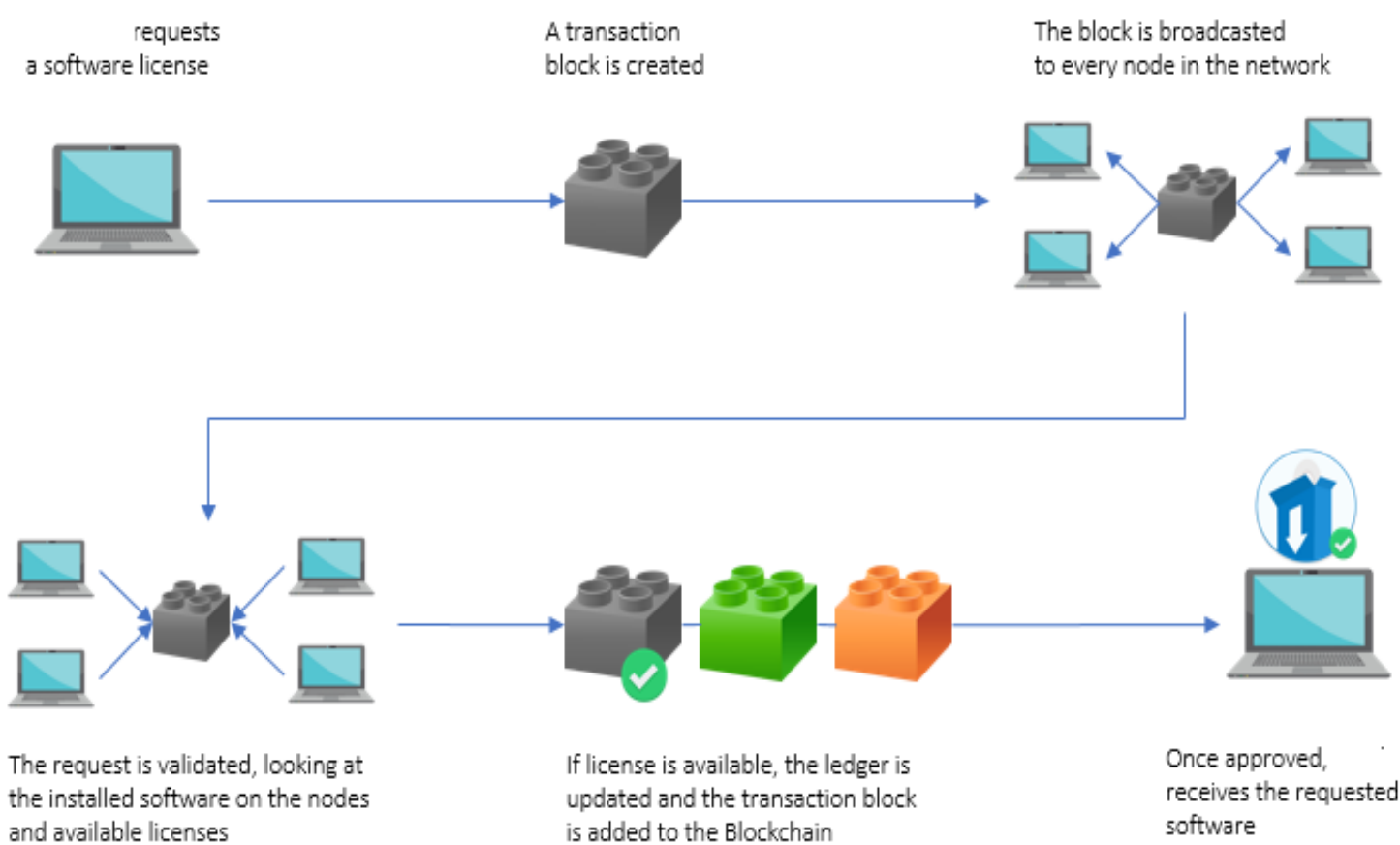# Smart Contracts for Opensource Software License Management

ABSTRACT

With large source code repositories and large IT service providers becoming actively involved in open source development, the license management of these software becomes critical. There are various forms of open source licenses such as GPL, MIT, Apache, Creative Commons, Mozilla, BSD and others. Each of these open source license agreements have varying conditions on usage, modification, distribution, and contribution to the community. As the source code is freely available, it is very difficult to validate the adherence of the licenses and, it is the good faith of organizations and individuals that is accepted for adherence to licensing terms. Non-adherence of licensing terms knowingly or unknowingly can lead to copyright, ethical, compliance and security issues. Having a technology that is decentralized and anonymized to manage the license terms would be beneficial to open source software communities, users and stakeholders.

