

DTCC



Equities Clearing & Settlement Transformation

FUNCTIONAL CHANGE DOCUMENT

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SUMMARY

1.1 Background

Introduction to DTCC's Clearing and Settlement Transformation

DTCC's unchanging mission for over 50 years is to serve the industry as the strongest, most resilient, centralized platform in the world for the clearing and settlement of securities transactions. As the fintech revolution continues to accelerate the pace of change, DTCC's infrastructure must also continue to be positioned for the future, with enhanced performance, security, and scalability across our Equities Clearing and Settlement services.

DTCC is undertaking a multi-year transformational effort that will drive innovation to continually meet the rapidly evolving needs of the modern financial markets. DTCC is poised to transform its systems into a more advanced, modular platform. As it enhances its core capabilities and applications, DTCC will fortify its strategic resiliency, ensuring a future where its systems are not only more resilient but also more adaptable and innovative.

Changes to client interfaces and the underlying applications that deliver clearing and settlement services will include features to enhance the services and products offered to clients while also simplifying workflows to better support straight through processing. The modernized applications will leverage industry standards and enable quicker time-to-market to meet industry needs. These changes will not only bring simplification to the broader market but will also offer opportunities for innovation and alignment across the industry as the market evolves in the future.

The purpose of this Functional Change Document is to provide a high-level overview of the functional changes and simplification efforts planned by DTCC, to enable clients and other external partners to begin planning for any required development resources.

This Functional Change Document is being provided for informational purposes only. This document consists of preliminary concepts that have not been finalized by DTCC. The changes outlined in this Functional Change Document may be subject to Regulatory review and approval, which could impact both the enhancement design and implementation timelines. Capitalized terms used herein and not otherwise defined have the meaning assigned to them in the DTC Rules, By-Laws and Organization Certificate ("DTC Rules") or the NSCC Rules & Procedures ("NSCC Rules"), available at <https://www.dtcc.com/legal/rules-and-procedures>. In the case of any discrepancy between this Functional Change Document and the DTC or NSCC Rules, the DTC and NSCC Rules shall govern.

Clearing & Settlement Client Interface Changes

DTCC is upgrading client connectivity options to support distributed connections and lightweight messaging, simplifying client interactions through standardized interfaces. Notably, the new settlement system will support interfaces in ISO 20022 format only, through distributed messaging (MQ IPT) and file (sFTP) channels. The support of files will further enable firms to submit transactions and receive responses in a file format, when applicable, and aid in business continuity or cyber recovery events. At a future date, modernized interfaces aim to offer a centralized self-service Datahub for data distribution via API, data share, and files. As new interfaces are offered, older proprietary options will be decommissioned either in conjunction with, or after modernization, depending on the application, with considerations of time needed for client testing. **These changes will significantly streamline the client experience and support more seamless services.**

Settlement Functional Changes

Changes to Settlement Services include several enhancements and simplifications, including innovations such as supporting settlement of partial deliver orders, expansion of data fields on client messages, and simplification to client profiles and settlement workflows that will drive greater transaction throughput. Additionally, the recycling process will be simplified and the reclaim linking processes will be eliminated.

Exhibit A, below, provides a high-level overview of the settlement workflow and a description of each major enhancement. This workflow will be used for consistency in describing the settlement functional changes in this document.

Clearing Functional Changes

Changes to Clearing Services include innovations such as enhancing the Universal Trade Capture (UTC) service by extending trading hours, reducing the settlement cycle for ACATS by a full business day, and improving the clearing process and capital efficiency for ETFs that include options components managed between NSCC and The Options Clearing Corporation (OCC). These changes will support a dynamic and resilient trading environment, maximize liquidity, and reduce counterparty risk.

Exhibit B, below, provides a high-level overview of the key clearing applications and a description of each major enhancement.

Exhibit A – Settlement Workflow

DTCC

Settlement

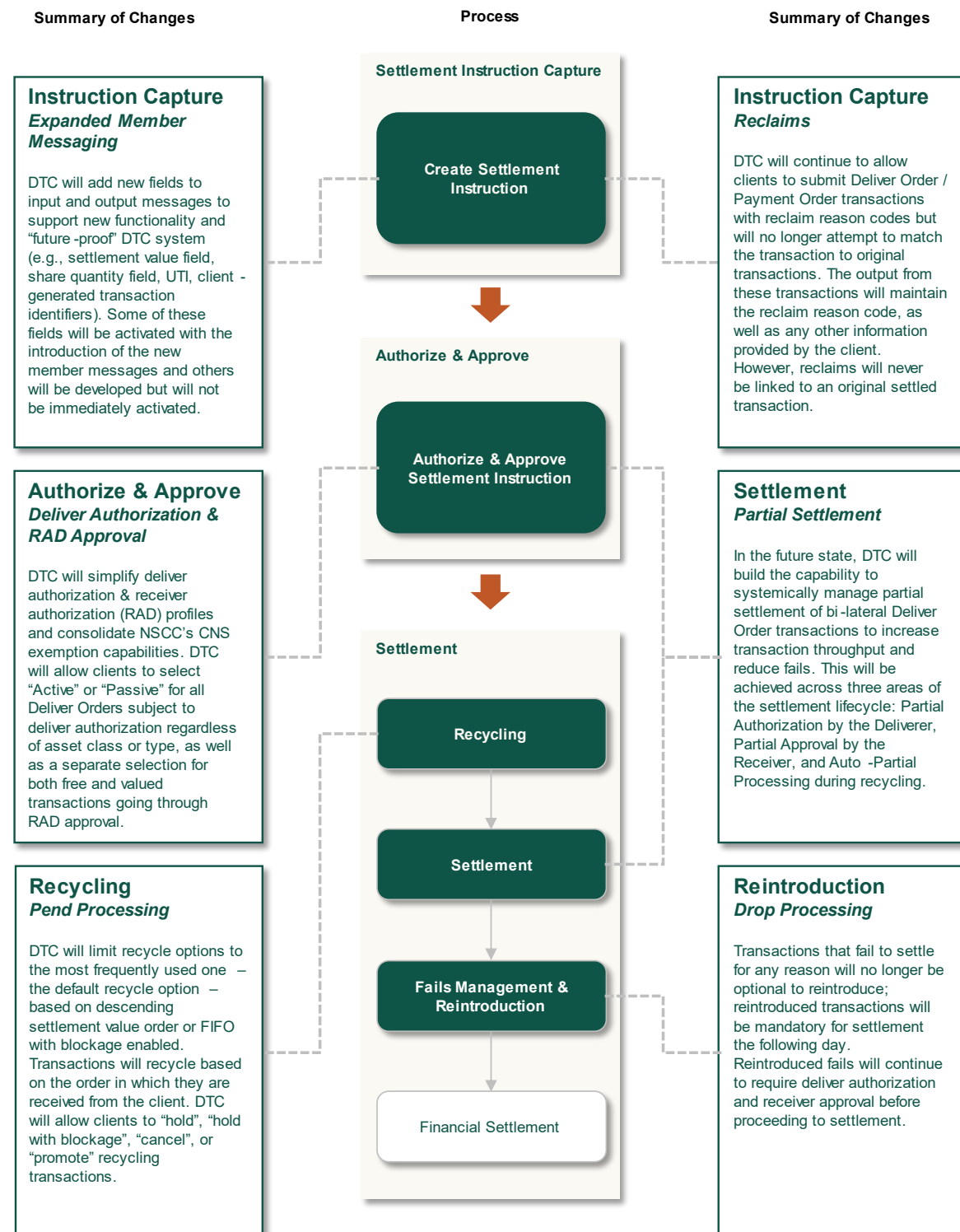
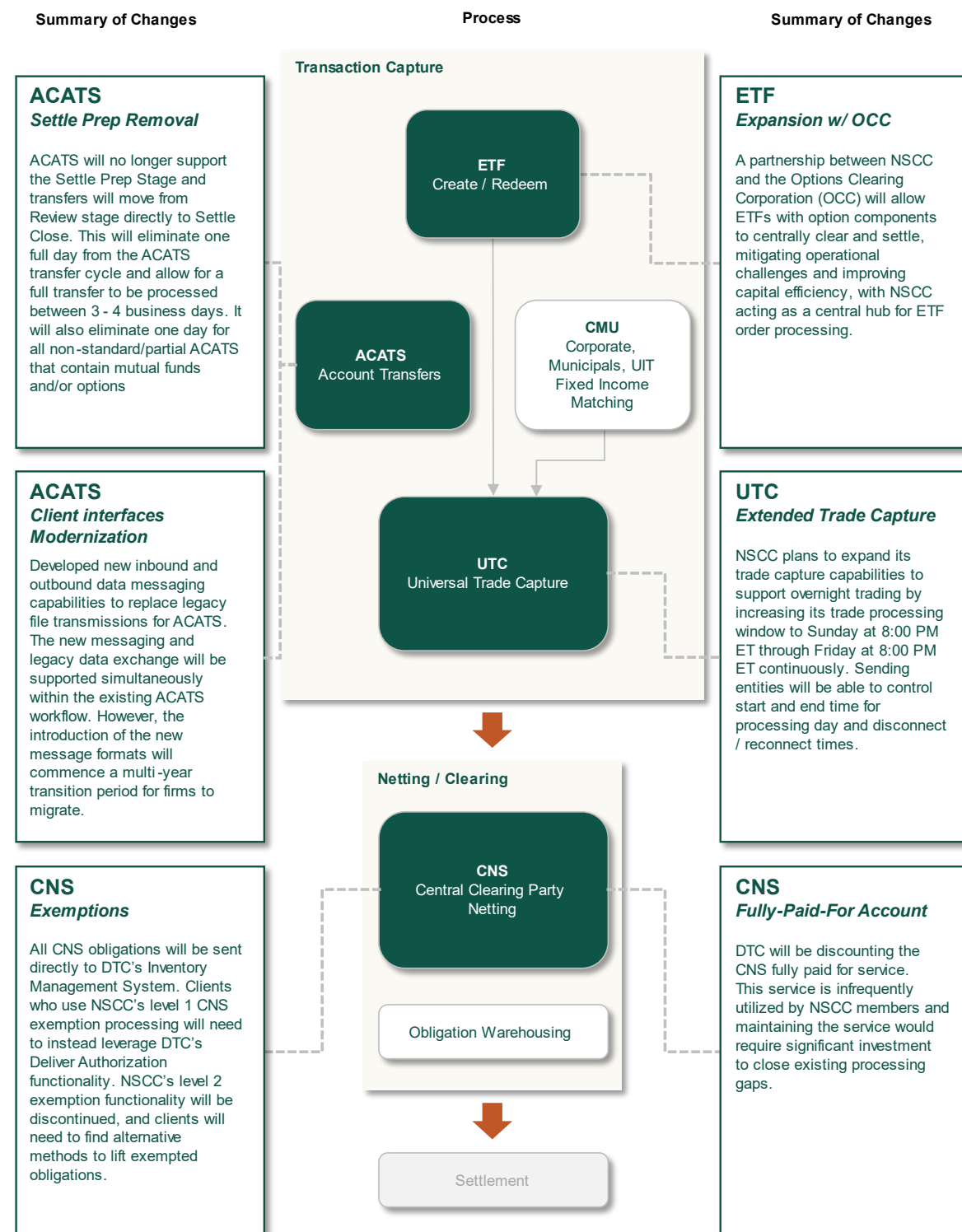


Exhibit B – Key Clearing Applications



1.2 In-Scope

This Functional Change Document covers the following changes:

Topic	What is included in this Functional Change Document
Client Interfaces	- Changes to the formats of how clients submit/receive activity to/from DTC and NSCC. - Client connectivity changes to submit and receive data from the new system. - Changes to the formats of MRO output and transition to self-service of data.
Partial Settlement	- The ability to process partial delivery authorizations. - The ability to process partial receiver approval. - A mandatory auto partial capability that will identify partial opportunities and automatically split pending transactions.
Expanded Member Messaging	- Expanded settlement value fields on DO, PO, and pledge transaction messages. - Expanded share quantity on DO and PO transaction messages. - Expansion of DO and PO transaction messages to include Unique Transaction Identifiers (UTI). - Expansion of DO and PO transaction messages to include client-generated transaction identifiers. - Expansion of DO and PO transaction messages to include a hold/release indicator for deliver authorization and receiver approval. - The ability to support alternative security identifiers on transaction messages.
Deliver Authorization & Receiver Authorized/Approved Delivery (RAD)	- The consolidation of transaction exemption processing into DTC's Inventory Management System (IMS). - The elimination of NSCC's CNS "Level 2" exemption processing. - The ability to approve free transactions via RAD. - The simplification and standardization of existing Inventory Management profiles. - The ability to partially authorize or withhold deliveries.
Pend Processing & Recycling	- The simplification and standardization of existing transaction recycle profiles. - Support capability to "promote" to provide greater control of the order in which transactions are processed.
Reintroduction of Drops	The mandatory reintroduction of failed transactions for processing on the next business day.
Reclaims	The elimination for reclaim linking.
Trade Capture Expansion (Extended Trading Hours)	The ability to support extended trading hours and the introduction of a new "Clearing Business Date" FIX tag.
ETF Options Clearing	NSCC will partner with The Options Clearing Corporation (OCC) to allow ETFs with option components to centrally clear and settle.
ACATS Settlement Prep Removal	Update NSCC's ACATS system to make all transfers one day settling. Only certain transfers today support one day settling. This will reduce the ACATS transfer cycle by one full day.

Topic	What is included in this Functional Change Document
ACATS Client Interfaces Modernization	• The introduction of new message capabilities allows firms to submit and receive ACATS transactions using JSON (JavaScript Object Notation) or MQ (for inbound submissions to ACATS and/or outbound from ACATS to firms).
CNS Exemptions	• Consolidation of NSCC's Level 1 CNS exemption capability into DTC's Inventory Management System and the elimination of NSCC's Level 2 CNS exemption capability.
Fully-Paid-For Account	• The elimination of the NSCC Fully-Paid-For Account.

1.3 Roadmap

Please refer to the DTCC [Microsite](#) for an updated view of the Clearing and Settlement Transformation Roadmap.

