

## **Reference: Outline of the system failures that occurred between February 28 and September 30, 2021**

### **1. System failure on February 28, 2021**

During the e-Account batch switching process for Mizuho e-Accounts, the index file linked to the revocation information management table was overloaded beyond its usage rate capacity, resulting in the inability to perform all subsequent time deposit update transactions.

When such errors occur, the revocation information management table is referenced in order to carry out automatic revocation processes of the corresponding transactions. However, since the information required for revocation overloaded the above-mentioned capacity, revocation registrations could not be performed. This “double error” halted automatic revocation processes and resulted in an exclusive lock of the customer information file (CIF). The accumulation of the double error then caused the system to block the ATM and Mizuho Direct processing sections.

Transactions directed to blocked sections are not executable, and the system automatically prevents any bankbooks or ATM cards inserted into the ATMs from being ejected and returned to the customer during such cases. A large number of customers who were unable to retrieve their bankbooks and ATM cards from ATMs had to wait for a long time at the ATM locations.

### **2. System failure on March 3, 2021**

A network card in a network device at a Mizuho Bank data center malfunctioned and caused instability in network communications until the network was switched to a different system.

Although we restored normal network communications three minutes after the malfunction, a number of issues occurred before the network system change, including ATMs preventing inserted ATM cards and bankbooks from being ejected and returned to customers, as well as failed purchase transactions for a portion of Numbers lottery purchases through ATMs or Mizuho Direct online banking.

### 3. System failure on March 7, 2021

When Mizuho Bank released a program related to the default interest collection function for consumer loan products, an error occurred during the batch processing for consolidated account time deposits as a result of the required initiation process not being incorporated into the program design. In response to this error, a portion of ATM time deposit account services were temporarily suspended in order to avoid further impacts on customers.

### 4. System failure on March 12, 2021

The communication control unit of a storage device contained within the MINORI shared platform malfunctioned, which cut off communications between the storage device and server, resulting in a suspension of the operations systems that operate on the same server. Among the suspended operations systems was the consolidated platform for sending and receiving files, which sends and receive files and other information between platforms required for center batch processing. The suspension of this operations system resulted in a delay in center batch processing, which caused, among other issues, delays mainly in foreign exchange remittance processing.

### 5. System failure on August 20, 2021

Within the operations platform consolidated platforms in Mizuho Bank's main IT system center, a "double failure" occurred in database server No. 1 (main) involving a hard disk malfunction followed by a brief malfunction in the redundant backup hard disk. Although database server No. 2 (backup) was configured in a redundant structure, the double failure disabled access to the information required for the automatic switch to the server. Since the automatic switch to database server No. 2 (backup) was not operating normally, and because the manual switch to database server No. 2 failed due to improper steps taken for required procedures, recovery of the system was greatly delayed. Recovery was ultimately achieved by switching the system to a database server of a sub-center established in case of emergencies.

This system failure resulted in a temporary suspension of transaction operations in front-office terminals and branch tablets, as well as other issues such as delayed processing for outgoing foreign exchange remittances.

#### 6. System failure on August 23, 2021

Parity errors occurred in a network device at Mizuho Bank's main IT system center, which resulted in large volumes of data logs being output. The increased load on the system processor combined with several other factors led to instability in the network device.

This resulted in interrupted network communications in the main IT system center, which led to a portion of ATMs and front-office terminals to become temporarily inoperable.

#### 7. System failure on September 8, 2021

A malfunctioning disk component in the backup system's disk device for the shared transaction platform led to a temporary interruption in network communications with other systems.

This caused a temporary outage in the connection to the main system's disk drive and also led to unresponsive access in certain data areas, resulting in a temporary suspension of a portion of ATMs among other issues.

#### 8. System failure on September 30, 2021

The month-end batch processing in the integrated settlement management system (ISCS), which supports foreign exchange remittance transactions, placed an elevated workload on the system, resulting in a slowdown of the ISCS processing of transaction system messages. Although the confirmation workflow was changed around 3:00 p.m. in order to complete the transactions the same day for the pending transaction system messages, same-day processing for a portion of the pending transactions was not successful. Furthermore, although no unlawful transfers were handled for the transactions processed following the workflow change, the confirmation obligations required of banks in accordance with Article 17 of Japan's Foreign Exchange and Foreign Trade Act were not adequately performed.