Collateral Solutions for a Changing Market:

Collateral Management and Collateral Segregation

July 2016

BNY MELLON

Table of Contents

BNY Mellon Markets Group

A Unique Combination of Global Solutions to Help You Navigate the Financial Markets

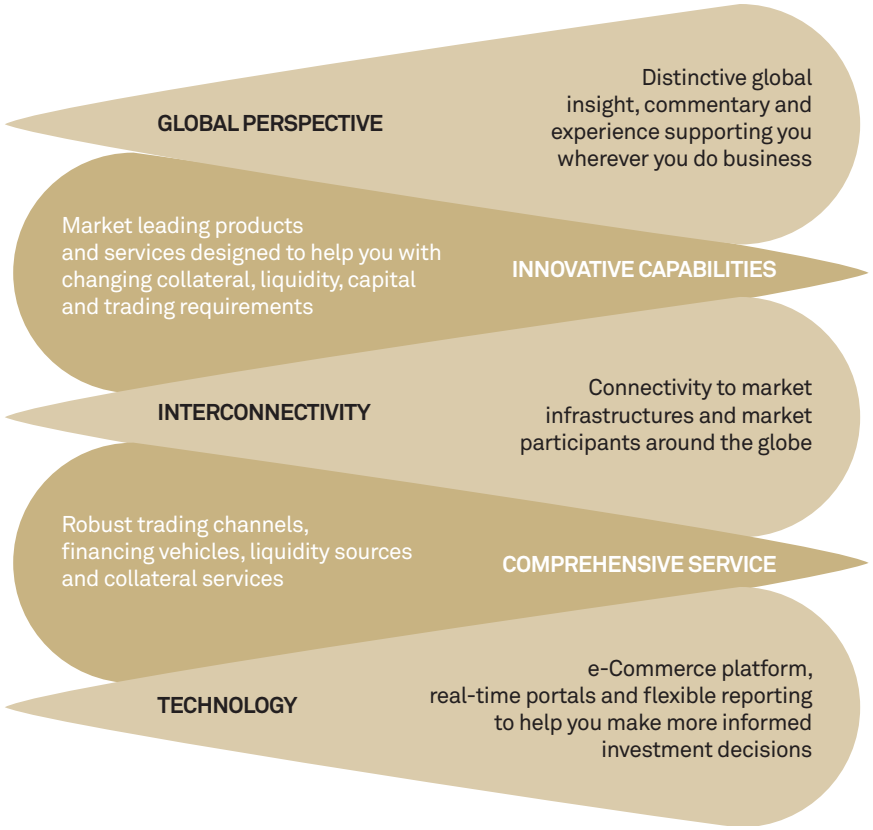
Evolving regulations, increasing capital constraints, liquidity concerns and the growing demand for transparency are among the many challenges you face. These challenges are having a significant impact on your investment decisions, trading patterns and operational business models worldwide and require new thinking and new solutions.

The Markets Group helps you manage your risk, capital and liquidity needs by bringing together our foreign exchange, securities finance, collateral management and segregation, capital markets and prime brokerage services.

WE CAN HELP YOU FACE TODAY'S CHALLENGES

- Access to more options for raising capital, sourcing collateral and enhancing liquidity
- Innovative solutions to help you address regulatory requirements
- Flexible service provider focused on helping you adapt to the changing financial markets
- Dynamic e-Commerce platform, powerful technology and infrastructure that you can leverage to help improve your operations

Markets Group - Built for Your Success

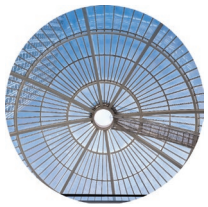


Foreign Exchange

Broad range of currency execution channels, analytics, reporting and world-class commentary to support your cross-border needs.

You gain market access and market insight through our extensive FX e-commerce capabilities, analysis of capital flow data related to our assets under custody/administration, and award-winning currency strategists[1].

Securities Finance



Securities financing tools to source liquidity, borrow securities (as needed), and lend securities to help enhance portfolio returns.

We offer an array of capabilities that can help you generate self-financing alternatives, diversify financing counterparties and secure durable term funding.

Collateral Management & Segregation

Segregation, collateral optimization and liquidity services to help mitigate counterparty risk and manage liquidity and margin requirements.

As you trade across more products and more counterparties, the amount of collateral you need to mobilize is increasing. As you rethink the way you manage your liquidity and collateral needs, we have unique solutions, scale and global operational infrastructure that can help you.

Liquidity

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Capital Markets[2]

Access to execution and underwriting services for a wide range of equity and debt instruments to help you enhance your portfolio or capital raising needs.

With BNY Mellon Capital Markets' broad range of equity and fixed income products, expertise across both the public and private markets and extensive relationships with institutional investors, we help you with today's challenges and prepare for tomorrow's opportunities.

Prime Brokerage[3]

A comprehensive suite of global prime brokerage solutions to help alternative fund managers with financing, securities lending and portfolio implementation strategies

We help fund managers gain transparency, boost efficiency, generate additional revenues, and achieve their investment objectives.

GET TO KNOW US

You have probably already encountered BNY Mellon somewhere along the investment lifecycle, either through a counterparty or a service provider.

Let us help you enhance performance, operate more efficiently and manage risk.

www.bnymellon.com/marketsgroup @bnymellon

WORK with a trusted ally. BNY Mellon continues to rank among financial firms with the highest credit ratings globally and remain Moody's highest-rated financial firm in the US at the bank level.[3]

TAP into our global insight across the financial markets and along the investment lifecycle.

DEVELOP a strong relationship with an experienced provider who can give you unique views into capital flows, market trends and best practices worldwide.

LEVERAGE the scale and commitment we offer.

TEAM up with a longstanding provider. BNY Mellon has two centuries of continuous service through periods of market disruption.

EXPLORE global solutions based on a core service offering. We continually innovate and invest in these services.

UNLOCK THE POWER OF COLLATERAL TRANSACTIONS

Explore BNY Mellon's Collateral Universe℠

GLOBAL COLLATERAL SERVICES

BNY MELLON

THE BNY MELLON SOLUTION

BNY Mellon's Collateral Universe has products and services that help you turn assets into eligible and optimized collateral and mitigate operational and related risks in collateral transactions around the world. Our capabilities support the segregation, optimization, financing and mobilization of collateral to assist you with global trading, funding and sourcing activities.

