Telos worker proposal: Smart Contract for Mutual Agreements

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September 27th 2019

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Introduction

Mutual agreements and contracts are an important aspect of business activity and everyday life.

In some cases, an on-chain proof of certain agreements is required, especially if one or both of the parties is anonymous. WordProof has shown a need for timestamping individual documents, allowing a simple and efficient mechanism for copyright protection. Timestamping of agreements is one step further into utilizing the blockchain for everyday business use.

The worker proposal

This worker proposal is aiming to collect a one-time donation of 40000 TLOS in order to develop a smart contract, as specified below. The smart contract will be released under Apache open-source license, and is expected to be ready within 2 months after the WP approval. Along with the smart contract code, full documentation shall be delivered.

- Anyone will be able to create a new agreement entry in the smart contract. While creating an entry on the blockchain, the following attributes will be specified:
  - Unique agreement number, automatically generated by the smart contract;
  - Public/private flag: for public agreements, the agreement text is published on IPFS for everyone to read; private agreements share an SHA256 hash of the agreement document, without revealing the contents;
  - Hash or IPFS link of the agreement text;
  - Agreement parties: a list of EOSIO accounts that must sign the agreement. The creator of the entry may or may not be a signing party;
  - Signing deadline: if all parties fail to sign by specified date, the entry is automatically removed;

- Expiration date: if specified, the agreement needs to be renewed by this date, or it becomes automatically invalid.
- Cancellation quorum: so many signatures are required to void the agreement.
- Cancellation notice period: once the required quorum for cancellation is gathered, the agreement remains valid during the specified period;

Once an agreement it signed, it stays in the contract RAM for its whole period of validity. Signing parties can refer to the agreement on the blockchain and use it as a legal document.

One of interesting use cases is Blockchain Constitution: a public document that is signed by every block producer. Each agreement would include two parties: the block producer, and the multi-signature account representing other block producers.

About myself

I'm a senior engineer with over 20 years in the industry of software and network engineering. I started working on various EOSIO related projects in June 2018, and I tried to share and publish as much as possible of anything useful for the community. You may find details of my work in my Medium blog and on GitHub:

https://medium.com/@cc32d9

https://github.com/cc32d9

https://github.com/eos-geneva/escrowescrow

https://github.com/eosio-standards-wg

https://github.com/eosio-ecosystem

https://github.com/EOSChronicleProject

The nickname "cc32d9" is the beginning of SHA256 hash from my real name.

You can reach me in Telegram at @cc32d9 or via email: cc32d9@gmail.com

My previous Telos work proposals:

https://chainspector.io/dashboard/worker-proposals/8

https://chainspector.io/dashboard/worker-proposals/28