Zfort Tokenization Platform

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Abstract

What is it? Zfort Tokenization Platform is a solution including the software development service as well as a set of software design patterns, architecture approaches, tools and processes to effectively develop **Fintech and Business networks** based on the HyperLedger stack. **Business network** is a concept and tool for creating IT infrastructure by modeling business processes and assets.

How it works? Any business has processes, assets and financial procedures which can be digitized using HyperLedger **Fintech / Business neworks**. This enables very effective IT solutions to automate any business procedures.

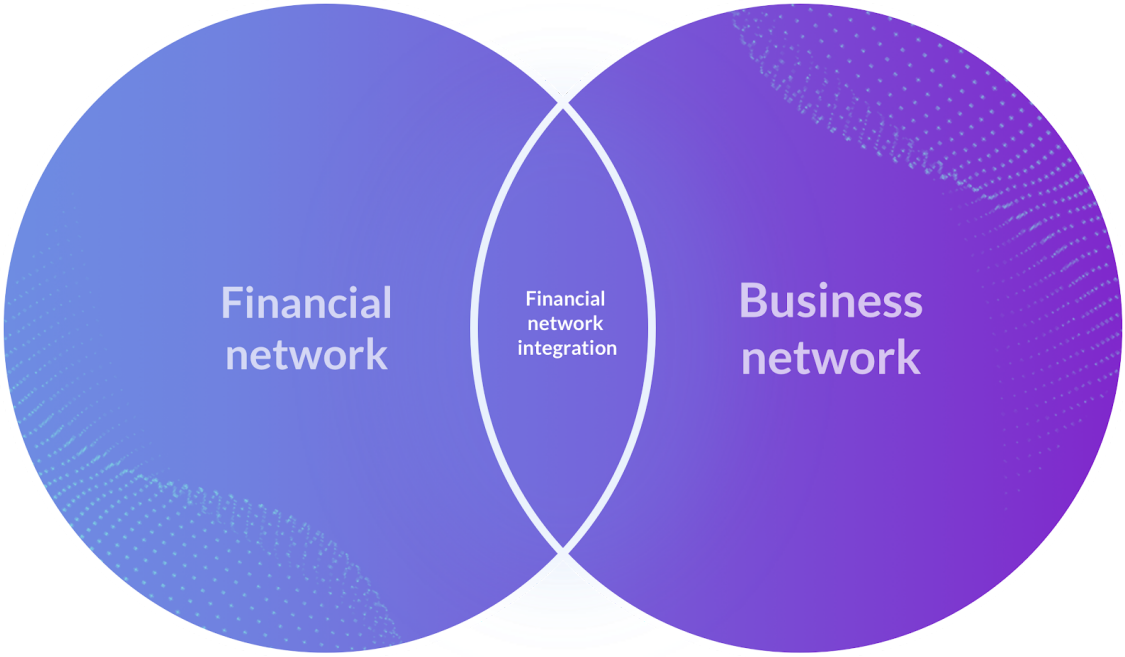
Why does your business need this? HyperLedger business networks provide a reliable, scalable and immutable way of tracking and processing all business transactions.
Consider you have a logistics business, a retail business or even if you are using a specific document management system. And then you need to build an IT infrastructure for you business. Our platform provides a lot of additional benefits over traditional databases and IT solutions. Continue reading to find out which benefits you get.

Do you need to be a part of cryptocurrency economy? Today a lot of startups and enterprises benefit from integrating crypto-currencies into their flows. This gives a lot of flexibility while building financial tools for the business. But BlockChain is much more than just another kind of money. Therefore, a lot of solutions can benefit from BlockChain even when they are not a part of the cryptocurrency world.

Crypto-economy, digital assets

What kinds of digitized assets are there? Digitizing various kinds of business / enterprise assets results in software called the “Business network” in the HyperLedger stack. You can digitize:

- Your retail products;
- Collectible pieces of art;
- Expensive hardware;
- Cars, cargos, forklifts;
- Sea and ground containers;
- Animals;
- Chemical chains;
- Virtually anything else you can imagine.



The business network including all necessary digitized assets provides an IT infrastructure for your existing business. This IT infrastructure includes all your assets and business rules to handle these assets. At some point business the needs to integrate with at least one of the following financial institutions:

- Ordinary banks (SWIFT, Wire);
- Electronic payment systems;
- Crypto-currencies;
- In-company accounting systems.

This introduces the **financial network** with corresponding **integration tools**.

Financial networks

The concept of financial networks describes any collection of financial entities (such as traders, firms, banks and financial exchanges) and the links between them, ideally through direct transactions or the ability to mediate a transaction.

Hyperledger Fabric allows us to build the business network as distributed ledger underpinned by a modular architecture delivering high degrees of confidentiality, resilience, flexibility, and scalability.

In addition to building business networks, our platform targets building financial networks that are compatible with other market solutions.

Among HyperLedger features we emphasize on using the following ones as the most needed for building financial networks:

Identity management. HyperLedger Fabric implements the Membership Service Provider (MSP), which helps in increasing the overall security and granulating data access for specific users and organizations. Hyperledger Fabric also can create “channels” to separate transactions for different network participants.

Privacy and confidentiality. HyperLedger channels can isolate transactions to make them visible only within the specific network segment.

