

Abstract

IOTA is an innovative new technology to function as the backbone of the „Internet of Things“.

With development starting in 2014, it is the only Blockchain-like of his kind, that is able to function as the lightweight distributed ledger with no transaction fees.

Traditional Blockchains rely on miners, so to say computing-power-farmers that boost transactions through a synchronized peer to peer network and mine small parts of the currencies with processor-power. IOTA does not need mining.

These traditional Blockchains of the first and second generation are using transactions-fees to prevent peers from spamming the network.

That is because the field of application often lies in financial systems to replace the currency-like Bitcoin. Bitcoins transaction-fees are at approx. 7 cent per transaction (Dec-2016).

It is quite evident, that Bitcoin and nearly all other cryptocurrencies weren't made to function as the network of the IoT. Considering hundreds of thousands of nano-payments each day in the near future, these Blockchains would generate an enormous amount of fees, just for conducting transactions, while costs of these nano-payments oftentimes undermatch the fees.

IOTA is designed to provide one solution that no other crypto does: efficient, secure, lightweight, real time micro-transactions without fees.

Founder & Foundation

- David Sønstebø
- Dominik Schiener
- Sergey Ivanchev
- Serguei Popov
- Per Lind
- Carsten Stöcker
- Gideon Samid

Contact

Slack: <https://slack.iotatoken.com>
 Email: contact@iotatoken.com
 Website: www.iotatoken.com
 made by: @limo

Technical Details

Genesis: 2014

Total amount: 2,779,530,283,277,761

Premine: No premine

Mining: No mining necessary (Tangle)

Mainnet online since: July 11th, 2016

Underlying technology: Tangle (DAG)

Field of application: Internet of Things, M2M, Nanopayments, Data integrity, Sensorics

Outstanding Features:

- Open source
- IOTA is the only platform with a ZERO-fee directive
- Scalable, flexible and no blocks
- Empty transactions can be sent
- Quantum secure because it uses hash-based Winternitz signatures
- Backed by the IOTA Foundation, a committee formed by leading experts in the field
- GUI wallet, sandbox and testnet available
- Worldwide accessible because tokens are saved within the Tangle. User just need their secret, unique seed
- ICO-Invest.: 1337 BTC (aprox. 0.5 mil. US-\$)

Proof of Concepts

Electronic devices within industrial processes, sensors and infrastructural systems as well as domestic-appliances will be connected with a diverse number of networks in the near future.

Adaptive lighting-systems in street lights, households or industrial complexes could be helpful to reduce wastage. Sensoring of air-pollution, earthquake-monitoring or avalanche-prevention are just a few exemplary use cases for an IOTA-based system.



The upcoming challenges demand a rethinking on a global scale as problems and their solutions will be all part of the Internet 4.0. This economic directive needs a practical solution which has yet to be integrated to secure the IoT.

As a result of its genuine architecture, the Tangle is the best solution to establish data integrity and resistance to quanting computing in the future where DDoS-attacks belong to the past.

IOTA with its revolutionary Tangle fits perfectly to solve these technical challenges.

