

Credit Suisse First Boston
benefits from a proactive
approach to regulatory
compliance.



In today's highly regulated market,

institutions must demonstrate that they are managing their operational risk by proving that they have sufficiently robust and controlled processes to support their business and mitigate the associated risks. Sarbanes-Oxley and Basel II have significantly impacted the collateral management arena, a function that touches many different products, systems and departments.

Today, banks that consider the impact of increased regulatory requirements, and take proactive steps to address these requirements – including building long-term strategies that reflect evolving regulations and taking steps to integrate robust risk management control tools within the firm's overall risk framework – will be best positioned not only to comply with regulations but also to grow their business. Credit Suisse First Boston (CSFB) has made significant strides toward the establishment of a strategic control environment, and has employed effective risk management “best practices” through the development of automated control and risk management tools.

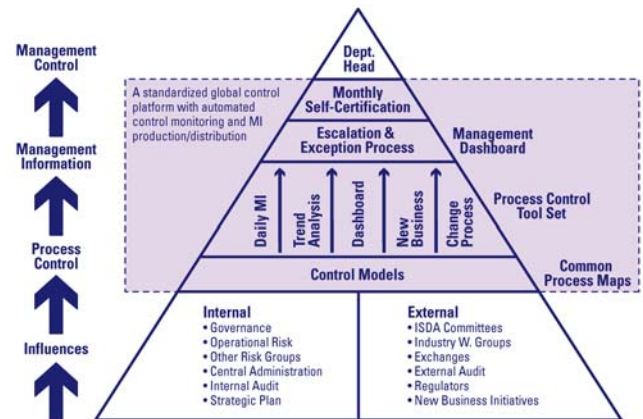
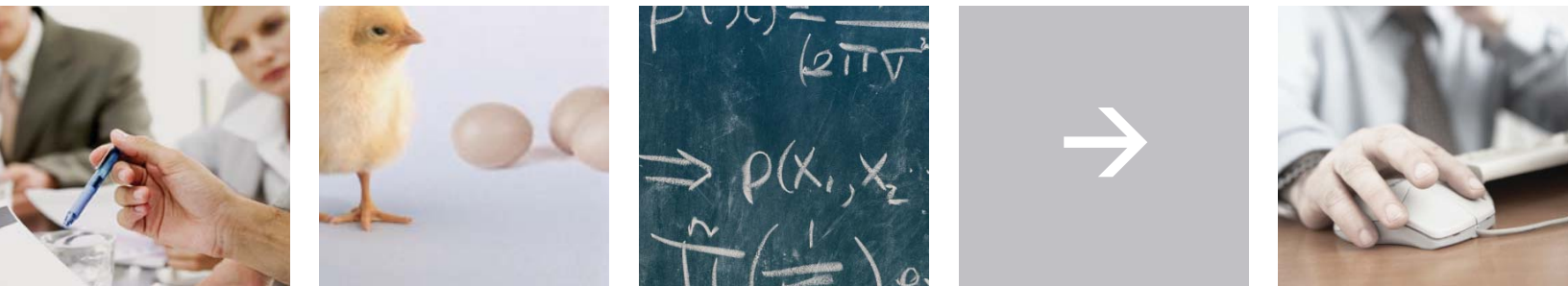


Figure 1: The operational control environment within the collateral management area at CSFB.

In 2002, CSFB made a significant investment in its global collateral management processing architecture. The firm established the Collateral Change Programme and formed a team with the mandate to replace all existing collateral systems and processes with effective best-practice risk management systems. The program was to take place over an eighteen-month period and represented a significant milestone in CSFB's strategic plan to move toward enterprise-wide collateral management.

The primary objective of the collateral team was to move CSFB toward proactive operational risk management rather than the reactive behavior of the past, and to establish an environment in which change could be managed effectively. Further, the team was charged with developing and embedding control tools within robust and systematic processes to enable them to monitor progress.

