SRI VENKATESWARAA
COLLEGE OF TECHNOLOGY
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GITATHON
SVCT-BLOCKCHAIN CLUB

BLOCKCHAIN CLUB
SVCT

ETHEREUM BLOCKCHAIN AND SMART CONTRACTS

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TOPICS

1.INTRODUCTION TO ETHEREUM

2.WHAT IS ETHEREUM

3.HISTORY OF ETHEREUM

4.BASICS OF ETHEREUM

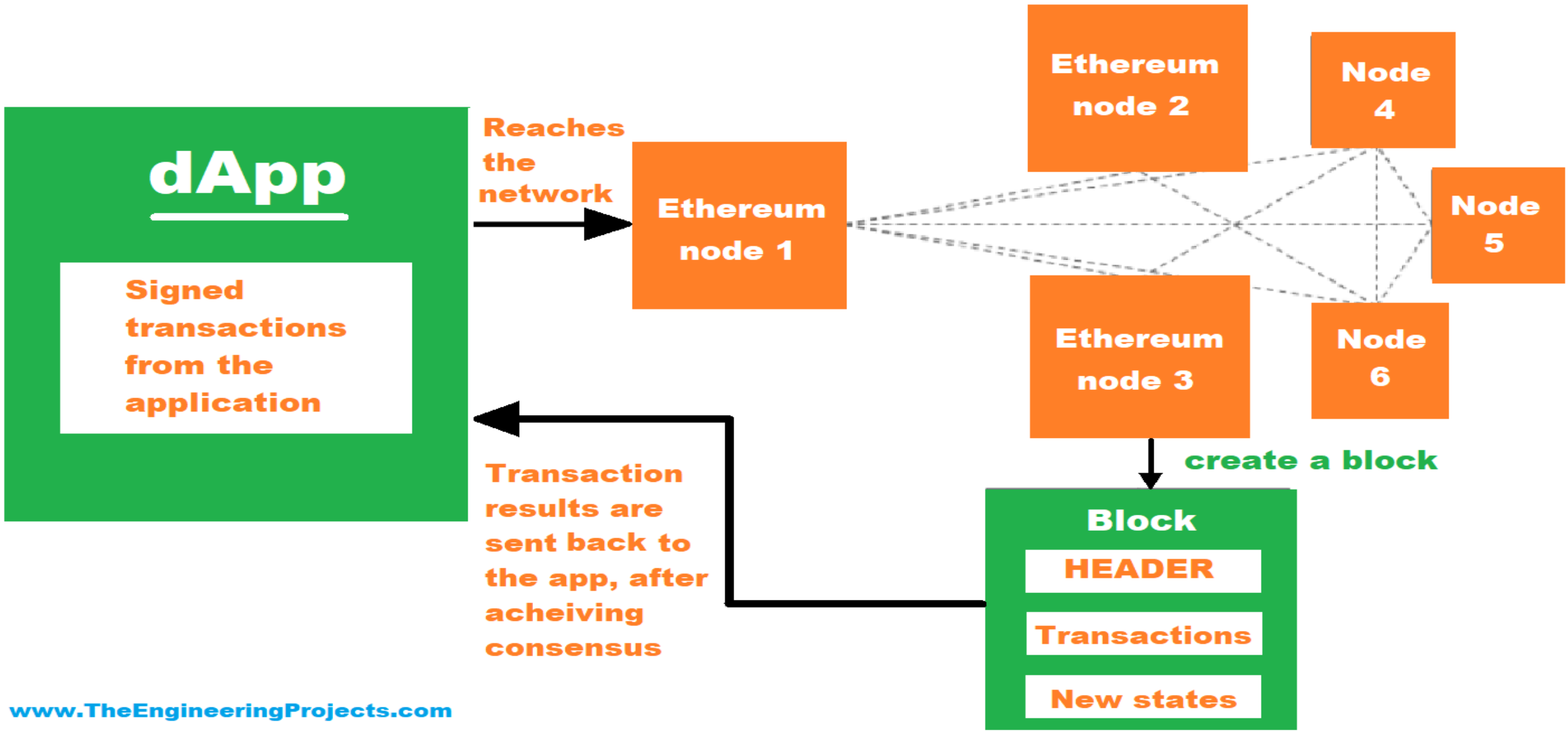