Efficient processing. Assigning different roles to network members dramatically increases transaction processing performance. Transaction execution, ordering and commitment can be performed by different participants therefore distributing the load.

Chaincode. HyperLedger provides functionality for developing distributed applications. It is very similar to Ethereum smart contracts but with a more advanced set of features and language constructs.

Modular design. It is possible to customize the ledger at different levels of it’s architecture: identity, ordering, transaction signing and encryption can be customized as pluggable custom modules by third party developers.

Platform's crypto-currency

Each public distributed applications platform requires a way to limit transactions happening within the platform. One of the ways to limit transactions is introducing transaction fees. Such fees are required to guarantee that:

- The platform cannot be attacked by producing millions of transactions to make a fraudulent load on transaction processing components. This protects the computational efficiency.
- Storage components cannot be attacked with incoming requests to freely store unnecessary data. This protects the memory efficiency.

Therefore we introduce the **TRANSACT** crypto-currency which can be used for:

- Deploying new distributed applications;
- Running distributed applications' methods;
- Calling valuable business logic methods which require developer's fee for execution.

The HyperLedger stack is highly pluggable and customizable. Therefore, mining for the **TRANSACT** crypto-currency will be customizable and different versions will be available based on the specific financial network configuration.

Crowd-funding, Initial Coin Offering

There are a **few ways** of going about **raising funds** necessary for development and expansion. A company can start small and grow as its profits allow, remaining beholden only to company owners but having to wait for funds to build up.

Crowdfunding is the practice of funding a project or venture by raising small amounts of money from a large number of people. Investors may get to participate in the **launch of a new product** or receive a gift for their investment. Crowdfunding has created the **opportunity for entrepreneurs** to raise hundreds of thousands or millions of dollars from anyone with money to invest.

Another way to raise funds is **Initial Coin Offering (ICO)**. ICOs act as fundraisers of sorts; a company looking to create a **new coin, app, or service** launches an ICO. Next, interested investors buy in to the offering. In exchange for their support, investors receive a new cryptocurrency token specific to the ICO.

The platform allows you to attract **investment**, create your own **unique token** and **launch ICO**, with which you can **raise funds** for the development of your idea. Cryptocurrency transfer occurs using Atomic Swap procedure, which allows you to perform a **trusted** currency transfer operation without the participation of a third party.

Virtual asset tokenization, utility tokens

Tokenization is an aspect of blockchain technology that is enabling the effective transfer of value across the network. The **fluidity** and **liquidity** created by this concept helps the organization to **connect products and services** while defying the restrictions of location and continually **breaking the barriers of compatibility**.

A class of token that is growing in popularity and proving to be very essential within the blockchain ecosystem is "**Utility Tokens**". These tokens primarily exist as accessibility elements on the blockchains that they represent. A more interesting concept about these tokens is the versatility that they offer by **revolutionizing existing concepts, creating new ecosystems** that empower the participants therein.

Utility tokens confer a right on the holder to participate in the network in some way. Such tokens may give holders a right to use the network and take advantage of its services to vote on the governance of the network and its upgrade.

Utility tokens provide access to a specific application or service (which can be decentralized) or the right to contribute work within a community-owned network. Utility tokens **can be staked**, or **locked under some terms**, in order to gain privileges in an ecosystem, which creates strong incentives for users to behave.

Financial assets tokenization, Security Token Offering

Security tokens are tokens that have attributes of a security.

Security tokens, unlike utility tokens, are highly-regulated. One of the following can be a good example of a security token:

- Digital representation of equity / profit / ownership shares in a company;
- Digital representation of loan / debt obligation;
- Real assets like real estate in a digital form;
- Representation of mutual funds or collective investments;
- Some kinds of utility tokens in the US.

Since security tokens are considered securities, they need to follow local securities laws which are very well established in most jurisdictions. This means that if you are conducting a public sale of security tokens, you will need to register your STO with the local securities regulator and provide very detailed disclosures as required for an Initial Public Offering (IPO).

If you are not taking the public route, then you need to follow the private placement route. Which means that you can raise funding only from Professional/Accredited Investors. Also, in some jurisdictions, the security tokens may be subject to restrictions on transfers such as minimum holding period or the need to transfer only to another Professional/Accredited Investor.

Yes, you have read it correctly. Security tokens are securities and hence cannot be used like utility tokens. This means you cannot use them as your platform currency or medium of exchange. You also cannot use them to gain access to platforms, to incentivize users for using the platform, or as mining rewards. You cannot airdrop them or use them for bounty campaigns. Securities are subject to numerous restrictions as to transfers, buybacks etc. and hence they cannot be used the same way as utility tokens.

The concept of security tokens allows you to digitize things like gold, silver, oil, real estate or company stocks.

Real example of implementation a security token is a North American Exchange listed public company that has offered a gold-asset-backed crypto security token. GOLDUSA security token paving the way, and setting the “gold standard” for asset-backed security tokens.

Collectable / non-fungible assets tokenization

The crypto space continues to see more **non-fungible token concepts** enter the market. These tokens are **different than their fungible counterparts** in that they’re not **interchangeable**. Think of non-fungible tokens as being unique in the world. They usually **represent a digital or real-world asset** and are not created equal.

