New ETF Creation/Redemption Platform

Briefing Session

Tokyo Stock Exchange, Inc.

JPX Market Innovation & Research, Inc.

Japan Securities Clearing Corporation

February 26-27, 2025

JPX
JAPAN EXCHANGE GROUP

New System

System Name

CredNex

Creation/Redemption + Nexus

Enable **speedy** and **comfortable** creation/redemption

CredNex will allow the use of relay services for creation/redemption including:

- **Application and Approvals**
- **Clearing applications**
- **Sending and receiving information**

Background to the New System

- As the ETF market expands, the importance of creation/redemption as a source of liquidity also increases
- Although the current ETF Creation/Redemption Platform went live in 2020, problems emerged due to the increase in the number of transactions as the ETF market expanded, and the environment needs to be improved for future market growth.

2020
Current ETF C/R
Platform go live

JSCC clearing function is available in the unified application flow.

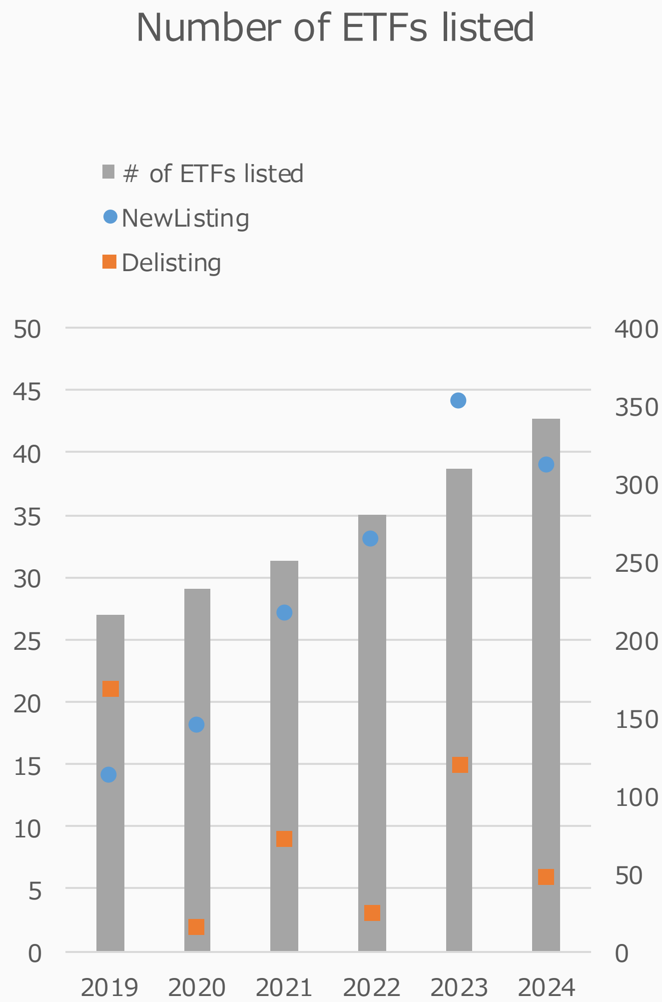
As the number of applications increases, various needs become apparent

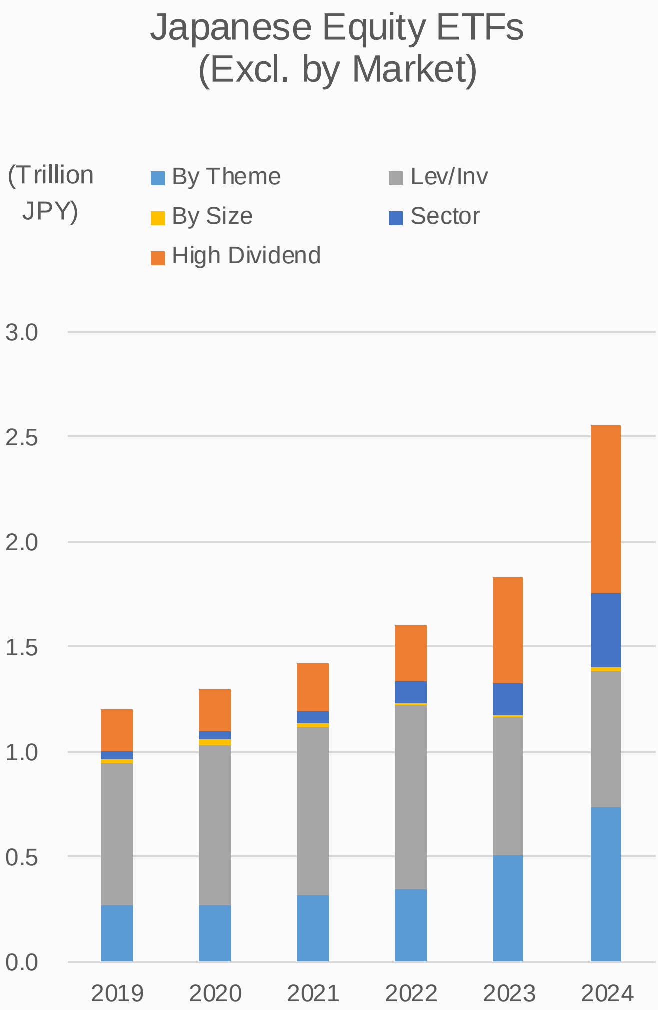
<u>Specific problem : The creation/redemption process takes time</u>