5.ETHEREUM VIRTUAL MACHINE

6.STRUCTURE OF ETHEREUM IN SMART CONTRACTS

7.SOLIDITY FEATURES

8.CONCLUSION

Introduction to Ethereum

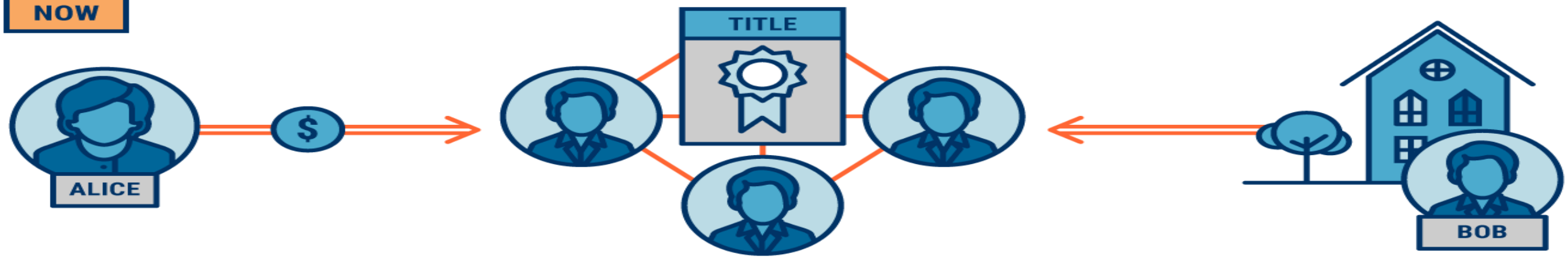


Ethereum

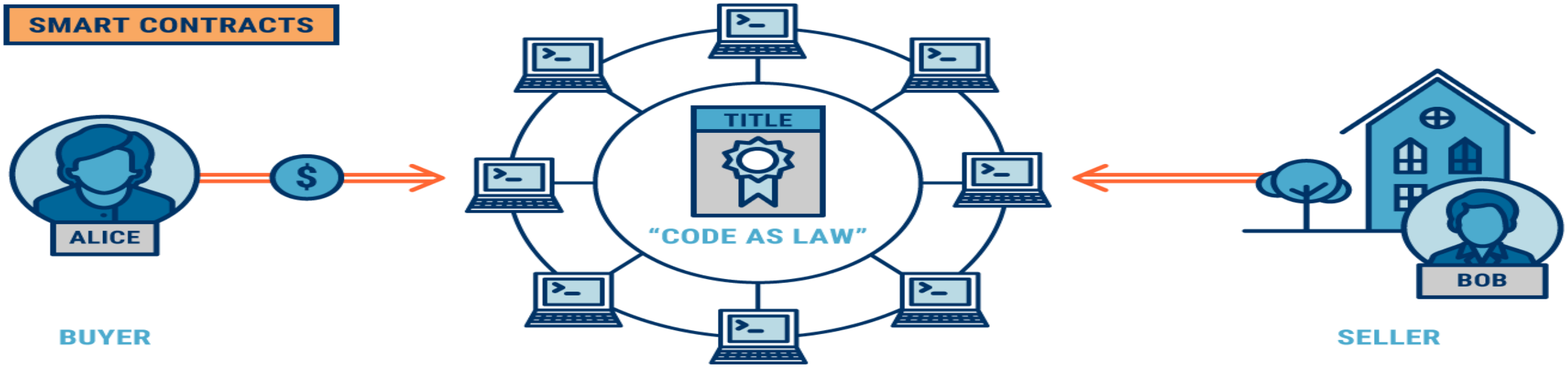
[i-ˈthir-ē-əm]

An open-source blockchain that is known for its smart contracts functionality, and which serves as the basis for the cryptocurrency ether (ETH).

