

OPENST

A FRAMEWORK FOR BUILDING TOKEN ECONOMIES

Benjamin Bollen, Martin Schenck
for OpenST Foundation

OpenST v0.10 - May 2018

Abstract

We present improvements to the OpenST protocol. OpenST is a framework powered by Ethereum to build token economies. We lay out in detail two contributions, OpenST Mosaic and OpenST Gateway, which work together to scale Ethereum. OpenST Mosaic is a layer-2

1 Introduction

OpenST is a holistic solution powered by Ethereum to scale Ethereum to.

2 Related Work

2.1 Our Contributions

2.2 Verifiers' Dilemma

2.3 Tendermint

2.4 Inter Blockchain Communication

2.5 Casper FFG

[1]

3 OpenST

4 Openly Scaling Blockchains

4.1 OpenST Gateway

Assumption that state root is known to the respective other chain.

Consider an origin blockchain O which is assumed to have liveness and BFT security properties. The origin blockchain produces blocks e_i at height i .

Lemma 1 - branch referencing Without loss of generality a transaction can always

4.2 OpenST Mosaic

Mosaic transfers blockchain state roots from a source to a target.

4.2.1 Transferring origin's state to auxiliary

4.2.2 Transferring auxiliary's state to origin

5 Securing Simple User Experience

5.1 Token Holder Contracts

APIs; no need to follow the chain.

6 Platform

6.1 Token Rules

6.2 OpenST Platform

7 Outlook

8 Conclusion

References

- [1] Vitalik Buterin and Virgil Griffith: Casper the Friendly Finality Gadget (2017)

URL <https://github.com/ethereum/research/tree/master/papers/casper-basics>.