EXECUTIVE SUMMARY: Next Generation Utility CIS
Utility Billing and Customer Information Systems in the Age of the Smart Grid: Market Analysis and Forecasts

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Section 1

EXECUTIVE SUMMARY

1.1 The Beginning of a Major Transformation

Smart grid implementation places utilities under the same heavy pressure as did the energy market deregulation that took place more than 20 years ago, which is just being completed now in many states. Customer Information Systems (CIS) and billing are among the main elements of a successful smart grid implementation and a major transformation challenge for utilities. On one hand, utilities are forced to move forward at the very fast speed at which they are implementing smart grid infrastructure but, on the other hand, they are hampered by the constraints of having to deal with the legacy of heavy systems and software that often are more than 20 years old. All utilities are not equal when confronted with these pressures, due to their location, their obligations to their customers, the state of their IT infrastructure, and the solution they are currently using.

The electric utility market is also divided into large utilities (generally investor-owned utilities with more than 1 million customers) and small and mid-sized utilities, most of which are cooperatives or municipal entities. They all have in common the fact that they are doing business in an environment with little competition, which is a primary characteristic of the utility business. But the competitive dynamics are changing, due to the combination of:

- The technical flexibility allowed by the smart grid;
- The development of alternative energy providers whose access to the distribution network will be facilitated by regulation; and
- The legislators' willingness to put this market under more competitive pressure.

The impact will likely be stronger on the big players, at least for the next decade, because many of them are located in states that are more advanced in terms of market deregulation. Many large utilities (starting at approximately 1 million customers) have been involved in a complete renovation of their IT in the past five years that included ambitious data center renovation programs. Many also implemented smart grid pilots, usually in cooperation with local regulatory authorities.

No less than 476 companies (including almost all of the large electric utilities) applied for last year’s Smart Grid Stimulus Grant program worth a total of $3.5 billion. Only 100 applicants of all sizes were selected to receive part of the grant including 86 utilities. Since the beginning of the grant allocation process, this program is giving a boost to the smart grid transformation by accelerating the deployment by utilities of smart grid infrastructure, such as smart meters, advanced metering infrastructure/automated meter reading (AMI/AMR), and meter data management systems (MDMS). The next step to come very quickly will be for them to take care of their CIS and billing transformation. This critical transformation, which largely depends on the success of the smart grid transformation, is currently hampered by hesitations from the legislative side due to concerns about the cost for customers.

These roadblocks will need to be eliminated, but CIS and billing system transformation is a very long, heavy, costly, and risky endeavor to which utilities react in very opposing ways. Some utilities are in a wait and see position, while others have decided to tackle this transformation as soon as possible. The attitude towards this transformation ultimately
depends on two critical factors:

- The current status of their CIS and billing system; and
- The way they look at how their business will be turned upside down (or not) by the combination of the smart grid technology with the development of new energy generation technologies, and with new regulatory frameworks.

The electric CIS and billing landscape is characterized by the large market share owned by a product called Customer/1. While an excellent product, it is outdated to the point that customers have no choice but to fully replace it; any significant changes to Customer/1, such as adding the net metering function could cost millions of dollars. Of course, this is an assumed dollar amount since, so far, nobody has tried to implement this, and we highly doubt anyone will ever try. Today, Customer/1 represents almost 30% of the market (in terms of connection to meters installed). This solution is installed at many of the biggest utilities. As it phases out from the competitive landscape, it will create a vacuum that established vendors, mainly SAP and Oracle, are eager to fill. The vacuum also attracts new entrants from the telecommunications CIS and billing world, such as Convergys and Smart Grid Metering.

SAP and Oracle can leverage their extensive footprints in this market along with their considerable industry expertise, but they need to adapt their solutions to the new functionalities imposed by the smart grid (e.g., multiple options of variable rates including prepaid and net metering), which, in both cases, is time consuming and costly. They both committed to the changes in front of their clients, but SAP seems to be ahead of Oracle in putting together a roadmap for CIS billing and delivery.

Both companies are building on their extensive international experience. SAP started offering a detailed roadmap in 2008, which includes three steps that will roll up into a complete solution for utilities by 2012. Complex billing features will be available at the end of 2010. Oracle started working on it in 2009 and has not yet promised any dates for completion.

