Today’s Meter to Cash Challenge – M2C Roadmap

*Complete solutions, complete choice*

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Oracle – Industry Experts

Steven Windsor – Senior Director Utility Solutions Japan Asia Pacific

30 +years working both internationally and locally on Gas, Electricity and Water implementations

South Africa, Japan, Canada, Australia, Philippines, New Zealand, Indonesia – just to name a few!

Heads a team of UTILITY EXPERTS – All hired from Utility Businesses. WE UNDERSTAND UTILITIES
Utility Industry Challenges

The focus of the utility industry has not changed substantially

Deliver affordable electricity/gas/water to customers reliably, cleanly, and safely
Utility Industry Challenges

New challenges and demands are emerging to threaten a utility's ability to accomplish its primary mission

- Customer Relationships
- Infrastructure Transformation
- Deliver affordable electricity/gas/water to customers reliably, cleanly, and safely
- Regulatory Compliance
- Demand Management
- Revenue/Profitability
Steps to meet Utility Industry Challenges

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<th>Improve Customer Relationships</th>
<th>Infrastructure Transformation</th>
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<td>• Actionable information to manage usage</td>
<td>• Implement smart grid and metering</td>
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<td>• Utilize multiple interaction channels</td>
<td>• Proactive asset management</td>
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<td>• Provide 360 view of customer activity</td>
<td>• Condition based maintenance</td>
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<td>• Proactive customer experience</td>
<td>• Operational device management</td>
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<td>• Smart Meter rollouts</td>
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<td>• Predictive Analytics</td>
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<td>• Field work optimization</td>
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Utility Industry Challenges

### Comply with Regulatory Requirements
- Accommodate renewable energy
- Meet energy efficiency and demand response mandates
- Implement smart metering and grid
- Accommodate electric vehicle & natural gas charging
- Enable microgrids and virtual power plants

### Expand Demand Management
- Automate energy efficiency and demand response processes
- Implement customer analytics to determine best offer portfolios
- Utilize retail marketing techniques
- Support energy management programs like Green Button
# Utility Industry Challenges

## Increase Revenue/Profitability

- Theft
- More accurate forecast of usage patterns
- Accommodate complex rates (PTR, CPP, de-coupling, FIT, Net Metering, etc.)
- Develop new sources of revenue
- Energy advisor
- Improve collection management
- Establish strategic technology partnerships
Meter to Bill Process Considerations

• Meter to Bill Process Complexity
• Meter/Data Comms Network Operating Implications
• Changing Master Data Ownership between applications
• Customer data rights and ownership
  – Market participants
  – Customer Privacy
• Leveraging the Technology to provide additional services
  – Home Services
  – Energy Efficiency
  – Demand Response
  – EV Services
  – Distributed Generation services
# Advantages of newer CIS Systems

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<th>Legacy CIS Systems</th>
<th>New Business Requirements</th>
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<td>Monthly Billing</td>
<td>- New pricing models – RTP, TOU, CPP</td>
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<td>- Near real time usage</td>
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<td>Passive Customer</td>
<td>- Customer Engagement Tools/Active relationship</td>
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<td>Monolithic</td>
<td>- Componentized into Rating &amp; Billing, Credit &amp; Collections, Customer</td>
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<td>Central Generation</td>
<td>- Distributed Generation, non traditional customers</td>
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<td>Meter and Interval Data in CIS</td>
<td>- Bill determinants from Meter Data Management</td>
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<td>Energy Services</td>
<td>- Non energy services and demand services</td>
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- New pricing models – RTP, TOU, CPP
- Near real time usage
- Customer Engagement Tools/Active relationship
- Componentized into Rating & Billing, Credit & Collections, Customer
- Distributed Generation, non traditional customers
- Bill determinants from Meter Data Management
- Non energy services and demand services
Customer Care and Billing
# Oracle Utilities Customer Care and Billing

## Functional Summary

### Customer Service
- Provides the CSR with a 360° view of the customer to handle any request
- Integrated customer self service
- Schedule and track field work
- Seamless User Interface and workflows

### Rating and Billing
- Calculate any utility tariff.
- Bill metered or unmetered services, one-time or cyclical
- Support billing for smart grid (net metering, electric vehicles, prepaid)
- High volume and high performance

### Credit and Collections
- Process payments
- Provide a variety of payment plans
- Manage overdue bills

### Customer Program Management (coming in CC&B 2.4)
- Manage customer communication preferences
- Marketing campaign management including customer segmentation
- End to end program management (e.g. conservation programs)
Meter Data Management Overview
Smart Meter initiatives continue!
“…annual smart meter shipments are projected to surpass 140 million units worldwide by 2016, up from 25.4 million in 2011. This represents a **compound annual growth rate (CAGR) of 32.9 percent** over the 2011 to 2016 period” - Dean Chuang, IDC Energy Insights
Evolution of Meter Data Management

Moving Beyond Basic Meter-to-Bill

First generation built for C&I customers ...

