



## Zengin-Net Initiatives Relating to System Development in the Banking Sector Aimed at Promoting Continuous Payment Clearing Innovation

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January 2017

Japanese Banks' Payment Clearing Network  
(Zengin-Net)



# Contents

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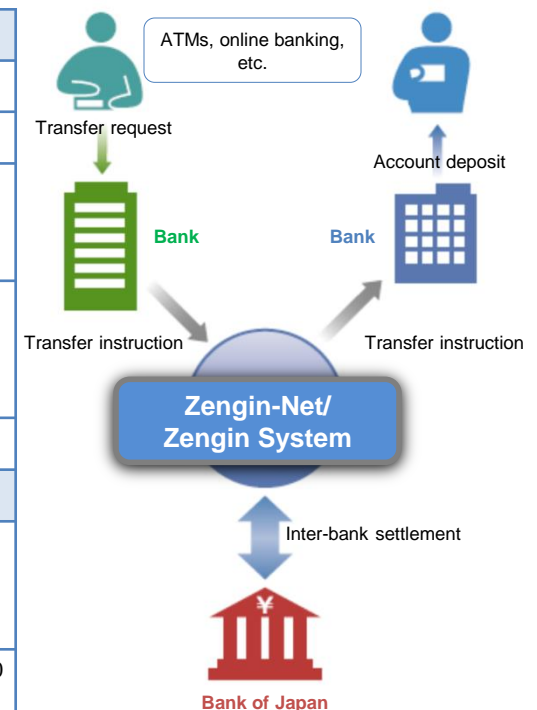
1. Overview of Zengin-Net	P3
2. Initiatives Relating to System Development in the Banking Sector Aimed at Promoting Continuous Payment Clearing Innovation	P4
3. What Is the Zengin-Net Expert Panel?	P5
4. Revamp of Zengin-Net Expert Panel	P7
5. Future Operation of Zengin-Net Expert Panel	P8
6. FY2016 Initiatives	P11
Results of Zengin-Net Initiatives Aimed at Enhancing Payment Clearing (for Reference)	P12



# 1. Overview of Zengin-Net

- The Japanese Banks' Payment Clearing Network (Zengin-Net) was established as a fund clearing agency<sup>1</sup> based on the Payment Services Act.
- It operates the Zengin Data Telecommunication System (Zengin System), which is a core system for carrying out bank transfers, and the Domestic Fund Transfer System, which serves as a mechanism/system for bank transfers.
- The Japanese Bankers Association (JBA) is the sole member of Zengin-Net.
- Bank presidents are selected and appointed as the part-time directors of Zengin-Net.

Overview of Zengin-Net	
<b>Name</b>	• Japanese Banks' Payment Clearing Network
<b>Members</b>	• Japanese Bankers Association
<b>Officers</b>	<ul style="list-style-type: none"> <li>• 1 board chairman (full-time)</li> <li>• 10 directors (1 full-time, 9 part-time)</li> <li>• *Bank presidents are appointed as part-time directors</li> <li>• 2 auditors (1 full-time, 1 part-time)</li> </ul>
<b>Date founded</b>	<ul style="list-style-type: none"> <li>• Incorporated on April 1, 2010, and began operations on October 1 of the same year (A licensing system was established for the fund clearing business under the Payment Services Act, and after obtaining a license for Zengin-Net, the JBA, known at that time as the Tokyo Bankers Association, transferred control of the business to Zengin-Net.)</li> </ul>
<b>Location</b>	• Chiyoda Ward, Tokyo
Overview of Zengin System	
<b>Number of Participating Banks</b> (as of the end of November 2016)	<ul style="list-style-type: none"> <li>• Direct participants (clearing participants): 144 banks</li> <li>• Indirect participants (financial institutions outsourcing settlement agency): 1,152 banks (Total: 1,296 banks)(covers almost all domestic depository financial institutions)</li> </ul>
<b>Transaction volume</b> (during 2015)	<ul style="list-style-type: none"> <li>• Total amount of transactions during 2015: Approx. 1,581,410,000 / Total value: Approx. 3,110 trillion yen</li> <li>• (Amount per day: Approx. 6,480,000 / Value per day: 12,747,400,000,000 yen)</li> </ul>