1.4 Naming Conventions and Definitions

Product / Service Glossary

Abbreviation / Term Name	Definition/Description
ACATS (NSCC)	NSCC's Automated Customer Account Transfer Service (ACATS) is a system that facilitates the transfer of assets in a customer account from one brokerage firm and/or bank to another.
ATP (DTC)	The Account Transaction Processor (ATP) system is DTC's core processing engine, processing all securities and cash transactions and enforcing DTC's position, collateral and debit cap controls.
CNS (NSCC)	NSCC's Continuous Net Settlement (CNS) system is the core netting, allotting, and fail-control engine of NSCC. Within CNS, each security is netted to one position per client, with NSCC as its central counterparty.
ETF (NSCC)	An Exchange Traded Fund (ETF) is a security that trades on an exchange as an equity and replicates the performance of a basket of underlying assets. NSCC supports the creation and redemption of ETF shares in the primary market to ensure availability or removal of shares for trading in the secondary market.
FFS (DTC)	The Fed Funds Settlement (FFS) system is a DTC system used to complete funds settlement, enabling the settlement of cash obligations at the Fed.
IMS (DTC)	DTC's Inventory Management System (IMS) warehouses transactions for settlement and enables clients to submit settlement instructions or manage settlement profiles, including authorization/approval and exemptions.
UTC	Universal Trade Capture (UTC) is a service that validates and reports equity transactions that are submitted to NSCC throughout the trading day by an exchange or by Qualified Special Representatives (QSRs) that are NSCC Members.

Term Glossary

Abbreviation / Term Name	Definition/Description
Alternative Security Identifiers	Unique code for alternative securities such as an ISIN.
Bilateral RAD limits	The bilateral RAD limits allow clients to establish a dollar value threshold per counterparty. Any transaction with a settlement value below the bilateral limit set for the individual counterparty would be automatically approved by DTC with no intervention from the client.
Bilateral Transactions	A transaction between two clients.
Cancel	A command from a client to stop a settlement instruction from proceeding to settlement.
Canceled	Status indicating that a request has been canceled by a client.
Client-Generated Transaction Identifier	An identifier generated by a client firm.
CNS Short Exemptions (Levels 1 & 2)	Within CNS, clients may withhold certain short covers from being delivered by submitting an exemption instruction. NSCC offers two types of exemptions. Level 1 exemptions prohibit delivery from being delivered until the exemption is lifted by the client. Level 2 exemptions allow the client to link the exempted security to a settlement event that, when completed, systemically lifts the exemption.
Collateral	Any cash or securities in an account designated as Net Addition (NA).
Component Securities	The securities, or assets, that underlie an Exchange Traded Fund (ETF).
Contra	The other side of a client transaction. Whenever a security is transferred, one client's account is debited, and their counterparty's account is credited.
CUSIP	A nine-character alphanumeric code unique to a security or family of securities.
Cutoff	The end of a transaction processing window for that business day.
Debit Cap	A risk management control set by DTC for each client, which sets the maximum net debit balance allowed. Net debit caps help ensure DTC can complete settlement in the event of a client failure.
Deliver Authorization	The act of authorizing a delivery at DTC. Only authorized deliveries progress in the settlement cycle.
Deliver Order (DO)	A Deliver Order (DO) refers to the instruction of a client to DTC to affect a book entry transfer of a security from its account to the account of another client, either free of value or versus payment.
Deliverer	The party delivering a settlement instruction.
Drop	Transactions that do not complete due to insufficient position or risk management controls.
Exemption / Exempt	A feature of DTC's settlement systems preventing a transaction from automatically being introduced for Settlement processing
Failed transactions	Transactions that do not settle.

Abbreviation / Term Name	Definition/Description
FIX	Financial Information eXchange (FIX) is a vendor-neutral, non-proprietary, free and open standard electronic communications protocol for the international real-time exchange of securities transaction information. The FIX messaging standard is owned, maintained and developed through the collaborative efforts of the FIX Trading Community™ member firms. The FIX protocol language is comprised of a series of messaging specifications used in trade communications.
Free transactions	Settling transactions being processed without a corresponding dollar value.
Free-available position	The quantity of positions available for client usage at a given point in time.
Global RAD Default limits	The global RAD default limit is a dollar value established by a client that authorizes DTC to automatically approve transactions below the default limit without any intervention from the client.
ISIN	The International Security Identification Number (ISIN) consists of a country code, a nine-character alphanumeric code that identifies the security, and an ISIN check digit (when the country code is not US).
ISO (E.g. ISO 20022)	The International Organization for Standardization (ISO) is an international non-governmental organization made up of national standards bodies; it develops and publishes a wide range of standards, such as electronic data standards for messages interchanged between financial institutions.
JSON	Java Script Object Notation, a data exchange format commonly used for storing and transporting data.
LMIT (Late Matched Institutional Trades)	Institutional trades that are affirmed in TradeSuite ID™ system during the 24-hour period between 12:00 p.m. ET on Settlement Date minus one (S-1) and 12:00 p.m. ET on Settlement Date (S).
Long Allocations	Deliveries from NSCC's Omnibus account at DTC (#888) as a result of NSCC's Continuous Net Settlement (CNS) system.
MITS (Matched Institutional Deliveries)	Already-matched Institutional deliveries sent to Inventory Management from DTCC's Institutional Trade Processing (ITP) solutions or another matching utility.
MTM	The mark-to-market (MTM) component measures the difference in value between the contract price and the current market price (that is, the price for a security determined daily for purposes of the CNS system; generally, that is the prior day's closing price).
MQ IPT	Message Queue Internet Passthrough (MQ IPT) – a common message format.
OCC	The Options Clearing Corporation (OCC) is an organization that acts as both the issuer and guarantor for options and futures contracts.
Overvalued transactions	When market valuation is greater than settlement value by a DTC-established threshold.
Partial Settlement	The ability for DTC Deliver Orders to be settled partially – whereby the same shares are delivered and the remaining shares on the Deliver Order recycle until they, too, can be settled.

Abbreviation / Term Name	Definition/Description
Payment Order (PO)	DTC's Payment Order (PO) service allows a client to settle money payments for transactions that were processed separately through DTC, either earlier that same day or on the previous day.
Pend	A PEND status code denotes an order awaiting settlement. A pending transaction is one that was submitted to DTC for processing but was not processed because of a deficiency in available securities, a collateral deficiency, or a debit cap deficiency.
QSR	Qualified Special Representative (QSR) is an NSCC full-service member who has been granted status for the purpose of locking in trades for other NSCC members and/or their correspondent.
Receiver	The party that receives the settlement instruction.
Receiver Approved Delivery (RAD)	A stage gate in the Settlement process that enables receivers to approve what they are receiving.
Reclaim	The return of a deliver order or payment order received by a client.
Reclaim reason code	A code added to a transaction submitted by a client to trigger a reclaim.
Recycle	If an order cannot initially settle due to insufficient inventory of securities, collateral, or if completing the transaction would result in a breach in the receiver's net debit cap, it can be repeatedly reprocessed throughout the settlement day on an automatic basis until it is settled or dropped at the end of day.
Reintroduce Drop	Dropped and unapproved RAD transactions for which a reintroduced drop profile is defined. (This does not apply to CNS transactions.)
Release of controls	Release of Controls (ROC) is a DTC settlement operational event that signals the successful conclusion of end of day settlement collection/disbursement with settling banks. This event does not mean that all clients settled with DTC, since there is a function that permits settlement to continue to apply the collateral control to accounts that may not have settled. Additionally, transactions free of value continue to be processed after Release of Controls.
SEDOL	The Stock Exchange Daily Official List (SEDOL) is a seven-character identification code assigned to securities that trade on the London Stock Exchange and various smaller exchanges in the United Kingdom.
Settlement Value field	DO, PO, and Pledge messages will contain a field for the value of the settlement with additional characters to the right of the decimal point.
Transaction ID (TID)	A Transaction ID (TID) is a 10-digit number that is generated by the RTTM system upon trade acceptance to identify a specific transaction.
Unauthorized	Transaction or aspect of a transaction that has not been authorized via a deliver authorization or receiver authorized delivery.
UTI (Unique Transaction Identifier)	The Unique Transaction Identifier (UTI) is a unique alphanumeric code comprised of up to 52 characters assigned to a securities trade.
Valued Transactions	Settling activity that has a dollar value associated with it.
Warehoused	The capability to store transactions for a later time / settlement date.

FUNCTIONAL CHANGE REQUIREMENTS – CLIENT INTERFACES

2.1 FUNCTIONAL CHANGE: CONNECTIVITY

In addition to functional changes to support business enhancements and simplifications, modernization will include client connectivity changes to submit and receive data through distributed connections and lightweight messaging options. Key changes include:

- Clients who send and/or receive messages from DTCC will need to connect to new QMgrs on MQ Internet Passthrough (IPT)
- Clients who send and/or receive files will need to migrate off FTP, FTPS and NDM products to sFTP file transfers.
- Clients will need to provide Security Certificate DN information and onboarding documentation, with new product subscriptions
- Clients who connect to UTC via FIX will need to connect via a new IP address

2.2 FUNCTIONAL CHANGE: TRANSACTIONAL INPUT / OUTPUT – FORMAT AND CHANNELS

Client interactions across clearing and settlement will be simplified by providing modern and standardized interfaces, while streamlining touchpoints and driving consistency across offerings.

DTCC will update the existing transactional input/output offerings based on the following principles:

Formats	Channels
• Industry standard format (FIX, ISO) over Proprietary (fixed position) • Structured (XML, JSON) over unstructured (flat) files • Data elements align to enterprise data naming standards	• Optionality through support of multiple channels, including messaging and file (for BCP/Cyber recovery purposes) • Where applicable and industry demand, offer input API

Current State

In the current state, DTCC's various applications support transactional input and output through a mix of industry-standard and proprietary flat formats, offered through a mix of messaging, file, and API.

Application	Current State Format		Current State Channels		
	Structured	Flat	Msg	File	API
ACATS	JSON	Fixed Position [†]	Bidirectional	Input / Output [†] (Fixed Position)	Input
Settlement	ISO 15022 [†]	Fixed Position [†]	Bidirectional	Input only [†]	Not available
CNS	Not available [†]	Fixed Position [†]	Not available [†]	Input only [†]	Not available
ETF (PCF)	Not available [†]	Fixed Position [†]	Not available	Input	Not available
ETF (C/R)	Not available [†]	Fixed Position [†]	Not available [†]	Input only [†]	Not available
UTC	FIX	Not available	Bidirectional	Not available [†]	Not available
CMU	ISO 15022 [†]	Not available	Bidirectional	Not available [†]	Not available
OBW	ISO 15022 [†]	Not available	Bidirectional	Not available [†]	Not available

Note: † indicates format or channel that will be changed.

Target State

In the target state, applications will support bi-directional messaging in a single format. This will be industry-standard or structured (when industry standard is not available) and offered consistently across messaging and file (for BCP/Cyber recovery purposes).

Note the following:

- ETF Portfolio Composition File (PCF) processing is not transactional in nature and as such, real-time notifications are not generated. Instead, output is supported through the Datahub (see Data Output section).
- Input API is currently offered for ACATS but due to lack of client demand, it is not available in other applications. Should demand arise across additional applications, these can be added at a later time. Output API is offered through Datahub (see Data Output section).

Application	Target State Format		Target State Channels		
	Structured	Flat	Msg	File	API
ACATS	JSON	-	Bidirectional	- ¹	Input ²
Settlement	ISO 20022	-	Bidirectional	Input / Output	-
CNS	ISO 20022 ³	-	Bidirectional	Input / Output	-
ETF (PCF)	CSV ⁴	-	-	Input ⁵	-
ETF (C/R)	ISO 20022 ³	-	Bidirectional	Input / Output	-
UTC	FIX	-	Bidirectional	Input / Output	-
CMU	ISO 20022	-	Bidirectional	Input / Output	-
OBW	ISO 20022	-	Bidirectional	Input / Output	-

¹ ACATS will not support files.

² API in JSON format introduced in 2024 and will be maintained.

³ Research in flight if applicable ISO format; if not, will leverage XML.

⁴ Due to size of PCF file, CSV selected as target state format as smaller payload than XML / ISO.

⁵ ETF (PCF) output is supported through “Data Output”, see Section 2.3 FC: Data Output – Formats & Channels.

2.3 FUNCTIONAL CHANGE: DATA OUTPUT – FORMAT AND CHANNELS

A centralized self-service Datahub will be supported, with data distribution of output offered through API, data share, and/or files. Clients will need to consume output through Datahub via new formats/channels.

The Datahub output offerings are based on the following principles:

- Remove duplicative and redundant print-image reports.
- Formats should be structured (XML, CSV) over unstructured (flat) files, with considerations for file size.
- Data elements align to enterprise data naming standards.
- Optionality through support of multiple channels, including file, Data Share, and/or API (based on industry demand).

Current State

In the current state, DTCC’s systems support output in both print image and proprietary flat formats, through file channels only.

Application	Current State Format			Current State Channels		
	Flat	Print Image	Structured	File	Data Share	API
ACATS	Fixed Position [†] , Variable Position [†]	Print Image [†]	Not available [†]	Yes	Not available [†]	Not available [†]
Settlement	Fixed Position [†]	Print Image [†]	Not available [†]	Yes	Not available [†]	Not available [†]
CNS	Fixed Position [†]	Print Image [†]	CSV	Yes	Not available [†]	Not available [†]
ETF (PCF)	Fixed Position [†]	Print Image [†]	Not available [†]	Yes	Not available [†]	Not available [†]
ETF (C/R)	Fixed Position [†]	Print Image [†]	Not available [†]	Yes	Not available [†]	Not available [†]
UTC	Fixed Position [†]	Print Image [†]	CSV	Yes	Not available [†]	Not available [†]
CMU	Fixed Position [†]	-	Not available [†]	Yes	Not available [†]	Not available [†]
OBW	Fixed Position [†]	-	Not available [†]	Yes	Not available [†]	Not available [†]

Note: † indicates format or channel that will be changed.

Target State

In the target state, DTCC's system will continue to support output through file channels, with formats updated to CSV or XML (specific format to be determined and specifications provided at a later date). Output through data share and API is also being considered, based on client interest and demand.

Application	Target State Format			Target State Channels		
	Flat	Print Image	Structured	File	Data Share	API
ACATS	-	-	JSON or CSV	Yes	TBD†	TBD†
Settlement ¹	-	-	CSV	Yes	TBD†	TBD†
CNS	-	-	XML or CSV	Yes	TBD†	TBD†
ETF (PCF)	-	-	CSV	Yes	TBD†	TBD†
ETF (C/R)	-	-	XML or CSV	Yes	TBD†	TBD†
UTC	-	-	XML or CSV	Yes	TBD†	TBD†
CMU	-	-	XML or CSV	Yes	TBD†	TBD†
OBW	-	-	XML or CSV	Yes	TBD†	TBD†

Note: † indicates demand and availability of data over this channel is under assessment.

