Tri-party Circular

J.P. Morgan Tri-party Program Update

January 2024 STRICTLY PRIVATE AND CONFIDENTIAL

J.P.Morgan

Table of contents

ED CORRAL
Managing Director
Global Head of
J.P. Morgan Tri-party

Introduction

Welcome to the January issue of our Tri-party Circular and my first as global head of J.P. Morgan Tri-party. It would be remiss of me not to start with a Thank You to Ben Challice for his six years of leadership and vision at the helm of Trading Services here at J.P. Morgan. Likewise, I welcome Ed Bond as the new head of Trading Services and look forward to the opportunities ahead. As we advance into the new year, I am hugely excited about the prospects for the evolving breadth and depth of the collateral ecosystem. As evidenced through this issue, we have made huge progress as an industry in terms of deploying new technology and improving connectivity to help facilitate increasing collateral convergence across lending, financing and derivatives.

A number of the articles covered in this issue focus on collateral mobility as a convergence facilitator. Tri-party interoperability has been a long-standing industry ask, and Matt Mitchell takes us through some recent connectivity enhancements. Another facet of interoperability is discussed by Vicki Fulling, detailing how CCPMx combines the benefits of tri-party with the simplicity of existing bilateral direct collateral delivery to CCPs.

Optimization across large firms, by nature, can be complex. Charles Engle recently rejoined the Tri-party team to focus on innovation, transferring from the J.P. Morgan principal side of the business, where he managed the firmwide collateral optimization program. Charles leverages his cross-line of business experience, addresses various questions and thoughts on firmwide collateral optimization and the connection with tri-party collateral management.

We were pleased to announce in November the first tokenization of Money Market Funds and thereafter the collateralization of variation margin using the tokens on our Tokenized Collateral Network. Tom Pikett takes us through the benefits of tokenization and what the future development roadmap looks like.

Other topics covered in this issue include details of our busy system release cycle, providing new functionality including allocation on demand, multi-source longboxes and the use of tri-party for variation margin.

Let me take this opportunity to wish you a happy and healthy new year. The team and I look forward to meeting as many of you as possible in 2024 and, in particular, those able to attend our annual conference in London in March.

