ISDA®

A Blueprint for the Optimal Future State of Collateral Processing

The ISDA Optimal Future State Collateral Blueprint is a working document that represents the industry's collective vision of an ideal collateral processing framework. The fundamental purpose is to design and agree a blueprint that the industry can work towards, which meets the changing demands and challenges of the collateral process. This blueprint is governed by a set of design principles and processing best practices, which are intended to serve as an industry target processing, architectural and control operating model. This will maximize accessibility by market participants while maintaining industry vision. Subsequent iterations of this document may be published to include additional factors based on changing business trends, regulatory changes or other unforeseen circumstances that were not considered at the start of the blueprint's development.

Important Note and Disclaimer

This document does not constitute legal, accounting or financial advice, and describes the market consensus among derivatives market participants that participated in the ISDA Collateral Infrastructure Committee. As with other guidance and market practice statements that ISDA disseminates, parties are free to choose alternate means of addressing the specific facts of their situation. Nothing in this document is contractually binding on any parties or amends any ISDA Master Agreement or ISDA Credit Support Annex.

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EXECUTIVE SUMMARY

ISDA established the ISDA Collateral Infrastructure Committee (CIC) to assess, develop, monitor and deliver a more robust collateral infrastructure processing framework. To that end, the CIC has started to create a collateral blueprint that will represent the future-state optimal collateral processing framework. The framework defines objectives, scope, key principles and pain points in the current collateral process, and offers possible solution concepts in order to promote a more efficient future-state collateral model.

This blueprint examines concepts such as risk reduction and mitigation, funding efficiencies, accessibility, interoperability and process simplification. It also identifies current legacy pain points and their effect on the collateral process, and makes suggestions on how to fix them. The blueprint creates a future-state framework that can be applied in multiple ways – in a modular or standalone, fully functional process – which will promote interoperability across third-party or proprietary solutions. A future-state model must be scalable to volume and regulatory changes, as well as emerging technologies such as cloud, artificial intelligence, distributed ledger and robotics. It must be cost-effective, and must interoperate with other solutions in the market.

The analysis and consensus views presented in this document point both to transformational changes to the current process, such as central valuations, and to incremental changes to antiquated, legacy processes that require substantial updates, such as automation of interest calculation and settlement.

In order to achieve the principles, a future-state collateral process must be characterized by a commitment to the following: (1) legal documentation standards, such as industry standard terms and templates, contained in an industry wide central negotiation and distribution service; (2) data standards that allow for central storage of attributes, such as trade and event data, along with counterparty information, which can be mutually and simultaneously accessed by stakeholders; (3) process standards that support straight-through processing (STP) and enable proprietary and external system interoperability; (4) scalability to handle increasing regulatory and other demands; and (5) automation of the front-to-back collateral process allowing for a virtual zero-touch environment.
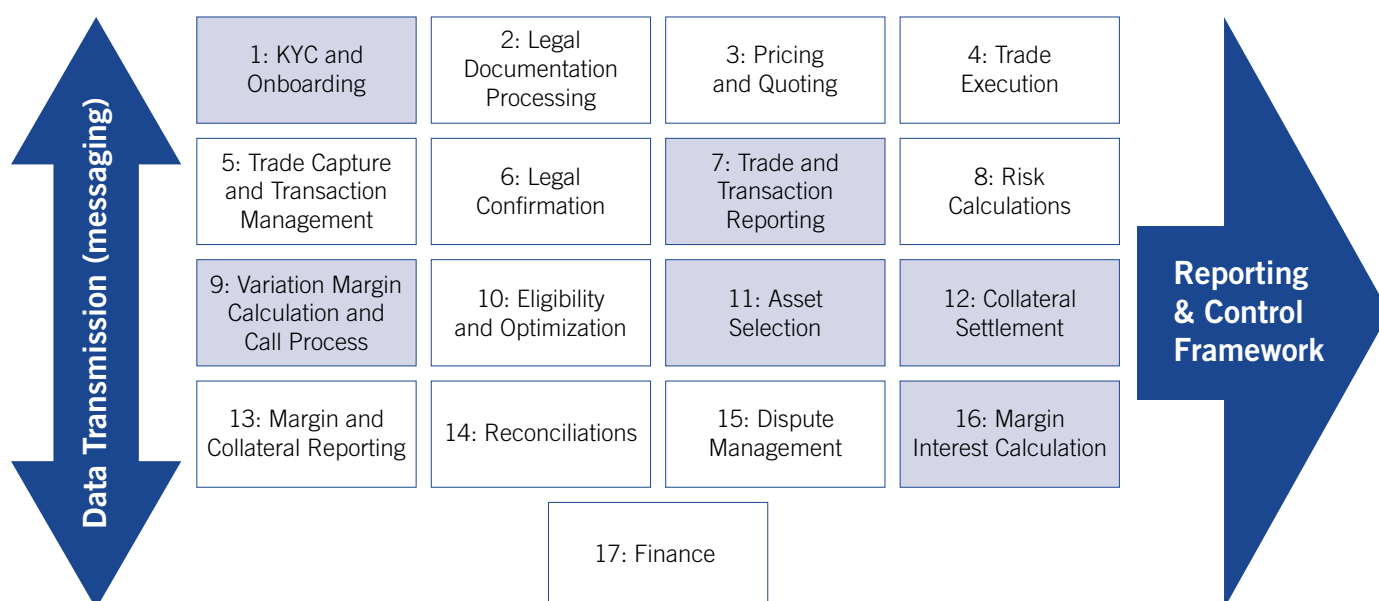
THE PRINCIPLES