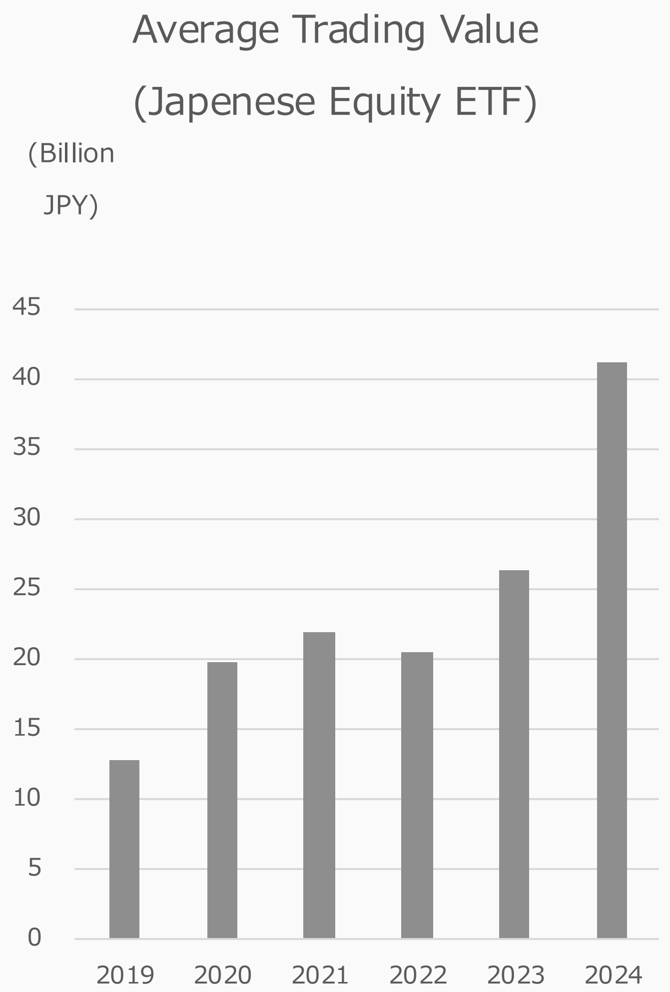
- Due to many manual tasks, especially for APs, there is a heavy workload and a **limit on how many requests can be handled** in a single day.
- Because the workflow is inefficient, **in practice the cut-off time for creation/redemption requests is earlier than official cut-off time** (which prevents liquidity providers from providing liquidity right up until the end of the trading session).

(Reference) Expansion of ETF market size

- The number of ETFs, AUM, and trading value are all expanding rapidly.



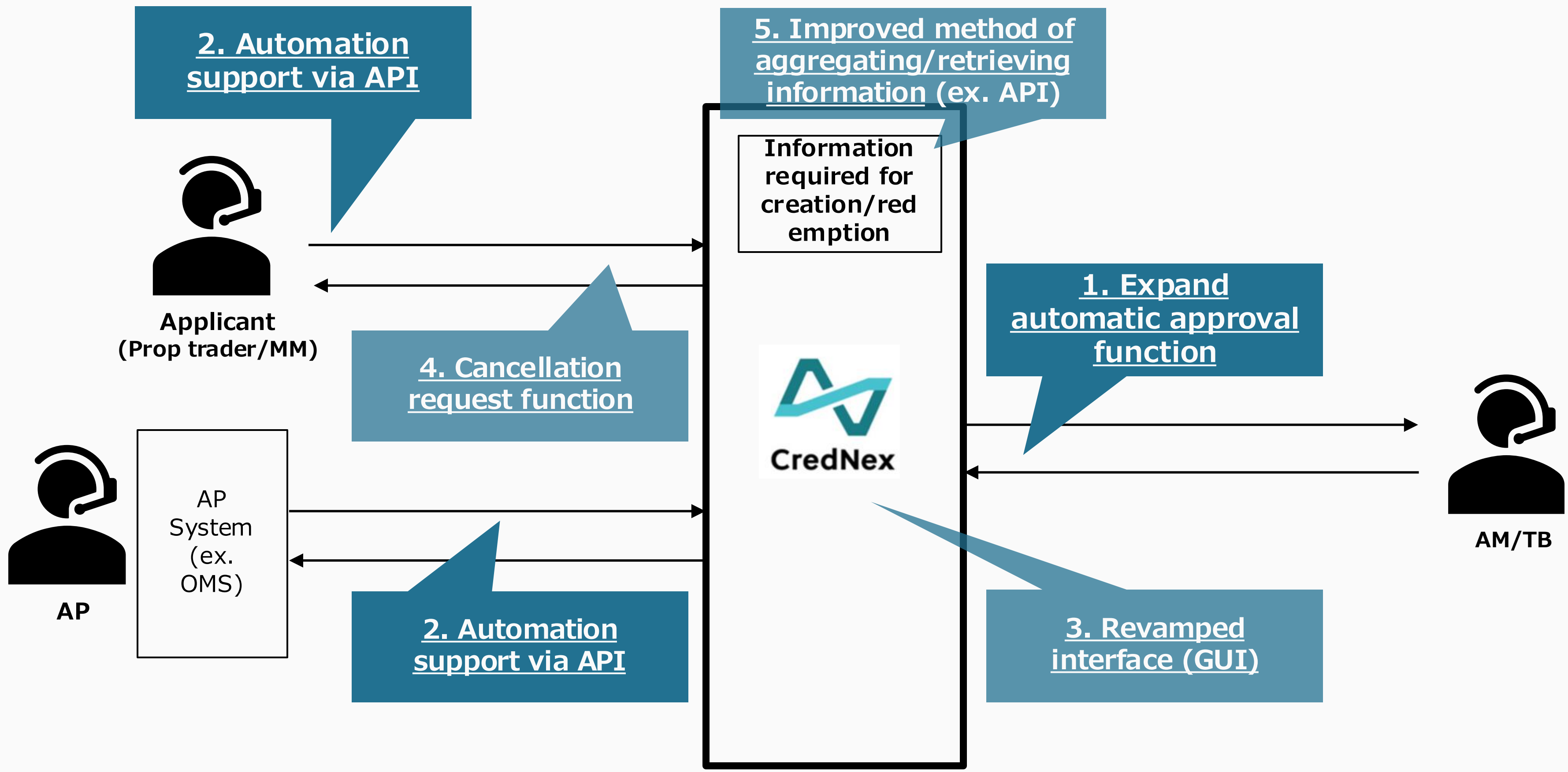




*Source: TSE

Key Features of CredNex

- By providing APIs and an automatic approval function, **the time from request to approval can be greatly reduced** compared to the current system.
- By eliminating manual operations, traders on the proprietary trading desk and market makers (MMs) can **submit creation/redemption requests even right before the market close**.
- In addition to the application-process features, information retrieval and user interface will be improved.



