



ZENGIN SYSTEM AND THE ROLE OF ZENGIN-NET

February 2018
Japanese Banks' Payment Clearing Network
(Zengin-Net)
<https://www.zengin-net.jp/en/>



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Fund transfer in Japan

- In Japan, a credit transfer is commonly used for remittance and/or payments for transactions between physically separated parties. Credit transfers enable fast and safe settlement.
 - General payments for various transactions
 - Salary payments
 - Pension payments
 - Dividend payments
 - Tax refund payments, etc.
- Channels
 - Bank counter
 - ATM
 - Internet banking (PC / mobile devices)
 - Phone banking
- The Zengin System is a fundamental financial market infrastructure, takes its role as a payment system that enables close-to-real-time domestic fund transfer.
- Japanese Banks' Payment Clearing Network (Zengin-Net) manages the Zengin System, and also has set a mechanism for domestic fund transfers and related rules applied to banks ("Domestic Funds Transfer System").



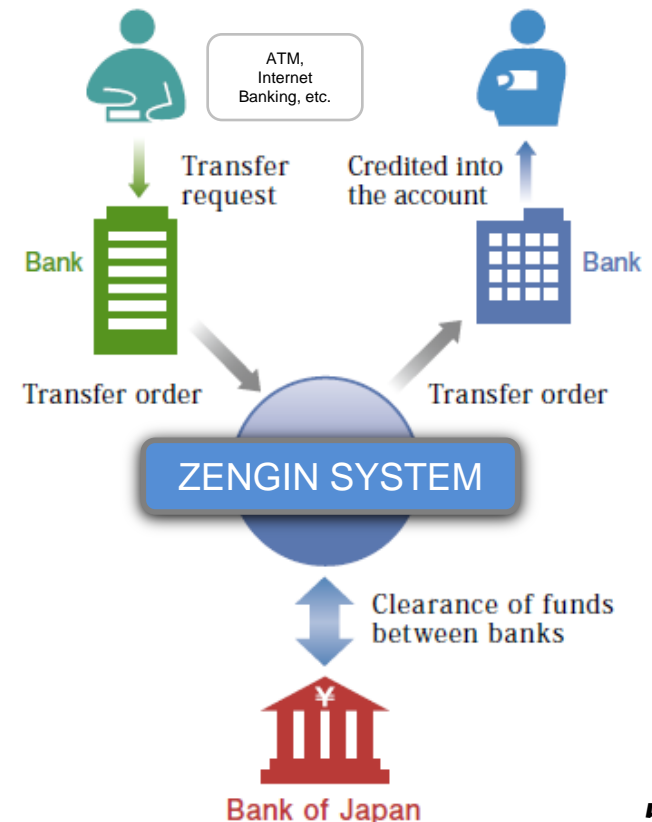
Payment systems in Japan

Payment System Name	Zengin System	BOJ-NET	FXYCS	Bills and Checks Clearing
Main Coverage	Domestic Retail payments	Domestic Wholesale payments	Cross-border Retail & Wholesale payments	Commercial Bills and Checks
Governing Body	Zengin-Net	Bank of Japan	Japanese Bankers Association	Local Clearing Houses
Settlement	RTGS / Designated-time Net settlement	RTGS	RTGS	Designated-time Net settlement
Daily Volume / Value (average in 2016)	6,432 thousand transactions / 11.9 trillion yen	67 thousand transactions / 137.3 trillion yen	28 thousand transactions / 16.1 trillion yen	242 thousand transactions / 1.7 trillion yen



The Zengin System - Overview

- Official name is “The Zengin Data Telecommunication System”
- Developed and provided by NTT DATA Corporation and operated by Zengin-Net.
- A central online system that processes inter-bank domestic fund transfers in a real-time manner.
 - Connected to domestic banks through the network
 - Credit transfer requests (transfer messages) from customers received at bank all around the nation will be transmitted in a real-time manner through the online Zengin System.
 - Transaction conforming Straight-Through-Processing, enabling real-time fund balance settlement from payers' to payees' accounts.
 - Debts/credits balance of each bank calculated simultaneously
 - Small-value payments: Clearance of funds between banks conducted by Bank of Japan (BOJ) after business hours in a designated-time net settlement manner.
 - Large-value payments (JPY 100 million and above) : Sorted out and settled on an RTGS basis by BOJ-NET.
 - The Zengin System covers only inter-bank credit transfer. Credit transfers between accounts in a same bank are completed by each bank.





