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APPLICATION OF ENTERPRISE ARCHITECTURE TO DECENTRALIZED ARCHITECTURE IN INTERNET DATABASES

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Abstract: Enterprise architecture is a holistic, hierarchical and abstract description of the essential elements of an organization to maximize shareholder value over time. Enterprise Architecture (EA) is a way to structure enterprise information system elements which can be a set of models and relationships between enterprise elements used in planning, designing, and realizing an enterprise structure, business processes, information systems, and related infrastructure in inside. The database application architecture describes the basic design of the database application to be built. The database architecture describes the interaction diagram between the components that make up the database management system. These components include hardware devices, software, computer networks, and users. Distribution Architecture or Decentralized Architecture has its own advantages and disadvantages.
Keywords: Enterprise Architecture (AE), Distributed Architecture, Data Base

INTRODUCTION

Enterprise architecture is a holistic, hierarchical, and abstract description of the essential elements of an organization to maximize shareholder value over time. In many large companies, Enterprise Architecture requires the creation of detailed maps and blueprints to define system, data and technology assets in both the current state and the desired future. Enterprise Architecture is also used in system development, IT management and decision making, and IT risk management to fix bugs, system failures, and security breaches. In Enterprise Architecture, there is such a thing as decentralized or distributed architecture in the form of system design, to systematically arrange system components and functions of these components with the overall wealth and diversity of digital information in the company.

Decentralized architecture is the concept of dispersed (or distributed) data processing. Distributed data processing system (or commonly referred to as distributed computing). as a system consisting of a number of computers scattered in various locations that are connected by telecommunications facilities with each computer capable of performing similar processing independently. But can interact with each other in data exchange. (Ais Zakiyudin, 2020)

THEORITICAL STUDY

1. Enterprise Architecture (EA)

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Enterprise Architecture (EA) is a way to compile elements of enterprise information systems which can be a set of models and relationships between enterprise elements used in planning, designing, and realizing an enterprise structure, business processes, information systems, and related infrastructure. Enterprise Architecture (EA) is important for an organization because one of the results is the alignment between information technology and business needs.

Some of the advantages of a good enterprise architecture are: more efficient information technology operations, profitable investments, reduced risk in terms of deviation from the rules, faster, simpler, and more efficient business operations (Aswati, 2018).

The concept of enterprise architecture is to build information systems to separate data, processes, technology infrastructure, people, time, and motivation in an enterprise architecture framework. This is intended to avoid repetition of data, processes, and misidentification of technology needs that run in an information system to run effectively and efficiently. Some of the benefits of enterprise architecture include streamlining business processes to find and reduce repetition due to different organizational views on data or business processes.

2. Distributed Architecture

Decentralized Architecture or also called distributed architecture is the concept of dispersed or distributed data processing. A distributed data processing system is also called distributed computing as a system consisting of a number of computers at various locations that are linked together and the related data they manage. On the other hand, it is difficult to add additional amounts of mainframe computing capacity to handle the increased additional processing demands, as mainframes are not easily scalable. Centralized architecture and mainframe computing are often used to process high volumes of transactions, such as credit card transactions, customer bills, and automated teller machine transactions. (Reynold, 2010)

3. Database

A database is defined according to Chou "A database is a set of useful information organized in a special way." According to Ramakrishnan and Gerke "A collection of data, typically describing the activities of one or more related organizations" (Ari Jayanti & Sumiari, 2018).

Database utilization is (Pamungkas, 2017):

1) One of the important components in information systems, because it is the basis for providing information.
2) Determines the quality of information: accurate, timely and relevant.
3) Reduce data duplication (data redundancy).
4) Data relationships can be improved.
5) Manipulation of data quickly and easily.
6) Efficient use of storage space.

METHODS

This method is related to the activities carried out by the author in designing and analyzing a problem. The method used is qualitative. Qualitative research has a

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descriptive nature and tends to use analysis. Process and meaning are more highlighted in this type of research with a theoretical basis that is used as a guide so that the focus of the research matches the facts in the field (Dr. Muhammad Ramdhan, 2021). The data collection technique used is a literature study to collect relevant data regarding the application of enterprise architecture in decentralized architecture.

RESULTS AND DISCUSSION

Software architecture style design encompasses several streams of many computing styles, which are broadly separated into two categories: centralized and distributed. Almost all new software applications are created using the distributed model because it provides lower costs and higher overall value.

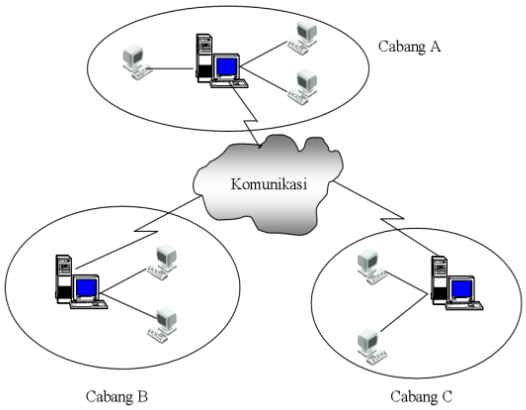

Figure 1 Example of Decentralized Architecture Implementation

CONCLUSION

Enterprise Architecture (EA) can provide support for redesigning and reorganizing, especially during major organizational changes, mergers or acquisitions. It is also beneficial to add organizational discipline by standardizing and consolidating procedures for greater consistency. Implementation of a distributed architecture. Enterprise Architecture is a decentralized or distributed architecture. Theoretical study has three aspects namely, enterprise architecture, Distributed architecture, and Database. The design of software architecture styles includes several flows of many computing styles divided into categories, centralized and distributed.

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