TESTING & INTEGRATION

SIFMU Integration Team

April 19, 2023

Agenda

1. Testing Framework
2. T+1 Test Cycles
3. Test Plan
4. T+1 Changes
5. Corporate Actions Testing

Testing Framework

PSE A - New Test Region
(Only if needed to test impacted applications as T+2)

T+2 Code Release *May 1st, 2023* - Shakeout period through *June 16th, 2023*

- **Steps To Take:**

  1. Identify ***what*** and ***how*** you need to test

     - See [T+1 Detailed Testing Document](#) for PSE A supported applications

  2. Check your connectivity

  3. DTCC will do a one-time copy over of all your positions from Production

DTCC

Testing Framework

PSE U - Current Test Region
Converting to T+1 Settlement Cycle

T+1 Code Release *June 20th, 2023* - Shakeout Period through *August 11th, 2023*

- **Steps To Take:**
  1. Identify ***what*** and ***how*** you need to test
     - See [T+1 Detailed Testing Document](#) for PSE U supported applications
  2. Check your connectivity

- **Two Types of Testing and Support:**
  1. <u>Free-form</u> - DTCC will do a one-time copy over of all your positions from Production
  2. <u>Cycle Testing</u> - DTCC will provide all Participants with a set pool of CUSIPs and positions
     - These specific CUSIPs and positions will be refreshed for each cycle
     - See '[TEST CUSIPS FOR T+1 INDUSTRY TESTING](#)'

T+1 Test Cycles 1-10

Free - Form
Double Settlement
Holidays

8/14/23 – 8/25/23

Test Cycle 1

- Free-Format testing
- Corporate Actions scenario testing

8/28/23 – 9/8/23

Test Cycle 2

- Free-Format testing
- Corporate Actions scenario testing

9/11/23 – 9/22/23

Test Cycle 3

- Free-Format testing
- Corporate Actions scenario testing

9/25/23 – 10/6/23

Test Cycle 4

- Free-Format testing
- Corporate Actions scenario testing

10/9/2023 – 10/20/23

Test Cycle 5

- Free-Format testing
- Corporate Actions scenario testing

Note: Monday 10/9/2023 is Columbus Day – No Double Settlement testing, PSE open

10/23/23 – 11/3/23

Test Cycle 6

- Free-Format testing
- Corporate Actions scenario testing

Note: In PSE U, DTCC will make Friday 10/27/2023 resemble Good Friday.

11/6/23 – 11/17/23

Test Cycle 7

- T+1 Implementation - Double Settlement Day Scenario that resembles conversion weekend (includes a holiday on Monday)

Note: In PSE U, Wednesday 11/8 Double Day Settlement

11/20/23 – 12/1/23

Test Cycle 8

- Free-Format testing
- Corporate Actions scenario testing

Note: Thursday 11/23/23 is Thanksgiving Day and the PSE environment will be closed

12/4/23 – 12/15/23

Test Cycle 9

- T+1 Implementation - Double Settlement Day Scenario that resembles conversion weekend (includes a holiday on Monday)

Note: In PSE U, Tuesday 12/12 Double Day Settlement

12/18/23 – 12/29/23

Test Cycle 10

- Free- Format Testing
- Corporate Actions scenario testing

Note: Monday 12/25/23 is Christmas Day and the PSE environment will be closed.

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T+1 Test Cycles 11-21

Free - Form
Double Settlement
Holidays

1/2/24 – 1/12/24

Test Cycle 11

- Free- Form testing
- Corporate Actions scenario testing

Note: Monday 1/1/24 is New Year's Day and the PSE environment will be closed

1/15/24 – 1/26/24

Test Cycle 12

- T+1 Implementation - Double Settlement Day Scenario that resembles conversion weekend (which does include a holiday on Monday)

Note: MLK Day 1/15, DD Settlement Wed 1/17

1/29/24 – 2/9/24

Test Cycle 13

- Free- Form testing
- Corporate Actions scenario testing

2/12/24 – 2/23/24

Test Cycle 14

- T+1 Implementation - Double Settlement Day Scenario that resembles conversion weekend (which does include a holiday on Monday
Note: DD Settlement Wed 2/14; President's Day 2/19

2/26/24 – 3/8/24

Test Cycle 15

- Free-Format testing
- Corporate Actions scenario testing

Note: In PSE U, DTCC will make Friday 3/1/2024 resemble Good Friday.

3/11/24 – 3/22/24

Test Cycle 16

- Free- Form testing
- Corporate Actions scenario testing

3/25/24 – 4/5/24

Test Cycle 17

- T+1 Implementation - Double Settlement Day Scenario that resembles conversion weekend (which does include a holiday on Monday)
Note: DD Settlement Wed 4/3; Memorial Day simulation on 4/1

4/8/24 – 4/19/24

Test Cycle 18

- Free- Form testing
- Corporate Actions scenario testing

4/22/24 – 5/3/24

Test Cycle 19

- Free-Format testing
- Corporate Actions scenario testing

Note: In PSE U, DTCC will make Friday 4/26/2023 resemble Good Friday.

