Journey to the centre of the earth

SLT opens the floor to experts from Lombard Risk and 4sight Financial Software, who discuss how to realistically centralise collateral processes across product silos

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The Lehman Brothers default and the drying up of market liquidity were key drivers of centralisation and the increased focus on and importance of collateral. Now, new regulations, heightened risk sensitivity and fast-changing market dynamics are combining to make collateral management more critical than ever.

While centralising collateral processes across product silos is not a new concept, attempting this kind of integration presents organisational and technical challenges that present a stumbling block for many. Martin Wingate of Lombard Risk and Martin Seagroatt of 4sight Financial Software explain their respective companies' attitudes to centralisation, including operational efficiencies of such a process, as well as factors that firms must be cautious of before attempting the process.

What is the best way to centralise collateral processes across product silos with technology?

Martin Seagroatt: As with any major project, firms looking to centralise collateral management need to have strong business objectives from the outset. It is important to gain a clear idea of the benefits and cost savings desired from the target business model before consolidating products and business lines.

Most projects of this type involve replacing multiple systems that are supplied by various vendors with a single unified technology solution across products. Generally, firms are using one system for derivatives collateral and another for securities lending/repo. It is therefore important to ensure that the technology vendor that is selected has experience with these types of migrations and consolidation of data and feeds, to ensure a smooth transition between systems.

Changing to one system for everything allows users to gain a single consolidated view of inventory across products, geographical locations, currencies, and more. Collateral management systems also help to improve communication and sharing of data between front- and middle/back-office users. Out of necessity, front-office traders now need to have a much greater awareness of collateral costs and optimum allocations at the point of trade. Collateral management systems with a strong trading and inventory management function are therefore essential for this.

Firms consolidating silos also need to promote a change in mindset among staff who were previously used to working on separate desks with little co-operation between desks. This needs to be replaced with a far more collaborative approach as decisions are made on a firm-wide basis on the optimum deployment of collateral.

This then allows firms to optimise the usage of bilateral, triparty and central counterparty (CCP) collateral by re-allocating based on acceptability rules, collateral costs, concentration limits and settlement costs with a view to lowering collateral costs and freeing up high-grade assets.

Martin Wingate: A single technology platform can be adopted in order to:

- Support a legal agreement database that can support all forms of master legal agreements
- Retrieve trade, market data and valuation feeds from any upstream source and be able to consolidate and calculate margin requirements according to legal agreement parameters
- Calculate, capture and process all collateral events across products on a single platform to allow consolidated firm-wide view and management of credit exposure
- Capture consolidated collateral inventory
- Provide cross-product collateral reporting to clients/end-users/internal consumers
- Provide the potential to cross-margin (offset) risk across products (when legal provisions to do so are available).

It is not necessary to dispense with product-specific technology silos 'front-to-back'. There are still benefits to trade capture and execution

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technologies that are supported within product silos. But post-trade capture/valuation, there are broad synergies in the processes of collateral management that can be leveraged across all financial products, and in all global markets, although the margin calculation parameters may vary.

For these reasons, to realistically and successfully centralise collateral processes across product silos requires a system that can support flexible and configurable functionality, which can be defined by product or master agreement, but consolidated (normalised) across products.

What do you feel are some of the specific technical challenges to this centralisation?

Wingate: There are three points to consider given the complexity of existing product-siloed technical infrastructure—often including a combination of internal and external technology platforms, identifying the optimal data entry and exit points for each system, and achieving flexibility in treatment of product specific-requirements, while still being able to calculate and present a 'cross-product' view of risk, for example:
- Agreement parameters—bilateral thresholds for International Swaps and Derivatives Association (ISDA) margining versus unilateral credit limits for repo
- Supporting multiple and flexible pricing rules per product—and the ability to configure rules for accurate application and control of those prices
- Resolving inconsistencies of margin timings—real-time versus end-of-day markets and products.

Seagroatt: One of the main challenges is that there is more of everything. These were previously siloed processes involving multiple systems, so in the past they would consist of one solution for the derivatives desk and one for the stock loan/repo desks. Now, collateral management solutions must support all of these business lines in an integrated way. This means more data to migrate, more real time data feeds, and more legal agreements to map. There are also higher trading volumes going through the system and more diverse settlement requirements. This in turn leads to more complex business rules and these must have some degree of flexibility.

There are also obviously more departments involved (for example, traders, collateral managers, risk personnel, operations, regulatory reporting, finance, and more). This results in a broader spectrum of stakeholders and requirements. It also requires a larger amount of data that needs to be extracted from the system for day-to-day activities and reporting needs.

