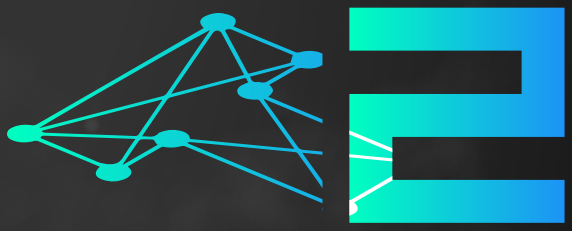

T.R.I.N.C.I. 2.0

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LightPaper

> Trinci was conceived and has evolved in the enterprise world.
>
> It has been planned in order to favour the value exchanges between individuals, companies, robots, IoT, AI, financial and banking systems in a secure, distributed and decentralized way

- Vision
- Overview - Scalability Based
- T2 Core - Architecture
- Notarization network e testnet
- Identity - Legal & Compliance
- Exchange

The technical and application philosophy that is behind the blockchain technology has demonstrated its resilience in the most hostile contexts of the computer science. However it seems not suitable for the enterprise world, because not so easily it adapts to the real economy particularly to the normative contexts in which the companies are involved.

It has to be created a new technology, that saves the resilience of the blockchain technology, favour the interactions, the certifications and the exchanges between private and legal subjects. It has to admit the transit of datas that represent the values of real life, such as the FIAT currency, the property rights and all the assets that build a digital ecosystem. There are also included all the rules with which these values are managed and exchanged.

Trinci presents itself as the base technology that can develop a more efficient and safer way to interchange values through transactions. Such transactions can be signed digitally by individual actors (humans, IoT devices, robots,Ai Network, ecc..) or voted as in the case of multiple subjects (members of groups who decide internally according to established rules, but act externally of the group as if they were a single and compact subject)

The technology is based on 4 principal pillars:

A decentralized, distributed blockchain technology with different consensus algorithms depending on business and network needs

A sovereign digital identity system that identifies every user and that can be compliant with the normative standards. Moreover it can be dynamically enriched with authoritative and recognized certificates

A natively integrated Exchange with a technology that works as a bridge between the blockchain world and the real economy, allowing at the same time the exchanges in a deterministic way along the lines of the legal and normative aspects that manage the interchange between tokens and FIAT currency

A system of block's anchoring on a network of public notarization that guarantees the immutability of datas without interfering

Business oriented

Trinci is a framework for the creation of scoped blockchain, called HDSB- High Density Scoped Blockchain.

Notoriously, the public blockchains are not optimized to manage the transactions with high quantities of datas. For this reason the users tend to send only the hash of the documents and not the documents themselves.

The business-oriented blockchain needs the use of completed datas and the related smart contracts that use the same datas. From here the necessity to create a blockchain filled with datas. This approach would make the database of the blockchain very big and not much scalable, but the adoption of a scoped blockchain reduces this phenomenon, because the datas contained in a HDSB are only related to the purpose for which the blockchain is created without any impact on the other HDSBs that do not necessarily have to treat these datas.

Every HDSB is able to adapt to any purpose that the business requires. It is conceived to be optimized for the purpose for which it is intended and it can work as a public or private blockchain, doing anchoring on a network of external notarization.

Scalability

It is scalable depending on the purpose of the business for which it has been created. It can be oriented from high performances, processing a large amount of low-cost transactions (IoT oriented) to sophisticated data management with adequate transaction costs (NFT Oriented) in order to size both the hardware side, increasing or decreasing the number of nodes and the software side, with the planning of smart contracts.

Performed

Trinci is implemented in Rust, a high-level programming language with a lively and welcoming community that makes it oriented on the performances and the security.

The core is written in Rust, a high-level and high-performance programming language. The smart contracts are filled in WebAssembly to allow developers to write the code in a multitude of more common and recognized languages. Furthermore they enable the cross-Interoperability between the technology on the Server side and the Customer side.

Opensource

Directed to the community, Opensource under the AGPL license is maintained following the most rigid standards and the Best Practices that the Opensource world requires.