OBJECTIVE

Purpose: Blockchain provides decentralization, flexibility, reliability, transparency, and strict control of actions. Exploring Blockchain technology for open source software license management can make the process open and transparent. This paper proposes an approach and a prototype for development of smart contracts for managing open source software licenses.
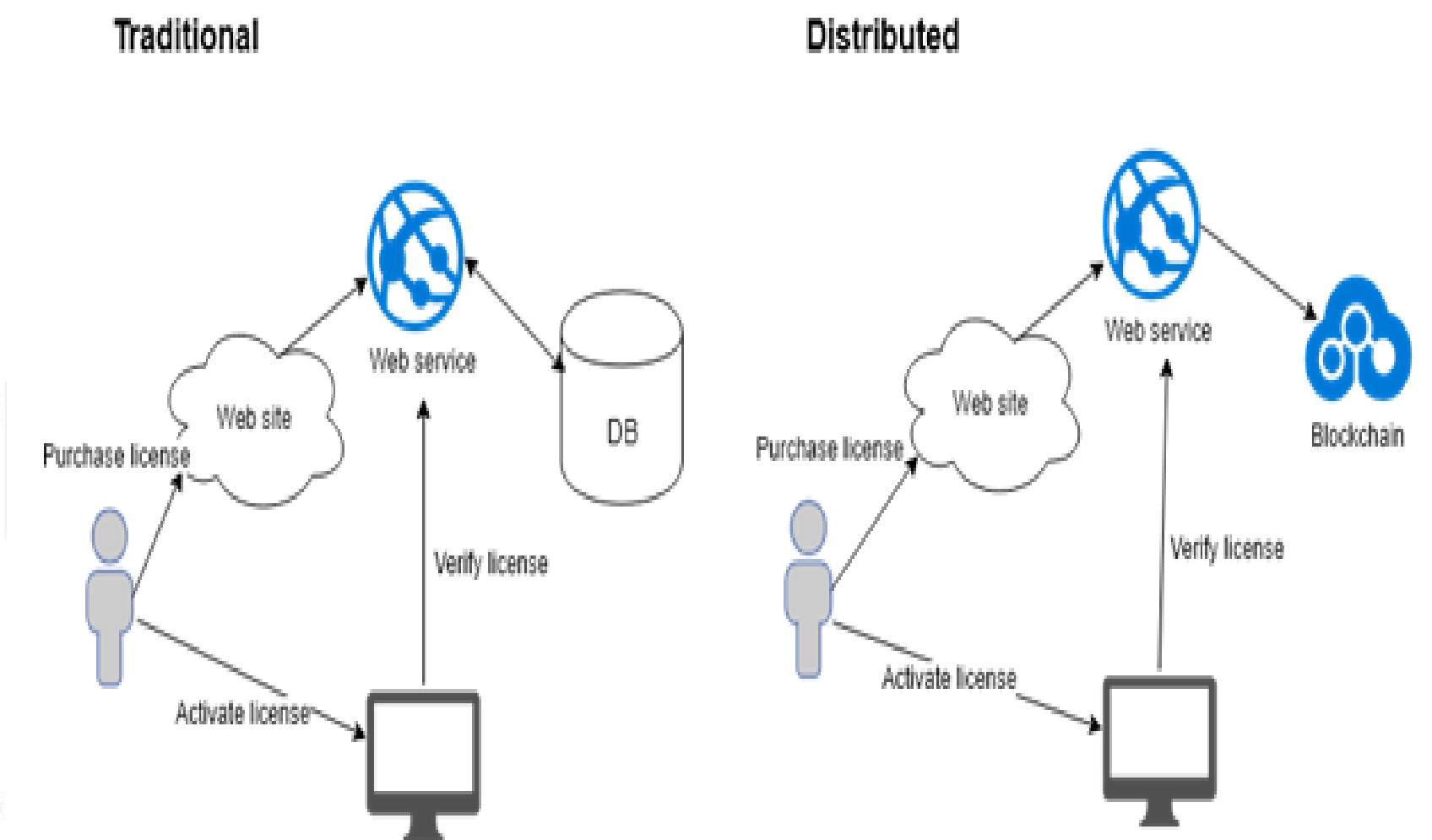
Outcome: In this paper, we present our early-stage study and implementation on the smart contracts for Open-source Software License Management. We also discuss the scope and further plans for large scale empirical evaluation.
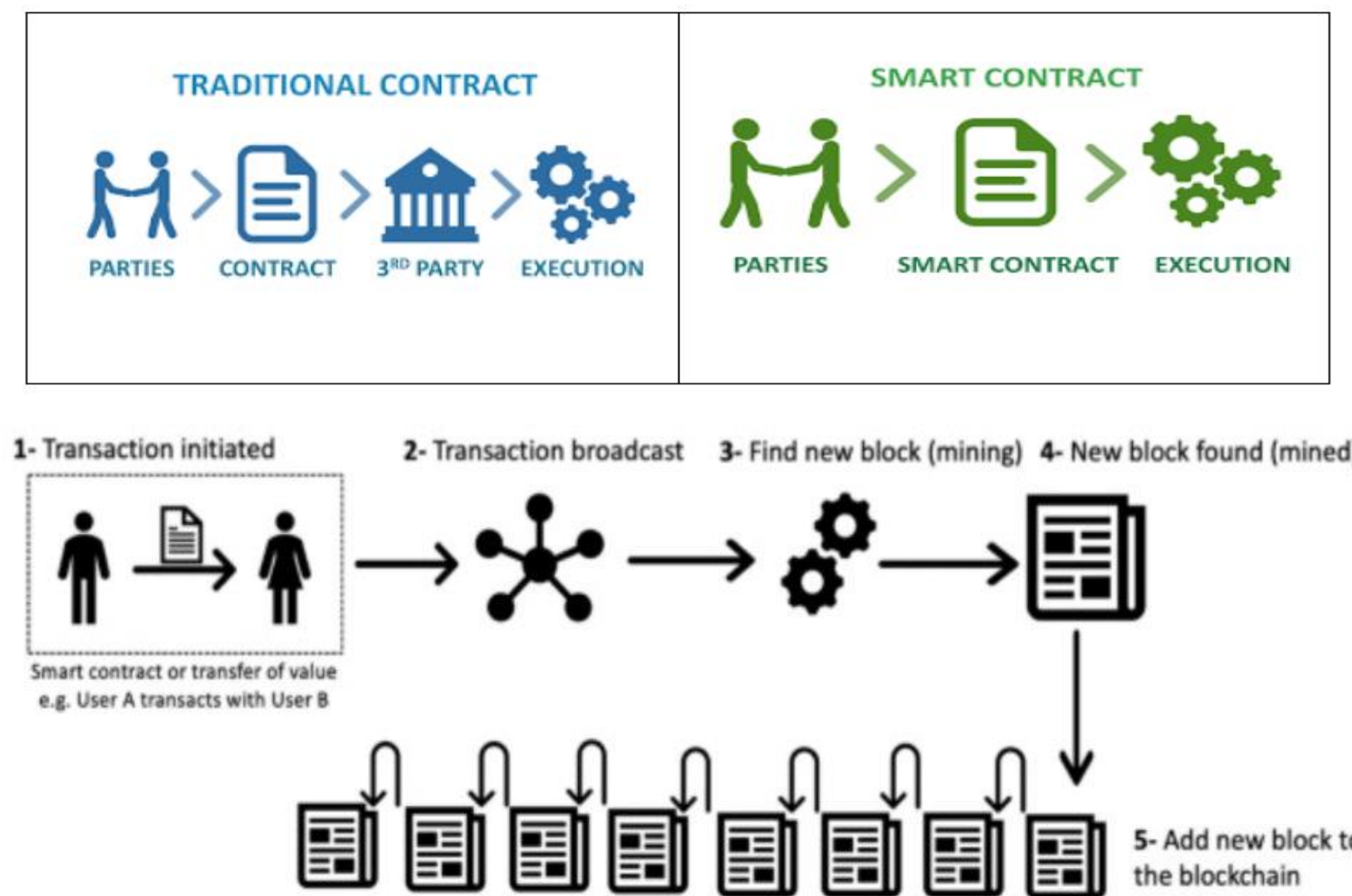
METHOD

The information about all issued licenses is stored in the form of blocks in a blockchain. Since the database is decentralized, it's not so easy to harm the data. Using a blockchain also eliminates the risk of data tampering, as a blockchain can't be modified.

The whole process of getting and activating licenses should generally look the same for the end user. Though the internal architecture differs due to integration with a decentralized ledger, all the additional steps for interacting with the blockchain are performed behind the scenes. The internal architecture depends on the P2P network, on which the contract or the application is deployed on the blockchain platform using smart contracts.

Images are sourced from Internet

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