

SETTLEMENT UPDATE

October 25, 2012

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Drivers of Settlement Finality

- Recently published CPSS-IOSCO Principles
- DTC's on-going focus on Risk Management

Who is CPSS- IOSCO

- Committee on Payment and Settlement System (CPSS) – International Organization of Securities Commissions (IOSCO)
- A Committee of the Bank for International Settlements
- The Bank for International Settlements’ mission is to “*promote monetary and financial stability*”
- The banks members include representatives from over 60 central banks
- The banks recommendations are generally adopted by local regulators
- The CPSS-IOSCO Committee focuses on promoting sound and efficient Payment, Clearing and Settlement Systems

CPSS-IOSCO Principles

- **In April of 2012 CPSS-IOSCO published 24 new principles**
<http://www.bis.org/publ/cpss94.pdf>
- **Principles apply to Financial Market Intermediaries (FMIs)**
- **The principles are designed to:**
 - *“harmonize and, where appropriate, strengthen the international standards for Payment systems and Central Securities Depositories (CSDs)”*
- **The Principle addressing Settlement Finality is Principle 8 which states:**
 - *“A Financial Market Infrastructure (FMI) should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.”*
- **CPSS-IOSCO defines settlement finality as:**
 - *“The point at which transactions are irrevocable”*

DTC's Position on Settlement Finality

DTC conducted self assessments against the CPSS-IOSCO recommendations

- DTC runs an end of day net settlement system
 - Securities settlement occurs on a gross basis
 - Funds settlement occurs on a net basis
- To ensure completion of settlement, DTC employs Net Debit Cap and Collateral Monitoring as Risk Management controls
 - DTC's net debit cap, and related lines of credit, ensure settled transactions are never reversed because of a participant's inability to satisfy its settlement obligation
- DTC's settlement model ensures settlement finality is always achieved by the end of the settlement date

DTC - Intraday Settlement Finality

There are a number of functionalities within DTC that impede Intraday Settlement Finality

- **These include:**
 - The ability for receiving participants to “reclaim” settled transactions
 - The ability for Issuing and Paying Agents (IPAs) for Money Market Instruments (MMIs) to instruct DTC to reverse settled MMI transactions in the event of non-payment from an MMI issuer
 - Transactions are not final “from a receives perspective” until paid for at the end of the day

DTC currently has plans to address each of these issues



Intraday Reversals of Settled Transactions

Background

- Transaction instructions unilaterally input by delivering participant
- Provided DTC's controls are satisfied, transactions are processed without any intervention from the receiving participant
- Since receiving participants have limited control over transactions affecting their accounts, DTC permits receiving participants to reverse or "reclaim" settled transactions
- Reclaims impact intraday settlement finality
- Reclaim transactions are permitted to bypass DTC's risk controls presenting credit and liquidity risk to DTC, participants and the system as a whole
- Current reclaim rates are relatively low but could increase in times of market and/or participant stress

Goals

- Eliminate the ability to reclaim settled transactions
 - Improve intraday settlement finality for DTC transactions
 - Mitigate systemic risk associated with overriding risk management controls
 - Leverage existing processes and tools to minimize cost and impact to participants
 - Support related industry initiatives to shorten the settlement cycle

Settlement Matching Proposal

- Proposal: Require receiving participants match transactions prior to settlement
 - Settlement Match is employed by most other CSDs throughout the world
- The matching requirement will leverage DTC's Receiver Authorized Delivery (RAD) system for non-Institutional Delivery (ID) transactions
- ID transactions will require receiver authorization in DTC's Inventory Management System (IMS)
- Matched transactions would no longer be reclaimable

Passive Settlement Matching

- **Transactions introduced for settlement from a matching system could be “deemed matched” for settlement purposes – unless “unmatched” by participants anytime prior to settlement date – i.e., “Passive Matching”**
 - Omgeo would be an example of a matching system
- **Passively Matched transactions would automatically be matched for settlement unless instructed otherwise by the receiving participant – no need for 2 matches**
- **Eliminates the need to rematch affirmed transactions**
- **Incentivizes trade affirmation by enhancing the STP opportunity**

Settlement Matching - Next Steps

- **DTC to publish settlement finality service description in 1Q/13**
 - Settlement finality service description to contain details of the settlement matching requirements

