change in the focus of its business, the author recommend the new innovation to support PT. INTI to provide the best service, and competes with other leading provider of products telecommunications equipment by utilizing information technology. The importance things are takes the integration between information technology with business processes. On designing the integration required some architectural components include business architecture, data architecture, application architecture, and architecture technology, the design is called enterprise architecture. To support the design of enterprise architecture at PT. INTI it would require a framework. In this research framework that will be used is TOGAF ADM (Architecture Development Method). The research focus on the account team and sales and marketing support division under the directors of business of PT. INTI . Both divisions are inter-related in the provision of products that can be sold. Account team receive product orders from customers, while sales and marketing support division provide user requirements required by the account team. Thus, because the two are inter-related divisions, the authors choose to analyze both the division. In this research analyze the baseline enterprise architecture and target architecture(business architecture, data architecture, application architecture, technology architecture, and opportunities and solution architecture) with using TOGAF ADM.From the analysis of

these two divisions the result are blueprint architecture of business, data, application, technology, and opportunities and solution, the gap between baseline and target, and the new innovation that be used as recommendation enterprise architecture for PT. INTI.

2. Literature Study /Material and Metodologi/design.

2.1 Enterprise

According to Osvalds et al (2001), the enterprise is defined as an organization that uses information technology to accomplish its mission. Meanwhile, according to Bernard (2000: 31) enterprise is a common activity and objectives within an organization or between organizations, where information and other resources are exchanged. TOGAF defines the enterprise as one of organizations that have a set of goals. So that the enterprise can be defined as an organization or set of organizations that have a purpose and activity to achieve goals.

2.2 Architecture

Architecture is a company organization (or systems) that it contains the components, relationships among them, and the environment, and the principles for designing (Osvalds et al, 2001). Architecture is a collection of artifacts design, or descriptive representation, which is relevant to describe an object that can be produced with the requirements (quality) and maintained throughout the period of its useful life (change) (John A. Zachman, 1997).

Based on the book "A Practical Guide to CIO Council" version 1.0, architecture is a structural component, the relationship between components, and the principles and guidelines managed the design and evolution of components over time.

2.3 Enterprise Architecture

Enterprise architecture is a new discipline emerged from the need to create a comprehensive outlook of a company, and to find a business or IT integration and matching opportunities in the corporate structure (Vries et al, 2009).

Another definition of enterprise architecture there is :

1. Enterprise architecture is looking all the behaviors that occur in organization, the processed data, who did it, where it does, and why everything is done. In a sentence, who, what, why, when, where, and how businesses, in every point of view, from high-level company goals to low-level program that implement business processes to achieve these goals. Part of the enterprise architecture effectiveness is able to communicate to all parties needed in an organization (Varveris et al, 2007).
2. Schekkerman, (2004) explains that enterprise architecture is a complete overview of the company, a plan that acts as the collaboration power between aspects of business planning such as goals, visions, strategies and principles of management, aspects of business operations such as business terms, the organizational structure, tasks, activities and information, and automation aspects such as information systems, databases, and technology infrastructure enabling to support business such as computers, operating systems and networks.
3. There are four architecture domain accordint to www.togaf.org, namely :
 1. Bussiness architecture defines business strategy, government, organization and main business process.
 2. Data architecture describes organization resource logic structure and data physis asset and data management.
 3. Application architecture provides blueprint for application system.
 4. Technology architecture describes software and hardware necessary to assist the spread of business service, data, and application. Its including IT infrastructure, middleware, network, communication, management, standard, etc.
4. Enterprise architecture is an information asset, which defines the mission, the information and technology needed to carry out the mission, and the transition process to implement new technologies in response to changes in mission requirements. Enterprise architecture is a corporate asset that must be managed as a formal program. The successful implementation of the EA process is a business that requires good management, resources allocation, continuity, and coordination. Executive business line should work together with the architecture team to produce a description of the operation, the vision of the future, investment strategies and technologies to achieve the goals set (CIO Council, 2001). In Figure 1 show enterprise architecture process taken from CIO Council book.

