WHITE PAPER

contigo
Part of the energyone group

The New Generation of ETRM Systems

Researched and written by

Commodity Technology Advisory

CTRM Market Research, Analysis and Insights

smarter. simpler.

www.contigosoftware.com Tel: +44 (0)845 838 6848

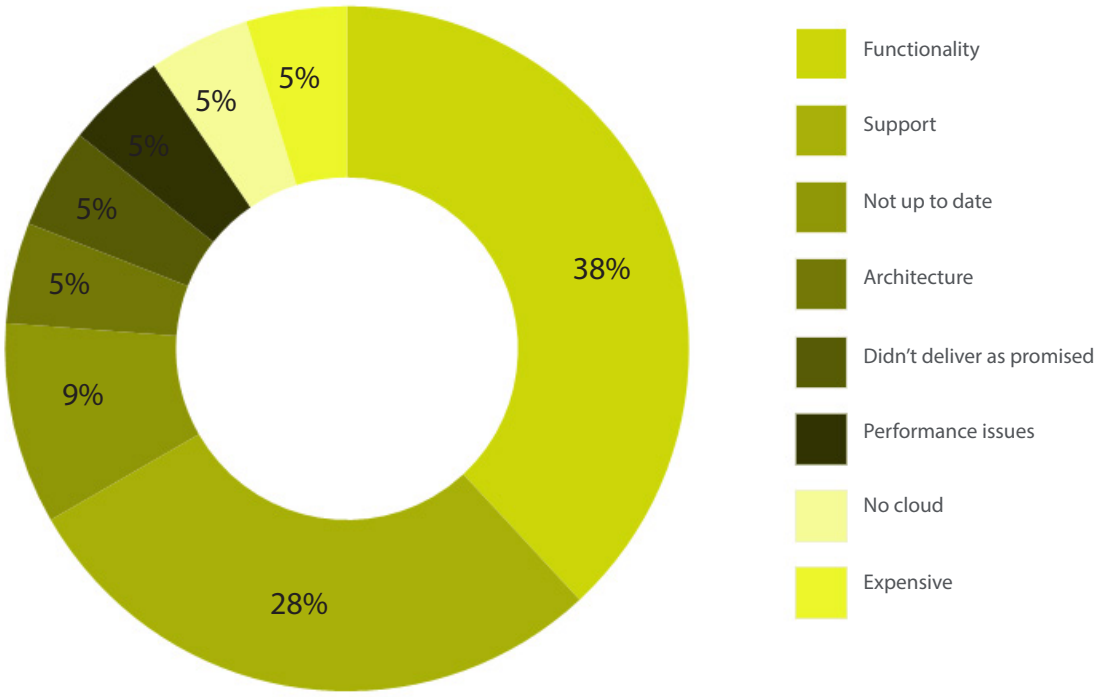
Introduction

Energy Trading and Risk Management (ETRM) solutions have now been a part of the broader wholesale energy trading application landscape for around 20-years, having evolved in step with both business and technology trends over that time period. As a result of this evolutionary process, there are a large number of diverse solutions on the market that address any number of combinations of industrial segments, energy commodities, geographic locations, and functional reach. But, ultimately what is it that separates one ETRM solution from another?

The obvious answer to this question is functionality first and foremost - customers need a certain functional footprint that addresses the needs of their business. However, how a solution is architected, designed, and deployed is also a key criterion that should not be under estimated when assessing solutions and recent research bears that out (Figure 1).

In recent years, the emergence of web-enabled, or cloud-based, ETRM solutions serves to emphasize that point as the ability to more economically license and reduce implementation timeframes of these critical systems is gaining greater importance. This whitepaper briefly examines system architecture and design as a differentiator when selecting ETRM software and also reviews Contigo's approach in this context.

Figure 1: Reasons for dissatisfaction with CTRM Solutions



Source – 2016 Vendor Perceptions, Commodity Technology Advisory Report

FUNCTIONALITY VERSUS SYSTEM FEATURES?