The principles that have been identified to form the basis of this collateral blueprint document can be summarized in the below categories. This is what any future-state collateral model should achieve:

- Minimize cashflows: reduce funding inefficiencies between collateral and the underlying swap

- Reduce settlement risk

- Reduce disputes

- Promote interoperability of systems

- Full STP of the collateral lifecycle

- Front-to-back process framework that can be utilized in modular form

- Flexible model supporting unilateral or bilateral adoption

- Reduce replication of processing across the industry

- Data should be centrally stored and mutually maintained

- Promote data and process standards to reduce translation and reconciliation

- Reduce points of failure in the operating model

- Exception-based processes, controlled via a set of mutually agreed business rules

- Full transparency and audit control

- Adherence of credit support annex (CSA) terms

CURRENT COLLATERAL PROCESS

Chart 1 highlights high-level segments of the current collateral process flow from front to back. In order to recommend how a more efficient collateral model should operate in the future, the current state must first be examined, along with how firms approach each process and the current pain points. This iteration of the blueprint document focuses on the highlighted process segments for further examination.

Chart 1: The Current Collateral Process

Data Transmission (messaging)	1: KYC and Onboarding	2: Legal Documentation Processing	3: Pricing and Quoting	4: Trade Execution	Reporting & Control Framework
	5: Trade Capture and Transaction Management	6: Legal Confirmation	7: Trade and Transaction Reporting	8: Risk Calculations	
	9: Variation Margin Calculation and Call Process	10: Eligibility and Optimization	11: Asset Selection	12: Collateral Settlement	
	13: Margin and Collateral Reporting	14: Reconciliations	15: Dispute Management	16: Margin Interest Calculation	
		17: Finance			

