

Visualization of Stock Settlement Progress

Japan Securities Depository Center, Inc.

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- I. What is settlement progress visualization?
- II. About the visualization service of settlement progress
- III. About monitoring of settlement progress by JASDEC

I . What is settlement progress visualization?

About Our Book-Entry transfer system

- Our Book-Entry transfer system for stocks processes approximately 500,000* book-entry settlements per day. The peak processing time is between 9:00 and 10:00 a.m. During normal times, approximately 70% of settlements are completed during this period.

*Reference data for the Book-Entry transfer system

Reference data		Amount
Breakdown of the number of transfers processed per day	Transfers related to street-side transactions	approx. 115,000 transactions/day
	Transfers related to customer-side transactions, etc.	approx. 385,000 transactions/day
Number of stocks handled		approx. 4,000
Total account balances		approx. 337.5 billion shares

I . What is settlement progress visualization?

Importance of settlement progress visualization

- If an incident such as a system failure occurs and processing is delayed, there can be a significant impact on the various settlements scheduled for the day.

- For this reason, a web service is scheduled to be provided in 2024 for users of the Book-Entry transfer system (securities companies, custodians, trust banks, etc... about 180 companies) to enable them to inquire about the progress of settlement.

⇒Explained in detail on pages 4-5

- In addition, we are currently monitoring the settlement progress on a daily basis to ensure early detection and prompt response to any incidents that could affect settlements.

⇒Explained in detail on pages 6-8

II . About the visualization service of settlement progress

Web services for users (1/2)

- A web service for users of the Book-Entry transfer system is scheduled to be provided in 2024 to enable them to inquire about the status of settlement progress.
- The purpose of this is to "improve the quality of our current service" of the web services provided by our company to users, and no additional usage fees will be charged.
- Two screens will be provided: one that displays the progress of all users' settlement progress status (see screen below) and one that displays the progress of settlement involving individual companies (see page 5).

Screen Image

Display of overall settlement status

xx Settlement							
Last Update	Scheduled Number of Stocks	Scheduled Number of Cases	Settlement Amount	Uncompleted Number of Stocks	Uncompleted Number of Cases	Outstanding Settlement Amount	Settlement Rate (Number of Cases)
7:00	10,000	2,800	1,500,000	8,000	1,800	1,200,000	64%
...	10,000	2,800	1,500,000	100	1	100,000	99%

II . About the visualization service of settlement progress

Web services for users (2/2)

- In addition to the screen displayed on the previous page, the following screen will be provided to enable the user to check the settlement progress of an individual company.
- This will allow us and our users to keep track of the progress of the transfer process, and to share this information with the recipient of the transfer and us at all times.
- We believe that this Web service can be effectively utilized when responding to incidents such as system failures.

Screen Image

Display of individual settlement status

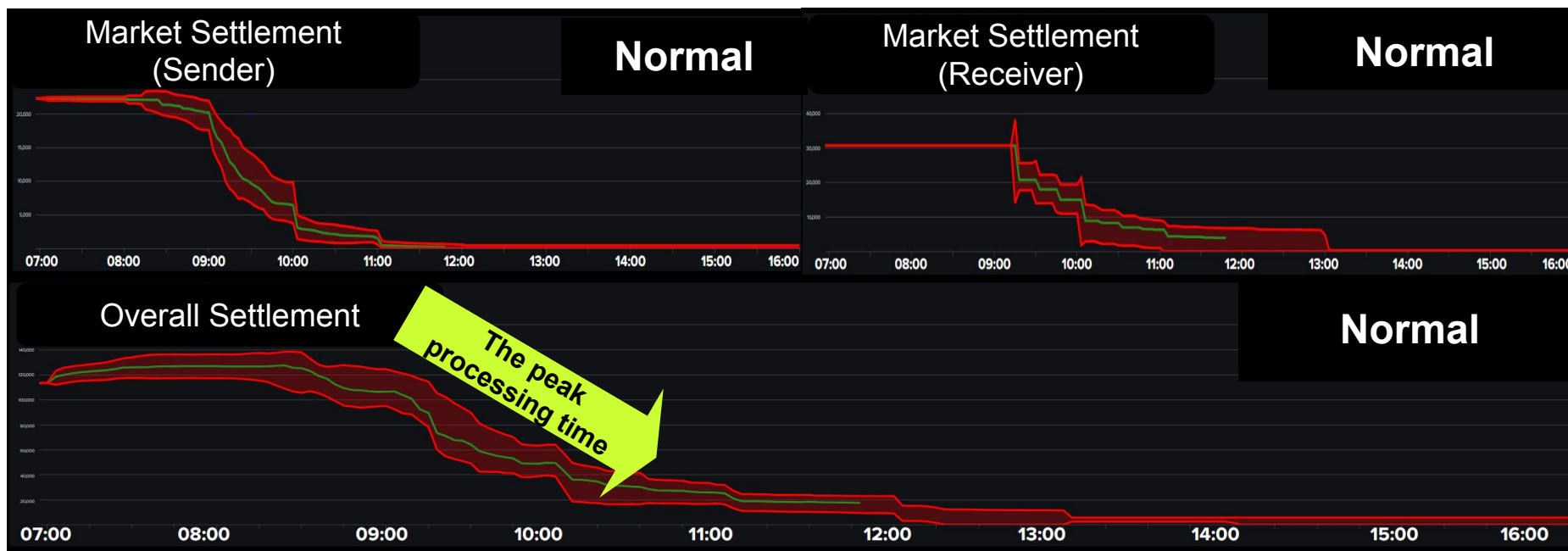
AA Securities

xx Settlement								
Last Update	Account	Scheduled Number of Stocks	Scheduled Number of Cases	Settlement Amount	Uncompleted Number of Stocks	Uncompleted Number of Cases	Outstanding Settlement Amount	Settlement Rate (Number of Cases)
7:00	00	5,000	1,800	750,000	3,000	900	450,000	50%
...	00	5,000	1,800	750,000	100	1	50,000	99%