Overview of CredNex

AP AM TB

JPX

★ : New/Changed Functions (Note1)

		AP	AM	TB
Prior Preparation	PCF	Retrieve (GUI/API) ★	Register/Delete (GUI)	Retrieve (GUI)
	Application Blackout Dates	Retrieve (GUI/API) ★	Register/Delete (GUI)	Retrieve (GUI)
	ETF Issue Master	Retrieve (GUI/API) ★	Register/Change (GUI) (Note2) ★ Incl. Clearing Settings	Retrieve (GUI)
Application	Application	Submit/Approve (GUI/API) ★	Approve (Auto/Manual) ★ Incl. Clearing Settings	
	Cancellation Request	Submit/Approve (GUI/API) ★	Approve (Auto/Manual) ★	
	Application List	Retrieve (GUI/API) ★	Retrieve (GUI/API) ★	Retrieve (GUI)
Statement	Statement File	Retrieve (GUI/API) ★	Register/Change (GUI)	Retrieve /Approve/Reject (GUI) ★

Notes:
1: The functions described are not finalized. For approximate release timing of each function, please refer to the page 12–13 “Release Schedule.”
2: Some fields of the ETF issue master—such as issue codes, settlement schedules, and clearing/non-clearing—will be registered by JPX based on application forms. Fields like the cutoff time and auto-approval criteria will be changed to a format where AM can directly upload CSV files to CredNex for registration.

Key 1: Expanded Automatic Approval Function

AM

- In CredNex, **detailed criteria settings for automatic approvals will be available** (Note1). Requests that violate set conditions will not be approved automatically and instead require manual approval.
- Automatic approval criteria can be set separately for creation and redemption for each ETF. These criteria are part of the ETF issue master settings.

【Available Criteria（Note2）】

: Available at the initial go-live (scheduled for September 2025)

: Provided after the full go-live (scheduled for June 2026)

Date Check		Limit request date to today only			
Size Check	Per application	Maximum shares	Percentage of AUM	Maximum amounts	Maximum units
	Cumulative limit per request date	Maximum shares	Percentage of AUM	Maximum amounts	
	Netted figure (Note3)	Maximum shares	Percentage of AUM	Maximum amounts	Remaining total units (Note4)

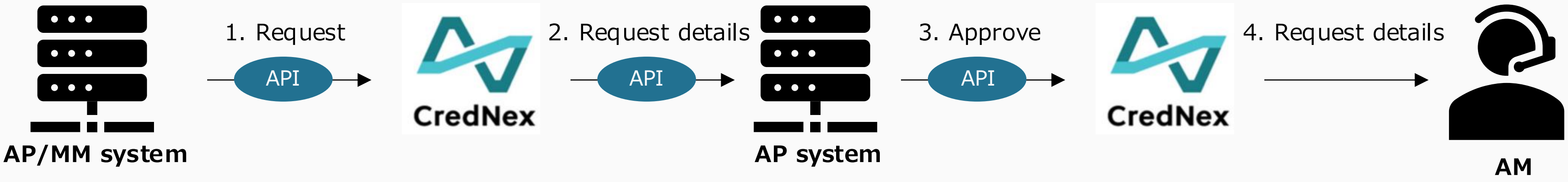
Notes:
1: Use of the automatic approval function is optional, not mandatory. In addition to expanding automatic approval, the system will strengthen validation checks on request contents (checks on request units, cutoff times for application including treasury stock, etc.). Detailed validation check list are planned to be released around May 2025.
2: The criteria listed above are not finalized. For approximate release timing of each function, please refer to the page 12−13 “Release Schedule.”
3: An upper limit can be set on the net amount for the same day. (For creation, the net is calculated as “total creation − total redemption.”)
4: Alert when remaining total units fall below a threshold.

Key 2: Automation Support via API

AP

- In addition to operations via GUI, **Web-API will be available** (Note1).
- As a first stage, functions for AP (requests -> AP approval, retrieval of information (Note 2)) will be available via API. Functions for AM (e.g., retrieval of request information via API) will be expanded sequentially.
- By leveraging the API throughout the workflow, users can promote automation.

【Image of application flow with API】

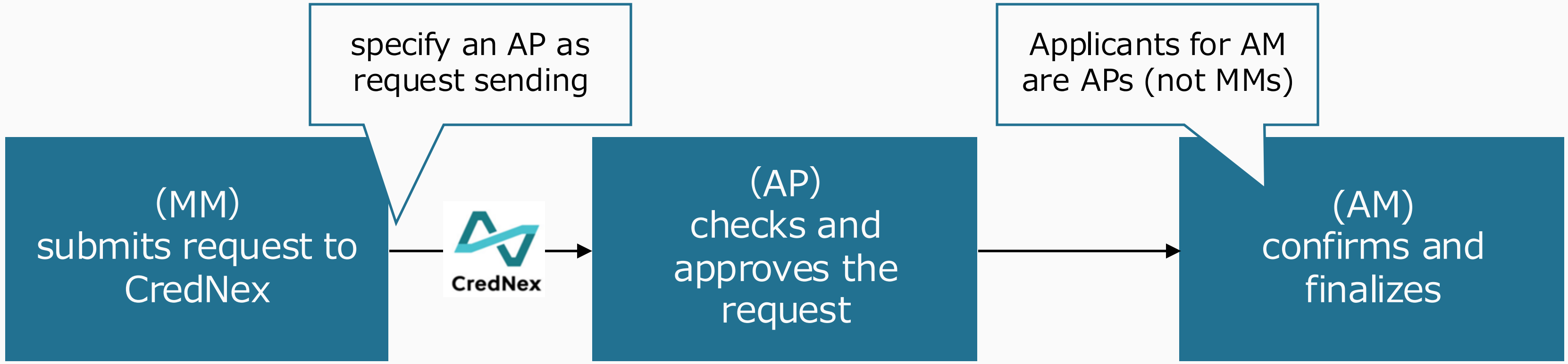


Notes:
1: For details, please refer to the "ETF Creation Redemption Platform (CredNex) API Specification". Version 1.0 will be published as of this briefing session, but the specification may change based on user feedback. In that case, TSE will notify users and publish revised specifications.
2: This includes the list of blackout dates for requests, statement files, the ETF issue master, and creation/redemption PCFs. JSON format is available for retrieval.