2.4 FUNCTIONAL CHANGE: CLIENT INTERFACE IMPLEMENTATION PLAN

The target state client interfaces will require clients to make connectivity changes to submit and receive data from the new system, with the changes required by the go-live date for each modernized application.

Format must also be changed for transactional input/outputs and Machine-Readable Outputs (MRO), with transition to self-service of data output. The new formats will be offered with the go-live of each application, with availability in PSE prior to that for client testing. The dates for decommissioning of existing formats vary per application, with settlement timing the retirement alongside modernization go-live, whereas clearing applications will maintain both existing and new formats through go-live and decommission at a later time.

These proposed dates are summarized in the table below.

Application	Connectivity Changes	Format Changes
UTC	To participate in Extended Trading Hours, members must update connectivity; this is available from Q2 2026. All members must update connectivity by Q4 2027.	Expanded FIX message will be available in Q2 2026. This change is required for all members that receive real-time output from UTC. New formats will be available in Q4 2027, with existing proprietary formats decommissioned at a later date.
CNS	All members must update connectivity by Q4 2026	New formats will be available in Q4 2026, with existing proprietary formats decommissioned at a later date.
ETF	All members must update connectivity by Q1 2027	New formats will be available in Q1 2027, with existing proprietary formats decommissioned at a later date.
Inventory Management	All clients must update connectivity by Q3 2027	New formats and decommission of existing proprietary/15022 formats will occur in Q3 2027.

3. FUNCTIONAL CHANGE REQUIREMENTS – SETTLEMENT ENHANCEMENTS & SIMPLIFICATIONS

Over the next two years, DTCC will introduce functional changes and enhancements to its settlement systems. **These changes are designed to create operational and capital efficiencies as well as improve the industry's overall resiliency and recovery.**

These benefits will be achieved through the introduction of new functionality, the simplification of existing workflows, and an increase in process workflow flexibility.

The following sections provide a high-level overview of DTCC's functional changes and simplification efforts. These descriptions are intended to provide clients with sufficient information to budget for any required development resources. More detailed enhancement descriptions will follow.

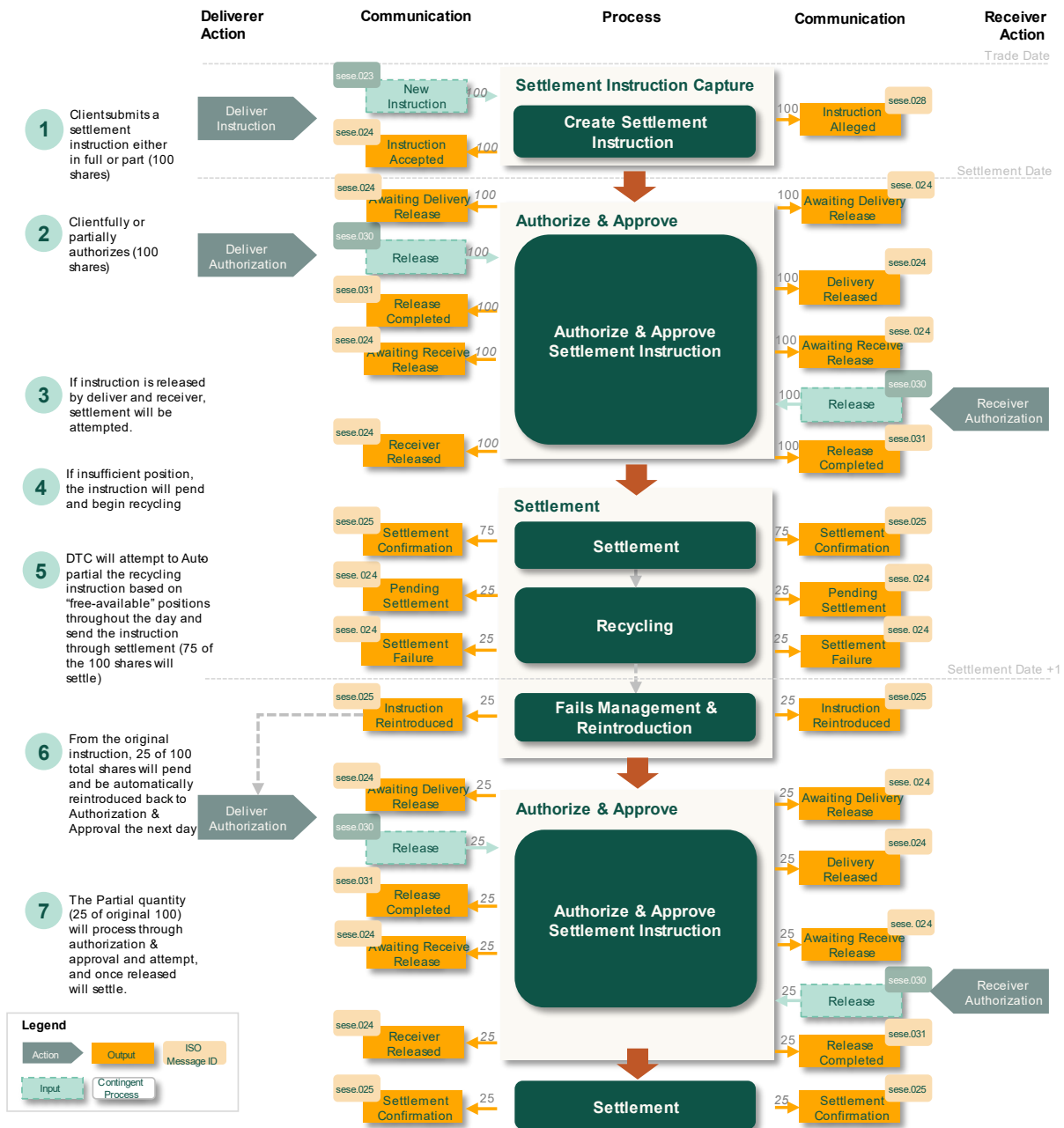
3.1 FUNCTIONAL CHANGE: PARTIAL SETTLEMENT ENHANCEMENTS

DTCC

Partial Settlement – Target State

DTC **Partial Settlement** function will enhance the existing Settlement process. The key features are:

- Ability to settle a deliver order in whole or in part.
- Ability to authorize the delivery in whole or in part.
- Ability to perform recycling commands on the delivery in whole or in part.
- ISO 20022 messages will replace ISO 15022 and proprietary messages to support communication to and from the DTC.



Background

DTC Settlement transaction processing and position controls require sufficient position/inventory of a security be available to support the processing of a bi-lateral Deliver Order (DO). To “partially deliver” against a delivery obligation, clients currently perform manual workarounds including securing contra party agreement to accept the partial delivery and manually canceling and resubmitting DO instructions through a series of coordinated steps that ensure proper inventory management. This method reduces the number of partially settled DOs that are processed and reduces overall system throughput and increases the value of end of day failed transactions. The Partial Settlement enhancement will enable DTC to settle as much of a DO as possible given available inventory of the deliverer. This change is designed to reduce the value of the “pending” / “failing” transactions, thereby creating capital and operational efficiencies for clients.

Current State

In the current state, bi-lateral DO transactions pass position checks at DTC only when the entire quantity can be delivered. If the delivering client has some – but insufficient – deliverable inventory, the DO transaction pends until the full quantity needed to process the transaction is available. If shares do not become available by DTC’s DO cutoff, the transaction will fail.

Future State

In the future state, DTCC will build the capability to systemically manage partial settlement of bi-lateral DO transactions. This will be achieved across three areas of the settlement lifecycle:

Partial Delivery Authorization

- Delivering clients may elect to apply partial authorization to their DO transactions.
- Clients will be able to authorize any delivery quantity up to the full quantity of the DO transaction.
- Based on client instruction, DTC will split the DO transaction, release the authorized quantity for further processing, and hold the unauthorized quantity pending the deliverer’s authorization.
- Partially released transactions will still require receiver authorization.

Partial Receiver Approval

- Receiving clients may elect to partially approve DO transactions.
- Clients will be able to approve any receive quantity up to the full quantity of the DO transaction.
- Based on client instruction, DTC will split the DO transaction, release the approved quantity for processing, and hold the unapproved quantity pending the receiver’s authorization.
- After both the deliverer and receiver have authorized/approved the partial settlement transaction, the transaction will be “matched” and will be subjected to all of DTC’s settlement controls, i.e., position, collateral, and debit cap checks.

Auto-Partial Processing

- All matched DO transactions will be checked by DTC against the delivering client’s “free-available” positions. If there is insufficient position available to process the entire transaction, DTC will “pend” the transaction.

- DTC will calculate the available position for each transaction pending for position and split the pending transaction into two transactions: one for the amount of the shares available, and one for the remaining amount.
- The transaction for the available shares will be sent for further settlement processing, i.e., collateral and debit cap checks.
- The transaction for the remaining amount will continue to pend in DTC for insufficient position.
- The auto-partial process will run throughout the processing day.
- DTC will partially settle transactions to a single share for most securities. However, securities with defined “minimal and multiple” trading quantities will be partially settled in compliance with those limitations.
- Certain DO transactions will not be subject to auto-partial processing. These include:
 - Any security with an active reorganization – Mandatory or Voluntary.
 - DO transactions identified as Account Transfer transactions, i.e., DO transactions with a reason code 40.
 - The industry continues to explore the impact of partial settlement on securities lending activity and whether securities lending transactions should be included in partial settlement.

Matched transactions will not need to be rematched each time an auto-partial transaction is generated.

Regardless of how a partial DO transaction gets generated, clients will not be able to define the settlement value for the transaction. Instead, DTC will calculate the settlement value for each partial transaction by determining a “per share” price and multiplying that price by the shares in the partial transaction. Any remaining pennies that result from this process will be applied to the final partial transaction.

Tracking partial transactions through persistent transaction identifiers (e.g., Transaction ID (TID), Unique Transaction Identifier (UTI) or client-supplied identifiers)

- DTC will use a ledger-based approach to process partial transactions. That means all partial transactions stemming from the same original transaction will contain the same Transaction Identifier (TID).

Implementation Plan

Auto-partial processing and partial delivery authorization will be included in the initial implementation of Partial Settlement and is scheduled to be available for client testing in Q3 2026 and in production in Q3 2027. Partial receiver authorization will be implemented at a future date.

3.2 FUNCTIONAL CHANGE: EXPANDED MEMBER MESSAGING

Summary of Changes

DTC will add new fields to input and output messages to support new functionality:

- Expanded Settlement value field on Deliver Order, Payment Order, and pledge messages.
- Expanded share quantity field on all transaction messages.
- Added fields to all transaction input messages to allow clients to submit Unique Transaction Identifiers (UTI).
- Added fields to all transaction input messages to allow clients to submit client-generated Transaction Identifiers
- Added new hold / release field to Deliver Order and Payment Order messages.
- DTC Settlement will support Alternative Security Identifiers on all transaction input messages.

Future State

DTC will add new fields to input and output. Some of these fields will be activated with the introduction of the new member messages and others will be developed but will not be immediately activated. These new fields include:

Expanded settlement value field on DO, PO, and pledge messages

The current DTC settlement value field accommodates ten characters to the left of the decimal point and two characters to the right of the decimal point. The new settlement value field will be expanded to comply with ISO standards and to support “sub-penny prices”. (Exact field sizes will be provided in the message specifications.) Although the settlement value field on input and output messages will support expanded data, DTC will continue limiting the value on all transaction input and output to the existing quantities, i.e., ten characters to the left of the decimal point and two characters to the right of the decimal point. **The extended messages will not be activated at this time and are intended to prepare DTC and its clients for future expansion.**

Expanded share quantity field on all transaction messages

The current DTC settlement share quantity field accommodates a set number of whole shares. The new quantity field will be expanded to comply with ISO standards. (Exact field sizes will be provided in the message specifications.) Although the quantity field on input and output messages will support expanded data, DTC will continue limiting the value on all transaction input and output to the existing quantities, i.e., nine characters to the left of the decimal point and zero characters to the right of the decimal point. **The extended messages will not be activated at this time and are intended to prepare DTC and its clients for future expansion.**

Client-submitted Unique Transaction Identifiers (UTI)

DTC will add fields to all transaction input messages to allow clients to submit Unique Transaction Identifiers (UTI). The new field will accommodate 52 alpha/numeric characters and will ultimately remain attached to a transaction across the settlement lifecycle. The new field will be included in all client transaction output and populated when provided. DTC may eventually create a UTI, when not supplied by clients, and attach it to the transaction. These field changes will be activated in conjunction with DTC's new messages. **This change is optional for clients at this time but may be mandated at a future date.**

Client-generated Transaction Identifiers

DTC will add fields to all transaction input messages and require clients to submit client-generated Transaction Identifiers. The new identifiers will ultimately remain attached to a transaction for the life of the transaction and will be included in all transaction output. This field change will be activated in conjunction with DTC's new messages. **This change is mandatory for clients effective Q3 2027 and will be available for testing in Q3 2026.**

Deliver Authorization field to support changes to Deliver Authorization

DTC will add a new Deliver Authorization field to Deliver Orders. The new indicator on messages will allow delivering clients to submit transactions to DTC that are sent to a client's "delivery authorization queue". Transactions of the delivery authorization queue will remain unprocessed until instructed otherwise by the initiating client. These field changes will be activated in conjunction with DTC's new messages. **This change is optional for clients.**

Alternative Financial Identifiers

DTC will support Alternative Security Identifiers on all transaction input messages to support "alternative" security identifiers, e.g., ISINs. This field will not be activated until a future date. **The extended messages will not be activated at this time and are intended to prepare DTC and its clients for future expansion.**