SOME OBSERVED PAIN POINTS

What are the current problems for the way non-cleared over-the-counter (OTC) trades are margined today? The list below sets out some of the issues, but is not exhaustive.
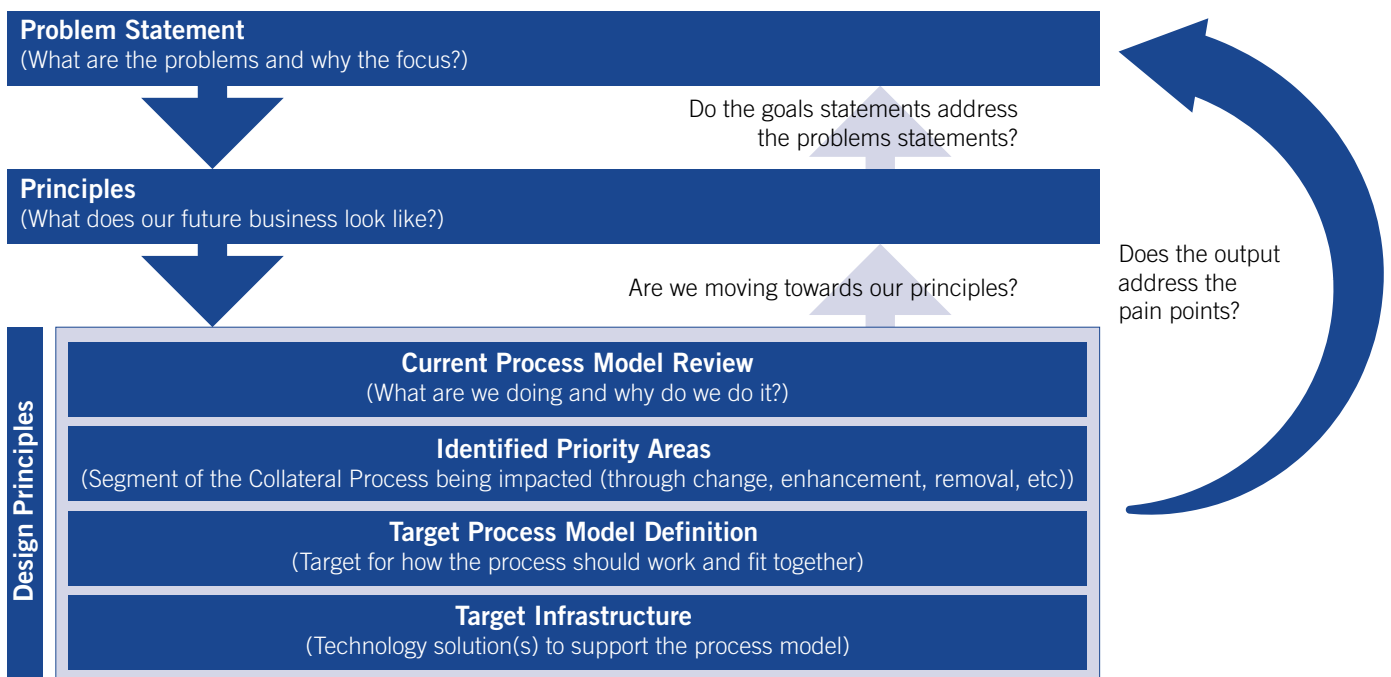
- The current collateral process creates an expensive add-on to business costs

- Challenges with truly resolving disputes. Prioritization to resolve today's margin differences versus underlying trade differences

- Collateral processes are repetitive, which adds to expense

- Process changes have been adapted rapidly to meet whatever the urgent requirement is for 'today', rather than working to a planned evolution

- Collateral assets are not able to move quickly and effectively enough

- Delayed assessment and processing of collateral requirements, not integrated with underlying trade processing

- Portfolio agreement is done post-trade date (T), creating challenges in identifying trade portfolio differences, and requiring duplicative trade reconciliations

- The lack of standardized CSA terms has proved challenging

- Meeting same-day collateral settlement deadlines due to the introduction of non-cleared derivatives margin rules

- Bespoke custodian onboarding process (ie outside of the standard triparty model)

- The use of faxes for the pledge and release of collateral is still common practice and is not scalable

- The lack of central record of trade attributes, such as valuations and risk factors leads to disputes from disparate records and requires reconciliations

- There is significant replication of process and costs across the industry (collectively, the market is doing the same thing, in the same way, with roughly the same teams and systems)

Background on Process Design and Development

The first step towards building a vison for an optimal future-state collateral model is to examine the existing legacy process, and highlight the current pain points and challenges for each process segment. Addressing the causes of these challenges will facilitate a move towards what a future-state process should look like and the key elements to get there. The principles are a key reference point in the effort to build an efficient collateral framework. Although many functions described are not collateral-processing-specific, issues like know your customer (KYC), trade execution, trade storage and legal documentation are all key dependencies and play a vital role in an effective collateral management process.

