

# Technology triumphs

**>** In times of crisis, an investment in technology appears to be a safe bet. Odd as it may sound, if you are planning to be in business as the cycle turns and you are faced with a slowing down of business then the smart money invests. And technology is the easiest and most useful beneficiary.

Nice as that may sound, investment in technology by structured products houses over the past two years has been a touch more complicated than this rationale. The reality for many producers of financial products is that they have been bombarded by regulations and directives that all point to the introduction of not only greater speed but also improved transparency.

The need for transparency has also been driven by investors, who have asked banks to develop products with less default risk and risk transfer. As well as wanting to know the name of the bank that has issued the structured product they might buy, these investors want to be sure that they are cleanly separated from risk that they do not think should be theirs.

The financial crisis has also required greater investment for most structured products houses in the fund business. Previously happy to quickly flick out new products, these banks have had to come to terms with credit risk and the desperate desire that many investors have had to avoid this at all costs. It is easy enough to say that you will therefore expand your fund business, but it is harder to spend money on investing in what is a very expensive, commodity business that works on relatively low margins.

But the biggest investment in technology has been reserved for risk management systems. With investors demonstrating various degrees of paranoia about the possibility that they could easily lose

## Top 10 technology vendors

Rank	Vendor
1	Murex
2	Numerix
3	SunGard
4	Pricing Partners
5=	Algorithmics
5=	Sophis
7	Misys
8=	Calypso
8=	Thomson Reuters
10=	Bloomberg
10=	Modelity

all of their money, they need comforting. And in choppy financial markets, if you are the one taking the risk of issuing and hedging new products, extra care is required. The only practical way to resolve all of these concerns is to step up the amount of time and money that you are willing to invest in risk management systems.

**Richard Jory,**  
Editor

The focus on risk, particularly the counterparty credit kind, along with performance challenges and the need for transparency and continued innovation are all highlighted in the second annual *Structured Products* technology survey. **Clive Davidson** talks to technology providers about their solutions. Research was provided by **Ana Mendes** and **Beatrice Leedell**

> Innovation is back in the structured products market – and complexity never completely went away. So say the technology vendors that serve the market and who must keep their software in line with the requirements of its participants. However, the innovation is happening in new areas – in underlyings rather than payout structures, in those areas that were slower off the mark to create structures such as forex and commodities, and in fund-based products. And the complexity is in the portfolios of products created before the financial crisis and the flight to vanilla products – portfolios which cannot just be wished away, but must be even more accurately valued and carefully managed.

Meanwhile, regulators have been stepping up their demands, particularly in the area of capital to cover counterparty credit risk, resulting in the need to calculate credit value adjustments (CVAs) on trades. This can be complex and computationally demanding, especially if performed pre-trade, and therefore requires sophisticated analytics and a high-performance processing environment.

It is in this environment, where software vendors have been stepping forward with new technologies to help their clients meet these challenges, that the 2011 *Structured Products* technology vendor rankings have taken place. The results, which you can read on the following pages, are our readers' verdict on which technology vendors best helped market participants achieve their business goals.

This year's winners are mostly familiar names, although there was significant movement in the individual placings, demonstrating that this is not a market where vendors can rest on their laurels.

### Murex on top

Overall winner was Paris-based front-to-back-office system vendor Murex. The company dominated the trading system section and appeared in the top five in half the pricing and analytics categories, as well as in the credit risk management, limits and collateral management categories. Just pipped into second place was New York-based Numerix, which featured strongly in all the pricing and analytics categories and won both the market and credit risk categories. Third was Pennsylvania-based SunGard, which was placed across more categories than any other vendor, demonstrating the breadth of its product suite, just beating off Paris-based Pricing Partners, which won all but the equities category in the pricing and analytics section.