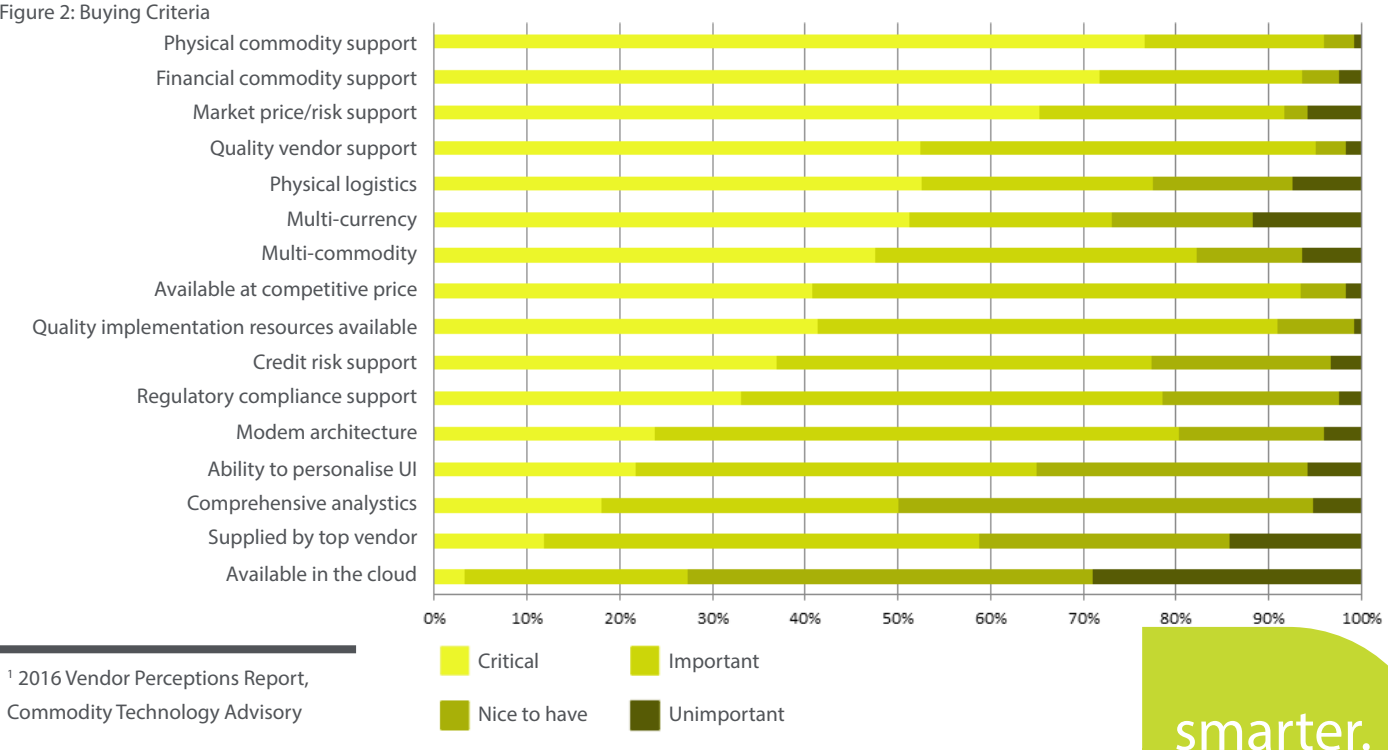
Research[1] by Commodity Technology Advisory into buying criteria also demonstrates the above assertions, ranking functionality issues as more important than system features. However, system features such as a modern architecture and ease of personalization still rank highly (Figure 2). In an era of increasing market complexity and speed, and increased oversight and scrutiny by both regulators and stakeholders, it is our view that certain system features being more sought after and will increasingly be viewed as significant competitive differentiators.

These include features such as;

- Availability of comprehensive and easily retrievable audit trails, giving ability to see who did what, when, and for what reasons,
- Workflow management capabilities to enable streamlined processes, with checks and balances, and is fully auditable to provide accountability and controls,
- The ability to visualize information in highly usable form, in near real-time and to be able to drill down into that information to rapidly identify exceptions, find opportunities, help formulate trade ideas, and identify trends,
- Ability to manage and consume large amounts of data quickly and efficiently,
- The ability to personalize and save screens so that users can have immediate access to just those screens and sets they require.