Key 3: Connection with Market Makers

AP

- **MMs can connect directly to CredNex** and send request (Note1) and retrieve information.
- The **AP** specified in the request **performs risk checks** (Note2) **and approves it**, finalizing the request.
- The MM interface is currently planned to be API-only at the initial go-live.

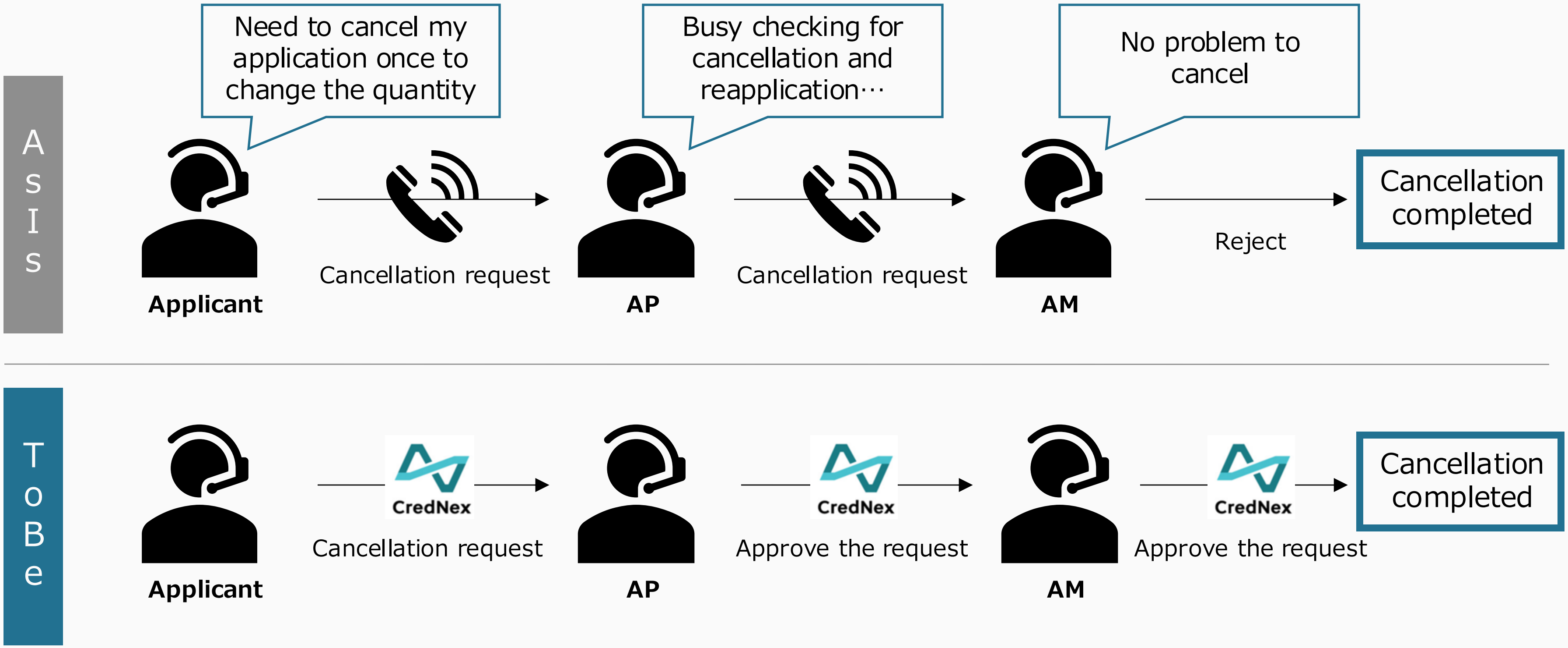


Notes:
1: The MM's creation/redemption request becomes official only after it is approved by the AP. The AM sees the AP as the applicant, so the AM will not see the MM's information.
2: The AP is expected to apply its own risk checks. CredNex will apply validation checks on the request. Details of the validation checks will be provided around May 2025.

Key 4: Cancellation Request

AP AM

- **It will be possible for an MM or an AP (prop trader) to send a cancellation request even after the AM has already approved the request.** This helps reduce the communication cost (currently done by phone, etc.).
- The cancellation becomes **effective only if the AM approves** (Note1) **the cancellation request** (Note2).



Notes:
1: At the initial go-live, **cancellation requests will not be eligible for automatic approval by the AM**; manual approval is always required.
2: **Cancellation is not guaranteed to be approved**. Submitting a request purely intending to cancel it later is prohibited by terms and conditions.

Key 5: Improvements in Information Retrieval AP

- In addition to the existing information (creation/redemption PCF, list of blackout dates, and statement files), the **ETF issue master** (Note1) **will be available**.
- Each information can be downloaded via file AND **will also be available via API**.
- For the list of blackout dates, the file download format will be changed to a calendar-style format (Note2).

【Available Information】

	【New】API (json format)	Manual Download
Blackout Dates	○	○ (File format will be changed)
Statement File	○	○
【New】 ETF Issue Master	○	○
PCF for C/R (Note3)	○	○

Notes:
1: The ETF issue master consolidates all the basic information needed for creation/redemption requests (e.g., cutoff times, settlement schedule, request units).
2: The upload file format used by AM to register blackout dates remains unchanged.
3: At the initial go-live, creation/redemption PCF provision is not included. For approximate release timing of each piece of information, please refer to the page 12–13 "Release Schedule".

