Presentation material
-Business improvement plan

January 17, 2022
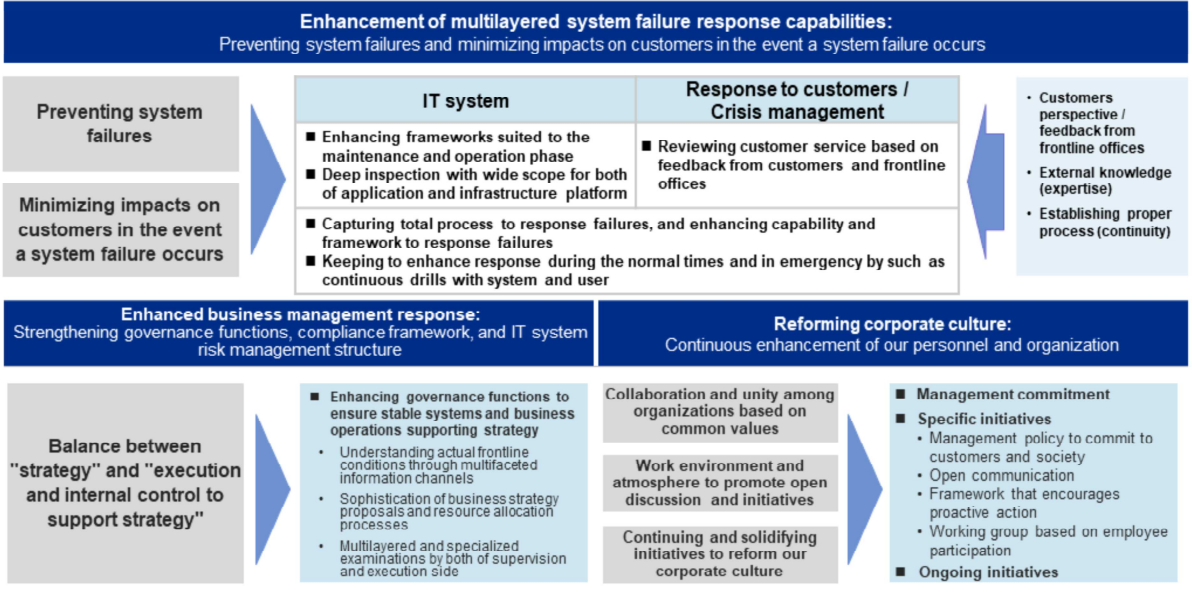
Mizuho Financial Group
Mizuho Bank

MIZUHO

Overview of the business improvement plan

Making a company-wide effort to implement business improvement plans and ensuring stable operation of systems and business to transition to the next generation of financial services

- Stable systems and business operations are the first priority, and all Mizuho employees, including executives, share the same purpose of structural reforms to continuously meet the expectations and needs of customers and society, and promote the reforms appropriately.
- Transforming Mizuho into an organization that continues to deliver value that is unique to Mizuho under the Mizuho Values, which aid us in addressing the various issues and situations presented by customers and society
- Positioning this initiative as the most important aspect of management, executives will change their own behavior and implement specific and continuous changes in business operations.

Enhancement of multilayered system failure response capabilities:
Preventing system failures and minimizing impacts on customers in the event a system failure occurs

Preventing system failures	IT system	Response to customers / Crisis management	· Customers perspective / feedback from frontline offices
	■ Enhancing frameworks suited to the maintenance and operation phase ■ Deep inspection with wide scope for both of application and infrastructure platform	■ Reviewing customer service based on feedback from customers and frontline offices	· External knowledge (expertise) · Establishing proper process (continuity)
Minimizing impacts on customers in the event a system failure occurs	■ Capturing total process to response failures, and enhancing capability and framework to response failures ■ Keeping to enhance response during the normal times and in emergency by such as continuous drills with system and user		

Enhanced business management response:
Strengthening governance functions, compliance framework, and IT system risk management structure