At the same time, ease of implementation and availability of quality support are also high value features both in terms of keeping down costs and staying current with market trends and functional needs. These features will be key in rapidly integrating the solution effectively into the general application architecture of the user company.

Figure 2: Buying Criteria



Source - Vendor Perception Study, 2016, Commodity Technology Advisory

[1] 2016 Vendor Perceptions Report, Commodity Technology Advisory

smarter. simpler.

EVOLUTION OF ETRM SOLUTIONS

As the industry has evolved in terms of functional needs and preferred technologies, so too have the ETRM systems provided by vendors. Early solutions tended to be client/server applications, installed and maintained on customer servers; however, with the widespread adoption of web technologies, modern solutions are increasingly web-enabled using a services architecture, and available as a cloud-hosted application[2]. Nonetheless, the pool of vendor provided systems still contains everything in between those points, as many older platforms continue to be updated and modernized by the vendors. When it comes to ease of implementation, integration and support, it is an imperative that the application architecture is clear, modern, and well-designed as opposed to a jumbled mixture of bits and pieces bolted in through time…and even running on multiple technology platforms.

Furthermore, after two decades of experience attempting to solve the problem, building upon a coherent and extensible architecture is a basic requirement. This involves not just making technology decisions, but also design decisions to maximize performance, configurability, integration, and support. Ensuring that data is captured and maintained in the system in such a way that it is accessible via near real-time reporting both on screen and in paper format is an example of how design considerations can have an impact on system usability.

In general, more recently developed solutions are built on more flexible, adaptable and extensible architectures and technologies, yet they will likely have a more limited range of functionality. Older solutions may have a broader set of usable functionality due to the breadth of deployment over their life, yet they may also be utilizing older architectures, tools and technologies. This is a dilemma that all users procuring new solutions face and while our research shows that functionality is often deemed as most important, selecting a well-designed and architected solution that provides for structured extensibility can minimize risks and costs over time.

[2] 2016-2021 CTRM Market Update, Commodity Technology Advisory Report, 2017

ARCHITECTED FOR USE

Unfortunately, a rapidly changing industry means rapidly changing requirements and in recent years, increasing regulation and oversight has meant that compliance, controls, and reporting are increasingly important for users (Figure 3). In recent months, traders have been fined large amounts by the CFTC, amongst other regulators, for trade manipulation issuing total fines of more than $1.2 billion in 2016 alone[3]. Over time, ETRM solutions have evolved from monolithic solutions to a tightly coupled collection of modular components that better facilitates rapid development and deployment of new functionality. There has also been significant attention paid to configurability and personalization such that the same ETRM solution can be deployed in different contexts (e.g. across industry sectors like utilities, retailers, generators and so on) and provide rich functionality targeted at specific users out of the box.

With the advent of the Internet and cloud, more modern solutions have web-enabled and highly usable user interfaces, and include discrete services to deliver functionality including integration, reporting and even performance improvements. A key consideration, often not considered by many, is the ability to upgrade without a near re-implementation of the system. Unfortunately, many users of older ETRM solutions now find themselves stuck on older versions of the solution unable to justify the cost and risk of an upgrade. Many invariably end up having to self-support it at significant and ever-increasing cost. Adding bespoke functionality to address business change results in increased complexity and unsustainable costs which can ultimately force an organisation to abandon the solution altogether.

Figure 3 – ETRM Capability Requirements in current business environment

Source – ETRM in a low price environment, Commodity Technology Advisory Report, 2017

[3]https://www.reedsmith.com/en/perspectives/2017/01/us-cftc-enforcement-key-compliance-takeaways-from

smarter. simpler.

CONTIGO'S APPROACH

Contigo is a fairly recent addition to the ETRM and related software market offering a variety of applications to the European energy industry. Increasingly known for ease of implementation, and having been in existence long enough (since 2006) to have garnered a strong and vibrant customer base and solid brand awareness, its solutions are available hosted in the cloud or traditionally installed. This means that Contigo has more modern software developed on a coherent web-enabled architecture but that it has added sufficient functionality to be broadly applicable to European energy markets and to perhaps lead in some of those markets.