TOOLS AND EXPERTISE TO HELP YOU
The Collateral Universe combines BNY Mellon's global capabilities in collateral management, securities finance, and liquidity and derivatives services to provide an innovative, end-to-end solution to help you make the most of your collateral:

- Optimize the use of your collateral
- Enhance your operations and help manage risk (credit, liquidity, operational) across the market and product spectrum
- Finance your investment portfolios by converting assets into eligible collateral
- Leverage our derivatives services and expertise
- Access new collateral financing alternatives
- Improve transparency with consolidated daily reporting
- Focus on your core competencies and sustain, as well as expand, investment strategies

BENEFIT FROM OUR SOLVE℠ APPROACH:
Managing collateral effectively in the new business environment is no simple proposition. It requires a level of expertise that few firms may currently possess or are prepared to acquire. Our team of experts can deliver you an unparalleled suite of products and services through our SOLVE approach:

Segregation – Safekeep collateral with a third-party custodian and provide transparency around clients' counterparties exposure.

Optimization – Dynamically manage inventory, taking into account exposures and collateral eligibility requirements.

Liquidity – Provide sophisticated real-time tools to assist clients in managing their liquidity and margin requirements.

Value – Offer clients optimization and "transformation" services for their financial assets.

Efficiency – Derive efficiency and speed through centralized collateral portfolios.

SEGREGATE, OPTIMIZE AND MOBILIZE COLLATERAL
As a leading provider of collateral services, BNY Mellon offers a wide suite of services to help you manage your collateral transactions. We are also well positioned to provide the knowledge, clarity and support you need to navigate an environment of sweeping regulatory change.

3. Various papers in collateral - M. Singh, "Velocity of Pledged Collateral: Analysis and Implications", IMF Working Paper; Tabb Report, A. Tabb, "Initial Margin for OTC Derivatives: The Burden of Opportunity Costs"; Morgan Stanley & Oliver Wyman "The Future of Capital Markets Infrastructure." These authors estimate that between $1.4 and $2.5 trillion in additional collateral will be required as derivatives move from OTC to cleared.

Explore BNY Mellon's Collateral Universe℠

LIQUIDITY SERVICES

Getting Ready for Money Market Reform:

Enhancing Liquidity DIRECT℠

AUGUST 2016

BNY MELLON MARKETS

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The following illustrates the new Liquidity DIRECT trading screen updates for FNAV funds.*

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Connect Links | Feedback | Support

Dashboards | Accounts | Transactions | Resources | Communications | Reports | Admin

Trading

Trading | Rules

All Funds | Funds with Positions | Portfolio Chart

1 – 2 / 2 | Trade Calculator | For Purchases Enter Amount | 08 Sep 2016 12:41:18 AM EST

Account Name	Account Number	Value	Cash
MAIN TEST ACCOUNT	Account123	$ 0.00	$ 0.00

Trade Type	Amount / Shares	Trade Date	Fund Name	Fund Number CUSIP, ISIN, or APIR	Price	Position	Cut Off Time (EDT)	1 Day Yield	7 Day Yield	Strike Times (EDT)
BUY	Enter Amount	09/08/2016	ABC PRIME FUND (Literature, Daily Fund Info)	X9X9U5D00001 IE0001111111	Floating Last Price	0.000	03:32 PM	0.52	0.52	~~08:00 AM~~ ~~12:00 PM~~ 03:00 PM
SELL	Amount / Price / Shares		FUND (Daily Fund Info)	X9X9U5D00002 IE0002222222	Floating Last Price	0.000	03:32 PM	0.11	0.13	~~08:00 AM~~ ~~12:00 PM~~ 03:00 PM
BUY			RY FUND (Daily Fund Info)	X9X9U5D00003 IE0003333333	$ 1.1100 07:45 AM 01-Aug-2016	0.000	02:02 PM	0.51	0.51	
SELL	Enter Shares	09/08/2016	ABC GOVERNMENT FUND (Literature, Daily Fund Info)	X9X9U5D00004 IE0004444444	$ 1.00	0.000	Closed	0.46	0.4[illegible]	
SECOND TEST ACCOUNT	Account456	$ 41,104,216.72			$ 0.00					

Strike Times

1 – 2 / 2 | For Redemptions Enter Shares | Daily Fund Info Popup | Last Price Popup | 08 Sep 2016 10:41:18 AM EST

View Quick Review | 1 Trade Added | Verify Trades | Reset

- Purchases prevented if Fee in Effect
- For BUY trades in FNAV funds, the user must enter a trade amount.
- For SELL trades in FNAV funds, the user must enter a share amount.
- The Trade Calculator allows the user to determine the amount (shares) based on a user entered price and shares (amount).
- The Last Price Pop Up provides the user with the latest intraday price struck by the fund and the time the price was struck.
- The Strike Times column provides the user with the fund's intraday strike price times along with real-time indicators of which strike times have passed.
- The Daily Fund Info Pop Up provides the user with the fund information including Daily Liquidity, Weekly Liquidity, and Net Asset Flow.

Daily Fund Info

Fund Name	Fund Type
ABC INSTL PRIME FUND	Prime

NASDAQ	Daily Factor	Daily Liquidity(%)
TIC12	0.000008253	53.85
Weekly Liquidity(%)	**Asset Size (Millions)**	**Net Asset Flows (Millions)**
53.85	$ 23,097.85	($ 72.62)
WAM	**WAL**	**NAIC**
21 Days	28 Days	Yes
Moody's	**S&P**	**Fitch**
Aaa-mf	AAAm	AAAmmf

All screen shots, charts, graphs, tables and the information contained thereon are for illustrative purposes only.

Investment Research Screen

The Liquidity DIRECT end of August rollout will contain updates to the Investment Research screen to include Net Asset Flows, Daily Liquidity and Weekly Liquidity.