Non-fungible tokens serve an essential purpose within the crypto space. These tokens are **created to represent a particular asset**, which **holds a particular value** within a digital ecosystem.

Non-fungible tokens are seeing expanded use in the tokenization of real-world assets. Your home could even be represented by a unique non-fungible digital token. You could **easily transfer, sell, or verify property** ownership without having to track down your original deed.

To create non-fungible tokens, the ERC721 protocol was **invented**. This non-fungible token protocol became popular thanks to the game Cryptokitties. Cryptokitties utilizes the ERC721 protocol to ensure each virtual asset is unique in

nature. Each entity is a ERC721 Token that is one-of-a-kind and owned by the purchaser; it cannot be replicated, taken away, or destroyed.

Real assets tokenization

Everything can be tokenized on Blockchain from paintings, diamonds and company stocks to real estate. **Tokenization as a method to convert rights to an asset into a digital token.** By Tokenizing assets, we have a digital representation of a real-world asset **on a blockchain.** Assets tokens by their nature are considered securities under almost any government, that in turn creates special requirements to token's characteristics. Hyperledger Fabric is a permissioned distributed network it means that every organization in this network is known each other. To provide secure way to exchange real assets as a token we are using Chaincode mechanism.

Chaincode can:

- Turn legal obligations into automated processes;
- Guarantee a greater degree of security;
- Reduce reliance on trusted intermediaries;
- Lower transaction costs.

Availability of the Hyperledger Fabric decentralized exchange, together with the trustline authorization feature, provides a fast, simple, secure and reliable solution for the creation of a regulated segment.

Key benefits of tokenization

- Investors can trade real-world assets that due to their low liquidity would have been difficult to exchange in the past.
- Tokens enhance the liquidity of previously hard assets with real estate being the prime example, with its low liquidity and large share of the global asset market.
- Asset tokenization reduces barriers and will attract new investors through fractional ownership, as they can own a percentage of a real-world asset and repackage it with traditional bonds or hedge funds to resell in crypto marketplaces.
- Tokenization increases portfolio diversification and spreads risk as investors can now co-own multiple assets at once.
- Tokenization is a seamless process and speeds up previously difficult and costly trades by reducing administrative expenses through self-authorizing chain-codes, improving the speed of settlements.

How do we combine different kinds of tokens?

We have built the architecture, which is easy for scaling and maintaining different types of tokens. We support the following tokens:

- Utility tokens;
- Security tokens;
- Cryptocurrencies;
- Non-fungible tokens;
- Tokenized real assets.

The main key-concept in Hyperledger is called chaincode. This provides similar functionality to Ethereum smart contracts. But Hyperledger by default doesn't have any built-in cryptocurrency. This was done intentionally to provide higher level of flexibility. We use HyperLedger ability to tokenize any asset in the real world like diamonds, vine bottles or company stocks.

But in addition to this we have built the **TRANSACT** cryptocurrency which can be used within the HyperLedger to provide functionality similar to public Ethereum smart contracts. This feature can be used whenever it is necessary to implement trade operations between various smart contracts or provide payable business logic execution.

Each user / organization within the Fintech platform can have several wallets with the **TRANSACT** currency. And this currency serves as a uniform resource for making payments between smart contracts. Chaincode can be based on this currency or may be not based on this currency depending on the need to integrate with the financial part.

How to implement an own utility / security token? To do this it is necessary to:

- Develop a new chaincode, probably inheriting one of the existing ones;
- Inherit from the **TRANSACT** smart contract to be able to use operations in the unified currency;
- Deploy this chaincode.

How to configure sharding? In the HyperLedger sharding can be implemented by configuring "channels". We consider configuring a separate channel per smart contract in case of the high load on this contract while placing low-load contracts into common channels.

How to buy / sell the TRANSACT currency? The TRANSACT currency can be exchanged through various adaptors like an Ethereum adaptor which can be developed based on the Sawtooth / Burrow / Seth integration.

How to buy / sell tokens? Tokens based on the fintech platform can be ERC20 compatible. This enables implementing purchase operations similar to ones available in Ethereum.

Which kind of token does your business need?

We **support a lot of tokens** and standards from cryptocurrency to real word actives which have their own **rules and government**. At the moment, there is no unified classification for tokens. However, to clarify what is the difference between tokens and their standards, let's introduce their definitions.

Each type of token has their own reason to purpose in the network and can be used to resolve some special use-cases like currency, auction, represent real word asset, providing access to product or service, etc.
Tokens can be classified by the following types:

- **Cryptocurrency** or it often called payment tokens. You can use cryptocurrency like a dollars or any other currency to pay for services or goods;
- **Utility tokens** which used to provide access to products or services, which may also be called app tokens.
- **Securities tokens** classify any kind of tradable asset. Security tokens are highly regulated by governments and organizations.

To provide **easy integration** between tokens blockchain developers provide standards which help to classify method and base functionality inside the tokens. The most popular standards for tokens are considered ERC-20, ERC-223, ERC-721.
Our platform is not require to use any standard for your token, but you can use already building standards, it will **save your time**. Also, you can provide your own standard and token implementation for your custom business needs.

By using Zfort Tokenization Platform you can choose any suitable token and standard or provide your own which will perfectly fit your business.