III. About monitoring of settlement progress by JASDEC

Settlement progress monitoring system

- The following screen, which displays the real-time status of settlement progress, is always ^{*1} displayed in our office to monitor the “individual progress of various settlements ^{*2}” and “overall progress of all settlements combined.”
- In case there is a delay in settlement, a warning is displayed on the screen so that we are immediately aware of the delay.



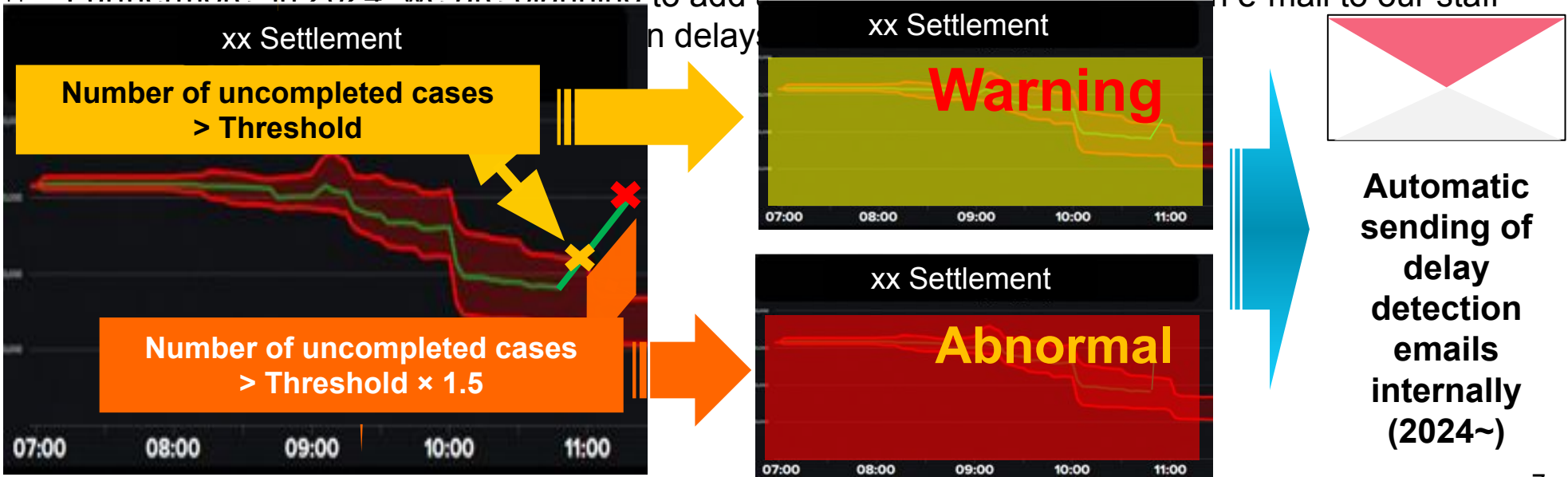
^{*1} The system will be monitored from 7:00, the service start time of the Book-Entry transfer system, to 15:30, the final settlement time for the day (the final settlement time for street-side transactions is 13:00).

^{*2} In addition to the screen shown above, the Settlement progress monitoring system displays the progress of “FOP Settlement”, “DVP Settlement service for NETDs(non-exchange transaction deliveries)” and “DVP Settlement of Stock Lending.”

III. About monitoring of settlement progress by JASDEC

How to detect settlement delays

- The number of transactions that have not been processed out of the number of settlements scheduled for the day (the number of uncompleted cases) is compared with the historical data to detect settlement delays.
- This comparison is done on a real-time basis, and if the number of current uncompleted cases (**green line**) exceeds the threshold (**red line**) calculated by the system based on machine learning of the past three months' data, "Warning" or "Abnormal" is displayed on the screen depending on the degree of excess.
- Furthermore in 2024 we are planning to add a new function that will send an e-mail to our staff



III. About monitoring of settlement progress by JASDEC

Response to delayed settlement detection

- When a "Warning" or "Abnormal" delay is detected, we get detailed information (reports) from the settlement progress monitoring system and conduct an investigation, including confirmation of the company whose settlement is delayed.

(Report Image)

Company Name	Settlement Type	Reason for non-completion	Uncompleted number of cases
AA Securities	FOP Settlement	Temporary suspension of transfers	10
BB Trust Bank	DVP settlement services for NETDs	Securities balance shortage	50
....

- If the delay continues, we will check whether the delay is due to a problem by checking whether the Book-Entry transfer system is operating normally or by contacting to the company whose settlement is delayed to check the situation.
- This ensures early detection of incidents such as system failures and prompt and appropriate response to such incidents.

Thank you!

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