Meanwhile, last year's winner, London-based Misys, slumped from first to seventh place overall. However, this situation could well turn around in the coming year following the firm's recent acquisition of Sophis, the Paris-based front to back office system vendor. Sophis

**"GPUs make it possible to manage [books of complex products] in quasi real time instead of once or twice a day, and allow enough Monte Carlo simulations [to take place] to get smooth gamma for better risk management"**

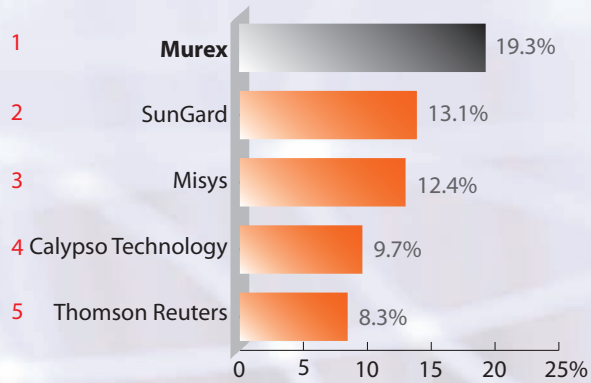
**Maroun Edde, Murex**

shared fifth place overall with Toronto-based Algorithmics – the highest ranking of the dedicated risk management vendors.

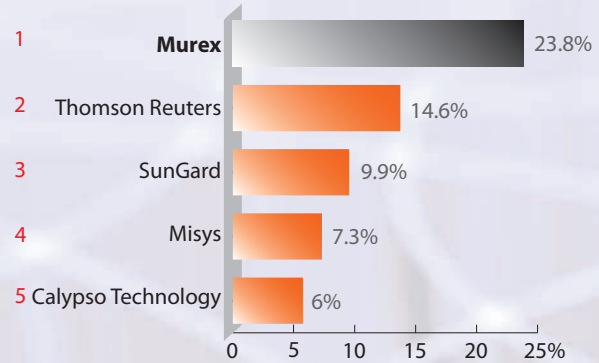
For Murex, the past year has seen a continuation of trends that have been in place since the financial crisis, says group chief executive Maroun Edde. While there is an ongoing move towards less complex products, there is still a demand for new structures. But time to market is critical. Developers need to be able to create new products quickly, and with minimal programming. Here, Murex clients have benefited from the company's recently introduced scripting language that enables them to create structures by describing the payout only, while the system automatically generates contract events, confirmations, settlements, and so on. In addition, Murex's technology enables developers to rapidly bring new structures into a production environment that provides accurate and timely pricing, hedging, risk management, collateral management and back-office processing – something that is an "absolute necessity" in today's risk-focused market, says Edde.

Another major trend is the need for "a massive acceleration in calculations", says Edde. Clients want fast and accurate pricing and calculation of risk sensitivities such as credit Value-at-Risk. In response, Murex has invested heavily in porting its pricing and risk code to high-performance computing environments, including graphical processing units (GPUs) – lightning-fast parallel-processing microprocessors originally designed for computer graphics, but well suited to financial computation because many of the calculations, like graphics, are also essentially parallel in nature. The use of GPUs has led to calculation speed increases of between 60 and 300 times, "making it possible to manage [books of complex products] in quasi real time, instead of once or twice a day, and allowing enough Monte Carlo simulations [to take place] to get smooth gamma for better risk management," says Edde. ●