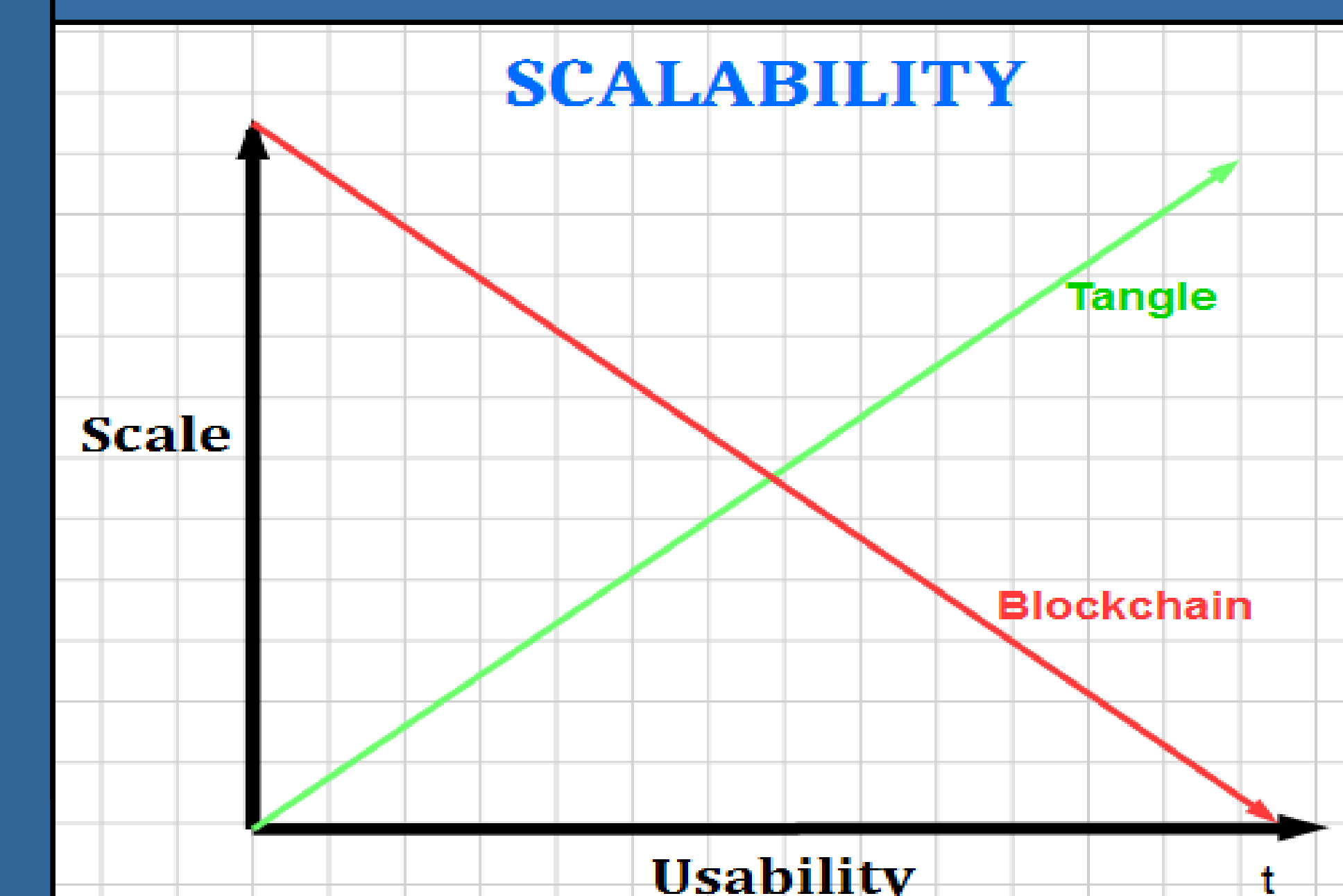
To draw a conclusion: IOTA is the logical choice for secure nano-payments and M2M on a global scale.