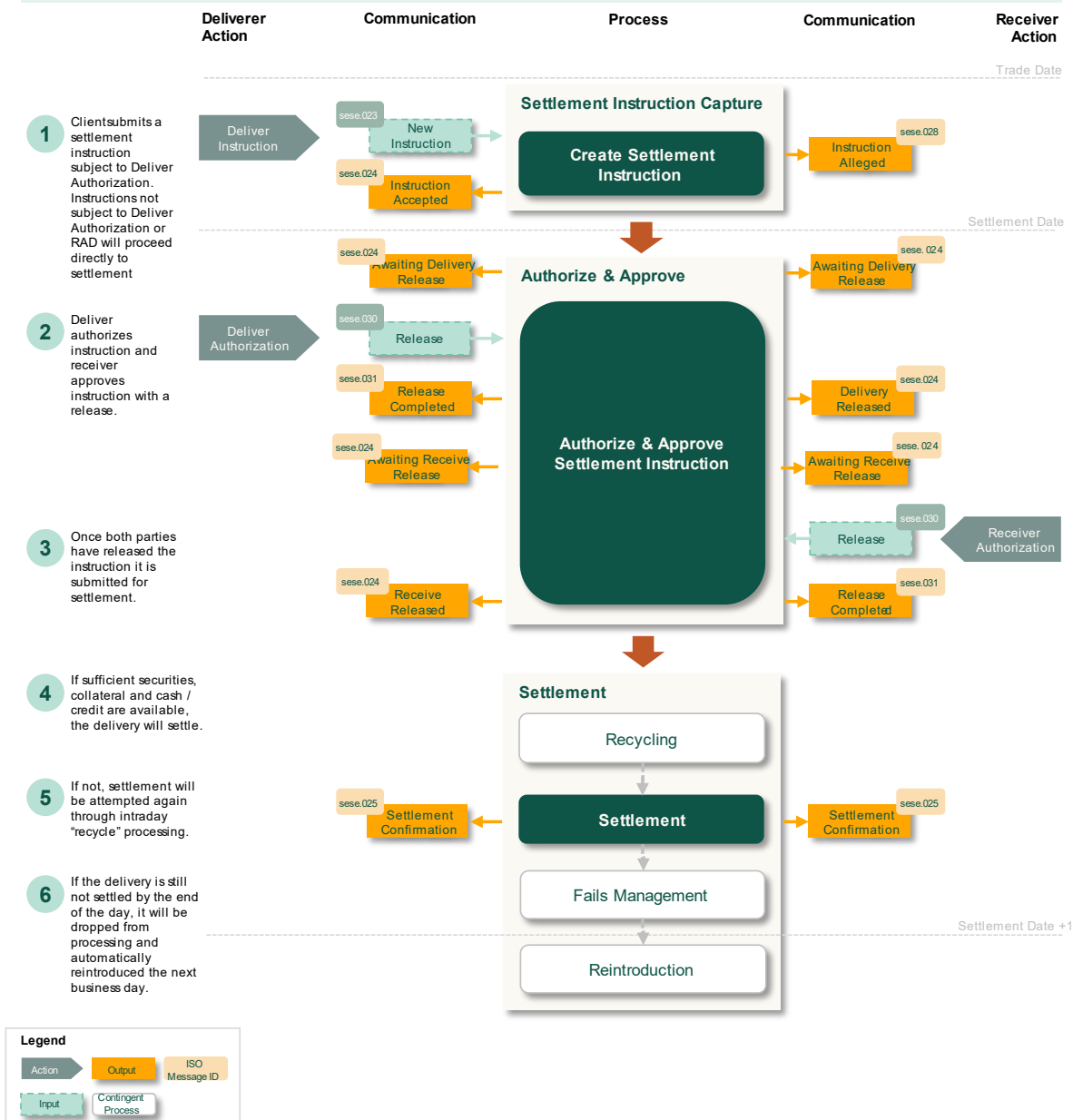
3.3 FUNCTIONAL CHANGE: DELIVER AUTHORIZATION & RECEIVER APPROVAL (RAD)



Deliver Authorization & Receiver Approval – Target State

DTC Deliver Authorization & Receiver Approval (RAD) services will be streamlined in the future state. The key features are:

- Simplified profiles allow clients to decide which transactions will require deliver authorization / receiver approval and which will be automatically submitted for settlement.
- Automatic straight-through processing of CNS deliveries, unless client exempts using DTC deliver authorization and receiver approval functionality.
- Ability for deliverer to authorize the delivery in whole or in part; receivers can not partially authorize for 2027 release.
- ISO 20022 messages will replace ISO 15022 and proprietary messages to support communication to and from DTCC.



3.3.1 FUNCTIONAL CHANGE: DELIVERER AUTHORIZATION

Background

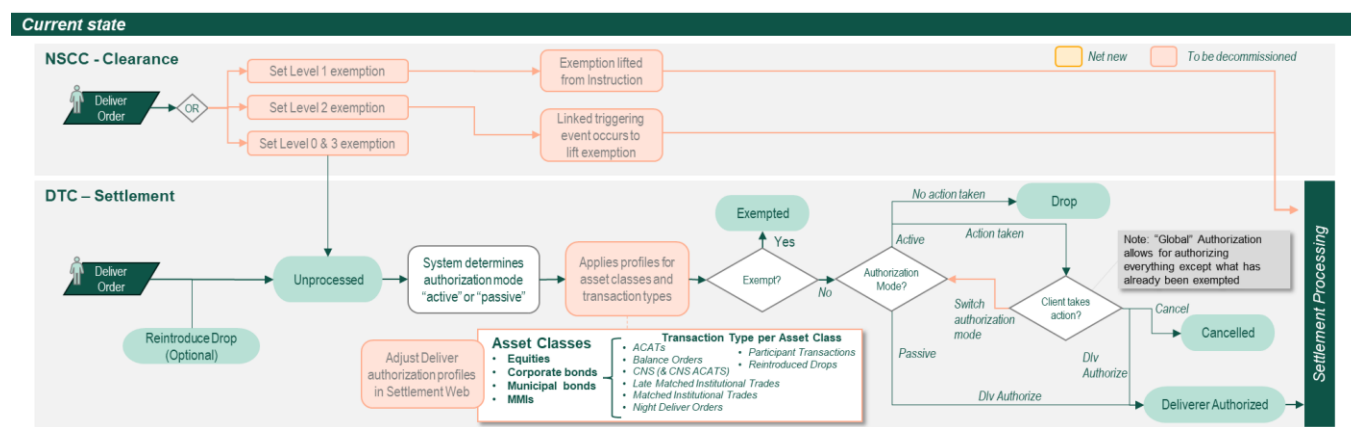
DTC requires all Deliver Orders (DOs) “Warehoused” in its Inventory Management System (IMS) to be authorized by the delivering client before the transactions can be introduced for settlement processing. Similarly, NSCC offers clients the ability to “exempt” CNS obligations, preventing them from being automatically introduced for settlement processing. To create a more streamlined system, DTC will eliminate certain delivery authorization capabilities in its Inventory Management system and combine NSCC exemption processing into DTC’s Inventory Management System.

Current State

DTC’s delivery authorization capability allows clients to authorize deliveries using manual and systemic interfaces or through standing delivery authorization profiles. Clients may submit authorization instructions for individual or multiple DOs through DTC’s Settlement Web or automated Authorization and Exception (ANE) file interfaces/messages. Clients may also establish standing instructions to define how DTC should manage unauthorized deliveries. Below is the functionality currently offered by DTC:

- DTC allows clients to establish unique delivery authorization profiles for each of the following general asset classes:
 - Equities
 - Corporate bonds
 - Municipal bonds
 - Money market instruments.
- Within each asset class, DTC allows clients to establish unique profiles for the following transaction types:
 - ACATs
 - Balance Orders
 - CNS ACATS
 - CNS
 - Late Matched Institutional Trades
 - Matched Institutional Trades
 - Night Deliver Orders
 - Reintroduced Drops

- Within each Asset Class / Transaction Type combination, clients may elect whether they want their delivery authorization profile setting to be “active” or “passive”.
 - An ACTIVE setting instructs DTC to take no action unless the client instructs DTC to authorize the delivery.
 - A PASSIVE setting instructs DTC to systemically authorize any delivery in an unprocessed state at a certain point in time on S-1 (times differ based on transaction type).
 - DTC’s default order for delivery authorization profile settings (active or passive) is not consistent across transaction types. DTC’s default for Late Matched Institutional Trades (LMITs) and (Matched Institutional Trades) MITs is active. The default for the remaining transaction types is passive.
 - Within each transaction type (and across each asset class), clients may elect “Switch to / Switch back” logic which allows for intraday changes between the Active and Passive settings at times that may vary for each asset class/transaction type combination.
 - Within each transaction type (and across each asset class), clients may elect a “Today Only” option which allows them to modify their standing instructions for an individual day.
 - CNS obligations are one of the transaction types included in DTC’s delivery authorization capability that can be exempted, authorized, or pre-exempted. However, NSCC also supports a CNS-specific exemption process which, in many cases, is redundant with DTC’s delivery authorization process. NSCC exemption processing is supported using manual and systemic means and may be “lifted” as follows:
 - “Level 1 exemptions” allow clients to withhold certain CNS short cover obligations from delivery to CNS until the exemption is explicitly lifted by the client.
 - “Level 2 exemptions” allows clients to “link” CNS shorts to a specified settlement event that, when triggered, lifts the exemption, and allows the previously exempted short cover to be processed.
 - Level 0 and Level 3 essentially do the same thing by instructing NSCC to apply no exemptions to CNS obligations.

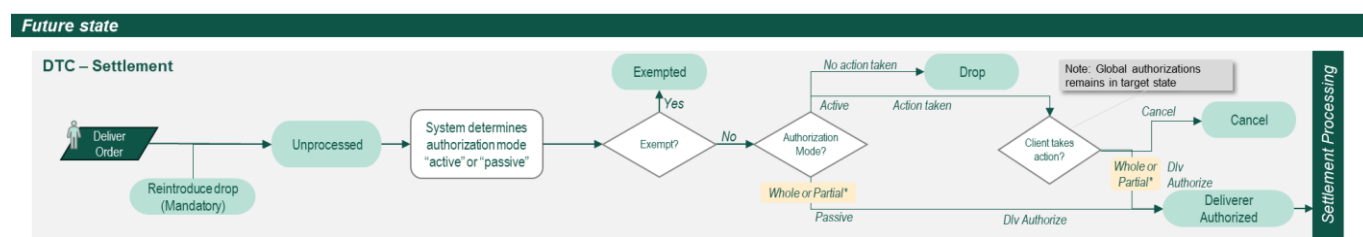


Future State

DTC will simplify delivery authorization profiles and consolidate NSCC's exemption capabilities within DTC's Inventory Management System. All exemptions, including CNS exemptions done through NSCC, will be managed through DTC's Inventory Management System. NSCC exemptions will no longer be supported. DTC's Inventory Management delivery authorization profiles will be streamlined, allowing clients to designate a profile setting of Active or Passive that will be applied to all DOs subject to delivery authorization regardless of asset class or transaction type. Transactions subjected to an active authorization setting in DTC will continue to wait for an explicit authorization from clients before authorizing a delivery for settlement. Transactions subject to a passive authorization setting in DTC will continue to be automatically authorized and sent for receivers' approval. Transactions submitted with the "hold" indicator set will be sent for deliverer authorization. DTC will continue to provide a window for clients to exempt individual transactions that might have otherwise been passively approved.

Clients who use NSCC's Level 1 CNS exemption processing will need to migrate over to DTC's Inventory Management delivery authorization process. Clients that use NSCC's Level 2 processing functionality will need to find alternative methods to lift exempted CNS obligation as NSCC's Level 2 functionality will be discontinued. Clients who use NSCC Level 0 or Level 3 CNS exemption will not need to take any action as all CNS obligations will be sent directly to DTC's Inventory Management System as they currently are.

In addition to the changes outlined above, DTC will expand its delivery authorization capabilities to allow clients to partially authorize transactions awaiting authorization. Partial authorizations will be permitted for any whole-share quantity up to the total quantity on the original transaction. The partially authorized transaction will be released for settlement processing, and the remaining quantity will continue to be held pending authorization from the delivering client. Unauthorized transactions can be partially authorized multiple times. All partially authorized transactions will contain the same transaction reference number.



Implementation Plan

Most of the changes outlined in the delivery authorization section can be implemented in the current processing environment. Clients that use CNS Level 1 exemptions can accomplish the same results by using the exemption capability in DTC's Inventory Management System (IMS). Similarly, the profile streamlining changes to the "Active" / "Passive" settings will require clients change their settings to existing Inventory Management System alternatives. Although the profile changes outlined above can be done in the current environment, all updates will need to be complete by Q3 2027. CNS Level 2 exemptions, however, will be discontinued in Q3 2025. DTCC will work with users of NSCC's Level 2 functionality directly on alternative solutions. **These changes will be mandatory but will only impact clients that utilize the decommissioned functionality.**

3.3.2 FUNCTIONAL CHANGE: RECEIVER APPROVAL (RAD)

Background

DTC requires all valued Deliver Orders (DOs), Payment Orders (POs), and Pledges to be approved by the receiving client in a process known as Receiver Authorized / Approved Delivery (RAD). The existing RAD process offers a tremendous amount of member-level flexibility and customization, much of which is sparsely used by clients. Similarly, DTC imposes several mandatory RAD rules leading to an overly complex receiver authorization process. To create a more streamlined system, and to provide clients with maximum flexibility, DTC will eliminate certain receiver approval capabilities in its Inventory Management System and allow clients to develop personalized approval criteria.

Current State

DTC requires all valued DOs, POs, and Pledge transactions to be approved by receiving clients before being processed. DTC also offers various editing capabilities to allow clients to establish standing RAD profiles. These profiles include:

- **Global RAD Default Limits:** The global RAD default limit is a dollar value established by a client that authorizes DTC to automatically approve transactions below the default limit without any intervention from the client. Any transaction with a settlement value above the global default limit requires active, or explicit, approval from the receiving client.
- **Bilateral RAD Limits:** The bilateral RAD limits allow clients to establish a dollar value by counterparty. Any transaction with a settlement value below the bilateral limit set for the individual counterparty is automatically approved by DTC with no intervention from the client. Any transaction with a settlement value above the bilateral limit requires active approval by the receiving client.

DTC further allows clients to establish different global and bilateral limits for the following asset classes:

- Equities
- Corporate Bonds
- Municipal Bonds
- Money Market Instrument

DTC allows clients to establish different global and bilateral limits for the following transaction types:

- Payment Order
- Stock Lending transactions
- Institutional transactions

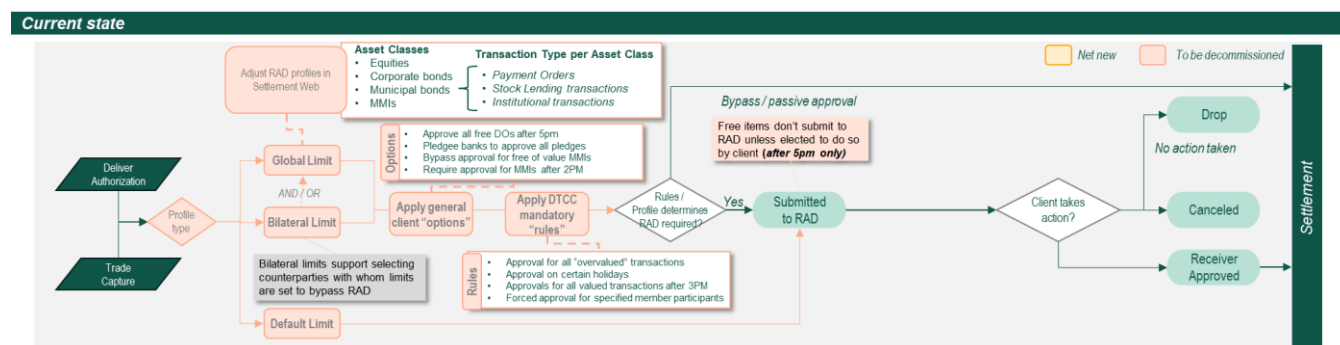
These transaction type limits apply to all asset classes.