Reforming corporate culture:
Continuous enhancement of our personnel and organization

| Balance between "strategy" and "execution and internal control to support strategy" | ■ Enhancing governance functions to ensure stable systems and business operations supporting strategy
· Understanding actual frontline conditions through multifaceted information channels
· Sophistication of business strategy proposals and resource allocation processes
· Multilayered and specialized examinations by both of supervision and execution side | Collaboration and unity among organizations based on common values

Work environment and atmosphere to promote open discussion and initiatives

Continuing and solidifying initiatives to reform our corporate culture | ■ Management commitment
■ Specific initiatives
· Management policy to commit to customers and society
· Open communication
· Framework that encourages proactive action
· Working group based on employee participation
■ Ongoing initiatives |

Our first priority is ensuring that our customers can use Mizuho's services with peace of mind. As outlined in the upper part of this page, the entire company will come together to work on this plan, ensuring the stable operation of our systems and operations. We believe that this action is connected to the transitioning to the next generation of financial services, an aim we have outlined in our five-year business plan. We will work on the business improvement plan with an unwavering resolve based on our deep reflection of the series of failures we've faced.

The improvement plan involves three main pillars. First and foremost, we will enhance our multilayered system failure response capabilities to ensure that failures that severely impact our customers do not reoccur.

This improvement involves preventing system failures and minimizing impacts on customers if they occur. To this end, we have thoroughly re-examined and reviewed our existing measures to prevent recurrence in terms of IT systems, our responses to customers, and crisis management. In conducting the re-examination, we focused on the items described on the right side, incorporating our customer's perspective, feedback from frontline offices, and external knowledge, as well as establishing a process to make our efforts permanent.

To ensure the improvement of our multilayered system failure response capabilities, we will also work to enhance our business management response and reform our corporate culture, as shown in the lower part of this page.

The bottom left section is on our enhanced business management response. Our in-house company system is the foundation of the One MIZUHO strategy. First, however, we must reflect on whether our strategy and the execution and internal controls of entities that support this strategy have been properly balanced.

To ensure the stable operation of systems and business operations that support our strategies, we will gain a multifaceted understanding of the actual frontline conditions and enhance our strategy and resource allocation processes. This action will be performed in a multilayered and specialized manner, by incorporating external knowledge in supervision and execution.

Next, please see the section on reforming corporate culture on the bottom right. Why was there a lack of collaboration and unity in our organization? Were employees encouraged to speak openly and act freely? Additionally, why did our past initiatives not continue and repeatedly fail? We will reflect on these issues with sincerity and with a solid determination to finally make change, building a Mizuho that our customers and society can trust.

To this end, the management team will commit itself to this reform, take specific actions using its initiative, and continue without allowing the lessons learned from our failures to be forgotten over time.

Enhancement of multilayered system failure response capabilities

- Ensure that customers can trust Mizuho's services, preventing system failures with a significant impact on customers
- Building strong structure that will help minimize impacts on customers in the event of a failure, and continually implementing initiatives in the ever-changing environment

Preventative measures based on reverification

☞ Details next page

Reverification Perspective	1) Customers/frontline offices; 2) Utilizing external viewpoints and expert insights; and 3) Process to sustain and firmly establish the measures	
	IT systems	**Response to customers / Crisis management**
Preventing system failures	■ Enhancing frameworks suited to the maintenance and operation phase ■ Deep inspection with wide scope for both the application and infrastructure platform	■ Reviewing customer service based on feedback from customers and frontline offices
Minimizing impacts on customers in event of failure	■ Capturing total process of failure response, and enhancing capability and framework to respond to failures ■ Continually enhance responses during normal times and in emergencies by frequent drills for IT systems staff and users, etc.	