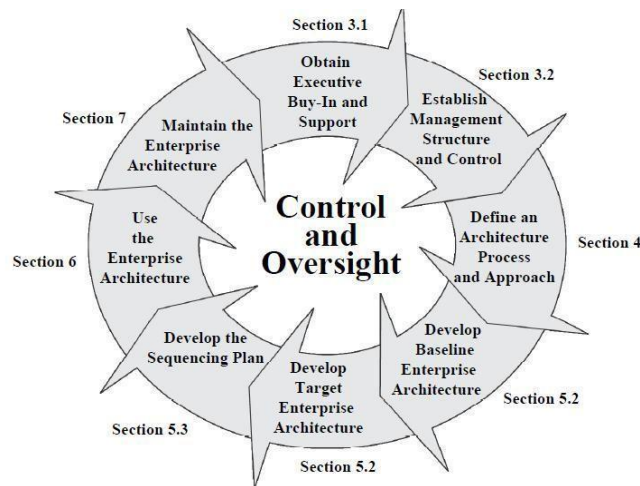


Figure 1 Enterprise Architecture Process(Source : CIO Council, 2001)

2.4 Enterprise Architecture Framework

Designing enterprise architecture from scratch is a difficult thing, so that the enterprise architecture framework was created to simplify the process and help an architect through all areas of architectural design. Enterprise architecture framework provides a collection of best practices, standards, tools, processes, and templates to assist in the creation of enterprise architecture and architecture from various spheres (An Oracle White Paper in Enterprise Architecture, 2009). Some frameworks that are often used in industry and government is the Zachman Framework, The Open Group Architecture Framework TOGAF, Federal Enterprise architecture Framework (FEAF), Integrated Architecture Framework (IAF) and the Department of Defense Architectural Framework (DoDAF) (Schekkerman, 2005).

According www.msdn.microsoft.com, at present, approximately 90 percent of industry uses one of the following four framework:

1. The Zachman Framework is an enterprise architecture framework that more describes taxonomy.
2. The Open Group Architecture Framework (TOGAF) is an enterprise architecture framework detailed in process..
3. Federal Enterprise Architecture is an enterprise architecture framework used to create enterprise.
4. Gartner Methods is an enterprise architecture framework which describes as company architecture practice.

2.5 The Open Group Architecture Framework (TOGAF)

TOGAF is an architecture framework that provides methods and tools to assist in the reception, production, use, and maintenance of an enterprise architecture.

According to The Open Group TOGAF definition is as follows :

1. An enterprise architecture methodology and framework used by the world's leading organizations to improve business efficiency.
2. The standard of the most prominent and reliable enterprise architecture, ensuring consistent standards, methods, and communication between the companies.
3. TOGAF helps practitioners avoid being locked into exclusive methods, utilize resources more efficiently and effectively.
4. TOGAF divide enterprise architecture became four component

2.6 Methodology

The inputs required to design a business architecture, the data architecture, application architecture, and technology architecture. The first input of this research is future plans in PT. INTI, and the previous IT Master Plan in PT. INTI. Furthermore, we will produce the output of business information on PT. INTI current and other related functions.

The next input is the architectural principles, Architecture Vision PT. INTI, business information on PT. INTI particularly account team and sales and marketing support division, and the needs of every account team and sales and marketing support division. Furthermore, we will produce the output of the blueprint in every domain architecture. Domain architecture consists of business architecture in account team and sales and marketing support division, architecture data on account team and sales and marketing support division, architectural applications on account team and sales and marketing support division, and architecture technology on account team and sales and marketing support division.

The determination of each domain architectures using TOGAF ADM concept. In designing architectural business on account team and sales and marketing support division will generate the architecture business's blueprint. Furthermore, the design of information systems architecture has two inputs, namely the account team of data components and sales and marketing support division and application components of account team and sales and marketing support division, which will produce the output of the data architecture blueprint of account team and sales and marketing support division and application architecture blueprints of account team and sales and marketing support division. The next stage is the designing technology architecture, which has the technology component input of account team and sales and marketing support division and produce the output of the technology architecture blueprint account team and sales and marketing support division. The final output are GAP analysis and IT roadmap.

3. Content

3.1 Business Architecture

The organizational structure in PT. INTI changed for this year because the change of business focus to get back into the manufacturing industry. These changes can be seen from the number of directors turn into 2 and the number of divisions turn into 17. The organizational structure in PT. INTI consists of president director assisted by two directors, the director of finance and director of business divisions in PT. INTI. Figure 3.1 illustrate the company's organizational structure.