DTC allows clients to establish general RAD processing rules. These rules include:

- The option to require RAD approval for all free DOs after 5:00 p.m. ET regardless of the profiles established above.
- The option to require RAD approval for free and valued pledge activity (applicable to pledgee banks only).
- The ability to bypass the rule requiring RAD approval for free transactions in MMI securities.
- An option to require RAD approval on transactions on all “new” MMI securities after 2:00 p.m. ET.

DTC also imposes several Mandatory RAD Processing Rules. These include:

- Requiring RAD approval for all “overvalued” transactions (when market valuation is greater than settlement value by a DTC threshold).
- Requiring RAD approval for all transactions on certain holidays.
- Requiring RAD approval for all valued transactions after 3:00 p.m. ET.
- DTC also has the ability to force RAD approval for all transactions for a given client.



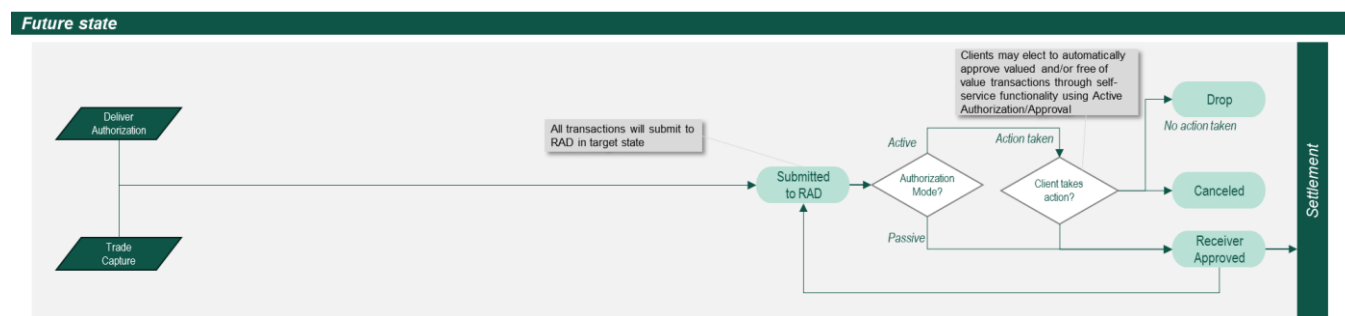
Future State

DTC will streamline the receiver approval process by offering clients the following two basic profile settings:

1. Clients will be permitted to “Actively” approve all DO, PO, and Pledge transactions. In an active RAD profile, every transaction will require clients to explicitly instruct DTC that the transaction is ready for settlement processing.
2. Clients will be permitted to “Passively” approve all DO, PO, and Pledge transactions. In a passive approval profile, every transaction will be considered approved unless the client explicitly instructs DTC that the transaction should not be processed. (Clients using a passive approval profile will have a window of time to exempt transactions before they are automatically submitted for settlement processing.)

In addition to the profile simplifications, DTC will also expand RAD processing to free DOs and Pledges.

Clients will be able to establish active and passive approval profiles for their free DOs and Pledges. Clients will be able to elect separate approval profiles for their free and valued transactions. This means clients can elect to have the same or different profile settings for both their free and valued transactions.



Implementation Plan

The RAD profile streamlining changes to the “Active” / “Passive” settings may require clients to change their settings to existing Inventory Management alternatives. The move to alternative Inventory Management processing solutions can be done any time prior to Q3 2027 but must be complete by Q3 2027. The ability to approve free transactions in RAD will not be available in production until Q3 2027 so this functionality cannot be fully duplicated in DTC’s current production environment. DTC currently allows clients to route free transactions to RAD after 5:00 p.m. ET, which could be used for clients to gain experience processing free transactions through receiver authorization processes. The ability to subject all free transactions to receiver approval will be available in DTC’s test system by Q4 2026. **These changes will be mandatory but will only impact clients that utilize the decommissioned functionality.**

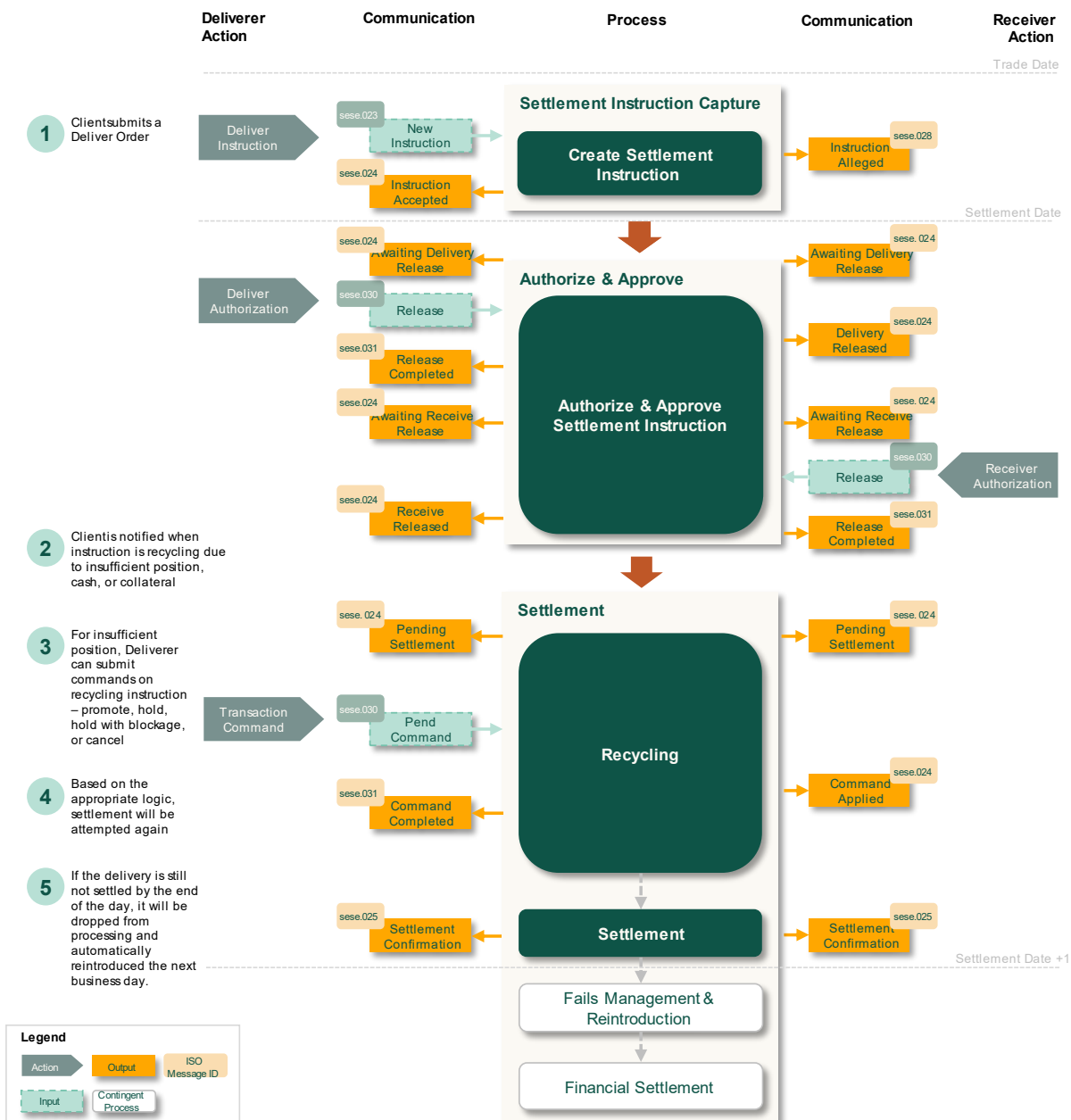
3.4 FUNCTIONAL CHANGE: PEND PROCESSING (RECYCLE)



Pend Processing / Recycle – Target State

DTC Pend Processing & Recycle function will offer a simpler set of options to clients in the future. The key features are:

- Clients will select either the DTC Default logic or the FIFO Order with blockage to determine the prioritization of recycling transactions
- DTC will allow clients to perform specific actions on recycling transactions: 'promote' 'hold', 'hold with blockage', or 'cancel'
- The 'promote' functionality allows clients to move transactions up in the recycle queue and to be available



Background

Transaction instructions submitted to DTC that cannot immediately settle are continually reattempted, or “recycled”, by DTC. The DTC recycle process runs all day until a transaction is settled, canceled, or dropped at the end of the processing day. Most transactions that impact a client’s DTC share position or DTC settlement balance are recycled by DTC. Generally, transactions are recycled for one of four reasons:

- The delivering client has insufficient position to complete the transaction.
- The delivering client has insufficient collateral to complete the transaction.
- The receiving client has insufficient collateral to complete the transaction.
- The receiving client has insufficient net debit cap to complete the transaction.

DTC currently offers several options for delivering clients to manage transactions recycling for insufficient position. Many of these options are very under-utilized by clients, and as such, DTC will be limiting the number of recycle options it supports to reinforce processing efficiency.

Current State

DTC offers two core recycle options:

1. Recycle option 1 is DTC’s default recycle option where DTC recycles transactions in descending settlement value order. DTC attempts to settle the largest transaction first, but if the largest transaction cannot be processed for any reason, DTC will process any transaction that it can on the recycle queue.
2. Recycle option 2 is First-In, First-Out (FIFO) with “blockage” where DTC recycles transactions in the order in which they are introduced for settlement. In the FIFO recycle model, DTC will not process any transactions until they can process the first transaction in the client’s recycle queue (blockage). The blockage feature is done to maintain the client’s intended processing order and is in place until 1:30 p.m. ET when the blockage feature is removed, and DTC begins processing any transaction it can.

(The core recycle options apply to transactions recycling for position only. Transactions recycling for collateral or net debit cap will follow Recycle option 1, DTC’s default recycle option.)

Within the two core recycle options, DTC allows clients to:

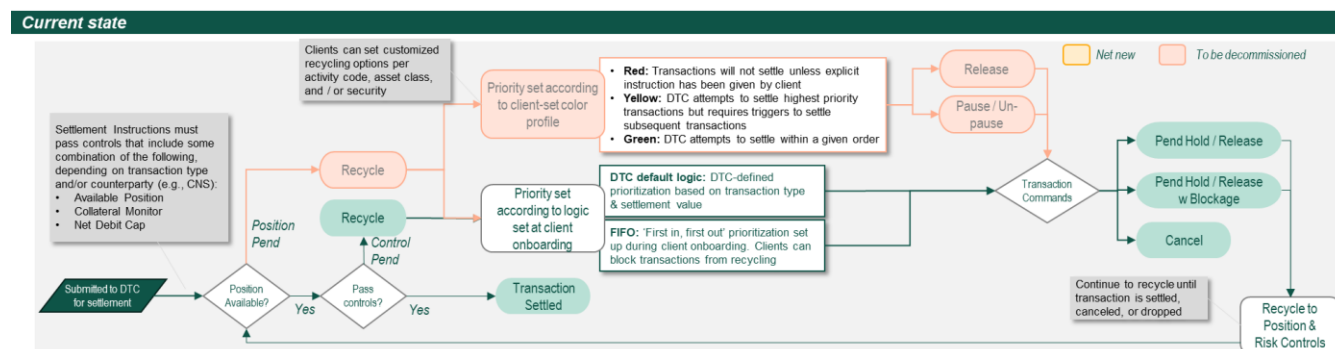
- “Hold” individual recycling transactions. Held recycling transactions will not be processed by DTC until the client releases the hold. Held transactions will be bypassed on DTC’s recycle queues and DTC will attempt to process the next transaction on the recycle queue.
- “Hold with blockage”- An individual recycling transaction can be held as well as all other lower priority transactions on the recycle queue. All transactions held with blockage will remain unprocessed until released by the client.
- “Cancel” a recycling transaction which will delete the transaction from DTC’s recycle queue.
- “Hold”, “Hold with blockage”, and “Cancel” capabilities can be applied to transactions recycling for position, collateral and net debit cap.

In addition to the two core DTC recycle options, DTC also provides clients with various tools to further manipulate the order in which DTC attempts to process recycling transactions. These options include the ability to establish different “color profiles”. DTC’s color profiles include:

- Green – Instructs DTC to process transactions in the order submitted by the client but, if the first transaction cannot be settled, attempt to settle any other transaction on the recycle queue (no blockage).
- Yellow – Instructs DTC to process transactions in the order submitted by the client but, if the first transaction cannot be settled, do not process any subsequent transactions (blockage).
- Red – Instructs DTC not to process any recycling transactions until explicitly instructed to do so by the client.

DTC permits clients to establish different color profiles by:

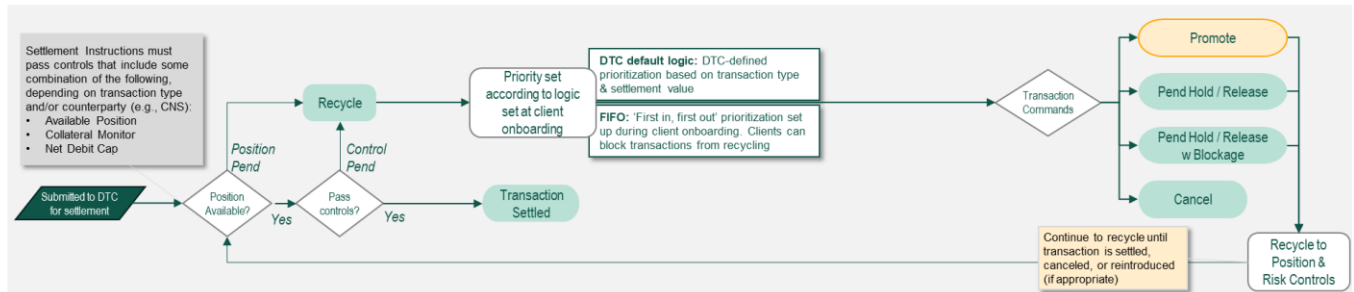
- Activity type - Deliver Order and Pledge activity.
- Asset class - Equities, Corporate Bonds, Municipal Bonds, and Money Market Instruments.
- Clients can also establish different color profiles for individual securities.
- For each color profile established, DTC allows clients to switch to a different color profile at a specific time or upon a specific processing event, i.e., DTC recycle cutoff or Pending Delivery Account (PDA) release.
- DTC offers a “release” capability which allows a client to instruct DTC to process an individual transaction on a yellow or red recycle queue.
- DTC offers a “pause” capability which allows clients to instruct DTC to suspend recycle processing for transactions until the client “un-pauses” the queue.



