

Open Innovation & Blockchain Initiatives

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Part 1. Open Innovation

IT giants are trying to play an important role in finance



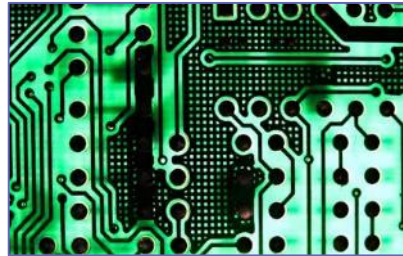
Various technologies appear one after another

Mobile

IoT

**Quantum
Computing**

AI



BigData

Cloud

Blockchain

Open Innovation Activities in MUFG

➤ Build an open innovation team and promote initiatives

Feb 2015
Fintech Business Competition



Oct 2015 -
Startup Accelerator Program



Mar 2018
MUFG Coin Hackathon



Mar 2016
Bank API Hackathon



Mar 2017
Official release of MUFG {APIs}



Retail Banking API

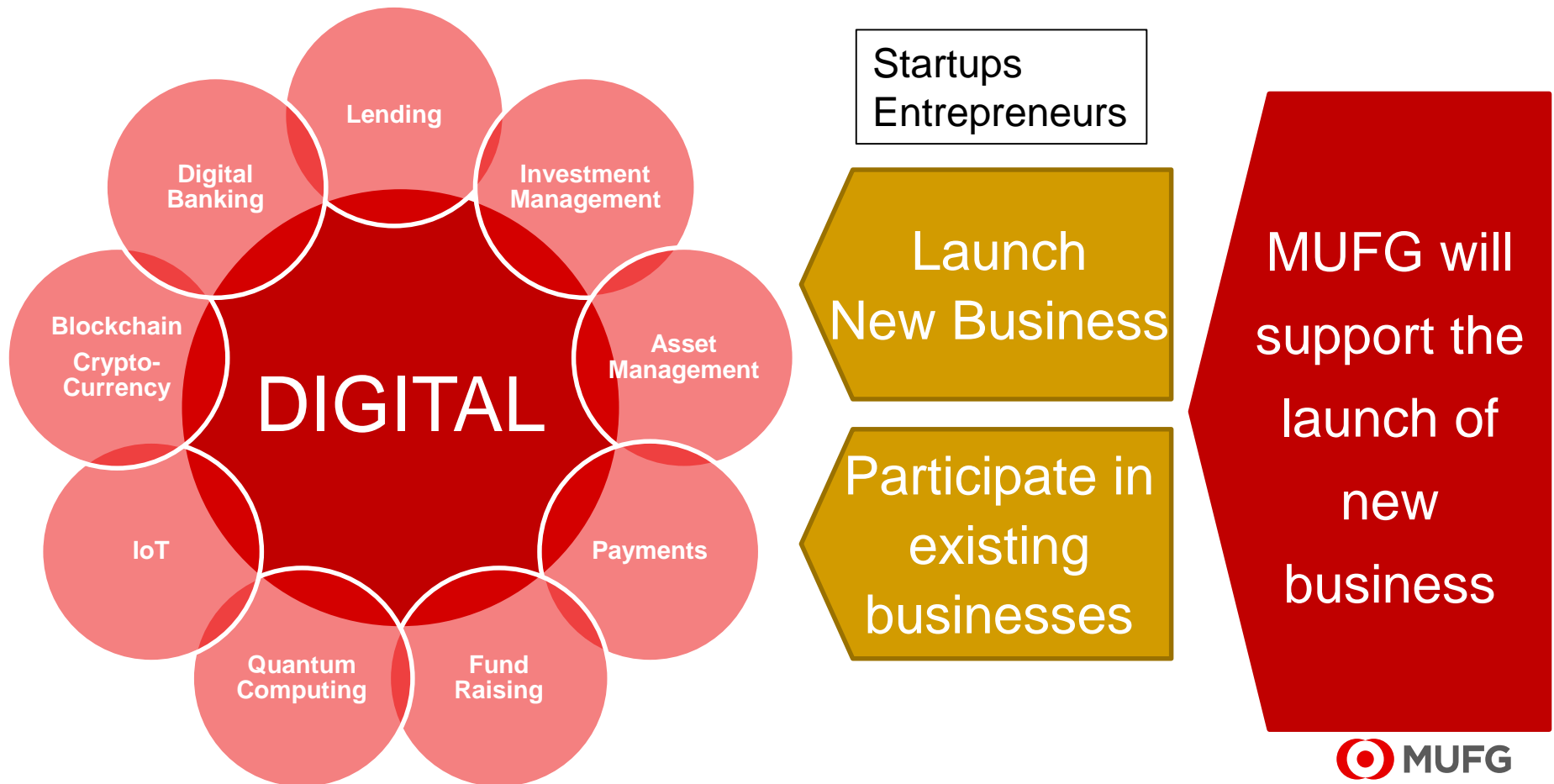
Commercial Banking API

Kabu.com API

eMAXIS Web API

MUFG Digital Accelerator

Program to support startup companies
to launch innovative business



Program Schedule for 3rd Batch

Acceleration Phase
(March 2018 – July 2018)

Collaboration

Mentoring session by pro & MUFG
mentors and advisors

Coaching Session, Technical
Session

Support for entrepreneur

DEMO DAY, Prize

Business
Alliance

Customer
Matching

Investment
Opportunities

Co-working Space “The Garage”



Participant startups

Batch 1



AlpacaJapan



Smart idea, Inc.



