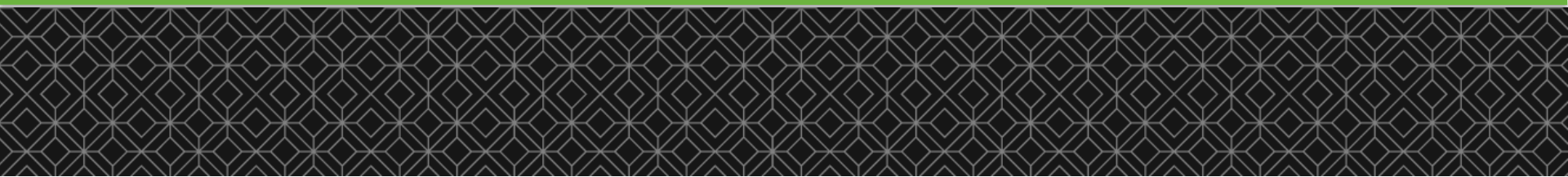


DTCC CA Product Update

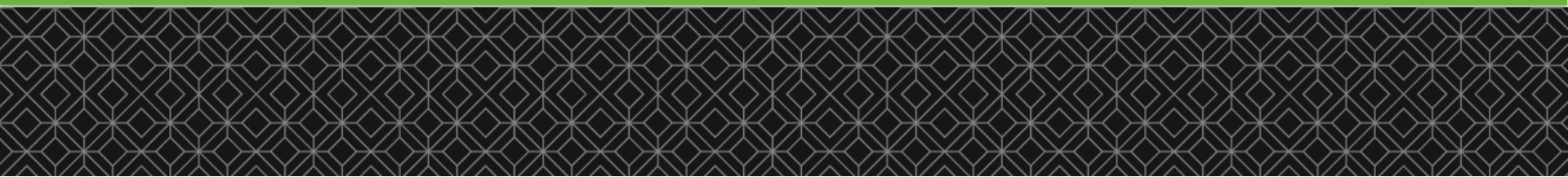
CA Transformation, ISO 20022 for Instructions and Cash Claims

Matt Schill

October 11, 2018



CA Transformation



CA Transformation - Key Milestones 2018-2019

2018

CCF Lifecycle Files: Distributions, Redemptions & Reorg

- Client testing: Entitlements & Allocations CCF Files (CSHSET, CSHPRJ, etc.) vs. ISO 2022 Messages (CACO, CAPA, etc.)

CCF File: Reorganization Announcements

- Announcements files only available for a fee as of January 1, 2018

Phase 5: Reorganizations Lifecycle

- CA Web Parallel Testing of entitlements, allocations, adjustments available for Reorg events – July 2018

2019

CCF Lifecycle Files: Distributions, Redemptions & Reorg

- Entitlements & Allocations CCF Files (CSHSET, CSHPRJ, etc.) will be retired – **December 31, 2019**

CCF File: Reorganizations

- Announcements files will no longer be supported by DTC as of Jan 1, 2019
- Entitlements & Allocations files will be retired – December 31, 2019

Phase 5: Reorganizations Lifecycle

- CA Web Parallel Testing of entitlements, allocations, adjustments available for Reorg events
- Mandatory use of CA Web for Reorganization allocations, entitlements and adjustment processing – Q1 2019
- Retire PTS / PBS Reorganization functions – Q1 2019

ISO 2002 Message Availability

ISO 2002 Message Group	Distributions	Redemptions	Reorganization
Announcements*	In Production (Nov 2011)	In Production (Nov 2011)	In Production (Nov 2011)
Entitlements & Allocations	In Production (Feb 2013)	In Production (August 2015)	In Production (July 2017)
Instructions	In Production (March 2015)	N/A	2019/2020

***As of January 1, 2018, Announcements Reorg CCF files are available for an annual fee of \$50,000**

***As of January 1, 2019, Announcements Reorg CCF files will not be supported by DTC**

Conversion to ISO 20022 SR2018 Version on November 18, 2018

See details in Important Notice B#9463-18;

<http://www.dtcc.com/~media/Files/pdf/2018/9/7/9463-18.pdf>

Client testing began on September 17, 2018

- Testing in the DTCC PSE-U test environment
- All MQ/ NDM and SWIFT connections have been enabled