Chart 2: Building a Future-state Collateral Model

THE TARGET FUTURE STATE

KYC and CSA Onboarding

Function	Current state	Target state
Templates	ISDA Book Store: CSA Typically customized by firm	ISDA Book Store: Digital and paper forms available Industry agreement to leverage standard vs. non meaningful customisation
Taxonomy	Standard CSA – not broadly adopted.	Industry agreed taxonomy for CSA terms, and related non-document terms (eg, self-disclosure terms, identifiers). Possibly two flows running in parallel – non standard CSA terms and standard CSA terms where the industry could move more towards a digitized CSA.
Entity profile	No standard entity profile over and above self-disclosure. Firms capture information differently in their internal systems.	Develop a regulatory entity profile standard that can be leveraged across multiple regulatory requirements including margin and collateral. Counterparty status and centralized KYC data should be centrally stored, verified and updated in one place.
Margin profile	Some firms/businesses have a concept of a margin profile internally; externally this is not a standard. SSIs and tax status are often captured by non-collateral teams.	Develop industry standard for a margin profile. What are the data elements required within a CSA and about an entity that need to be calculated and to process margin and collateral? Also include vendor usage and what internal systems or set up each counterparty will undertake in the margining process.
Document generation	Customized CSAs are generated by counterparties entering into a collateral relationship. Customization is typically made on a small number of paragraphs. CSAs may or may not be generated from the system that will ultimately consume the data from them.	A subset of CSA's move to digital, leveraging taxonomy digital templates and standard messaging. Expectation that customization will continue in small volumes, much like an exotic paper-based confirmation.
Document negotiation	CSA negotiation requires greater effort when using customized language.	Digital negotiation on digital templates and standardized terms for standard CSA. Integrate with common collateral definitions/standards. Develop workflow automation to improve negotiation process where this needs to occur on paper.
Execution	CSAs are signed with a wet signature in most cases. Protocols can be adhered to electronically. Agreement identifiers and execution time stamps are not typically shared or agreed between parties.	Electronic/digital execution of digital CSA. Continued need to support wet signatures in certain jurisdictions. Agree to create and leverage a central agreement identifier for a specific document in ongoing interactions on the agreement.
Entitlements	Entitlements are managed on ISDA Amend for protocols. Entitlements are managed internally within each firm's infrastructure.	Centralised entitlement management of margin data, either via a utility or shared software. Third-party entitlements capability.
Storage	CSA documents and data are typically stored within each firm's infrastructure.	Potential storage and distribution via cloud/central infrastructure.
Consumption / distribution	ISDA protocols can be consumed via API/CSV. Some firms digitize paper documentation, consume and distribute internally.	Consume and distribute data alongside paper, potential remove need for paper as per trade confirmations.

KYC and CSA Onboarding Recommendations

The potential value of a centralized margin profile for entities that trade OTC derivatives is illustrated above. It is envisaged that a margin profile would include CSA data, ISDA Master Agreement data, tax data, standing settlement instructions (SSIs), and other essential data for the onboarding of counterparties. The data and metadata would also be centrally stored, with users having the ability to accesses it via a centralized entitlement mechanism. This would remove duplicative efforts and processes across counterparties and various systems. An Industry agreed digital templates and standard taxonomy for CSAs, along with central documentation utilities are dependencies for true STP and scalability. There may be several offerings in the market for these recommendations, and interim steps to achieve these solutions may be necessary.

Trade Transaction Management

Challenges to be Addressed

- Mismatched trades and unmatched trades are one of the main drivers of disputes in the margin and collateral process

- High volumes of new trades and amendments result in daily volatility in portfolios

- Portfolio reconciliation is managed on the day following execution, which limits the ability to resolve trade-matching issues prior to issuing margin calls

- Portfolio-level mark-to-market agreement is prioritized over underlying trade reconciliation, and can mask real issues

- The trade reconciliation component of portfolio reconciliation is a duplicative point between counterparties (ie, confirmation, affirmation, settlement matching, etc)

- There is no authoritative/central record of non-cleared derivatives transactions

Opportunities

- Move to a T-intraday, event-based trade reconciliation – rationalizing across post-trade functions

- Reconcile the trade component of portfolio reconciliation prior to calculation margin calls

- Leverage central record/confirmation platforms and warehouses to automate portfolio validation

The future state of trade transaction management should move to an event-based, fully reconciled and fully matched portfolio prior to issuing a margin call. This should remove multiple forms of reconciliation across the trade lifecycle, and ensure that a derivative is reconciled once and stored at one trusted source.

Variation Margin

Current Process

Definition and purpose: Process by which the margin obligation for a portfolio of OTC derivatives trades is computed, communicated and agreed pursuant to the legal terms of a margin arrangement. Collateral functions as a tool to mitigate credit risk.