Release Plans

AP AM TB

- **September 29, 2025: Initial go-live will release functions for cash created ETFs (Cash ETFs)**
  - All functions for the creation/redemption flow for cash ETFs will be included. (Functions specific to in-kind ETFs are not included in this phase)
  - It will also accommodate clearing functions for cash ETFs, scheduled to be effective the same day.

Sep 2025 Functions for Initial Go-Live	
All	• Application List GUI • Application List File Download • Statement File Download (for cash ETFs) • Blackout Calendar File Download • Email Notifications **• ETF Issue Master File Download** **• ETF Issue Master View GUI**
AP MM	• Application Registration GUI (for cash ETFs) **• Application Registration API (for cash ETFs)** • Application Approval GUI *Note: MM excluded **• Application Approval API *Note: MM excluded** **• Information Retrieval API (Application List, Statements, ETF Issue Master, Blackout Calendar)** **• Cancellation Request GUI & API** **• Approval for Application Cancellation GUI & API *Note: MM excluded**
AM	• Manual Application Approval **• Automatic Application Approval** • Statement File Upload GUI (for cash ETFs) • Blackout Dates Calendar File Upload GUI **• ETF Issue Master File Upload GUI (Basic Information, Automatic Approval Conditions)** **• Approval for Application Cancellation GUI**
TB	• Approval/Cancellation for Statement GUI

Note: The features in bold are new functionalities to be added in CredNex.
Note: The listed features are only the current assumptions and are not confirmed information.
Note: The GUI will be provided in Japanese only.

Release Plans (Continued)

AP AM TB

- **June 2026 (Planned): Full go-live will release all functions including for in-kind ETFs**
  - Functions specific to in-kind ETFs (e.g., PCF registration and retrieval) will be included.

Jun 2026 Functions for Full Go-Live	
共通	• **Dashboard GUI** • Statement File Download (for in-kind ETFs) • PCF File Download
AP MM	• Start Handling in-kind on the Application GUI • **Start Handling in-kind ETFs via the Application API** • **Information Retrieval API (PCF)**
AM	• PCF File Registration • In-Kind ETFs Statement File Registration • **Automatic Application Approval (Expansion of Approval Conditions)** • **ETF Issue Master Editing GUI (Expansion of Automatic Approval Conditions)** • **Information Retrieval API (Application Information, ETF Issue Master, Statement, Blackout Calendar, PCF)** • **Automatic Approval for Cancellation Request**
TB	

Note: The features in bold are new functionalities to be added in CredNex.
Note: The listed features are only the current assumptions and are not confirmed information.
Note: The GUI will be provided in Japanese only.

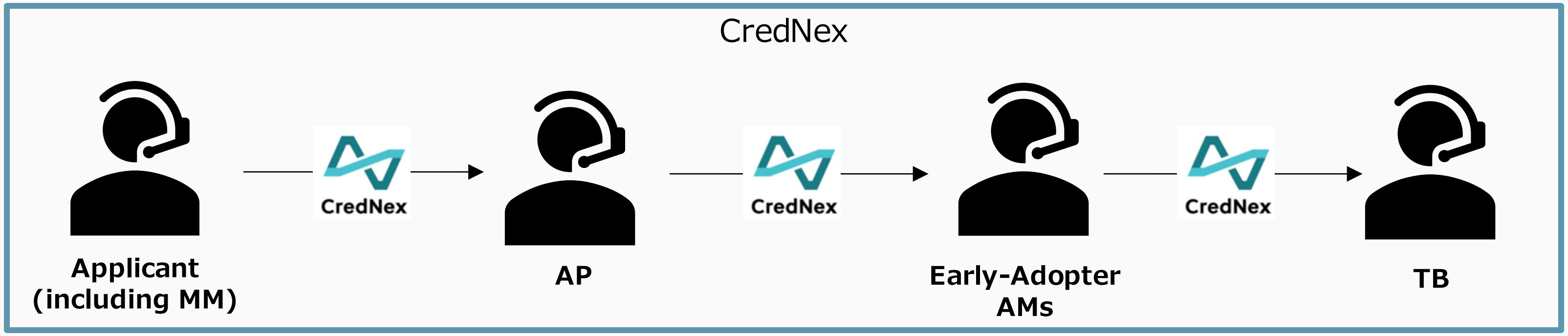
Workflow at the Initial Go-Live (September 2025)

AP AM TB

- Some AMs (labeled “**early-adopter AMs**”), including several large ones, will participate from the initial go-live.
- From the initial go-live, for the cash ETFs issued by early-adopter AMs, requests **must** be submitted via CredNex. The current ETF platform **will NOT** accept requests for those issues.
- For all other issues, the current ETF platform remains in use.

