Collateral Management Monitor

February 2022

J.P.Morgan

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Introduction

BENJAMIN CHALLICE
Managing Director

Global Head of Trading Services, J.P. Morgan

Welcome to the February issue of our Collateral Management Monitor. I hope 2022 has begun well.

We are rapidly approaching the midpoint between implementation of Phases 5 and 6 of the Uncleared Margin Rules (UMR) for segregated Initial Margin, and our client engagement and implementation teams are in full project mode ahead of the final installment in September 2022. Phase 6 offers the most significant increase in activity since the initial phase in 2016, with more counterparties in scope and rising demand for intuitive tools for threshold monitoring and pre-trade analytics.

In this issue, we provide some insights on the convergence of traditionally bilateral collateral management with the more automated tri-party services, with an increasing agnostic consideration of the underlying trading activity, be that financing, lending, OTC derivatives or clearing. We explore a range of other topics including the benefits and best practices for managing dispute resolution and our future enhancement to margin validation for clearing activity. We also hear from our operations team in Buenos Aires.

Please watch out for our Collateral Insights podcast series, launched last year to keep you informed on the latest developments and innovation in collateral management. We have already covered pertinent topics such as ESG, CSDR and segregated Initial Margin, with much more to come. You can find details on page 16.

Unfortunately, our annual Financing and Collateral Conference at Canary Wharf will not occur this month but please join us on February 24 for a virtual panel with members of the J.P. Morgan Collateral Management team. I hope we will be able to see you in person in May for the rescheduled event.

Best wishes and keep safe.
Ben Challice

ARTICLE ONE

Collateral Convergence

ED CORRAL
Managing Director
Americas Head of Collateral Services

By combining tri-party's optimization and eligibility engines with our bilateral collateral management market delivery and receive capabilities, J.P. Morgan is able to move collateral bilaterally while still providing the benefits of robust optimization, automation and eligibility tests that tri-party offers. This solution is actively delivering efficiencies for sizable Initial Margin requirements for a large global broker-dealer at major Central Counterparties (CCPs).

The CCP space is only one example of a use that benefits from the application of the convergence of tri-party capabilities with bilateral movements. J.P. Morgan sees practical opportunities in the exchange of Variation Margin (VM), posting of segregated IA and even the delivery/return of collateral for bilateral repos, to name a few. The idea is that any transaction where bilateral movements are required or preferred can be managed more efficiently and effectively in the converged tri-party environment, than existing processes.

The creation of a tri-party "control" or "staging" account was a critical development allowing for the convergence of traditional offerings—again, enabling an account to benefit from both the functionality of tri-party and the added capability of automated bilateral market movements. Without becoming too technical, the overall collateral pool is still managed 100 percent in the tri-party system, taking advantage of all its functionality and automation. The collateral to be moved bilaterally is seamlessly allocated to the tri-party control staging account, from which it is delivered or received to the market bilaterally. Among other things, this preserves the collateral receivers' full optionality over what they intend to do with the collateral they receive. It also allows collateral receivers and providers to maintain their current SSIs so there is no deviation from existing operational processes.

Ultimately, what convergence delivers to the collateral provider and receiver is the best of both worlds—the automation, optimization and robust eligibility of tri-party combined with the flexibility of bilateral market movements. It allows for a broader pool of collateral to be managed through one process instead of bifurcating tri-party and bilateral activity into two workstreams. In addition to the CCP example above, we see major opportunities in the derivatives collateral management space, which traditionally has been bilateral. We also see it having

major application in the repo markets such as Canada and Europe that predominantly transact bilaterally. The beauty of this solution is that those arrangements can be maintained, but the operational burden of the bilateral processes can be eliminated behind the scenes by shifting them to tri-party.

At J.P. Morgan Collateral Management, we look forward to discussing this development further and identifying and collaborating on even more use cases. Please speak to your Client Service representative for more information.

What convergence delivers to the collateral provider and receiver is the best of both worlds—the automation, optimization and robust eligibility of tri-party combined with the flexibility of bilateral market movements.