CA Web Production Parallel Testing Period For Reorganization Lifecycle

See details in Important Notice B#9122-18;

<http://www.dtcc.com/~media/Files/pdf/2018/7/26/9122-18.pdf>

Deploy Date: August 16, 2018

- **Opportunity to parallel test for six months; must be provisioned with appropriate roles**
 - Reorg Dashboard – includes Custody Reorg, Reorg Deposits
 - Entitlements
 - Allocations
 - Adjustments
- **Reorg Announcements become available in CA Web to all users beginning the week of July 9th**
 - Automatic access to users already provisioned with “Customer DTC” or “Customer Admin DTC” role
- **Training**
 - Instructor led review sessions begin on July 23, 2018
 - Learning Path
 - CA Web User Guide

ISO 20022 for Voluntary Reorg Instructions

Background – Voluntary Reorg Automation

- Completion of “CA Transformation” Program in 2019
- Client Outreach for Voluntary Reorg Automation
 - 22 one-on-one client meetings
 - 51 clients expressed interest in DTC automating the Voluntary Reorganization instruction process
- DTCC Requirements Gathering
- July 10th WebEx Call with all interested clients
- DTCC Whitepaper / Call to Action
- DTCC Business Case and internal approval process
- October 2nd DTCC Onsite Session

Client Commitment

New - Onboarding and Test Support Fee in 2020 for “BAU” products and services

- Monthly fee model
- Unrelated to Voluntary Reorg Instructions Automation

Client Commitment for Voluntary Reorg Instructions Automation

- Onboarding and Test Support Fee is waived for committed clients for 2-3 year period beginning in 2020

Important Client Considerations

- Participants will need a real-time MQ connection via SMART Instructions will be predicated upon various information found in the ISO 20022 CANO Announcement message
 - It is highly recommended that Participants receive this Announcement information in real-time (MQ connection)
 - Instructions will require certain data elements such as CA ID (COAF) and Option Number, among others, found in the CANO. These elements are critical in order to have your instruction accepted and processed by DTC.
- Participants will be required to test annually (Sept/Oct) ahead of the SWIFT Standards Release in November
- It is important that firms utilizing this new process take into account the usage of the Supplementary Data or Extension to ensure full event instruction coverage
 - Supplementary Data is not available in the 15022 MT 565 or 567 messages

Events In Scope

- Tenders / Exchanges (AC 52) – including with Consents, Dutch Auctions
- Mergers with Elections (AC 52M)
- Optional Repayments – Puts (AC 58/B)
- Rights Subscription (AC 59)
- Mandatory Tender with the Right to Retain (AC 65B/R)

ISO 20022 Messages In Scope

- **CAIN** - Corporate Action Instruction Message (Inbound)
- **CAIS** - Corporate Action Instruction Status Message (Outbound)
- **CAIC** - Corporate Action Instruction Cancellation - Withdrawal (Inbound)
- **CACS** - Corporate Action Instruction Cancellation - Withdrawal (Outbound)
- **CAST** - Corporate Action Instruction Statement Report (Outbound)

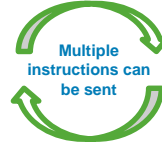
Message Flows



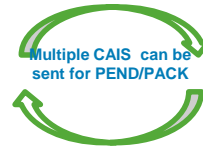
ANNOUNCEMENT
(CANO)



ELIGIBLE BALANCE
(CANO no details)



INSTRUCTION
(CAIN)



INSTRUCTION
STATUS ADVICE
(CAIS)

Event General Details

COAF
Event Type
Mand/ Volu
Event Security

Event Details
Options
Payouts (Movements)

+

Supplementary Data

Agreed set of extensions

Event General Details

Eligible Balance Ind = Y

COAF
Event Type
Mand/ Volu
Event Security

NO DETAILS

Balance:
Free (10/11)

+

Supplementary Data
Pledge
Segregated
Memo Seg

Event General Details

COAF
Event Type
Mand/ Volu
Event Security

Instruction Details

+

Supplementary Data
Odd Lot Preference
Conditions
Sequences

Instruction Identification

Event General Details:
COAF

Event Type
Mand/ Volu
Underlying Security
Accept/Reject code
PEND and/or PACK

Instruction Details
Instructed
/Uninstructed Balance

(...)