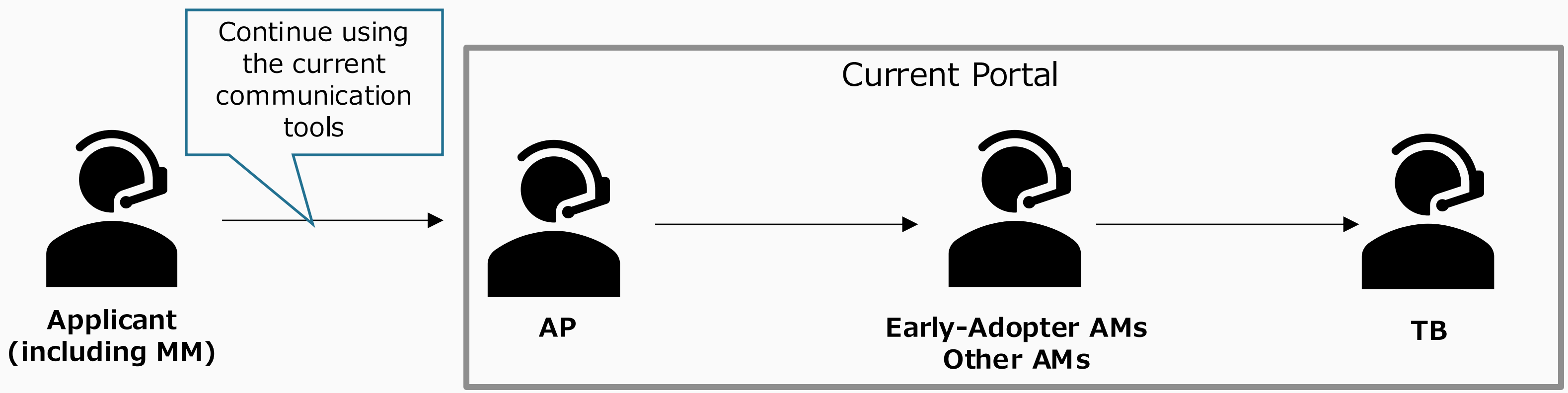
Early-Adopter AM

Cash ETF



Early-Adopter AM
In-Kind ETF

Other AM
Cash ETF
In-Kind ETF



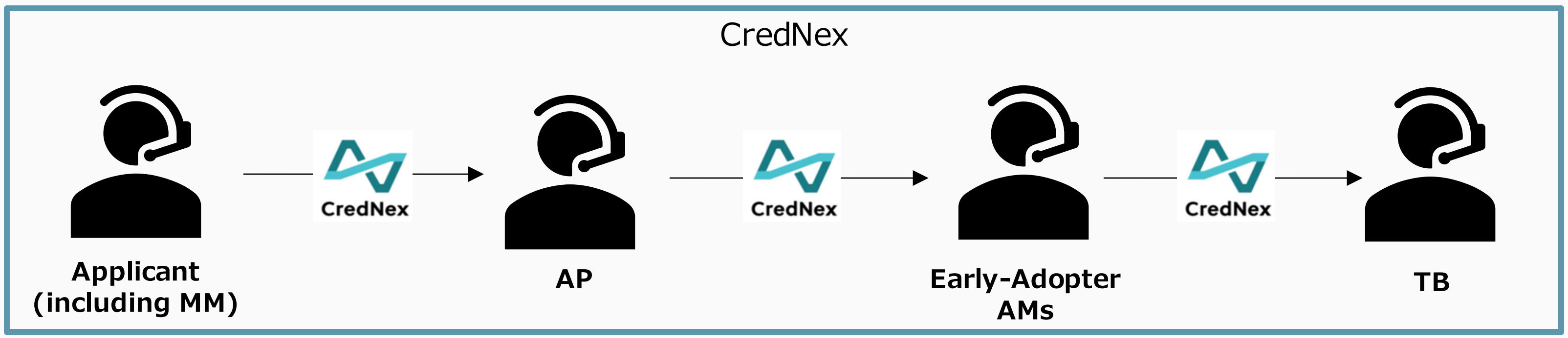
Notes: For early-adopter AMs’ cash ETFs, it will be impossible to obtain information such as blackout calendar or statements through current JSCC portal.

Workflow at the full Go-Live (June 2026)

AP AM TB

- At the full go-live, **all AMs** and **all ETF funds** must be migrated all at once.
- After that point, creation/redemption operations for every user and every fund will be conducted only on CredNex.
- The current platform will be retired once the full migration is complete.

ALL ETFs



Preparatory Steps toward the Initial Go-Live (AM Perspective)

AM

JPX

	For Early-Adopter AMs	For Other AMs	What CredNex Secretariat Will Provide
April 2025	1. Review TOS / application forms. 2. Submit required documents by **April 30**.	Decide whether or not to migrate early (by April 30). <u>If you do not apply by that date, you will join the full migration in 2026.</u>	Today: Publish usage regulations. Early March: Publish application forms. Mid-April: Publish detailed testing schedule.
May – July 2025	**[Staging Environment]** **From May 20**: Start of user testing.		Early May: Announcement of which ETF issues are covered by CredNex. From May 20: Open testing environment and provide user IDs/passwords.
August – September 2025	**[Production Environment]** **From August 4**: Start of user testing on the production environment. Two weekend/holiday test sessions in August and September. Completion of user testing by September 12.		Open production environment and provide user IDs/passwords. The secretariat will handle user inquiries about tests/specs.
September 29, 2025	The initial go-live		
October - *For the full go-live	Conduct user testing for in-kind ETF functionality (starting around March 2026).	Conduct user testing covering both cash and in-kind ETF functions from March 2026 onward.	The final production environment for the full go-live is also planned around March 2026.

Note: This is the current plan, and there is a possibility that the timing may change.

Preparatory Steps toward the Initial Go-Live (AP/TB Perspective)

AP TB

	For all APs and TBs	What CredNex Secretariat Will Provide
April 2025	1. Review TOS / application forms. 2. Submit required documents by **April 30**.	Today: Publish usage regulations. Early March: Publish application forms. Mid-April: Publish detailed testing schedule.
May – July 2025	**[Staging Environment]** **From May 20**: Start of user testing.	Early May: Announcement of which ETF issues are covered by CredNex. From May 20: Open testing environment and provide user IDs/passwords.
August – September 2025	**[Production Environment]** **From August 4**: Start of user testing on the production environment. Two weekend/holiday test sessions in August and September. Completion of user testing by September 12.	Open production environment and provide user IDs/passwords. The secretariat will handle user inquiries about tests/specs.
September 29, 2025	The initial go-live	
October - *For the full go-live	Conduct user testing for in-kind ETF functionality (starting around March 2026).	The final production environment for the full go-live is also planned around March 2026.

Note: This is the current plan, and there is a possibility that the timing may change.