- To date, preventative measures have been implemented, including changing ATM specifications; checking systems that experienced failures, replacing equipment, and inspecting similar potential issues; and an enhanced checking framework for development projects.
- Additional measures are being carried out one by one, including inspections of important systems. All measures that include addressing human resources and frameworks will be implemented by the end of September 2022. We will subsequently implement initiatives to ensure the measures become well established and monitor their progress.

I will now explain more specific details about these three pillars. Firstly, I will talk about the enhancements to our multilayered system failure response capabilities.

In accordance with the basic policy shown at the top of this page, we have thoroughly re-examined and reviewed the measures taken in June last year to prevent a recurrence, fully taking into account the failures since August and suggestions made by the authorities.

In re-examining and reviewing, we took the following three perspectives: customer's perspectives and feedback from frontline offices, utilization of external viewpoints and expert insights, and building of processes to sustain and firmly establish these measures.

Enhancement of multilayered system failure response capabilities

Detail; Preventative measures based on reverification

* Updates to the measures to prevent further system failures announced on June 15 are in blue. For the status of each measure, please refer to the press release "Submission of Business Improvement Plan."

		IT systems	Response to customers / Crisis management
Preventing system failures		■ Enhancing frameworks suited to the maintenance and operation phase ■ Deep inspection with wide scope for both the application and infrastructure platform	■ Reviewing customer service based on feedback from customers and frontline offices
Inspection and maintenance	**Application**	• Reassess MINORI services that have not yet been put into use • Checking system behavior leading to serious failures, assessing maintenance • Checking and confirming system specifications and the occurrence status of events of risk concern (limit management, etc.)	• Confirming feedback from customers and frontline offices, and computer system failures over the past three years, as well as assessing if there are system specifications that could lead to serious problems and addressing in a proper manner ‐ Changed ATM specifications to prevent bankbooks and cards from becoming stuck • Multifaceted communication including gathering feedback from customers and frontline offices
	Infrastructure platform	• Inspecting/replacing equipment (firmware/disk device) from time of system failures, as well as inspecting similar potential issues • Reviewing controlling items such as maintenance terms and IT system-related bugs • Special log check of important system/equipment and preventative maintenance (in cooperation with vendors) • Checking if infrastructure platform, such as redundant configurations, works as required (redundant configuration, etc.)	‐ Establishing positions in charge of communication between frontline offices and Head Office and adopting a system for gathering comments from employees prior to launching new initiatives • Establishing a framework for multifaceted checks on the adequacy and effectiveness of customer service quality
Development project / IT system modification		• Strengthening check and monitoring systems in the development process • Modification of system specifications based on inspection	• Confirmation of the impact on customers when implementing a release, and development of response framework assuming maximum impact • Enhancement of users' system ownership and exchange of personnel

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The table on the next page shows the main measures to prevent a recurrence. This table is our efforts to prevent system failures.

On the left, for IT systems, we have established a system that is appropriate for the maintenance and operation phase, and we will continuously conduct inspections at a high level in terms of scope and depth for both application and infrastructure platforms.

For applications, we will inspect system behavior and maintenance contents that may lead to significant failures and monitor the status of issues associated with risk. Additionally, we will thoroughly provide the predictive management required for the stable operation of our infrastructure. Actions will include monitoring the aging and failure rates of critical equipment through log inspections, ensuring that backups are working as required, and managing detailed information such as maintenance deadlines and product bug information. We will also enhance our system development management.

Our response to our customers is shown on the right. We will review and improve our customer service based on feedback from customers and frontline offices. For example, we have already made improvements to ATMs. However, we will also check if any remaining system specifications could lead to serious failures, based on feedback from customers and frontline offices or past cases of failure, and formulate countermeasures. We will ensure that we always confirm the maximum possible impact on our customers when implementing a new system release and make suitable preparations.

Enhancement of multilayered system failure response capabilities

Detail; Preventative measures based on reverification

* Updates to the measures to prevent further system failures announced on June 15 are in blue. For the status of each measure, please refer to the press release "Submission of Business Improvement Plan."