History

- Operation started in April 1973. (The Domestic Funds Transfer System was put into effect at the same time.)
- Following increasing transaction volume and security improvement, the Zengin System sequentially applies performance improvement and function addition. Current working system is the 6th generation.

Year	Event
Apr.1973	• The Zengin System launched. (88 banks / about 7,400 branches)
Feb.1979	• The 2 nd Generation Zengin System started. (708 banks / about 18,000 branches)
Apr.1982	• Foreign banks in Japan joined for the first time.
Aug.1984	• Almost all banks in Japan joined. (5,479 banks / about 40,000 branches)
Nov.1987	• The 3 rd Generation Zengin System started. (5,304 banks / about 42,000 branches) • Dual Site (Tokyo and Osaka) Tokyo⇔Osaka : more than 500km distance
Oct.1988	• MT data file transmissions (bulk transfer) started.
Mar.1993	• Same-day settlement started.
Nov.1995	• The 4 th Generation Zengin System started. (3,552 banks / about 44,800 branches)
Nov.2003	• The 5 th Generation Zengin System started. (1,679 banks / about 37,250 branches)
Nov.2011	• The 6 th Generation Zengin System started. (1,371 banks / about 32,515 branches) • ISO20022/XML introduction : Adoption of latest global standards for interoperability • Real-time gross settlements for fund transfers of 100 million yen and above started.



Member Banks ①

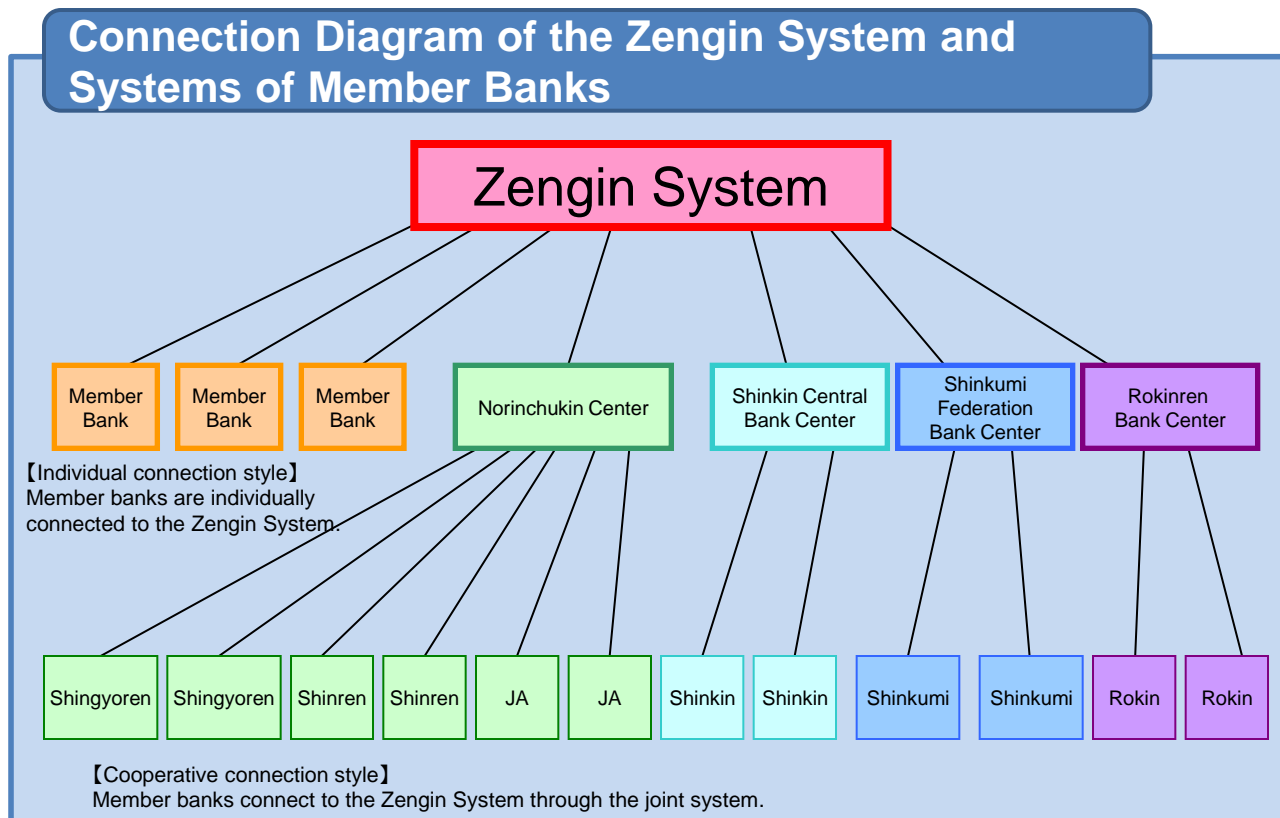
- Almost all depositary institutions in Japan join in the Zengin System.
 - As of the end of December 2017, a total of 1,287 financial institutions (member banks), such as banks, shinkin banks, credit cooperatives, labor banks, and agricultural cooperatives, constitute the Zengin System.
 - Credit transfer is available anywhere in Japan through the Zengin System.

