

# Perancangan enterprise architecture berbasis microservice architecture pada operation support system perusahaan telekomunikasi: studi kasus PT Telekomunikasi Indonesia = Enterprise architecture design based on microservice architecture in operations support system of telecommunication company: a case study of PT Telekomunikasi Indonesia

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## Abstrak

Pada saat workshop unit OSS Platform Development (OPD) PT Telekomunikasi Indonesia tahun 2019, ditemukan masalah pada time to market yang lama untuk pengembangan produk baru karena banyaknya sistem yang harus dikonfigurasi dan diintegrasikan pada Operation Support System (OSS). Pada kondisi seperti ini, diperlukan Enterprise Architecture (EA) sebagai panduan untuk pengembangan SI/TI ke depannya yang efektif. Hal ini sejalan dengan fokus pada program Divisi IT tahun 2020, yaitu melakukan transformasi arsitektur menjadi Microservice Architecture (MSA). Tahap awal yang dilakukan adalah dengan mengidentifikasi kondisi EA saat ini melalui Focus Group Discussion (FGD) dan wawancara yang didukung dengan sumber-sumber literatur relevan. FGD kedua kemudian dilakukan sebagai bahan penyusunan EA yang diharapkan. Pengembangan EA dilakukan dengan menggunakan kerangka kerja TOGAF ADM (The Open Group Architecture Framework Architecture Development Method). Kombinasi ITIL (Information Technology Infrastructure Library) dan eTOM (enhanced Telecom Operation Operation Map) digunakan untuk mengidentifikasi microservices berdasarkan bisnis proses yang dijalankan pada organisasi. Penelitian ini menggunakan pendekatan kualitatif dan metode action research yang dikombinasikan dengan case study research. Pengolahan data menggunakan metode kualitatif dengan Thematic Analysis yang dikodifikasi untuk menentukan EA yang diusulkan. Hasil penelitian ini adalah rancangan EA berbasis MSA terintegrasi dengan Service Oriented Architecture (SOA) pada OSS PT Telekomunikasi Indonesia. Rancangan MSA terutama berada pada domain Resource berdasarkan eTOM yang diidentifikasi dari masalah bisnis perusahaan.

.....During the 2019 workshop unit of OSS Platform Development (OPD) PT Telekomunikasi Indonesia, a problem was found that the need for a longer time to market in developing new products. There are many Operation Support Systems (OSS) that had to be configured and integrated. In this condition, Enterprise Architecture (EA) is needed as a guide for the effective future development of IS / IT. It is aligned with the focus on the IT Division program in 2020, which is transforming the architecture to become a Microservice Architecture (MSA). The initial stage would identify the current EA conditions through a Focus Group Discussion (FGD) and interviews that supported by relevant literature sources. The second FGD was conducted to collect materials that used to design the expected EA. EA development was arranged using the The Open Group Architecture Framework Architecture Development Method (TOGAF ADM) framework. The combination of ITIL (Information Technology Infrastructure Library) and eTOM (enhanced Telecom Operation Operation Map) was used to identify microservices based on business processes that running in the organization. This study was using approaches of qualitative and action research methods combined with case study research. Data processing was using qualitative methods with Thematic Analysis

to determine the proposed EA. The result of this study is EA based on MSA integrated with Service Oriented Architecture (SOA) on the OSS of PT Telekomunikasi Indonesia. The part design of MSA is mainly in the Resource domain based on eTOM identified from the business problems of the company.