Non-standardisation of legal agreements for derivatives and securities lending/repo is also holding back some of the potential netting benefits across products. This is an area where the

technology is ready but the legal framework has not yet caught up.

Firms also want more sophisticated schedules for collateral eligibility, concentration and haircut rules and ever more complex optimisation algorithms. The ability to process collateral upgrade trades is also something that we are being asked about.

In addition, most implementations will now require connectivity with some of the many CCPs that are emerging and the mapping of their margining requirements.

Typically, projects involve the development of a tailored solution involving a high level of customisation. Vendors must be flexible in accommodating client needs rather than simply pitching a generic product suite. Vendors must also have the necessary business knowledge to understand the specific nuances of securities lending, repo and derivatives collateral management.

What are the operational differences between repo agreements and securities lending?

Wingate: Most of these are either historical and created by precedence or technological capabilities of the parties, or driven by the underlying differences between the master agreements governing margin practices.

Securities lending tends towards a real-time model, while repo is largely a close-of-business model.

A lender tends to impose collateral terms (timings, eligibilities, prices, concentration limits, and so on) on the borrower under securities lending agreements. In repo, terms are often agreed between the parties.

Typically, under a GMSLA (securities lending) agreement with a large portfolio, multiple margin agreements may be made within a single business day, depending on collateral type and real-time loan and collateral settlements. Under

a GMRA (repo), margin is generally agreed on an end-of-day basis.

There remain wide variations in market practice of which trades should be included within a margin call according to trade or collateral settlement status, or prepay status. These variations are generally resolved and agreed on a bilateral basis.

Seagroatt: From a technology point of view, there are a number of differences between the two trade types.

Securities lending requires daily marking (equity price) for both fee calculation and loan valuation for collateral management purposes. Repo typically only requires daily marking for margin (exposure management) purposes, with interest being calculated on the start cash. To reduce this operational burden systems need to offer automated mark to market, along with STP for cash/margin payments.

Collateral management can be more straightforward for repo, as securities loans are often collateralised from a pool of client securities. This pooled approach can make collateral management for securities lending more complex than repo. Pooling also increases reporting requirements, along with complexities such as recalls and substitutions. Furthermore, repo margin calls can be achieved through repricing individual trades, which is not possible with traditional fee loans.

Firms want more sophisticated schedules for collateral eligibility, concentration and haircut rules and ever more complex optimisation algorithms

Martin Seagroatt
Head of global marketing
4sight Financial Software

From a collateral netting point of view, cross product margining is possible between repo and securities loan transactions in the 4sight system. However, it is not currently prevalent in the marketplace as many firms are still in the process of merging desks and different legal agreements are involved (GMSLA/GMRA). Therefore, netting is largely taking place by legal agreement at present. One of the intricacies of margining across securities lending and repo is that haircuts are in opposite directions for the different transactions and systems need to address this to gain accurate exposure figures across trade types.

Trade lifecycle management is also often more time consuming for securities lending. Stock loans typically require more re-rating, as although you can have variable rated repo and market indexed repo, there is also a lot of fixed rate repo (and buy/sell-back). Stock lending can also result in many more (partial) returns than repo. However, repo can involve reprice, substitution and rollover, which are quite tricky to manage. Systems that can perform all of these activities in bulk rather than for individual trades can greatly reduce the level of manual effort required.

Another key difference is that securities lending involves more equities, while repo is more fixed income (though there are obvious overlaps). With securities lending, you have the intricacies of corporate actions processing. This can be very time-consuming and technology solutions require functionality to ease the headaches that are involved in this.

Other manually intensive tasks around securities lending are billing and settlements. Securities lending requires monthly billing; repo adds its interest into the end-leg (no separate billing required). For settlements, securities lending systems have to track actual settlements for fee calculation and the like. Repo systems assume a perfect settlement model (ie, based on contractual rather than actual settlement dates). To support the complexity of settlement processing, systems must offer settlement tracking and workflow that allows users to track the status of settlements and potential failures.

Finally, approximately a third of the European repo market is now electronic. I'm not sure that you can say the same about securities lending, although this will (perhaps) change as time goes on. We have therefore added connectivity with electronic markets and are planning further integration as the business moves toward higher volumes of electronic trading.

How is data gathered to get a consolidated view of all collateral inventory?

Seagroatt: Inventory feeds from a multitude of sources are loaded into the system and organised into a hierarchical company and book structure. This allows users to view exposures at any level, for example, at custodian, sub custodian, account level, or even the dividend entitlement level. They can therefore clearly see exposure with specific counterparties, for different products, or at the overall company level, giving risk managers a complete view of a firm's exposures and satisfying regulatory reporting needs.