Type of Banks	Number of Banks	Branches
City banks	5	2,200
Regional banks	64	7,527
Trust banks	9	530
Member banks of the Second Association of Regional Banks	41	3,086
Foreign banks	8	21
Shinkin Central Bank and Shinkin banks	265	7,369
Shinkumi Federation Bank and Credit cooperatives	148	1,664
Rokinren Bank and Labor banks	14	621
Norinchukin Bank, Credit federations of agricultural cooperatives, Credit federations of fishery cooperatives and Agricultural cooperatives	719	7,977
Others	14	421
Total number of member banks 1,287 Branches 31,416		



Member Banks ②

- The Zengin System has a two-tiered participation structure.
- Small-size financial institutions (shinkin banks, credit cooperatives, labor banks, agricultural cooperatives, etc.) connect to the Zengin System via direct participants appointed to settle their net position on their behalf.





Zengin-Net as a Central Counterparty (CCP)

Settlement Risk Management

- The Sender Net Debit Cap Scheme**

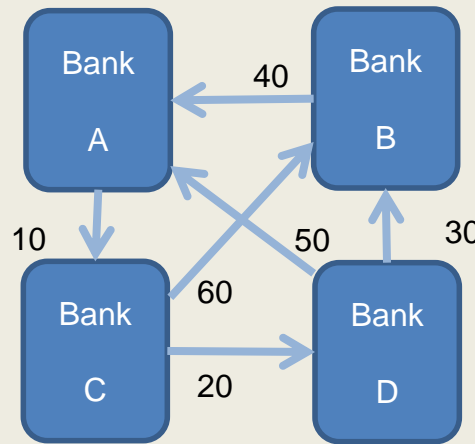
The Zengin Center monitors and manages the member banks' net debit amount to ensure that it does not exceed the limit declared by each bank.