The benefits of tri-party

For those less familiar with the benefits of tri-party:

- Sophisticated optimization engine that can be customized to a client's particular objectives
- Robust eligibility checks covering all securities types, utilizing expansive static data lakes
- Automated delivery/receipt of securities to all collateral obligation accounts (including equities and no position size restrictions)
- Ability to manage all securities collateral obligations on one platform (repo, securities lending, Seg IM, VM, Seg IA, etc)

Phase 6 is Just the End of the Beginning of the Uncleared Margin Rules

O'DELLE BURKE
Executive Director

APAC Head of Collateral Services

ARTICLE TWO

The final countdown

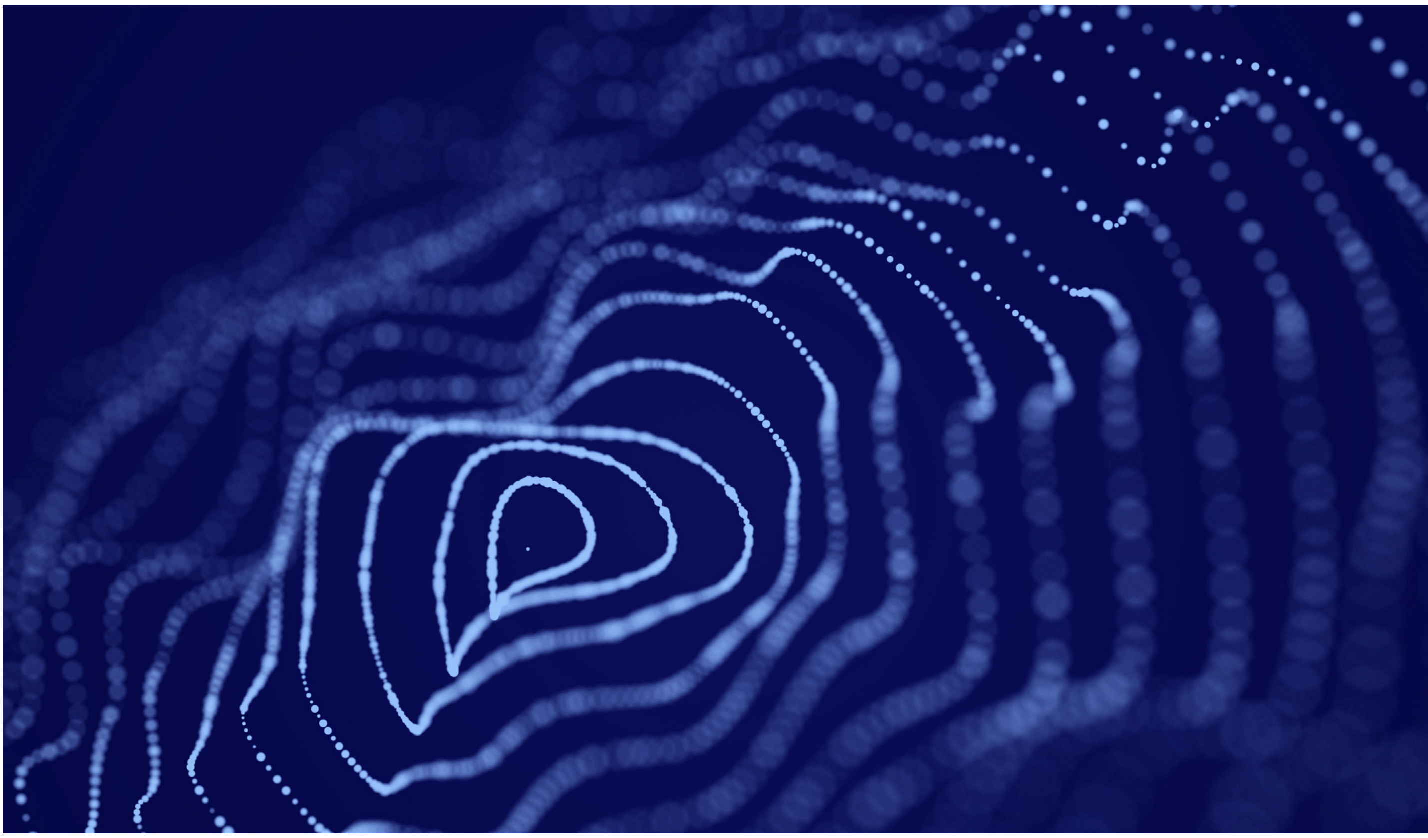
The countdown is on for the final phase in September 2022. In scope are 700+ entities with aggregate average notional amount greater than U.S. $8 billion and an increasing number of insurers, mutual funds, large pension funds and hedge funds.