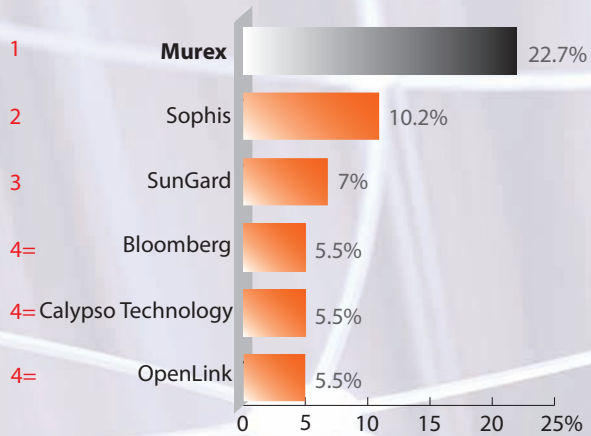
## Trading systems – cross-asset



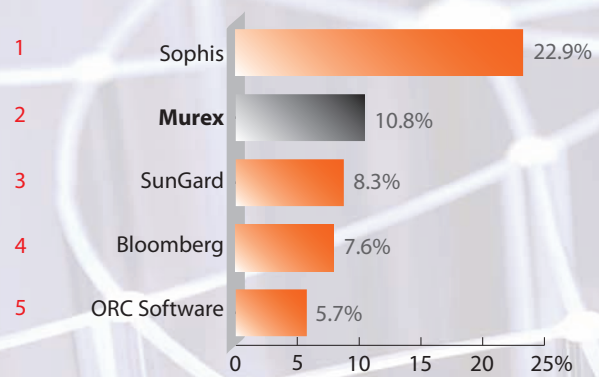
## Trading systems – FX



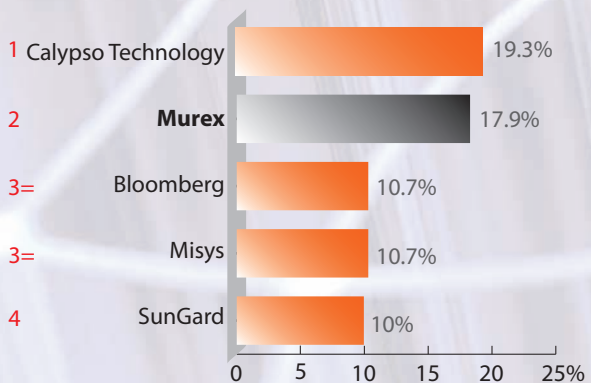
## Trading systems – commodities



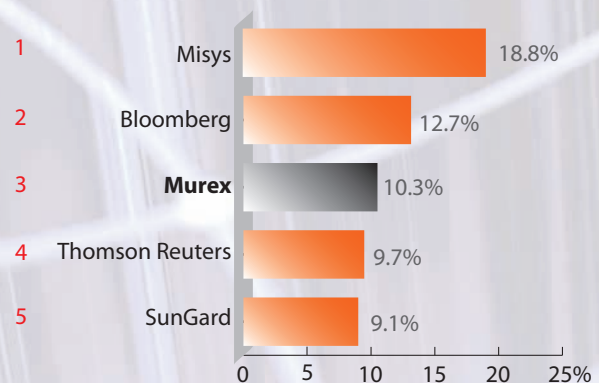
## Trading systems – equities



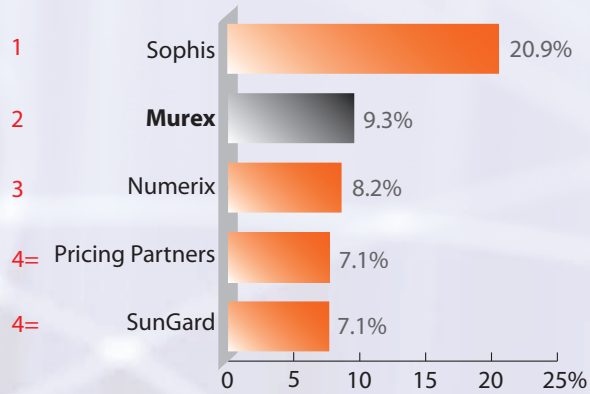
## Trading systems – credit



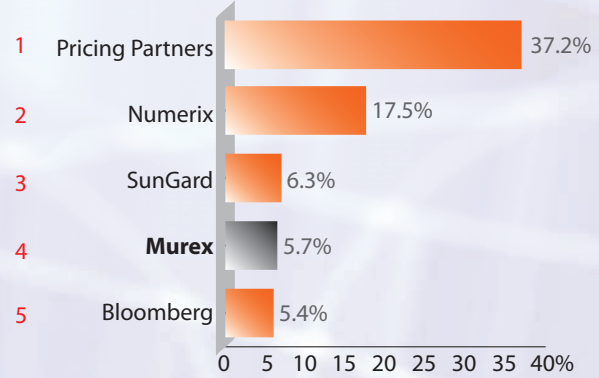
## Trading systems – rates



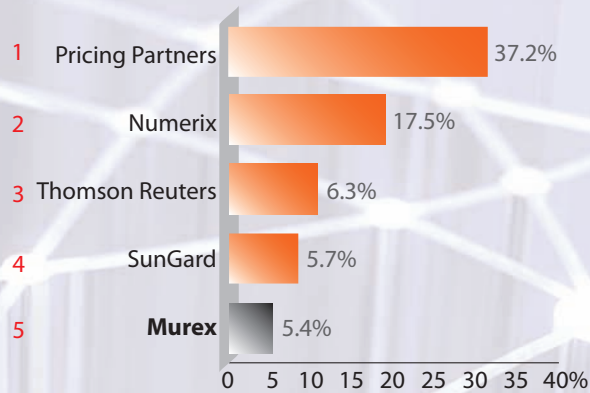
**Pricing and analytics – equities**



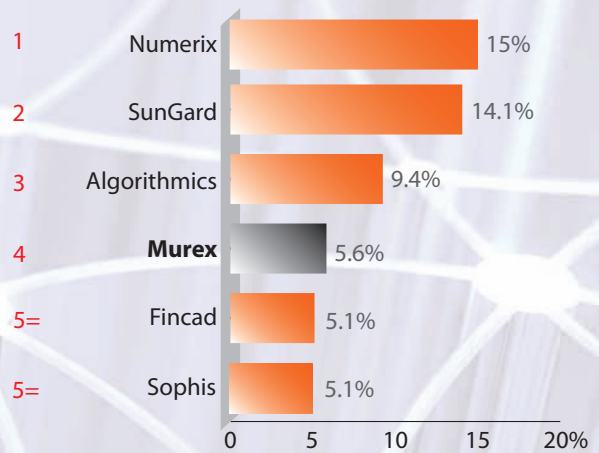