xenodata lab Co.,Ltd.



ZEROBILLBANK Ltd.



Knowledge Communication Co.,Ltd.

Batch 2



AnyPay Inc.



OLTA



GoodMoneyger

Good Moneyger Inc.



Crowd Realty, Inc.



Simount

Batch 3



AndGo, Inc.



MDR Inc.



Credit Engine, Inc.



Nayuta inc.



Robot Fund Co., Ltd.



no new folk studio

no new folk studio Inc.



FACTBASE Inc.



RESTAR Inc.

Part 2. Blockchain Initiatives

Blockchain Initiatives - Application Areas

Blockchain 2.0

✓ Trade Finance



Lots of documents, stakeholders exist. Improve efficiency, speed, accuracy (risk reduction) with process automation by smart contract

✓ Supply chain



Visualize the supply chain process by connecting remittance, receivables, contract management, and trade finance block chains

✓ Contract Management



Improve supply chain by establishing inter-company contract based on smart contract, streamline trade finance

✓ KYC



Improve KYC by integrating identity verification information between banks, improve customer convenience

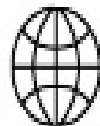
Blockchain 1.0

✓ Crypto Currencies



Crypto currency exchange business

✓ Remittance



Domestic: Build cross banking consortium
Oversea, Inter-bank: Leading roles at each consortium