Best wishes,
Ed

VICKI FULLING
Vice President
Product Manager

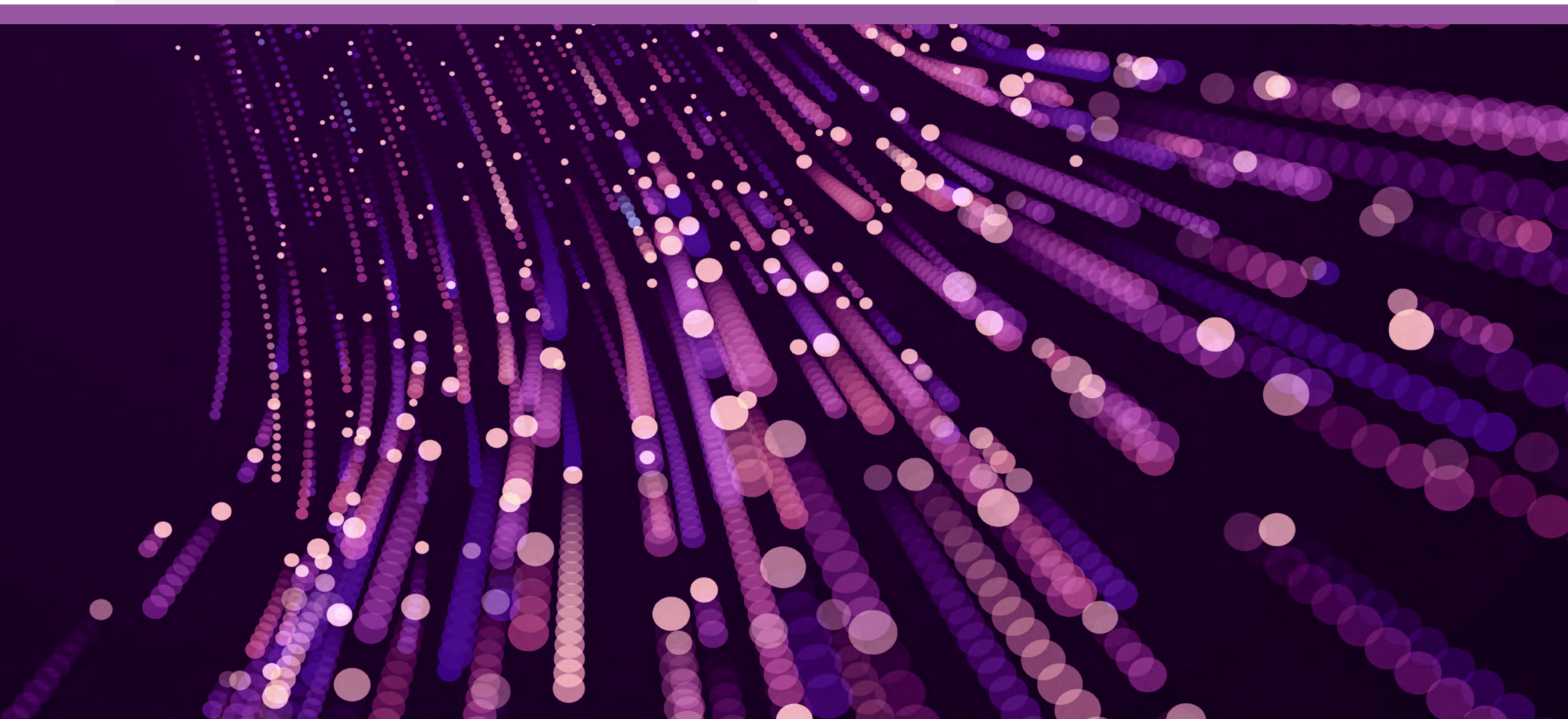
CCP Margin Exchange

Combining the benefits of tri-party with the simplicity of direct bilateral collateral delivery, CCP Margin Exchange (CCPMx) is expanding connectivity across CCPs and collateral markets.

What is CCPMx?

Traditionally, Central Clearing Counterparties (CCPs) prefer to receive collateral bilaterally. Tri-party agents have tried to guide CCPs toward the tri-party model in the past by asking them to accept collateral via tri-party, which some do to a limited degree. The CCPMx model goes to the mountain, as opposed to trying to bring the mountain to it, by making the delivery to and from the CCP bilaterally. Through the combination of tri-party's optimization and eligibility engines with bilateral market movements, J.P. Morgan has established a model that provides the benefits of tri-party – robust optimization, automation and eligibility testing while retaining the current model for CCPs of bilateral direct delivery.

The key theme that came out in our conversations with market participants active in margining CCPs was the need for automation and, if possible, standardization. CCPMx simplifies the delivery and return of CCP-related collateral, including intraday recalls and substitutions, delivering substantial operational efficiencies and, at the same time, providing economic benefits to the clearing members by replacing the cash margin auto-debited by CCPs with more optimal (cheapest-to-deliver) securities.



Collateral mobility

CCPMx not only eliminates the daily task of selecting the optimal collateral but also the operational and often cumbersome task of moving it back and forth across multiple CCPs, while removing the need for the clearing member to manage differing connectivity protocols per CCP. Clients manage their inventory flow to their longboxes, and J.P. Morgan takes care of all downstream margining our clients' various CCPs. J.P. Morgan launched CCPMx at the Chicago Mercantile Exchange and has since gone live at other CCPs. Additionally, with the implementation of the strategic partnership with Baton Systems (Core Collateral), J.P. Morgan now offers connectivity to 13 of the largest CCPs globally.

Integration and global availability

Partnering with Baton allows J.P. Morgan's tri-party clients to address their margin obligations at 13 CCPs without having to do incremental work integrating with Core-Collateral. In providing this service, J.P. Morgan manages collateral against margin obligations, continuously adhering to the CCP's eligibility requirements, the clearing member's optimization parameters and the CCP's specific messaging protocols. CCPMx is now international, recently posting collateral on behalf of clients to our first European CCP, ICE Clear Europe. Collateral providers can leverage their existing longboxes to optimize non-cash securities as collateral at the individual CCPs across an increasing number of global collateral markets – U.S. fixed Income securities custodied at the Federal Reserve, with the addition of Clearstream Bank Luxembourg, Euroclear Bank and Euroclear U.K. & International as new settlement locations for CCP-eligible collateral. Expanding the scope of collateral that can be posted to CCPs and the breadth of markets that collateral can be sourced from multiplies the benefits provided by the solution while maintaining the simplicity of maintaining one longbox.

Enterprise collateral management

The addition of CCPs as destinations for collateral held in J.P. Morgan tri-party is part of a broader convergence trend we have seen gaining momentum over a number of years, creating efficiencies by optimizing collateral from a single longbox to exposures generated from repo, securities lending, pledge, segregated initial margin and CCP collateral activity. Broker-dealer clients will have a consolidated view of their global collateral obligations across various financing markets and trade types. We are actively expanding the list of connected CCPs and have an exciting 2024 ahead, including expanding to our first Asia Pacific CCP and layering in additional optimization functionality.

TOM PIKETT
Vice President
Product Manager

Tokenization of MMFs

Tom Pikett from our Digital Assets team in Trading Services takes us through the tokenization of Money Market Funds and first collateralization of variation margin using collateral tokens.