Technical stack

What is the Hyperledger project?

Hyperledger is an open source collaborative effort created to advance cross-industry blockchain technologies. It is a global collaboration, hosted by the Linux Foundation, including leaders in finance, banking, Internet of Things, supply chains, manufacturing and technology.

Hyperledger is build for the following goals:

1. Create enterprise-grade, open source, distributed ledger frameworks, and code bases to support business transactions;
2. Provide a neutral, open, and community-driven infrastructure supported by technical and business governance;
3. Build technical communities to develop blockchain and shared ledger POCs, use cases, field trials, and deployments.

Hyperledger stack projects

Every Hyperledger framework is unique and is built to resolve the specific needs of an enterprise.

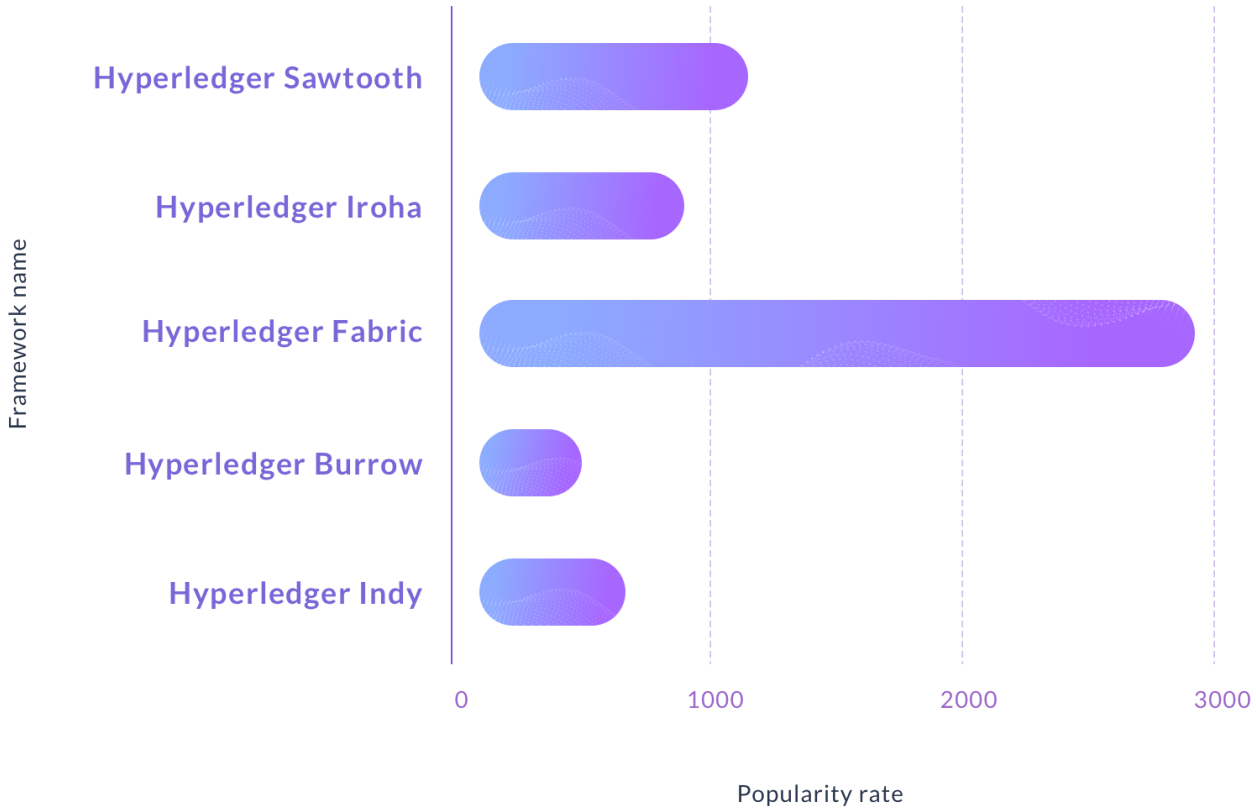
* Hyperledger project descriptions from their Website (https://www.hyperledger.org/)	
Hyperledger Fabric	is a platform for building distributed ledger solutions, with a modular architecture that delivers high degrees of confidentiality, flexibility, resiliency, and scalability. This enables solutions developed with Fabric to be adapted for any industry. Traditional blockchain networks can't support private transactions and confidential contracts that are key for businesses. Hyperledger Fabric is emerging as the de-facto standard for enterprise blockchain platforms.
Hyperledger Sawtooth	segregates the core ledger system from the application specific environment, thereby simplifying the application development yet keeping the system safe and secure. Using this architecture, a developer can build applications in their programming language of choice that can be hosted, operated, and run on the system periphery without interfering with the core blockchain system.
Hyperledger Iroha	was created in order to complement such projects as Fabric, Sawtooth and any future ones through the creation of reusable components in C++. This means Iroha is an addition to existing projects and its long-term mission is to produce an extensive library of reusable components that can be used by anyone who is running a distributed ledger on Hyperledger technology.
Hyperledger Indy	is a distributed ledger, purpose-built for decentralized identity.
Hyperledger Burrow	is one of the Hyperledger projects which operates as a permissioned Ethereum smart contract blockchain node. Its primary function is to execute the Ethereum smart contract programming code on a permissioned virtual machine.