High-level Process Components

- Calculation of the present values (PVs) of each OTC derivative trade

- Conversion of PVs into the CSA's base currency

- Netting of PVs for all trades in the portfolio

- Comparison of sum of PVs to collateral balance

- Application of CSA credit terms to determine if a margin call is required

- Issuance of outgoing margin calls based on principal's demand calculations

- Response to incoming margin calls based on principal's anticipated demand calculations

Challenges to be Addressed

- Dependency on email for margin calls and related communications

- Challenges with efficient, secure archival of margin calls, responses and related communications

- Insufficient identifying information received on incoming margin call (eg, legal entity, collateral balance)

- Multiple vendor applications for margin call process support versus single industry adopted utility

- Dependency on other teams may slow down overall processing and lead to missed or delayed communications

- Product carve-out – ie, FX spot/forward – and CSA product mapping and trade flow

- New and legacy CSA product mapping and treatment

- Missing or inaccurate trade, legal agreement and client static data; lack of uniform product classification across the industry

- Manual tracking of compliance with same-day settlement regulations

Elements of a Target Process

The future-state process will seek to do the following:

- Implement STP to achieve automation based on pre-defined yet flexible business rules

- Increase efficiencies through flexible, streamlined systemic architecture and workflows

- Offer a transparent, controlled framework for proper archival of communications and other relevant margin call process artifacts

- Encourage industry uptake of margin utilities to supplement internal pursuits of the aforementioned objectives

- Rely on upstream improvements in legal agreement and client static data quality and processing, and on end-of-day trade reconciliations

Examples and Recommendations

(1) STP providing automation based on business rules	(2) Efficiencies through streamlined architecture and workflows	(3) Transparent, controlled framework for archiving communications
Optimize data field propagation	Leverage a common suite of systems to align workflows under a single architecture	Develop tools to systematically aggregate and store related communications
Eliminate re-keying errors by automating call issuance, response and collateral pledge based on internal business rules	Develop/enhance flexible systems that can integrate with third-party systems	Improve capabilities to track user integration with margin process
Resources can be dedicated to exception management		

(4) Industry utilities supplementing internal efforts	(5) Upstream improvements in legal agreement, trade, and client static data quality and processing, and on end-of-day trade reconciliations
Margin messaging utilities	Centralized KYC to facilitate client onboarding and updates
Communication-specific tools	Electronic documents and terms matching
Standardized valuations and CCP-like model	End-of-day trade reconciliations

Chart 3: Target Process – Margin Calculation and Call Process
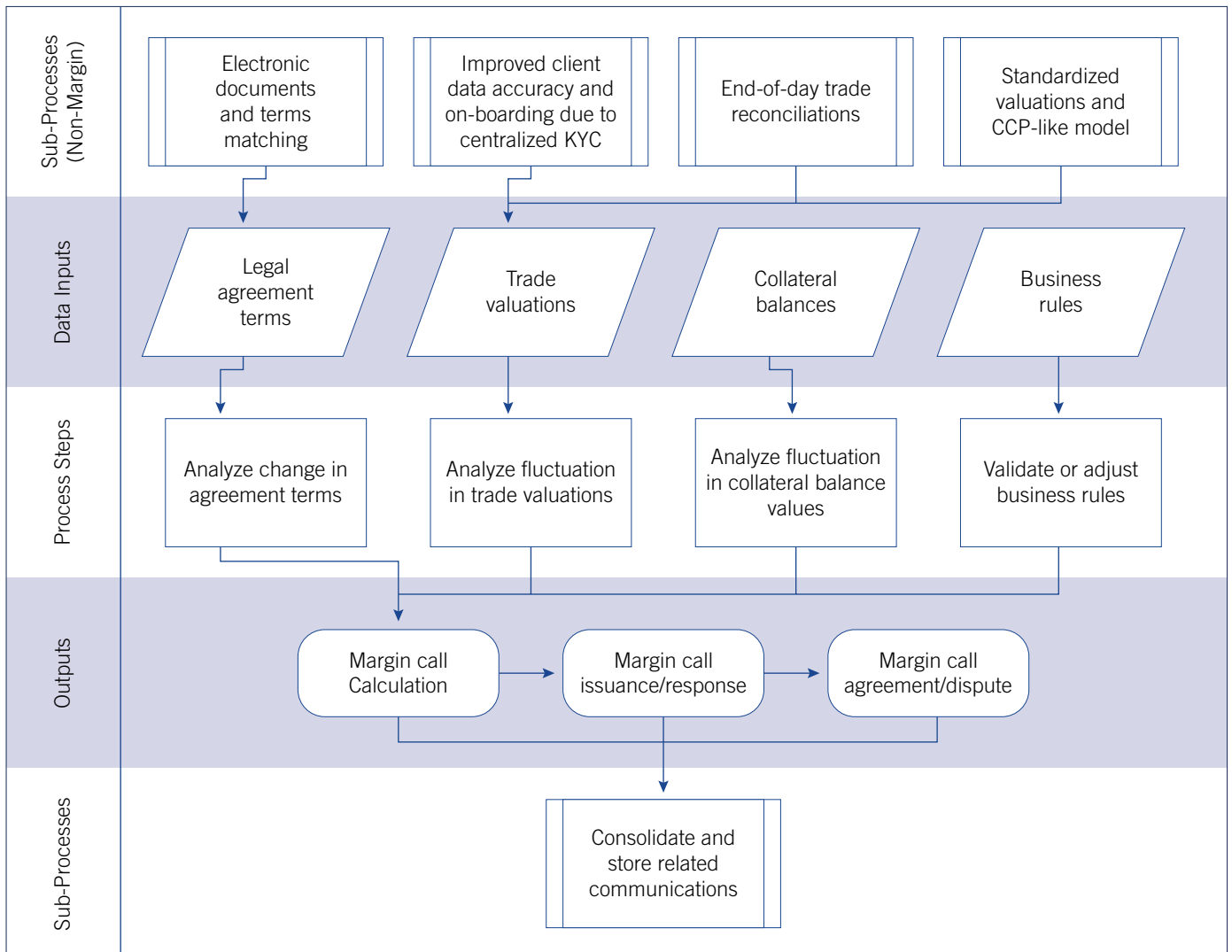
Asset Selection