In October 2023 we announced the latest development in digital collateral with the first live collateral settlement for clients using J.P. Morgan's Tokenized Collateral Network (TCN), an application that uses the bank's blockchain network Onyx Digital Assets. BlackRock and Barclays used TCN to deliver collateral for an OTC derivatives trade; the collateral used was a tokenized Money Market Fund (MMF). This represents a major milestone for a number of reasons:

- Through tokenization, an asset has increased its utility, unlocking its value as mobilized collateral
- The process from margin call through to transfer of collateral was near-instantaneous
- The TCN is integrated with existing systems and platforms, demonstrating that tokenization has the potential to be applied across a range of assets

Tokenization of existing assets has the potential to change the collateral landscape dramatically. TCN is being developed to be able to support both the release of trapped assets and to add utility to, and remove mobility friction from, highly liquid assets. This approach demonstrates the true power of this technology. The collateral markets stand to benefit sooner and at larger scale than other areas of the financial markets, mainly due to the relatively contained ecosystem within which collateral is deployed. One use that may have proved useful during the U.K. Gilt crisis would have been the tokenization of MMFs, which have not been used as collateral due to the difficulties of transferring them. However, in tokenized form, they could be used to meet variation margin calls quickly and at scale, as opposed to the current alternative of needing to liquidate Gilts or MMFs, to realize cash proceeds which once settled, can be used to post as variation margin.

The correlation between MMFs and market stress events has been well documented by the ECB[1]. Tokenization has the potential to add significant resiliency to funds.

Future potential, now.

Tokenization of assets is often seen as having significant long term potential. This view misses the opportunity to innovate and implement genuine changes in the near term, J.P. Morgan's Onyx platform is already transacting $1 billion in daily transactions.

Many tokenization platforms support integrations with existing systems and communication channels. For example, TCN is connected to transfer agencies using SWIFT to support the tokenization process. The tokens, which are created as representations of ownership or interest in an underlying asset, carry the same ISIN as the asset recorded in the transfer agent. Through this form of tokenization, where there isn't a new and distinct asset created, integration with existing systems is eminently simpler.

1 https://www.ecb.europa.eu/pub/financial-stability/fsr/focus/2020/html/ecb.fsrbox202011_08~b38bda32e3.en.html

In the collateral space when we refer to haircuts, eligibility, risk-weighted assets, etc., it is imperative in this first phase that we are not transforming the asset in a way that looks like a new issuance. This approach lowers the barrier to entry significantly and positions tokenization of existing assets in a space that is well known to the parties involved.

A similar approach is taken in some natively issued securities, where the security exists only on chain.

In recent years, the clearest example has been the European Investment Bank's issuance of digital bonds on various private and public blockchains. These issuances carry ISINs and features that are in line with traditionally issued securities. The challenge for natively issued securities currently is liquidity. Traditional collateral solutions have the potential to provide a solution to this problem, bringing in natively digital securities to an ecosystem where they will be available to finance.

> Our digital collateral products focus on adding utility, releasing trapped assets and removing friction in the market across native and non-native tokenized assets.

Roadmap to adoption on TCN

As we look to 2024, the focus is squarely on adding participants and assets to the TCN. We expect to continue to see growth in the use of tokenized MMFs as collateral, particularly in response to the outcome of the Commodity Futures Trading Commission's proposed rule amendments to the margin requirements for uncleared swaps[2]. Expansion of tokenizable assets is also key to building out the use cases, with highly liquid fixed income assets being the next asset class targeted for tokenization.

2 https://www.cftc.gov/sites/default/files/2023/08/2023-16572a.pdf

LUCY LAWRENCE
Vice President
Tri-party Operations

OLYVIA GITLIN
Apprentice
Tri-party Operations

Did You Know?

Lucy Lawrence and Olyvia Gitlin from our Bournemouth operations team highlight some exciting new functionality available in Collateral Central.

We asked in our 2023 client survey, you clearly answered, and we are pleased to roll out the ability to trigger allocation and optimization runs directly into Collateral Central. As of November 2023, global clients with profiles in Collateral Central are entitled to add new functions to their existing systems access. When logging into the portal, you now can:

- Request the triggering of a CORE (allocations and recalls) strategy or Optimization strategy with a single click
- Allocate collateral to individual accounts to cover urgent exposures
- Rank and prioritize recall requests close to settlement deadlines
- Optimize single or groups of accounts on demand

Initial feedback has been hugely positive. The additional functionality has greatly improved flexibility to manage collateral on J.P. Morgan tri-party. Please contact your relationship manager to request a demo to triggering CORE (allocations and recalls) and Optimization strategies.

Trigger CORE (allocations and recalls) and Optimization runs directly into Collateral Central.

MATT MITCHELL
Vice President
Product Manager

Tri-party Interoperability

Tri-party interoperability has often been cited as the holy grail for collateral providers to simplify some of the inadequacies of moving securities between venues to simultaneously satisfy counterparty exposures and optimize collateral across multiple tri-party agents.

While the industry has produced many innovations to improve agent specific collateral mobility in recent years, J.P. Morgan has been working closely with other tri-party agents in the market to connect functionality and simplify the process of moving collateral from one tri-party agent to another, without the need for market settlement.

J.P. Morgan tri-party clients who hold inventory at Euroclear have long been able to transfer securities into their longbox at J.P. Morgan through individual trade instructions. However, as an enhancement to that process, the firm is now integrated with Euroclear's Collateral Allocation Interface tool. Clients can now manage inventory flow into J.P. Morgan tri-party either intraday or on an overnight or longer term basis.