	IT systems	Response to customers / Crisis management
Minimizing impacts on customers in event of failure	■ Capturing total process of failure response, and enhancing capability and framework to respond to failures ■ Continually enhance responses during normal times and in emergencies by frequent drills for IT systems staff and users, etc.	
Initial response	• Improving monitoring system and establishing communication system after detection • Enhancing monitoring tools such as dashboards	• Deliberate on response within one hour of a failure being detected • Establish a system that clarifies experts for each business and enables immediate identification of business impact
IT system recovery / Response to customers	• Reviewing and improving effectiveness of SCP ‒ Adding scenarios based on system configuration, etc., and early identification of business impact ‒ Introducing tools to utilize SCP documentation, and establishing education and awareness of SCP • Practical drills using real hardware • Improving ability to analyze system failures, and enhancing early warning indicator management (expanding scope/content) • Strengthening of recovery response systems and recovery management (infrastructure/system development and collaboration with external vendors) • Enhancing IT system risk management and quality control framework through external knowledge	• Refining BCP (adoption of tools to improve BCP processing capabilities, etc.) • Hold walkthroughs and trainings with IT systems staff, users and crisis management, risk, and compliance departments in order to confirm SCP and BCP implementation during normal times • Hands-on training focused on impacts on customers, and training to ensure the measures don't weaken over time • Quicker external notification (settlement channel) and diversified communication methods at ATMs • Expanded collaboration with frontline offices (expanded communication tools) • Strengthening risk control functions by Crisis Management Office during normal times and in times of emergency

* SCP: System Contingency Plan, BCP: Business Contingency Plan

Next, this table reveals our efforts to minimize customer impact in the event of a failure.

We will use a bird's-eye view of our processes and systems for responding to failures, enhancing our response capabilities and framework in the unlikely event of a failure. Additionally, we will continue to enhance our ability to respond in normal and emergency situations by conducting drills across our IT and user departments.

As an initial response, we will improve our monitoring system, promptly discuss countermeasures when failures are detected, and immediately mobilize expert staff.

To prepare for failures, we will continue to improve the effectiveness of our systems and business contingency plans and conduct cross-departmental walkthroughs. In addition, we will conduct practical drills using real hardware, develop infrastructure and readiness to enable recovery responses, strengthen cooperation with vendors, and utilize external knowledge to enhance system quality control.

Additionally, we will expand our system of cooperation with frontline offices during our responses to crises and work to accelerate and diversify our methods of external notification.

The measures above are our primary methods for enhancing our multilayered system failure response capabilities. External experts have also objectively reviewed these policies and determined that the necessary comprehensive measures had been taken.

Many of these measures have already been implemented and the rest will be implemented by September of this year. In the future, we will continue to monitor and constantly review these measures to ensure that they become firmly established.

Multilayered and specialized reviews of both supervision* and execution side

■ Optimize "strategy" rooted in actual frontline conditions and "business execution / internal management" that supports it, based on roles and functions of FG and each entity, in order to ensure stable business operation as part of the financial infrastructure, including stable system operation and legal compliance, and to continue to meet the expectations and needs of customers and society.

■ In the IT & Systems Group, FG, BK, and RT are integrated, and each company properly fulfills its role and function and establishes a framework to continue to provide stable services to customers.

FG Business management and policy formulation
BK Promotion of development and management of outsourcers
RT* Development, maintenance and contract responsibility
Customers
*RT: Mizuho Research & Technologies, Ltd.