Hyperledger community Github activity

Sometimes a feature may seem attractive to developers while not being vital for the real business. Different projects of the HyperLedger stack have different popularity among the community. Understanding demand on each project, we complement our architectural suggestions with real usage data. So we evaluate the popularity of each framework, using Github statistics to compare them.

Link to Github	**Hyperledger Sawtooth**	**Hyperledger Iroha**	**Hyperledger Fabric**	**Hyperledger Burrow**	**Hyperledger Indy**
Language	Python	C++, Python, Android, Ios, Javascript, .Net, Scala	Go	Go	Python
The first commit	Mar 31, 2016	Sep 4, 2016	Jul 26, 2016	Jun 9, 2015	Dec 21, 2016
The latest commit	Oct 8, 2018	Aug 2, 2018	Oct 9, 2018	Sep 21, 2018	Oct 9, 2018
Total commits	7257	6257	7177	1644	2034
Total releases	34	10	23	18	829
Watches	163	147	1035	83	59
Stars	1023	949	6916	539	265
Forks	559	303	3936	197	265
Project status	Active	Active	Active	Incubation	Incubation

Hyperledger frameworks popularity diagram



Cross-blockchain connectivity

Hyperledger Fabric permissioned blockchain platform support interaction with Ethereum network and **enables users to use smart-contracts** written in an EVM compatible language like **Solidity**.

The integration consists of **two main parts of architecture components.** The **first part** includes integrating chaincode with Hyperledger Burrow EVM package in base Go chaincode shim. After that Hyperledger Fabric has the ability to map various methods between the peer and EVM itself. **Fabric EVM chaincode can be deployed like any other chaincode** in the Hyperledger Fabric. **The second** is about Fabric Proxy which implements a subset of the Ethereum compliant JSON RPC interfaces. When these two parts are done, **users can use** tools such as **Web3.js** to **interact with smart contracts** running in the Fabric EVM.

By using Hyperledger Fabric you can implement the functionality of other blockchain solutions on your own node inside our network.

Consensus

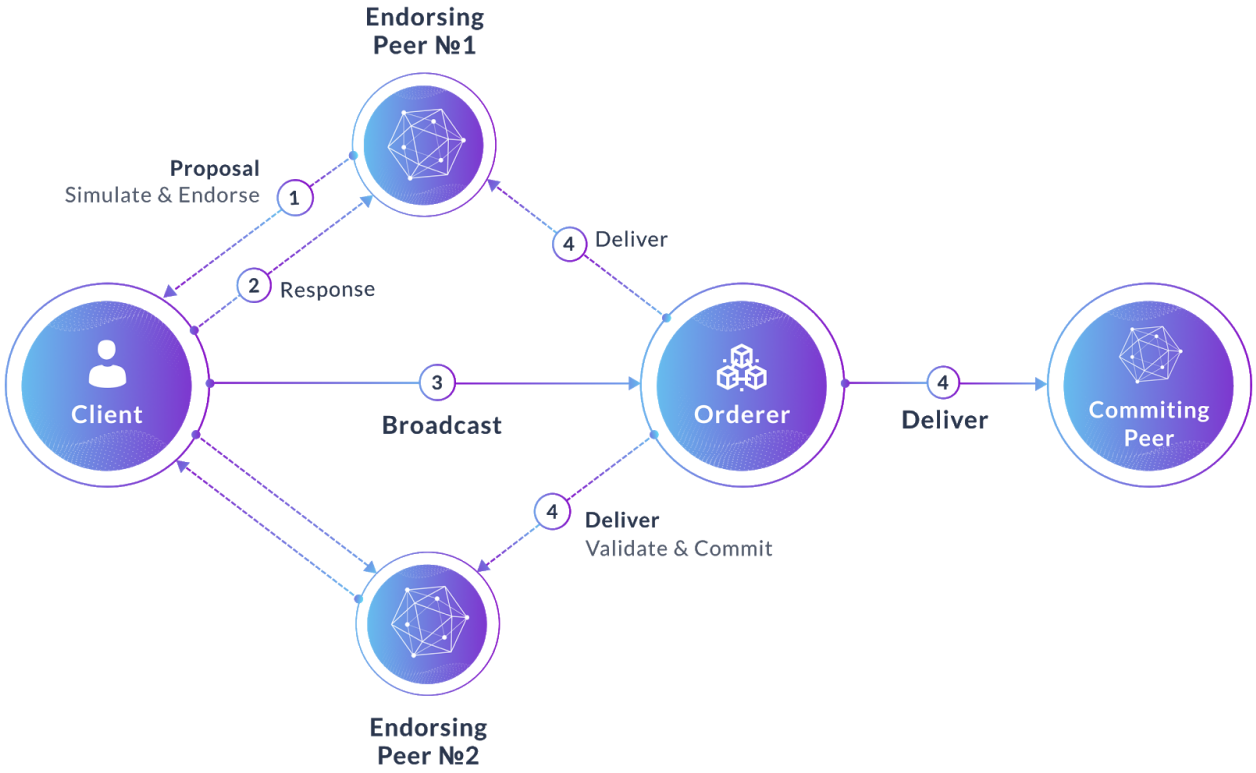
When people heard about consensus they are thinking about some specific algorithm like Proof-of-Stake, Proof-of-Work or any another. However, **consensus it is just a simple agreeing** how to order transactions in the network.

