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Distributed enterprise risk – from concept to reality

The current market trauma has highlighted the opportunities and risks of competing in a global market. The pressure is on financial institutions to improve their enterprise risk management and a key issue banks are facing is their inability to view their risk across disparate systems, across multiple geographies... until now

These are uncertain and volatile times. As the credit crunch continues, old assumptions are being overturned and financial institutions are being forced to seek better ways to guard against unexpected losses. Market volatility is putting enterprise risk management at the top of everyone's agenda and new approaches to managing the banks' exposures are necessary to restore confidence. This scenario is not uncommon: service-oriented architecture (SOA) arose, in part, to help combat this issue and has been successful in many industries. In the case of the capital markets industry, however, SOA solutions have often failed to eliminate silo problems.

The key issue has been how to deliver the enterprise-wide corporate intelligence needed to manage risks across business units, geographies and product types. Firms are now faced with a technology infrastructure laden with disparate information silos, duplicate processing systems, multi-format messaging platforms, not to mention multiple data sources. This has resulted in a lack of transparency, in terms of both risk and pricing.

To combat these risks significant investment has been made to develop powerful risk methodologies and corresponding technical engines to provide a firm wide view of a bank's exposure.

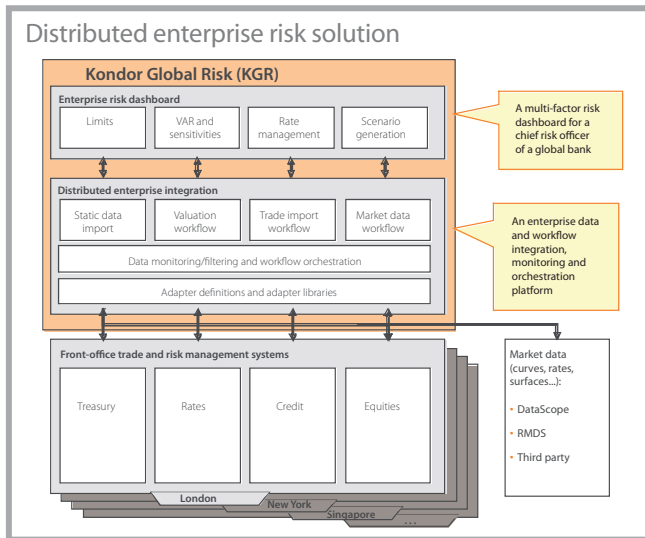
But less attention has been given to the fact that any risk engine developed faces daunting interfacing problems if it is to achieve enterprise-wide stature, no matter how sophisticated it might be in terms of quantitative financial methodologies. A truly enterprise-level risk platform must be able to interface to a number of trading systems spanning multiple business units, geographies and product categories. And, in terms of the practicalities of rolling out an enterprise risk management system, actually interfacing multiple front-office risk systems is where most of the effort goes. The absence of turnkey solutions and methodologies means that ad-hoc integrations are designed again and again, increasing implementation costs while jeopardising a system's ability to really scale to the enterprise-wide level. For this reason, data integration and aggregation has become a major challenge.

Impact of data quality in enterprise risk

The negative impact of having insufficient data quality and pricing engines has been demonstrated across the industry. Whether a risk system is truly enterprise-wide, or merely a clever partial aggregator, in practice is determined by the quality, timeliness and completeness of its data.

However, without complete and normalised data, a bank can unknowingly expose itself to a number of potential risks. Some of the most common challenges encountered with traditional risk management systems are:

- **Risk exposure and reputation** – industry events (subprime crisis, 'rogue' trading, etc.) and regulatory burden (Basel II, MiFID, IFRS, UCITS III, etc.) create demand for comprehensive risk management strategies supported by accurate, consistent and timely data – firms urgently require a better understanding of their total risk exposure supported by greater data transparency and operational visibility.
- **Industry dynamics** – the industry is in a constant state of flux as a result of the global economic climate, market consolidation, regulatory change and the rapid growth in the trading of complex instruments (e.g. structured products), etc. – firms require integrated risk and data management strategies with the flexibility to respond.
- **Cost of complexity** – operational overheads and cost of managing the complexity of multiple vendor data sources and in-house data silos, each with their own proprietary data models and semantics, is becoming a critical challenge – firms require a new holistic approach to data management to improve operational efficiency and manage costs.
- **Pricing consistency** – it is key that the pricing done in the risk system be consistent with the pricing in the front-office systems where traders originate and manage risk – otherwise the pricing bias might make it hard to discern if an enterprise risk is real or a result of pricing bias. Since trading systems are multiple, this presents a system design challenge – how to achieve this consistency without a massive reconciliation effort?