Enhancement of governance framework on an entire group basis

1. Understanding of actual frontline conditions in a multifaceted manner
   - Understanding the on-site opinions and conditions in a multifaceted manner
   - Sharing and communicating strategies and policies

2. Enhancement of strategy and resource allocation process
   - Strategy and corporate resources allocation based on actual frontline conditions
   - Control of risks inherent in strategy execution and flexible review of strategy considering those risks

3. Multilayered and specialized reviews of both supervision* and execution side

   *Further enhancement of supervisory function
   - Enhancement of multifaceted information gathering capabilities
   - Enhancement and supplementing of expertise (expanding the membership of Board of Directors, etc.)
   - Enhancement of following-up, etc. with executive management

Initiatives to enhance IT governance

- Understanding actual IT & Systems Group conditions and building a framework for communication between companies
  - ✓ Set up a supervisory framework to understand the actual IT & Systems Group conditions and planning countermeasures at each company
- Building a framework for promoting mutual understanding of systems and operations through inspections and training in collaboration with IT departments and users

- IT strategy planning based on actual IT & Systems Group conditions and reflection in allocation of corporate resources
  - ✓ Personnel management based on actual IT & System Group conditions and sufficiency of skills, etc. in BK and RT
- Verification and flexible review of strategy and resource allocation based on the gap between the strategy / initiatives for stable systems operation and the actual IT & Systems Group conditions

- Establishment of multi-layered system risk management framework
  - ✓ Review of risk control items and enhancement of monitoring framework
  - ✓ Fuller discussions at the senior management level from the perspective of overall system risk
- Enhancement of quality control framework by utilizing external knowledge
  - ✓ Appointment of personnel from external vendors and creation of joint working group

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The second pillar is on our enhanced business management response.

As stated in the upper section, we will optimize the balance between strategy and the internal management required to support it based on the actual conditions on the frontlines and the roles and functions of FG and each entity,

In the area of IT, FG, which is responsible for business management and policy formulation, BK, which promotes development and manages outsourcers, Mizuho Research & Technologies, RT, which is responsible for contracting development and maintenance will work in unison to provide services to our customers while making use of their respective roles and functions.
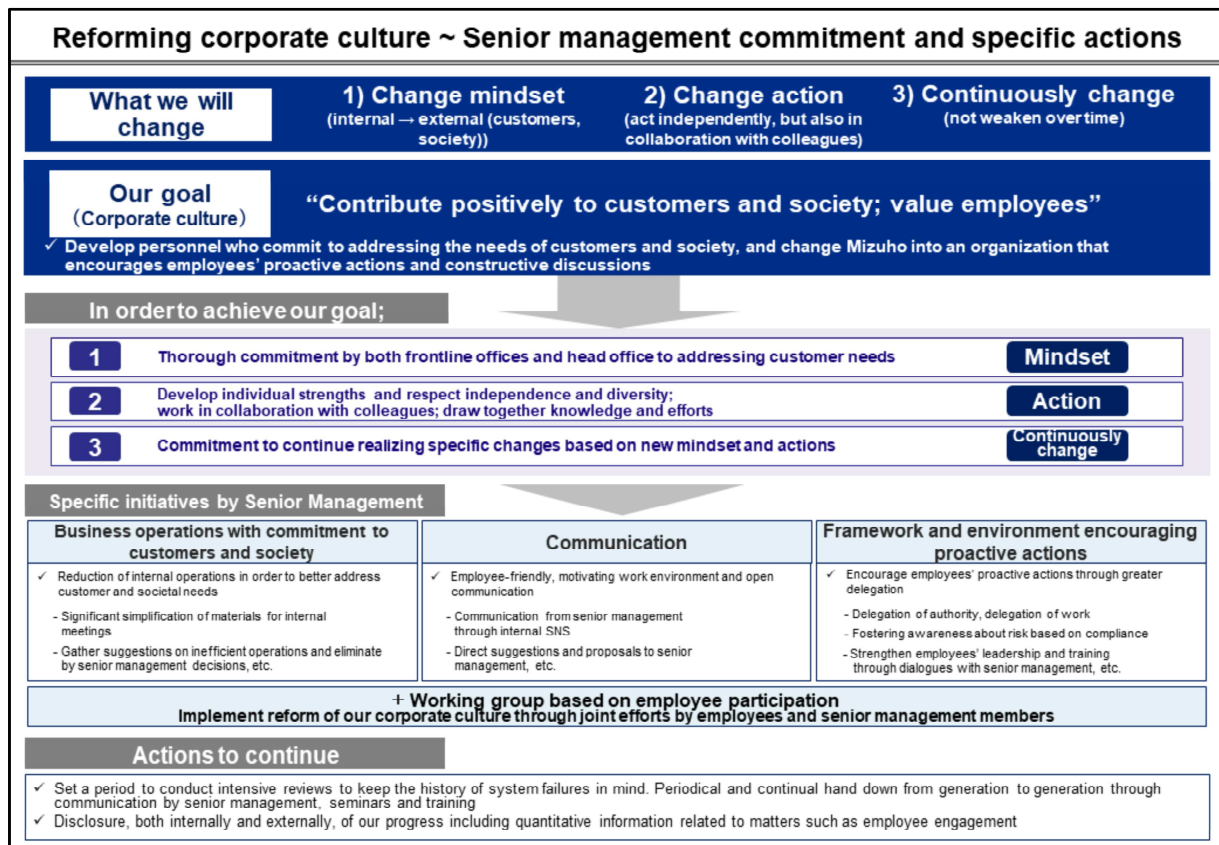
The left section shows our measures to strengthen the governance of our entire group. Since this is a repeat of the explanation at the beginning, I will only cover measures in supervision here.