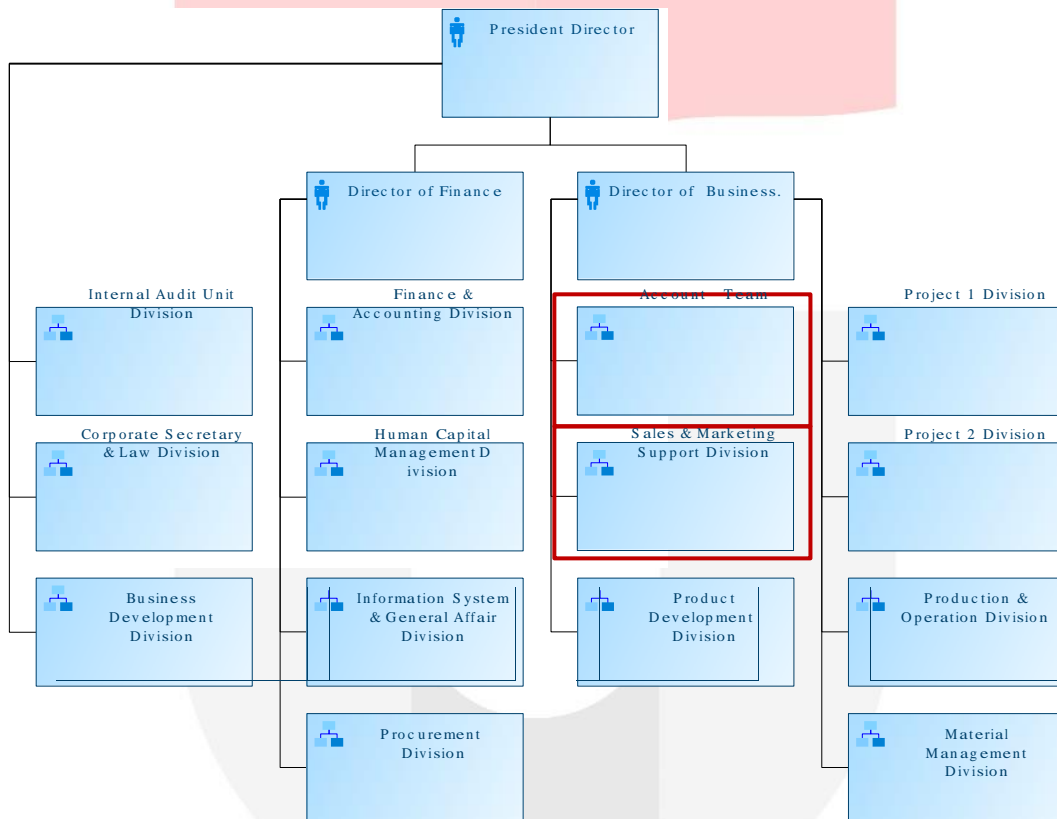


Figure 3.1 Company's Organizational Structure

3.2 Data Architectue

In data architecture, PT. INTI has some entities data to support the business requirements. Class/conceptual data diagram is to depict the relationships between critical data entities in marketing within PT. INTI. Figure 3.2 illustrate the class/conceptual diagram .

