bitFlyer selected as a partner vendor for Japanese Bankers Association's "Collaborative Blockchain Platform"

bitFlyer, Inc. (Headquarters: Minato-ku, Tokyo; CEO: Yuzo Kano), was selected as a partner vendor to provide an experimental environment for Japanese Bankers Association's (Headquarters: Chiyoda-ku, Tokyo; Chairman: Nobuyuki Hirano, Mitsubishi UFJ Financial Group President) "Collaborative Blockchain Platform." bitFlyer's proprietary blockchain technology "miyabi" will be used in the experiment. The Collaborative Blockchain Platform is scheduled to begin operation in October of this year.

About the Collaborative Blockchain Platform

The purpose of the experiment is, through the development of a Collaborative Blockchain Platform, to support the study of practical application of blockchain technology/distributed ledger technology among participating banks, such as new settlement/transfer services, know-your-customer (KYC) systems and financial infrastructure (Zengin System, Densai Net System, etc.).

What is a blockchain?

Blockchain is a new kind of database that can distribute data to geographically separate servers for storage, whose recorded data cannot be modified or deleted (immutability), and has the ability to continue working even if some servers have been accessed illegally (Byzantine Fault Tolerance).

Data storage units called "blocks" are generated at fixed intervals, characterized by their possession of a data verification model called a consensus algorithm that works across multiple servers. The "miyabi" system developed by bitFlyer is a private blockchain exclusively for enterprise users. Bitcoin, which runs on a public blockchain that anyone can access, was the very first blockchain application. With the introduction of databases requiring extremely high security, it demonstrated its value as a virtual currency by its ability to document figures corresponding to transactions and balances, and its high level of reliability in resisting a variety of attacks to continue operating.

Immutability

- All transactions are stored in consecutive blocks. Because those blocks have dependencies, altered transaction data is very easy to detect. As a result, data manipulation becomes effectively impossible.

Byzantine Fault Tolerance (BFT)

- When a system has BFT, the whole system continues to work normally if it maintains below a certain number of Byzantine nodes (nodes that do not behave properly due to hardware failure or server hacking).

No Single Point of Failure (SPOF)

- A part of a system that, if it fails, will stop the entire system from working. In non-blockchain systems, master, controller and certificate authorities can be a SPOF. There is no SPOF in Blockchain.

Figure 1. Features of blockchain

A blockchain is middleware that operates regardless of server or other infrastructure environment. Blockchain technology can also be broadly divided into two categories: applications and platforms.
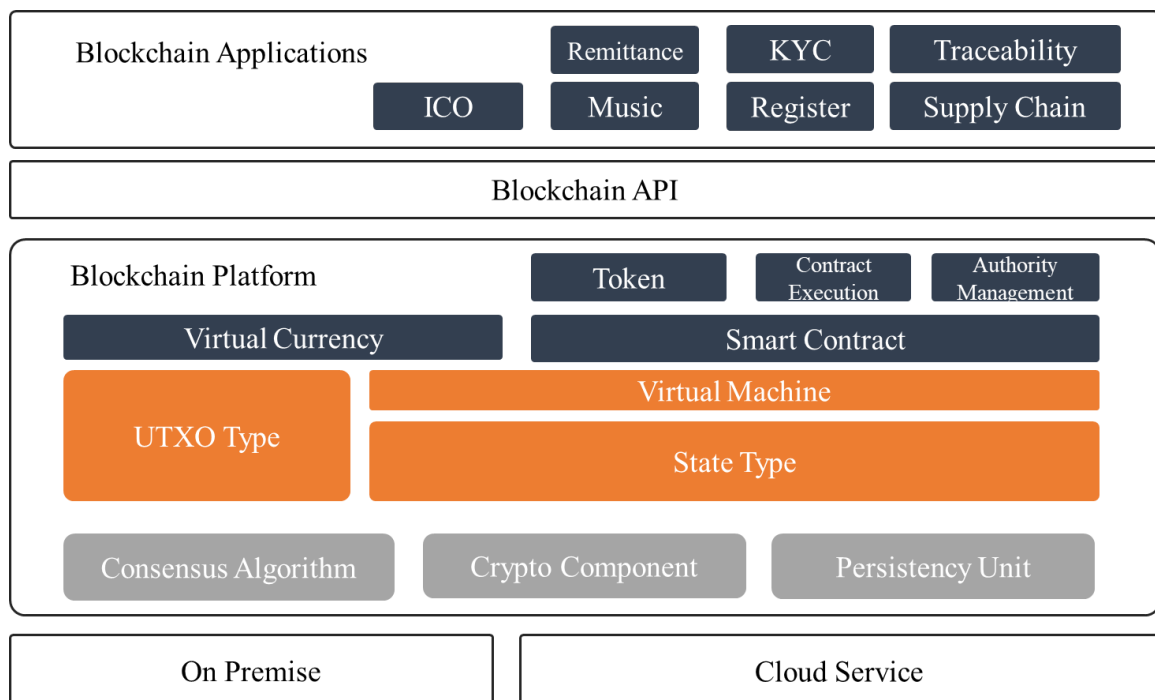
Figure 2. Layered structure of blockchain

About "miyabi"

Since our inception, bitFlyer has been dedicated to researching the potential of practical implementation of immutable, highly reliable blockchain technology for uses including actual transactions and smart contracts. Blockchains modeled upon PoW (Proof of Work) or PoS (Proof of Stake) have always had the major problem of not being able to trust the data (finality) due to block divergence or "isolated blocks" resulting from processes like a "hard fork." "miyabi" was designed to always guarantee finality using a unique consensus algorithm.