- Deposit of Collateral**

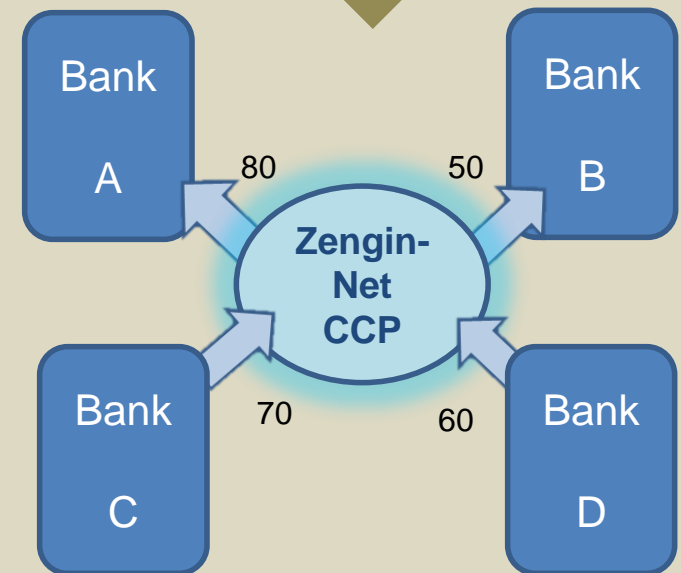
Each bank is required to submit collateral (JGB, cash, etc.) equivalent to sender net debit cap.

- Liquidity Providing Banks**

In the event of default, "liquidity providing banks" contracted with the Zengin-Net provides funds to cover the defaulted bank to provide final settlement by the end of the day. Subsequently, the Zengin-Net repays the amount by disposing collateral provided by the default bank.



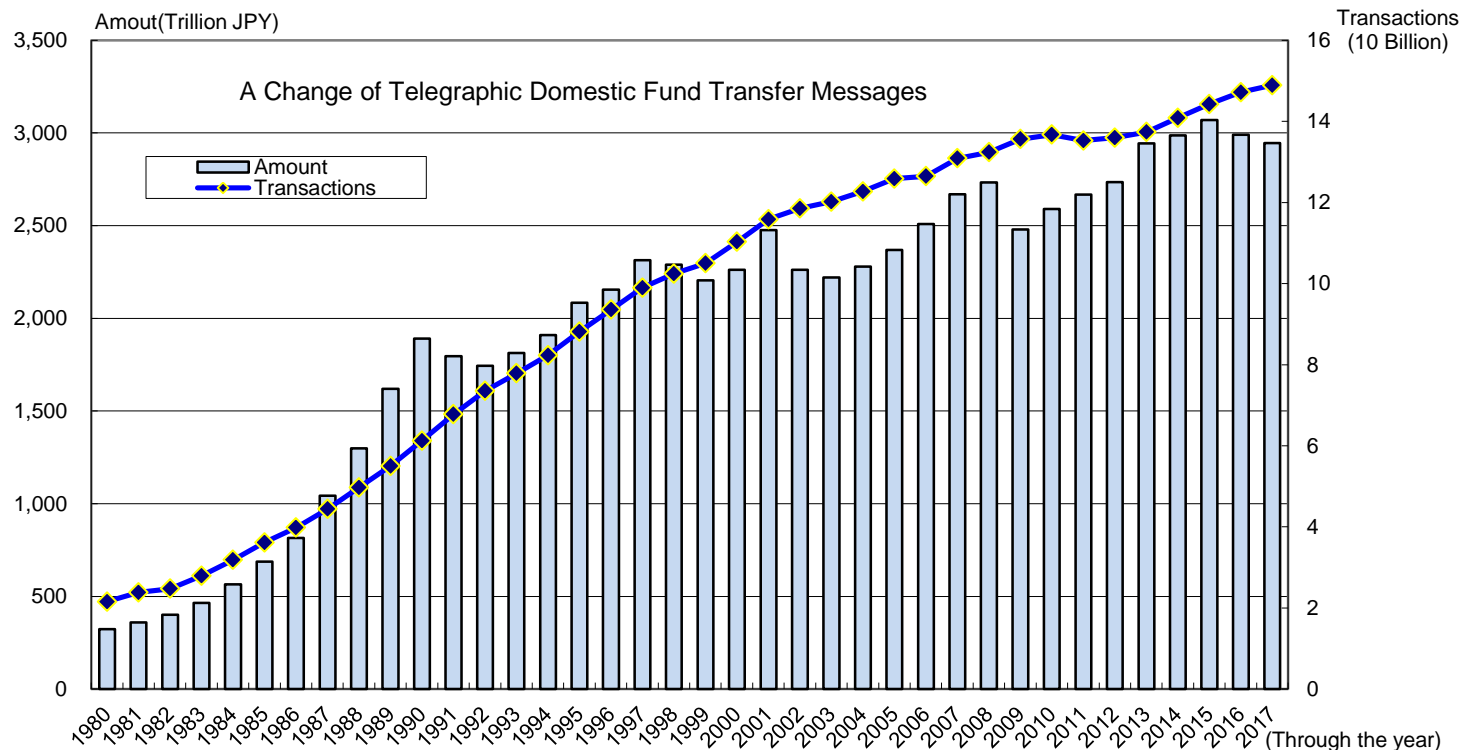
The balance of each credit/debit relationships is replaced by a relationship between individual banks and the Zengin-Net as a CCP.