> Enabled clients create an RQV on Euroclear's platform that will enable the selected assets to be delivered to a segregated J.P. Morgan longbox.

Thereafter, collateral can either be pooled as part of their global inventory already held at J.P. Morgan or can be maintained as a separated source of collateral available for allocation.

We continue to look for further opportunities to expand flexible collateral mobilization solutions including tri-party interoperability. We are also investigating the prospect of facilitating the export of assets held at J.P. Morgan to other tri-party agents.

EMILY LI
Vice President
Product Manager

Collateral Transport Is Getting 'New Wheels'

The ability to move securities swiftly for trading, lending and margin purposes is crucial for buy-side clients to effectively maximize returns, optimize asset utilization and mitigate counterparty risk.

To that end, J.P. Morgan's Collateral Transport offers an asset inventory management solution that orchestrates asset mobilization across custody, lending and tri-party through the J.P. Morgan Agency Securities Finance platform. Collateral Transport enables assets to be transported swiftly between custodians and tri-party agents for lending and fulfilling margin obligations.

When a buy-side client's asset pool is available for lending and is also needed for margin, the big question is: How do we enable clients to determine the most optimal securities to use for both activities and move them to the required venue quickly? Collateral Transport has begun addressing this question since launch in 2021 and we are in the process of delivering the following new functionalities to further enhance this technology.

Leveraging collateral simulation

By integrating with J.P. Morgan Tri-party's collateral simulation engine, Collateral Transport can minimize asset movements and generate recommended movements based on the simulation results. The simulation engine looks at assets across the tri-party longbox and in the lendable pool of assets in custody. By factoring in collateral obligations, recalls and eligibility rules, the simulation engine can identify the optimal assets to deliver without first moving the assets from the custodian to J.P. Morgan Tri-party. Collateral Transport can then translate the simulation results into recommended assets' movement for delivery or recall with respect to the client's tri-party longbox.

Delegating instruction generation

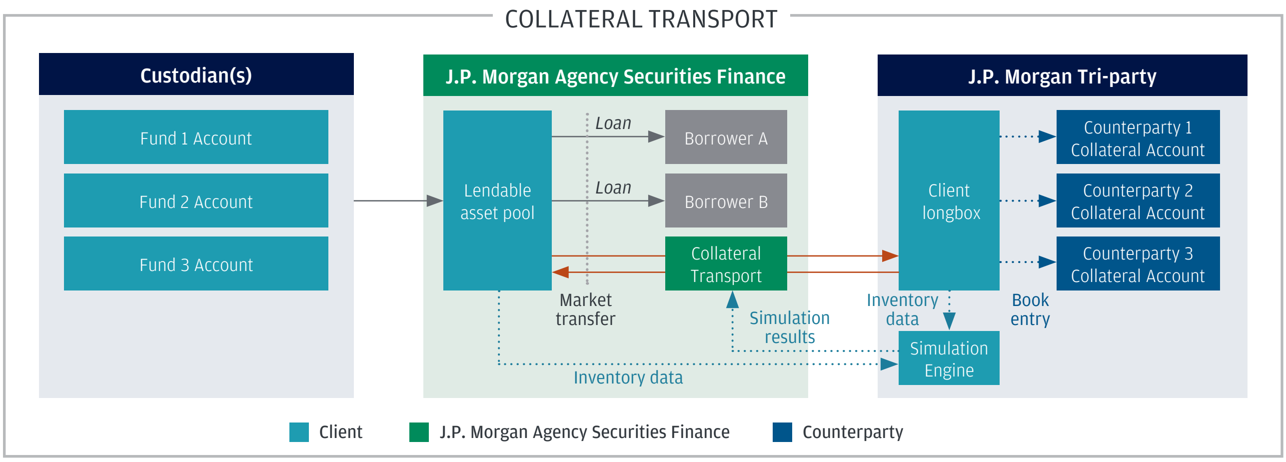
In Q2 2024, clients will have the option to have Collateral Transport automatically generate free-of-payment trade instructions on clients' behalf to move assets between tri-party and custodians – whether to top up collateral accounts, satisfy sale trades, corporate actions or lending opportunities. This will effectively remove the operational burden from clients around having to instruct Collateral Transport themselves.

Optimizing lending and collateral opportunities

Another Collateral Transport functionality that will be available, in Q3 2024, is the ability to assess how clients can use their assets optimally by incorporating the supply and demand of the assets, bid-offer levels and portfolio activity in the lending space. If an asset is in high demand for lending but has been posted as collateral, Collateral Transport will automatically initiate a recall of the assets from the collateral agent and substitute with new assets. Therefore, the asset that is in high demand can be lent out to maximize returns for client.

Centralized asset record

Clients will receive fully integrated reporting which will reflect the daily utilization of assets across lending, financing activity and collateral placement, including identifying who the counterparty is for each activity. When the enhancement will be in place, in Q4 2024.