While a significant number of buy-side firms will be in scope in this final phase, a large subset of these firms may remain below the segregated Initial Margin (IM) threshold, meaning that although in scope, they will not be required to exchange margin after September.

Trading under the Initial Margin threshold

The threshold for exchanging IM is U.S. $50 million; in-scope firms with IM exposure below this threshold are not required to exchange IM collateral. This means in-scope participants are able to postpone IM documentation and the establishment of custodial arrangements for posting and receiving IM collateral until their IM approaches the minimum threshold amount. The requirement to post IM between counterparties applies to new trading activity after September 1st 2022 and, as such, the calculated IM will increase as new trades are executed with counterparties. The reality is the newly in-scope firms that do not expect to breach the IM threshold quickly may choose to postpone legal negotiation and account opening ahead of September, and monitor their relative closeness to the threshold before initiating proceedings. Firms should take great care to ensure they have effective monitoring, sufficient lead time and infrastructure already in place to facilitate timely IM account readiness before the need to post IM arises.

J.P. Morgan Collateral Management offers tools and support to help clients monitor and prepare to exchange IM. From a post-trade perspective, clients that trade under the threshold with counterparties can leverage the IM threshold monitoring tool to help them identify when to initiate legal negotiation and the account onboarding process. Pre-trade analytics tools are also available to provide what-if simulations on new trades with counterparties, to assess the impact on the calculated IM, which could allow firms to better assess which counterparties to execute new trades, to remain below the respective IM thresholds.



Second-thoughts on clearing

Trading under the IM exchange threshold offers in-scope firms temporary relief from initiating the segregated IM operations, but this eventually will need to be addressed as long as the firm is being captured under the UMR. In addition, although the UMR has been agreed in principle as part of the G-20 mandate, some jurisdictions have been more prescriptive than others in terms of the margin requirement, including adoption of netting legislation, thus creating an additional layer of complexity for fulfilling the UMR requirements globally.

Another alternative that is attracting new consideration is the advantage of central counterparties (CCP). Some firms are weighing the cost of segregated IM on investment and resources for non-cleared OTC trades, against trading through a CCP. Posting IM has long been a requirement for centrally cleared trades, where buy-side firms appoint a futures clearing merchant or clearing broker to access the CCP, along with their custodian/collateral manager to assist them with the margin process, which may be less complex than UMR.

Beyond September

Overall, despite the fact that September will be a critical milestone for the final phase of UMR, there will be additional and continual work beyond this deadline when in-scope buy-side firms not currently exchanging IM will need to allocate sufficient time to prepare as they approach the U.S. $50 million IM threshold.

Please speak to your Client Service representative for more information.

Firms should take great care to ensure they have effective monitoring, sufficient lead time and infrastructure already in place to facilitate timely IM account readiness before the need to post IM arises.

Dispute Management

With the last phase of the Uncleared Margin Rules, much attention is correctly focused on legal negotiation, account opening and selecting ISDA SIMM or Grid calculation models. Project implementation plans should include operational considerations such as collateral allocation requirements and the ability to manage potential disputes that may arise as part of the margin exposure agreement process.

RACHEL PHILLIPS
Vice President
Product Manager

ARTICLE THREE

What is dispute management?

Dispute management is not a new concept; participants agreeing and exchanging Variation Margin (VM) will be familiar with the process to partially agree margin amounts when calculations diverge between two counterparties. Differences can arise from trade population or trade economics, with a common market practice to exchange margin on the amount of exposure both parties agree to and to dispute the outstanding amount. Market best practice is to use an industry utility to reconcile VM trades, identify the root cause of the margin dispute and agree on a course of action to rectify the dispute.