Through the course of discovery, the program highlighted the limitations of the existing manual management information reporting system and created an opportunity to establish firm-wide collateral management capabilities. Since the CSFB collateral management team carried margining responsibility across all business lines, many of which represented a significant number of entities with different process architectures, their vision was to create a consolidated view that would facilitate cross-product margining capabilities.

To achieve this goal, CSFB worked with vendors, including Algorithmics, to define a solution that would allow them to gather data from multiple source systems in order to produce comprehensive management information, and thus provide greater transparency across processes, as well as a more robust operational control environment around the global collateral function. At the same time, CSFB also wanted to ensure that pending Sarbanes-Oxley and Basel II requirements were met.

The CSFB collateral team believed that in order to assess any function, the function should be compared to existing benchmarks, and from there a best-practice solution should be defined. Effectively, the team believed that banks need to use a standard "pair of binoculars" when addressing their operational, and more specifically, collateral management challenges.

In order to create their own standard view of the collateral process, CSFB defined a generic collateral process and validated it through review with other banks. In so doing, they identified 19 functional steps that they believed were common to any collateral process. Examples of these functional steps included: agree on required legal documents; set up static data; obtain collateral held and the associated valuations; obtain transactions and associated valuations; compare exposure to credit terms; issue margin calls; reconcile disputes; and so on.

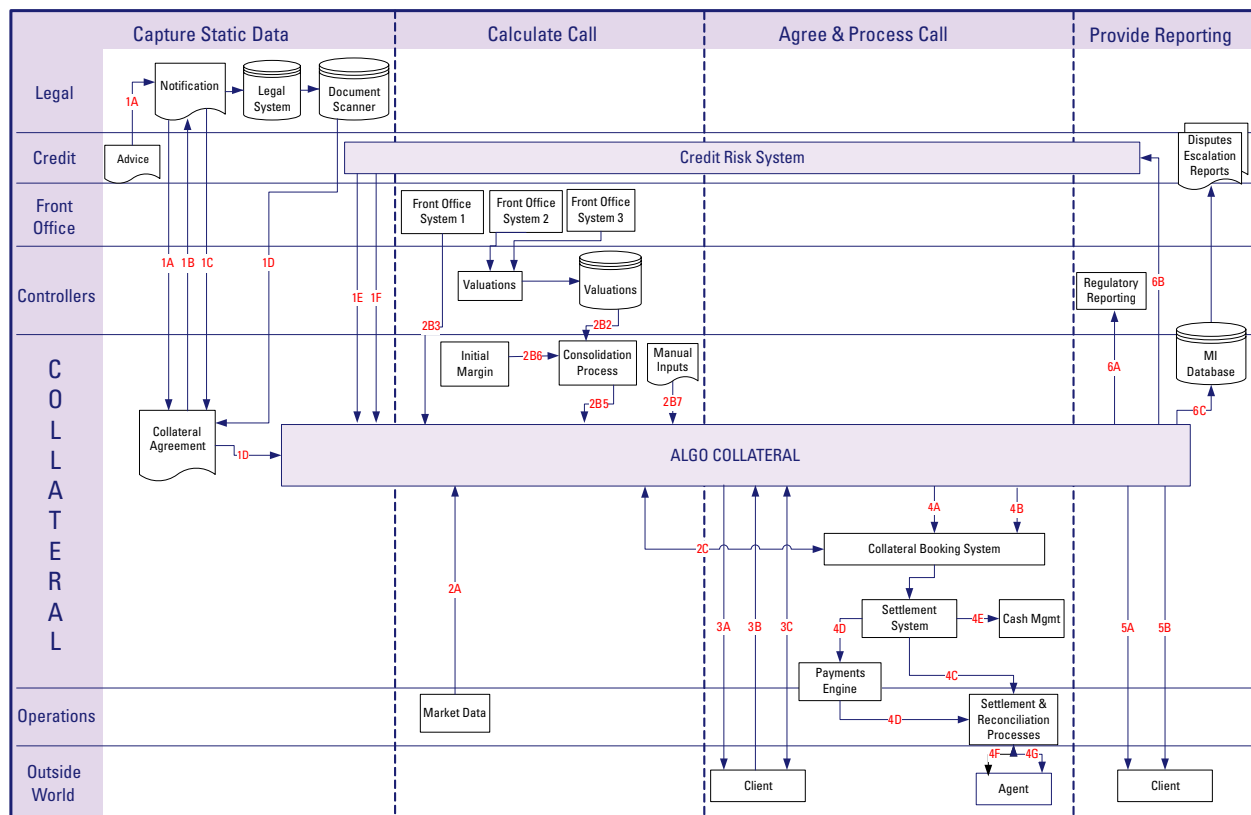
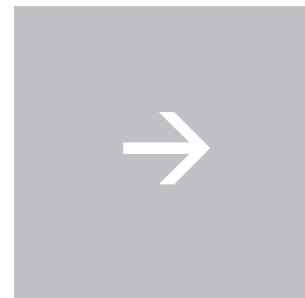
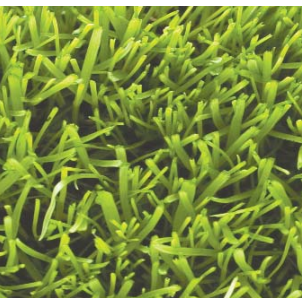


