

JBA' s Initiatives for Sophistication of Payment System

November 14, 2019

Japanese Bankers Association



〈Table of Contents〉

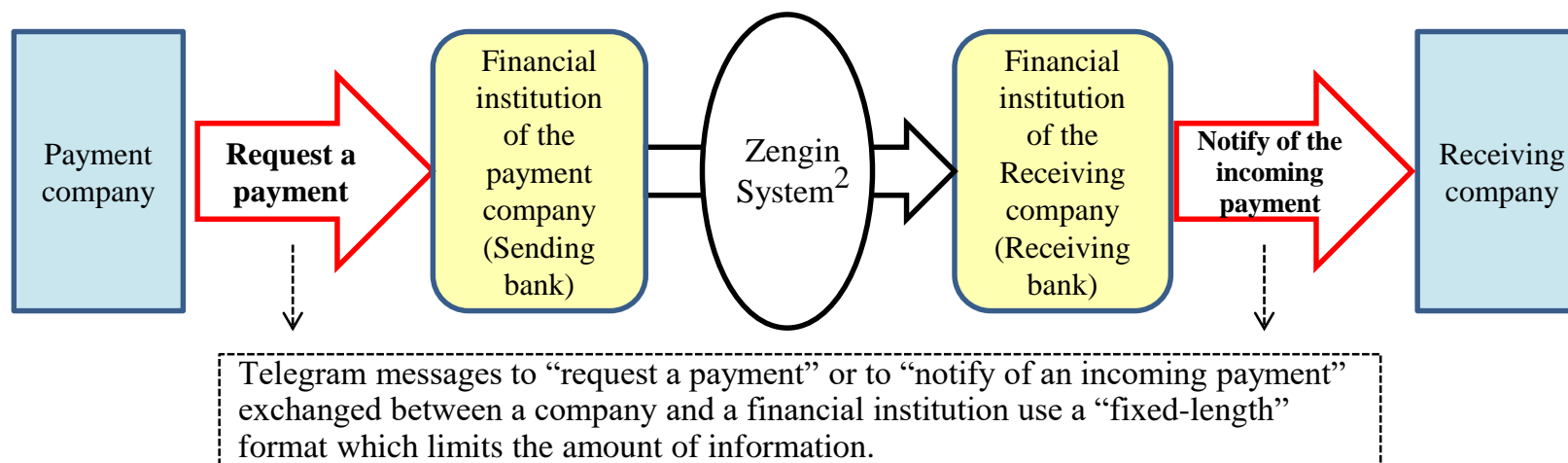
1. Transition to XML messaging	P.2
2. Initiatives for open APIs	P.9
3. Digitization of bill and check functions	P.15
4. Utilization of blockchain technology	P.19

1. Transition to XML messaging

(1) Domestic payment instruction

- So far, instructions for domestic payments use “fixed-length telegrams” where the length of a telegram and the amount of information are predetermined (e.g. the EDI¹ information section is up to 20 one-byte characters).