Comparison to Blockchains

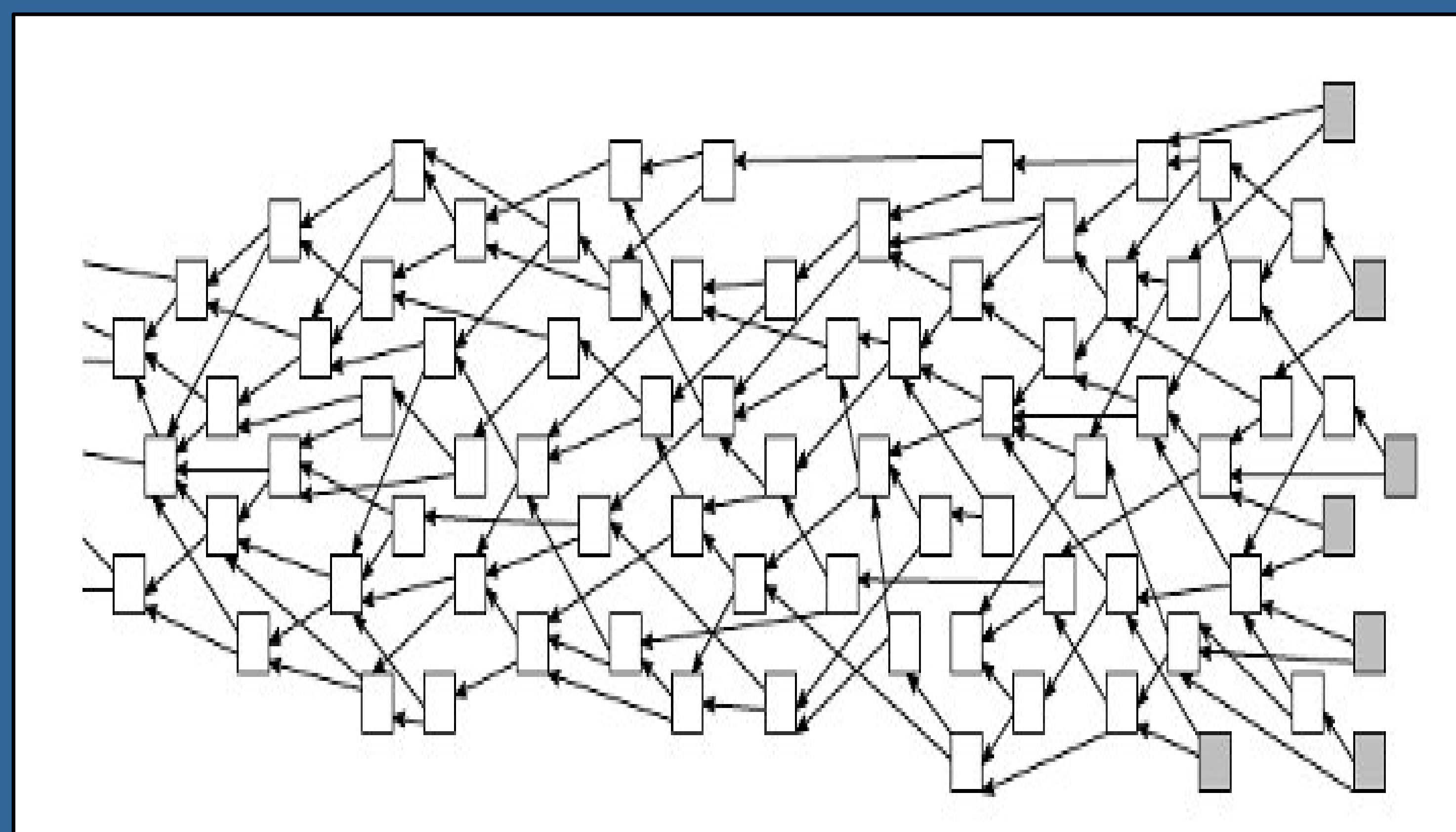
IOTA should not be considered an alternative coin (altcoin) to existing cryptocurrencies such as Bitcoin, rather it is an extension of the growing Blockchain ecosystem. It's meant to work in synergy with these other platforms to form cohesion and symbiotic relationships. The underlying technology: the Tangle, is not comparable to existing Blockchains at all. It is based on a DAG (Directed acyclic graph).

This revolutionary new blockless distributed ledger which is scalable, lightweight and for the first time ever makes it possible to transfer value without any fees. Contrary to today's Blockchains, a consensus is no longer decoupled but instead an intrinsic part of the system, leading to decentralized and self-regulating peer-to-peer network.

The Tangle demands no mining, is blockless and contrarily to Blockchains, gets faster the bigger it grows.



The Tangle



Instead of a global Blockchain, there is a DAG (directed acyclic graph) that we call Tangle. The transactions issued by nodes constitute the site set of the Tangle (i.e., the Tangle graph is the ledger for storing transactions).

More specifically, to issue a transaction, a node does the following:

- First, it chooses two other transactions to approve (in general, these two transactions may coincide), according to an algorithm.
- It checks if the two transactions are not conflicting and do not approve conflicting transactions.
- For the transaction to be valid, the node must solve a cryptographic puzzle, similar to those used in Hashcash

As more nodes and devices will become a part of the Tangle, the network grows faster and more stable.

History of IOTA

Stage 1 (Completed July 2016)

- The first stage is all about the IOTA core
- Main-network goes live
- Establishing the IOTA Foundation
- Completing some partnerships

Stage 2 (Ongoing)

- Focus on extending IOTA's utility and opening new realms of opportunity for all parties involved
- Getting developers
- Completing and testing IOTA before listing at exchanges

Stage 3 (Approx. 2017)

- Development of a brand new microprocessor utilizing a completely new type of architecture with heavy emphasis on solving emerging problems in computation and specifically IoT = JINN
- Enable the processors „Curl hasher“ to perform thousands of transactions per second for the IoT