Message Flows (cont.)



Intraday for Reorg

INSTRUCTION
STATEMENT
REPORT
(CAST)

Report Details
Event General Details:
COAF
Event Type
Mand/ Volu
Underlying Security

Balances:

Total Eligible Balance
Uninstructed Balance
Total Instructed Balance

Breakdown By Option
Other Balances

Supplementary Data

A significant number of balance details – will be revamped in SR2019



ONE CACO per Payment TYPE
(TOTAL ELIG)

MOVEMENT
CONFIRMATION
(CACO)

Event General Details
COAF
Event Type
Mand/ Volu
Underlying Security

Confirmed Balance

Movement Details
Securities Movement
Cash Movement

+

Supplementary Data
Detailed balance information at the transaction level for Voluntary Reorgs

(...)

It is important for Participants to denote the differentiation between 15022 MT 565/566/567 and the 20022 suite of messages. DTCC incorporates a lot of important information in the extension of the ISO 20022 message that will assist with STP

outbound

CAIN / CAIS & CAIC / CACS Relationship

The outbound status advice messages (CAIS/CACS) are an extremely critical component of this process as the information contained on the status advices provide crucial information as to “where your instructions is”.

CAIN / CAIS

- The messages will flow into a middleware
- The CAIS will always follow the CAIN
- Instructed balances
- Latency between the two messages
- Status codes
- Timing

CAIC / CACS

- The messages will flow into a middleware
- The CACS will always follow the CAIC
- Balances
- Latency between the two messages – agent needs to approve a withdrawal
- Status codes

PTOP Instruction Details / Extension Model

```
PSUPERCAMPLUS - EXTRAI X-treme
MENU  CNSR  DIVA  RIPS  SDAR  HELP

TAC7      THE DEPOSITORY TRUST COMPANY      DATE: 09/13/2018
D0000221-11  TENDERS INSTRUCTION SUBMISSION      TIME: 09:17:12

-----
TARGET CUSIP: G27631AD5  CONTRA: G2Q181AD9  DESC: GCBREGS DTGICELREF+4
PARTICIPANT : _ / _      QUANTITY :

TRANSACTION ID:

CONTACT NAME: SUBMITTED BY DTC      CONTACT PHONE: ( 000 ) 000 - 0000
ENTER AN "A" IN THE FOLLOWING PARENTHESES TO ACKNOWLEDGE YOUR RECEIPT
OF, AND AGREEMENT TO BE BOUND BY, THE LETTER OF TRANSMITTAL REQUIRED
BY THE OFFER IDENTIFIED BY THE CONTRA CUSIP ABOVE ( )
DTC COMMENT: EXCHANGE AND CONSENT ELECTION FOR "QIB"

COMMENT:

PSUPERCAMPLUS - EXTRAI X-treme
MENU  HELP

TAC7      THE DEPOSITORY TRUST COMPANY      DATE: 09/13/2018
D0000221-11  TENDERS CONDITION ACKNOWLEDGMENT      TIME: 09:24:37

-----
TARGET CUSIP: G27631AD5  CONTRA CUSIP: G2Q181AD9  DESC: GCBREGS DTGICELREF+4
CMD:

X  Y  CONDITION 1 : QIB VALIDLY TENDERING ALL OF THEIR EXISTING DGL3
      : NOTES ACROSS BOTH SERIES AND CONSENTS TO THE
      : PROPOSED AMENDMENTS AS DEFINED IN THE STATEMENT
      : DATED 8/31/18 AND ACKNOWLEDGES THAT CLAIM OR
      : LIABILITY LETTERS ARE NOT ACCEPTED.

NO MORE.

ENTER:PROCESS PF1/13:CONFIRM PF5/17:CANCEL PF6/18:PREVIOUS PF7/19:PTOP MENU
PF8/20:END PF9/21:SIGNOFF PF10/22:BACKWARD PF11/23:FORWARD

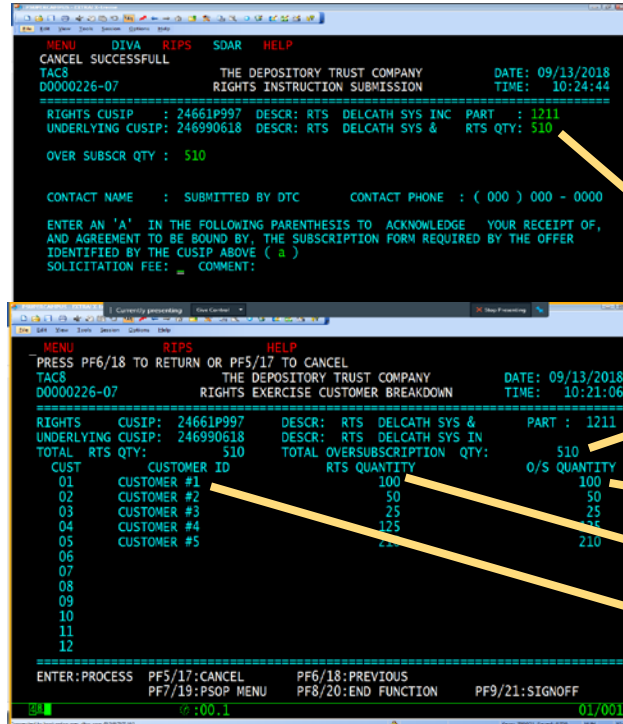
Connected to host pkiuper.j  Keys: 411559 Saved: 08/72  NLM  9:25 AM
```