<sup>1</sup> Institution that clears credits and debts between banks accompanying exchange transactions, such as bank transfers



## 2. Initiatives Relating to System Development in the Banking Sector Aimed at Promoting Continuous Payment Clearing Innovation

- In December 2015, a report by the Financial System Council's Working Group on Payment and Transaction Banking made recommendations including a revamping of Zengin-Net Expert Panel as part of system development in the banking sector aimed at promoting continuous payment clearing innovation.
- Based on the above recommendation, Zengin-Net is considering measures for enhancing the Expert Panel's discussions and proceeding with their implementation.

### Details of Recommendations

#### System Development in the Banking Sector Aimed at Promoting Continuous Payment Clearing Innovation

Improvements to Zengin-Net's system should be considered in order to continue delivering initiatives that respond to the diversified need for payment infrastructure services, the necessity of international coordination, and requests for rapid action. Steady implementation of the action plans below regarding the infrastructure may be expected to encourage banks to continue pursuing their own proactive efforts.

- Revamp the current Zengin-Net Expert Panel that was established as a means of collecting feedback directly from users, then set up a round table at the JBA for the purpose of holding discussions between the public and private sectors, including other related industries.
- Make additional efforts to strengthen the structure when necessary.

(Excerpt from a report by the Financial System Council's Working Group on Payment and Transaction Banking)

### Handling of Issues

- Revamp Zengin-Net's review system (Expert Panel) and enhance its functions in order to facilitate continuous efforts to further improve payment clearing infrastructure and services
- Based on users' diversifying needs, solicit feedback from a variety of perspectives, including companies, consumers, etc.
- As a rule, publish summaries of proceedings externally.



### 3. What Is the Zengin-Net Expert Panel? — I

The Zengin-Net Expert Panel was established as a discussion body that identifies timely topics based on its knowledge of significant environmental changes that affect Zengin-Net (e.g., the review of the Zengin System's operating hours and measures to expand them), invites experts with in-depth knowledge of those topics, and holds discussions with them. (It is a revamped version of the Fund Clearing System Advisory Committee set up at the time of Zengin-Net's establishment.)

<b>Purpose of establishment</b>	<ul style="list-style-type: none"> <li>To understand the needs of general consumers and companies with respect to bank transfers and payment clearing systems and apply that knowledge to the organization's operations</li> <li>To select and review topics in a flexible, timely manner</li> </ul>	<b>Process of Establishing Zengin-Net Expert Panel (for Reference)</b> April 2010 • Enactment of Payment Services Act, establishment of Zengin-Net • Formation of Fund Clearing System Advisory Committee <sup>1</sup> October • Start of Zengin-Net's business (after this, the Fund Clearing System Advisory Committee met 1 or 2 times per year as an external expert panel) July 2014 • The Fund Clearing System Advisory Committee was revamped to create the Expert Panel (one meeting per year in 2014 and 2015) July 2016 Expansion of functions based on Financial System Council's recommendations
<b>Members</b>	<ul style="list-style-type: none"> <li>Experts (selected as needed based on the topic)</li> <li>Zengin-Net committee chairs, managing director-level executives from urban and regional banks</li> <li>Board Chair, Executive Director, Director General, etc. For operational purposes, Zengin-Net committee members and auditors are permitted to take part as observers and working group members as guests (but they may not disclose meeting details).</li> </ul>	
<b>Meeting frequency</b>	Once/year	

#### Topics Discussed by Zengin-Net Expert Panel

**2014:** "Results of Domestic Survey on Bank Transfers" (research firm)

Individual and corporate needs, market analysis, and discussion based on survey concerning the expansion of the Zengin System's operating hours, etc.