5/6/24 – 5/17/24

Test Cycle 20

- T+1 Implementation - Double Settlement Day Scenario that resembles conversion weekend (includes a holiday on Monday)
Note: In PSE U, Tuesday 5/14 Double Day Settlement

5/20/24 – 5/31/24

Test Cycle 21

- Free- Form testing
- Corporate Actions scenario testing

Note: Conversion week in Prod to T+1 5/28/2024

DTCC

Test Plan

IMPORTANT NOTES	
To support this testing, members can submit test trades through one of the following means: -Submission through Cboe or Nasdaq's test environment -Submission through UTC PSE Transaction Management Tool --Submit individual trades through Add Transaction --Submit multiple trades, at the same time, through Add Transaction - Upload Transactions -Submission through member's own Correspondent Clearing (Market 100) / QSR (Market 60/Market System Q) PSE UTC Sending Entity --Requires a valid trading relationship to be in place within DTCC"s PSE environment, for the respective market, between trade submitter and contra ---Trading relationships active in DTCC's Production environment will be copied over to PSE for test trade validation	

TEST	SECTION	TEST CYCLE NAME	BUSINESS DESCRIPTION	TEST CASE DESCRIPTION
UTC 1	*A*	UTC Trade Submission - CNS Eligible - Regular Way	Member submits Trade with specified security for Regular (T+1) Settlment Type	Member submits test trade through an approved option (see Important Notes above). Submit the trade with the following conditions: Settlement Type (FIX Tag 63) = 0 (Regular)
UTC 2	*A*	UTC Trade Submission - CNS Eligible - Same Day (Cash) Settlement - *Before Cutoff*	Member submits Trade with specified security for Same Day (Cash) Settlement - *Before Same Day Cutoff*	Member submits test trade through an approved option (see Important Notes above). Submit the trade with the following conditions: Settlement Type (FIX Tag 63) = 1 Submit trade before same day cutoff (1:30 pm EST)
UTC 3	*A*	UTC Trade Submission - CNS Eligible - Same Day (Cash) Settlement - *After Cutoff*	Member submits Trade with specified security for Same Day (Cash) Settlement - After *Same Day Cutoff*	Member submits test trade through an approved option (see Important Notes above). Submit the trade with the following conditions: Settlement Type (FIX Tag 63) = 1 Submit trade after same day cutoff (1:30 pm EST)
UTC 4	*A*	UTC Trade Submission - CNS Eligible - Delay Delivery (Seller's Option)	Member submits Trade with specified security for Delayed Delivery (Seller's Option) Settlement	Member submits test trade through an approved option (see Important Notes above). Submit the trade with the following conditions: Settlement Type (FIX Tag 63) = 6

For all T+1 changes, please see T+1 Functional Changes Document

Some Examples of T+1 Changes*

❑ Affirmation cutoff time changing to 9pm EST on trade date (or SD-1) for T+1

❑ Same Day cutoff 1:30pm EST in T+1 for UTC, CMU trades

❑ UTCBO message

CNS	CTS	ETF
▪ CNS File Output times "Night Cycle" jobs running up until 2am EST ▪ T+1 Cutoff for exemption and priority override submissions 10:45pm EST	▪ New CTS Timing: Cycle 1 = 10pm EST Cycle 2 = 1:30am EST Cycle 3 = 1:45pm EST	▪ Accelerated EOD Pricing - Creation/Redemption orders submitted between pricing delivery (~6:30pm EST) and 9pm EST will be sent to UTC in near real time

* This slide is only highlighting a select number of changes. For all changes, please refer to UST1.org

Corporate Action Testing

- T+1 Corporate Actions testing will be available in the PSE-U test environment only

- Detailed scenarios representing Corporate Actions events will be distributed ahead of each testing cycle

- Each testing cycle is meant to look like a regular day from a CA standpoint

- Testing cycles related to holiday and double settlement may be in scope for CA testing and a final decision will be made prior to the first holiday scenario (cycle 6)

- Each testing cycle will have new CA IDs, new rates, new contra CUSIPs (for voluntary reorgs) and new critical dates related to the testing cycle date range

- Both the SWIFT Standards (SR-2023) and the T+1 cycle testing will occur at the same time in PSE-U with each effort using different test CUSIPs

- Connectivity to CA Web, PTS/PBS and ISO 20022 (full suite of messages) will be available in PSE-U

  - Full lifecycle (i.e., announcement, entitlement, instructions and allocations and adjustments) for all events will be provided this includes messaging (with in-bound ISO instructions for elective dividends and voluntary reorg)

- Refer to www.UST1.org regularly for all testing events per cycle

QUESTIONS?