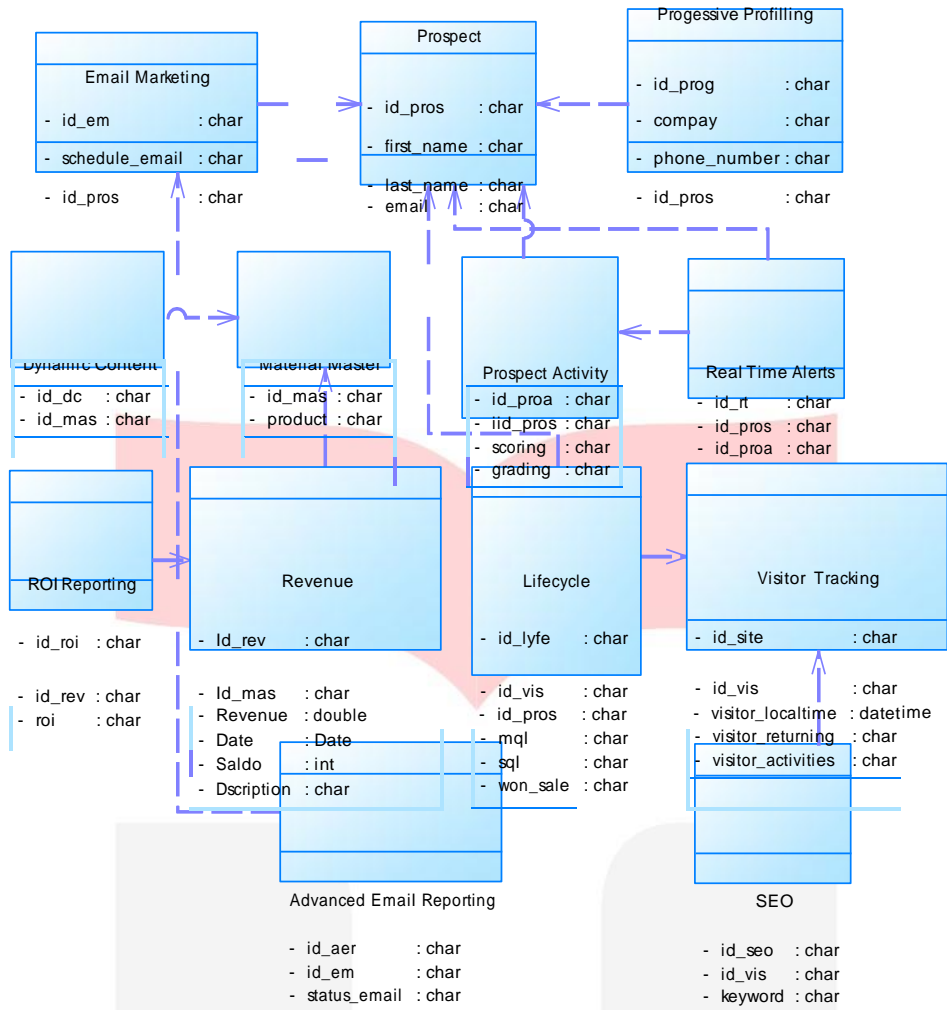


Figure 3.2 Class/ Conceptual Diagram

3.3 Application Architecture

In application architecture, application communication diagram depict all models and mappings related to communication between applications with the related data entity in PT. INTI. Figure 3.3 illustrate the relationship between SAP and marketing automation.

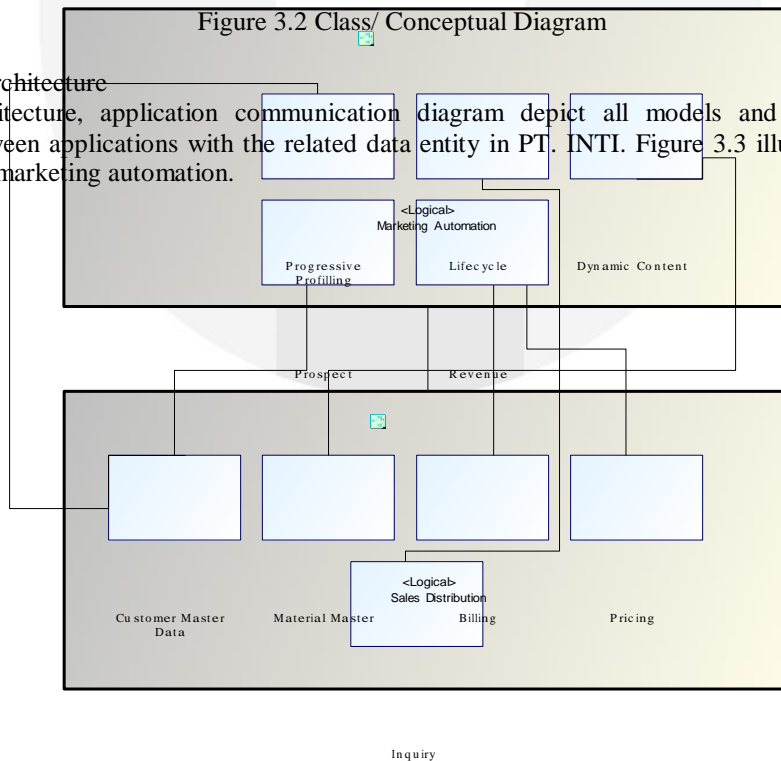


Figure 3.3 Application Communication

Application and user location diagram depict the distribution of application in PT. INTI, until the application can be used by the end user. The applications are SAP and marketing automation. Figure 3.4 illustrates the application and user location diagram.