**2015:** "Issues Relating to Bank Payment Clearing: Consumer Feedback on Deposits and Transfers" (National Consumer Affairs Center of Japan)

Details of feedback from consumers, suggestions on how to resolve issues, and discussion (informing users about bank transfers and enhancing mechanisms for reducing the number of erroneous transfers)

<sup>1</sup> Set up based on discussions relating to the enactment of the Payment Services Act (developing a governance structure capable of responding to user needs) by the Financial System Council and others (see reference materials below).

• Payment Clearing Study Group, "Interim Overview of Payment Clearing-Related Issues (Chairman's Memo)" (December 2007)

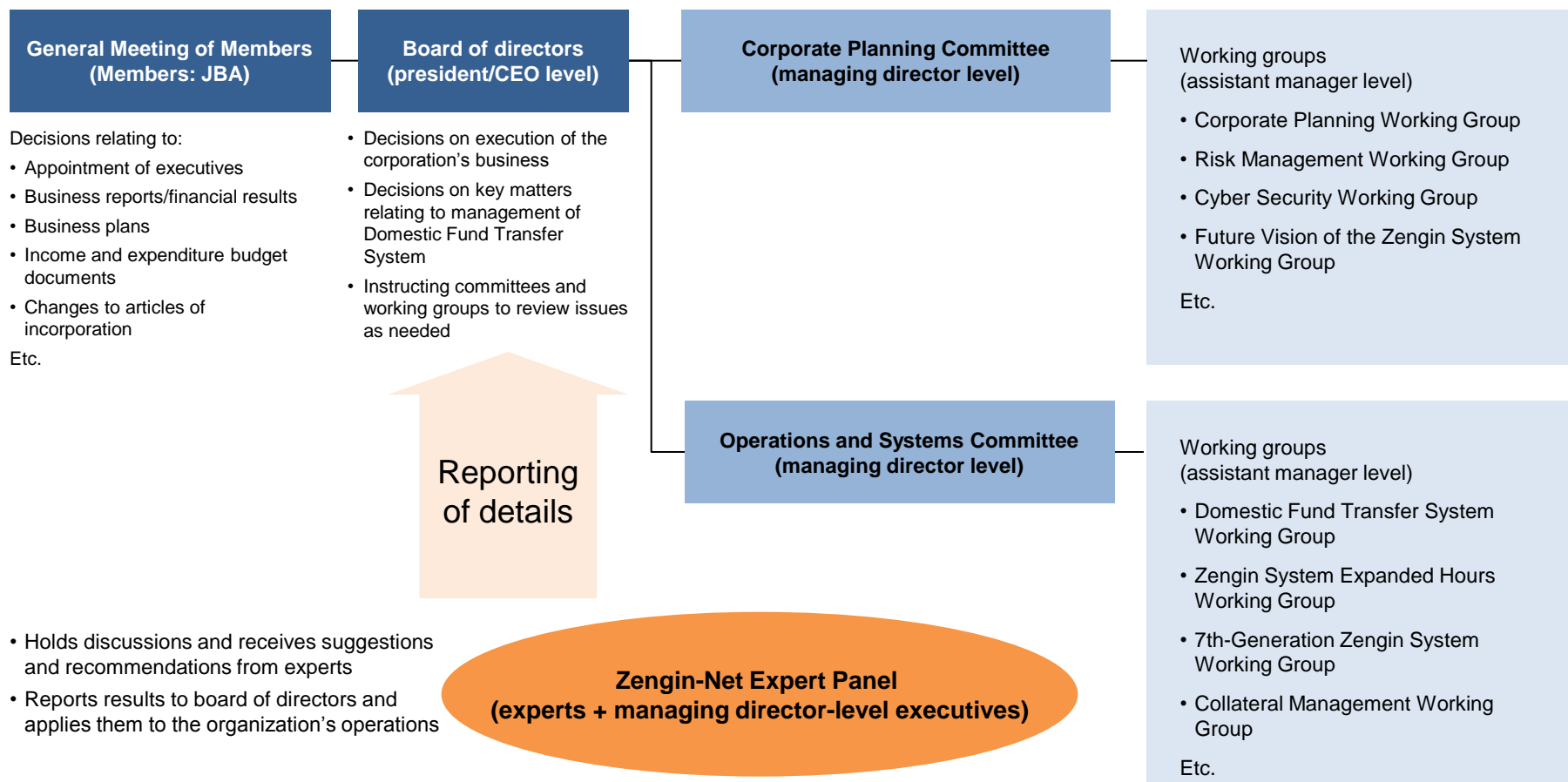
• Second Subcommittee, Financial System Sectional Committee, Financial System Council, "Fund Clearing-Related System Development" (January 2009)