Consensus **must satisfy** two main properties to guarantee agreement between nodes:

- **Safety**. States and sequence of result on each node in the network **must be the same**.
- **Liveness**. Each nodes which successfully connected to the network must have **constant connection** without any failure.

The consensus in Hyperledger Fabric consists of processes where the nodes in the network provide a guaranteed ordering of transaction. Before transactions will be committed to the ledger they have met the explicit policy criteria include the usage of endorsement policies to dictate which specific members must endorse a certain transaction class according to system chaincodes rules. In addition to the multitude of endorsement, validation and version checks they also do ongoing identity verification in all directions of transaction flow. These checks are different in each level of architecture, but the following parts of the consensus mechanism are fundamental to every node in the network to be consistent with other:

- **Endorsement** is driven by policy upon which participants endorse a transaction.
- **Ordering** phase will get the endorsed transaction and agrees to the order to be committed to the ledger.
- **Validation** takes a block of ordered transactions and validates the correctness of the result.



Responsibility for the ordering of transactions is on a special service in network **Orderer** which **provide delivery guarantees.** Ordering service can be implemented in different ways from centralized service to a distributed protocol that target different network and node fault tolerance model. Ordering service provides a **shared channel** which used to communicate with clients and peers, offering a broadcast service for messages containing transactions. This channel **support atomic delivery of all message**, in the other word, the channel outputs the same messages to all connected peers with the same logical order. Ordering service can support **many different channels** and provide API, which used by peers to connect to some particular channel. To provide ability to maps many separate channels via Broadcast RPC you need to use Kafka-based Ordering Service. In Kafka, only leader does the ordering and only in-sync replicas can be voted as leader. This provide crash fault-tolerance and all of this happens in a matter of seconds.

Sharding & organizations

What is Sharding?

Traditional blockchains require all nodes to carry all data on the blockchain. **Sharding** is a type of database partitioning that **separates larger databases** into

smaller, faster, more easily managed parts called data shards. Which makes the blockchain much more efficient in a timely manner.

The following **issues** you can **meet in every big blockchain platforms** like Ethereum and Bitcoin where in the network you have a lot of nodes:

- Scalability issues
- Latency issues
- Low throughput

Sharding is a solution to the scalability, latency and transaction throughput issues.

Why do we need sharding?

Sharding is a good solution when you **don't want to manage all ledger data from all participants** in the single network or you **don't want to share information about your personal transactions with some participants.**

Hyperledger Fabric sharding implementation

Hyperledger Fabric platform provides a mechanism which is called "channels". **Channel is** a private communication subnetwork between network members which allows to create **private** and **confidential** transactions. Channels are defined by members which are represented in the network as organizations.

Every organization can:

- Deploy anchor peer;
- Deploy chaincode (smart-contract) applications;
- Deploy own ordering node;
- Add new organizations to the channel, when the channel creator allow this action.

In addition to this, channel creator can:

- Define block properties and rules;
- Add / delete organizations in the channel;
- Provide private policy conditions.

Each members peer in the channel is an **authorized** and **authenticated** member of the network and has its own identity provided by a membership service provider. After these steps peer can conduct transaction on the channel.

How channels are related to sharding?

Every channel has its own **unique ledger** with **separate records** of transactions and **doesn't have any common links or shared data** with other channels. When a peer joins the channel, he starts the synchronization process and loads the transaction

history for that channel. In this way, network members store only data which they need and share it only to those participants which they want.

Payable methods

Payable methods are about **payment for services and goods** across the network and channels which provide the platform or network participants. The **typical payment methods** which you can meet in everyday life is **cash, checks, invoices, credit cards, etc**. To manage your assets across blockchain network you need to use wallets. A **blockchain wallet** is a wallet that allows users to manage their assets and currencies.

How to create wallet?

To **create a wallet** you need to create key pair which consist of **public** and **private** key and send request to one of the peers which deployed in the network with "create wallet" operation and your public key inside transaction body.

How to send payment transaction?
To send transaction from one user wallet to another you need to do the following steps:

1. Set **From**, **To** and **Amount** of currency which you want to send in transaction fields;
2. Set **payment operation,** it's mean you want to do money transfer in base currency from one wallet to another;
3. **Sign transaction** with your **private key**;

Where do we store wallets balances?

There are two common models how wallet balance can be stored in blockchain:

1. **Stateless UTXO model**, where wallet balances are encoded into past transaction records;
2. **Wallet model**, where account balance is kept in state storage space on the ledger.