- = <DTCCAINS1>
- = <ReorgInstrDtIs>
- <TxTp>**VOIT**</TxTp>
- <CstmrRefId >**123456**</CstmrRefId>
- = <CtctPrsn>
- <Nm>**JOHN SMITH**</Nm>
- <PhneNb> **+13145551212**</PhneNb>
- </CtctPrsn>
- = <AckDtIs>
- <TermsAckInd>**true**</TermsAckInd>
- <Cond1Ind>**true**</Cond1Ind>
- </AckDtIs>
- </ReorgInstrDtIs>

Rights Oversubscription using Extension Model

Rights Exercise instruction was input with 5 sequences with 510 units total subscribed and 510 units total oversubscribed. The total instructed (510) will be in core message and the total oversubscription will be in the extension message.

Each sequence will be in the extension (only sequence 1 in the example) with the instructed units and oversubscription units.



CORE

```

<Nb>001</Nb>
</OptnNb>
=<OptnTp>
<Cd>OVER</Cd>
</OptnTp>
=<SctyId>
=<OthrId>
=<Id>24661P997</Id>
=<Tp>
<Cd>CUSP</Cd>
</Tp>
</OthrId>
</SctyId>
=<SctiesQtyOrInstdAmt>
=<SctiesQty>
=<InstdQty>
=<Qty>
<Unit>510</Unit>
    
```