Dashboards | Accounts | Transactions | Resources | Communications | Reports | Admin

Money Market Fund Research

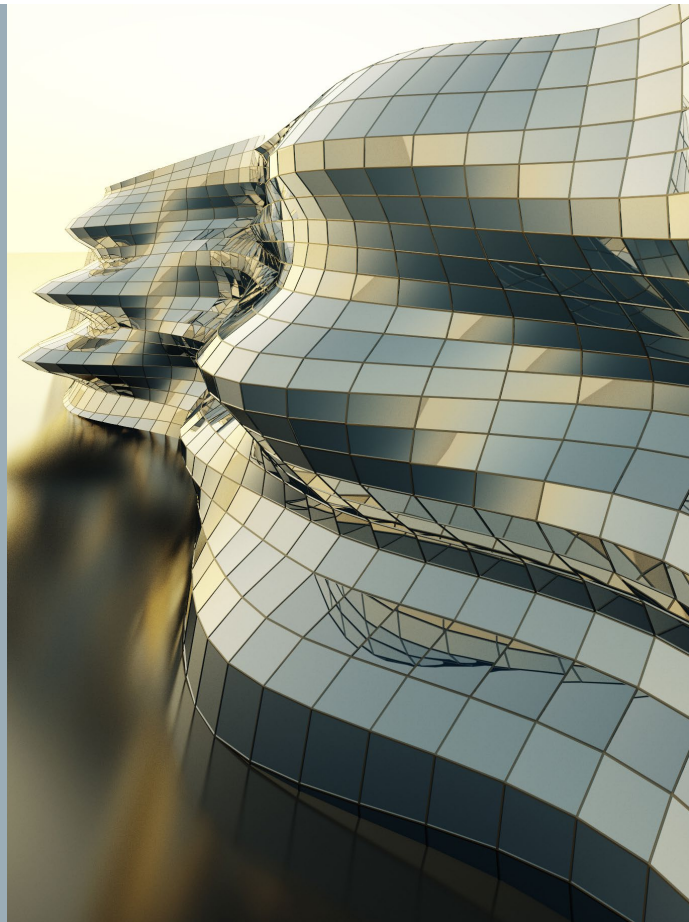
All Funds | My Funds

Filters

Page 1 | 25 Rows | 1 – 25 / 29 | 08 Apr 2016 02:20:17 PM EST

Fund Name	CUSIP/ISIN/APIR	NASDAQ	1 Day Yield	1 Day Yield Change	7 Day Yield	30 Day Yield	Asset Size (Millions)	Net Asset Flows(Millions)	WAM (Days)	WAL (Days)	Daily Liquidity (%)	Weekly Liquidity (%)
ABC Prime Money Market Fund Literature	CUSIP1234	TIC12	0.33	0.05	0.32	0.32	$23,743.00	$11.0	25	35	21.23	31.02
ABC Muncipal Tax-Free Fund Literature	CUSIP5678	TIC33	0.09	0.06	0.07	0.07	$190,842.00	$22.34	25	35	23.42	33.82
DEF Prime Money Market Fund Literature	CUSIP9999	TIC22	0.42	0.00	0.38	0.39	$177,444.00	($46.00)	32	38	18.43	42.18
DEF Muncipal Tax-Free Fund Literature	CUSIP7777	TIC41	0.28	(0.01)	0.29	0.33	$101,190.00	$24.83	29	36	24.83	48.29
QRS Prime Money Market Fund Literature	CUSIP4343	TIC55	0.22	0.00	0.24	0.26	$123,431.00	($24.00)	25	32	11.73	30.92
QRS Municpal Tax-Free Fund Literature	CUSIP2222	TIC39	0.30	(0.01)	0.34	0.36	$111,287.00	$13.81	32	37	19.17	38.94
XYZ Prime Money Market Fund Literature	CUSIP1919	TIC88	0.29	0.03	0.31	0.29	$104,352.00	$9.12	28	34	22.75	39.14

BNY Mellon is here to offer our experts' support and guidance as the new realities of the liquidity landscape come into clearer focus.



SECURITIES FINANCE

The Basics of Securities Lending

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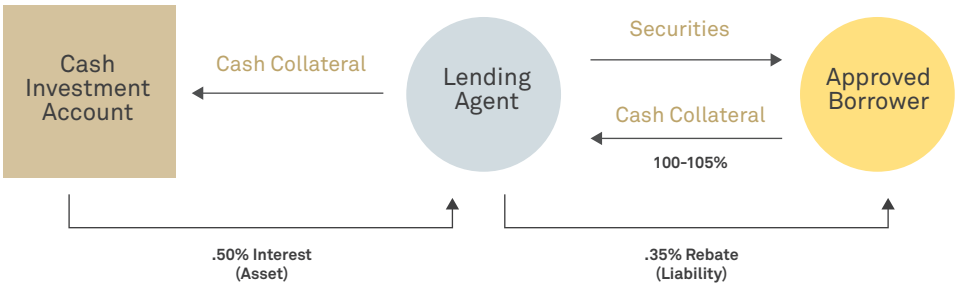
Your Idle Assets May Have Incremental Revenue Potential

An institutional investor may hold assets that it does not intend to sell in the near-term. The lending of these securities can serve as a profitable opportunity to enhance the return potential of these otherwise idle assets as the lending of securities is an important component of the capital markets and serves to provide liquidity and flexibility to global participants.

A securities lending transaction is a temporary loan of lendable securities against acceptable collateral between a lender and an approved borrower. This transaction is commonly facilitated by a lending agent, such as BNY Mellon, acting on behalf of the lender who is the beneficial owner of the securities. In a typical transaction, securities are lent short-term and the loan is collateralized by either cash collateral or other securities (referred to as "non-cash" collateral).

When the collateral consists of cash, the borrower is typically paid a market-based rate of return on the posted collateral (i.e., "a rebate rate") and the cash collateral is typically invested by the lending agent on behalf of the lender in short-term money market securities. The "revenue" generated by the loan takes the form of a basis point spread that equals the difference between the rebate paid to the borrower and the return from the investment of the cash collateral by the lending agent. The revenue is shared between the lender and the lending agent based upon a pre-negotiated split. Alternatively, when collateral consists of securities, a fee is negotiated for the loan that is then shared between the parties.