Implementation of settlement matching requirement targeted for 2Q/14



Reversals of Settled MMI transactions

Current MMI Process

- **MMI Issuers employ Issuing and Paying Agents (IPAs) to act on their behalf in DTC**
- **IPAs pay for maturing MMIs and issue new MMIs**
- **DTC processes MMI transactions throughout the day subject to DTC's Risk Management Controls**
- **If an MMI Issuer does not fund its IPA by 3:00 pm, the IPA can instruct DTC to reverse settled transactions of the specific MMI issuer**
 - MMI reversals are permitted to bypass DTC's risk controls creating risk to Participants, DTC and the system as a whole
- **Reversals of settled MMI transactions impedes intraday settlement finality**

MMI Structural Changes

The MMI structural changes will eliminate the need for DTC to process reversals of settled MMI transactions

The Benefits:

- Promote intraday settlement finality
- Mitigate MMI systemic risk
- Further issuer funding transparency for investors and custodians
- Preserve the IPA ability to notify DTC of an issuer default

MMI Structural Changes

- All MMI issuance transactions and maturity presentments, will be “held” in a pending status until the issuer has funded its maturities in one of two ways:
 - The settlement value of issuance transactions exceeds the value of the applicable maturing obligations for a specific issuer, or
 - The IPA indicates that it has received issuer funding
- Once funded, DTC will simultaneously check all transactions (e.g. issuances, DOs and maturities) for a given issuer against each participant’s position and risk controls
 - If all transactions for a given issuer can be processed, the transactions will be settled
 - If one or more transactions pend for position or risk controls, none of the transaction for the given issuer will be processed

MMI Structural Changes – Next Steps

- DTC to continue working with industry groups to finalize structural changes
- DTC to produce a high-level description paper outlining structural changes to the MMI process in 4Q/12



DTC'S End of Day Funds Settlement Process

DTC'S End of Day Funds Settlement Process

DTC employs an end of day net funds settlement system which means settled transactions are not final “from a receives perspective” until paid for at the end of the day

- **DTC is exploring alternative settlement models**
 - Intraday Settlement Slices where funds settlement would occur at various times throughout the day
 - Provides for settlement finality in slices throughout the day
 - Prefunding where participants would be required to prefund all activity prior to settlement
 - Aligns finality of securities settlement with the finality of funds settlement



CNS for Value

CNS for Value

- A prerequisite for an alternative settlement model at DTC is to modify the way Continuous Net Settlement (CNS) activity is currently processed in DTC (CNS for Value)
- CNS obligations are net obligations resulting from NSCC's CNS system
- The security movement related to CNS obligations currently settle Free of Payment with the funds recorded in NSCC's funds settlement system
- With CNS for value, CNS transactions will settle versus payment in DTC enabling the implementation of alternative settlement models

Alternative Settlement Models – Milestones/Next Steps

- Published Industry White Paper on CNS for value in September 2011
- Solicited member feedback on the proposal
- Continue working with SEC, FRB, NYSDDFS to address regulatory issues and required rule changes
- Publish Industry Service Description on CNS for Value by Q1/2013
- Alternative settlement models will not be developed until CNS for value is implemented



Shortening the Settlement Cycle

Link to BCG Case Analysis:

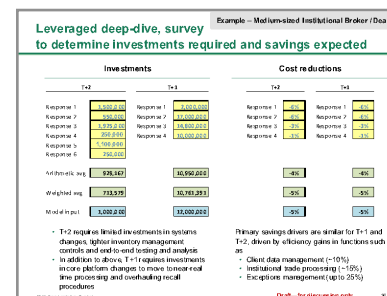
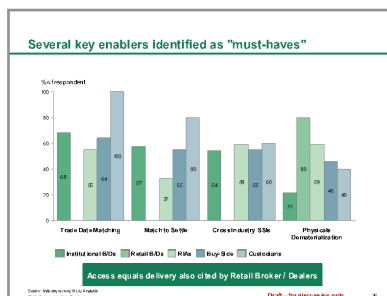
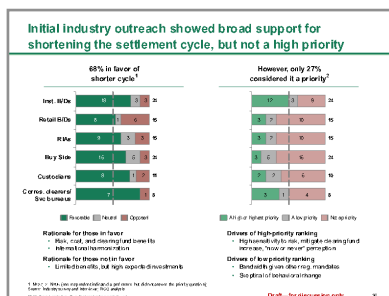
[http://www.dtcc.com/downloads/leadership/whitepapers/
BCG_2012.pdf](http://www.dtcc.com/downloads/leadership/whitepapers/BCG_2012.pdf)

Approach of the study

One-on-one in-depth industry interviews

Broad industry survey

Deep-dives with a set of representative firms



- Over 70 one-on-one industry interviews including participants across IT, Ops and business

- Survey sent to over 260 firms across market constituents
- In all, received feedback from 109 entities representing 94 different institutions¹