Changes to the organization's operations are applied based on discussion of survey details and presentations from individual experts at Zengin-Net (external experts had not changed since the Fund Clearing System Advisory Committee was established)



### 3. What Is the Zengin-Net Expert Panel? — II

Past





## 4. Revamp of Zengin-Net Expert Panel

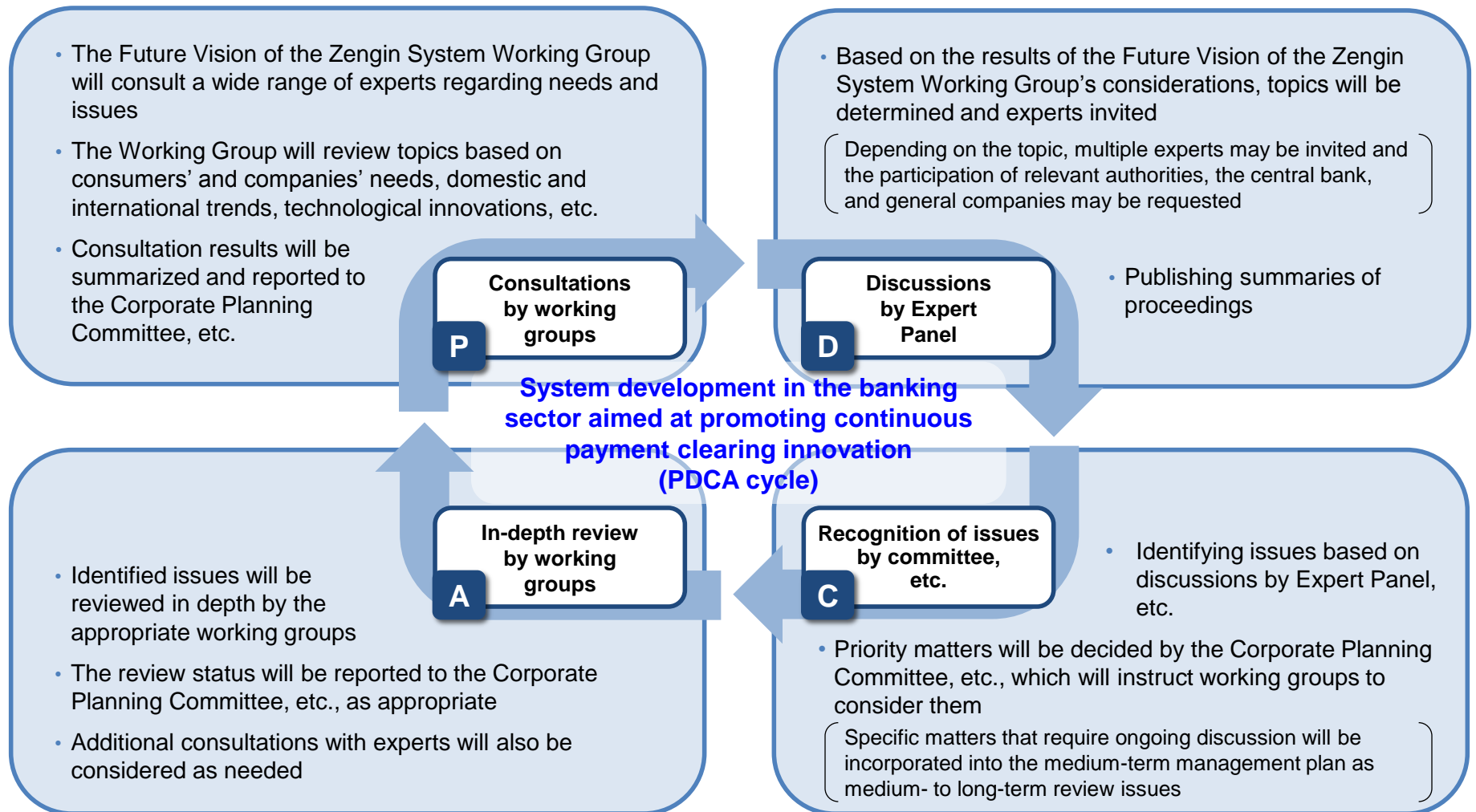
- It is necessary for Zengin-Net to independently and voluntarily take action to understand user needs, and based on the report by the Financial System Council's Working Group on Payment and Transaction Banking, it will revamp the Expert Panel's operation so that it may function more effectively as a means of obtaining direct feedback from users.
- Zengin-Net's structure will also be enhanced based on the details of initiatives aimed at addressing identified issues.