Future State

In the future state, DTC will limit recycle options to the core Recycle option 1 and Recycle option 2. That is, clients will be able to choose the DTC default option of having their recycling transactions attempted in settlement value order without blockage, or FIFO order with blockage. DTC will also continue to allow clients to perform actions of “Hold”, “Hold with blockage”, or “Cancel” recycling transactions. DTC will also add additional recycle functionality to allow clients to perform action of “Promote”, or move up, transactions on the recycle queue.

Future state



Implementation Plan

The recycle profile streamlining changes will require clients to update their settings to existing Inventory Management alternatives. The move to alternative DTC processing solutions can be done any time prior to Q3 2027 but must be complete by Q3 2027. The expanded “promote” functionality will be new and, as such, cannot be duplicated in the current production environment. The promote capability will be available in DTC’s test system on Q3 2026 and is targeted to be implemented into production in Q3 2027. **The “promote” functionality will be optional. All other changes will be mandatory but will only impact clients that utilize the decommissioned functionality.**

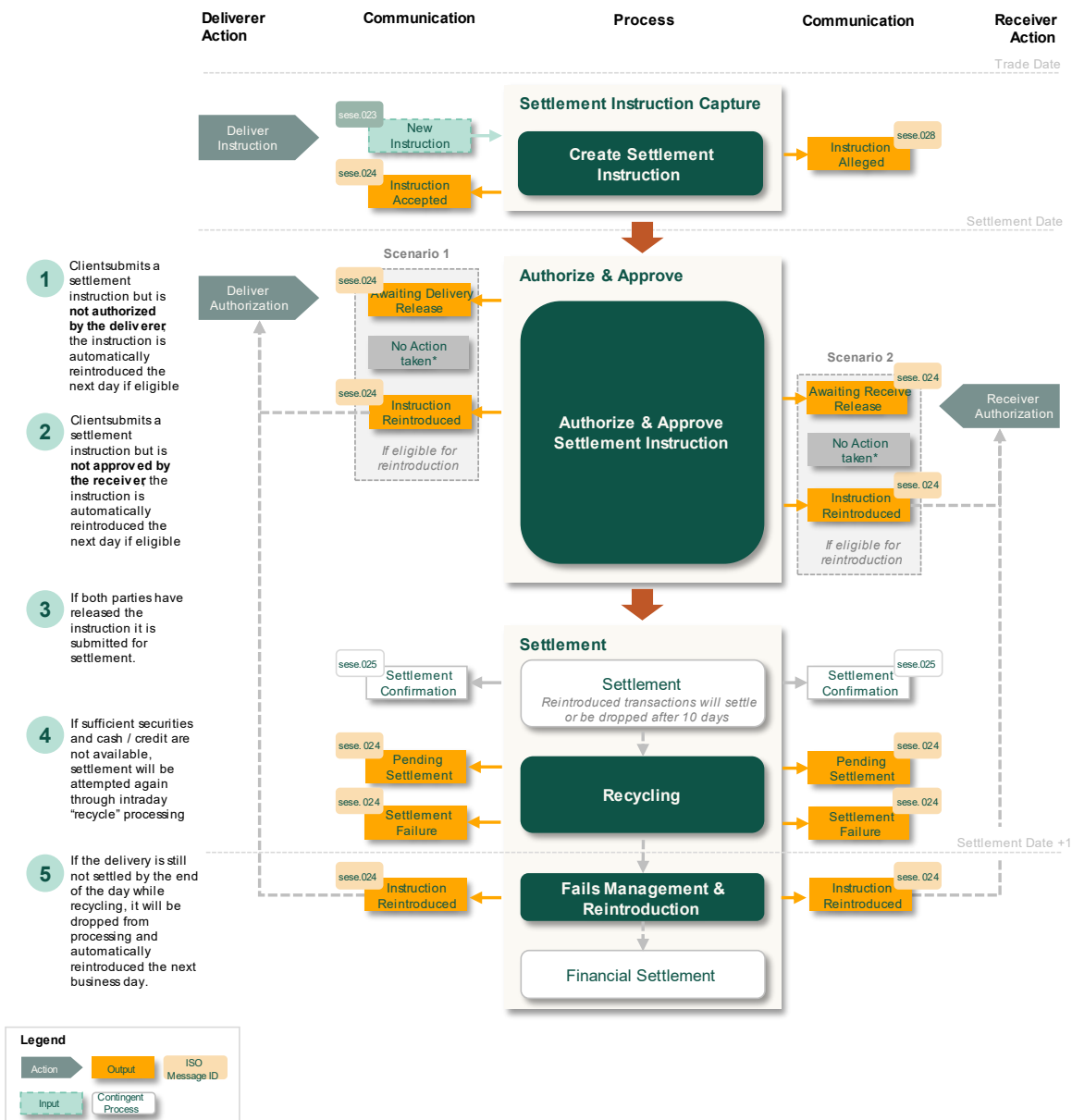
3.5 FUNCTIONAL CHANGE: REINTRODUCE / DROP PROCESSING



Reintroduction & Drop Processing – Target State

DTC Reintroduction & Drop Processing. The key features are:

- **Unauthorized drops** - If a settlement instruction is not released by the **deliverer** in the Deliver Authorization process, it will be automatically reintroduced the next business day if eligible (see scenario 1)
- **RAD Drops** - If a settlement instruction is not released by the **receiver** in the Receiver Approval (RAD) process, it will be automatically reintroduced the next business day if eligible (see scenario 2)
- **Settlement Fails** - If the instruction is recycling and no action is taken, the instruction will be dropped from processing and automatically reintroduced the next business day if eligible
- After 10 business days of reintroducing drops, DTC will discontinue warehousing reintroduced transactions



Background

Deliver Order (DO) transactions introduced into DTC can fail to settle for a variety of reasons. When this happens, clients may elect to have certain failed transactions “dropped” from the system or automatically reintroduced to reattempt settlement the following day. DTC will change this process and mandate the reintroduction of all failed DO transactions. By doing this, DTC can ensure transaction lineage is maintained over multiple days which creates processing efficiencies for clients and is an integral component of Partial Settlement. DTCC continues to work with industry representatives to define transaction types that should not be automatically reintroduced.

Current State

There are multiple reasons why transactions do not settle (fail) in DTC. These include:

- Insufficient deliverer’s position
- Insufficient deliverer’s collateral
- Insufficient receiver’s collateral
- Insufficient receiver’s net debit cap
- A transaction is unauthorized by the deliverer (“held” by the deliverer)
- A transaction is unapproved by the receiver (“held” by the receiver)

Currently, only transactions that fail to settle for insufficient deliverer’s position, insufficient deliverer’s collateral, insufficient receiver’s collateral, and insufficient receiver’s net debit cap are eligible to be reintroduced.

Reintroduced transactions require reauthorization by the deliverer and reapproval by the receiver.

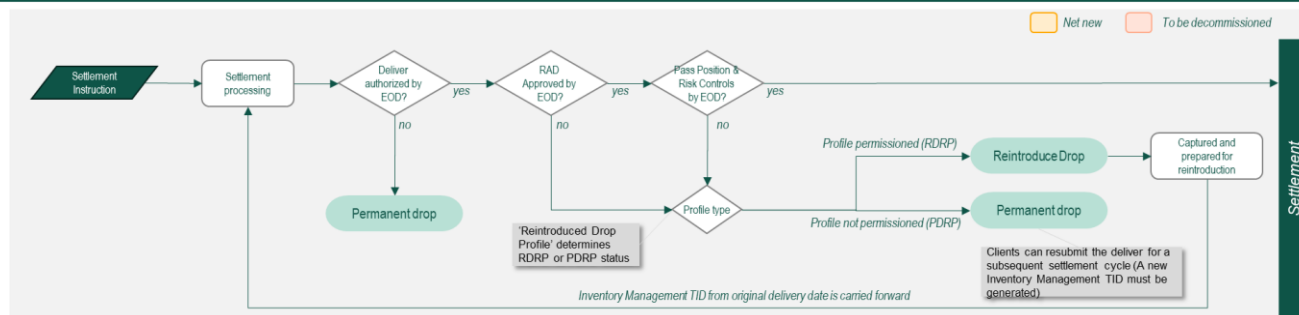
Reintroduced transactions contain all the transaction information contained on the original transaction including the original Transaction Identifier (TID).

Transactions that fail to settle because they are not authorized by the deliverer are automatically dropped from DTC’s system and are not currently reintroduced automatically; these transactions must be resubmitted for processing by the clients the following day if they still want the transaction to settle. Transactions that fail to settle because they are not approved by the receiver may be reintroduced for settlement at the option of the delivering client. When transactions are reintroduced by the client, DTC will generate a new TID.

DTC provides status messages for all transactions that fail to settle by the end of the day. These messages indicate if the failed transactions were reintroduced or not.

At various points throughout the transaction life cycle, clients can cancel unsettled transactions. These cancelled transactions are never reintroduced for settlement.

Current state



Future State

Transactions that fail to settle for any reason (insufficient deliverer's position, insufficient deliverer's collateral, insufficient receiver's collateral, insufficient receiver's net debit cap, unauthorized by the deliverer, or unapproved by the receiver) will be automatically reintroduced for settlement processing the following business day. As is the case today, reintroduced fails will require deliverer authorization and receiver approval before proceeding to settlement.

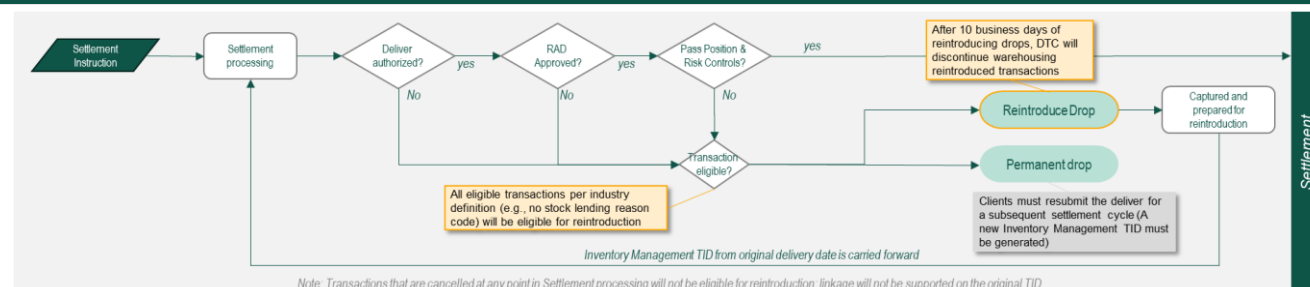
When DTC introduces partial settlement, only the portion of the transaction that fails at the end of the day will be reintroduced. The settled portion of a partially settled transaction will not be reintroduced and will be considered final. If different portions of a transaction fail for different reasons, all the failing components of an individual transaction will be reassembled into a single transaction for processing the next business day.

DTC will continue to provide status messages for all transactions that fail to settle by the end of the day. These messages indicate if the failed transactions were reintroduced or not.

DTC will continue to reintroduce failed transactions for 10 days. Following the 10-day period, unsettled transactions will drop from DTC's system and be reported as such to clients.

Cancelled transactions will be considered a "final" status and as such, will not be reintroduced for settlement.

Future state



Implementation Plan

DTC currently offers clients the option of having their failing transactions automatically reintroduced for processing the next business day. Clients can simulate the mandatory reintroduction of failing trades by changing existing profile settings. This change can be made any time prior to Q3 2027 but must be complete by Q3 2027. As part of the mandatory reintroduction of failed trades, DTC will be introducing new functionality

to allow clients to cancel pending transactions. This functionality will be available in the test environment in Q4 2026 and is scheduled to be in DTC's production environment in Q3 2027. Similarly, the ability to replicate partial delivery authorization does not currently exist in DTC's current processing environment and, as such, can only be simulated in DTC's test environment. The partial delivery authorization capability will be available in DTC's test environment in Q4 2026 and available in DTC production environment in Q3 2027. **This will be a mandatory change for all clients in Q3 2027.**