It also enables the formation of a single collateral pool across all asset classes. When looking at their inventory, traders can see all available assets at every level of the firm in real time. This provides the information necessary to make optimal use of available inventory for collateral financing. It also allows better utilisation of internal assets.

Wingate: There is currently no single answer to this. Firms have a wide variety of requirements and priorities when it comes to how they want to be able to access, view and filter a consolidated inventory. A source-neutral system is required. The system should be configurable by user so that multiple source feeds can be provided (on a real-time basis), named according to requirement (perhaps by source, book, desk, region, and so on). Either the data sources, or the data retrieval system, must be able to automatically map data standards (security identifiers, and so on) in order to properly present consolidated data. Finally, a global capture system is required that can support follow-the-sun data feeds so that regional views benefit from the latest view of the available inventory that is inherited from the preceding time zone.

What are the operational efficiencies that are gained through a centralised collateral management operation?

Seagroatt: Centralisation and collateral optimisation allow firms to reduce their cost of collateral and free up high-grade assets sitting on the balance sheet. Before going to the street to source expensive collateral to satisfy a margin call, users can check internal inventory, which is of course cheaper to use.

ment operations functions, cross-product collateral strategy can be implemented, which is necessary to be able to properly analyse and assess the synergies and differences in product siloed collateral processes. Even while supporting multiple product siloed processes, functions that are associated with collateral but operated at a firm-wide level (for example, nostro and depot functions) can be aligned—this immediately achieves operational and staffing/training efficiencies.

However, this centralisation of collateral operations is only the necessary first step towards achieving truly consolidated collateral operations and the benefits that this introduces. What is required to maximise operational efficiency, achieve cost savings and improve cost attribution (and potentially revenue generation), is to be able to support and view all collateral operations on a single system.

With single system support—obvious operational efficiency improvements are immediately achieved—you only need to train one team, define, control and support one process, and you reduce operational inefficiencies by replacing multiple sub-optimal manual processes across product teams. You have one IT support team for collateral management systems, and crucially you can offer one point of contact for clients.

Greater benefits can only be achieved by centralising collateral operations on a single system

Martin Wingate
Business matter expert
Collateral management team
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It is also a key component in reducing over-collateralisation. Optimisation algorithms now allow systems to propose the cheapest to deliver collateral to pledge to a counterparty that will meet eligibility and concentration guidelines. Consolidation of collateral also enables more informed decision making on the allocation of capital. The system can assign an opportunity cost to assets, so users can decide whether a security is best deployed in say a securities loan, or as collateral on a derivative trade, based on its collateral cost and the respective profit and loss that it can generate.

Finally, there could potentially be significant netting benefits between products at some point in the future once the legal framework is in place.

Wingate: By centralising collateral manage-

As a consequence, greater benefits can only be achieved by centralising collateral operations on a single system:
- Maximise collateral inventory availability by creating single firm-wide collateral inventory
- Implement a pro-active cross-product collateral optimisation programme
- Achieve (and be able to quantify and attribute) cost savings in your collateral management programme
- Offer consolidated cross-product reporting to your clients
- Potentially offer cross-product collateral netting (and further, offset) to your clients.

At a Lombard Risk webinar, the audience was polled with the question, 'Is Cross-Product a key strategic aim for your firm?'—90 percent of those answering confirmed that it was.

How will collateral management teams in different divisions across a firm tweak procedures to support enterprise-wide collateral management strategies?

Wingate: At a minimum, global collateral operations need to:

- Sponsor front-to-back analysis of all product-level collateral operations and processes in place
- Identify best-of-breed functions from an operational perspective and quickly achieve efficiencies by aligning and centralising control processes where possible, for example:
  - Nostro and depot management
  - Settlement reporting
  - Inventory management and reporting
  - Dispute reporting
- Implement global control and responsibility and align cross product strategy, achieving buy-in from firm-wide stakeholders (front office and risk functions).

Strategic priorities should include:

- Map detailed business requirements across all collateral functions to gain a clear view of all cross-product requirements—map which of those may be flexible (ie, changes or improvements could be achieved by centralising or aligning processes or standards with other product lines) and which are mandatory (generally driven by legal or client-driven obligations)
- Carry out a review of all available collateral technologies—internally and externally
- Identify best of breed from a technology perspective, carry out a gap analysis and identify 'best fit' at a functional level.

Seagroatt: Enterprise-wide collateral management requires a more collaborative approach between derivatives, securities lending and repo desks to work successfully. This adds complexity and requires more standardisation of procedures that are in some cases quite different due to the legal agreements that are involved. It also requires much greater central co-ordination of how assets are allocated.

One of the key roles of collateral management systems is to simplify this complexity and provide users with the tools and data that they need to make effective decisions on exposure management and collateral allocation. **SLT**