Transactions

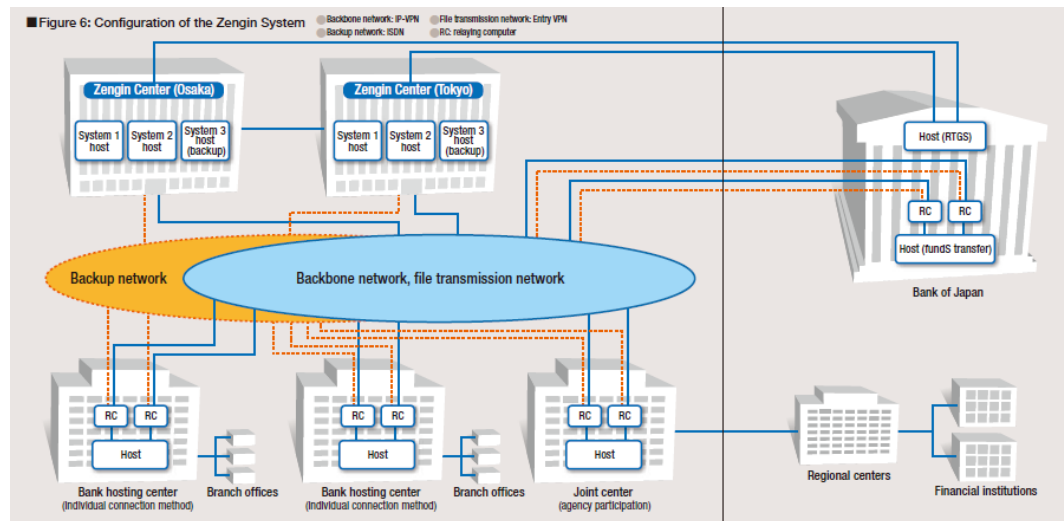
- Statistics in 2017
 - Average daily volume: 6.7 million transactions
 - Average daily value: JPY 12.1 trillion
 - Annual total: 1.65 billion transactions/ JPY 3 quadrillion
 - Including “Large-value” transactions of 2.5 million transactions / JPY 2 quadrillion