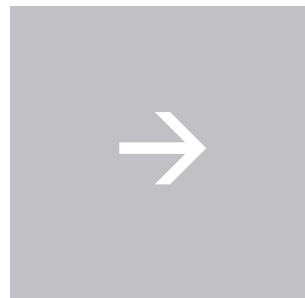
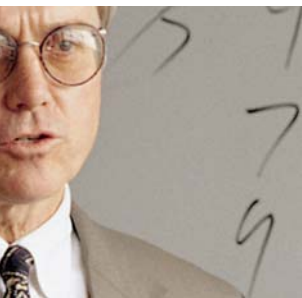
Figure 2: Functional steps and high-level processes.

CSFB then consolidated these steps into four key high-level processes, which provided the framework of what they called their “Standard Control Model”. These processes included capturing static data, calculating calls, agreeing and processing calls, and providing reports.

Control models are the foundation of the CSFB collateral control environment so it was particularly important that the team find a solution that ensured a best-practice approach to the application of these models. In practice, the models act as end-to-end process maps, which define data flow across the defined key process steps; provide generic components relative to each high-level process step of each margin area; implement a standard terminology that is common to each operational process; and conduct a risk assessment associated with each individual data flow. This not only ensures a consistent approach across all control models but also facilitates comparison between similar processes within the collateral management arena and other operational areas.

“Whether a Bank/Broker performed well in the provision of Customer Valuations Statements and Collateral Management was seen as being a good indicator of the overall competency of the Derivatives Operations Unit. The justification for this was that the accuracy and timeliness of these processes is dependent on upstream processes such as trade capture, confirmation production and the quality of a Bank/Broker’s systems and infrastructure... It was also viewed as a high profile process since poor performance would be monitored by Credit Officers who would then restrict trading with any Bank/Brokers who couldn’t get their collateral calls right.” Z/Yen Operational Performance of Brokers – Market Survey – OTC Derivative Products 2004

At the same time that CSFB was migrating the margining business of multiple entities onto Algorithmics’ collateral management platform, known as Algo Collateral, CSFB made it an urgent business priority to reform the disputes process. The CSFB collateral team took the opportunity not only to capture and report collateral disputes data,



but also to demonstrate that they were managing their process effectively. The business need to reform the disputes process was immediate and had to be resolved prior to going live with Algo Collateral across entities and the business lines. In order to do so, management information had to be extracted not only from Algo Collateral, but also from the legacy collateral systems.

To accomplish this, CSFB worked with a third-party vendor to consolidate information from multiple systems and provide risk indicator management and analysis. CSFB's collateral management team connected the various collateral systems, including Algo Collateral, to capture key risk data.

