ABSTRACT

PT Andal Rancang Multi Solusi, known as PT ARM Solusi is a company engaged in the development of technologies such as big data, data analytics, collaboration, automation of administrative fields, integration applications, and APIs. The company has a main focus on automating paperless administrative processes through its Collaboration Office Nota Dinas Elektronik (Coofis NDE) product, which provides electronic correspondence management services.

To improve the efficiency and scalability of the correspondence management system, PT ARM Solusi designed the development of Coofis NDE into Coofis Verse using microservice architecture. The monolithic architecture used previously combines all application components into a single unit, which presents limitations in terms of scalability, flexibility, and difficulty in maintaining and developing new features. The microservice architecture breaks down the application into multiple small services that can be operated and developed independently, allowing for increased flexibility, scalability, and ease in application development and maintenance. In addition, in the context of this development, the use of MongoDB as a non-relational document-based database is very important. MongoDB is designed to store data in a flexible JSON document format, suitable for microservice environments.

The results of this design show that by adopting a microservice architecture and using MongoDB, Coofis Verse has achieved significant improvements in system efficiency, scalability, and flexibility. Each service within Coofis Verse can evolve independently without being affected by changes in the data schema of other services. In addition, MongoDB supports automatic recovery, ensuring high data availability and consistency in a distributed environment, making the system more resilient and responsive to user needs.

Keywords: *PT. ARM Solusi, Coofis, Microservice, Document Based Database, MongoDB.*