Loan Secured by Cash Collateral



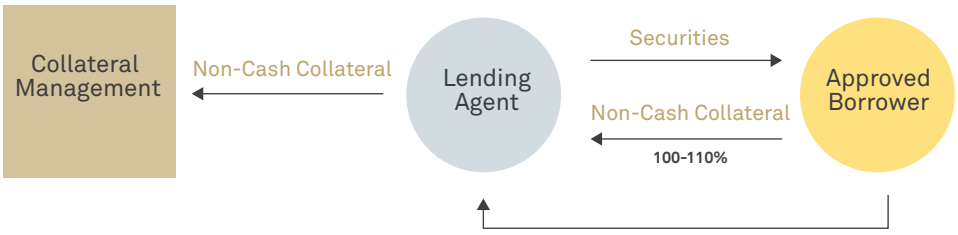
.50% - .35% = .15% or 15 bps Gross Spread[1]

1. Gross spread (total investment earnings less total borrower rebates) is split between the lender and the lending agent on a pre-determined percentage basis. The representation above is for example purposes only and is not an offer or guarantee of future earnings or returns should the beneficial owner engage BNY Mellon as lending agent.

Why Borrow?

The borrower may need to cover near-term objectives such as avoiding settlement failures, supporting hedging strategies, capitalizing on merger and acquisition activity as well as facilitating other corporate event opportunities.

Loan Secured by Non-Cash Collateral



15 bps Gross Fee[2]

2. Beneficial owner and lending agent split the gross fee on a pre-determined percentage basis. The representation above is for example purposes only and is not an offer or guarantee of future earnings or returns should the beneficial owner engage BNY Mellon as lending agent.

Typical Securities Lending Participants

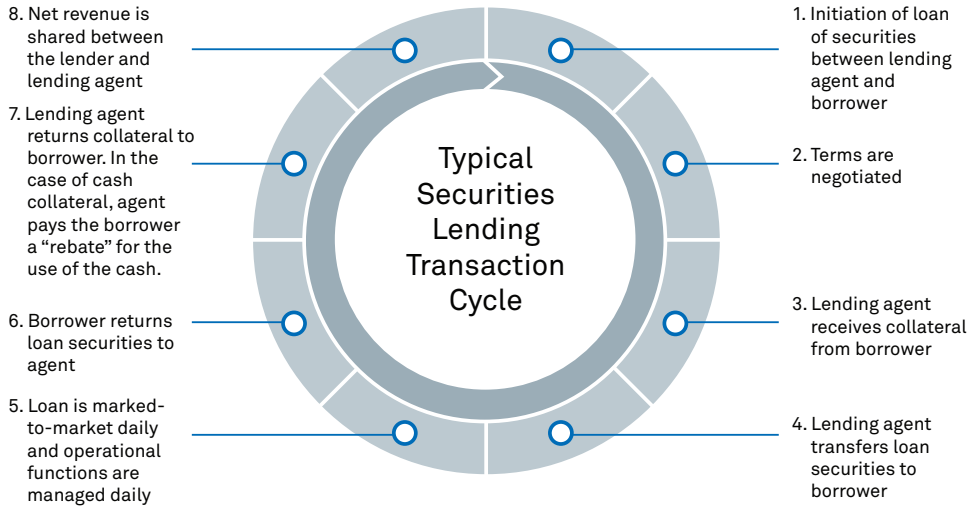
- Pension Plans
- Public Funds
- Corporations
- Global Investment Managers
- Insurance Companies
- Endowments and Foundations
- Sovereign Wealth Funds

Providing effective routes to market while taking advantage of evolving borrower demand

Why Lend?

The lender typically engages in securities lending to earn incremental income on idle portfolio assets while retaining the ability to sell securities. In a cash collateral transaction, the lender and lending agent split the net revenue generated through investing the cash collateral, commonly referred to as the spread. The split is based on a pre-negotiated percentage agreed to by the lending agent and the lender. The lender typically uses securities lending income to offset custody fees, apply towards other administrative expenses or enhance their portfolio return.

Stages of a Securities Lending Transaction



Basics of the Transaction

In a securities lending transaction, the lender typically, through its lending agent, delivers a security to an approved borrower for temporary use in exchange for collateral, which is in the form of cash or other securities that have been pre-approved by the lender. Collateral is secured in advance of, or simultaneously with, the lending of the security. In almost all instances, the loan remains open, or is renewed daily. At the close of the transaction, the borrower returns the security to the lending agent who then returns it to the lender's account and the collateral is returned to the borrower.

LENDER (BENEFICIAL OWNER)
The lender is usually an institutional investor that holds a portfolio of actively managed assets. When securities are on loan, the lender retains many of the economic attributes of ownership, including: rights to receive amounts equivalent to dividends and interest payments, and market exposure to unrealized capital gains or losses, with the exception being proxy voting rights which are forfeited. The lender can generally sell the loaned securities as if they were not on loan since securities can be recalled at any time (subject to standard settlement cycles).

BORROWER
The borrower is most often either a bank or broker-dealer in need of securities to cover near-term objectives that include: avoiding settlement failures, supporting hedging strategies, capitalizing on merger and acquisition activity, as well as facilitating a variety of other corporate event opportunities. Lenders retain the right to restrict or limit their loans to any borrower and similarly borrowers may restrict lenders or terminate outstanding loans.

LENDING AGENT
In a traditional securities lending arrangement, the lending agent negotiates the parameters of the loan on behalf of the lender (i.e. cash or non-cash collateral, the term of the loan and the rebate or loan fee) and invests the cash collateral according to the lender's pre-established investment guidelines. Other essential duties of the lending agent commonly include: settling trades, performing a review of the creditworthiness of borrowers and security issuers, maintaining daily collateral adequacy, monitoring risk and compliance restrictions, overseeing corporate action entitlements, recalling or reallocating the loan if the lender sells the security, collecting amounts equivalent to interest and dividend payments, crediting client revenue, and supplying detailed reporting. The lending agent maintains the discretion of terminating outstanding loans or not entering into certain loans on behalf of the lender.

COLLATERALIZATION
Against the loan of a security, the borrower provides collateral to the lending agent on behalf of the lender to secure the borrower's obligation to return the security as agreed. Generally, the initial collateral requirement is 102% of the market value for same currency loans and 105% for cross-currency loans. The excess collateral is intended to provide a safeguard against market value fluctuations in the event of a borrower default, which could necessitate the liquidation of collateral and replacement of the loaned security. Monitoring the collateral adequacy, known as mark-to-market, occurs daily. For example, should the value of the collateral fall below a specified percentage of the market value of the loaned security, additional collateral is required from the borrower to restore the value of the collateral to its appropriate level.