As you can see to the lower left, to further exercise our supervisory functions, we will enhance the multifaceted information gathering capabilities of our entity heads executive officers, and employees allowing for a deeper assessment of execution. Additionally, we will enhance and supplement our expertise by increasing the number of the board of directors and strengthening follow-up with executive management through visualization of issues.

Next, the section on the right covers our initiatives to enhance IT governance. Each FG, BK, and RT company will set up a supervisory framework to assess the frontlines' actual conditions, formulate countermeasures, and coordinate with each other. In addition, we will promote mutual coordination of systems and operations through inspections and drills in cooperation with IT and user departments.

Our strategy and resource allocation processes will reflect the actual conditions in the IT field, including personnel management based on the frontline situation in BK/RT and adequate skills. Additionally, we will continuously verify and flexibly review whether there is any gap between the stable operation of strategies and systems and the actual frontline situation.

As for checking functions, each company will work together to establish a multilayered system risk management framework and strengthen their quality control frameworks by utilizing external knowledge from sources such as vendors.

Reforming corporate culture ~ Senior management commitment and specific actions

What we will change	1) Change mindset (internal → external (customers, society))	2) Change action (act independently, but also in collaboration with colleagues)	3) Continuously change (not weaken over time)

Our goal (Corporate culture)	"Contribute positively to customers and society; value employees"

✓ Develop personnel who commit to addressing the needs of customers and society, and change Mizuho into an organization that encourages employees' proactive actions and constructive discussions

In order to achieve our goal;

1	Thorough commitment by both frontline offices and head office to addressing customer needs	Mindset
2	Develop individual strengths and respect independence and diversity; work in collaboration with colleagues; draw together knowledge and efforts	Action
3	Commitment to continue realizing specific changes based on new mindset and actions	Continuously change

Specific initiatives by Senior Management

Business operations with commitment to customers and society	Communication	Framework and environment encouraging proactive actions
✓ Reduction of internal operations in order to better address customer and societal needs - Significant simplification of materials for internal meetings - Gather suggestions on inefficient operations and eliminate by senior management decisions, etc.	✓ Employee-friendly, motivating work environment and open communication - Communication from senior management through internal SNS - Direct suggestions and proposals to senior management, etc.	✓ Encourage employees' proactive actions through greater delegation - Delegation of authority, delegation of work - Fostering awareness about risk based on compliance - Strengthen employees' leadership and training through dialogues with senior management, etc.

