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Application of advanced blockchain systems to enhance the resilience of IT systems

Abstract

In the dissertation, the possibilities of using advanced blockchain technologies to enhance the resilience of information systems are presented. The author reviewed existing technologies, with particular emphasis on their potential for building a decentralized data storage service with authenticated access. The paper proposed schemes for using distributed ledger technology in information systems, pointing to the possibilities of improving data integrity and availability parameters, as well as implementing distributed computing scenarios. The author presented a scheme for authenticated data access in a distributed environment, along with the possibility of its practical implementation. In addition, the results of the evaluation of the proposed scheme were presented, indicating the cryptographic services guaranteed by it.

Keywords: blockchain, decentralization, IPFS, DLT, cryptography