### Revamp Concept

- For the purpose of system development in the banking sector aimed at promoting continuous payment clearing innovation, Zengin-Net intends to voluntarily pursue a comprehensive ongoing review and establish continuous improvement initiatives (PDCA cycle) that leverage the Expert Panel.
- Specifically, in light of diversifying payment clearing infrastructure-related needs, increasing demand for rapid handling of requests, etc., Zengin-Net's review will be based on the concept of further improving efficiency. Through seamless coordination between the Expert Panel and working groups, it intends to develop and enhance a framework that enables actual payment clearing services to be handled in a more agile manner.
- Working groups are discussion bodies comprised of bank employees (assistant manager level) and have more flexibility than the Expert Panel, which is comprised of executives (managing director-level). Making more efficient and effective use of working groups will make it possible to enhance the Expert Panel's discussions and to promptly consider actions aimed at addressing issues identified based on the results of those discussions.



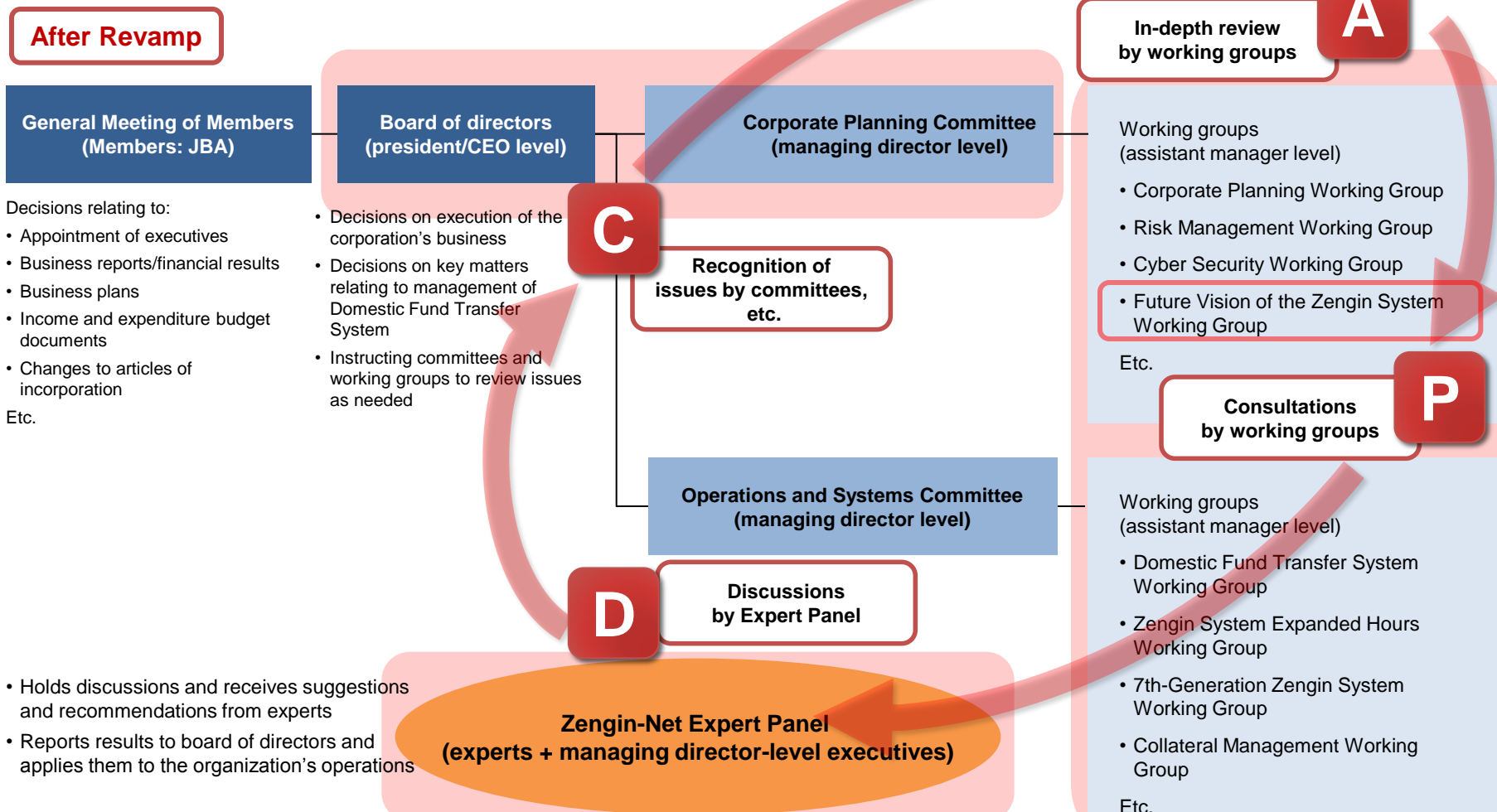
## 5. Future Operation of Zengin-Net Expert Panel — I