Current Process

Asset selection is guided by what is permissible by regulation and/or market convention, but the decision on what will be eligible collateral is left to the discretion of the trading partners, without clearly defined parameters or processes.

Challenges to be Addressed

- The lack of standardization in asset selection

- The free-form nature of eligible collateral is typically defined in a CSA

- Difficulty in determining common definitions for certain asset types, including high-quality liquid asset (HQLA) categorization

Elements of a Target Process

Process Owners

Legal, trading, collateral operations, risk management, static data management.

Ideal Solution for Collateral Operations

- A standard collateral eligibility schedule that would be appended to the CSA, including applicable haircuts (building on the success of tri-party utilization for non-cleared derivatives margining requirements)

- Industry wide agreement to use a common data source to define the HQLA status of all eligible collateral, and establish automated links to HQLA pricing and ratings sources

- Common sources of asset pricing and ratings should also be considered

Collateral Settlement

Process Owners

Custodians, settlement and treasury operations, static data management, legal.

Current Process

Collateral settlement is a post-trade, post-margin call agreement process, where collateral is settled and recorded at a custodian to ensure the receipt of collateral for a portfolio in a timely manner, according to legal agreements and or regulatory mandates. The current process in its basic form relies heavily on accurate settlement instructions, an accurate legal agreement, accurate messaging, and reporting data of settled collateral. All of these downstream processes are typically manual in nature, and can be siloed within or alongside collateral systems and solutions. Messaging standards exist, but there are many forms of messaging that are utlized by the industry for the same types of collateral and reporting. Settlement instructions are stored electronically by particpants. However, the process is mostly manual and conducted in a siloed fashion between counterparties with a lack of a central record of agreed and validated SSIs across the industry.

Challenges to be Addressed

- Segregation account set-up is bespoke in nature across different custodians

- Use of fax for pledge and release of collateral is not scalable

- Same-day settlement challenges for cross-border collateral movements

- Lack of messaging and reporting standards

- Manual and redundant SSI enrichment process

- Increase in two-way non-cleared initial margin will stress the current settlement infrastructure, especially for firms in scope for the non-cleared derivatives margining requirements in 2020

- Lack of reporting and record-keeping standards

- Lack of real-time settlement and fail notification

- Lack of ability to easily net trade, margin and interest settlements

Target Process Elements

- Central record of SSI data/removal of manual SSI booking

- Auto pledge and release functionality for third-party custodians (removal of fax)

- Standard application of custodial set-up

- Real-time settlement and fail notification and reporting

- Move to in currency margining to enable netting in currency of derivatives

- Utilization of digitization technology

Margin and Interest Calculation

Process Owners

Custodians, settlement and treasury operations, static data management, solution providers.

Current Process

Counterparties calculate collateral interest based on the terms of their agreements, inclusive of agreed rates and day count. Each counterparty may calculate their interest independently, and then look to either settle the interest with their counterparties or roll the interest amount into principal. Counterparties usually reconcile any discrepancies at month end or at time of settlement. The current process is manual and prone to processing errors, as well as settlement risk.