Our decision is the accounting model, because of the architecture of blocks in Hyperledger Fabric consist of two parts:

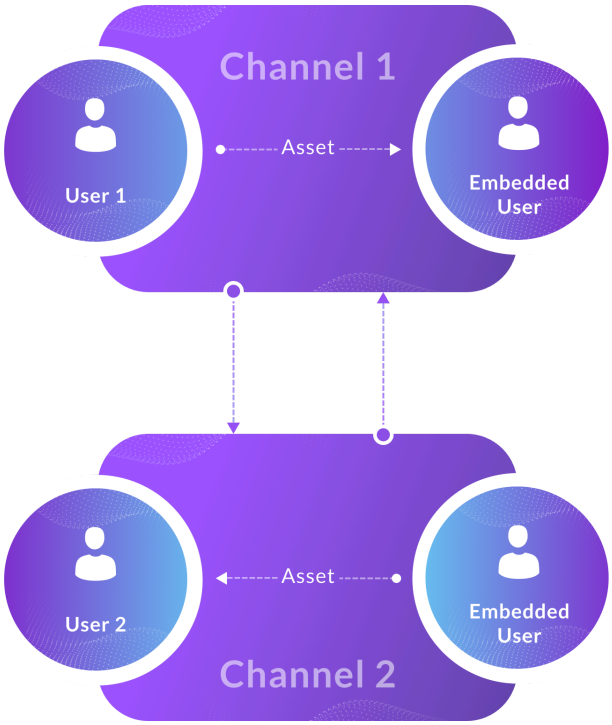
1. **World State**, which represents the current values of all ledger states. Data which you can find in World State has already calculated data provided by Blockchain.
2. **Blockchain**. The Blockchain is a transaction log, structured as interlinked blocks, where each block contains a sequence of transactions.

How to create assets?

To create an asset you need to deploy your own chaincode to the channel. **Chaincode** is programmatic logic described in a code which users can deploy on the network. **Users can use chaincode to provide their own business rules** and membership service for design assets, as well as the logic inside of them. You can use already prepared templates of tokens with base functionality. We support a lot of kinds and tokens standards, even Ethereum tokens with fully integrated functionality inside of our network. You can deploy existing token from Ethereum network which supported in EVM languages like Solidity, Viper, etc.

How to transfer assets across the channels?

Every channel has **own history of transactions** and states inside. Wallet balance which you have in one channel not the same on another channel. To provide the functionality of cross-channel payments transaction we provide application, which calls chaincode API on both channels to accomplish payment transaction. To move assets from one ledger to another, we the delete asset from the first channel, and then add it to the second channel in the possession of the third embedded participant.



The transaction logic is implemented in this way:

1. User 1 creates an asset in the first channel;
2. Transfer asset to participant embedded user in the first channel;
3. Transfer asset to the second channel to embedded user. When embedded user receives asset our application check it, and after that do emission of that asset in the second channel. If the transaction was successful embedded user delete asset in the first channel.
4. Accept asset from the embedded user in channel 2

To prevent double counting or total loss of the asset we are using the multi-stage type of transaction.

