

Perancangan arsitektur sistem pemrosesan big data menggunakan TOGAF framework: Studi kasus PT XYZ = Architectural design of big data processing system using TOGAF framework: A case study at PT XYZ / Panji Winata

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Abstrak

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PT. XYZ merupakan perusahaan telekomunikasi di Indonesia yang sedang berusaha mentransformasikan bisnisnya menuju layanan broadband dan bisnis digital. Banyak peluang bisnis di layanan broadband dan bisnis digital yang dapat diidentifikasi dengan memproses dan menganalisis data dengan cepat, tepat, dan menyeluruh. Saat ini PT. XYZ telah memiliki kemampuan dalam mengolah beberapa sumber data yang terstruktur dengan ukuran data yang terbatas. Untuk membuat perhitungan dan keputusan yang jitu, terutama di layanan broadband dan bisnis digital, PT. XYZ dituntut juga untuk bisa memproses dan menganalisis data yang memiliki karakteristik 3V (Velocity, Volume, Variety) atau dikenal dengan big data. Penelitian ini bertujuan untuk merancang arsitektur sistem pemrosesan big data di PT. XYZ. Kerangka arsitektur (framework) enterprise yang digunakan dalam penelitian ini adalah TOGAF. Hasil yang diperoleh dari penelitian ini adalah rancangan arsitektur sistem pemrosesan big data yang mampu mengolah data yang memiliki karakteristik 3V, yaitu aliran data yang cepat, berukuran masif, dan beranekaragam (terstruktur maupun tidak terstruktur) dengan biaya lebih rendah dari sistem pemrosesan data yang dimiliki PT. XYZ saat ini. Saran untuk penelitian ini kedepannya adalah sistem pemrosesan big data di PT. XYZ dapat diimplementasikan dengan baik jika mendapat dukungan penuh dari manajemen perusahaan, dimulai dengan kasus bisnis yang spesifik (specific business case) yang ingin disasar. Hasil yang maksimal dari kasus bisnis tersebut dapat dijadikan landasan untuk investasi sistem pemrosesan big data yang lebih menyeluruh dalam mendukung transformasi bisnis menuju layanan broadband dan bisnis digital.

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ABSTRACT

PT. XYZ is a telecommunication company in Indonesia which is transforming its business to broadband services & digital business. Many business opportunities in broadband services & digital business can be identified by processing and analyzing data quickly, accurately, and completely. Right now PT. XYZ has the capability in processing some structured data sources with limited data size. To make accurate calculations and decisions, especially in broadband services and digital business, PT. XYZ also required to be able to process and analyze the data that has the characteristics of 3V (Velocity, Volume, Variety) or known as big data. This research aims to design the architecture of big data processing system. The enterprise architecture framework used in this study is TOGAF. The results obtained from this study is the

design of big data processing system architecture that is capable of processing data which has the characteristics of 3V (the fast data flow, massive data size, and diverse structured or unstructured data sources) at a lower cost than the current data processing system in PT. XYZ. The suggestion about this study is the big data processing system can be implemented properly in PT. XYZ with the full support of the PT. XYZ management, started with a specific business use case that want targeted. The maximum results from the business use case can be used as a piloting for big data processing system investments more thorough in supporting business transformation toward broadband services and digital business. ;PT. XYZ is a telecommunication company in Indonesia which is transforming it?s business to broadband services & digital business. Many business opportunities in broadband services & digital business can be identified by processing and analyzing data quickly, accurately, and completely. Right now PT. XYZ has the capability in processing some structured data sources with limited data size. To make accurate calculations and decisions, especially in broadband services and digital business, PT. XYZ also required to be able to process and analyze the data that has the characteristics of 3V (Velocity, Volume, Variety) or known as big data. This research aims to design the architecture of big data processing system. The enterprise architecture framework used in this study is TOGAF. The results obtained from this study is the design of big data processing system architecture that is capable of processing data which has the characteristics of 3V (the fast data flow, massive data size, and diverse structured or unstructured data sources) at a lower cost than the current data processing system in PT. XYZ. The suggestion about this study is the big data processing system can be implemented properly in PT. XYZ with the full support of the PT. XYZ management, started with a specific business use case that want targeted. The maximum results from the business use case can be used as a piloting for big data processing system investments more thorough in supporting business transformation toward broadband services and digital business. , PT. XYZ is a telecommunication company in Indonesia which is transforming it?s business to broadband services & digital business. Many business opportunities in broadband services & digital business can be identified by processing and analyzing data quickly, accurately, and completely. Right now PT. XYZ has the capability in processing some structured data sources with limited data size. To make accurate calculations and decisions, especially in broadband services and digital business, PT. XYZ also required to be able to process and analyze the data that has the characteristics of 3V (Velocity, Volume, Variety) or known as big data. This research aims to design the architecture of big data processing system. The enterprise architecture framework used in this study is TOGAF. The results obtained from this study is the design of big data processing system architecture that is capable of processing data which has the characteristics of 3V (the fast data flow, massive data size, and diverse structured or unstructured data sources) at a lower cost than the current data processing system in PT. XYZ. The suggestion about this study is the big data processing system can be implemented properly in

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