Derivatives outsource providers can help ensure counterparty disputes are kept to a minimum by reconciling with counterparties and providing pertinent information to help the trading principals resolve the dispute. A comprehensive approach to maintaining a low level of disputes among counterparties can result in improved risk management and potentially lower collateral funding requirements.

Impact of Initial Margin

As counterparties exchange IM, the need for dispute management is ever more critical, with a requirement to resolve any disputes within 15 days to achieve regulatory compliance. As part of the reconciliation process, the parties examine each of the data inputs going into the IM calculation to identify where discrepancies arise. Causes can result from a difference in determined trade population, lack of sensitivity completeness, calculation method or differences in mark-to-market input.

Under UMR, the IM amount must be determined using one of two calculation methods and agreed between the counterparties:

- ISDA SIMM is a risk-based model that takes the sensitivities of a portfolio as input to calculate its IM
- Grid/schedule method calculates IM by taking a percentage of total notional, which varies based on the volatility of the underlying asset referenced by the transaction

Both models pose challenges to in-scope participants and, although ISDA SIMM methodology is an effective way to standardize part of the IM calculation process, there can still be material differences between each firm's calculations. A scalable and robust dispute management process is essential to achieve regulatory compliance within the prescribed 15 days.

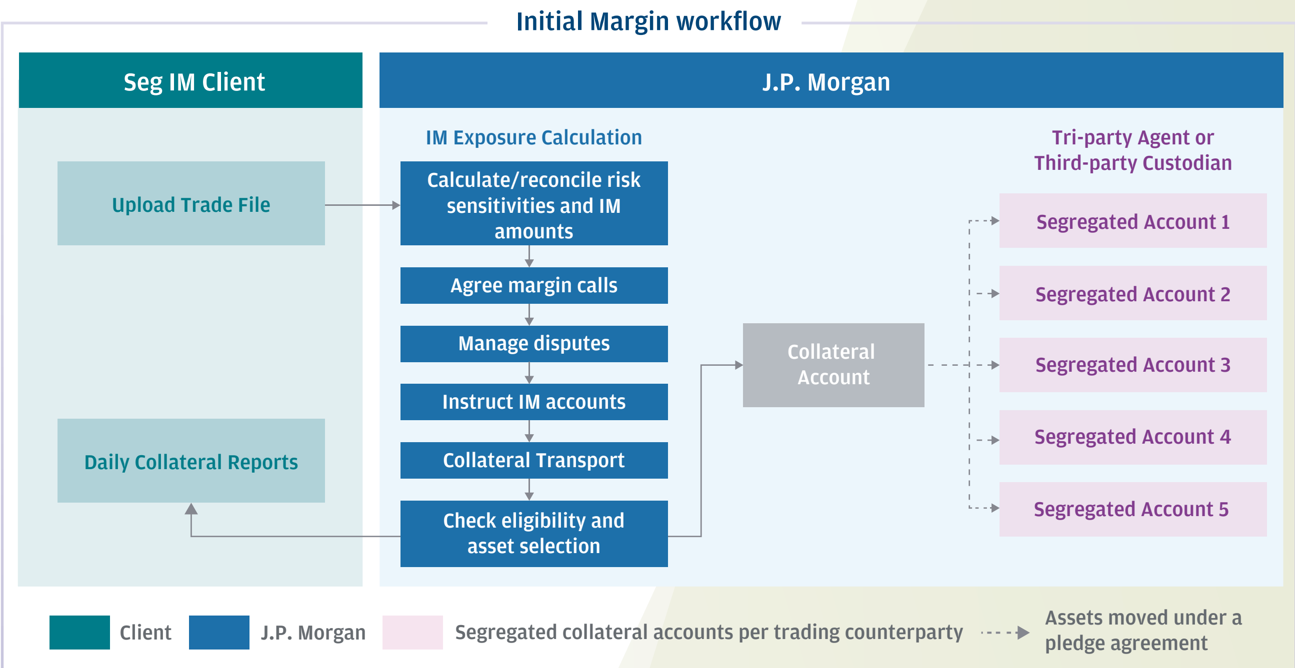
Dispute management issues identified in earlier UMR phases