NOW



SMART CONTRACTS



Decentralized Networks

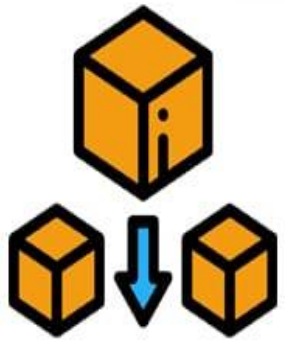
- Immutable
- Tamper Proof
- Secure

With no central point of failure and security by cryptography, any applications are protected against fraud and attacks.

ETHEREUM

Ethereum makes building decentralized applications easier than ever. Instead of needing to launch a new blockchain for every dapp, you can build thousands of applications on top of Ethereum's platform.

Blockchains



- Trustless
- Global
- Permanent

Every block of information is stored all across the network, leading to a world-wide environment where everyone is in the know.

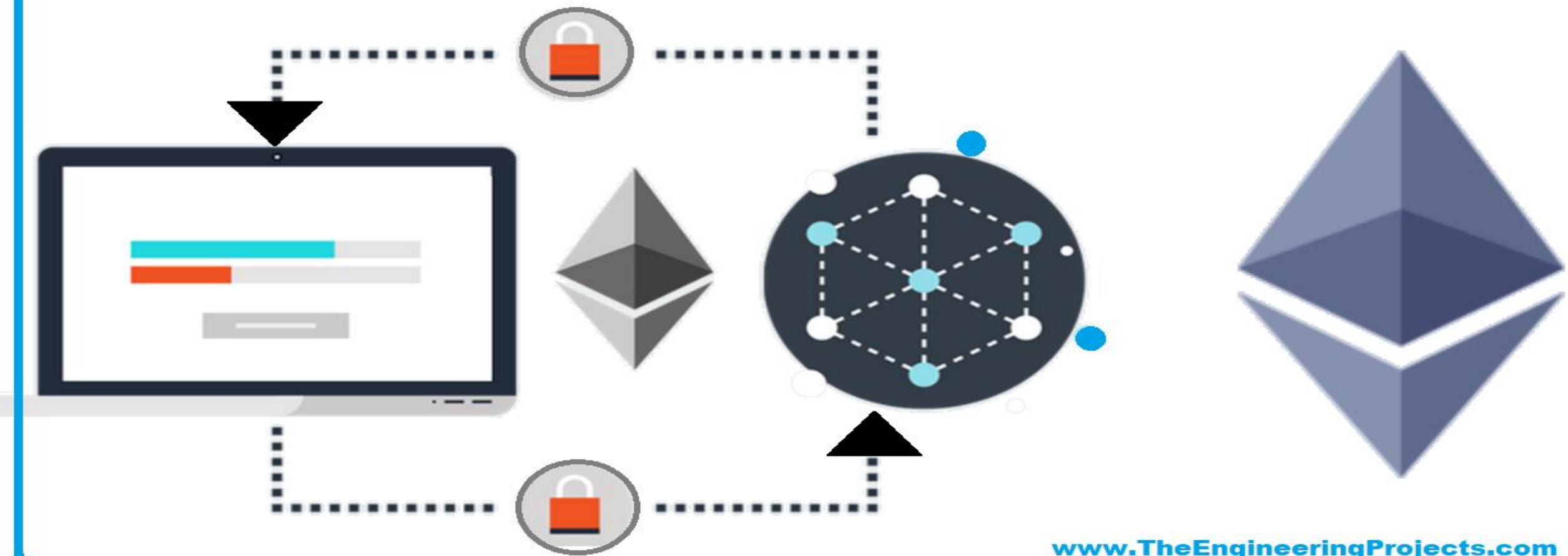
Blockgeeks

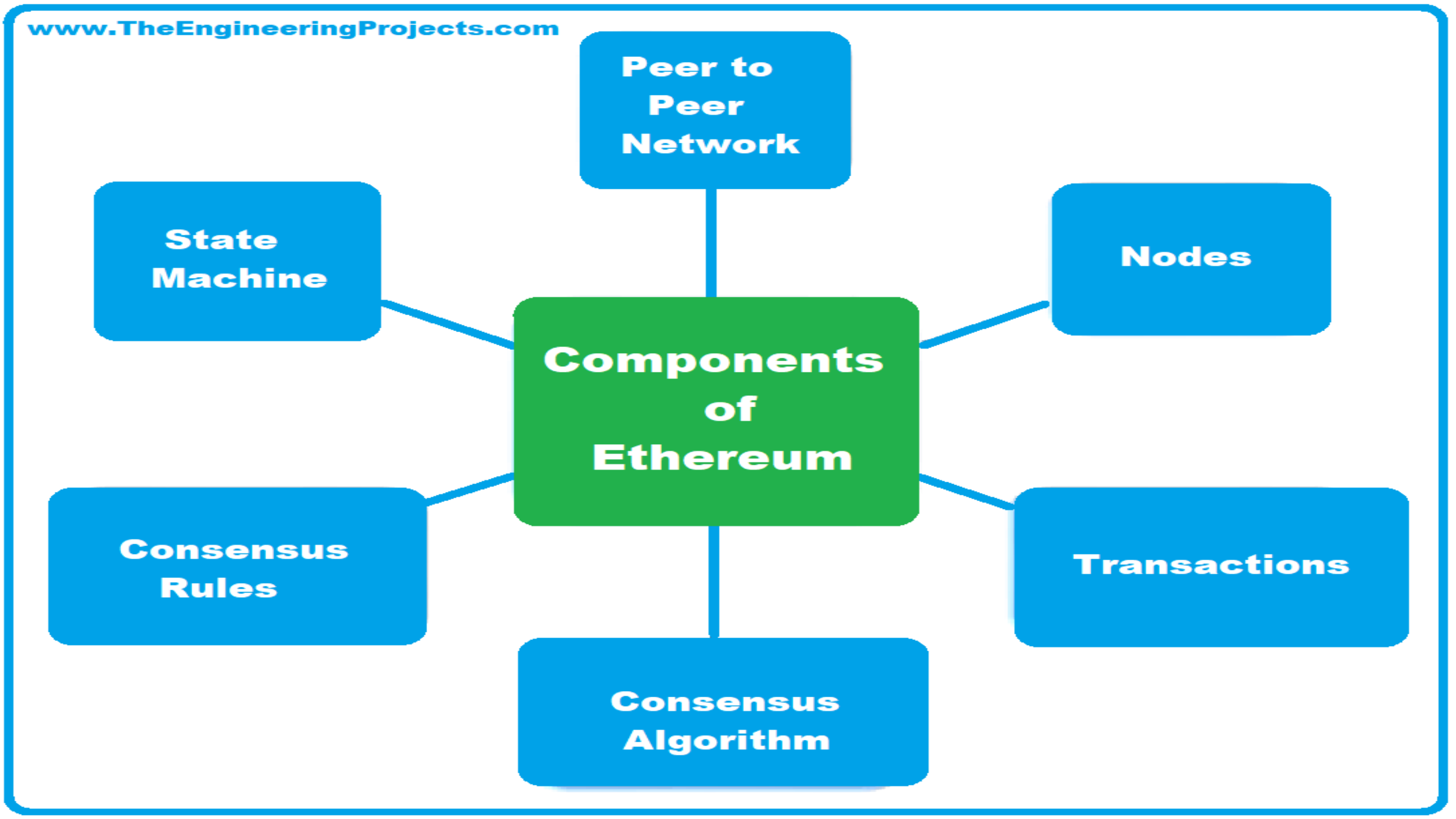
Advantages of Ethereum

- Decentralisation
- Transparency and security
- Flexibility and customisation
- Ethereum's growing ecosystem
- Interoperability and standards
- Community and developer support
- Ethereum 2.0 transition
- Economic incentives

History of Ethereum

- In 2015 the first block of the ethereum blockchain was mined.





