Pengamanan dan Integrasi Data Kesehatan Menggunakan SQL Berbasis *Blockchain*

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Abstract

To improve the quality of services, care, and treatment, health services need to collaborate in integrating patient data in each health service. During the current Covid-19 pandemic, it is necessary to manage patient health data that is integrated and safe. Then the Ministry of Health created an online hospital management information system, but still uses a centralized database. Centralized database systems are vulnerable to attacks that result in loss of both small and large amounts of data. Therefore in this study, hospital management information system proposes using a blockchain-based SQL database to secure and integrate hospital health data. Blockchain is a distributed database storage system, interconnected peer to peer and stores a list of transactions in an immutable distributed ledger. By using a private blockchain scheme only registered hospitals can join the distributed network so that access rights are maintained. When a query update occurs, all nodes synchronize data in real time, both SQL table data and blockchain data. If one of the nodes fails to function or exits the blockchain network, it will not affect the other nodes (availability). Then the security of the blockchain-based SQL database will be tested using SQL Injection to see if the database cannot be accessed and modified illegally.

Keywords: *blockchain, SQL, centralized database, distributed database*