<Image of current payment notification in Japan>

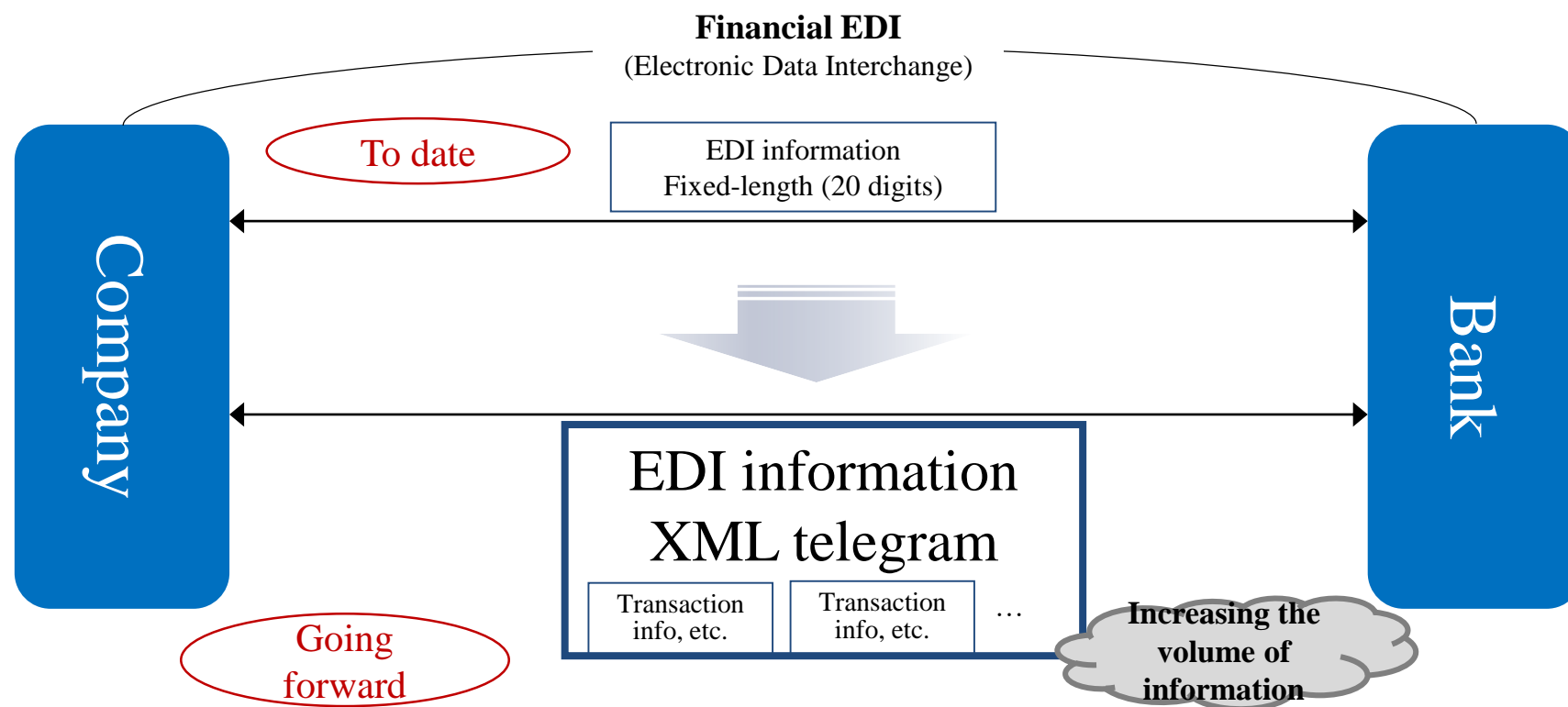


¹ Electronic Data Interchange

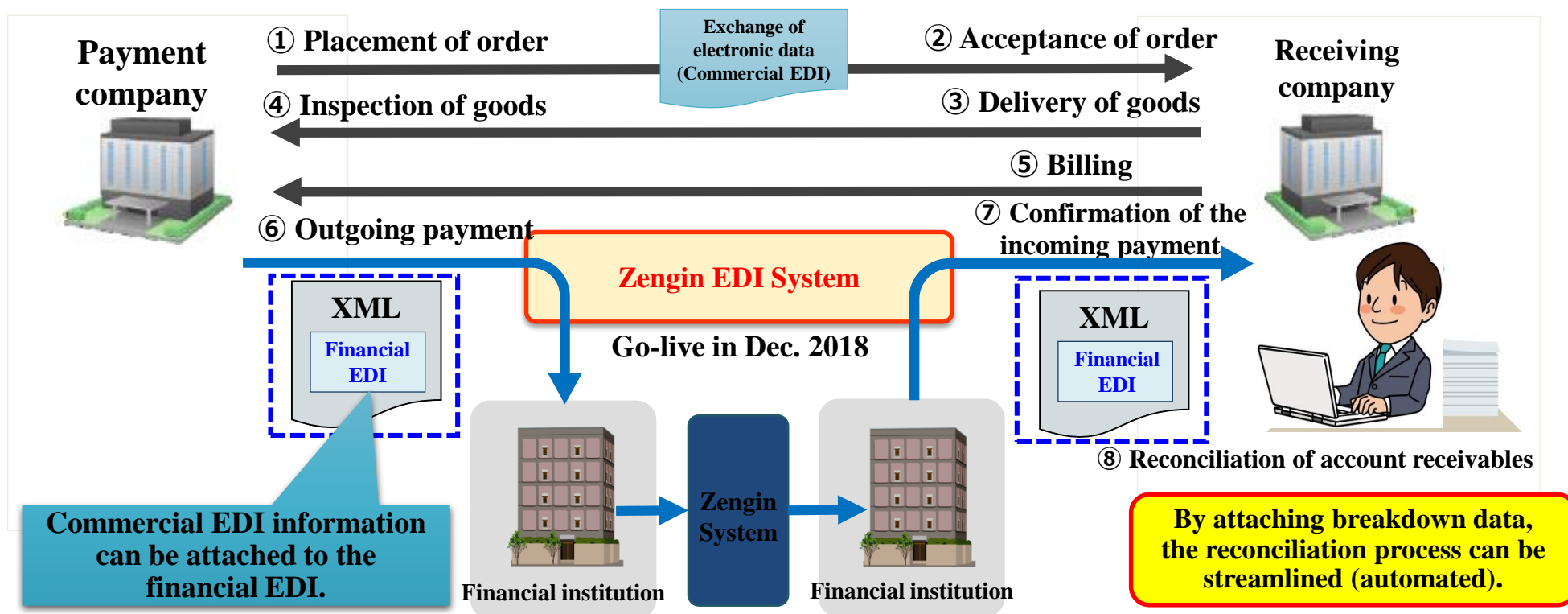
² Abbreviation for the “Zengin Data Telecommunication System”: A system that settles domestic fund transfers between financial institutions nationwide.