## 5. Future Operation of Zengin-Net Expert Panel — II



- In order to enhance the secretariat structure, 7 people have already been added since last year
- In the future, Zengin-Net's structure will be enhanced based on the details of initiatives aimed at addressing identified issues



## 5. Future Operation of Zengin-Net Expert Panel — III (Before and After Comparison)

	Before	After revamp <sup>1</sup>
<b>Operation Method</b>	<p><b>Year-by-year basis</b></p> <ul style="list-style-type: none"> <li>• Topics selected by secretariat as needed</li> <li>• Activities basically contained within the same fiscal year</li> </ul>	<p><b>Ongoing reviews</b></p> <ul style="list-style-type: none"> <li>• Working group composed of working-level personnel will consult a wide range of experts regarding needs and issues</li> <li>• Results of working group consultations will be summarized and reported to the Corporate Planning Committee</li> <li>• Topics will be decided and Expert Panel meetings held based on the reports</li> <li>• Various working groups will be instructed to conduct in-depth reviews of issues identified based on discussions by the Expert Panel</li> <li>• Matters identified as issues for medium- to long-term review will be incorporated into the medium-term management plan</li> <li>• The review status will be reported to the Corporate Planning Committee as appropriate</li> </ul>
<b>Members</b>	<p><b>Banking industry + expert (one person or company, as a rule)</b></p>	<p><b>Banking industry + experts (multiple individuals) + public and private sectors</b></p> <ul style="list-style-type: none"> <li>• Depending on the topic, multiple experts may be invited and the participation of relevant authorities, the central bank, and general companies may be requested</li> </ul>
<b>Summaries of proceedings, etc.</b>	<p><b>Not published</b></p>	<p><b>Published</b></p>
<b>Meeting frequency</b>	<p><b>Once/year</b></p> <ul style="list-style-type: none"> <li>• No preliminary consultations by working groups</li> </ul>	<p><b>Consultations by working groups (multiple times) + Expert Panel meetings</b></p> <ul style="list-style-type: none"> <li>• Working groups will review topics by holding multiple consultations<sup>2</sup></li> </ul>

<sup>1</sup> Once its feasibility has been verified, the above management approach will be reviewed as needed