REBATE
For a loan collateralized with cash, the lending agent may pay interest, known as a rebate, to the borrower for the use of the cash collateral during the duration of the loan. The amount of the rebate coincides with the intrinsic, or demand, value of the loaned security – keeping in mind that some securities are more highly sought than others (known as "specials"). Generally, the higher the demand for the security, the lower the rebate paid to the borrower.

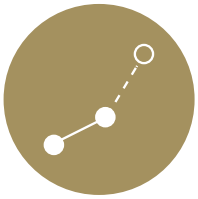
REVENUE
Cash collateral is invested by the lending agent in accordance with the lender's pre-established cash collateral investment guidelines. Revenue is generated by earning a higher yield on the investment of the cash collateral than the rebate owed to the borrower (or from the fees paid on a non-cash loan). The lender maintains the risk of loss associated with the investment of the cash collateral (or the holding of securities in a non-cash collateral loan), in which case the lender would be liable for the deficiency in the collateral and any rebate owed to the borrower.

SPREAD
The earnings generated from the investment of cash collateral less the rebate owed to the borrower is referred to as the spread and constitutes the "revenue" from a cash-collateralized transaction. In a typical arrangement, a percentage of the revenue is split between the lender and the lending agent based upon a pre-established sharing arrangement. In a non-cash collateral transaction (where other securities are accepted as collateral in lieu of cash), the lending agent negotiates a premium (or fee) to be paid by the borrower to the lending agent. That premium paid by the borrower is split between the lender and the lending agent based upon a pre-established sharing arrangement.

LOAN TERMINATION AND RESTRICTIONS
Lenders may terminate loans at any time and/or may choose not to lend to certain borrowers. Additionally, the lending agent, in its discretion, may terminate loans at any time or may decline to make new loans on behalf of a certain lender. For example, generally borrowers and/or lenders may do so if deteriorating credit conditions are present. Restrictions on termination may apply to the parties with respect to "term" loans.

Lending Options

A number of lending options are available supporting requirements and goals of participant(s)



Intrinsic Only

Lend only those securities that are "hot" or in demand, possessing high intrinsic value.

Customized

Securities are loaned and priced according to the level of borrower demand. Loans are not specific to any one borrower and are allocated based upon a "queuing" system that provides equal opportunity for all clients. Clients approve borrowers and collateral acceptance.

Specials Only

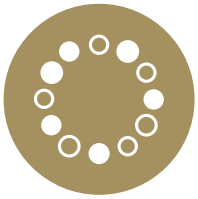
Individual securities with extremely high demand possess the potential for high revenue. Requires client approval for each lending situation.

Client Managed Cash

Typically, the lending agent provides a separately managed account based on the client's guidelines. Some clients may choose to manage their own cash collateral or to have another investment manager manage the cash collateral on their behalf.

Exclusives

A single borrower gains "exclusive access" to the client's portfolio over a period of time. The lender charges a fee to the borrower for the privilege of this exclusive access. Lending fees are usually stable and consistent during the term of the exclusive arrangement.



Collateral Options

In exchange for the borrowers' use of their eligible securities, clients can choose to accept cash, securities or a combination of both as collateral.

SECTION 1 Introduction

JAMES MALGIERI
Executive Vice President
BNY Mellon Markets

"Collateral Solutions for a Changing Market: Collateral Management and Collateral Segregation" is the third in our series of papers on collateral management. In the first paper, "Collateral Management: A Review of Market Issues" BNY Mellon and The Field Effect examine the development of collateral management and identify key issues in the current collateral landscape including the anticipated difficulties in accessing supply. The second BNY Mellon/Field Effect paper "Collateral Management: Navigating the Regulatory Maze," shines the spotlight on specific industry regulations and directives by distilling their aims and objectives and considers the current and future collateral impacts and consequences. In this third paper, we explore a range of innovative solutions available from BNY Mellon that can help financial institutions and institutional investors meet today's collateral challenges.

Collateral plays a central role in today's financial marketplace. Regulation and changing market dynamics have moved collateral into the spotlight, creating new challenges for market participants as they pursue their trading and investment strategies. Indeed for collateral management, the move continues from a classic back office processing function to more of an all-encompassing back-middle-front office set of services, aims and objectives. Financial institutions and broker-dealers face increasing capital costs which have affected their trading activities and made them more selective in how they use their capital as collateral. This behaviour change is having a ripple effect throughout the market and is transforming how institutional investors (e.g., pensions, insurance companies, asset managers and corporate treasurers) view and generate value and apply collateral. Today's market provides opportunities for institutional investors to become more active in collateral transformation and market supply, a role traditionally seen as a function of the banks. In addition, there is a growing list of transactions requiring collateralisation which is transforming the institutional investor business model. With these trends, institutional investors will need to spend more time, energy and talent on managing collateral and understanding how to use it efficiently and effectively.

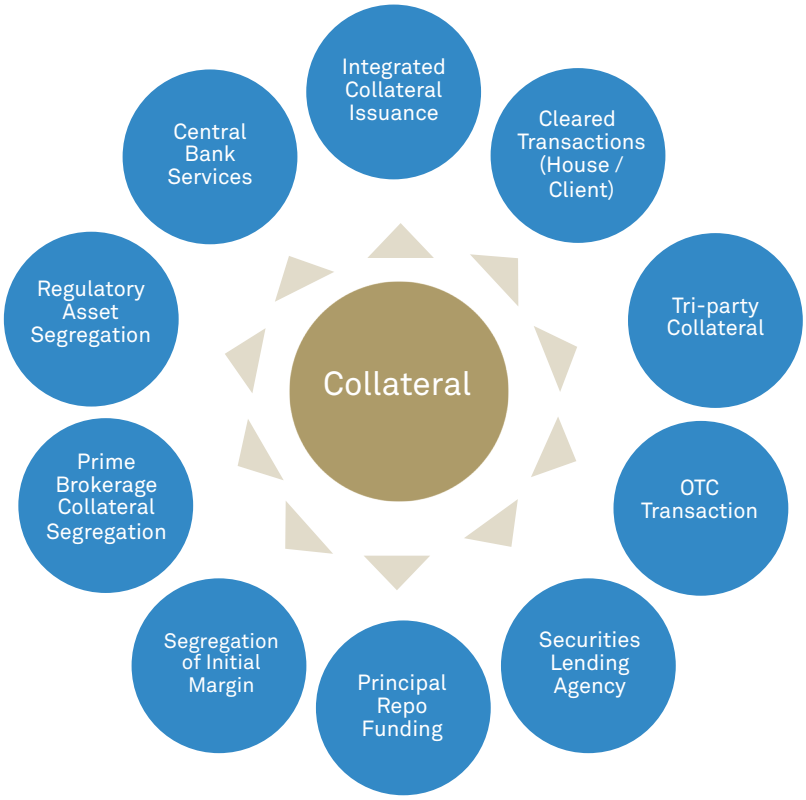
Many financial institutions and institutional investors are also facing complex operational and regulatory requirements across multiple jurisdictions, and the cost and speed of regulatory change is proving a challenge to all market players. Many are discussing the feasibility of reusing or leveraging existing business and operational flows rather than trying to design, build or buy new infrastructure and processes for new regulatory requirements. We believe that many of these firms are looking for internal synergies and not, perhaps, something new and or complex, with a preference in some cases for standardisation when possible. We are finding that the larger financial institutions, broker-dealers and asset

