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# Pre-empting rigidities in capital markets risk management systems

*The current structure of IT systems, especially trade and risk management applications, lies at the heart of many of the largest issues faced by financial services firms today. Typically, these risk management systems have evolved over time to meet short-term, focused, tactical needs. This evolution is interrupted by globalisation, organic growth and frequent mergers and acquisitions, which leave 'deep scars' in the IT landscape and force together systems of different origins*

While individual systems may meet the functional requirements of their primary users, many organisations struggle to achieve a consistent, accurate and timely view of their business as a whole. This is notable when it comes to management and control functions such as trade management, or quantifying risk measures or P&L across several asset classes – all of which require a holistic view across multiple business lines (and therefore multiple systems).

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. And large IT project failures still plague the industry.

This 'capital markets exception' to the otherwise successful track record of SOA calls for a deeper examination within the dynamics of silo formation in the capital markets. Such analysis reveals that Tier 1 and Tier 2 financial institutions face external forces that can unintentionally create isolated silos of functionality within an organisation.

Those forces can include:

- Globalisation – increases the number of applications that are needed to provide a worldwide view of the organisation.
- Organic growth – in an attempt to meet tactical needs, new applications arise on an ongoing basis.
- Mergers and acquisitions – adds to the mix of applications within an organisation.

It is fair to say that the capital markets industry suffers from all of the above. However, unlike other industries, it also suffers from additional forces that can create further siloed applications.

These forces include:

- Financial product innovation – as new products are created, the systems to support them need to be created. Typically, this creation effort will be tactical and result in a functional silo.
- Risk factor decomposition – as new risk factors are identified and/or modelled, the systems used to communicate and

support them will be created. As above, this will typically be tactical and result in the creation of further silos.

## **Why are silos a particular problem in finance?**

In the current climate, a bank's internal controllers and external regulators require both a complete and reliable overall view of its financial situation and the risks it potentially faces.

The more systems that a bank has recording its position and risks, the more complex the process to obtain that overall view will become. Paradoxically, that very process can result in creating unreliable results. This is due to basic risk issues associated with not making like-for-like comparisons across the multiple siloed applications. This approach provides the insight to the kind of technology needed to successfully eliminate silos from the capital markets; a technology that focuses on capturing the dynamics of financial innovation into its architecture.

The result is the identification of a 'hidden dimension' that is missing from classical SOA solutions, a domain-driven business logic stack. That stack contains a commonality of definitions and a continuity of processes that enables multiple organisational silos to operate within a single application domain. The combination of these two orthogonal stacks (an SOA technical stack and a domain business logic stack) is what provides the escape velocity required to decisively free an organisation from the issues surrounding silo-based architectures.

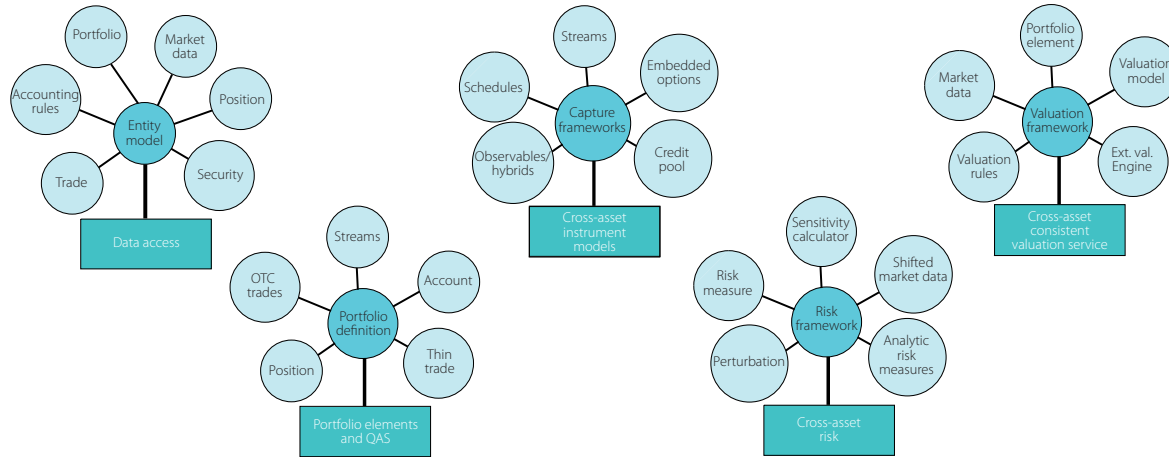
## **The Thomson Reuters risk management solution**

JRisk™ is a real-time risk management and analytics platform that combines market-tested, cross-asset functionality with a state-of-the-art application framework. Its application framework combines an SOA technical stack and a domain-driven business logic stack.

With access to reusable business logic, the application framework enables you to leverage your investment in JRisk. You can quickly and predictably customise existing functionality in JRisk to bring tailored solutions into production in short time frames.

And, unlike packaged or toolkit vendor systems, you can build

## Examples of new risk functionality that can be developed in-house using the JRisk application framework



new applications during the implementation phase to support the evolving needs of your businesses, without relying on the strategic direction or road map of a software vendor.

JRisk provides the enterprise with a future-proof architecture. It has allowed organisations to accelerate the deployment time for complex applications, thereby reducing costs and improving return on investment.

#### Why JRisk works

The application framework of JRisk is different from other stack-based solutions on the market. It is based on cross-asset/cross-factor shared services such as market data generation, valuation and empirical risk.

Its shared services can be wired together to build new functionality or support new instruments, drastically reducing the work required to customise existing functionality in JRisk and build new applications on the framework. JRisk can be extended to respond to the future needs of the business in a quicker time frame, giving you confidence that your investments are secure.

#### Keys to freeing the organisation from silo-based architectures

- The separation of business from technical logic allows a clear separation of issues between those that relate to the technology employed and those issues that relate directly to finance. This allows the individual teams to specialise in their particular area, building a high level of expertise without the need to learn two very different domains in parallel. Technical teams focus on technical goals; finance teams focus on the financial aspect. This allows developers to retain a narrow focus on their problem domain, which is a major contributor to keeping project plans on schedule.
- Within the boundaries of the business stack, representations of fundamental concepts are clearly defined within finance. This means the framework as a whole is able to act as the marshalling mechanism that allows disparate instruments, reference data, market data and models (effectively entire business lines) to inter-operate within one distinct platform. It is this concept that allows us to address the basis risk issues that other solutions are plagued by. The same infrastructure (market data, models, curves, reference data) are being used across all instrument types, thereby producing a consistent 'apples for apples' comparison without losing visibility of (what may be) crucial details.

- Through its decoupled, scalable infrastructure, the technical stack provides the necessary infrastructure to ensure that the functional needs of the application are met in a predictable performant manner. This is crucial because the consolidated view of the organisation is significantly larger than any individual silo.

In summary, in order to meet the key challenges your business will face in the capital markets today, you require a platform that has a state-of-the-art technical infrastructure – a technical infrastructure with the ability to support a business framework that has been designed from the outset to support multiple asset classes and instrument types, geographies and business lines. JRisk is that platform. It is already in production in some of the top-tier investment banking institutions in the world, across multiple business lines, giving its customers a real-time consistent view of risk.

#### 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 the complete white paper – *Pre-empting rigidities in capital markets information systems* – visit [www.reuters.com/risk](http://www.reuters.com/risk)

Come view our complete suite of risk solutions at SIBOS 2008 in Vienna, 15–19 September, Center Hall, Booth B305



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