<sup>2</sup> Held 8 times this year (FY2016)



## 6. FY2016 Initiatives

Timing	Action Taken
FY2016 August to year-end P	<ul style="list-style-type: none"> <li>• Consultation meetings with experts held by working groups (8 times this year)</li> </ul> <div style="border: 1px dashed blue; padding: 5px; margin-top: 10px;"> <p><b>Topics for FY2016</b></p> <ol style="list-style-type: none"> <li><b>1. User expectations with regard to payment clearing services</b>              Wed Sept 7: Payment clearing conditions and issues at a telecommunications company              Tues Nov 1: Payment clearing conditions and issues at an e-commerce company              Thurs Nov 24: Expectations of individual users with respect to payment clearing (presentation by research firm based on survey results)</li> <li><b>2. Usability of FinTech and other technologies</b>              Wed Oct 12: Usability of FinTech and other technologies for fund clearance services (consulting firm)              Wed Nov 2: Usability of new fund transfers resulting from FinTech (FinTech-related industry group)</li> <li><b>3. Status of payment clearing system enhancement-related initiatives in other countries</b>              Wed Aug 10: FinTech and initiatives in other countries (Bank of Japan)              Wed Aug 31: Status of payment clearing system enhancement-related initiatives in other countries (think tank A)              Wed Nov 30: Suggestions for payment clearing system enhancements in light of global trends (think tank B)</li> </ol> </div>
September	<ul style="list-style-type: none"> <li>• Interim report to Corporate Planning Committee, etc., on progress of initiatives, etc.</li> </ul>
January	<ul style="list-style-type: none"> <li>• Summary report to Corporate Planning Committee, etc., and determination of Expert Panel experts/topics</li> </ul>
February	D <ul style="list-style-type: none"> <li>• Holding of Expert Panel meeting</li> </ul>
March	C <ul style="list-style-type: none"> <li>• Report to Corporate Planning Committee, etc., outlining the Expert Panel meeting</li> <li>• Incorporation of identified issues that require medium- to long-term review into medium-term management plan</li> </ul>
FY2017 April onward	A P <ul style="list-style-type: none"> <li>• In-depth review of identified issues by relevant working groups</li> <li>• Considering and narrowing down topics for FY2017</li> </ul>



# Results of Zengin-Net Initiatives Aimed at Enhancing Payment Clearing — I (for Reference)

## Zengin System Upgrades

- The Zengin System began operation in 1973 and has been steadily upgraded over time by improving performance, adding functions, taking steps to prevent risks, and enhancing security. At present, the 6th-generation Zengin System is in use.
- The Zengin System is a broad network covering all of Japan that provides excellent security and reliability (i.e., not a single service interruption since it began operation). It serves as infrastructure for financial transactions in Japan.

	Number of Participating Banks	Processing Capacity (Initial)	Notable Items
<b>1st-generation system (1973)</b>	88	1.0 million transactions/day	<ul style="list-style-type: none"> <li>• Launch of the Domestic Fund Transfer System (members: Japanese banks and Shoko Chukin Bank) and activation of the Zengin Data Telecommunication System</li> <li>• Implementation of online network</li> <li>• Fund transfers settlement date changed from two days later to one day later (1974)</li> </ul>
<b>2nd-generation system (1979)</b>	708	1.4 million transactions/day	<ul style="list-style-type: none"> <li>• Mutual banks, credit unions, foreign banks in Japan, credit associations, labor credit associations, and agricultural cooperatives join the system</li> </ul>
<b>3rd-generation system (1987)</b>	5,304	5.0 million transactions/day	<ul style="list-style-type: none"> <li>• Change to two centers (Tokyo and Osaka)</li> <li>• Start of MT data file transmission (file transfer method)</li> <li>• Switch to same-day settlement, start of sender net debit cap scheme</li> </ul>
<b>4th-generation system (1995)</b>	3,552	13.5 million transactions/day	<ul style="list-style-type: none"> <li>• System changed from dedicated lines between centers and banks to independent packet networks</li> <li>• Transmission start time brought forward to 8:30 a.m.</li> <li>• Implementation of the new National Domestic Fund Transfer System (central counterparty) (2001)</li> <li>• Securities trusts, online banks, etc., join system</li> </ul>
<b>5th-generation system (2003)</b>	1,679	15.0 million transactions/day	<ul style="list-style-type: none"> <li>• Lines changed to frame relay networks, implementation of line data encryption</li> <li>• Addition of EDI fields to messaging format</li> </ul>
<b>6th-generation system (2011)</b>	1,371 <small>(As of end of November 2016)</small> 1,296	20.0 million transactions/day <small>(Currently)</small> 25.0 million transactions/day	<ul style="list-style-type: none"> <li>• Lines changed to IP-VPN network, adoption of TCP/IP</li> <li>• Switch to settlement large-volume domestic fund transfers (over 100 million yen) using BOJ-NET next-generation RTGS (compatible with phase 2)</li> <li>• Introduction of new file transmission (new file transfer method instead of MT data file transmission)</li> <li>• Adaptation to ISO20022-compliant XML format messaging, expansion of EDI fields</li> <li>• Addition of messages for Densai-net-specific communication events</li> </ul>