(2) Fixed-length telegrams to XML telegrams (Concept)

- Where “XML (eXtensible Markup Language) telegrams” are used, it is possible to freely design or change (i) the length of a telegram and (ii) the definition of data and the relation between data, and thereby expand financial EDI information. ISO20022, which is the international standard for messages used in financial business processes, also adopts the XML format.



(3) Integration of Commercial EDI and financial EDI (Overall flow)



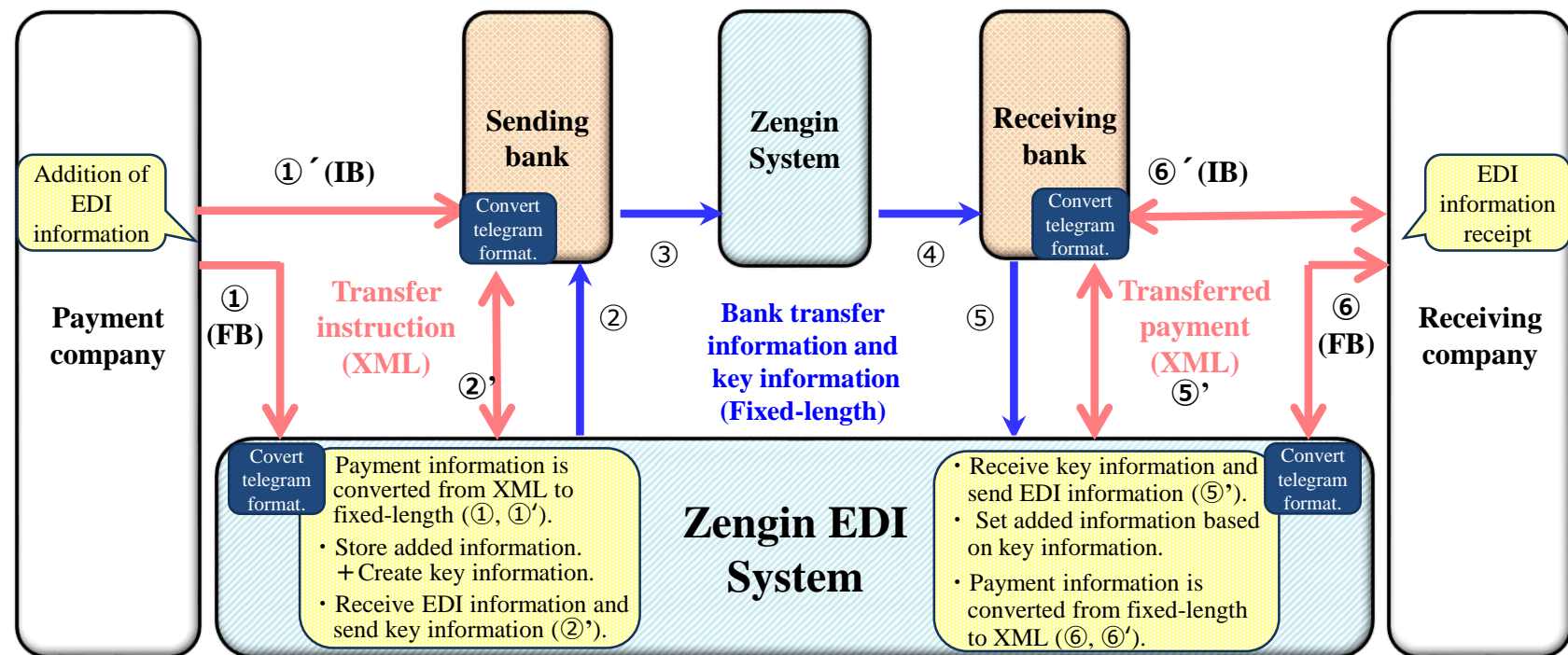
Details of outgoing/incoming payments can be exchanged by attaching the breakdown data (financial EDI) thereto.