Some of the most common causes of IM margin disputes are due to:

- **IM model differences**—one counterparty uploading SIMM trades versus the other using grid
- **Product class differences**—differing classification between rates, FX and credit
- **Trade population differences**—due to either out-of-scope products such as FX forwards, equity options or uploading pre-September 1 activity
- **IM trade population differences**—if J.P. Morgan is not the VM collateral manager, can present significant challenges where the team has no visibility of the client's instance of tri-resolve and must rely on the client to provide updates of VM trade reconciliations

Initial Margin workflow

As a collateral agent, J.P. Morgan undertakes the daily operational and administrative process on behalf of its clients with their respective counterparties, global custodians and tri-party agents. To meet Initial Margin requirements under the non-cleared OTC derivative margin rules, J.P. Morgan provides an end-to-end agency solution for the outsourced management of the collateral process, which addresses all client regulatory requirements.



Full end-to-end margin workflow

J.P. Morgan has partnered with AcadiaSoft to offer a full IM calculation and dispute management service using Initial Margin Exposure Manager to support both SIMM and schedule calculation methodologies. In addition to managing the margin agreement process, we offer a dedicated team of experts to review the reconciliation output and coordinate resolution of breaks across the counterparty, customer and calculation agent. The team provides an active approach to identify, analyze and investigate portfolio breaks before they result in a dispute.

Combining IM margin agreement and dispute management is complementary with the existing VM collateral services. Maintaining a controlled and consistent approach to margining, reconciling and managing disputes provides a holistic and comprehensive approach to counterparty risk management and represents industry best practice.

ARTICLE FOUR

Margin Validation

The compressed timeline for Futures Commission Merchants (FCM) or clearing members issuing margin calls for exchange-traded derivative activity has often necessitated a "pay now, ask questions later" approach to meeting FCM margin deadlines, with any disputes to the correct margin amount dealt with after the event.

Andrew Hayford
Associate
Product Manager

Due to the increasing volumes of exchange-traded derivatives, the amounts of margin posted daily and the large swings in margin that can be required (in high volatility markets), we have seen increased demand for validating margin calls before accepting and paying. Establishing a proactive margin management approach ensures greater control over managing liquidity, funding costs and gaining a better understanding of overall risk.

Technology is an essential part of firms seeking to implement robust margin management programs. It is critical for increasing efficiency and accuracy to achieve the potential liquidity, cost and analytic benefits. A key aspect of this framework is the ability to assess the accuracy of margin calls received from FCMs.

Some Central Counterparties (CCPs) provide access to margin calculators that enable the FCM's client to input their respective trade parameters to calculate Initial Margin requirements based on that CCP's own margin calculation methodologies. Using these calculations, clients can gain insight into what the Initial Margin requirement would be ahead of any calls for margin. Some of these margin calculators also allow customers to conduct scenario analysis to predict margin requirements based on changes in various parameters of their portfolios; they also can be used as a point of comparison between FCM margin calls.

Alternatively, some CCPs make their margin methodologies available to clients, to enable them independently replicate margin calculations; clients can consequently design their own margin calculators to their own specifications. CCPs use various methodologies such as Standard Portfolio Analysis of Risk (SPAN) across various derivatives products, which can be quite complex. Methodologies can change as the CCPs deem necessary and usually in response

to, for example, changes in market and economic conditions or a change in the perceived risk of different trading products.

These resources can require significant technological resources and expertise to achieve accurate margin calculations. Different institutions commit varying amounts of resources to create and maintain a robust margin validation process. CCPs with margin calculators often facilitate access either through their user interface or via an application programming interface (API). However, this is not a universal option for all CCPs and replicating each independent CCP's margin calculation methodology requires clients to be nimble and adjust quickly to any changes in order to continue generating accurate margin calculations.

Leveraging its firmwide technology and depth of expertise in cleared derivatives, J.P. Morgan Collateral Management is developing capabilities for margin validation that will be available to clients later this year. While the simplest approach is to meet the applicable margin call amount when the margin call is issued, the benefits of shifting to a proactive margin management regime are far too significant to ignore.