Commodity Technology has been in the position of following Contigo as an analyst firm for many years watching the company grow and broaden its geographic and functional reach across the market place. The company's founders, having worked in the industry for years prior to launching the business, had years of experience developing and implementing third-party and internally developed software. Applying "lessons learned", this team adopted a particular set of architectural principles from day one:

- Simple architecture based on an application server, a windows service and database,
- All user access via a web browser,
- Designed to handle large volumes of time series data quickly,
- All data accessible via SQL,
- Majority of functionality accessible via web services API,
- Same architecture for deployed and hosted customers,
- Designed for extensibility to all "plug ins",
- Designed for integration using managed 'worker' services,
- Consistent and flexible user interface,
- Processing should be real-time and not rely on end of day process.

One of the differentiators from day one was their decision that all trades, positions, and curves hold volume, price and so on, were captured and maintained in the system as time series data – and the system is continuously optimized to ensure such data can be imported rapidly. The time series data is held at the granularity of the specific commodity based on calendars such as 15-minute, half-hourly allowing summations of data to any level but, more importantly, it becomes much easier to aggregate, slice and dice data, which is exactly what users require. This is an example of how design can impact usability and performance providing differentiation in the process.

Integration is also a key concern as ETRM solutions must aggregate data from, and send data to, a large number of other systems within the enterprise. Contigo's integration framework is a good example of how vendors tackle this problem with more modern applications. Typically, Contigo's enTrader is deployed within a broader application and data landscape. This landscape can include a variety of

external systems like nominations & scheduling, finance and accounting, optimization applications and communications. To ensure customers can effectively integrate enTrader into their business and technical infrastructures, Contigo take a multi-faceted approach:

- Providing secure access to all functionality available through the user interface via a web services API,
- Seamless, out-of-the-box integration to Trayport Joule Direct, APX, N2EX and EPEX ETS using the Connect module. The Connect module captures the raw data from the venue and then applies mapping rules and enrichment to convert the raw trade into an enriched enTrader Trade. The enrichment process will determine the correct counterparties and agreement, determine the correct product, delivery dates and notional value and volume and will determine the correct trader and book. The Connect module is maintained by Contigo so it is always up to date.
- Allowing other providers to "plug in" additional functionality allowing seamless extension to the base functionality,
- A number of other features including standard Excel import/export and document generation templates.

By providing this integration framework, Contigo is able to swiftly implement and set up its solution for users.

Contigo has developed an overall set of architecture principles and adopted specific designs such as a time series data approach and modular architecture. This ability to configure and 'plug in' custom functionality enables its solution to be implemented rapidly with minimum disruption. These same features allow it to provide cost effective support and maintenance as well keeping costs and risks down for its users. The founders of Contigo thought carefully about implementation and support when setting out to design their solutions coupled with their experiences with other commercial and indeed, bespoke solutions. Their choice of technologies enables delivery in the cloud which, even if the customer settles on a traditional install, still helps the customer by providing snapshots of upgrades and work in progress via the cloud and has helped it gain a reputation for ease of implementation in the marketplace.

The New Generation of ETRM Systems

ARCHITECTURE, TOOLS AND APPROACH MATTER

One key driver of any selection exercise will always be functional fit. Unless the solution meets the functional needs of the buyer, it's a non-starter. However, in procuring solutions, buyers also need to consider other factors such as ease of implementation, cost of support, ease of making upgrades to stay current with industry needs and software developer's versions, as well as industry regulations and the increased emphasis on controls. The best way to assess this is to look at the architecture of the solution, including the underlying architectural and design principles used by the vendor.

The Contigo approach is an example of how architectural and design principles can influence all aspects of a solution's ability to deliver value without high costs and without undue risks such as non-delivery or sub-optimal use. In today's more cost sensitive markets, these are all key differentiators and buying points for those selecting ETRM software.

Note: enTrader is a registered trademark of Contigo Software Limited.