managers are looking to leverage the existing set-up of their repo and securities finance businesses to cover exposure generated elsewhere, such as with OTC derivatives, as they already have a robust technology and operational infrastructure in place to support large transaction volumes. The majority of other institutional investors, however, require more support to manage collateral financing, valuations, monitoring and reporting. These post-trade activities are more efficiently met by partnering with service providers who have effective solutions, established track records and a global reach to support asset owners where they do business.

I think it is fair to say that we are at somewhat of a tipping point for the collateral management business and those firms that operate in this market. The raft of regulatory driven changes of recent and coming years has forced many to rethink what they have to do to succeed and perhaps create opportunities from what initially appear as challenges. The reality is that no one firm can 'do it all alone,' and in many cases it is acceptable to partner with others or outsource functions for the best results. I believe that the rise of market infrastructure and emergence of new technology and solution providers reflect this neatly, and while we are going through a transition period, the future is positive and will certainly be different from today.

In the following pages, we explore the range of solutions that BNY Mellon has created working side by side with our broker-dealer, financial institution and institutional investor clients. We continue to innovate as these market participants seek solutions to help them operate effectively in today's changing market.

Sources and Uses of Collateral



SECTION 2 Challenges and Solutions

STAFFAN AHLNER
Head of Collateral Management Product
BNY Mellon Markets

DOMINICK FALCO
Head of Collateral Segregation Product
BNY Mellon Markets

As new regulations come into force, the impact on the demand for and supply of collateral is causing the value of collateral to increase, resulting in a significant shift in the structure of the funding market. In this section we list for you a range of ideas and options that may help you to manage your collateral process with heightened efficiency.

The Challenge:
Finding the Right Collateral for You

HELPING TRANSFORM ASSETS INTO THE RIGHT COLLATERAL

Collateral demand is on the rise due to regulatory requirements, including liquidity ratio calculations and the upcoming margin rules for over-the-counter (OTC) derivatives trades. In particular, high quality liquid assets (HQLA) (e.g., cash and US Treasuries) are in shorter supply as regulations require that banks and broker-dealers keep HQLA on their balance sheets rather than using them as collateral thereby suppressing HQLA availability and velocity. European and US quantitative easing (QE) programmes have further affected HQLA availability by converting HQLA in the market to excess balance sheet deposit liabilities with the banks.

Furthermore, re-use constraints on posted margin "lock up" the collateral with third-party custodians which can also restrict collateral mobility.

With the growing demand for quality collateral and the increasing pace of regulatory change, market participants are seeking new collateral sources and ways to help them manage the transformation process. BNY Mellon helps clients manage regulatory requirements and capital needs and optimise their portfolio assets by continually expanding the supply of assets accepted in its collateral management programme. Please see the following table for examples of how BNY Mellon expands the supply of collateral.

BNY Mellon Solution:
Expanding the Supply of Collateral

Money Market Funds[1]	Collateral providers on BNY Mellon's tri-party platform can invest cash into a broad array of money market mutual funds accessed via BNY Mellon's LiquidityDIRECT℠ investment portal with units from these funds then posted as collateral. BNY Mellon provides the operational efficiency that can help with the: – initial investment into the money market mutual fund; – movement of fund units into collateral accounts; and – posting of fund units as collateral. The process takes place in a straight-through processing environment via an integrated technology platform.
Exchange Traded Funds (ETFs)	When ETFs are used as collateral in tri-party, we simplify the process by offering Markit ETF collateral lists. With these lists, clients can quickly add groups of ETFs to their collateral schedules versus having to choose each ETF individually. For more flexibility, collateral receivers can also exclude specific ETFs from each of the Markit lists. Markit publishes its ETF collateral lists daily and makes additions to the lists monthly according to their criteria.
Chinese Renminbi Assets	Offshore Chinese Renminbi cash[2] can be used in repo transactions and offshore Chinese Renminbi assets[3] can also be used as collateral in BNY Mellon's collateral management programme. The collateral assets in scope include offshore Chinese Renminbi denominated bonds (Dim Sum Bonds) issued, listed and settled in Hong Kong and offshore Chinese Renminbi denominated certificates of deposit settled in Hong Kong. All offshore Chinese Renminbi securities accepted by BNY Mellon settle at custody accounts held with the Central Moneymarkets Unit (CMU) of the Hong Kong Monetary Authority.
Covered Bonds	Another collateral option is covered bonds, specifically Danish mortgage bonds. A limitation in using Danish mortgage bonds as collateral has been the quarterly drawing procedures whereby a percentage of a bond's issue would be called weeks prior to record date before being redeemed early. The new partial redemption model was introduced in 2015 to streamline the process, and we refined our collateral management procedures to allow for only the redeemed portion of a bond to be excluded from the allocation process on record date. The unredeemed portion of a bond issue can be allocated over record date. Thus the use of Danish mortgage bonds can be maximised for the entire year.