+ Working group based on employee participation
Implement reform of our corporate culture through joint efforts by employees and senior management members

Actions to continue

✓ Set a period to conduct intensive reviews to keep the history of system failures in mind. Periodical and continual hand down from generation to generation through communication by senior management, seminars and training
✓ Disclosure, both internally and externally, of our progress including quantitative information related to matters such as employee engagement

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The third pillar is reforming our corporate culture.

This is a difficult challenge, but we need to change our current mindset, actions, and daily routines to develop personnel dedicated to addressing the needs of customers and society and change Mizuho into an organization that encourages employees' proactive actions and constructive discussions. This is our commitment as management.

To this end, the management team will make the specific efforts indicated in the lower part of this page. The left side indicates how we will drastically reduce internal-facing operations to better address customer and societal needs. The middle shows how we will create a workplace that is employee-friendly and motivating, and that ensures two-way communication. Finally, the right indicates how we will encourage employees to be proactive through greater delegation.

In addition to these management initiatives, we plan to launch a working group based on participation from employees. We will listen carefully to the voices of our employees through workshops, etc., discussing together ways to make improvements. The content of these discussions will also be disclosed to our employees. We hope this will lead to a concerted effort to change our corporate culture through joint efforts between employees and senior management.

As indicated at the bottom, the most crucial factor is to continue these efforts without allowing them to be forgotten over time. Therefore, along with our efforts to maintain an awareness of our past system failures, we intend to disclose information such as employee engagement both internally and externally to demonstrate our strong will for change.

Lastly, although we haven't touched on it in this material, I would like to mention a little about our follow-up to this plan. We will continue to follow up on the steady implementation and establishment of the plan, as well as appropriate revalidation and reviews, while also utilizing external knowledge and expertise. Our System Failure Response Evaluation Committee will provide this supervisory role for FG/BK, and System Failure Improvement Promotion Committee will take this role for execution.

Appendix

December 30 system failure

Error occurred in transfer to other banks by failure in connecting our domestic exchange system in the shared transaction platform to the "More Time System"

(1) System failure summary

- Regarding transfer to other banks via the Zengin System, our setting time to switch from the "Core Time System" to the "More Time System (*1)" for 4:20pm on December 30 led to transfer errors after 3:30pm when the actual "Core Time" ended for operation.

  (Number of errors in remittances to Zengin System after receiving transfer requests: approx. 2,700)

- Full restoration around 4:25pm after switching to the More Time System.

(2) Cause

- Failure in clarifying necessary adjustments and system settings that are required for December 30, whose "Core Time" is not extended, unlike the last banking days of months other than December. ❶

- Our system connection did not switch to the "More Time System" when the actual Zengin System switched from the "Core Time System" to the "More Time System". ❷

(3) Post-system failure response

- Among transactions to be completed on December 30, around 300 transactions were not completed on the same day, but were completed on December 31.

- Improving confirmation process and inspection framework for timer setting regarding connection to the "Core Time System" and the "More Time System".

*1 More Time: Time period when Zengin System works for immediate transfer during weekday night time and holidays
Core Time: Time period other than above
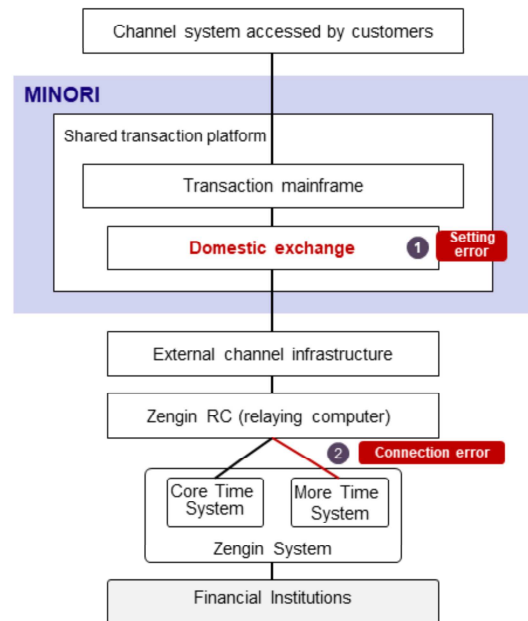
This failure on December 30 involved transferring funds to other banks via the Zengin System. The cause was a failure to clarify necessary adjustments and system settings. As a result, the connection from the Core Time System, which handles daytime processing, to the More Time System, which handles nighttime and holiday processing, was not switched. This failure resulted in errors when making transfers to other banks through ATMs and Internet banking, continuing for about one hour from 3:30 p.m. As a result, we could not process some transactions on the same day, causing a great deal of inconvenience to our customers.