System Configuration

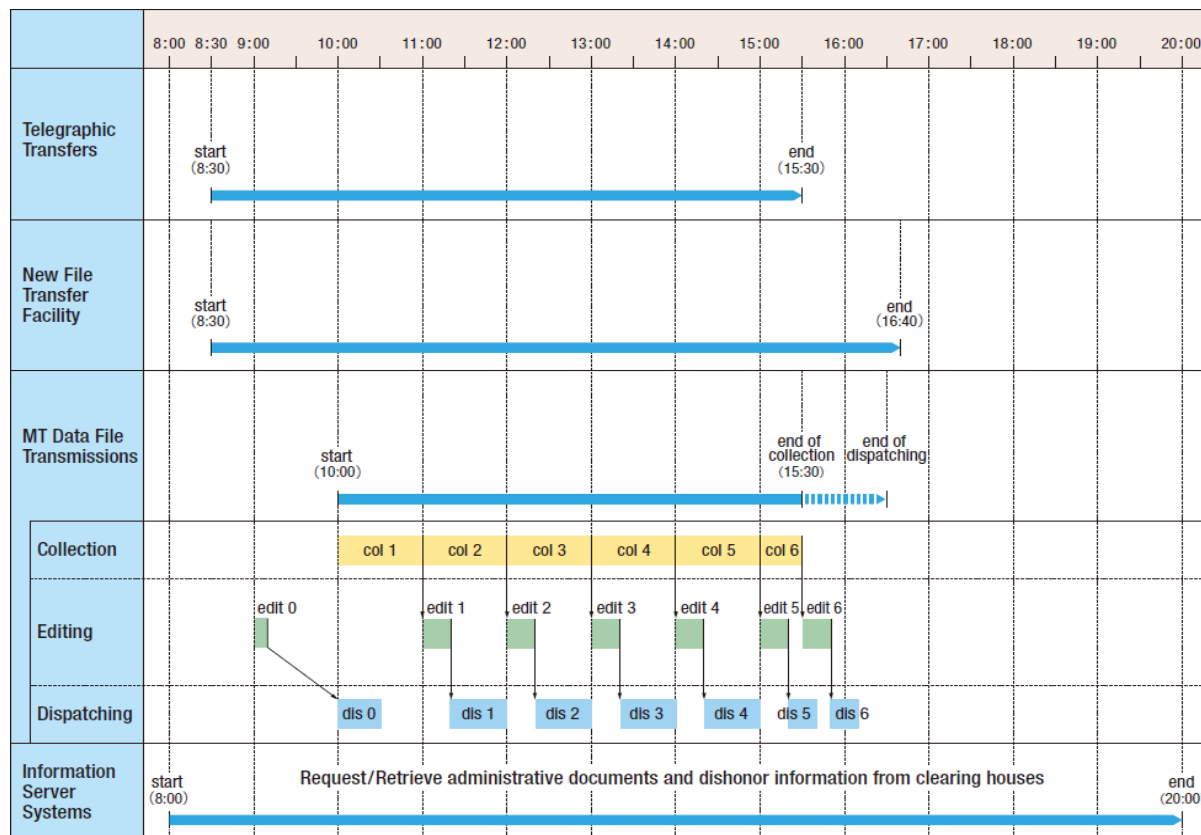
- The Zengin System consists of the Zengin Center (Host computer), relay computers installed in hosting centers of each member bank, and data telecommunication lines connecting these systems.
 - Duplicated facility (DUAL-LIVE) for operational resiliency.
- Two main Zengin centers operated separately in Tokyo and Osaka as mutual backup facilities.
- The Zengin System has never disrupted its service since it began operation in 1973.





Operating Hours ①

- Single Transfers: from 8:30AM to 3:30PM of weekdays.
 - From 7:30AM to 4:30PM on month-end business day, due to large volume of transactions.
 - Real-time credit transfer to recipients' accounts.
- Bulk Transfers: from 8:30AM to 4:40PM of weekdays.





