

# **CROSS-ENTERPRISE DOCUMENT SHARING (XDS) IMPLEMENTATION BASED ON BLOCKCHAIN TECHNOLOGY**

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## **ABSTRACT**

On the increasing demand for better quality of healthcare service, there is the topic that involve healthcare information technology in term of operation efficiency. Healthcare information sharing and interoperability between healthcare organizations is one of major solution to improve healthcare service quality. But, there still many challenge inhibit the solution to become reality. There found initiatives to standardize healthcare information sharing method. To address issue about health document sharing between different enterprises, Integrating Healthcare Enterprise (IHE) initiative have proposed Cross-Enterprise Document Sharing (XDS.b) Profile. The profile allow the adopted organizations to share health document between each other simultaneously.

As well as other industry, there also emerging cyber-security threats threatening healthcare information domain. These threats increase difficulty to development of health information sharing network and causing damage to healthcare enterprises. These cyber-threats can cause damage to the industry in many aspect, especially those cyber-attack that targeting integrity and availability of data. These kind of cyber-attack can severe the continuity of medical operation which potentially can result as the cost of patient's life. There are many solutions technology proposed to deal with these kind of cyber-attacks. One of the technology that on the trend to deal with cyber-threats threatening integrity and availability of data is Blockchain technology.

There are several researches and concepts that proposed about using Blockchain technology to solve health information sharing issue. But there still many limits prevent Blockchain technology to effectively integrated with data like health information. In this work, we propose another approach for integrate Blockchain technology with health information. We see that standard like IHE XDS.b profile could be use with Blockchain technology to allow health document sharing through decentralized network while address cyber-security issue through unique characteristics of Blockchain technology.

**KEY WORDS: HEALTH INFORMATION / INTEROPERABILITY /  
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