**Pricing and analytics – Commodities**



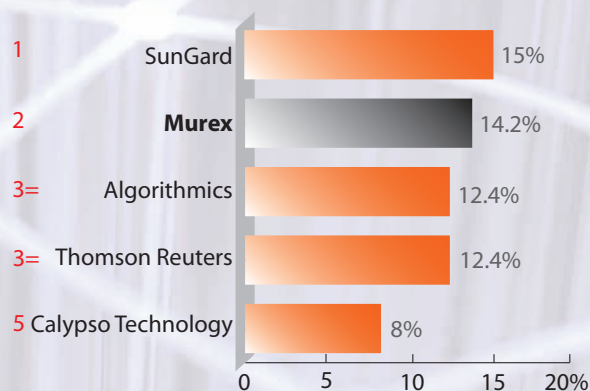
**Pricing and analytics – FX**



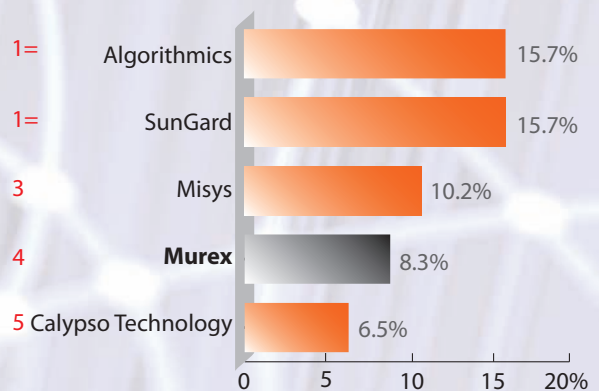
**Risk management – credit**



**Limits**



**Collateral management**





# MUREX™ OVERALL NUMBER ONE



25 years of focus on building a capital markets platform, and on customer satisfaction.



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**products**  
Technology Rankings 2011

Overall Number One

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