(4) ZEDI : Zengin EDI System (Detailed Flow)

The Zengin EDI System was newly established in December 2018 as a new platform in order to transition the format of telegram messages used for collective payment requests, etc. under inter-company money transfer in Japan to XML, and thereby promote initiatives for enhancing financial EDI,

Illustration of the Zengin EDI System

[Reference] https://www.zenginkyo.or.jp/fileadmin/res/abstract/efforts/smooth/xml/XML_news281215_2.pdf



IB: Internet banking, FB: Firm banking

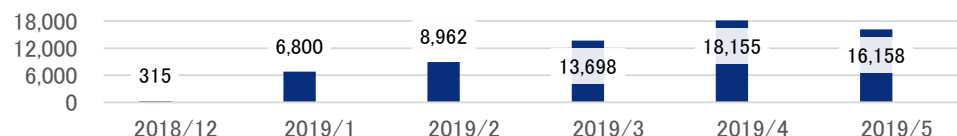
(5) Promotion for enhancing awareness

1. In December 2018, “Zengin EDI System (ZEDI)” started operation. The number of financial institutions using ZEDI is expected to increase to 103 by FY2019.
2. “Increase Public Awareness” → “Raise Awareness of Individual Companies”

Current initiatives to raise public awareness

- Leaflets and videos about ZEDI
- Information seminars for companies (A total of 2,300 people participated.)
- Presentations at meetings of regional chambers of commerce and
- Information sessions for banks

Breakdown of ZEDI usage (cases)



Future initiatives for possible users

- For further utilization of ZEDI, initiatives will be taken to focus on each business group in the table below.

Trade group	<ul style="list-style-type: none"> • Industry specific financial EDI (for ZEDI) standards will be developed in addition to their existing commercial EDI standards. Already done by distribution, construction and petrochemical industries.
Supply chain group	<ul style="list-style-type: none"> • Targeting to large companies that lead supply chain to use ZEDI. (Target: 100)
Regional group	<ul style="list-style-type: none"> • In collaboration with Japan Chamber of Commerce and Industry, its regional arms provide forum for ZEDI.

(6) Promoting ZEDI and financial EDI information

- Japanese Banks' Payment Clearing Network (Zengin-net) and JBA conducted research on use cases and the possibility of new services utilizing financial EDI information registered in ZEDI.

Study group on system utilization of financial EDI information (Host: Zengin-Net)

- Through interviews with companies and vendors, Zengin-Net collects information about experiences of utilizing financial EDI. The survey was feed-backed to member banks.

Scope of interview	• Industry (Trade groups and individual companies), EDI providers, Experts such as software vendors
Observer	• Banks, JBA and NTT Data

Networking meeting for developers (Host: Zengin-Net)

- Zengin-Net promotes services, such as ZEDI-compliant software. Q&A and related information are also shared.
- They also promote the dissemination of financial EDI by utilizing packaged accounting software.

Members	• Vendors that disclose connection specifications of ZEDI
Observer	• Financial Services Agency and Small and Medium Enterprise Agency

Study group on utilization of financial EDI information in financial institutions (Host: JBA)

- Japanese Government's the "Future Investment Strategy 2017" proposes to consider lending services and tax assistance using ZEDI and other data. It is expected that funding will be diversified based on financial EDI information.
- Based on this situation, JBA explores the availability of solutions and services.

Members	Corporate banking staff in banks, etc.
Observer	Financial Services Agency, Ministry of Economy, Trade and Industry, Small and Medium Enterprise Agency, Bank of Japan, NTT Data, Zengin Net
Other (Invited according to the theme)	EDI providers, software vendors, fintech companies, etc.

2. Initiatives for Open APIs

History to date

Steps of JBA's promotion for open APIs : (1) legislation development; (2) improvement of system in banks; (3) framework for cooperation with fintech companies; and (4) business development of open APIs.

Established "Study Group on Open APIs"(Study Group) in November 2016
The secretariat is JBA. Members are banks, fintech companies, and other experts.

December 2016: The Financial System Council submitted a report on the development of legislation for open innovation.