3.6 FUNCTIONAL CHANGE: RECLAIMS

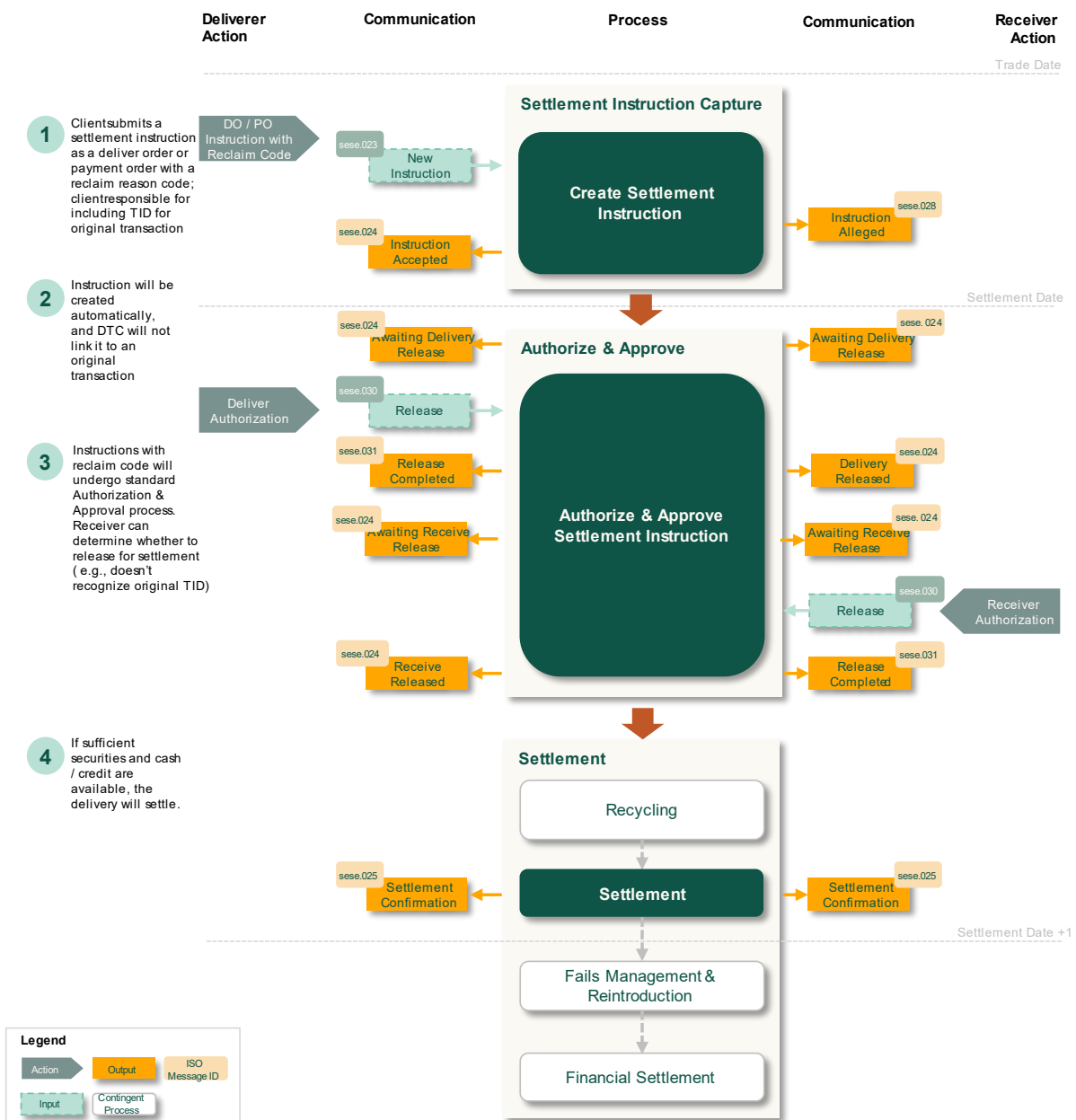
DTCC

Reclaims – Target State



DTC **Reclaims** function will be simplified and remove unnecessary complexity. The key features are:

- All reclaims resubmitted as deliver orders or payment orders with a reclaim reason code will lead to settlement instruction creation and pass through settlement as a standard deliver order or payment order
- DTC will no longer match reclaims to original transaction; it will use 'linked' / 'unmatched' indicators for reclaims when creating instructions



Background

DTC offers the capability to reverse or reclaim settled Deliver Orders (DOs) and Payment Orders (POs). To identify a DO or PO as a reclaim, clients submit transactions with designated reclaim reason codes. Once a transaction is received with a reclaim reason code, DTC attempts to “match” the reclaim transaction to an original transaction processed within the preceding 60 business days. If a match is found, DTC “links” the reclaim and the original transaction and adds transaction reference information from the original transaction on the output from the reclaim. Due to the limited value associated with reclaim linking, DTC will decommission the capability.

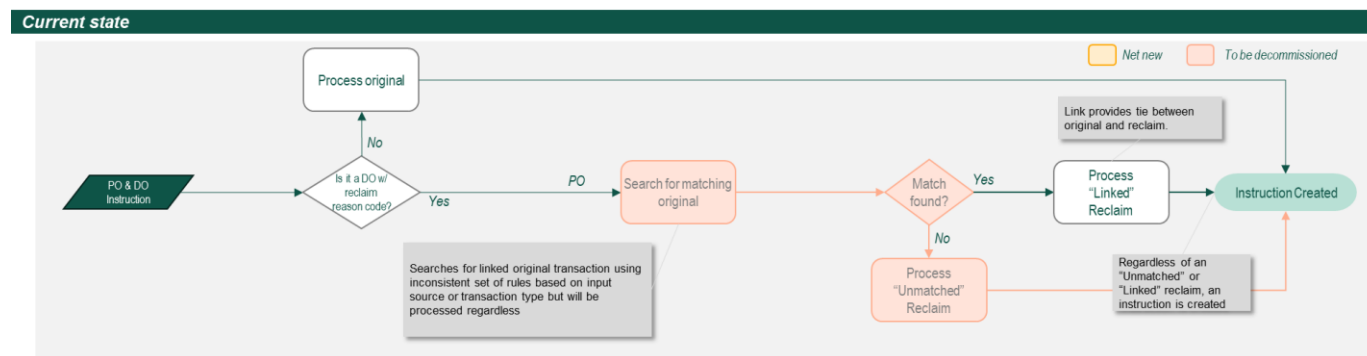
Current State

The reclaim matching process employed by DTC is limited. DTC uses basic transaction attributes to match reclaim and original transactions, including:

- Delivering client
- Receiving client
- CUSIP
- Share quantity (DO only)
- Settlement amount
- Settlement date
- Transaction reference ID (optional)

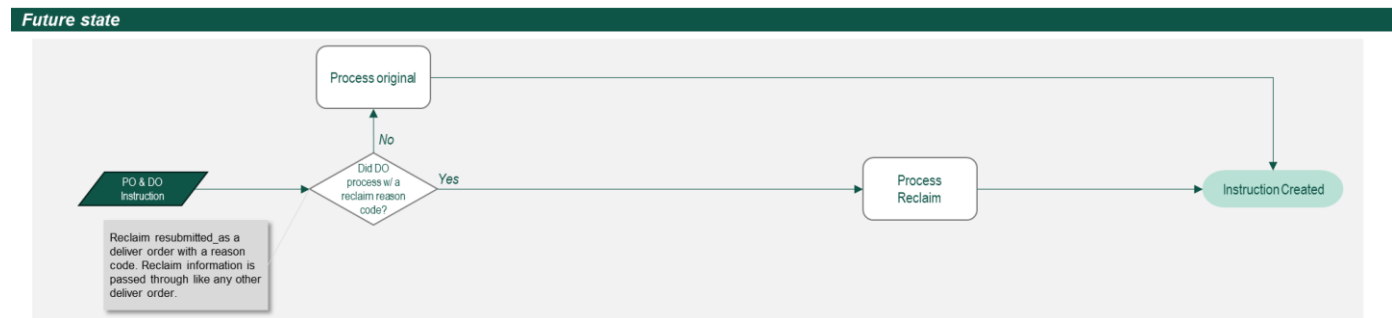
In many cases, there are multiple transactions to which a reclaim could be matched. Without the inclusion of the transaction reference ID, DTC will select the first transaction found in the settlement transaction queue which may or may not be the correct match.

Other than providing original transaction reference information on the reclaim transaction output, matched reclaims follow all the same processing rules as any other DO and PO transaction. Similarly, transactions coded as reclaim transactions that cannot be matched to an original will be processed by DTC, again, following all the same rules as any other transaction.



Future State

DTC will continue to allow clients to submit DO and PO transactions with reclaim reason codes. However, DTC will no longer attempt to match the transactions with the reclaim reason code to original transactions. The output from these transactions will maintain its reclaim reason code, as well as any other information provided by the client, including the original transaction reference number if one is provided, but will never be “linked” to an original settled transaction.



Implementation Plan

Today, all clients receive and process DO and PO transactions coded as reclaims that do not match to an original transaction so this change should have minimal impact on clients' processing.

4. FUNCTIONAL CHANGE REQUIREMENTS – CLEARING BUSINESS ENHANCEMENTS & SIMPLIFICATIONS

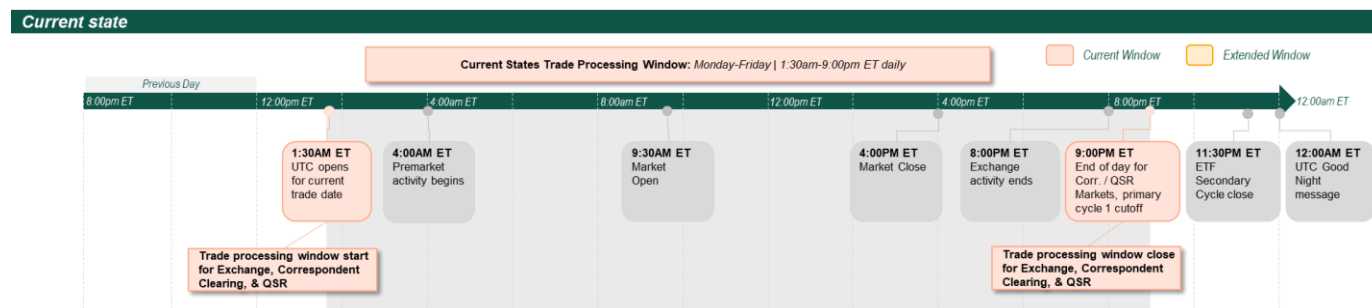
4.1 FUNCTIONAL CHANGE: TRADE CAPTURE EXTENDED TRADING HOURS

Background

The Universal Trade Capture (UTC) service captures, validates, and reports on equity trade details submitted by exchanges or Qualified Special Representatives (QSRs) that are NSCC Members. The UTC service validates and reports trades in near real-time, allowing clearing firms to run real-time or intraday reconciliation processes. This provides clients normalized, near real-time data and enables firms to enhance their own internal risk management operations. Trading venues continue to expand access and extend trading hours globally resulting in an increase in trading activity. Technology for after-hours trading has become more widely available and increasingly popular allowing investors to act quickly on news and events as they happen. As a result, clearing firms are looking for DTCC to update its systems to support extended trading hours by increasing trade processing windows and providing an earlier trade guarantee from the central counterparty (CCP).

Current State

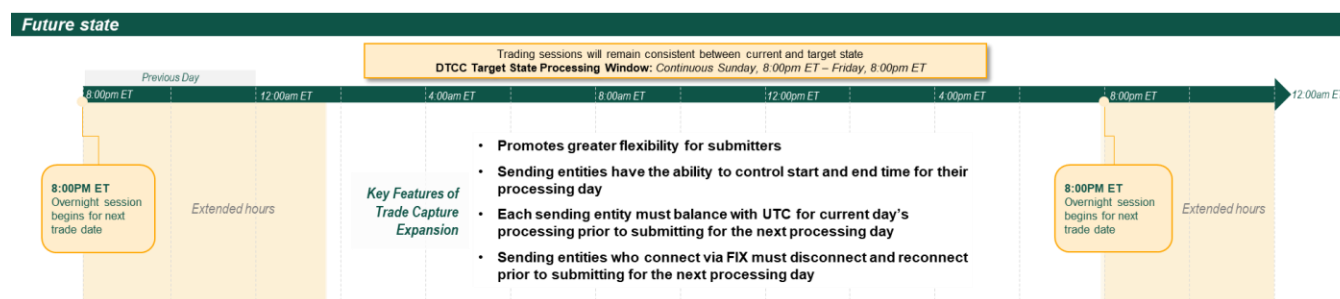
In September of 2024, NSCC embarked on a multi-year effort to extend its operating hours and deliver guaranteed central counterparty (CCP) services to trades processed and validated by NSCC during off-market hours. NSCC delivered an additional 2.5 hours of trade support by changing the start of the day from 3:50 AM ET to 1:30 AM ET. Currently, trade processing hours are Monday through Friday from 1:30 AM ET to 9:00 PM ET. The increase in UTC's processing window helps reduce counterparty risk during extended hours for global clients by narrowing the time window during which they currently cannot receive the CCP guarantee.



Future State

In response to the shift away from traditional markets hours and as part of UTC's modernization efforts, NSCC plans to further expand its trade capture capabilities to support overnight trading by increasing its trade processing window to Sunday at 8:00 PM ET through Friday at 8:00 PM ET. Extending clearing hours will maximize liquidity and reduce counterparty risk by extending the hours to which NSCC's central counterparty guaranty is applied to overnight activity across different time zones for global clients.

This initiative aims to enhance market accessibility and efficiency while supporting a dynamic and resilient trading environment that meets the evolving needs of market participants. As this effort progresses, DTCC will continue to work across the industry to support alignment of extended trading hours.



Implementation Plan

UTC's initiative to support extended trading hours is targeted for client testing in January 2026, with a production release planned for June 2026. Firms will be required to support a new "FIX Tag 715 Clearing Business Date" field which will be included on the UTC real-time output message. This change supports the expanded functionality and is required for all clients who receive real-time output to test and confirm that their systems can properly process the new FIX tag. The initial communication for Extended Trading Hours was in January 2025 via NSCC Important Notice #A9551. Subsequent Important Notice will be shared with firms to prepare for testing and implementation.

UTC Sending entities that wish to participate in extended trading hours will need to make onboarding connectivity changes and test to ensure they can balance with UTC, complete their end of day balancing process, and close out their current FIX session, then seamlessly disconnect and reconnect to submit for the next processing/trading day.

4.2 FUNCTIONAL CHANGE: NSCC ETF OPTIONS CLEARING

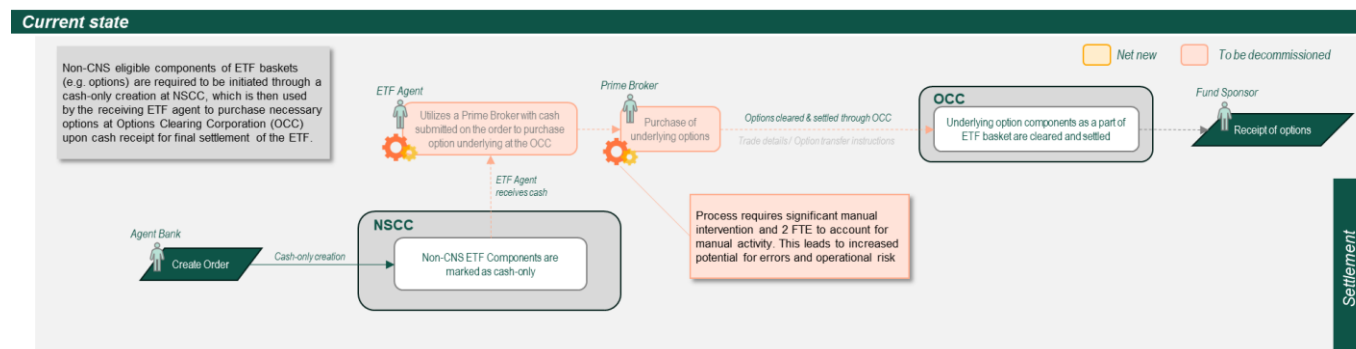
Background

If a US-listed ETF and all its underlying basket components are CNS-eligible securities, CNS's portfolio-level netting will treat primary market Create/Redeem activities as a net-cash neutral balanced position. When basket components are non-CNS eligible products, this introduces additional costs to the market participants, as the non-CNS eligible components (e.g. options) need to be submitted to CNS in cash and require additional manual processing.