✓ Securities

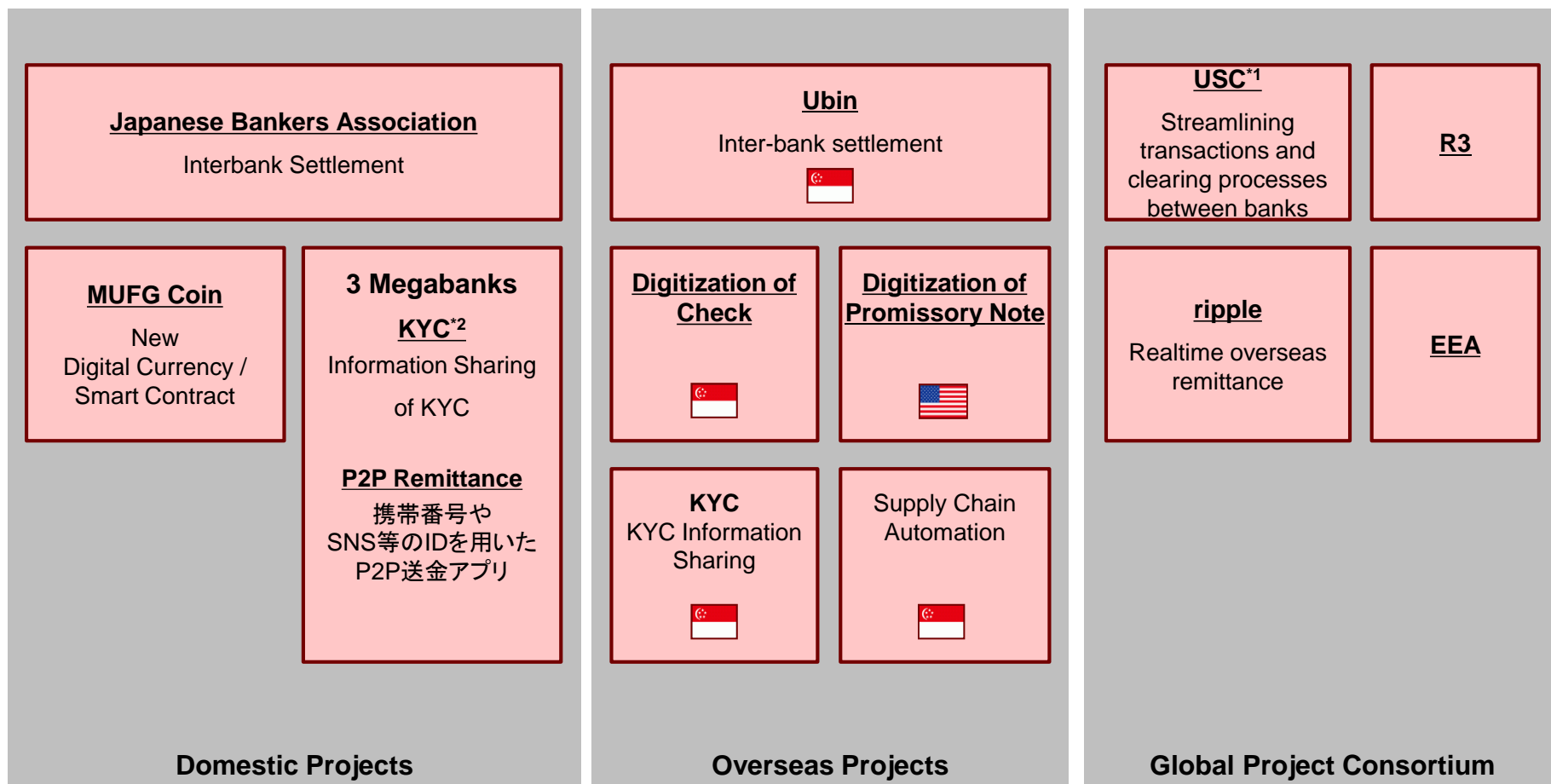


Lead the cross-bank electronization



Blockchain related activities





• Participate in various field trials



*1 Utility Settlement Coin

*2 Know Your Customer

Our recent approach to leverage DLT/blockchain

Usecase	Digitization of checks	Supplychain automation	Digital Currency (MUFG Coin)
Country			
DLT	Ethereum Hyperleger fabric	Hyperleger fabric	
Project date	2016/4 -	2016/3 -	2016/7 -
Status	PoC ended Exproing next step	PoC ended Partly in production	Internal use

Digitization of checks

Objectives

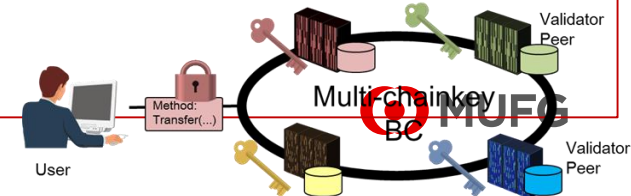
- Basic study and evaluation of blockchain technology
- Study on information concealment on Blockchain

Implementation

- Migrated system from public chain(Ethereum) to consortium chain(Hyperledger fabric)