Extensible

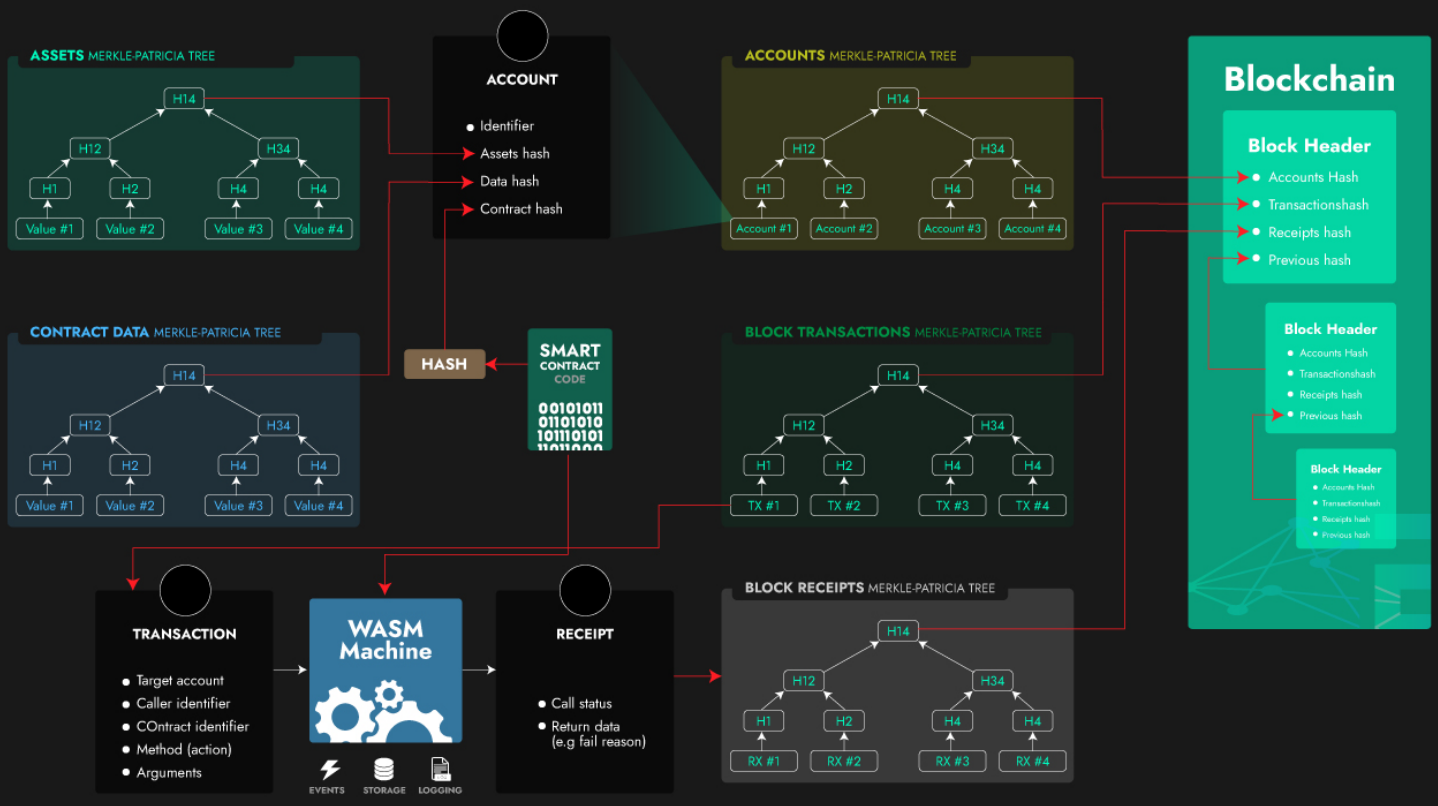
It uses the engine wasm-machine that allows to execute implemented Smart Contracts by third parties in the WebAssembly in order to guarantee the updates and the functionalities needed for the evolution and the everlasting maintenance of this technology.

Safe

It can be extended with the Smart Contract which contains the arbitrary consensus algorithms based on the purpose of the HDSB. This is possible thanks to the dedicated form that can accept the transactions which include new consensus algorithms, following the established rules for the survival of the HDSB itself.

The main categories are: PoW, PoS and PoA and each one can have a property of byzantine fault tolerance.

CORE ARCHITECTURE



NOTARIZATION NETWORK AND TESTNET

Every HDSB can notarize on the principal chain through the anchoring. Moreover a dedicated test network is provided for the developers for the test on the smart contracts.

Trinci 2.0 has a principal chain available on which every HDSB can anchor. The HDSBs use the main chain to notarize the hashes of the block in an independent manner from their functioning, guaranteeing more flexibility and scalability to the system. There are validating nodes within this blockchain that , based on the assigned consensus algorithm, certify the blocks and entitle the miners to carry out their chain certification work.

All TRINCI 2.0 certified developers are provided with a test network comprising all property nodes owned by each developer. The test network is specifically designed for the developer, to test smart contracts and see how they respond before being executed. Assets for the execution of transactions are released on demand and they do not have any value outside the Testnet.
Test blockchain is constantly reset and cleaned so that it is always clear and no performance degradation can be experienced.

Applying the blockchain ecosystem in the business world requires transactions not to be anonymous and digital identity to be sovereign, that is built by the users in the first place and made more valid by other authoritative identities thanks to digital certificates on the Certification Authority model.

According to this principle, humans are not the only one capable of owning a digital identity, but so are IoT devices, softwares, robots, and all those systems capable of signing digitally.

A digital signature should initially rely on already known and academically valid protocols (ECDSA, RSA, etc.), but should leave space to cryptographic innovations, as well: this is also in view of the Quantum Era which will seriously question the integrity of digital signatures based on Elliptic Curves and not only.