□ **Integration of market and credit risk** – it is not uncommon for large institutions to have adequate but separate market and credit risk systems. As a result, it is impossible to ask questions involving both forms of risk, e.g. how would a credit exposure move in response to a market shock?

Why distributed risk?

Traditional architectures relied on the replication of trades and valuation in the risk system. However, because of the challenges faced by enterprise risk, they never succeeded as a satisfactory approach to globally compute credit and market risks. Not only do they imply high development costs to build replication logic, but the type of data being replicated (trades) is of the most complex nature requiring specialised staff dedicated to support exception management/reconciliation. And the constant addition of new instruments in the front office creates never-ending integration efforts.

Traditional approaches to this problem have also resulted in overall enterprise risk programme failure in spite of individual project success: although the first-phase aggregation might succeed, subsequent phases intended to inject the system at higher levels of aggregation were unsuccessful due to the operational costs of supporting the first phase. Thus, the transition to the enterprise level is unattainable.

A distributed risk approach avoids these traditional pitfalls by utilising a distributed architecture to tackle these challenges. The distributed risk approach is a genuine move towards SOA architecture by clearly differentiating between the risk system and the valuation service providers. Although this rationalisation was badly needed, it had not been previously possible primarily due to the lack of an efficient communication layer between the risk system and the external valuation services, often represented by front-office systems. And no one had figured out a way to generically interface an enterprise risk engine to multiple front-office systems, until now.

The Thomson Reuters Solution

The Kondor Global Risk (KGR) Distributed Enterprise Risk solution addresses this interface problem by abstracting the interfacing functionalities and designs into a common interfacing layer allowing banks to avoid the problems these earlier approaches encountered, such as the high costs involved in trade replication and valuation model reconciliation.

Large institutions use constellations of front-office and middleware systems. Despite their willingness to merge all of these into a common platform, the size of such a task makes it unrealistic. Therefore, they frequently resorted to mapping partial data into risk systems to compute their market risk. Though initially seen as a 'work around', this partial data approach is increasingly seen as the right way to go.

Thomson Reuters has industrialised this insight by offering a distributed architecture solution that allows any financial institution to aggregate their risks stemming from several front-office systems to compute market risk and manage their limits globally.

This powerful architecture helps to reduce model and pricing risks by leveraging the pricing models on the front-office trading systems rather than trying to replicate them in a separate system. It also allows the bank to respond faster to new business opportunities by removing the duplication of effort often required in traditional risk systems when adding new instruments.

KGR Distributed Enterprise Risk handles the core risk reporting and leverages Thomson Reuters expertise in enterprise integration and process management, all of which have been embedded into the KGR suite. As such, an orchestration module provides the critical infrastructure that knits together the multiple systems that participate in daily risk reporting, ensuring that critical data assets are gathered, validated and enriched, even for the vast volumes of data manipulated in the domain of enterprise risk.

In summary, it is clear that the traditional approach to managing risk will no longer suffice. The lack of transparency has been a key driver in the global credit crunch. By recognising the challenges customers face in the current economic situation, our global team of data and risk experts have addressed the problems with a revolutionary system. Through these enhancements, we will witness risk management evolve into the next generation.

Thomson Reuters has led a number of successful implementations, which served as the inspiration for this innovation. The lessons learned from these real-world projects are embedded into what is no longer a concept, but rather the reality of KGR Distributed Enterprise Risk: a solution that automates and standardises many of the interface challenges faced by customers in today's world.

About Thomson Reuters Risk Management

Thomson Reuters is the largest provider of risk and trade management solutions globally serving more than 750 financial institutions.

Thomson Reuters risk solutions offer sophisticated, tailored functionality at every step of the trade – from straight-through processing enabled front-to-back trading systems to enterprise-wide risk management – allowing our customers to efficiently manage their market, credit and operational risks. And we have the global strength that is required of a long-term strategic partner, with more than 950 risk professionals in 83 countries. Thomson Reuters was recently recognised as the best trading system vendor in *Risk* magazine's *Risk 20* awards.

To request a copy of the KGR white paper visit www.reuters.com/risk



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