May 2017: (Implemented in June 2018) "Act for Partial Revision of the Banking Act, etc." was enacted. (Legislation related to electronic payment services and establishment of open API system in financial institutions)
⇒ Using APIs facilitates collaboration between fintech companies and financial institutions while ensuring security

June-July 2017

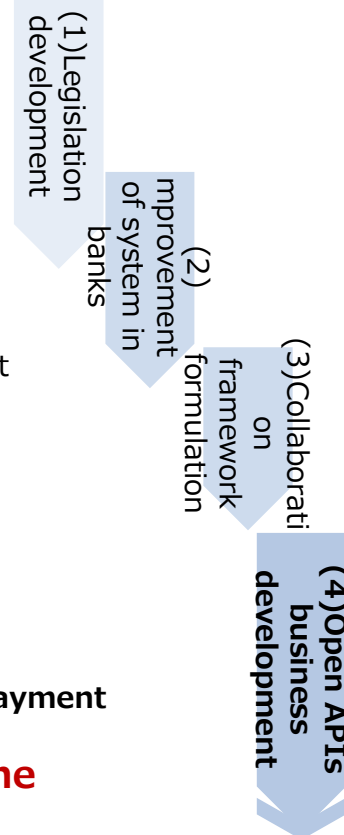
- FISC(The Center for Financial Industry Information Systems) published "API Connection Checklist (Trial)" in October 2018.
- Study Group published the report (Summarize various principles including security)
In addition, "Standards for telegram specifications related to open APIs in the banking area" was established (The 2nd edition was published in December 2018.).

December 2018

- Study Group published "Examples of Terms of the API Use Agreement under the Banking Act (First Edition)".

In 2020, grace period for conclusion of contracts between financial institutions and electronic payment service providers based on the revised Banking Act will be expired.

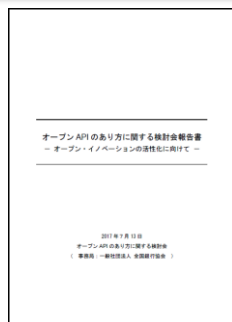
Banks and fintech companies collaborate to co-create innovation while ensuring the safety and security of users



[Reference] Cooperation between the banking industry and fintech companies

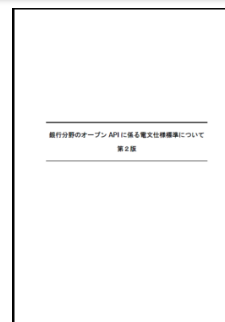
- In order to realize smooth cooperation between the two parties, fintech companies and the banking industry worked together to compile various documents that serve as the basis for contract provisions, telegraphic specifications, etc.

Report of the Study Group on the Ideal Open API (July 2017)



This report shows principles for promoting open APIs, such as standardization of API specifications, security measures for APIs, and user protection.

Standards for telegraphic specifications related to open APIs in the banking area (2nd ed., December 2018)



In order to facilitate system development related to API cooperation between banks and fintech companies, the standards for telegraphic specifications for data exchange using open APIs were established.

Examples of Terms of the API Use Agreement under the Banking Act (First edition, December 2018)



This shows text examples of Terms of the API use and explanations to be included in contracts for the purpose of facilitating communication between banks and fintech companies concerning the conclusion of contracts for the use of APIs.

API Connection Checklist (October 2018 Edition)