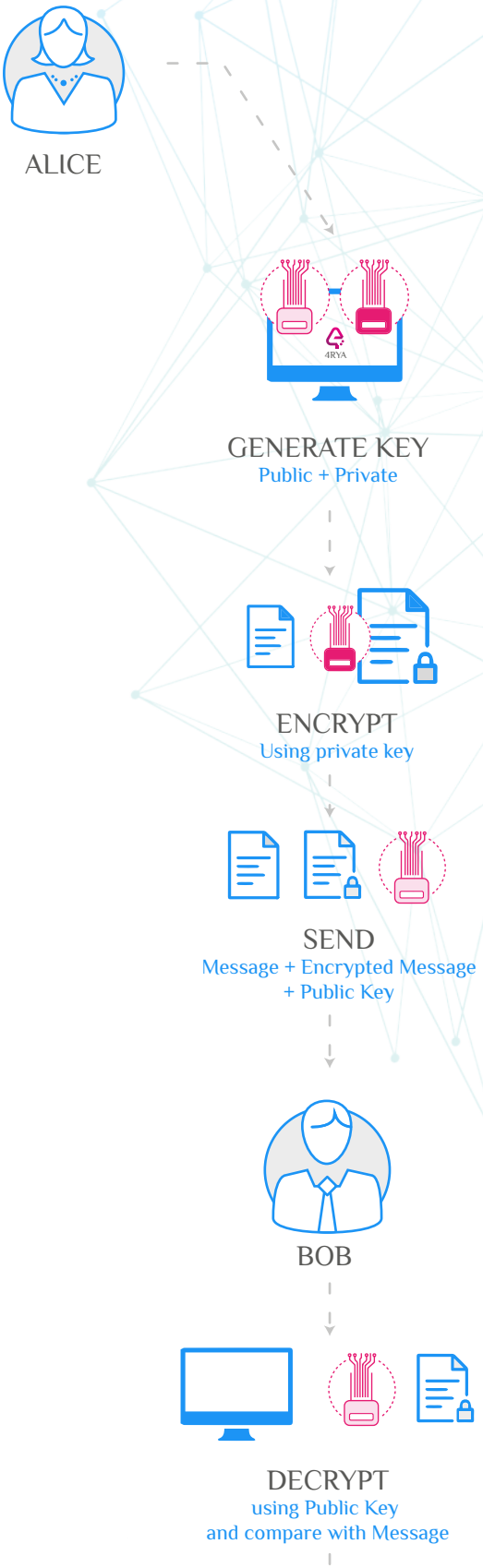
Each user should keep their private key and never be transferred to third-party systems.

The user qualifies with their public key in blockchain.

Afterwards, they can use their private key to sign every transaction to be submitted to the blockchain.

Such an operation, which cannot be performed by any other users (as nobody knows the private key of other users), acquires legal validity.

The digital identities of every subject using this methodology are contained inside blockchain T.R.I.N.C.I ® to allow the whole ecosystem of users, businesses, robots and IoT devices to last forever, entrusting data governance to the user for life.



BUSINESS BY DESIGN

The entire blockchain ecosystem was conceived from the beginning with a native Exchange designed to work in the blockchain T.R.I.N.C.I 2.0.

It can be used for both FIAT currencies (SEPA, SWIFT etc.) and currencies created on T.R.I.N.C.I 2.0, that is assets inside limited network systems: programmable currencies and natively integrated NFT. All this is aimed at making things easier for businesses and companies.

Exchange is

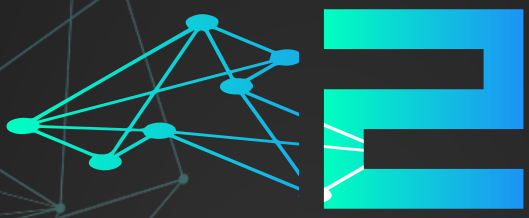
- Legal/Compliance
- Performance & Stability focused
- Stable Coin Oriented
- B2B
- Support to Businesses, Integrators, high-profile developer/ gold developers / technology enthusiasts

You will be provided with a set of tools enabling you to manage assets in line with best practices concerning the National and European economy.

The exchange ensures Euro/Token conversion service.

Each process ruled by a smart contract inside the blockchain involves specific tokens (also in blockchain) and not standard FIAT currencies (Euro, Dollar etc.).
In order to make the use of these tokens easier for the users who do not normally possess them, a dedicated service will be provided for them. This service offers an integrated payment flow allowing users to buy the tokens necessary for the transaction in a few steps, by credit cards or wire transfer, without stopping the platform workflow where the token itself is used.

This service is offered by the Exchange, which serves its exclusive HDSB in compliance with legislation on the matter, and exchanges the amount from Euro to Token and vice versa. This way, it can withdraw the service proceeds from the company to the relative stakeholders in FIAT currency.
To cut a very long story short, users can change FIAT into tokens, use these tokens for the services that are in a specific HDSB, Tokens respond according to their programming and token beneficiaries can change them into FIAT currency.



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The interconnection of the points analyzed up to this moment works as the glue between real business needs and the technical ecosystem.

All begins with the creation of a decentralized and distributed scoped blockchain with a specific consensus model, with assets and smart contracts inside a HDSB. HDSBs contain smart contracts working together with the compliance department, moving assets in accordance with all legal aspects.

All subjects can be identified by means of a digital identity in blockchain, which allows them to sign documents and transactions, as well as to stipulate contracts. Finally, through the exchange Tokens (based on T.R.I.N.C.I 2.0) can be immediately converted into FIAT currency.