SAGAR PATEL
Executive Director
Americas Head of Tri-party

CHARLES ENGLE
Executive Director
Product Manager

Firmwide Optimization and Tri-party

Charles Engle and Sagar Patel offer thoughts on firmwide collateral optimization and the connection with tri-party collateral management. Charles has recently rejoined our tri-party business focusing on innovation, coming from the principal side of the J.P. Morgan business where he managed the firmwide collateral optimization program.

Firmwide collateral optimization serves as a strategic framework for efficiently managing and allocating collateral resources across an entire organization. Regulatory requirements and market conditions are constantly evolving, and the optimization of collateral becomes imperative for mitigating risks, improving liquidity and maximizing capital efficiency.

To effectively solve for firmwide collateral optimization, the framework involves sophisticated algorithms, advanced analytics and a comprehensive understanding of the firm's inventory to ensure optimal use of assets while meeting various requirements. A key component of a firmwide collateral optimization program is activity being managed by tri-party agents, as many firms have sizable collateral activity at one or more tri-party agents. Integrating tri-party data and workflows into a firm's broader collateral optimization framework is important even if the firm is leveraging various optimization functionality of the tri-party agent.

How do you break down firmwide collateral optimization?

Firmwide collateral optimization is more of an ecosystem that needs strong governance and continued transformation rather than just a strategy, process or algorithm. The governance and transformation can be broken into three key focus areas: data strategy, analytics capabilities and collateral mobility.

Data strategy is the backbone of such an ecosystem. Without a clear data strategy that is controlled, robust and end-to-end focused, trade/collateral agreement negotiation power could be limited, manual operational processes could be needed as a stop-gap measure or, in the worst case, incorrect collateral could be exchanged. "Data" in this context has multiple dimensions: instrument and market data, agreement and collateral eligibility, positions and transactions, and trade/collateral obligations. A siloed approach could work for individual businesses or desks, but treasurers and financial resource managers will be challenged in identifying optimization opportunities or, more important, meeting regulatory requirements as regulators continue to focus on collateral as part of resolution planning, liquidity stress testing and other areas where firmwide collateral data is critical.

With the right data strategy in place, analytics solutions become powerful decision-making tools to achieve optimal collateral allocation across tri-party and bilateral obligations.

Collateral analytics tools could be used to optimize not only how collateral is deployed but also to negotiate better collateral terms through the measuring of trends in collateral economics (e.g., benchmarking haircuts), assessing inventory stability and performing what-if scenario testing (e.g., market stress events, identifying liquidity substitution opportunities, etc.).

While having the right data and analytics in place helps identify optimization opportunities, a collateral mobility strategy could ultimately be the determining factor in whether the optimization opportunity is realized. You can think of collateral mobility as the enabling of frictionless execution and settlement of collateral across desks, business units, legal entities and counterparties. The lack of a collateral mobility strategy could lead to situations where an optimal outcome is identified but cannot be executed due to the cost or lack of capability to mobilize the collateral. Traditional tri-party or even collateral tokenization, such as J.P. Morgan's Tokenized Collateral Network could become effective solutions as part of collateral optimization planning.

Besides technology, what other areas of the firm need to come together for effective firmwide collateral optimization?

In addition to the business and operations leads that manage collateral across your firm, it is critical that functional supporting teams including reference data operations, risk (credit, liquidity, etc.) and line-of-business treasurers are also buyers of the strategic vision. If all stakeholders do not share the same vision, objectives can shift over time, leading back to siloed data, infrastructure and operating models.

What exactly is meant by mobility and how important is it?

Collateral mobility is the enabling of frictionless execution and settlement of collateral across desks, business units, legal entities and counterparties. This is a critical part of the collateral optimization decision-making process. At a minimum, it is making sure the right agreements are in place to facilitate a transaction. But more important, it is strategizing how assets will be mobilized regardless of the optimization outcome. Just because you have identified a position that could be more optimally used at your firm, a cost-effective booking or settlement model is still needed to facilitate the transaction. If mobility in this context is not considered, what could seem like a simple optimization transaction could take multiple hops before it gets to the right place.

How does tri-party fit into a firm's central collateral optimization workflow and technology?

Tri-party is one major mechanism and venue for collateral posting; another is collateral being posted bilaterally to the counterparty. Both models have different operating model variations within them, depending on the specific use. Most of the collateral held at tri-party agents supports securities finance and uncleared derivatives activity, which is trillions of dollars in market value globally and highlights how tri-party is a key cog within a firmwide collateral optimization program.

A few fundamental elements are required in terms of data and connectivity between the tri-party agent and a firmwide collateral optimization technology framework.

Collateral postings at the tri-party agents can change quickly and often, which is why it is important for the firm's optimization framework to know what exactly has changed, where and when. Besides knowing the exact collateral positions at the tri-party agents, the firmwide system should also be able to consume collateral eligibility rules for each of their counterparty tri-party accounts. Each tri-party agent will have different eligibility rule constructs, so thoroughly understanding and normalizing that data is important so the decisions the central system makes are accurate. Ideally, due to the dynamic nature of what's happening at the tri-party agent throughout the day, real-time data feeds from the tri-party agent are key. Eligibility rules with counterparties do not change as frequently, but the more consumption, normalization and application that can be done systemically, obviously the better.