4 Main Consensus Algorithms

EduShots

Proof-of-Work (PoA)

- largely used by cryptocurrencies like Bitcoin, Ethereum and Litecoin.
- huge expenditure, the uselessness of computations and SI per cent attacks make questions on it.

Proof-of-Stake (PoS)

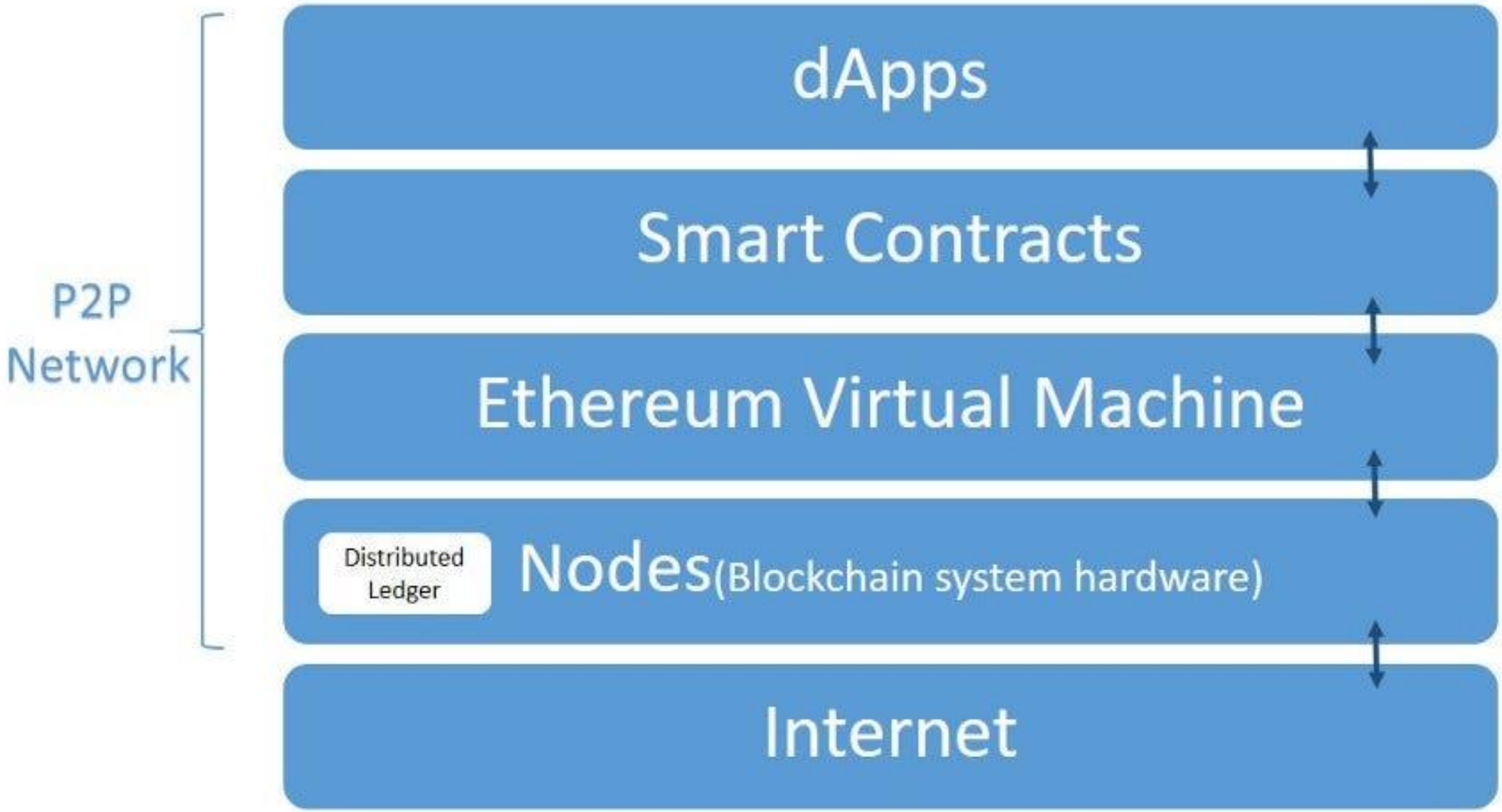
- Ethereum is shifting itself from PoF to PoS
- required very little computational power
- PoS is ahead of PoW, high energy efficiency, lower barriers to entry