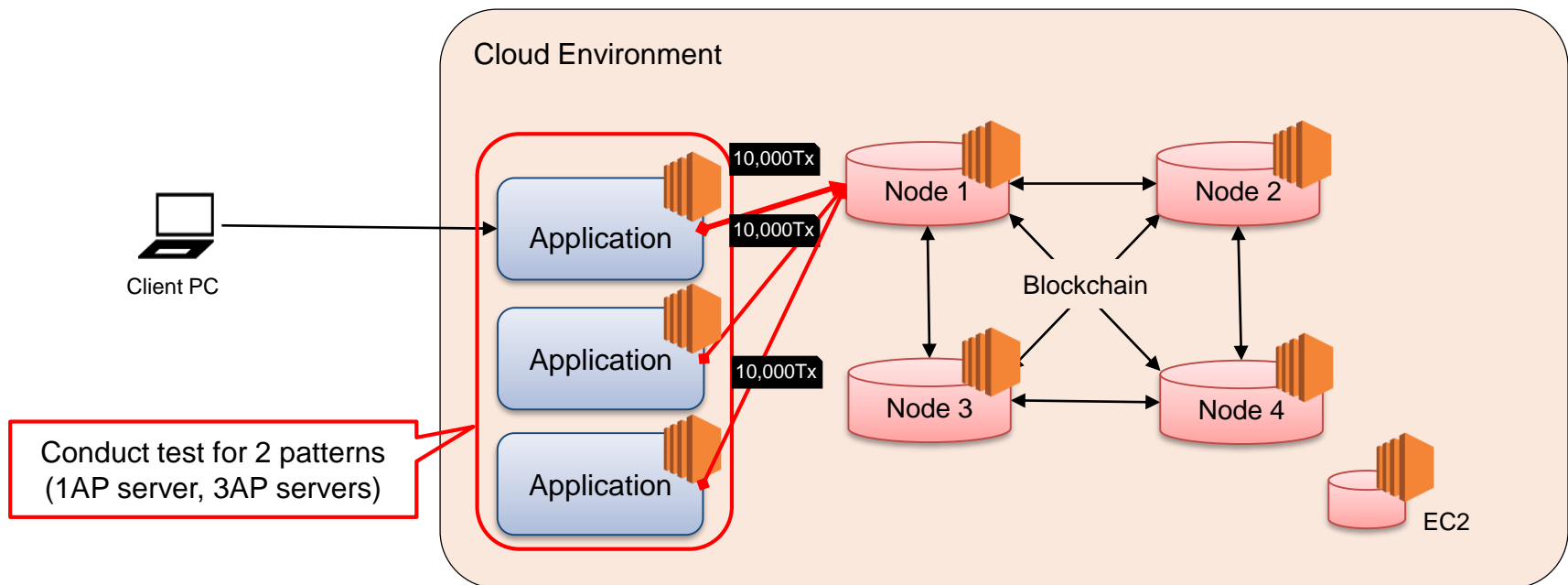
Implementation result

1. Public chain is not suitable for this type of transaction (At least at that time of implementation)
 - It takes 3 minutes to confirm the transaction
 - Transaction can be canceled
 - Cost is uncertain, possibility of higher cost
2. Consortium chain better fit in terms of:
 - Performance
 - Information concealment