- Conducted ten deep-dives across Institutional and Retail Broker / Dealers, Buy-Side, Custodians and Service Bureaus

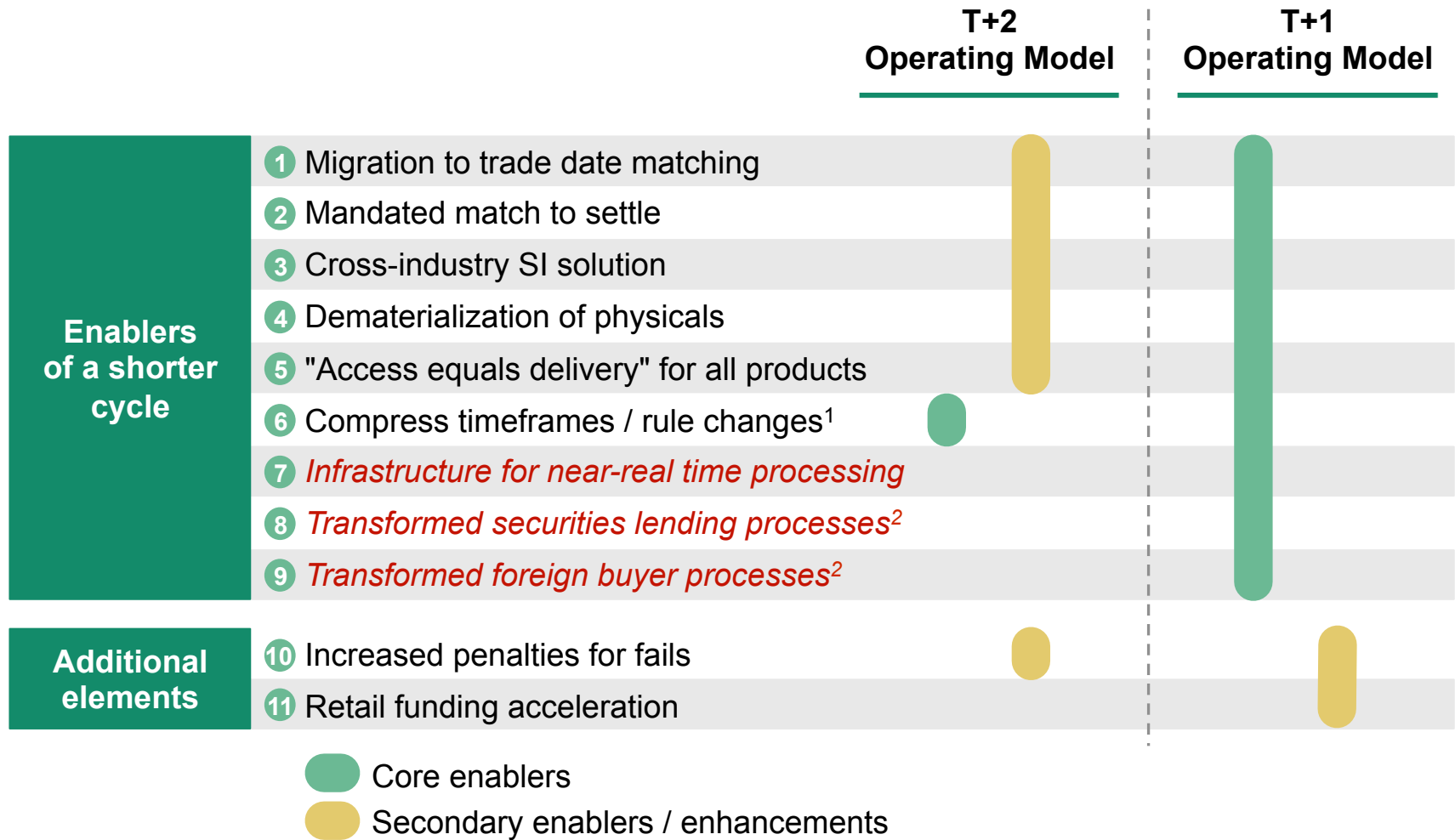
Cost-benefit modeling for T+2 and T+1: investments required, operational cost savings, risk and clearing fund reduction

Broad socialization effort to share findings with the industry and determine a final recommendation

1. Including one-on-one interviews
DTCC-Syndication_Sept30_vf.pptx

Developed T+2 and T+1 models for cost-benefit analysis

Settlement cycle can be shortened ahead of full implementation of all secondary enablers