EXTENSION

```

<<TtlOvrsbcpQty>
<Unit>510</Unit>

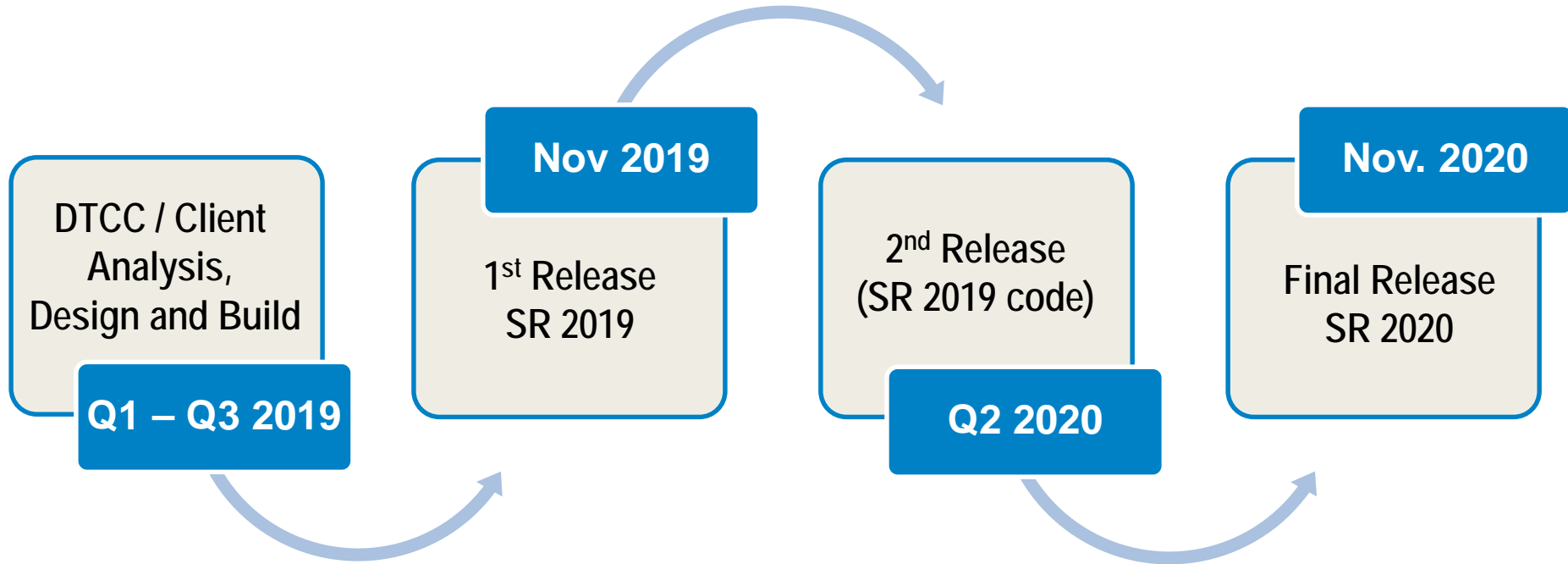
TxTp>VOIT</TxTp>
<TxSeqNb>1</TxSeqNb>
=<SctiesQtyDtls>

</TtlOvrsbcpQty>
<OvrsbcpQty>
<Unit>100</Unit>
</OvrsbcpQty>
<InstrQty>
<Unit>100</Unit>
</InstrQty>
=</SctiesQtyDtls>
<CstmrRefId>Customer
#1</CstmrRefId>
</ReorgInstrDtls>
=
    
```


SR2019 Changes approved by SWIFT Maintenance

- Odd Lot Indicator for CAIN message
- Contact Person and Contact Phone Number added to CAIN, CAIS, CAIC, and CACS core messages
- Cover Protect workflow will be incorporated into ISO20022 core message. DTCC processes approximately 10, 000 cover or protect transactions annually
- *Cover Protect indicator* will signify that a transaction is for a *Protect*, *Cover Protect* or *Cover on behalf of Another Participant*
- **CAIN Instruction Message**
 - *Cover Protect Indicator* (PROT, COVR, COVB)
 - *Protect Date* (for Cover on Behalf of Another)
 - *Protect Safekeeping Account* (for Cover on Behalf of Another)
 - *Party Contact Name and Phone Number*
- **CAIS Instruction Confirmation Message**
 - *Protect Status Code* (OPEN, FULL, EXPI) states whether the cover is Open, Fully covered or Expired
 - *Protect Transaction ID* (unique identifier of the Protect transaction which differs from the Transaction ID when the item becomes fully covered)
 - Uncovered Protect Quantity – Portion of protect instruction which has not been fully covered

Proposed Development and Testing Timeline



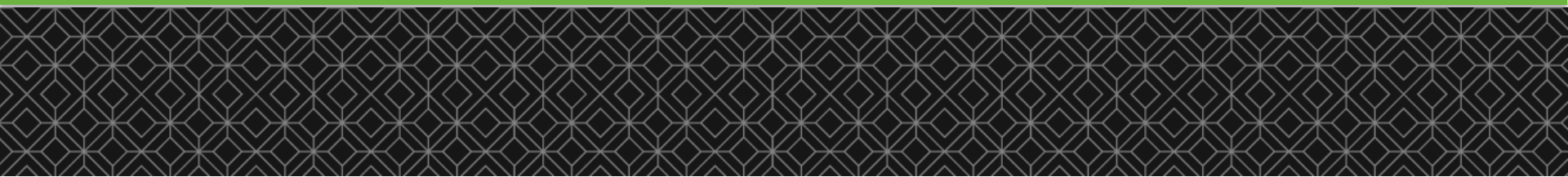
Open Items from 10/2 Working Session

- Is there a PEND/PACK subscription?
- How does the automated ISO process interact with RTOP?
- Does DTC create the CAIS first for online PTOP/PSOP/PUTS submissions?
- How is the Cover/Protect PEND/PACK process defined?
- Should DTC and Participants take an event by event approach?
- How will testing work? Agile vs. Waterfall
- Are functions for waiver of dissenters rights, Tenders for CIL, Collection of Tax instructions via PTOP in scope for ISO?