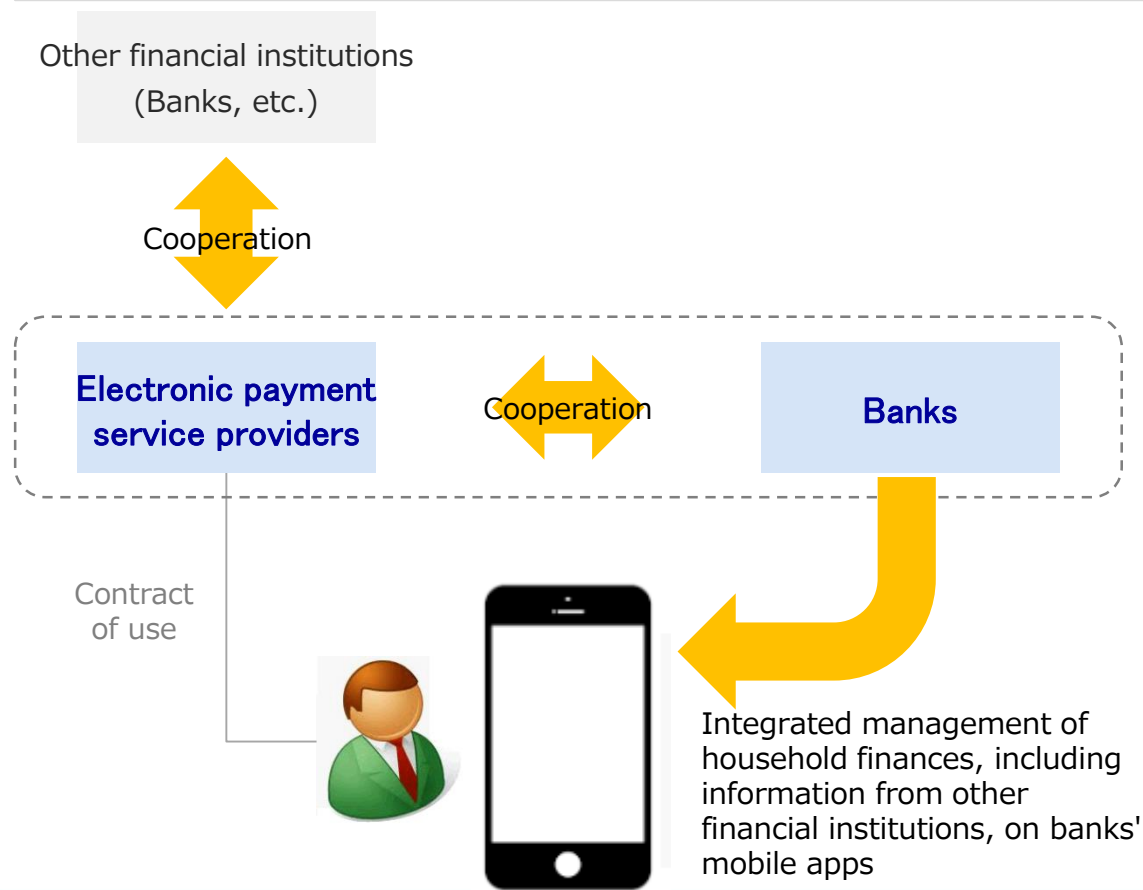
FISC established this checklist as a communication tool between financial institutions and fintech companies to facilitate smooth security checks for secure data access when API connections are made.

Examples of services provided through open API cooperation

Service classification	Service overview	Benefits for banks
Household account book service	<ul style="list-style-type: none"> ● A personal finance management service for individuals that automatically put together personal financial-related data of banks, credit cards, securities companies, and points etc, used by customers and automatically creates a household account book. 	<p>In case of linking with banks own application</p> <ul style="list-style-type: none"> ● Enhancing application function responding to diverse information
Cloud accounting services	<ul style="list-style-type: none"> ● A cloud accounting service for small businesses to automatically import internet banking information such as account balances and deposits and withdrawals ● Expense reimbursement 	<ul style="list-style-type: none"> ● Expanding customer base by providing services contributing to improvement of user convenience ● Activation of account use
Algorithmic savings service	<ul style="list-style-type: none"> ● A service that determines the amount of savings and automatically deposits money into a user's account by certain algorithms, such as the timing of card payments and the number of steps per day 	<ul style="list-style-type: none"> ● Provision of new financial services to users
QR code payment service	<ul style="list-style-type: none"> ● QR code payment service using smartphones ● the payment is debited directly from the bank account 	<ul style="list-style-type: none"> ● Expansion of payment methods

[Reference] Services that utilize the API (example)

- Through cooperation with electronic payment service providers that utilize APIs, mobile services for individual customers of banks have been improved. Integrated household management function including information of other financial institutions is realized on apps.



Screen image



Graph monthly income and expenditure

Classify expenses by category

*Shows data from other financial institutions as well as the bank itself.

Toward the Future

- Development of API system in banks has been progressed. Establishing a framework is being progressed, including examples of contract provisions.
⇒130 banks have already announced plans to introduce the system. 95 of which have been implemented. (As of the end of March 2019)
- Currently, JBA is focusing its support on facilitating the conclusion of contracts between banks and fintech companies.
⇒Questionnaires were sent to financial institutions regarding the status of contracts concluded with electronic payment service providers (June 2019). JBA is assessing and analyzing current issues and considering solutions (For example, in order to deepen the understanding of financial institutions regarding contracts, we are considering holding study meetings and explanatory meetings regarding terms of the API contract and API connection checklists.)
- JBA promotes innovation through cooperation between banks and fintech companies while ensuring the safety and security of their customers.
⇒Building a win-win-win relationship among users, fintech companies, and financial institutions to realize a sustainable ecosystem.