1. Including adjusting Mutual Funds timelines to ensure consistency; Additional considerations to address Prime brokers challenges in T+1 (e.g., end-of day batch trade notifications from Hedge Funds)
 2. Less significant changes impacting stock loan processes and foreign buyers under T+2 (e.g. changes to FX settlement norms) are considered a component of *Item 6. Compress timeframes/ rule changes*

Investments for T+1 model significantly higher than T+2

While aggregate investments are significant, they are more modest on a per firm basis

| | Number of firms | T+2 Investments | T+1 Investments |
|------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------|-------------------------------------|
| Industry total | | ~\$550 M | ~\$1,770 M |
| Average investment per firm by size segment (range) | | | |
| Institutional B/Ds | 106 ¹ | \$1 - 4.5 M | \$4.5 - 20 M |
| Retail B/Ds | 101 ² | \$1.5 - 4 M | \$3 - 15 M |
| Buy side | 546 | \$0.3 - 1 M | \$0.6 - 2 M |
| Custodian banks | 137 | \$0.5 - 4 M | \$1 - 16.5 M |
| Others | Includes DTCC, Omgeo, Service bureaus, RIAs and non-self-clearing broker-dealers | <u>Total investments</u> ~\$70M | <u>Total investments</u> ~\$290M |

1. Represents self-clearing institutional broker-dealers and correspondent clearers (capturing activity of institutional broker-dealers that do not clear their own trades);

2. Represents self-clearing retail broker-dealers. Non-self clearing firms investments included in "other" category

Note: Total industry investment calculation takes into account leverage from Service Providers; Average investment per firm by size segment does not take into account leverage from service providers.

Material operational cost savings from T+2 and T+1 models

Limited differences between T+2 and T+1 driven by skepticism of behavioral changes

Cost-benefit model outputs: Operational cost savings

| | Operations Cost Baseline ¹ | T+2 Ops cost savings | T+1 Ops cost savings |
|-----------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Industry total | | ~\$170 M | ~\$175 M |
| Range of segment cost impacts² (%) and totals | | | |
| Institutional B/Ds | ~\$0.9 B | ~5% = ~\$45 M | ~5-6% = ~\$50 M |
| Retail B/Ds | ~\$1.8 B | ~2 - 4% = ~\$55 M | ~2 - 4% = ~\$55 M |
| Buy side | \$1.7 B | ~2% = ~\$30 M | ~2% = ~\$30 M |
| Custodian banks | \$0.3 B | ~10 - 15% = ~\$40 M | ~10 - 15% = ~\$40 M |
| Examples of operational cost reductions | | <ul style="list-style-type: none"> FTE reductions in client data management, exceptions management and institutional trade processing FTEs and fees reductions from elimination of manual processing for physical certificates FTE reduction associated with send/receive of instructions, confirmation / affirmation and exception management FTE reduction associated with manual trade processing (e.g. input of transactions, etc.) | |

¹. Baseline of clearing and settlement operations costs (FTEs and non-FTEs) for US Equities, Municipal and Corporate Bonds; ². Displayed ranges represent averages for medium and large firms in each category, as there will be limited operational impact to small firms.

A Roadmap for Promoting Intraday Settlement Finality in the U.S. Markets

- DTC will publish “A Roadmap for Promoting Intraday Settlement Finality in the U.S. Markets” by 1Q/2013
- The Paper will provide additional details on the finality enhancements outlined
- The Paper will also provide a timeline to implementation and the distribution of additional documentation

Settlement Web – What's Next

- Transaction Input by screen or bulk upload – 4Q
 - DOs, POs, SEG, MSEG, and MA/NA
- Secondary Approval on input transactions – 1Q'13
 - Replacing 'PETS' in 'IMS'
- Collateral Loan functions – 2Q'13
 - Replacing Pledge and Pledge Release functions
- Settlement Screens – 4Q'13
 - Replacing 'FFSP' and 'FFSB' function

NOTE: The current PBS/PTS access will run parallel until further notice

Timeline

- **2012**
 - ❑ Produce a high-level description paper outlining structural changes to the MMI process - 4Q
 - ❑ Settlement Web transaction input and bulk upload available - 4Q
- **2013**
 - ❑ Publish details of the Settlement Matching requirements - 1Q
 - ❑ Publish Industry Service Description on CNS for Value - 1Q
 - ❑ Settlement Web
 - Secondary Approval – 1Q
 - Collateral Loan Service – 2Q
 - Settlement Screens ('FFSP' and 'FFSB') – 4Q
- **2014**
 - ❑ Implement Settlement Matching - 2Q
- **2015**
 - ❑ Implement MMI structural change - 1Q



Questions?