In terms of connectivity, today we see different models on how firms have constructed their firmwide collateral optimization frameworks from a technology perspective. One is that the firm leverages all technology in-house to bring it all together. Another is using a combination of the firm's own proprietary tools alongside third-party vendor solutions for specific components of the process. From the view of the tri-party agent, we are seeing more third-party vendors being included in a firm's optimization workflows to take in feeds of collateral data (positions, eligibility) and to direct collateral movements across the tri-party agents. The functionality and role of the tri-party agent has evolved significantly over the years. For example, as mentioned in this circular, our CCPMx product uses the tri-party algorithm to post collateral bilaterally to CCPs. This operating flow complements a firm's collateral optimizer as the settlement and communication mechanisms with the CCPs would be outsourced to the tri-party agent, which means fewer things for the firm to manage operationally.

> In summary, the interoperability between tri-party agents and firmwide collateral optimizers establishes a collaborative relationship allowing the firm to effectively manage collateral in the broader sense. Various tools that have been developed or are being contemplated at the tri-party agent could further help a firmwide optimization program, but it's not taken lightly that it's definitely a journey and takes partnership across the firm's collateral ecosystem.

LEWIS WHITELEY
Vice President
Relationship Manager

Introducing the Multi-Source Longbox

Lewis Whiteley from our EMEA Relationship Management team explains how clients can optimize house and client inventory or global liquidity more effectively with multi-source longbox structures.

With J.P. Morgan's new multi-source longbox functionality, clients can manage multiple inventory source longboxes within a single profile.

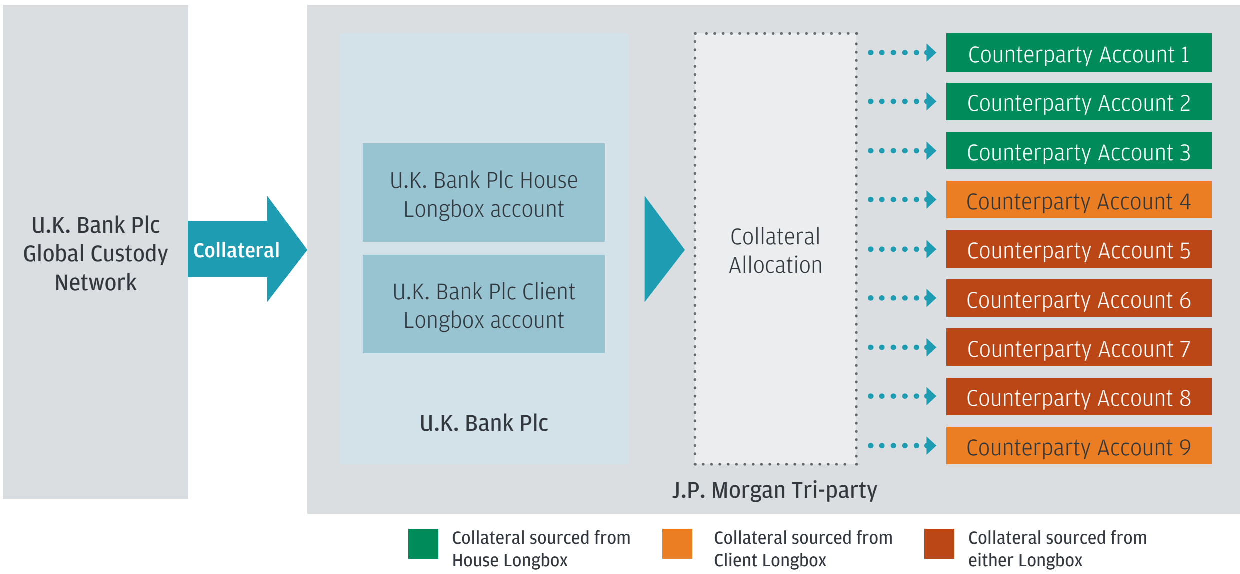
We understand clients can have various sources of inventory, whether that be a split between house and client, a split between different regional trading desks, or other lines of business. We now give clients the ability to segregate inventory pools in separate Longbox accounts but aggregate collateral for allocation purposes, within the same profile for your contracting entity.

This, combined with our existing optimization toolkit, enables clients to use inventory from various sources against single trades but with the added benefit of choosing your optimization preferences for using your inventory. **Want to allocate your house longbox inventory ahead of your client longbox?** This can be configured in our collateral eligibility service and be considered automatically within the J.P. Morgan platform.

With the implementation of this new logic, we have also introduced the ability to restrict use of assets from particular inventory sources. **Have particular trades that need to use inventory from certain sources?** This can also be configured in the platform.