3. Digitization of bill and check functions (economic, legal etc.)

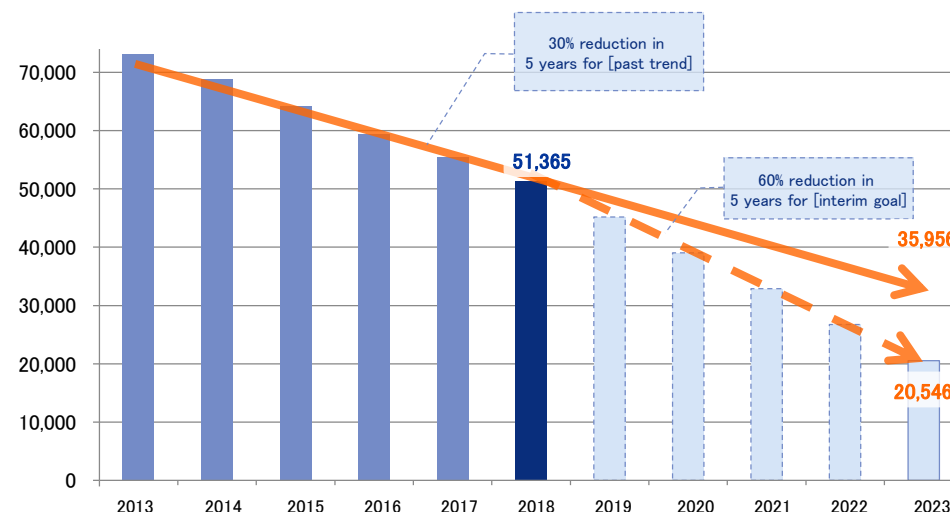
Initiative for digitization of bill and check functions (economic, legal etc.)

- December 2017: “Study Group on Digitization of Bills and Checks Functions” was established to consider promotion of digitization of bill and check functions, contributing to improvement of productivity, reduction of social costs, and further responses of labor shortages.
- December 2018: “Report of the Study Group on Digitization of Bills and Checks Functions” was published .

Transition in the Number of Bills Cleared and Image of Interim Goal

- Interim goal : approximately 60% move to electronic methods in 2023
- Bills exchanged nationwide will reduce from 51.37 million to 20.55 million by 2023.

Number of bills exchanged nationwide (1000 sheets)



Four measures to promote digitization of bills and checks and initiatives to digitize bill functions

- “Four measures” proposed in the report are (1) measures to strengthen public awareness, (2) measures to improve convenience, (3) measures to support introduction, and (4) measures to improve economic effects.

Implementation of “Four measures”

- In order to further promote the digitization of bill and check functions*, the report proposed that each party addresses 4 measures toward “interim goal.” They started various measures as follows.

Measures	Examples of measures	Implementation of measures
(1) Measure to strengthen public awareness	• Expanding the content of seminars for companies	• Holding densai.net seminar
	• Enhancement of offering information at the time when banks issue bill book	• Creation of leaflets by densai.net
(2) Measure to improve convenience	• Improvement of functions and services	• Service improvement by individual banks
	• Improvement of safety and security	
	• Expansion of services through smartphones	
	• Transfer between electronic monetary claim recording institutions	• Improvement of convenience of Electronically Recorded Monetary Claims
(3) Measures to support introduction	• Enhancement of support for introduction	• Explanation of companies via densai.net
	• Enhancement of explanation support to companies	
	• Advertising and publicity related to digitization	• Creation of leaflets by densai.net
(4) Measures to improve economic effects	• Review of banking fees	• Service improvement by individual banks

*The method of digitizing bill functions is defined as “Electronically Recorded Monetary Claims(ERMC)” and the method of digitizing check functions is defined as “bank transfer by EB”

Initiatives to digitize check functions

- With regard to the digitization of check functions, further research has been conducted in order to understand the factors that impede the digitization, and factor analysis and countermeasures have been started.

