TOWARDS A BLOCKCHAIN-BASED STORAGE OF BUSINESS PROCESS MODELS AS ENTERPRISE ASSETS

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Business process models are seen as essential enterprise assets in organizations practicing BPM (Business Process Management) approach. Therefore BPM-mature companies may handle large collections of business process models, which contain hundreds or even thousands of process descriptions. Managing such collections is a challenging problem, which requires the usage of enterprise-level techniques with a high level of integrity, security, and availability. Thus, blockchain technology can be used to manage such business process model collections in a secure, scalable, and stable manner.

In this study, we propose to implement a blockchain-based storage or repository (i.e. specialized database) of business process models given as diagrams presented in the BPMN (Business Process Model and Notation) format. The conceptual model of the proposed decentralized storage for business process models is given in Fig. 1 [1].
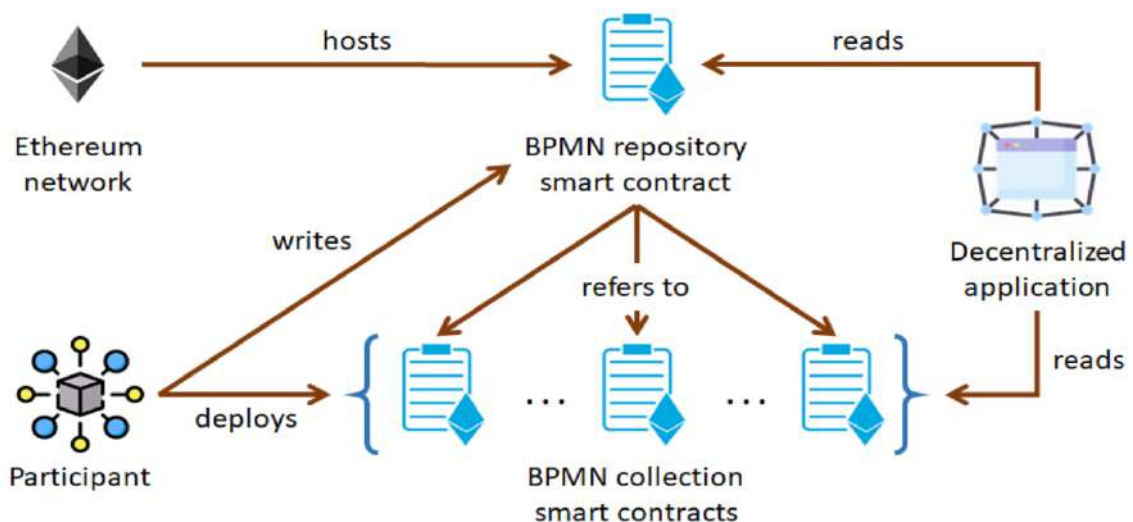

Fig. 1. – The concept of a blockchain-based decentralized business process model storage [1]

According to Fig. 1, the proposed solution consists of multiple smart contracts, each of which represents a collection of BPMN process models, while the "master" smart contract represents a component responsible for repository management. These contracts are accessible by the decentralized application for accessing the collection. Ethereum is chosen as the blockchain platform because of its high popularity, strong community support, and technology availability [2].

References:
1. Kopp A., Orlovskyi D., Orekhov S. Towards an Approach to Organization of Decentralized Business Process Model Repository. *CEUR Workshop Proceedings (CEUR-WS.org).* 2022. Vol. 3132. P. 186–197.
2. Ethererum // URL: https://ethereum.org/en/