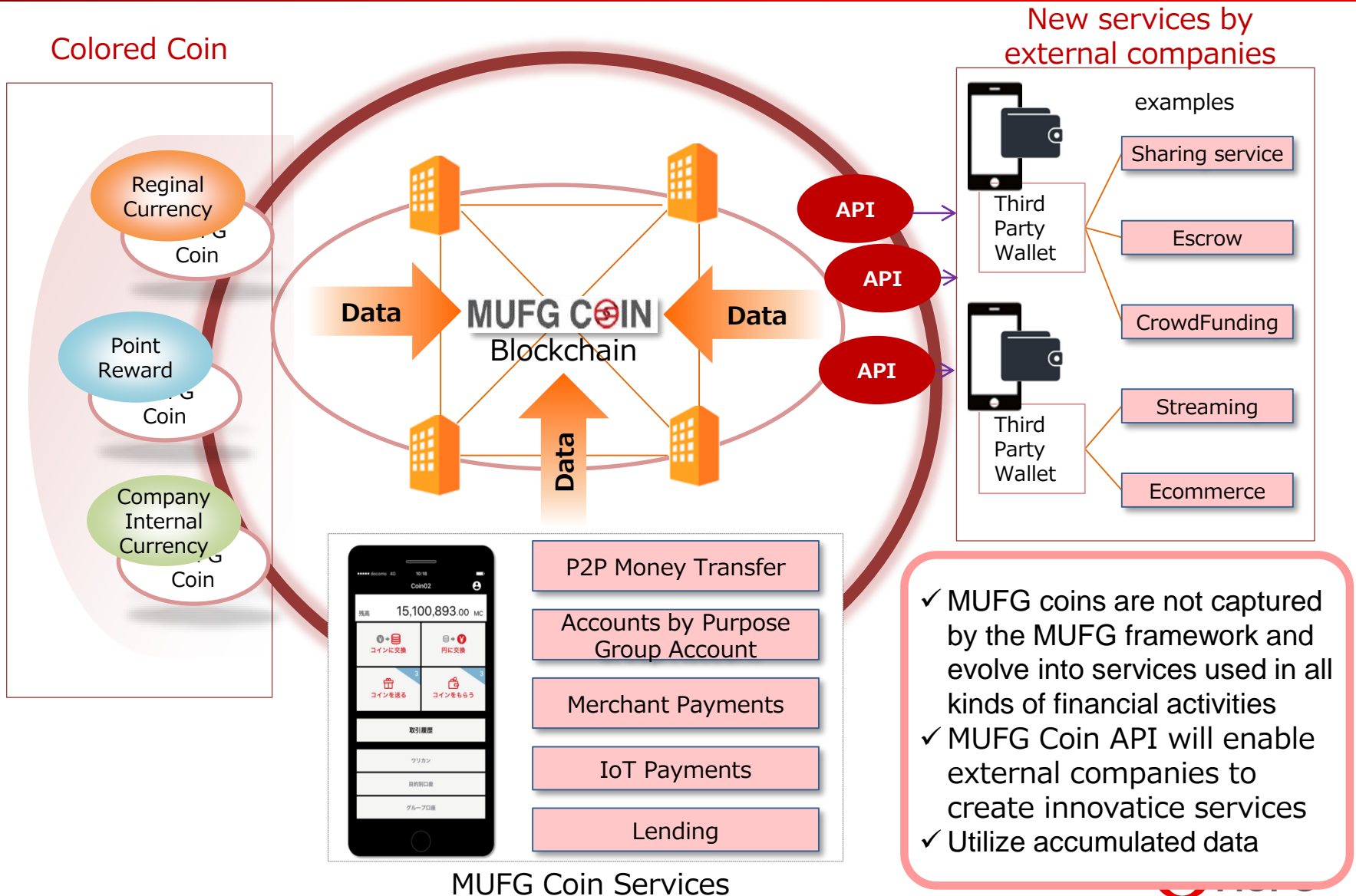


Evaluation of blockchain technology

- In addition to introducing individual use cases, we evaluate multiple blockchain software in terms of consensus mechanism and performance.



MUFG Coin - New digital currency & smart contract network



- ✓ MUFG coins are not captured by the MUFG framework and evolve into services used in all kinds of financial activities
- ✓ MUFG Coin API will enable external companies to create innovative services
- ✓ Utilize accumulated data

MUFG Coin – CEATEC JAPAN 2017



- ✓ Vending machine that can be paid with MUFG coin (Directly connected to blockchain via 4G NW)
- ✓ Train and earn coins, buy water with the vending machine



MUFG Coin – Hackathon “Fintech Challenge 2018”

- ✓ 2.5 days hackathon
- ✓ 9 teams participated in
- ✓ MUFG Coin 10 APIs and test environment are provided to the teams




Bounty Platform "Challengers"

- ✓ Service for athletes who achieved great result and recognized by many people
- ✓ When a lot of people acknowledge that the athlete has achieved the preset goal, the Smart Contract enforces the payment of the reward.

The road to adoption for live environment

- More maturity and functional advancements are required
 - ✓ Scalability
 - ✓ Performance
 - ✓ Interoperability
 - ✓ Documentation
- Points to consider other than technology
 - ✓ Governance and operation of the consortium
 - ✓ Legal positioning of Smart Contract
 - ✓ Auditing method of ledger in consortium type blockchain



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