You'll find one example below visualizing how house and client longbox accounts can be configured to allocate to different counterparty accounts effecting a 'sources and uses' allocation approach. If you have questions or suggestions on how to leverage this functionality, please contact your relationship manager.

MULTI-SOURCE EXAMPLE 1 – 'SOURCES' AND 'USES'



MICHELE FILIPPINI
Executive Director

EMEA Head of Tri-party Product Management

Extending Benefits of Tri-party to Variation Margin

One of the operational impacts of the Uncleared Margin Rules was the broad adoption of tri-party for the posting of initial margin. Michele Filippini outlines a recent initiative to extend that framework to include variation margin for securities collateral.

Buy-side firms that manage exposures for derivatives bilaterally with their dealer counterparties are seeking ways to look at their collateral inventory more holistically. Looking at collateral as a series of stand-alone agreements reduces the halo effect of being able to manage collateral within a centralized tri-party longbox. Optimization of collateral from a single pool allows collateral that is received through variation margin and other activity to be reused within the tri-party ecosystem.

Within the tri-party longbox, it is possible to capture both securities finance collateral requirements and derivatives collateral through a single consolidated solution. In recent years several banks have set up trading desks and business units to manage collateral through a central business utility, but the use of tri-party can allow an efficient solution for managing inventory centrally without having to undertake consequential platform or organizational changes.

The extent to which a buy-side client is integrated between its securities finance and derivatives middle office business units will determine how the tri-party solution can be best implemented. Most efficiently, the client would operate both securities finance and derivatives collateral from a single venue. This would mean the client would open a series of collateral accounts representing underlying agreements for variation margin, initial margin, securities lending, repo and cleared derivatives. Each of these collateral accounts would receive a collateral requirement (RQV) with the margin call as well as a collateral schedule for the acceptable eligibility rules.

A longbox would operate across all the collateral accounts, which could be funded directly by the client from its custody account and can also be set up to receive collateral from in-the-money margin to be reposted to out-of-the-money counterparties. Key benefits include the ability to provide intraday substitution capability and to leverage any excess collateral to minimize funding costs. Optimization across the full breadth of counterparties, the ability to use a broad array of asset types including equities and the ability to auto-recall over record date further add to the operational benefits.

> Combining tri-party with existing derivatives market utilities for creation and transmission of the margin call amount through Acadia further streamlines the end-to-end workflow.

J.P. Morgan can also assist in the translation of the eligibility rules from the credit support annex.

At this stage, J.P. Morgan is looking to provide this solution to both its buy-side and sell-side clients; the benefits can accrue to both parties by reducing the market settlement required in the traditional transfer of variation margin securities collateral.

MATI FINKELSTEIN
Associate
Product Manager

Tri-party Reuse

Efficient collateral reuse is a long-standing benefit of tri-party, with securities collateral being transferable from receiver to counterparty along a chain outside of market settlement times, mirroring the flows in the bilateral market without any of the settlement friction.

Increasing uses

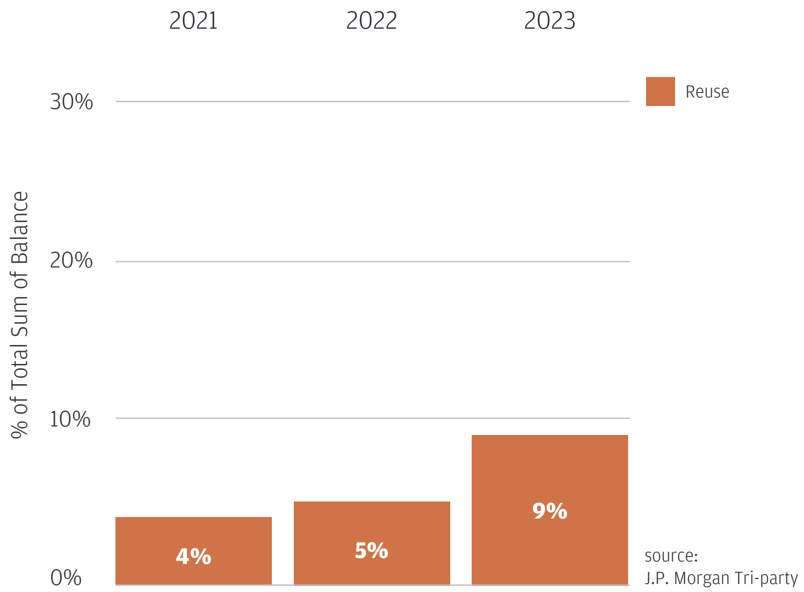
Increasingly we have seen different applications of reuse beyond the traditional role of counterparty exposure management. Reuse functionality has been leveraged for asset aggregator model solutions, where collateral receivers sub-segregate collateral pools for particular beneficial owners, or for inter-entity reuse where firms mobilize collateral transfers between global legal entities. It is important to note that all supported markets are serviced on the same global platform, with no additional systems or "hops" for reuse.

> It is important to note as well that all supported markets are serviced on the same global platform, with no additional systems or "hops" for reuse.