Telco CIS and billing vendors come to the utility market with solutions that are technically more flexible and with some of the new functionalities ready to be implemented because of their experience with the Telco market, where complex billing is inherent to the operation of wireless networks. Telco solutions providers are at a disadvantage against the established vendors, due to their limited knowledge and limited footprint with utilities. They also lack the partnerships that could help them get a foot in the door. Most importantly, Amdocs, the leader in telecom billing, is not interested at all in the utility market.

Utilities are quite conservative and Pike Research believes that most of them will stick to the vendors they already know, especially if they deliver on their promise to adapt their products on time. However, a lot of room still exists for Telco solutions providers to reap some of the benefits of the smart grid on the condition that the vendors understand the broad transformational dimension of the utility CIS and billing projects, find the partners that will help them gain credibility, and proactively develop the functions that are missing with their solutions, such as net metering.

Pike Research believes that most big utilities (representing almost 90 million customers) will have changed their CIS and billing systems by 2015. Additionally, some smaller utilities will upgrade their systems. This will represent a total market of more than $4 billion dollars for vendors.
By 2015, Pike Research believes that SAP and Oracle will become the clear market leaders in the utility CIS and billing market, as Customer/1 will be almost completely phased out of it. Accenture, which developed and installed Customer/1 for more than 20 years (originally under the name Arthur Andersen), will also benefit greatly from this transformation since Customer/1 customers are happy customers. This puts Accenture in a very favorable position for leading major smart grid business transformations that would bring together its project management office (PMO), systems integration, and, in some cases, outsourcing services.

As with any business transformations, this comes with a lot of uncertainties. Vendors that bring together strategic thinking along with consulting, systems integration, and implementation will benefit significantly from this transformation, which may be the first of this magnitude since the deregulation of the wireless telephony market in the 1990s.

As for the utilities, this change represents a massive cultural shift. These very conservative businesses have to change their culture to become customer-centric. They have to get used to the idea of competition and get ready to face a totally new competitive environment in record time. CIS and billing transformation is at the heart of this transformation and, yet, that is only the visible part of the iceberg.

Chart 1.1  
**Installed Base by Vendor, United States: 2010-2015**

(Source: Pike Research)
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SCOPE OF STUDY

This Pike Research study focuses on emerging trends in utility CIS. It covers the impact of smart grid technologies and of regulation on the policy of U.S. utilities and how they intend to react to these changes. It includes a five year forecast of the trends regarding the adoption of new generation utility CIS along with an assessment of the competitive positioning of top vendors. The report also describes the position of utilities on the U.S. market, taking into account their size, legal status and location in order to understand what direction they may take regarding their CIS system. This report is based on many interviews of a broad range of market players and on assessments of the main directions the smartgrid and smart metering markets are taking. This report focuses on the United States.

SOURCES AND METHODOLOGY

Pike Research’s industry analysts utilize a variety of research sources in preparing Research Reports. The key component of Pike Research’s analysis is primary research gained from phone and in-person interviews with industry leaders including executives, engineers, and marketing professionals. Analysts are diligent in ensuring that they speak with representatives from every part of the value chain, including but not limited to technology companies, utilities and other service providers, industry associations, government agencies, and the investment community.

Additional analysis includes secondary research conducted by Pike Research’s analysts and the firm’s staff of research assistants. Where applicable, all secondary research sources are appropriately cited within this report.

These primary and secondary research sources, combined with the analyst’s industry expertise, are synthesized into the qualitative and quantitative analysis presented in Pike Research's reports. Great care is taken in making sure that all analysis is well-supported by facts, but where the facts are unknown and assumptions must be made, analysts document their assumptions and are prepared to explain their methodology, both within the body of a report and in direct conversations with clients.

Pike Research is an independent market research firm whose goal is to present an objective, unbiased view of market opportunities within its coverage areas. The firm is not beholden to any special interests and is thus able to offer clear, actionable advice to help clients succeed in the industry, unfettered by technology hype, political agendas, or emotional factors that are inherent in cleantech markets.
NOTES

CAGR refers to compound average annual growth rate, using the formula:

\[
\text{CAGR} = \left( \frac{\text{End Year Value}}{\text{Start Year Value}} \right)^{\frac{1}{\text{steps}}} - 1.
\]

CAGRs presented in the tables are for the entire timeframe in the title. Where data for fewer years are given, the CAGR is for the range presented. Where relevant, CAGRs for shorter timeframes may be given as well.

Figures are based on the best estimates available at the time of calculation. Annual revenues, shipments, and sales are based on end-of-year figures unless otherwise noted. All values are expressed in year 2012 U.S. dollars unless otherwise noted. Percentages may not add up to 100 due to rounding.