Please speak to your Client Service representative for more information.

replicating each independent CCP's margin calculation methodology requires clients to be nimble and adjust quickly to any changes

HUMBERTO BRECCIA
Associate

Collateral Management Operations

ARTICLE FIVE

The View from the Collateral Management Engine Room

As a founding member of our Buenos Aires operations team, Humberto gives some insights into the "engine room" of J.P. Morgan Collateral Management.

Introducing Buenos Aires

The J.P. Morgan Buenos Aires hub was created in 2014, servicing a wide variety of operations activities across multiple lines of business, with the Collateral Management operations team taking residency in 2017. The office is in the Buenos Aires city centre, in the financial district, with the team having built a great camaraderie andleveraging the benefits of a broad skill set, derived from a diverse set of backgrounds within Argentina. The sense of teamwork and collaboration is one of our strongest assets and our key priority is providing the best service to the clients by anticipating their needs.

Globally integrated

Since the inception of the team we have been fully integrated with the global Collateral Management operations hubs in Bournemouth and Manila; many team members have had periodic assignments across the global hubs to ensure best practice. With 24 hours a day operational coverage around the globe, we maintain a fluid communication among the three locations, and we hand over at the end of each time zone's day to ensure continuity of a client's daily operations. We all share the same processes, systems and client specific knowledge.

Challenging times

The past couple of years have certainly been exceptional, managing through sustained periods of working remotely, requiring our teams and technology to adapt and evolve. In many ways, that accelerated existing trends. Frequent communication with internal teams and clients, our resilience and collaboration across teams was key to keeping the daily operations running without disruption and reacting positively to client feedback. The focus on people's well-being was vital, while supporting growing activity that our clients onboarded to our platform.

Which initiative did you like the most and why?

Implementing Phase 5 of segregated Initial Margin was the most exciting initiative deployed in 2021. Introducing new clients and rolling out new functionality which has been a great experience and rewarding for the whole team. Providing trade reconciliation services has added a new element of investigation to the team's skill set – analyzing clients' trade valuation parameters to identify discrepancies against their counterparties and avoid potential disputes. Through the project's implementation, we worked collaboratively with Product Management, Client Service, Technology and our clients for months to explore and test all functionalities before the go-live date so that every stakeholder was aware of this new process and their respective responsibilities for a successful launch. Overall, learning and implementing a new product offering end-to-end has been a very enriching experience.

What is the operations team's main focus for 2022?

We are focused on continuing to work in partnership with the product and client service teams to deliver process efficiencies for an optimal client experience. Specifically, we will continue to support our clients and assist with their business needs and growth. Our ultimate goal and commitment are to assist, resolve and add value to clients' requests. We look forward to even more interactive engagement with our clients and colleagues around the world.

With 24 hours a day operational coverage around the globe

ARTICLE SIX

Did You Know?

TJ RANCE
Vice President
Americas Business Development

TJ Rance from our Americas business development team takes us through some lesser known features of J.P. Morgan Collateral Management.

Margin management for all your exposure risk

Did you know that over the past few years, J.P. Morgan has invested heavily in the technology and user interface that supports our Collateral Management business? While the primary product type we support is non-cleared derivatives Variation Margin, the platform itself is agnostic to the underlying collateral agreement and has the flexibility to support a number of collateralized transactions. Some of the more common transaction types supported are cleared derivatives, segregated Initial Margin, To-Be-Announced (TBA) bonds and bilateral Securities Lending or repo. However, we also support risk mitigation for credit card companies in managing exposures to their client banking institutions that issue their cards.

Instruments such as collateralized reinsurance transactions, bank loan revolvers and state deposit programs also can be supported due to the flexible nature of the platform. With our enhanced platform and flexible technology, we have the ability to centralize exposure management for our clients so they can focus on driving their own businesses forward.

