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## The Opposite of Disintegration?

### November 11, 2005

The obvious answer to the aforementioned question is "integration" and clearly this is where utilities are heading in respect to many of their operational, customer service, and back office systems. But the path in getting to this integrated promised land is proving to be windier and more treacherous than any trail one might encounter from the Appalachians to the Sierra.

While there are some utility systems integration success stories, many of which have been well documented and publicized, once one "pulls back the curtain", the integrated solution is often some form of interface, "klugey" set of data integrations, system tie-in, a limited pilot, or (a personal favorite) a "manual interface." The good news, however, is that these early successes have laid a foundation for a business and technology environment that is now "leaning forward" relative to its posture with integrated systems in utilities.



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At the forefront of this new environment are many drivers, a few of which we will examine here, including mergers and acquisitions, utility senior management IT strategies, the realization of Advanced Metering Infrastructure ("AMI"), and availability of new integration technologies.



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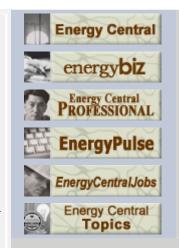
At the senior management level, it appears that CIOs are poised to invest in integrated solutions that are strategically important for the continued viability of their utility organization, including efficiencies gained through mergers and acquisitions. In The CIO Report published earlier this year, industry analyst Warren Causey reported that:

- Over two-thirds of utility CIOs have "a seat at the table" with their CEO and senior management team,
- Over 70% of CIOs are planning to increase their capital IT budgets, and
- Two out of five CIOs are not satisfied with their current IT infrastructure.

All of this suggests that, for the first time since the 1990s, senior utility IT management is again positioned to make strategic investments in integrated solutions. This is not to suggest that the funding floodgates have been opened or that executives will start throwing money at solutions. What this does mean is that senior utility management, while still in a mostly regulated environment, can see the writing on the wall; namely, that they need to simultaneously demonstrate tangible improvements in customer service, meet regulatory requirements, and improve operational efficiencies that show up at the bottom line. This all screams "integrated IT solutions!" from deploying field crews with real-time mobile data capabilities for more efficient field operations, to integrating outage management systems and customer information systems to improving customer service during outages, and more -- the examples abound.

AMI advances occurring in California and Ontario, Canada are beginning to demonstrate that AMI smart meter technologies will soon become enterprise level solutions that support billing, demand response, revenue assurance, outage detection and asset management functions as utilities become more attuned to the benefits of customer centric data. A significant pre-condition, however, is the ability of utilities to mine this data, store it in data warehousing applications and distribute it in an efficient and timely manner to other systems through well-designed interfaces.

For many applications such as outage detection and management, a near real- time interface is required to



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efficiently deliver meter generated outage alarms for outage identification and power restoration verification. Unless well-defined interfaces with such other systems are developed, utilities will not be able to capture the full benefits envisioned for AMI that justified the huge initial costs of implementation.

Integration technologies have also evolved to the point now where achieving a "truly" integrated solution is not the pipe dream of a techie in the back office. Off-the-shelf hardware and software deployed using computing and communication standards and webenabled applications are just two examples of leaps forward in the integration paradigm. A third emerging integration driver is Service-Oriented Architecture ("SOA").

SOA, which is already being deployed in other vertical industries, particularly with the federal government, is an approach to configuring IT systems so they represent interoperable, discrete business functions. This is not new, but the advent of standards-based Web services has made the SOA approach more acceptable. It also worth noting that SOA requires a new approach, a "philosophy", involving the way IT systems are deployed. It is less a specific technological breakthrough than it is an open standards-based philosophy for how data and information is viewed and linked. Several vendors are already building solutions based on SOA, and third party vendors providing SOA integration solutions are also emerging.

The significant amount of M&A activity taking place in the utility industry today is another important driver of system integration, as utilities attempt to achieve economies by placing their newly merged companies on common utility software platforms and integrating solutions to best cope with their growing service territories. Many merged companies have recognized that common geospatial mapping systems (GIS) and SCADA systems, for example, are essential to achieve efficient utility operations, and implementation of these common platforms has created new opportunities for utility consulting firms with system integration capabilities. The successful introduction of enterprise asset management, enterprise resource planning, materials management and centralized maintenance programs is predicated on the ability of utilities to develop common data models and interface schemas that can successfully map operations, work

management and other information to the enterprise level.

Clearly, the challenge is there for utilities to achieve the full benefits of expensive system installations through their successful integration with other utility applications. Meeting corporate objectives for improved network reliability, profitability and customer satisfaction will depend to a significant degree on the ability to reduce operating costs without affecting the key performance matrices that govern utility performance. Obtaining these efficiencies will not be easy. Effective systems integration offers the best chance for utilities to obtain tangible enterprise level benefits that can help contain operating cost while at the same time improving, or at least maintaining, current performance levels.

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