January 11 system failure
System failure that made it difficult for customers to process transactions through a corporate website
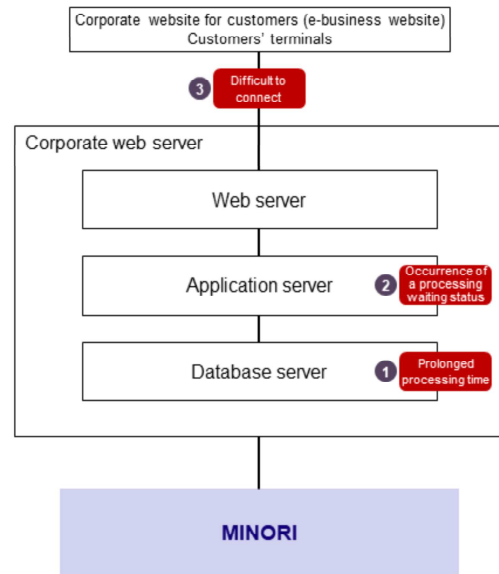
(1) System failure summary

- Prolonged processing by the database server for the e-business website caused a processing delay on the application server between 8:00 am to the time of recovery at 11:33 am on January 11, making it difficult for customers to process transactions through the e-business website.

(2) Cause

- Due to a problem caused by a conflict with irregular operations in the automatic update processing of internal information for high-speed transaction processing on the database server, the processing time on the database server became prolonged. ❶

- As a result of the above, the number of connections from the application server to the database server increased, causing the application server to wait for processing. ❷

(3) Post-system failure response

- Notification to e-business website customers by displaying a warning on the login screen or sending e-mails simultaneous to all relevant customers. Increasing the number of help desk staff who receive the calls. Directing customers to other channels such as ATMs, branch counters, Excel format data alternative submission, etc.

- All transactions via other channels were completed by EOB on January 11th.

- System recovered by resolving the internal information defect that caused the incident.

Corporate website for customers (e-business website)
Customers' terminals

❸ Difficult to connect

Corporate web server

Web server

Application server — ❷ Occurrence of a processing waiting status

Database server — ❶ Prolonged processing time

MINORI

During the January 11 failure, users faced difficulties logging into the Mizuho e-Business website, an internet banking service for corporations, from 8:00 a.m. to around 11:30 a.m. The cause was a defect in the statistical information stored in the system, which is used to access the database server at high speeds. The automatic weekend update processing conflicted with some irregular operations and did not update properly. This issue resulted in prolonged database processing times.

Although the service was restored that morning and processing was completed by the designated times, domestic and foreign exchange services were temporarily unavailable, affecting many customers.

Abbreviations

FG	: Mizuho Financial Group, Inc.	**RBC**	: Retail & Business Banking Company
BK	: Mizuho Bank, Ltd.	**CIC**	: Corporate & Institutional Company
TB	: Mizuho Trust & Banking Co., Ltd.	**GCC**	: Global Corporate Company
SC	: Mizuho Securities Co., Ltd.	**GMC**	: Global Markets Company
AM-One	: Asset Management One Co., Ltd	**AMC**	: Asset Management Company
RT	: Mizuho Research & Technologies, Ltd.	**GPU**	: Global Products Unit
		RCU	: Research & Consulting Unit