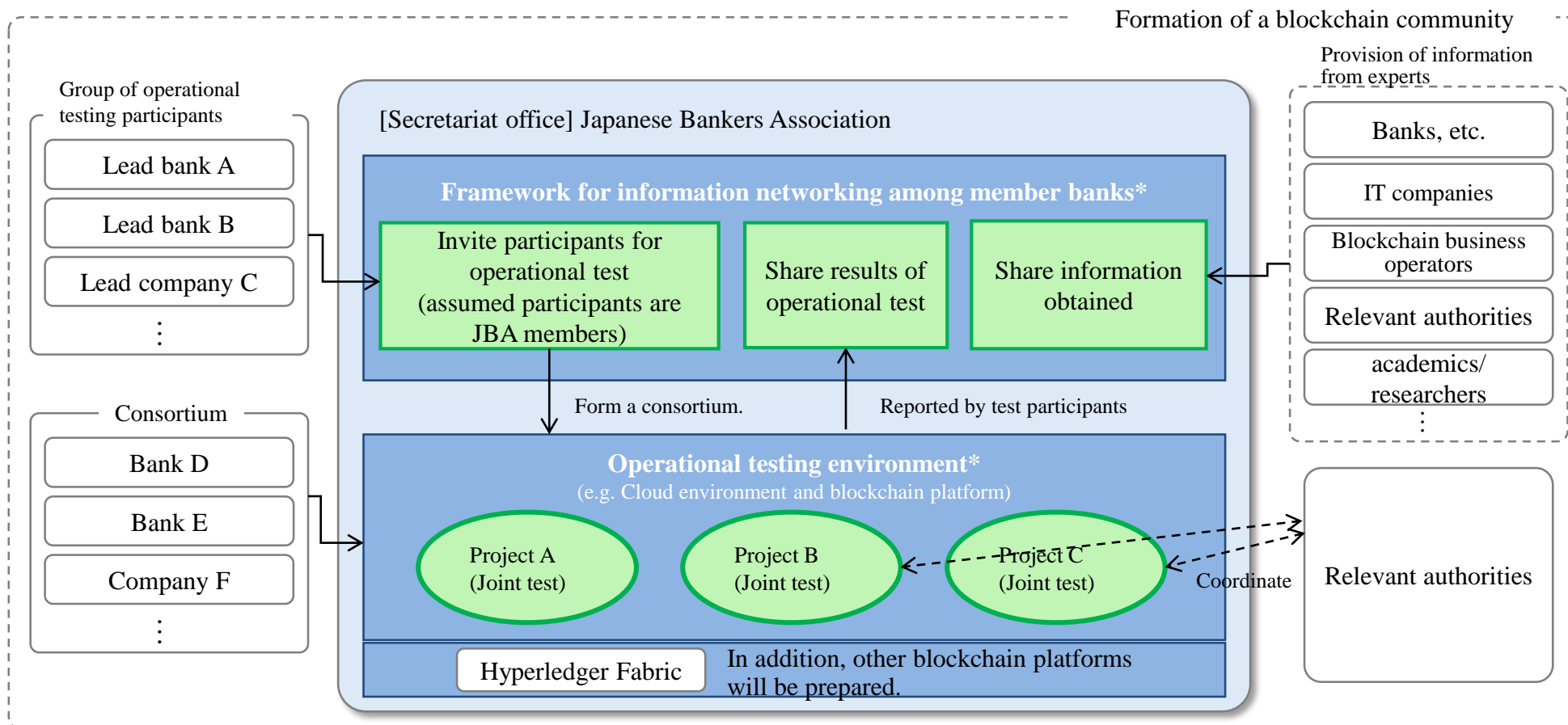
Measures to promote the digitization of check functions

- In considering concrete measures to promote the digitization of check functions, we are conducting additional surveys from the following viewpoints for further research based on the survey conducted last year.
 - ✓ Business types and sizes of companies that use checks frequently
 - ✓ Check usage, check business practices, number of checks used, etc.
- We are conducting questionnaire surveys at seminars hosted by densai.net and hearing surveys through financial institutions. Wholesale companies, fruiterer and fisheries tend to use checks more often.
- We continue to conduct interviews with customers that have large numbers of checkbooks. Based on the results, concrete promotion measures will be considered and implemented.
- Public relations tools (flyers, websites, etc.) will be created to guide the shift to electronic banking transfers, etc.



4. Utilization of blockchain technology

Cooperative Blockchain Platform



Supports discussions aiming for implementation of blockchain technology/DLT in the banking sector.

Study on utilization of blockchain technology

- 5 cases of proof-of-concepts (POC) conducted since November 2017 using Cooperative Blockchain Platform.

Banks participating in POCs and period of POCs	Name of POCs
1. Densai.net (November 2017 – February 2018)	Demonstration of the feasibility of using block-chain technology in densai.net system
2. Mizuho Bank, MUFG Bank, and SMBC (January to March 2018)	Demonstration of advanced platform for identification services (KYC)
3. Mizuho Bank, SMBC, and MUFG Bank (July–November 2018)	Demonstration of user experience verification test of P2P payment service
4. Zengin-net (November 2018 – March 2019)	Demonstration of a new interbank payment platform using blockchain technology
5. Toyama Daiichi Bank (November 2018 – June 2019)	Demonstration of improvement of the availability of local currencies and the convenience of customers in order to create a small economic bloc



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