Buyer beware

Risk–management software development is still struggling to recover from slashed budgets after the Enron debacle. So before choosing a new system, buyers should look closely at five critical areas, writes *Salim Jabbour*

★ The energy industry was initially slow to adopt risk-management systems until the mid- to late-1990s, before retrenching again in mid-2002. This had a negative impact on systems quality, stability and effectiveness.

This means users need to heighten their scrutiny of systems before making a selection – including a critical review of the following five areas.

Integration
Strive for a wide stable footprint that is compatible with your infrastructure.

Much has been written about the importance of business applications integration in the energy industry, but much less has been achieved. Despite all the hype about straight-through processing and enterprise-wide risk management, energy firms continue to struggle with too many poorly integrated applications. The continued reliance on spreadsheets for deal capturing, input data preprocessing, core analytics, results post-processing, and applications integration is adding insult to injury. And it is hindering compliance efforts with corporate governance requirements.

Integration challenges abound. The issues include commercial systems quality and corporate institutional matters. The most notable technical causes of poor integration include outdated, inflexible system architecture; arcane, poorly documented legacy structures; modelling incompatibility across multiple systems; and conflicting analytical approaches.

Analytics
Keep a broad perspective and ensure a balanced approach.

A set of analytical algorithms are often embedded in risk management systems. Developers tend to use a solution based on their own experience and expertise. But there can be fundamental differences in analytical sophistication and modelling approach. Often, large 'integrated' systems lack the required analytical rigour for proper risk management – the more sophisticated solutions can be found in highly focused "add-on" tools.

Modelling approaches tend to gravitate toward either statistical, financial or production analysis. While this diversity is natural, there is often too much focus on one area at the expense of others: systems often include excruciating detail in areas such as statistical analysis and neglect important functionality. Finding the proper balance continues to be elusive.

Decision support
Look for vendors with established experience in decision-support systems.

A key objective of risk management systems is to help users process a large amount of data and transform it into useful information that helps decision making. Energy risk-management systems have focused on data management and data analysis – they barely address decision-support capabilities: a deficiency that has diminished their effectiveness and limited their ability to fully meet customer needs.

Why? The market has been slow to adopt decision-support systems. The diversity of needs in the energy industry makes standardisation difficult. Also, good decision-support capabilities require advanced problem-solving and consulting skills, and the need for improved decision-support capability only becomes obvious at later stages as users start to realise a system's limitations.

As market participants become more aware of the need to deal with increased complexity and heightened risks, future energy risk-management systems are likely to include improved decision-support capabilities.

IT matters
Ensure end-to-end modern system architecture and data structures.

The growth in performance of the CPU in the past 30 years hit a wall in 2003, as performance gains through faster clock speeds became increasingly difficult to achieve. For the near term, performance improvements are expected through hyper-threading (running two or more threads in parallel inside a single CPU), multi-core (running two or more CPUs on one chip), and 64-bit computing, which can address very large amounts of memory – significantly larger than the 4 Gigabyte limit of 32-bit processors.

In the past, performance gains simply required purchasing newer, more powerful hardware. Looking forward, this approach may not be as effective. Software applications need to be carefully designed to benefit from concurrency and 64-bit computing – a task that is easier said than done.

Legacy applications, which use a sequential control flow, will require major changes – possibly a complete re-engineering – before they can benefit from future computer performance improvements.

Patches and fixes
Accept only limited patches and fixes: short-cuts are often short-lived.

As market participants and system vendors started to improve their understanding of system limitations and of user needs, they rushed to implement fixes. They claimed these improved analytical solutions, modernised software and advanced systems integration.

Unfortunately, industry restructuring and its associated cost pressures have had a negative impact on the ability and willingness of system vendors to make the necessary investments. The outcome has been a bunch of patched-up, poorly integrated solutions – instead of a much-needed new generation of integrated enterprise-wide risk systems. **ER**

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