Challenges to be Addressed

- Manual matching of interest calculation payments

- Manual reconciliation process

- Interest calculation challenges

Reasons for Interest Discrepancies

- Lack of automated daily reconciliation or matching

- Incorrectly documented terms in CSA

- Inaccurate upload of CSA terms when profiled in documentation systems or when entered into collateral systems

- Uncertainty and lack of knowledge around applicability of negative interest rates

- Collateral balance and value date discrepancies

- Different SSIs for principal and interest movements

- Bespoke interest rate agreements and counterparty behavior use of non-standard CSA terms

- Bespoke settlement and accrual periods (mid-month, etc) and residual payables (<$500) where the counterparty does not and will not accept the funds

- Counterparty de-prioritization of smaller amounts (<$500), which accumulate over time and slow down reconciliations

- Interest on collateral posted to third-party custodians that pay non-published money market rates

- Return of funds as a result of a counterparty not correctly setting up the receipt of payment

- Antiquated process to confirm monthly interest amounts (99% email)

- Missing applicable tax documents

Target Process Elements

- Central interest calculation source with the optionality to bilaterally calculate

- Daily matching, reconciliation and exception reporting of interest calculation between counterparties

- Auto-matched settled interest (roll in, cash settle or write off based on tolerances)

- Common standard interest statement

- Capture shared interest terms and single set of interest benchmark rates to remove disputes

- Ultimately move from manual process to an electronic matching of interest on cash and securities interest

CONCLUSION

The ISDA CIC believes these key initiatives will bring greater efficiency, automation and innovation through process standardization and move the industry towards a more efficient and scalable collateral process.

Digitized CSAs

As the industry moves more towards the digitization and digital storage of CSAs, there may be a need to create an industry agreed standard taxonomy of CSA terms. The objective would be to take standard terms, such as interest or margin threshold amounts, and create a taxonomy that maps back to the legal text. This would also help to simplify the client onboarding process. Such a taxonomy could be leveraged in smart contacts and other future-state technology offerings. In addition, the development of a standard agreement identifier and standard margin profile for counterparties could also act as catalysts to the move towards digitized CSAs.

Central Trade Valuations

High costs associated with dispute management and the capital charges associated with disputes may encourage the industry to move towards central valuations. Payment netting of cashflows (coupons and collateral) could also be a potential benefit of a central counterparty (CCP)-like model. Barriers for adoption may include price deviations that are materially divergent from internal valuations, which could present hard-dollar costs and P&L impact, as well as internal build implications. Other barriers could be sufficient product coverage under a specific model in order to realize the full benefit from a central valuation source[1].

Standard Collateral Eligibility Schedules

The lack of standardized non-cleared margin requirement-compliant collateral eligibility schedules across third-party custodians could create collateral posting and reconciliation issues, as well as compliance risk issues. The industry should develop and agree certain standard schedules for third-party custodians, possibly leveraging existing work conducted in the tri-party custodian space.

Centralized Interest Calculation and Matching

The current process to calculate and settle interest is overwhelmingly manual, and prone to errors and settlement risk. To move towards an environment of nearly full STP in the collateral process, the automation of interest calculation is a logical next step akin to margin call matching and settlement.

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[1] The ISDA Collateral Infrastructure Committee completed a survey to assess the industry interest and possible intent on utilizing a third-party valuation agent. The survey comprised six questions pertaining to firms' potential utilization of a third-party for trade valuations, as well as questions on the benefits and possible barriers to adopting a third-party valuation agent. The results were shared, reviewed and ratified by the CIC, which has concluded there is general support for the utilization of a third-party valuation agent. However, the survey noted there are certain barriers and complexities for broad industry adoption

Adoption of Messaging Standards

As end users of derivatives come into scope for the non-centrally cleared derivatives margin rules in 2019 and 2020, the volume of initial margin (IM) movements will increase dramatically. The use of faxes for the pledge and release of IM will not be scalable or sustainable for market participants. For clients utilizing traditional third-party custodians, there will be a need for custodians to use electronic solutions for the pledge and release of IM, including the use of standard messaging formats.

ABOUT ISDA

Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient.

Today, ISDA has over 875 member institutions from 68 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: www.isda.org.

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