Operating Hours ② - Realizing 24/365

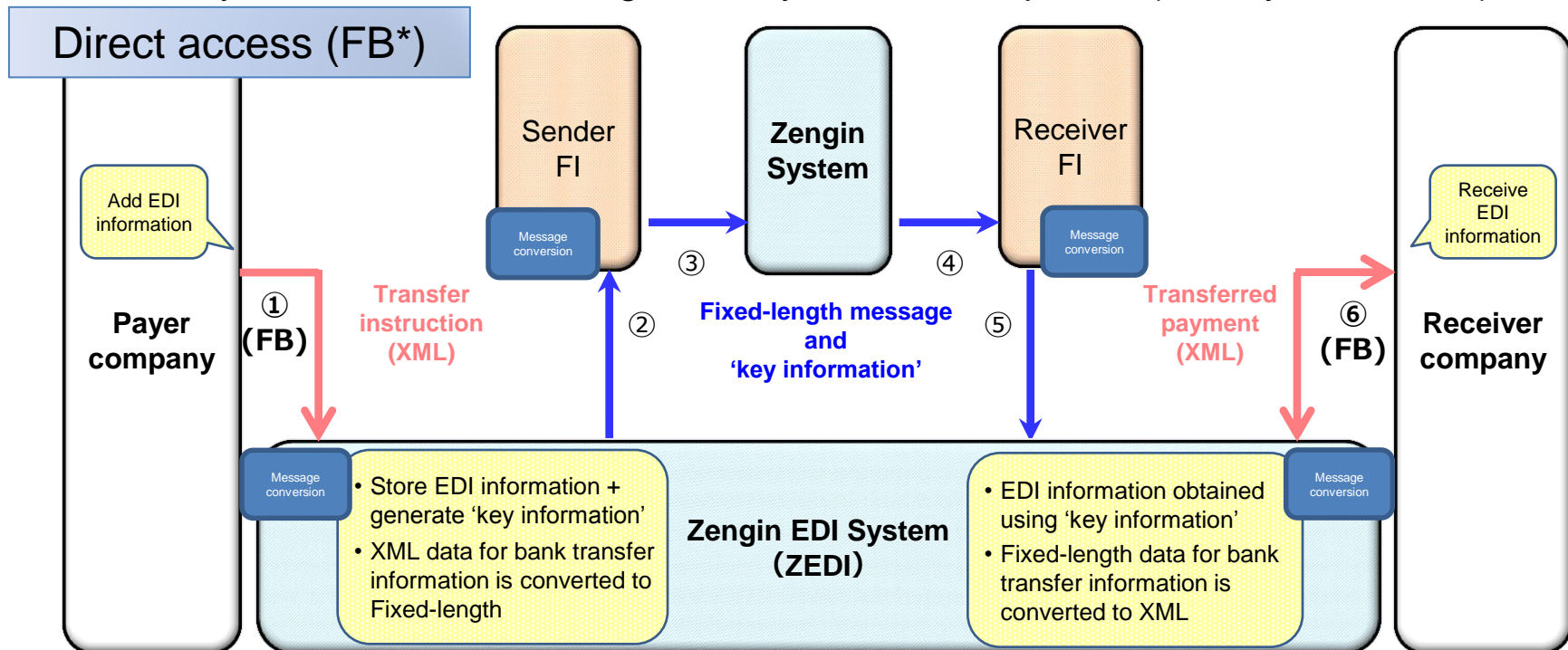
- Operating hours of the Zengin System is planned to be extended to 24H-365Days.
 - Targeting to begin operation in October 2018, testing phase is in process.

Time period	Weekdays	Saturdays, Sundays, and holidays
0:00 to 8:30		Extended operating hours “MORETIME” <ul style="list-style-type: none"> A new platform will be built separate from the main system. Connection time will be determined discretionally by each member bank based on customer needs. Real-time payments between CONNECTED member banks. Participation timing is also at the discretion of each member bank as it becomes ready. Envisioned mainly for credit transfers using Internet banking.
8:30 to 15:30	Current operating hours “CORETIME” <ul style="list-style-type: none"> All member banks are required to be connected. Real-time payments among ALL member banks. 	
15:30 to 24:00		