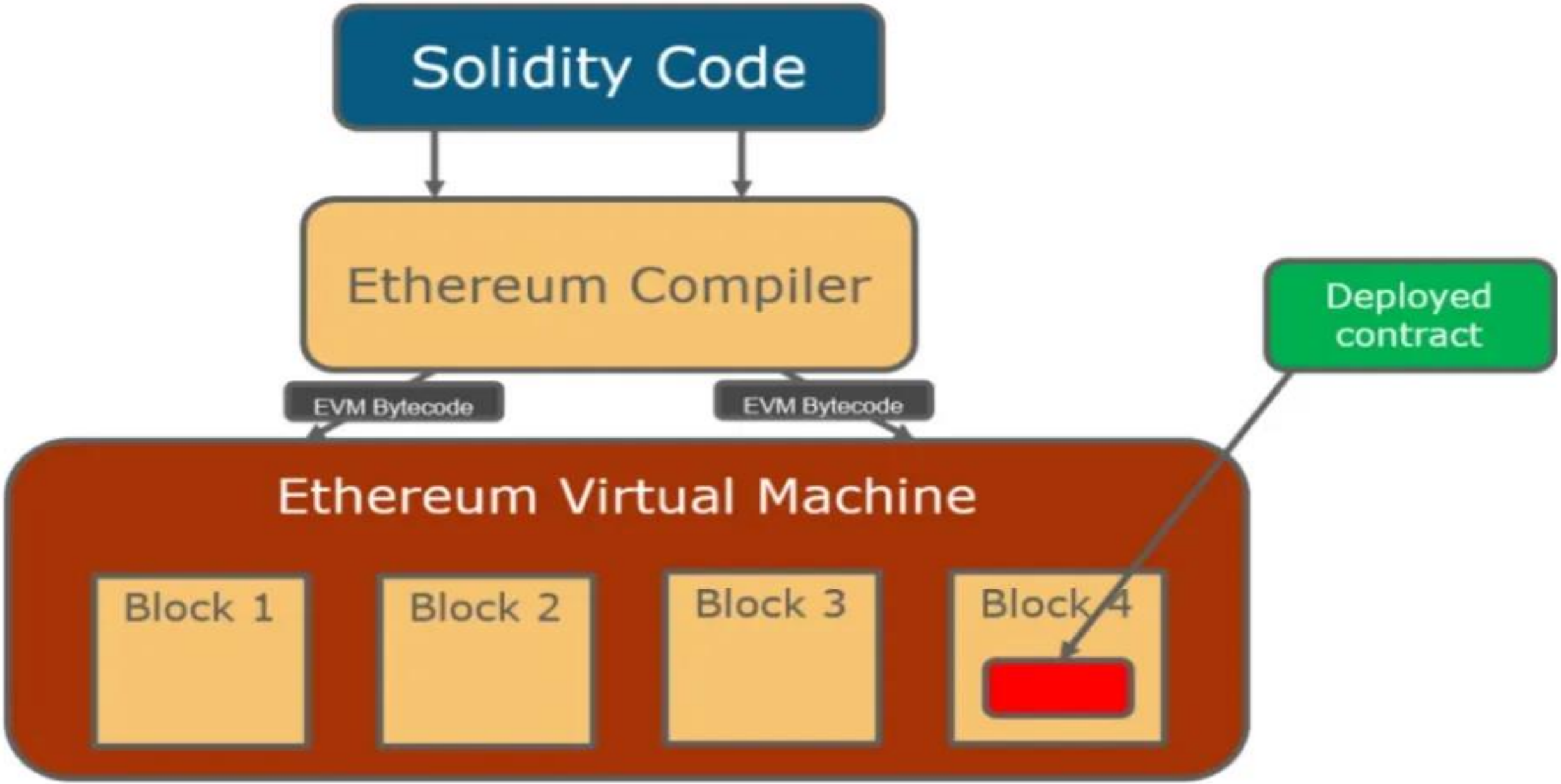
Delegated Proof-of-Stake

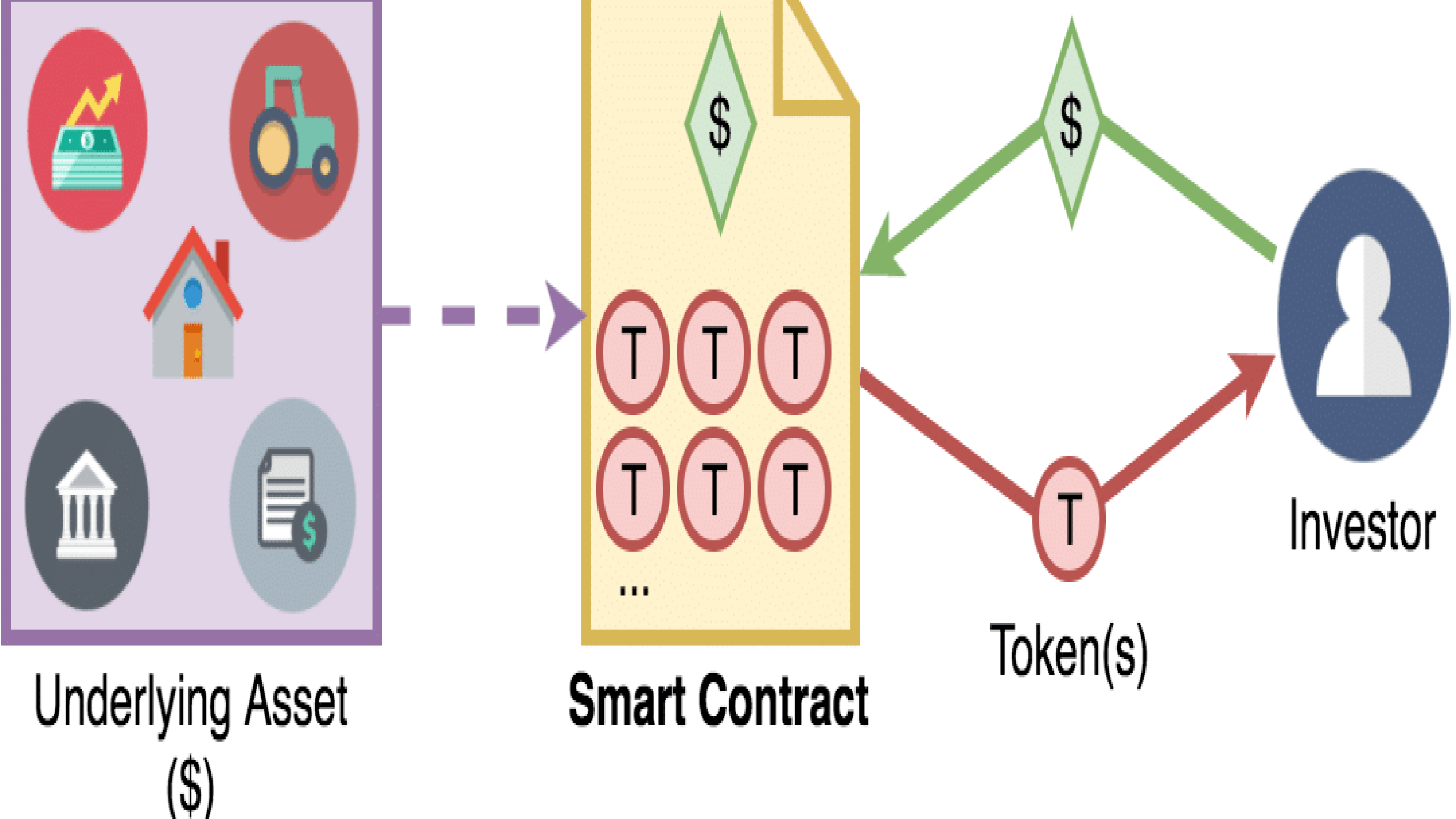
- DPoS is not entirely decentralized as it equalizes the negative effects of a centralized system
- advanced version of PoS
- faster than PoS, less energy-intensive