# Results of Zengin-Net Initiatives Aimed at Enhancing Payment Clearing — II (for Reference)

## Review of Zengin System Based on Future Outlook

- Zengin-Net is reviewing the Zengin System from a medium- to long-term perspective, based on changes in the domestic and international environment that will affect payment clearing systems, etc.  
⇒ The Future Vision of the Zengin System Working Group was set up in 2014, and based on trends in other countries and the results of user needs surveys, it decided in December of the same year to make the Zengin System operational 24 hours a day, 365 days a year (by developing the More Time System).
- The new second medium-term management plan (2016-2018) formulated in March 2016 also specified conducting a review of the Zengin System based on the future outlook as a specific target and stated that independent surveys relating to payment clearing system trends and payment clearing service enhancements would be conducted.

## Measures Aimed at Operating Zengin System 24 Hours a Day, 365 Days a Year

<b>April 2014</b>	• Establishment of Future Vision of the Zengin System Working Group	
<b>May — August</b>	<b>[Surveying/understanding current situation]</b> • Conducted survey abroad (on the status of Faster Payments Service in U.K.) • Conducted survey in Japan (on needs of individuals and companies)	<b>[June 2014]</b> Excerpt from “Japan Revitalization Strategy (Revised in 2014): Japan’s Challenge for the Future”: “As to enhancing settlement systems, such as real-time bank transfers, the Japanese Bankers Association has stated that it would consider the improvements to be made to the current fund settlement system and the schedule to make the improvements in detail, and reach a conclusion by the end of the year, bearing in mind the need to ensure the safety and reliability of settlement systems, in reference to the trends in foreign countries. The Government will promote initiatives to facilitate such enhancements.”
<b>October</b>	<b>[Interim report]</b> • Summary and report on current status of Zengin System review	
<b>October — December</b>	<b>[Building consensus with member banks]</b> • Conducted survey aimed at member banks and building consensus with them	
<b>December</b>	<b>[Final report]</b> • Summary, report, and publication of Zengin System review’s findings ⇒ Decision to make Zengin System operational 24 hours/day, 365 days/year (development of More Time System)	
<b>December onward</b>	• Based on the final report, the Zengin System Expanded Hours Working Group is established and begins in-depth consideration of the matter	
<b>July 2016</b>	• Solicitation of banks to participate in the More Time System when it begins service; publication of results ⇒ Around 80% of all member banks (112 banks) wish to participate in the More Time System from the start of operation.	
<b>November</b>	• Survey of banks who have applied to participate in the More Time System from the start of operation (112 banks) regarding their planned connection hours; publication of results ⇒ At the time of the survey, over 90% planned to connect to the More Time System on weekdays outside of the standard More Time hours (until 6 p.m.). Around 50% planned to connect 24 hours a day, while over 90% expected to connect to the More Time System at certain times on weekdays and holidays as well.	
<b>Second half of 2018</b>	• Scheduled start of service	