"We see great potential in ETFs as new collateral; they are liquid, fungible and easy to trade. By offering Markit ETF lists as part of our overall collateral management solution, clients can seamlessly add these assets to their eligibility schedules." — Joe Keenan

"Our clients need to view their collateral holistically across their organisations, but there are costs associated with this holistic view – for example the costs associated with buying new technology and then deploying and maintaining it. To help manage these costs, clients can consolidate assets on BNY Mellon's collateral management platform." — John Templeton

The Challenge:
Optimising Collateral and Finding Efficiencies

With regulation and market changes placing a premium on collateral, market participants need to be more efficient when financing transactions. Allocating the least expensive collateral to each trade, having a full view of which collateral is being used and which is available and applying efficient collateral management techniques to a variety of transactions all help market participants use their eligible assets efficiently and manage financing costs.

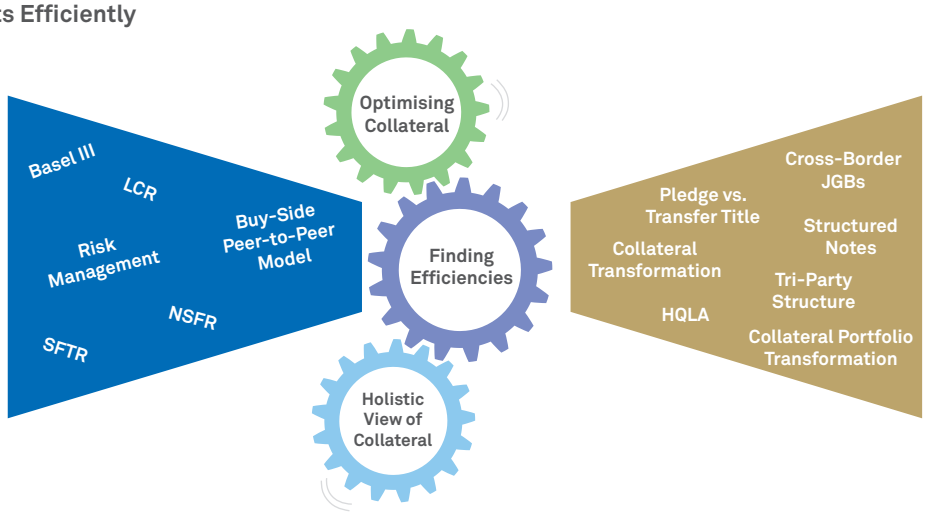
Due to regulation, broker-dealers and financial institutions continue to deleverage and use longer-term financing structures rather than short-term wholesale funding. Heightened balance sheet controls make it ever more important for them to deploy collateral efficiently across their global asset pools. In response, broker-dealers and financial institutions are finding new trading techniques which are more balance sheet friendly and more efficient in terms of collateral usage. Swaps, secured notes and alternative collateral forms (such as money market funds described above) may help with balance sheet management and are rising in popularity. In addition, some clients are exploring the use of collateral pledge structures as opposed to transfer of title in order to achieve better capital treatment for transactions.

We are beginning to see institutional investors exploring how to use the tri-party model in addition to the long established bilateral processing model, providing them with a chance to leverage proven tools and technology that broker-dealers have been using over the past two decades.

With broker-dealers being more selective in terms of financing, institutional investors may also find further opportunities in a peer-to-peer relationship, in which these buy-side firms are both the collateral provider and receiver. Institutional investors are also emphasising risk management, asset optimisation and viewing collateral management holistically across the enterprise, making sure that the right assets are in the right place at the right time.

The move to the tri-party model continues as a means to aggregate suitable collateral, optimise its selection and ultimate allocation. While the use of a tri-party collateral management model was established in support of repo and securities lending, we see a future where collateral in a tri-party model is used to cover a range of exposures (cross-product tri-party). BNY Mellon is working alongside its clients to help adopt new optimisation techniques into day-to-day operations. Please see the following table for examples of BNY Mellon's strategies for optimising collateral and finding efficiencies.

Using Assets Efficiently



The Future of Wholesale Funding Markets

A US Perspective

BRIAN RUANE
CEO of Broker-Dealer Services

"Collateral is the new cash" – the ongoing shift away from the traditional uncollateralized world, particularly in the derivatives space, means that the demand for collateral and high quality liquid assets, and its mobility, is outpacing the demand for all other asset types.

The creation, adoption, and operationalization of regulations have dominated financial literature since the Financial Crisis. The narrative around wholesale funding, repo and collateral management may move away from the pure macro effects of regulatory reform to include firm specific strategies for implementation and the re-emergence of market driven change. We believe that future changes in collateral management are more likely to be driven by internal strategy and capital allocations than by overt regulatory pressure.

The complex array of market priorities highlights the importance of having a comprehensive roadmap to help guide a firm's collateral strategy. An increased focus on an enterprise-wide view of collateral management and the introduction of cleared repo products are expected to be at the forefront of change, helping markets and clients alleviate pressures from risk, regulation, and operational burdens. The ability to mobilize collateral across legal entities and countries is becoming as important today as payment systems have been in the past.

We believe that our position as both the US's largest tri-party agent and holder of collateral[4] gives us the unique perspective to understand the evolving market and to provide global collateral management solutions. To highlight this, we published a Thought Leadership paper titled "The Future of Wholesale Funding" in which we concluded that:

- US Tri-Party Reform materially improved the safety and soundness of the financial system.
- The Federal Reserve Reverse Repo programs are important to the market and their material involvement is expected to remain a near certainty for the foreseeable future.
- Expanding the availability of cleared repo or unique central counterparty clearing house (CCP) structure is desired by market participants and is the clearest path to giving global systemically important banks (G-SIBs) balance sheet relief.

Given the critical importance of wholesale funding in Europe and Asia-Pacific, the impact of US reforms will inevitably ripple across other financial markets.

Download the full paper at www.bnymellon.com/wholesalefundingmarkets.

"Our collateral management solution for segregation is a great example of where we can add value. Our broker-dealer clients are already set up in our collateral management programme and have the infrastructure in place." — Jeannine Lehman

"Broker-dealers are interested in diversifying their cash provider base and adding tenor to their funding portfolios. They can leverage our global market presence to find a more diverse base of cash providers." — Ken McDonnell

Perspectives

Issue 1 2015

BNY MELLON MARKETS GROUP

TABLE OF CONTENTS

Welcome to the inaugural edition of Perspectives from BNY Mellon Markets Group.