Overall Schedule

AP AM TB

Category	2025	2026
Milestones	★Open Staging Env 20 May ★Open Production Env 4 August ★Initial Go-live 29 September ★Explain for the full go-live	★Open Staging Env March *planned ★Full go-live June *planned ★Migration June *planned
User Test	[Staging Environment] User test for the **initial go-live** [production Env] User test for the initial go-live ◆Weekend/holiday test ◆Weekend/holiday test	[Staging Environment] User test for the **full go-live** [production Env] User test for the full go-live (Weekend)
Document	◆API/File Specs and TOS (published Today) ◆Test Specs (Mid-April) ◆Issues to migrate at User Manuals (Early May) ◆ API/File Specs and TOS (December)	◆Test Specs (February) ◆User Manuals (March)
Forms	Application Period ◆Open Application Form ◆Deadline Application Period for production usage ◆Open Application Form	◆Deadline of application submit for production usage

Note: The schedule for the full go-live is based on the current plan, and further details are expected to be provided around fall 2025.

Fee Structure Overview

AP AM TB

- To cover the rising development costs, revise the usage fees are planned
- With the introduction of CredNex, significant improvements in convenience are expected.
- Additionally, by continuously adding new features, TSE aims to provide even better solutions.

	Charge on current portal	Impact of development	**Charge on CredNex**
AM	• Basic fee: Based on the number of ETF issues managed • Pay-as-you-go: Based on the number of clearing cases	• Automation and labor-saving of approval • Automation of information provision • An increase in liquidity supply is expected	• Basic Fee:20% increase in the basic fee • Pay-as-you-go: The usage-based charges will remain the same, but the upper limit will be removed
TB	• Fixed fee only	• Unchanged	• Unchanged
AP	• Basic fee: Based on number of ETF issues managed • Pay-as-you-go: Based on number of applications, statements, and clearing cases	• Automation of applications • Automation of risk checks • Automation and labor-saving of information retrieval • Expansion of business opportunities	• Basic fee: 20% increase from current • Pay-as-you-go: 20% increase in per-transaction fees and statements, with no maximum cap on the total • Additional pay-as-you-go fees for clearing, also without an upper limit
MM	• Currently none	• Applications will be possible • Effective extension of the deadline • Automation and labor-saving of information retrieval	• Set a basic fee *When used by registered MM, the fee will be low, and when used by AP, the fee will be even lower.

*Registered MM: Market makers designated under the Tokyo Stock Exchange's "Market Making Incentive Program."

Fee Details

AM TB

JPX

Basic Fee for AM

1. Including In-kind ETF
Depends on registered issues

			Monthly fee
0	～	5	100,000
6	～		150,000

2. Not including In-kind ETF
Depends on registered issues

			Monthly fee
0	～	5	50,000
6	～		150,000

In-kind and cash ETF
Depends on registered issues

			Monthly fee
0	～	5	120,000
6	～	10	180,000
11	～		240,000

Pay-as-you-go for AM

①In-kind ETF
Depends on number of the clearing cases

②Cash ETF
Depends on number of the clearing and C/R cases

			Per one				Per one
1	～		1,000	1	～		500
Limit							50,000

①In-kind ETF
Depends on number of the clearing cases

			Per one
1	～	50	1,000
51	～		800

②Case ETF
Depends on number of the clearing and C/R cases

			Per one
1	～	50	500
51	～		400

Basic Fee for TB

All AM

Monthly fee	100,000

All TB

Monthly Fee	100,000

Fee Details

AP

JPX

Basic Fee for AP

All AP	
Monthly fee	50,000

All AP	
Monthly fee	60,000

Pay-as-you-go for AP

C/R Application

In-kind (Per one application)	1,000
Cash (Per one application)	500

Statement

In-kind (Per one statement)	1,000
Cash (Per one statement)	500

Clearing Application

①In-kind ETF

			Monthly fee
1	～	4	50,000
5	～	8	100,000
9	～	12	200,000
13	～	20	300,000
21	～	40	400,000
41	～	100	500,000
100	～		600,000

