Paul McLean-Thorne on how companies competing in the liberalising energy markets must meet the challenge of integrating their processes, systems and data.

Maximising returns in a constantly changing Energy landscape

Since 1991, when Norwegian power was first liberalised, the European energy markets have been in a state of constant flux: this will continue at least until the EU moves to full retail competition. Piecemeal deregulation of regional power and gas markets has led to opportunities - and threats - as companies penetrate new markets through expansion, cross-border trading or merger and acquisition activity. New potential arises from the expansion of the EU Energy market resulting from the accession of ten new countries. In addition, there is increased emphasis on corporate governance (Sarbanes-Oxley), risk management (CCRO) and the environment (Kyoto and the EU ETS). With the collapse of Enron and the departure from Europe of the US Energy merchants, the initial enthusiasm for speculative trading has waned; energy companies are now focusing on asset integration to improve margins: this entails maximising the value across the business from generation through to trading and retail.

Consequently, a key challenge now facing companies competing in these markets is the enterprise-wide integration of their processes, systems and data in a way that is reliable as well as flexible enough to accommodate constant business change.

Integration of their processes, systems and data will enable energy companies to:

- aggregate data to support the holistic management of risk and thereby enhance capital utilisation
- reduce operational risks and hence costly errors, imbalance charges etc
- consolidate credit exposure to decrease credit losses
- identify and exploit market opportunities as they arise to increase earnings potential
- streamline operational processes to reduce costs and liberate staff to perform more value-added activities
- provide decision-support information across the enterprise to create competitive advantage
- monitor and compare performance of business units to support capital allocation
- implement asset integration to maximise profitability.

The situation is that, as the markets liberalised and since no single system has yet proved capable of supporting all the processes and functions undertaken by an energy company, most energy companies have endeavoured to support their new business activities by implementing a number of IT systems as needs arose.

However, multiple stand-alone system implementations can lead to information 'silos', where users have to try to combine information manually. In order to enable some degree of integration, interfaces have been constructed between systems. This approach has largely proved inadequate to the information needs of the user community. It is also inflexible: the information gaps between the business requirements and what IT can deliver continue to widen and multiply with the evolution of the business.

In many (if not most) companies, spreadsheets have been used to fill these gaps. In the course of an integration study for one energy company, Seminel discovered a 'spreadsheet jungle' with over 300 spreadsheets in use. These spreadsheets represented a large operational risk to the organisation and costly (and sometimes embarrassing) errors were the result. Additionally, there was inefficient staff utilisation arising from inefficient business processes used to manage and reconcile these spreadsheets and disparate systems. Moreover, the overall risks and performance of the organisation were not visible to Senior Management. Due to the ineffectiveness of their IT, opportunities were being missed and risks overlooked. IT Management found themselves under pressure from the rest of the organisation and frustrated by being unable to easily modify (or even understand) their IT infrastructure to support new business requirements.

In general, Seminel has found:

- energy companies are underperforming as a consequence of inadequate ETRM IT implementation: for example, in markets such as the UK, where imbalance charges are high, inaccurate demand data being fed through to the wholesale trading system has proved very costly to some participants

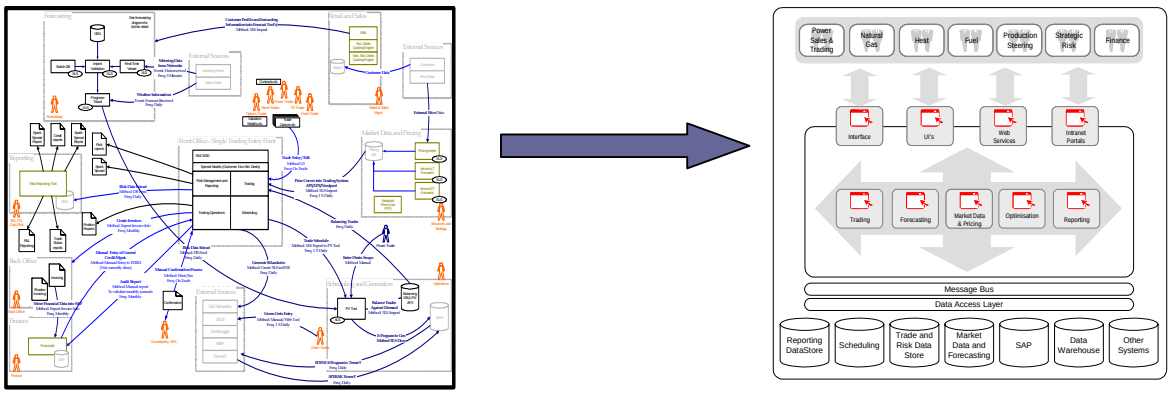

Figure 1. Moving from a 'spreadsheet jungle' to a Technical Architecture

- IT can be an impediment to business change and lead organisations down a technological blind-alley: for instance, during one recent review conducted by Seminel of an energy company's issues, IT was preventing the company trading cross-border effectively and exploiting potential business opportunities it had identified there.

Thus in order to maximise ROI, consideration needs to be given to the following:

- the 'blueprint' – what precisely is the architectural vision and overall design?
- the 'roadmap' – what is the plan and the project(s) for achieving the vision?
- the business case – how can the expenditure be justified?

In the case of the blueprint, it first needs to be determined what technology should be used. What architectural 'layers' would there be?

The level of componentisation also needs to be defined. For example, would Energy Trading (incorporating say Power, Gas and Oil) be a component? Or would Power Trading, Gas Trading and Oil Trading be separate components? Or would Deal Capture be a component? And would that be Deal Capture for all instruments or would there be separate components for each instrument?

Additionally, it needs to be decided which components need to be bought and which built.

One 'philosophy' maintains that if a component potentially provides competitive advantage, then consideration should be given to building it.

Furthermore, in terms of buying packages, how well do they fit the architectural vision? Do they have open interfaces facilitating 'plug-and-play'? Does one package cover more than one component? Is there overlap between the products? Are the systems flexible, robust, scalable and functionally rich enough to meet both the evolving needs of the business and demands of the marketplace?

With the roadmap, are there any 'quick wins' that would display immediate results to the sponsors? How are the projects to be prioritised? What is the impact on the organisation – is it pragmatic?

With the business case, what would be the alternative(s)? What are the consequences of doing nothing? How will the planned benefits to be measured? What are the critical success factors and what are the barriers to achieving them? What are the key risks to realising the value?

One major risk is the delivery capability of the supplier(s). Are they prepared to undertake the work on a fixed-time, fixed-price basis? According to Michael Hepburn of Prospex Research, "Buyers are now far more demanding, putting pressure on suppliers to deliver systems on time and on budget or face the consequences."

In summary, companies competing in the liberalising energy markets need to meet the challenge of integrating their processes, systems and data. Ad hoc IT implementations have proved inadequate to the task: currently spreadsheets are filling the gaps and creating large operational risks for these organisations. Thus, prior to investing in implementing a new system, the blueprint, roadmap and business case need to be constructed.

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