Corporate Actions Vendor Engagement

- **WebEx will be scheduled for November with all vendors** that are aiding DTC participant firms with the Voluntary Reorg Instructions process
- Agenda will include: mapping materials, business rules, project timelines, etc.
- DTC clients should reach out to catransformation@dtcc.com if they'd like to request that a vendor be invited to this session

DTC CA Cash Claims Processing



Background

- The industry has challenges in handling claims that are not tracked by DTC:
 - Securities Lending (Lends/Borrows)
 - Short Settled Trades (trades outside of the current T+2 settlement cycle)
 - Differences in Tax Rates
 - Not fail tracked (CNS/DTC)
 - Other
- Large teams of Operations assigned to just claims processing
- Primarily handled through E-mails
- Controls differ per firm
- No single solution the industry can use

Working Group Charter



- Composition of the group
- What the group will focus on – i.e. scope
- Action items
- Comments and feedback
- Meeting schedule

Proof of Concept (POC)

- We want to prove the concept
- Feedback is requested and appreciated
- 55% - 60% of the proposed application

Applications Specifics for the PSE-U POC:

- Standalone web application
- Single input or bulk upload
- Search engine with a dashboard
- Report center

How can I Input a Claim?

Enter Cash Claims ?

Trade Xref *	CUSIP *	Event Type *	Credit / Debit *
<input type="text"/>	<input type="text"/>	<input type="text" value="Please select one"/>	<input type="text" value="Please select one"/>
Cash Claim Amount (USD)*	Contra Party *	Cash Claim Settlement Date *	Event Record Date
<input type="text" value="Please enter a cash value"/>	<input type="text" value="Please select one"/>	<input type="text" value="Please choose a date"/>	<input type="text" value="Please choose a date"/>
Event Payable Date	Event Ex-Date	Event Effective Date	Event Expiration Date
<input type="text" value="Please choose a date"/>	<input type="text" value="Please choose a date"/>	<input type="text" value="Date"/>	<input type="text" value="Please choose a date"/>
Event Cash Rate	Original Trade Date	Original Trade - Contractual Stlmt Date	Original Trade - Share Quantity
<input type="text"/>	<input type="text" value="Please choose a date"/>	<input type="text" value="Please choose a date"/>	<input type="text"/>
Original Trade - Amount	Original Trade - Trade Reference	Participant Notes	
<input type="text"/>	<input type="text"/>	<input type="text"/>	

Fill My Next Input Screen With This Data

Submit

Reset

How can I Input a Claim (cont.)?

Claim Batch Upload

 [CSV File template](#)



 [Template Instruction](#)

CSV File

xBrowseUpload




How will I Search for a Claim?



Claim Search Engine ?

Saved Queries  Saved Columns 

Advanced Search Quick Search

Credit / Debit Event Type CUSIP Contra Party

Submission Date  Cash Claim Settlement Date  Event Payable Date 

Original Trade - Trade Date  Original Trade - Contractual Stmt Date  Cash Claim Amount (USD)

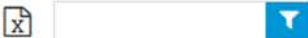
Claim Status*

All Cancelled Today
 Matched Claims Closed
 Unmatched Claims
 DKs Received
 DKs Initiated

Display Trades As Of Previous Day's Close Of Business

How can I Search for a Claim (cont.)?

Type	Items	Units	Total Amount (USD)
Total Credits	48	0	10,737,000.00
Total Debits	92	0	42,641,000.00




Sub Date	Trade Xref	C/D	Event Type	CUSIP	Contra Party	Amount	Cash S/D	Status	Event P/D	Event R/D	Event Ex-Date
03/02/2018	W201621400009667	Debit	Cash Dividend	015509102	122	4,727.97	03/13/2018	Matched	03/05/2018	02/05/2018	02/02/2018
03/03/2018	W201821400001638	Credit	Cash Dividend	125918201	122	2,234.05	03/14/2018	Open	03/07/2018	02/15/2018	02/14/2018
03/04/2018	W201853400012952	Debit	Principal	687846AC9	122	4,416.10	03/13/2018	Open	03/06/2018	02/06/2018	
03/05/2018	W201736100016953	Debit	Interest	J6277PAC1	123	5,488.50	03/13/2018	Closed	03/02/2018	01/16/2018	

Am I am able to get Reports?