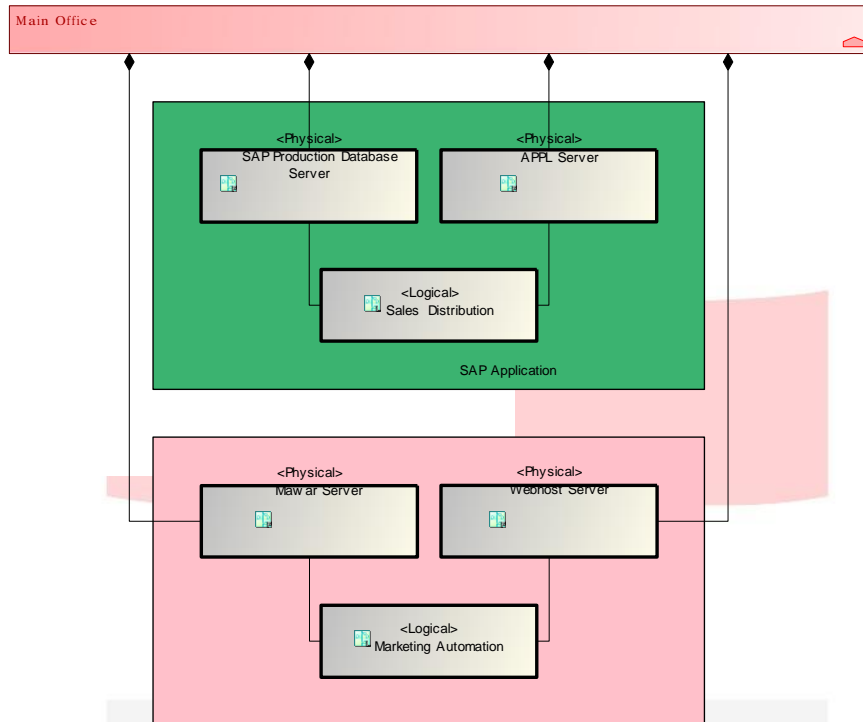


Figure 3.4 Application and User Location Diagram

3.4 Technology Architecture

In technology architecture, processing diagram depicts the technology infrastructure in PT. INTI. Figure 3.5 illustrates the network infrastructure that supports applications and business in PT. INTI.