The future of central counterparty margining

Did you know that J.P. Morgan Collateral Management now connects directly with central clearinghouses to help firms manage their margin obligations? Recently, J.P. Morgan began managing house clearing requirements on behalf of firms. These institutions typically face off with a number of different clearinghouses and deal with unique challenges as they are required to maintain different operating models and time frames and to conform to various messaging standards for each clearinghouse.

To help solve this for clients, J.P. Morgan has established connectivity to a number of the larger CCPs to consume daily margin requirement, manage the settlement of collateral for top ups/recalls and consume eligibility from the clearinghouse so our clients can efficiently optimize their collateral postings each day. Through this new initiative, J.P. Morgan takes on the operational burden of CCP margining for our clients to ease the burden on their operations and funding teams, eliminating two daily responsibilities—the selection of optimal collateral by the funding team and the movement of the collateral to/from the CCP by the operations team.

Recent Product Enhancements and Future Releases

JAMES SMITH
Executive Director
Product Development

Collateral optimization, mobilization and global availability are core to recent and future releases in Collateral Management.

Seg IM solution for CM Phase 5 & 6 clients	
Description	As part of the September 1 go-live date for Phase 5 of the Uncleared Margin Rules (UMR) for segregated Initial Margin, J.P. Morgan Collateral Management has extended its product offering to provide an end-to-end agency solution for the outsourced management of the collateral process.
Users	Asset Managers, Asset Owners
Benefits	▪ Support for in-scope clients to meet regulatory requirements across Initial Margin calculation using approved methodologies, daily reconciliation and dispute management services, securing and posting collateral into segregated accounts ▪ Extended Collateral Management service for valuations and dispute management with dedicated operational support ▪ Support for varying funding constructs based on client preferences

Recent Product Enhancements *(continued)*

Collateral eligibility and optimization	
Description	Collateral Management product is converging with the tri-party product to offer a seamless and robust offering surrounding asset eligibility and allocation
Users	Asset Managers, Asset Owners
Benefits	▪ Efficient use of assets by utilizing a flexible and enhanced rule set governing asset allocation by optimizing usage of available pool of collateral ▪ Enhanced eligibility tests to cover for concentration limits, sector-based eligibility checks, etc. ▪ Automated controls-based workflows allowing global operations teams to monitor asset movements and settlements efficiently

Tri-party Integration	
Description	Combined tri-party and collateral management offering to allow asset usage across both products
Users	Asset Managers, Asset Owners
Benefits	Increased asset mobilization by utilizing a single longbox that leverages assets to fulfil obligations across both tri-party and collateral management products

Upcoming product enhancements

- Full automation of asset recalls and top-up instructions into client's Collateral Management longbox
- Automated substitution process for coming corporate action/income events
- Self-service tools for activity monitoring and data querying
  - OneMargin Settlement UI – Real-time updates to collateral movements and a consolidated view into tri-party RQV activity across all agents
  - Positions UI Enhancements – Held and posted collateral positions per agreement in addition to real-time available collateral inventory
  - MyReports2.0 – Ability to create, modify report content and specify report schedules
- Uncleared Margin Rules, Phase 6
  - Monitoring-only service for regulatory Initial Margin across all brokers without the need for full collateral agreement and account setup
  - Support for "counterparty pick" methodology and broker calculation models (U.S. only) when SIMM cannot be supported
- Equities
  - Launch of equities as collateral within Collateral Management program

The Collateral Insights series is now available!

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SECURITIES SERVICES

Collateral Insights

Get the latest insights on topical issues in the collateral industry.

Collateral Insights

The J.P. Morgan Collateral Insights podcast series brings you the latest insights on topical issues and events in the collateral industry. The series features thought leadership and best practices from J.P. Morgan leaders on a variety of topics to help clients manage their collateral needs including financing, funding and liquidity.

J.P. Morgan Collateral Services helps clients efficiently manage collateral using innovative solutions for both collateral providers and receivers. Buy-side and sell-side clients can optimize their collateral portfolios with sophisticated analytics and eligibility tools, as well as flexible bilateral and tri-party solutions. J.P. Morgan offers global capabilities, supported locally, to help institutions manage collateral around the world or onshore to meet increasingly complex financing and liquidity requirements.

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[(1)] To be included if oral briefing is provided.

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