Claim Reports ?

Report Date *

View Reports

Retrieve Latest

Available Claim Reports	Download
Intraday Claims Closed Today 20180312.csv	
Intraday Claims Open 20180312.csv	
Intraday Claims Pending 20180312.csv	
Intraday Claims Unmatched 20180312.csv	
EOD Report Claims Closed Today 20180312.csv	
EOD Report Claims Open 20180312.csv	
EOD Report Claims Pending 20180312.csv	
EOD Report Claims Unmatched 20180312.csv	

Matching States

Thinking of claims like obligations with a lifecycle...

We will call this validation and matching:

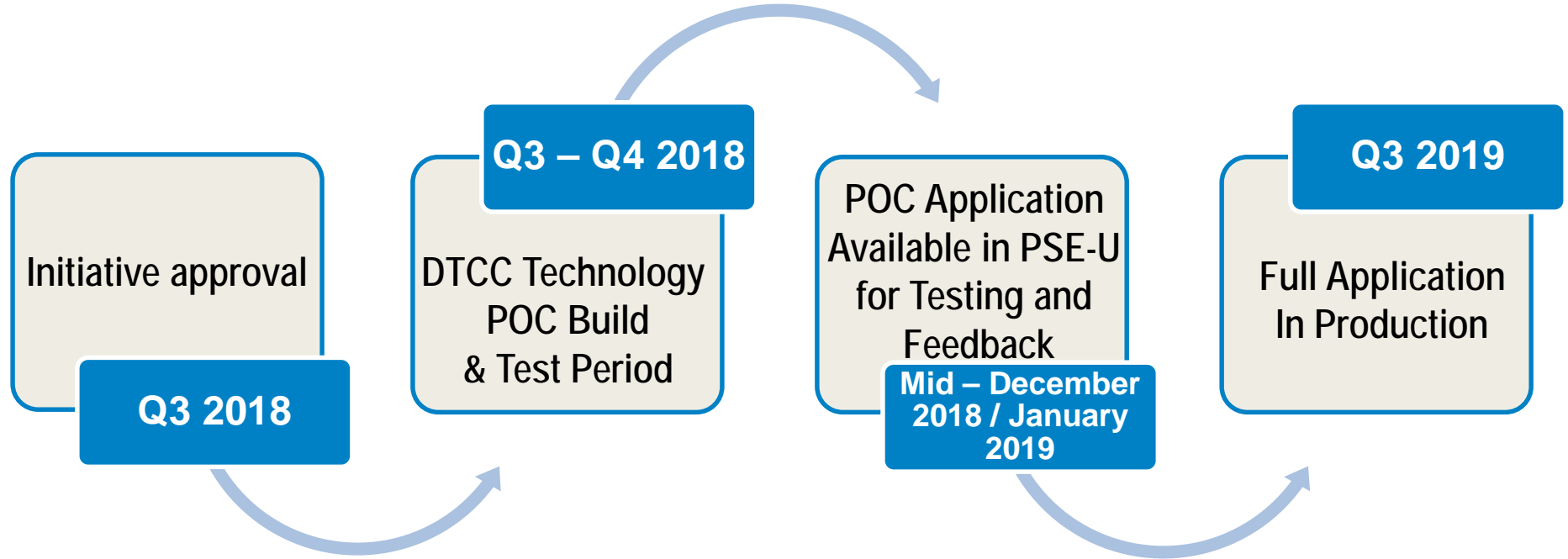
- Open / Unmatched claims
- Ability to DK / Affirm / Cancel
- Automatch
- Closed

Tolerances or not:

Matching when monies are close

Matching when dates are close

Timeline



Next Steps

- Continue meeting with the DTC Working Group
- Determine answers to important questions like netted SPO, SPO timing, tolerances
- Discuss price points
- Provide feedback on functionality
- Test POC in PSE
- Gain commitment
- Determine future releases (e.g. messaging, foreign cash, etc.)
- Engagement with outsourcing vendors