Block Chain Use Cases

Master-Thesis von M. Rameez
Tag der Einreichung:

1. Gutachten: Gutachter 1
2. Gutachten: Gutachter 2
Betreuer: Rachid El Bansarkhani

TECHNISCHE
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Erklärung zur Master-Thesis

Hiermit versichere ich, die vorliegende Master-Thesis ohne Hilfe Dritter nur mit den angegebenen Quellen und Hilfsmitteln angefertigt zu haben. Alle Stellen, die aus Quellen entnommen wurden, sind als solche kenntlich gemacht. Diese Arbeit hat in gleicher oder ähnlicher Form noch keiner Prüfungsbehörde vorgelegen.

Darmstadt, den today ...

(Muhammad Rameez)

Abstract

In this paper, I explore different blockchain technologies and how they can be exploited for different use case scenarios. I mainly focus on 4 use cases namely Supply Chain Management, Internet of things, File Sharing and Machine to Machine. First, a general introduction of the blockchain is presented. Then, I discuss Ethereum and Smart contracts and what makes it different compared to Bitcoin. I highlight some of the challenges facing blockchains today i.e. the scaling problem, and the transaction finality issue. Then, I look at possible solutions proposed by Ethereum and Bitcoin in order to tackle these problems. A possible extension to one of these solutions in the form of virtual channels and Perun is explored next. Finally, I explore four use case scenarios of blockchains in industry and how it is helping to transform them in each case.

Contents

1 Introduction

This is my content, and I cite [Aut00].

Motivation, relevance, goals, research questions, hypotheses...

2 Ethereum and Smart Contracts

2.1 Ethereum

Ethereum is defined as "an open-source, public, blockchain-based distributed computing platform featuring smart contract (scripting) functionality. It provides a decentralized Turing-complete virtual machine, the Ethereum Virtual Machine (EVM), which can execute scripts using an international network of public nodes" [Wik17]. It has its own programming language called solidity. Ethereum is special because each block in the chain represents a state in a virtual machine. Ethereum is Turing complete meaning it can be programmed to solve any computation problem.

3 Conclusion

To conclude...

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Bibliography

[Aut00] Author. Title. Journal, 1(1):1–2, June 1000.

[Wik17] Wikipedia. Ethereum — wikipedia, the free encyclopedia, 2017. [Online; accessed 9-September-2017].

A Appendix Stuff

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