The first deliverable from the combined system was status reporting. Disputes data was extracted from Algo Collateral, enabling the collateral team to publish a consolidated view of open disputes by age and client. Furthermore, automated escalation reporting of "at risk" or priority disputes (for example those with hedge funds) was implemented for credit risk. "A dispute is the first warning of an issue with a counterparty. The number of disputes is used as a key risk indicator and a significant number of those are always a concern for senior management. However, the key is proactive management and resolution of those disputes," said Julian Cathrew, Director, CSFB Credit Risk Management.

Once consolidated, the CSFB collateral team created an atlas of maps across the system's architecture, which ultimately became a critical management tool. Furthermore, the team automated their control models and effectively created a satellite navigation system. This enabled CSFB management to use the tool to react quickly to external influences or requirements.

Within a couple of months, as they were addressing Sarbanes-Oxley requirements, CSFB took the view that there are only two components of the collateral process that were impacted by the regulations: the collateral booking process, which ensures that the firm's books and records are accurate; and the disputes process, which as a by-product, effectively becomes the firm's external validation of its valuation process.

CSFB used the control models as the basis for their Sarbanes-Oxley impact assessment and were able to identify the subset of risks very quickly. Says Mark Rowlands, CSFB European Head of Collateral Management, "The collateral area works on the premise that once we break down a process and understand the problem, we are halfway to identifying the solution."

Pursuing its enterprise-wide collateral management strategy drove CSFB to establish global standard control models across all business lines. The work of the collateral management team helped to prove that models are generic and can be applied to any business area. Today, management uses control models to highlight common themes or areas requiring attention; engage and educate auditors about the process, to explain where the collateral function fits and, more importantly, to provide transparency around known risks; prioritize change initiatives; and manage change and understand migration risk.

The CSFB collateral team and their internal clients use the tools to measure the impact of new business, to change initiatives on the existing control model and to define the new control models. In turn, this forces the discipline to address potential migration risk issues in the early stages of the project lifecycle.

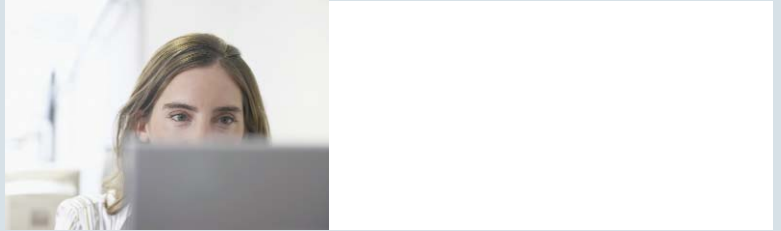
New tools have been created in Algo Collateral to facilitate more robust management information reporting in conjunction with clients' other systems. Historical data can be aggregated and retained outside of the standard core and audit tables, providing the underlying framework across exposures, collateral and workflow for the reporting of: global daily management information, historical trend analysis and dispute resolution. Like the other components of Algo Collateral, this framework has been designed in a way that is extensible and customizable. Using Algo Collateral's rules engine, clients can define the manner in which management information is aggregated.

Utilizing third-party software, a hierarchy can then provide a drill-down path to increasingly granular representation of the data. This provides management with both the big-picture view of the collateral process across various business lines and systems, as well as the underlying detail necessary to interpret the information.

Algorithmics has provided collateral management consultancy and software to over 60 clients around the world. Drawing on this breadth of experience, the team believes that the best implementation approach begins with a standard process definition. Working with CSFB allowed the Algorithmics collateral team to analyze CSFB's risk and control model developments with a view to enhancing the Algo Collateral solution. Today, Algo Collateral offers a flexible framework that can be used by any client to better define and measure their operational risk and processes.

About Algorithmics

Algorithmics is the world's leading provider of enterprise risk solutions. Financial organizations from around the world use Algorithmics' software, analytics and advisory services to help them make risk-aware business decisions, maximize shareholder value, and meet regulatory requirements. Supported by a global team of risk experts based in all major financial centers, Algorithmics offers proven, award-winning solutions for market, credit and operational risk, as well as collateral and capital management. Algorithmics is a member of the Fitch Group.



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