Growth of reuse

In addition to extending the number of links in the reuse chain from a maximum two steps to multi-step, we have also seen a significant increase – 75 percent over the past year – in the amount of reuse in the tri-party program. As a share of the overall tri-party portfolio, reuse balances have more than doubled, from an average of 4 percent in Q1 2021 to 9 percent of the book by the start of Q4 2023, as shown in Figure 1.

FIGURE 1: BALANCES OF THE J.P. MORGAN TRI-PARTY BOOK BY REUSE

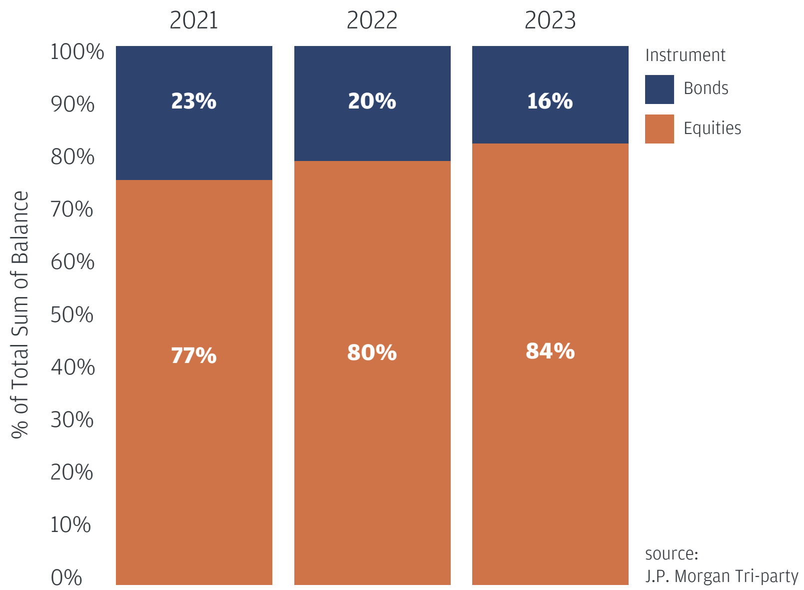


source:
J.P. Morgan Tri-party

We have seen a significant increase – 75 percent over the past year – in the amount of reuse in the tri-party program

We have also seen a shift in the collateral that is being reused as the functionality has expanded, with equities increasingly dominating the type of collateral reused, accounting for 84 percent of reused assets currently, up from 77 percent in 2021 (Figure 2). This compares with equities currently accounting for 62 percent of all tri-party collateral. In terms of the worldwide markets, we have seen the greatest growth with U.S. equities being reused around the globe, but we've also seen an increase in Asia Pacific markets, particularly with Japanese and Australian securities.

FIGURE 2: BALANCES OF THE J.P. MORGAN TRI-PARTY REUSED SECURITIES BY INSTRUMENT TYPE



source:
J.P. Morgan Tri-party

Equities increasingly dominate the type of collateral reused.

PABLO WICHMANN
Associate
Product Development

Recent Product Enhancements and Future Releases

Collateral optimization, mobilization and global availability are core to recent and future releases on Collateral Central

Recent product enhancements

Collateral Central Core algorithm – external settlement Q4 2023	
Description	Enhancement to the Core algorithm to account for market cut-off times when processing asset movements for market moves across external securities accounts This allows core, optimization and target state strategies to recognize market opening and closing times and market holidays to ensure market settlement
Users	Collateral providers
Benefits	Increase efficiency of the account allocation because one run can cover both internal and external accounts

Reuse algorithm enhancements – external settlement Q4 2023	
Description	Reuse extended to cater to tri-party chains that include external settlement, providing more flexibility for funding collateral exposures covered by direct delivery
Users	Collateral providers

Reuse algorithm enhancements – external settlement

Q4 2023

Benefits	• Increase portfolio availability of the collateral provider to be used for external settlement • Increase success of entire strategy completion, without reverting the reuse portion of the moves

Collateral Central multi-source longbox

Q4 2023

Description	New functionality for collateral providers to maintain multiple longboxes under one profile in Collateral Central, and direct collateral allocations to specific counterparty accounts, providing additional flexibility to inventory management and portfolio optimization
Users	Collateral providers
Benefits	Increase collateral provider flexibility through optionality to segregate collateral inventory pools and allocate against different counterparties and exposures, all within one Collateral Central profile

Allocation on demand

Q4 2023

Description	In addition to scheduled allocation runs, ability for collateral providers to trigger ad hoc allocation and recall runs directly from the Collateral Central portal Additional, collateral providers can now prioritize their own recalls within the UI to release any required assets ahead of any other
Users	Collateral providers
Benefits	• Initiate allocation runs on demand to top up or trim collateral against required values • Initiate selected or all collateral recalls outside a scheduled run

We would welcome to the chance to answer any questions or discuss the topics covered here with you in greater detail. Please contact your Relationship Manager.

J.P. Morgan Tri-party Team

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