- Been around for years
- Focus on flexibility and complexities required to support C&I rates

Smart meters extend focus to residential market...

- Volume of data exponentially higher
- Leverage knowledge from the C&I market to standardize and automate processes for the residential market
- Increase customer expectations
- Continue to support the C&I demands

Expand beyond “meter to cash”

- Built for performance
- Leverage MDM to increase utility effectiveness
  - Operational efficiency
  - Customer satisfaction
  - Asset utilization
  - Revenue protection
  - Expand business opportunities
The Value of Accurate, Complete Meter Data

Billing and Collections

• Provides data to bill complex interval rates
• Aids detection of energy and water theft
• Provide data to net bill customer for generation injected into grid
• Enables prepaid metering

Operations

• Optimizing asset utilization through load aggregation
• Aids determination of potential outage
• Improves water and gas leak detection
• Aids determination of where to direct infrastructure upgrade or replacement
• Provides means to reduce grid-related capital expenses. Network managers can analyze and improve block-by-block power flows. Distribution planners can better size transformers. Engineers can identify and resolve bottlenecks and other inefficiencies.

Customer Service

• Provides detail usage information to customers to aid in energy and water usage decisions.
• Provides information to help answer customer inquires about bills and usage
The Value of Accurate, Complete Meter Data

Marketing

- Provides data to qualify customers for energy/water demand response and conservation programs.
- Provides proof of compliance or non compliance with energy/water conservation programs
- Determines effectiveness of energy/water and conservation programs.

Generation Planning

- Provides data for forecasting future demand
- Provides data to aid in the rate recovery for generation assets
- Shaves supply costs. Supply managers use interval data to fine-tune supply portfolios. Because smart metering enables more efficient procurement and delivery, supply costs

Regulators

- Aids in preparation of rate cases
- Aids in the ability to prove results for demand response programs, etc.
MDM Market Trends

• Move away from low-functionality MDMs that are little more than VEE
• Move toward high-scaling MDMs
• Move toward MDM not only in electricity but also in gas and water
• Consolidation. Most initially independent vendors have now been acquired
• Move beyond meter-to-cash and toward summarized meter data to improve a wide variety of utility business functions
• Move toward using MDM as part of prepayment system that does not require specialized prepayment meters
## MDM Market Trends

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<th>Generation 1 MDM Systems</th>
<th>Generation 2 MDM Business Requirements</th>
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<tr>
<td>Strictly Meter to Cash Functionality</td>
<td>• Comprehensive support for Distribution and Meter to Cash Use Cases</td>
</tr>
<tr>
<td>Low Scale built for C&amp;I only</td>
<td>• Reengineered for both high functionality and high scale</td>
</tr>
<tr>
<td>Electric Only</td>
<td>• Complete support for Electric, gas, and water services</td>
</tr>
<tr>
<td>Custom Integrations</td>
<td>• Vendor supported integrations to leading AMI and CIS solutions</td>
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<tr>
<td>Silo’d Analytics</td>
<td>• Integrated analytics with Customer and Distribution applications</td>
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<tr>
<td>Traditional Cyclical Billing</td>
<td>• Support for multiple billing models (cyclical, pre-payment, event billing)</td>
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Smart Grid Gateway Overview
SGG Solution Overview In a Nutshell

More than just web services

- Processing of AMI vendor formatted Usage and Event data
- Execute smart meter commands:
  - Ping
  - On demand read
  - Commissioning/decommissioning
  - Connect/disconnect
- Adapter commands reusable from any enterprise application
- Usage and command data auditing and performance analysis

SGG integration foundation is reusable, extensible, upgradeable
Currently Available Productized Adapters

Making our Vision a Reality

- Landis+Gyr
- Itron MV-90
- Echelon
- Sensus
- Silver Spring Networks
- Itron OpenWay is currently in development

20 MDM V2 and 7 MDM/SGG customers worldwide
Oracle Utilities Business Intelligence
Oracle Utilities Business Intelligence Strategy

Oracle’s goal is to provide the Utility industry’s most complete, prepackaged analytics solution – a platform that...

- Provides end-to-end operational analytics for Utility Operations
- Meter to Cash, Customer Service, Distribution, Workforce Management, Asset Management
- Leverages productized and supported, utilities-specific extractors and schema
- Extensive collection of pre-built KPIs
- Is built on the globally recognized OBIEE platform
- Enables spatial views, and mash-ups, for better and more rapid decision making
- Provides a framework that is extensible beyond the Oracle Utilities operational suite
Continue to develop the mission solutions that meet the changing needs of the utilities industry across key sections of the utility value chain.

Ensure these solutions are interoperable within the utility value chain as well as with key partners.

Manage the data to get the required information to the desktop, as well as customers, to change behavior and asset reliability.

Develop new innovative products to compliment existing solutions and meet changing industry needs.