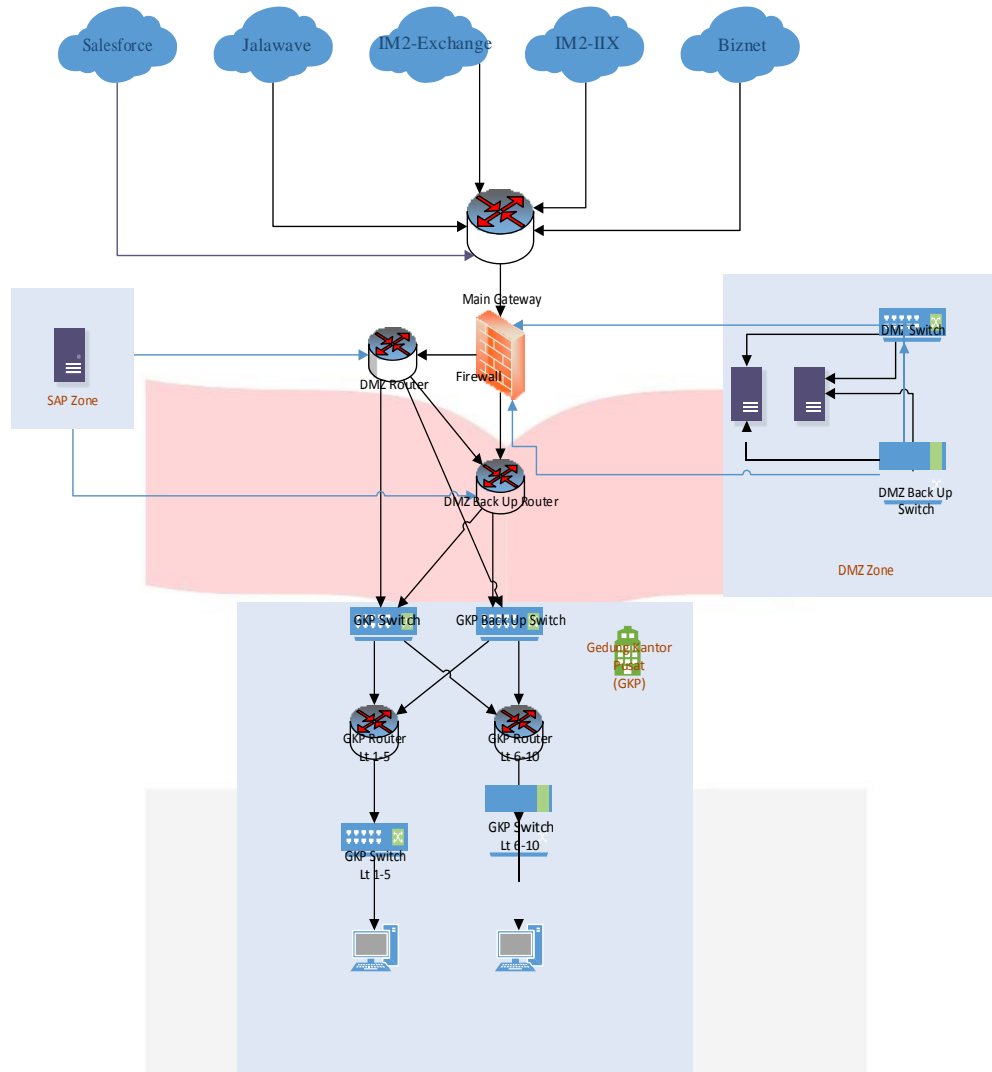


Figure 3.5 Processing Diagram

3.5 IT Roadmap

The development of IT in PT. INTI focuses on the development of internal applications and technology for the company. One of the internal applications that are developed is marketing automation. Marketing automation is developed to assist the function of marketing. As for the technology will be added to some devices in existing technology infrastructure that serves to support the implementation of applications that will be used. Figure 3.6 illustrate the roadmap for four years.



Figure 3.6 Processing Diagram

4. Conclusion

This final project resulted in business architecture, data architecture, application architecture, technology architecture, and the architecture of the opportunities & solution for account team and sales & marketing support division required to support the business focus in PT.INTI. Conclusions from this final project are result the blueprints, there are business blueprint, data blueprint, application blueprint, technology blueprint, and

opportunities and solution blueprint. Suggestions from this final project is the addition of marketing automation application to assist in marketing monitoring and addition the device there are main gateway and salesforce cloud to support the marketing automation application.

Bibliography :

- [1] Sanny, M. Yusuf dkk. (2012). Enterprise Architecture Planning Sistem Informasi Puskesmas Pasirkaliki. *Majalah Ilmiah UNIKOM* Vol. 10, No. 1.
- [2] Bernard, S. (2005). *An Introduction to Enterprise Architecture*. Second Edition. Bloomington, IN: AuthorHouse. ISBN: 1-4208-8050-0.
- [3] The Open Group. (2011). *The Open Group Architecture Framework (TOGAF), Version 9.1*, 2011.
- [4] Schekkerman. (2004). *How to Survive in The Jungle of Enterprise Architecture*.
- [5] Osvalds. (2001). *Definition of Enterprise Architecture-centric Models for the Systems Engineer*.
- [6] Varveris, Lou. dan Dave Harrison (2005). *Building Enterprise Architectures with TOGAF*. Version 1, 27 June 2005.
- [7] Vries, de M. and A.C.J. van Rensburg (2009). *Evaluating and Refining The Enterprise Architecture As Strategy Approach and Artefacts*. *South African Journal of Industrial Engineering*, May 2009, Vol 20(1): 31-43.
- [8] WWW.inti.co.id
- [9] John A. Zachman (1997). *Enterprise architecture: The issue of the century*. *Database Programming and Design* Vol 10 (3). p. 49.
- [10] Federal Architecture Working Group (FAWG) (2001). *A Practical to Guide CIO Council*. Version 1.0.
- [11] Lusa, Sofian. dan Dana Indra Sensuse (2011). *Kajian Perkembangan dan Usulan Perancangan Enterprise Architecture Framework*. SNATI 2011.
- [12] Mansukhani, Manoj (2005). *Service Oriented Architecture White Paper*.
- [13] Purnama, Asep Muhammad Indra (2014). *Perancangan Arsitektur Manajemen Master Data (Studi Kasus : PT. Jayamandiri Gemasejati)*.