To support the continued rapid growth in the ETF industry, NSCC is working to provide clients with operationally optimized infrastructure and a robust, scalable risk management framework.

Current State

ETF Authorized Participants (APs) and ETF Agents have expressed interest in expanding the central clearing of ETF option components. Under the existing framework, when dealing with ETFs that include FLEX option components, APs and ETF Agents are required to initiate a cash-only creation at NSCC. Following this, the ETF Agent uses the cash received from the order to purchase the necessary options at The Options Clearing Corporation (OCC) through a Prime Broker. NSCC will implement a process to automate these manual workflows and improve participants' capital efficiency.

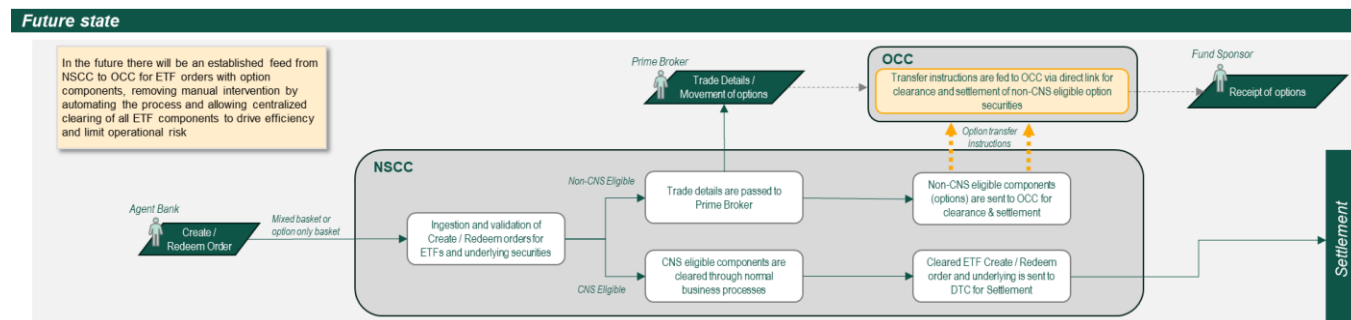


Future State

A partnership between NSCC and OCC was established to allow ETFs with option components to centrally clear and settle. This mitigates operational challenges and improves capital efficiency with NSCC acting as a central hub for ETF order processing.

This partnership will operate similar to the existing Automated Customer Account Transfer Service (ACATS) connection. NSCC ETF service will handle the intake of Create and Redeem orders for ETFs and any underlying securities that are cleared and settled by NSCC and DTC. For underlying options components that are ineligible for clearing through NSCC, such as FLEX options and covered call options, NSCC will seamlessly route these to OCC to facilitate the transfer of options positions purchased in connection with the Create/Redeem.

As NSCC moves towards a fully optimized ETF market infrastructure ecosystem, this partnership with OCC will prove out a concept which could be replicated for other asset classes (e.g. government securities, crypto) or other global market infrastructures (Canada, Europe, APAC).



Planned Implementation Timeline

- **Q4 2025:** OCC Phase 1 PSE (test environment) deployment
- **Q1 2026:** OCC Phase 1 Production go-live
- **Q1 2027:** Planned completion of ETF modernization program

These changes will be optional for clients.

4.3 FUNCTIONAL CHANGE: ACATS SETTLE PREP REMOVAL

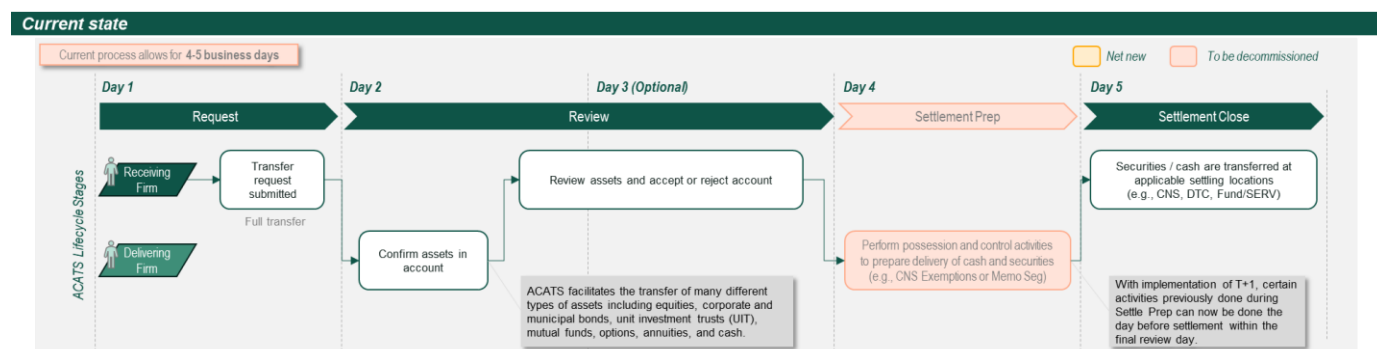
Background

The Automated Customer Account Transfer Service (ACATS) is a system that automates and standardizes procedures for the transfer of assets in a customer account from one brokerage firm and/or bank to another. Since ACATS was introduced, the number of days has been reduced multiple times to its current 4–5-day process for a full transfer. Although the client's assets remain invested in the market while a transfer is pending, they are unable to trade these assets at either of the counterparties, thus exposing the client to risk. This enhancement will decrease the transfer time to reduce client risk and enhance the client experience. The removal of the settle prep day will reduce the transfer cycle by a full business day.

Current State

ACATS currently has four stages of a transfer:

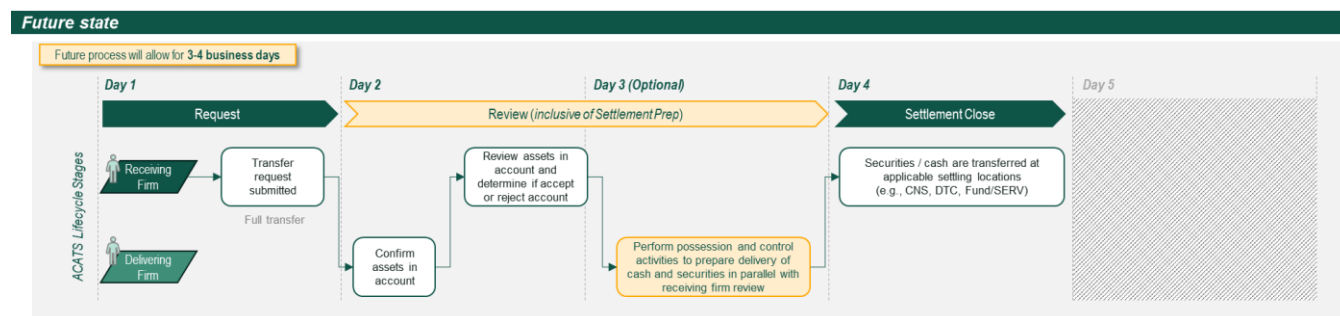
- **Request** – Stage in which the transfer is submitted by the initiating firm or receiving firm.
- **Review** – Stage in which the contra firm or delivering firm confirms the assets currently in the account so that the receiving firm can review and determine if it will accept or reject the account.
- **Settle Prep** – Stage between Review and actual settlement which provides a full day for the delivering firm to perform any possession and control activities to prepare the delivery of the cash and securities (e.g., CNS Exemptions and Memo Seg). ACATS restricts any additional activities for the transfer in Settle Prep.
- **Settle Close** – The day of settlement in which the securities and or cash are transferred at the applicable settling locations (e.g., CNS, DTC, Fund/SERV).



Future State

ACATS will no longer support the Settle Prep Stage. All transfers will move from Review stage directly to Settle Close. This will eliminate one full day from the ACATS transfer cycle and allow for a full transfer to be processed between 3-4 business days. It will also eliminate one day for all non-standard/partial ACATS that contain mutual funds and/or options.

For both current and future state, ACATS can be accelerated by removing Review Day 2. Clients can continue to elect to remove Review Day 2 in the future state.



Implementation Plan

The removal of settle prep in ACATS is targeted for July 2025 testing and October 2025 production. The initial communication was in July 2024 via NSCC Important Notice #A9463 and followed up with NSCC Important Notice #A9574. Since the Important Notice, the enhancement was communicated and discussed at the 2024 SIFMA Ops and Tech Conference Account Transfers Breakout session (September 2024), 2024 SIFMA Customer Account Transfer (CAT) Fall Seminar (November 2024), and during monthly scheduled SIFMA Automated Transfers industry working group calls. Starting in April 2025, more frequent industry calls will be established to prepare firms for testing and implementation.

Firms will be required to support one-day settling assets for all transfers. This will involve coordination between transfer and settlement teams to ensure any pre-settlement activities (e.g., CNS exemptions) can be processed between the end of the ACATS review period and the next day's settlement date. With the timing changes implemented during T+1, settlement teams have confirmed that they can support this new settlement process. During the testing window, baseline test scripts will be provided, and self-testing capabilities will be offered to all firms. Firms will coordinate their own testing schedules based on their own project plans. Relationship managers will be asked to make periodic call outs to ensure firms are aware and ready for the target implementation. **These changes will be mandatory for clients.**

4.4 FUNCTIONAL CHANGE: ACATS CLIENT INTERFACES MODERNIZATION

Background

NSCC's Automated Customer Account Transfer Service (ACATS) developed new inbound and outbound data messaging capabilities to replace legacy file transmissions. The new message capabilities allow firms to submit and receive ACATS transactions using JSON (JavaScript Object Notation) message formats via either REST API (for inbound submissions from firms to ACATS only) or MQ (for inbound submissions to ACATS and/or outbound from ACATS to firms). The new messaging capabilities are an add-on to the existing suite of communication protocols (which include SFTP, NDM, web upload, and web user interface). The new messaging and legacy data exchange will be supported simultaneously within the existing ACATS workflow. The introduction of the new message formats will commence a multi-year transition period for firms to migrate off the legacy files to the new JSON messaging via API and/or MQ. Key highlights include:

- This initiative begins the process of reducing DTCC's legacy footprint by creating the path to decommission the ACATS legacy fixed and variable file formats.
- Part of the strategy was to introduce new APIs that will support new business needs of clients (e.g., 529 plans) without adding to legacy input transmissions. This strategy will incentivize firms to transition early to new interfaces in order to benefit from new features.
- Introduce a new messaging format (e.g., JSON message format) that will provide expansibility for current and new business fields and codes.
- The current ACATS process will not change as part of this phase. DTCC will bridge back new messaging with current legacy application to not interrupt current ACATS processing and allow for a multi-year transition for clients.
- Foundational change for future real-time processing / real-time status reporting.

Legacy	Modernized
• Fixed and Variable Formats • Supported using SFTP and NDM protocols • Hourly cycle system reject reporting • Does not support 529 Processing	• JSON messaging • Supported using API and/or MQ protocols • Real-time system reject reporting • Supports 529 Processing

Implementation Plan

- New client interfaces are in production as of Q3 2023. Multiple Important Notices published, articles and presentations at industry events, including NSCC Important Notices [#A9259](#), [#A9347](#), [#A9549](#).
- Firms have until Q3 2026 to fully migrate off the legacy files.
- NSCC Integration is working with clients on transition and testing.
- Weekly Client Interface industry calls are hosted by DTCC to provide updates and for firms to discuss implementation.
- **These changes will be mandatory for clients.**

4.5 FUNCTIONAL CHANGE: FULLY-PAID-FOR ACCOUNT

The Fully-Paid-For Account is a subaccount within NSCC's CNS system that assists clients in maintaining compliance with possession and control requirements pursuant to Rule 15c3-3 of the Securities Exchange Act. As clients instruct NSCC to move expected long allocations to the fully-paid-for location, NSCC reclassifies the relevant long allocations as a fully-paid-for long allocation and debits the client the market value of the relevant securities in the NSCC settlement system. These long allocation reclassifications and corresponding settlement debits are posted intraday by NSCC. The funds associated with the fully-paid-for process are collected via NSCC's end-of-day settlement process and are held by NSCC and used to ensure the customer fully-paid-for positions can be replaced should the client become insolvent. Upon completion of a fully-paid-for long allocation, the relevant funds are used to pay for the securities received from CNS via NSCC's end-of-day settlement process.

Additionally, if the client replaces the customer fully-paid-for securities in inventory at DTC prior to the receipt of the CNS long allocation, the client can move the expected long allocation from the fully-paid-for location (the "E" subaccount) back to the general CNS "A" subaccount. Upon completion, the relevant funds are credited back to the client through NSCC's end-of-day settlement process.

NSCC's fully-paid-for functionality is scheduled to be decommissioned Q3 2025.

These changes will be mandatory but will only impact clients that utilize the decommissioned functionality.

4.6 FUNCTIONAL CHANGE: CNS LEVEL 1 & 2 EXEMPTIONS

As previously noted, NSCC will be discontinuing CNS Level 2 exemption processing and migrating CNS Level 1 processing to DTC's deliverer authorization capability. Please see the Settlement Section on Deliver Authorization [3.3.1] for details about changes to CNS Level 1 and 2 Exemptions.

CONCLUSION

This Functional Change Document reflects Equities Clearing and Settlement enhancements scheduled for implementation in the next three years and is intended to provide sufficient information for clients to begin securing development resources and planning for the changes. The coordination and participation of our industry partners will be critical to enabling the successful implementation of these planned changes.

In conjunction with this Functional Change Document, DTCC established an Equities Clearing and Settlement Transformation microsite at [DTCCTransformation.com](https://dtcc.com/Transformation), which provides centralized access to key documentation and other important resources.

This Functional Change Document will be periodically updated. DTCC will be publishing additional technical documentation in Q2 2025. DTCC will also be publishing educational materials, such as videos, webinars, and Frequently Asked Questions (FAQs).

Please refer to the Equities Clearing and Settlement Transformation microsite for questions or comments regarding this document: DTCCTransformation@dtcc.com

Document Revision History

Date	Author	Version	Description
1/27/2025		0.1	Initial Draft
2/28/2025		0.2	Refined initial draft
3/31/2025		0.3	Published Final Draft