Proof-of-Authority (PoA)

- first proposed by Parity Technologies Gawain Wood and Ethereum co-founder in 2017
- high performance
- imperfection tolerance
- used entirely centralized system.


dApps
Smart Contracts
Ethereum Virtual Machine
Distributed Ledger
Nodes(Blockchain system hardware)
Internet
P2P Network


Solidity Code
Ethereum Compiler
EVM Bytecode
EVM Bytecode
Deployed contract
Ethereum Virtual Machine
Block 1
Block 2
Block 3
Block 4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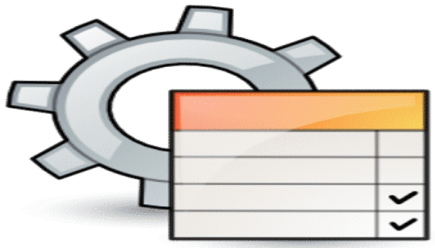
Investor
Token(s)
Underlying Asset
($)
Smart Contract

No middlemen

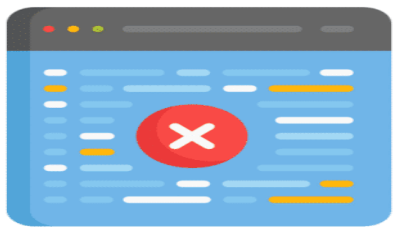
Savings



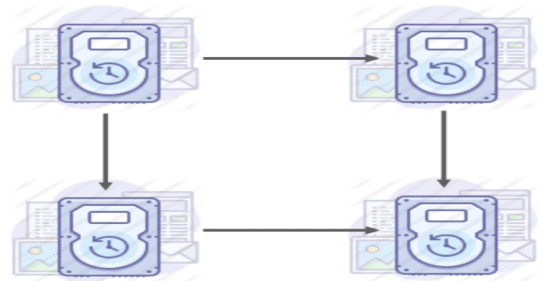
Autonomous Execution

Code Is Law

Trustless Execution



Avoid Manual Error



Default Backups

How does a
Smart Contract Work?

Identify Agreement

Multiple parties identify the cooperative opportunity and desired outcomes.

Set conditions

Smart contracts are executed automatically when certain conditions are met.

Code business logic

A computer program is written

Encryption and blockchain technology

Encryption provides a secure transfer of messages between parties.

Execution and processing

The code is executed and outcomes are memorialized.

Network updates

All the nodes on the network update their ledger.

Smart Contracts Benefits

What is SOLIDITY Blockchain

Solidity Smart Contracts

Features of Solidity

- Contract-oriented
- Static typing
- Modifiers
- Events
- Library functions
- Ethereum Virtual Machine (EVM) compatibility

@contractsaudit

Concepts You Should Know to Understand Solidity

Ethereum

Ethereum is an open-source blockchain platform that offers smart contract facilities. Solidity was first introduced as a new type of programing language for the Ethereum platform.

Ether is the primary token for the platform. This platform is dedicated to developers for helping them develop and deploy decentralized applications.

101 Blockchains

Advantages of Solidity

Simple
User-friendly

Application
Binary Interface

Contract
Inheritance

Conclusion

01

Ethereum compatibility with Qtum offers developers a way to build decentralized applications that are faster and more cost-effective than those built solely on the Ethereum blockchain

02

Businesses can benefit from using the Qtum blockchain for data storage and transaction execution, while also leveraging the smart contract functionality of the Ethereum ecosystem

03

Ethereum compatibility with Qtum opens up new possibilities for blockchain-based solutions in industries such as finance and supply chain management

THANK YOU ALL..!!

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