In this issue, Perspectives focuses on securities finance. With new regulations, balance sheet pressures and increasing collateral requirements, securities finance is changing significantly and becoming increasingly important. BNY Mellon Markets Group has a front row seat to these changes – the new drivers, new behaviors and new players. Let us share what we're seeing in the securities finance marketplace.

Kurt Woetzel, President, BNY Mellon Markets Group

Who We Are

BNY Mellon Markets Group is focused on providing a suite of foreign exchange, securities finance, collateral management and segregation, capital markets[1] and prime brokerage services[2]. We bring together our experts, technology and operational strengths to offer effective solutions that help you manage your risk, capital and liquidity needs.

1 - Services are provided by BNY Mellon Capital Markets LLC, a FINRA registered broker-dealer.
2 - Prime brokerage services are provided by Pershing LLC, a FINRA registered broker-dealer. Pershing Prime Services is a service of Pershing LLC, member FINRA, NYSE, SIPC, a wholly owned subsidiary of The Bank of New York Mellon Corporation (BNY Mellon). For professional use only. Not for distribution to the public.

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GCS Client Excellence Awards Nomination Summary

2013

Global EMEA/USA 0
Total Nominees 58

Individuals 10
Teams 11

EMEA
London 2
Brussels 8
Frankfurt 0

USA
Boston 1
New York 13
Pittsburgh 12
Orlando 1
Oriskany 1
New Jersey 1

APAC
Japan 7
Singapore 7
Hong Kong 3
Chennai 2

2014

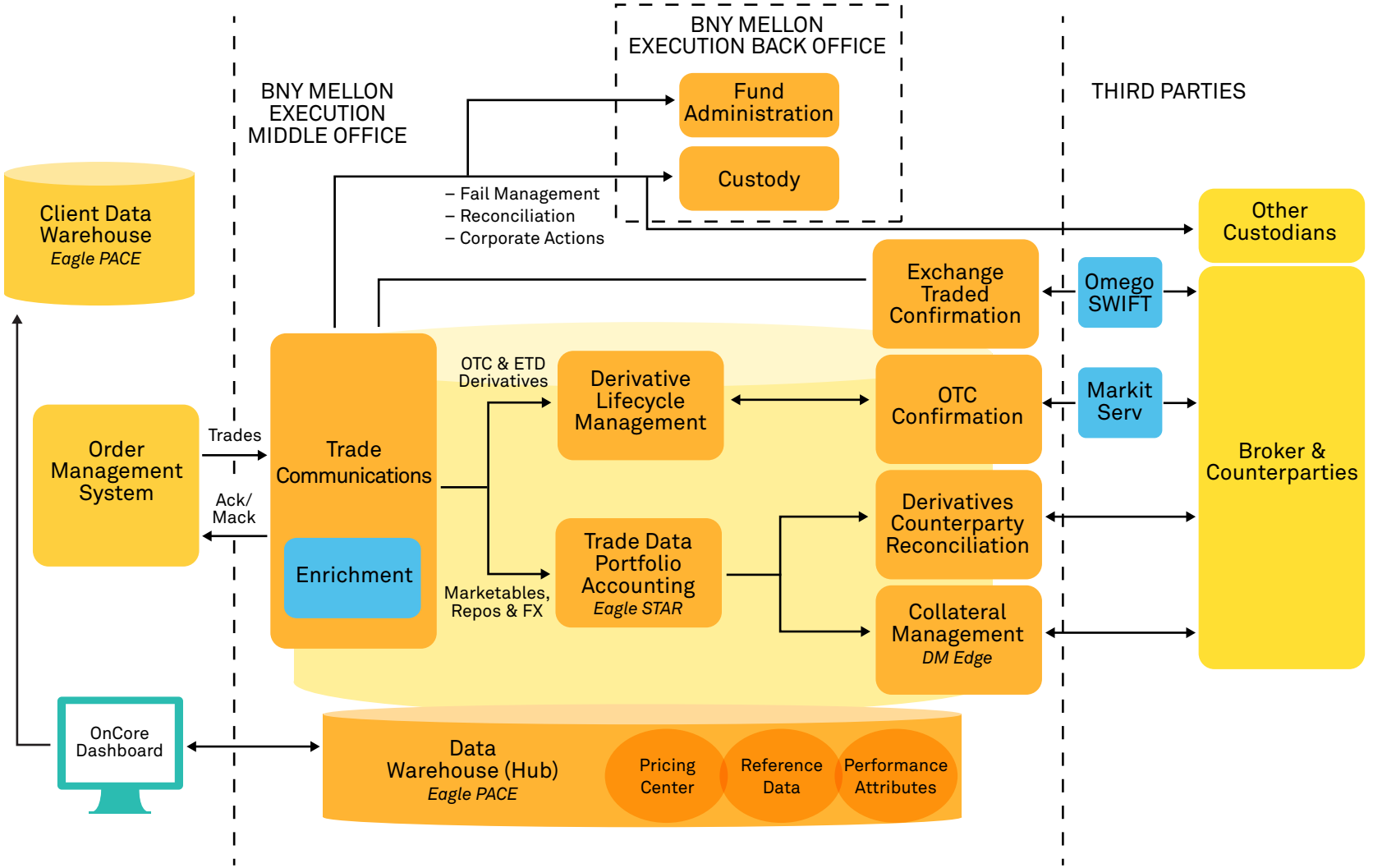
Global EMEA/USA 6
Total Nominees 91

Individuals 27
Teams 15

EMEA
London 21
Brussels 14
Frankfurt 0

USA
Boston 0
New York 18
Pittsburgh 8
Orlando 3

APAC
Tokyo 8
Singapore 8
Hong Kong 3
Chennai 1
Shanghai 1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– Reconciliation
– Corporate Actions
Client Data Warehouse
Eagle PACE
Other Custodians
Exchange Traded Confirmation
Omego SWIFT
OTC & ETD Derivatives
Derivative Lifecycle Management
OTC Confirmation
Markit Serv
Order Management System
Trades
Ack/ Mack
Trade Communications
Enrichment
Broker & Counterparties
Derivatives Counterparty Reconciliation
Trade Data Portfolio Accounting
Eagle STAR
Marketables, Repos & FX
Collateral Management
DM Edge
OnCore Dashboard
Data Warehouse (Hub)
Eagle PACE
Pricing Center
Reference Data
Performance Attributes