

Industry Paper

The Evolving Needs of the Regulated Energy Utility

Profile : Regulated Energy Utilities

Utilities operating in the regulated sector of the energy market are typically vertically integrated with distribution, retail and sometimes generation operations. Some are not-for-profit organisations owned by the communities that they serve while others are subsidiaries of investor owned utilities.

Industry deregulation has introduced retail competition in a number of states. Regulated utilities do not compete for customers in deregulated markets. They retail energy only to customers connected to their distribution network and the tariffs that they can offer are constrained by the state regulator. In some states incumbent utilities are nominated as suppliers of last resort for customers who do not select an alternative energy retailer.

The deregulation process has had an impact on many regulated energy utilities. Those operating in deregulated states now have to deal with third part retailers trading over their distribution networks. Some utilities have noticed that stakeholders have enhanced expectations of customer service and operational efficiency.

Many regulated utilities have found that they need new tools to operate in the evolving energy marketplace. Many have found that legacy customer management tools simply do not offer sufficient functionality and flexibility.

Kinetiq's suite of products has been developed to assist utilities – both regulated and nonregulated – in the evolving energy marketplace.

Load Profiling

- **Challenges**

Effective management of the distribution network requires a detailed understanding of energy load profiles at nodal points and of larger commercial and industrial (C&I) customers. Investment in the network – installing or upgrading transformers for example – can be better managed by examining trends in network loading including the identification of peak load magnitude and duration.

Most utilities will have a SCADA and GIS system to manage and control their generation and distribution assets by monitoring realtime energy flows and network status. SCADA and GIS systems do not normally however monitor the trends in energy flow necessary to make appropriate capital investment decisions.

- **Solutions**

Kinetiq's Data Management module collates and stores interval data in a compressed and time bound format. Data can be rapidly retrieved from individual or aggregated metering points for graphical analysis by *Kinetiq's PowerView* module which provides user definable tools to identify trends, peaks and derived values for the data.

Kinetiq's Network Management module models the distribution network on a hierarchical basis from generation or transmission grid exit points through network nodal point such as distribution substations down to individual large customers. The *PowerView* module provides utilities with 'what if' capabilities including identifying prospective system loadings from additional load at nominated points on the network.

The *PowerView Web* module can also be applied to provide larger customers with web enabled access to the load profile information that they require to effectively implement demand side management programmes.

Tariff Management

- **Challenges**

Energy tariffs offered by regulated retailers tend to be relatively straight forward with limited options for each customer group. Tariffs have to be approved by the state regulator who may either impose tariffs or require that retailers submit prospective tariffs for approval.

The approval process and the implementation of revised tariffs in many cases offer challenges. Some CIS systems require expensive and time consuming alterations to accommodate new tariffs. Few offer the ability to model prospective tariffs in a meaningful manner for presentation to the regulator.

The challenge of effective tariff management is compounded for utilities providing access to their distribution networks for third party retailers. Distribution use of system charges have to approved and applied either to individual customers supplied by third party retailers or on a aggregated basis.

- **Solutions**

Kinetiq offers a Billing module which provides the ability to develop basic and complex tariffs from a wide range of user definable components including cost per unit, maximum demand charges, reactive charges and non energy related elements such as monthly service fees. The module can manage both energy and distribution use of system charges.

Tariffs are managed through a user friendly front end based in a *Windows* operating environment. Tariffs can often be constructed or adjusted in a matter of minutes and applied to specified customer groups from a predetermined date.

Where retailers wish to offer their high value customers customised tariffs the tariff management module provides the ability to develop more complex tariffs including time of use (interval), average peak, take-or-pay and many other elements.

The Billing module's tariff comparison toolset additionally provides the ability to model prospective tariffs against actual aggregated metering data to demonstrate prospective cost and margin as part of the regulatory approval process.

Customer Management

- **Challenges**

Regulated utilities do not usually actively compete for customers and they have no ability to service customers beyond their distribution networks. Customer service levels are nonetheless important. Many utilities are finding that the national deregulation process is enhancing customer service expectations.

Some regulated utilities are finding it desirable to more proactively service any large C&I customers who have or may in due course have a competitive choice as losing such customers may otherwise impact on energy trading economics.

- **Solutions**

In addition to supporting demand side management *Kinetiq's* PowerView module can support to key account management programmes which utilities are starting to implement. The ability to graphically analyse energy profiles at and beyond the point of supply allows key account managers to add real value to their customers' businesses in ensuring that they make the most efficient and effective use of energy which for many is a major operating cost.

Integration

- **Challenges**

Most regulated utilities operate legacy systems which have met their needs to date. Although it may be desirable to install new CIS, CRM or other data management systems it is rarely justifiable to do so from a cost perspective. In the meantime however the evolving market environment is making new demands which need to be addressed – needs which potentially incur significant costs.

A real challenge for many utilities is enhancing the functionality and flexibility of their data management systems in a cost effective manner while maintaining an upgrade path for the future.

- **Solutions**

The modular design of *Kinetiq*'s product set offers an incremental approach to the upgrading of data and customer management systems. Each of the modules detailed in this paper are available in standalone formats.

Further flexibility and cost effectiveness is offered by the provision of universal interfaces. Modules are designed for ease of integration to legacy systems. This approach allows utilities to focus on areas of greatest concern while maintaining a seamless customer and data management interface.