"miyabi" is the world's fastest blockchain technology (* based on our research), maintaining the durability blockchains are known for, while solving problems such as transaction settlement and slow processing speeds. With a system constructed specifically for enterprise, our "miyabi" private blockchain provides a great number of benefits to users.
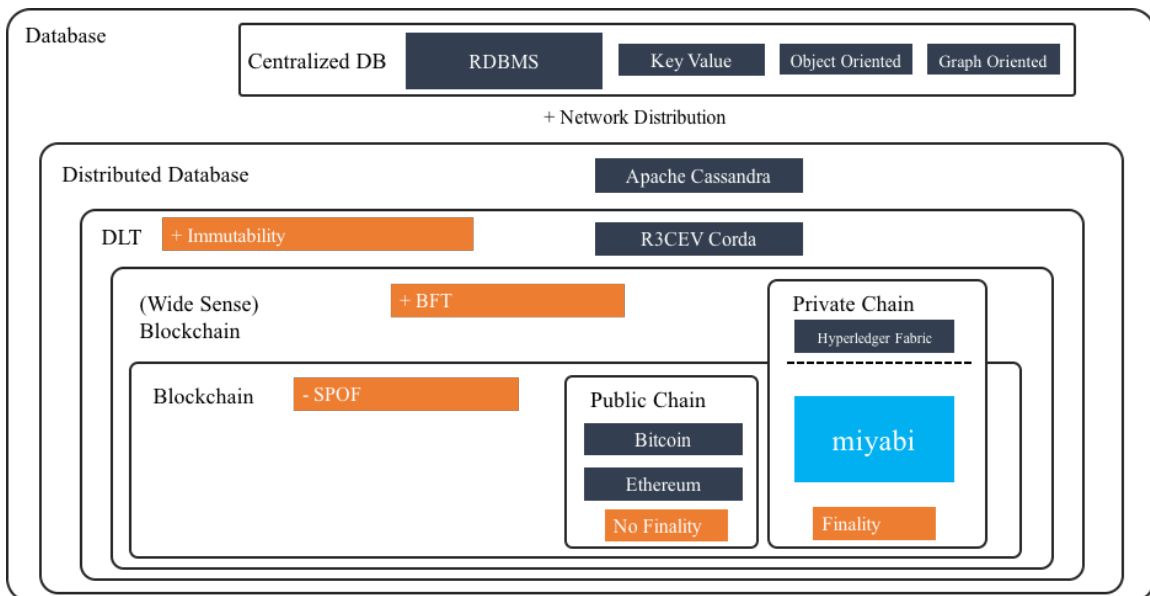

Figure 3. Difference between "miyabi" and other databases

Bitcoin: 2 transactions/second

Ethereum: 7 transactions/second

Leading competitor: Around 1,000 transactions/second

miyabi: 1,500 - 2,000 transactions/second (*1)   With top of the line hardware 4,000+ transactions/second

*1 "Report on Practical Experiment of Blockchain Technology in Japanese Domestic Interbank Payment Operation by the Blockchain Study Group" (Deloitte Tohmatsu Group, Mizuho Financial Group, Inc., Sumitomo Mitsui Banking Corporation and Mitsubishi UFJ Financial Group, Inc.)
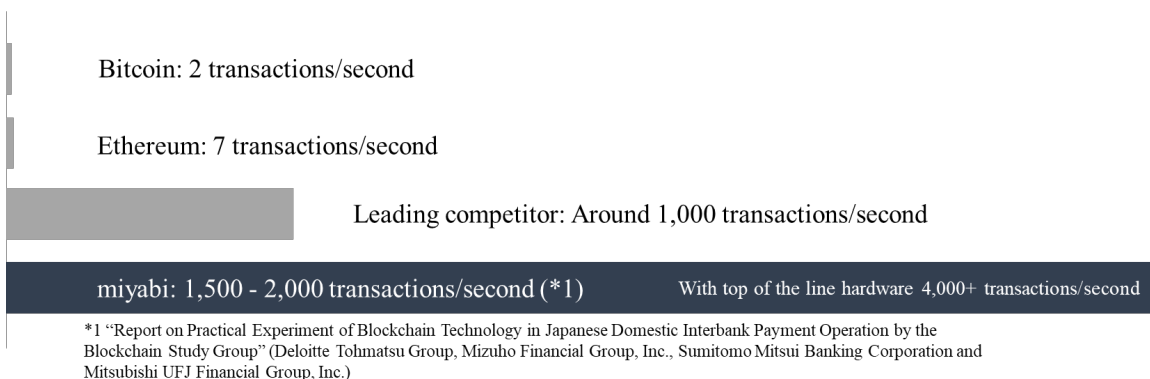
Figure 4. Blockchain performance comparison

About Us

bitFlyer is the largest virtual currency and blockchain company in Japan, having received investments from SMBC Venture Capital, Mizuho Capital, Dai-ichi Life Insurance, Mitsubishi UFJ Capital, Mitsui Sumitomo Insurance Venture Capital, Recruit Strategic Partners, Dentsu Digital Holdings, SBI Investment, GMO VenturePartners, QUICK, and Venture Labo Investment, among others. We operate the bitFlyer integrated virtual currency platform, conduct blockchain research, and perform research and development on new service applications of our "miyabi" blockchain, with the objective of innovation through virtual currency/blockchain technology development for the FinTech sector.

"Selection of Partner Vendor for Collaborative Blockchain Platform":

https://www.zenginkyo.or.jp/news/detail/nid/8407/

"Collaborative Blockchain Platform" (tentative name) basic concept:

https://www.zenginkyo.or.jp/fileadmin/res/news/news290413.pdf

Features of "miyabi": https://bitflyer.jp/miyabi

"miyabi" intro video: https://www.youtube.com/watch?v=8fqhfAazSfc

Corporate website: https://bitflyer.jp/

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