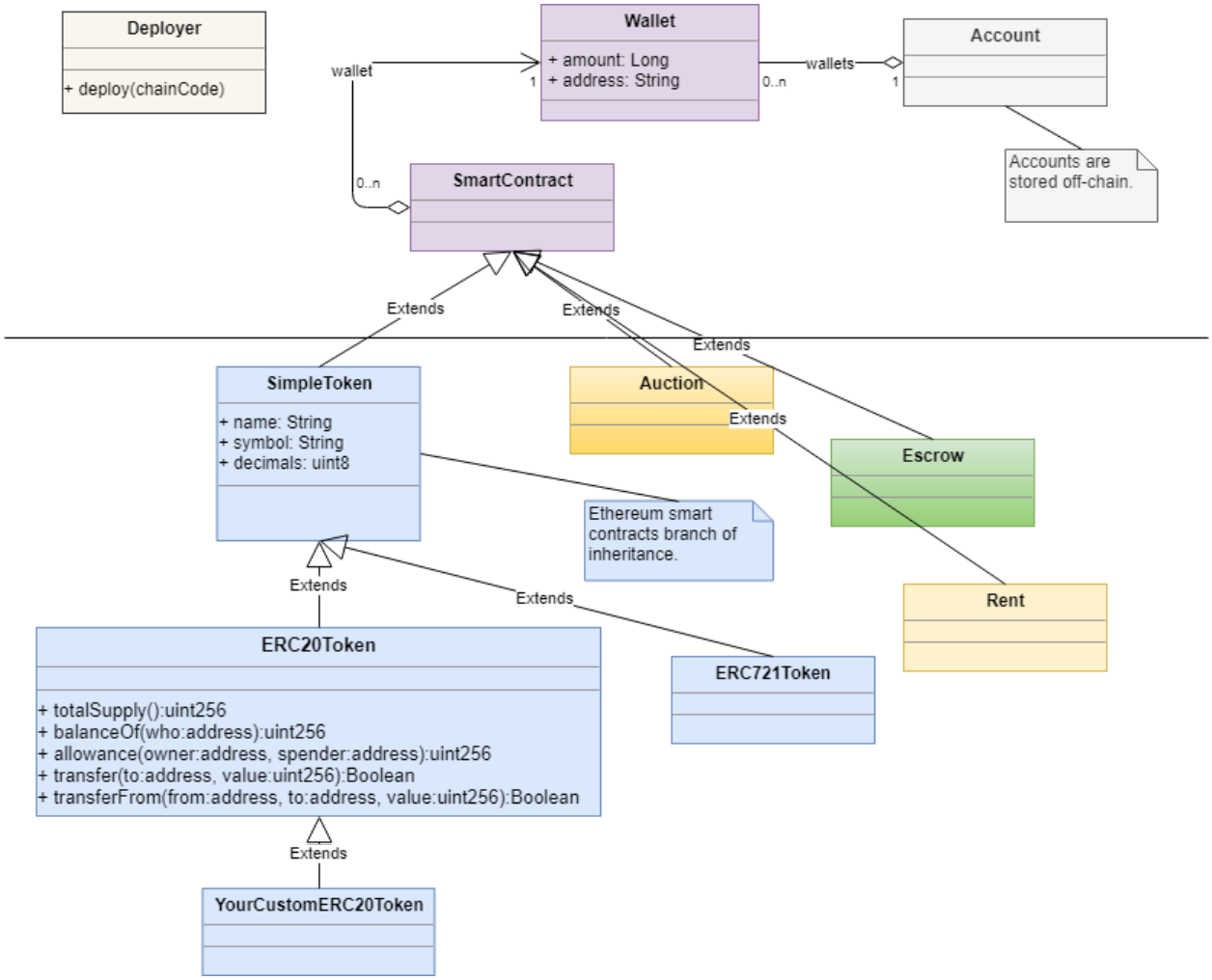
Chaincode / smart contracts

The diagram below describes various kinds of smart contracts available in the platform:

- Ethereum-like simple token and ERCXXX tokens;
- Auction / Escrow / Rent contracts.

Also there are:

- A wallet - an entity to keep and handle the main infrastructure currency;
- The “Deployer” unit capable to deploy new smart contracts;
- The “Smart Contract” - a base class for all smart contracts.



Commission

One way to reduce the chance of DDoS attacks, by creating a lot of transactions, we need to implement a transaction fee to make DDoS attacks unprofitable. The system will have an internal currency for this, in which the transaction fee will be withdrawn. And each sender of the transaction must have a wallet with the necessary amount in this currency to complete the transaction.

The minimum fee necessary for a transaction to confirm is 0.0001 of the **TRANSACT** coin. And it can varies over time.
Also commission will include a payment of 0.00000001 **TRANSACT** per byte of transaction data.

Therefore, the resulting formula for the transaction cost is:

Commission in TRANSACT coins = 0.0001 + (0.00000001 * Affected data size in bytes).

Use cases

Container tracking during product transportation. Such business combines the IoT business network for tracking container transportation with the finance network keeping transportation documentation, invoices, dossiers and orders.

KYC. An example of a highly-secure product with a business network for storing various kinds of identity information and a financial network for paying for processing this information.

Renting expensive enterprise-level hardware. Some enterprise hardware is very expensive for middle enterprises to buy producing a high demand on the rental services. A solution for such business combines a business network with a ledger of hardware usage, repairing and warranties with a financial network describing rental and billing information.

Dog / cattle / cat / ... pedigree ledger. For a company which business is related to reproduction of different kinds of animals it is important to keep an immutable and secure ledger of pet pedigree. Information from this ledger may be also used by pet shows / championships to validate competing animals. This is an example of a pure ledger project.

Competitors

Who are our business competitors? Well, they are not competitors in the common sense as our platform targets different market. But it is quite important to mention other respectable companies which concentrate on tokenization / securities.

- https://securitize.io/ - https://polymath.network/	These platforms provide infrastructure for issuing secure tokens (STOs). Securitize is a custom Ethereum-based platform. Polymath is powered by the POLY Ethereum token.

Which are other technical approaches? We aim to providing high-quality BlockChain solutions and we would choose any stack which is good for achieving our goals. Currently we have chosen HyperLedger as our main stack. But there are plenty of other solutions as well. Below we give a short list of other solutions with a comment on each one as for the position it occupies in our development stack:

- http://ethereum.org	We consider Ethereum as platform #2 for our projects. It has the great benefit - this technology is the most widely adopted one. But it is not suitable for some kinds of projects - ones which need to keep big amount of data and ones that need a lot of transactions.
- https://nem.io - https://eos.io - http://neo.org - https://wavesplatform.com - https://tron.network - https://cardano.org	These are smart contract platforms which are less popular than Ethereum. Currently it is hard to tell how trendy these platforms will be in the closest future. But some customers are choosing one of the given platforms as their stack and therefore these platforms should definitely be considered.
- https://openchain.org - https://openledger.info	There are several projects similar to HyperLedger. They may be good for some narrower applications.

Team

Zfort Group (https://www.zfort.com/) is a full service IT provider creating custom websites and mobile apps since 2000. The company has served as a reliable IT partner for P&G, Henkel, Walt Disney, Cisco, Seagate and other Fortune 500 companies.

Today, 70% of the company's workforce is represented by Senior-level developers. With such expertise on board, Zfort Group delivers custom, quick-to-market, and scalable software products for advanced match of the business needs and end-customers' demands.

Zfort Group also helps companies become a part of technology revolution by implementing solutions in the fields of Blockchain, Big Data, and Artificial Intelligence.

Legal

We develop our platform as a highly-customizable whitelabel solution which is flexible to adapt to customer's business requirements.
Any discussions on collaborations can be started here:
https://www.zfort.com/blockchain-platform
https://www.zfort.com