②Cash ETF

Per one clearing	500

*Clearing for cash ETF is not available until Sep 2025

C/R Application Function

In-kind (Per one application)	1,200
Cash (Per one application)	600

Statement Function

In-kind (Per one statement)	1,200
Cash (Per one statement)	600

Clearing Application

①In-kind ETF

- 20	Per one	12,000
21 - 50		9,000
51 - 100		6,000
100-		3,000

②Cash ETF

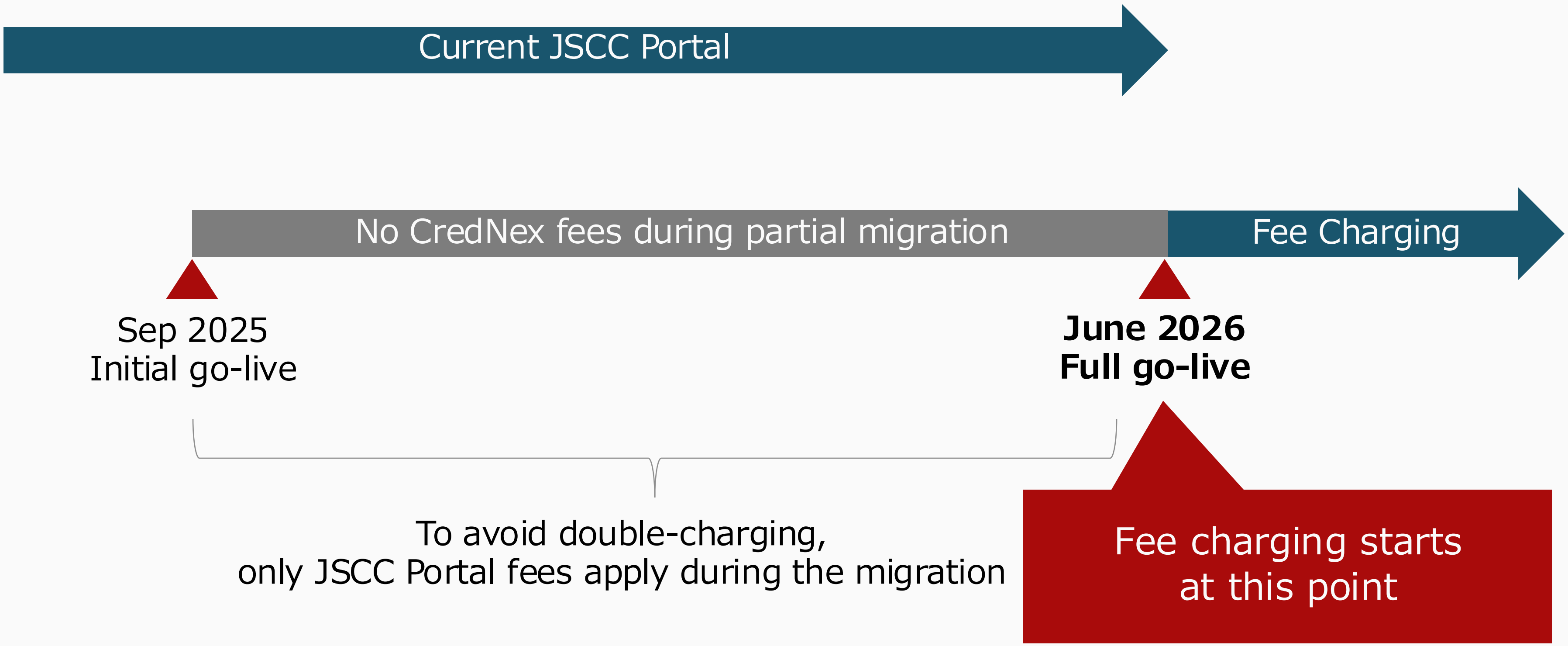
Per one clearing	1,000

Basic Fee for Application Function

Depends on User Type	
AP	50,000
Designated MM	100,000
Other cases	200,000

Timing of Fee Charging

- No CredNex fees is charged during partial migration.
- Since the new platform is operated by the TSE, we will not charge CredNex fees until the entire company’s migration is done, avoiding double charges.



Application Contents

AP AM TB

- TSE plans to distribute application forms from March and start accepting application (Note 1).
- For the initial go-live, TSE expects the forms to be downloaded, filled out, and sent back by email (Note 2).

User Types (AM, AP, TB each has specific application forms)

	User Registration, Addition, and Deletion	Production Environment	API	Issue Master (Note 3)	AP Master	MM designated by AP
Explanation	Apply to be a user of CredNex.	Register the details from the test environment in the production environment as well.	Register the IP address and perform the API issuance (Note 4).	Apply for the ETF issues and trust banks handled by CredNex.	Specify the AP for each ETF issue.	Specify the MM who can designate AP as the application destination.
AM	X	X	X	X	X	
AP	X	X	X			X
TB	X	X				
MM	X	X	X			

Note 1. The contents may change from what is described.
Note 2. In the future, this process might be done on another platform.
Note 3. The issue master includes the issue code, settlement schedule, classification of JSCC clearing, etc.
Note 4. We generally require specification of a unique global IP address (multiple addresses can be specified).

Future Information Retrieval and Notification Method

AP AM TB

Information Retrieval Method

- Documents such as specifications, application forms, and details of the test schedule will be made available on the following dedicated portal site: https://jpxsystem.com/doc/etfpf/doku.php

Notification Method

- Updates to the portal site and other announcements will be sent to each user via the following email address.
- For those who registered their email address when applying for this information session, it will be automatically registered as the recipient, so no further registration is required.
- If you wish to register another email address for notifications, please send an email to the address below, including your company name and name in the subject line.
  Email: ask-crednex@jpx.co.jp

FAQ

Q&A

- Due to time constraints, the Q&A will be handled separately.

FAQ Inquiry Method

- For questions related to this initiative, please contact the following email address: ask-crednex@jpx.co.jp

FAQ Publication Method

- For inquiries that require widespread notification, we will post them on the following portal site, with company names kept confidential, as necessary: https://jpxsystem.com/doc/etfpf/doku.php

CredNex

Thank you

Appendix

Guidelines for Procedures in the Current PF Due to Migration

AP AM TB

JPX

- For applications related to the current PF due to migration, please submit the required application forms through the Target-JSCC website following the migration patterns ① or ② below.

Migration Patterns		User	Application forms	Deadline	Notes
① Partial Migration	When only certain ETF issues are migrated to the CredNex, while continuing to use the current PF (Assuming the AM's case that cash ETFs are migrated first)	AM	ETF銘柄マスタ申請書 (ETF Issue Master Registration Application)	Up to 2 weeks before the scheduled migration date	• On the partial migration date, the AP and TB for the relevant issues in the current PF will be deactivated. • For AM, please contact AP/TB in advance as necessary. • **When all issues are migrated to the new PF and the use of the current PF is discontinued, you will also need to submit the application ②.**
② Full Migration	When switching to use only CredNex and discontinuing the use of the current PF (Assuming Full Go-live in June 2026)	ALL	ETF設定・交換プラットフォーム利用申請書 (ETF Creation/Redemption Platform User Application Form)	Up to 1 month before the scheduled migration date	• On the full migration date, all relevant information, including user IDs, ETF issue Master data, and AP master data in the current PF, will be deactivated. • Starting from the month after the migration date, no usage fees for the current PF will be charged.

- Since CredNex will be operated by the Tokyo Stock Exchange, after the PF replacement, the ETFPF-related application documents at JSCC will be abolished once the migration for each company is completed.
- Regarding procedures related to clearing, since JSCC will continue to be the operating entity after the PF replacement, various application forms (Forms J-01 to J-08) related to the "ETF Creation/Redemption Settlement Operation Manual (ETF Special Clearing Participant/Registered ETF Trust Bank)" should still be submitted through the Target-JSCC website.

Recommended User Environment

CredNex provides a GUI interface via a browser.
The following environment is recommended:

- **OS**: Windows 11 or later
- **Network**: Broadband Internet connection
- **Browser**: Microsoft Edge or Google Chrome