Zengin EDI System (ZEDI) ①

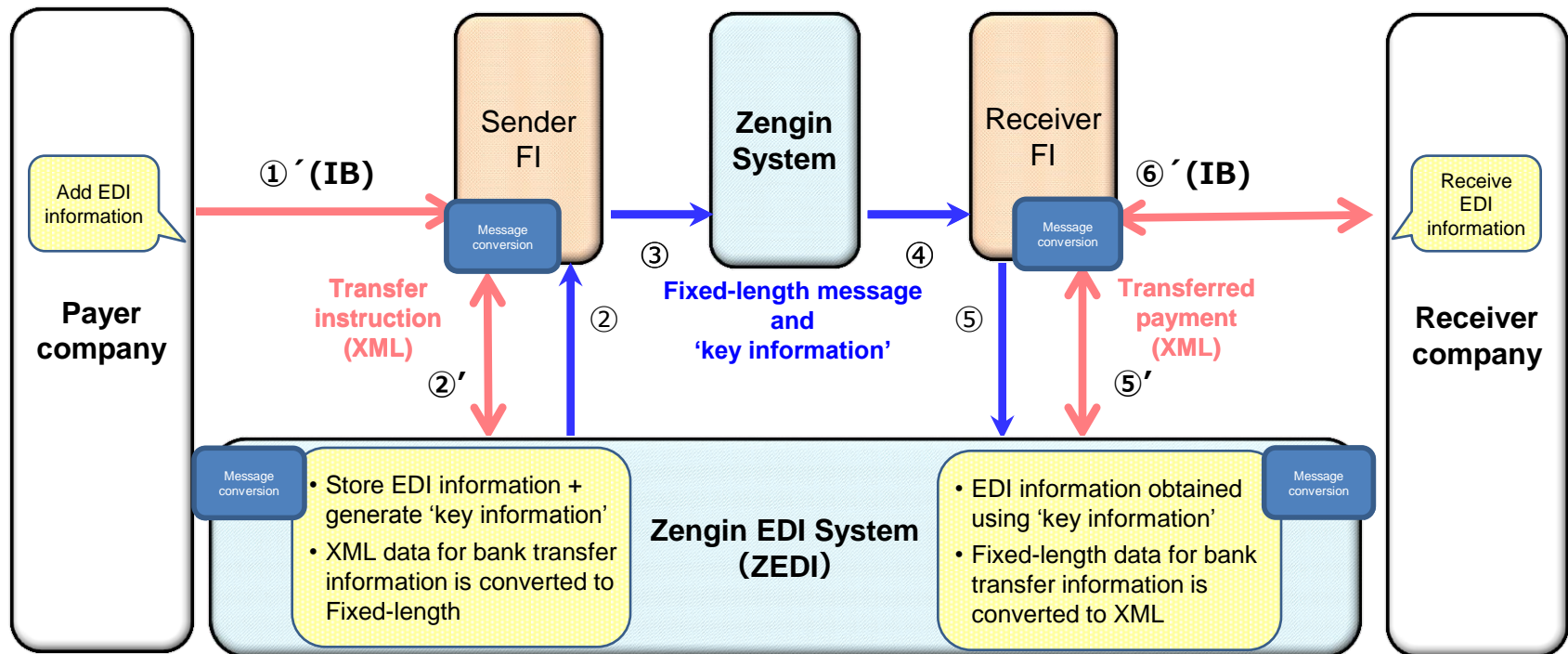
- Zengin-Net has been developing the New Platform “Zengin EDI System (ZEDI)” compatible with XML messages apart from the Zengin System.
 - Targeting to begin operation in December 2018.
 - 2 ways to access to the Zengin EDI System for companies (directly / via banks).





Zengin EDI System (ZEDI) ②

Access via banks (IB*)



*IB ... Internet Banking

For further information, please visit us at

<https://www.zengin-net.jp/en/>