A successful Smart Grid requires seamless integration of all the systems involved; from the AMI infrastructure through to the utility’s enterprise systems. The eMeter EnergyIP platform and eMeter Advanced Applications offer an unparalleled degree of flexibility, providing utilities with much-needed enterprise agility in today’s dynamic technical and regulatory environment.

SAP is a leader in delivering mission-critical enterprise software including CRM, CIS and ERP systems. Thus, integrating SAP for Utilities with AMI infrastructure and Meter Data Management is a challenge that many utilities face as they deploy their Smart Grid technology. SAP invited eMeter, as a strategic vendor of Smart Grid Management solutions, to join the Lighthouse Council in 2007 as one of the original members to help shape and define their utility solution. The result – standard enterprise services (web services) for Meter Data, Unification, and Synchronization (MDUS) that join eMeter EnergyIP, the leading Meter Data Management platform, and SAP for Utilities, the leading enterprise system for energy companies.

eMeter is committed to a strong partnership with SAP for the benefit of our joint customers. We achieved certification as a SAP Qualified Business Solution (QBS) and actively participate in the Smart Grid CO-Innovation Council – the follow-on to the Lighthouse Council.

The eMeter EnergyIP MDUS Bundle: The eMeter EnergyIP MDUS Bundle is a SAP QBS for AMI and SAP Utilities. The bundle provides a proven and certified version of EnergyIP for SAP customers with some critical eMeter applications. This gives you the immediate advantage of seamless integration by using standard interfaces between your SAP and AMI systems. The use of standard interfaces assures the lowest total cost of ownership and continued support of the solution by SAP and eMeter. The eMeter SAP MDUS Bundle includes eMeter MDUS Integration Pack 5, which enables complete MDUS integration, receiving requests from SAP and routing them to the appropriate EnergyIP services for processing.

Core EnergyIP Functionality

Data Collection and Processing
• AMI Data Store
• Meter Usage Data Repository
• Data Collection Operations
• Real-Time Data Processing
• Data Synchronization Engine
• Real-Time VEE

At CPS, we have a history of embracing technological innovation to improve services for our customers. eMeter’s SAP MDUS solution allowed us to integrate eMeter EnergyIP to SAP with virtually no additional customization, dramatically reducing our AMI integration costs. We are now well-poised to give our customers the information they need to manage their energy usage.”

Lawanda Parnell
Senior Director of Enterprise Application Delivery, CPS Energy

www.siemens.com/emeter
The eMeter SAP MDUS Integration Pack: Key Functionality

With eMeter EnergyIP, you can quickly turn your data into actionable information that can be leveraged across the utility. eMeter provides two SAP MDUS Integration Pack options, one for the SAP IS-U Enhancement Pack 4 and one for SAP IS-U Enhancement Pack 5, 6, and 7. These integration packs enable the execution of end-to-end processes and data flow between systems, connecting the eMeter EnergyIP platform and eMeter Applications with SAP’s AMI features. The Integration Packs support the MDUS integration and web services that are delivered with these SAP releases.

Master Data Synchronization – As new meters enter the system, or data on existing meters is modified, SAP will trigger a web service to EnergyIP. EnergyIP receives this message and synchronizes this data.

Device Installation and Provisioning – After the installation of a meter, SAP will send EnergyIP the installation details. EnergyIP will create the relationship records tying the meter to a particular service point and location. (Note that SAP will also notify EnergyIP of a meter removal so that the relationships can be ended.) Once the meter has been installed and EnergyIP has completed the provisioning process, a notification will be sent back to SAP with the information that provisioning has been completed.

Meter Read Data Delivery – A variety of transactions in SAP will trigger a meter read request from EnergyIP, such as move-in/move-out, cycle billing, off-cycle reads, control reads, etc. EnergyIP will receive this information and create a request in the Billing Services application. Once the Billing Services application fulfills the request, the adapter will send the appropriate value back to SAP to complete the process. Requests can also be cancelled in the event that the read is no longer needed.

On-Demand Meter Reads – In addition to the ability to request a meter read for a specific date, SAP can also trigger a request for an on-demand read. When EnergyIP receives such a request, a message is sent to the meter via the Activity Gateway for a meter read. Once the request is fulfilled, the request is returned to SAP.

Interval Data Delivery – Interval data can be pushed on a regular basis to the SAP. Interval data goes through the Validation, Estimation, and Editing (VEE) process in EnergyIP. Validated or estimated interval values will be sent according to business rules and can be scheduled on a regular basis, for example, daily or at multiple points during the day. SAP receives this data and stores the values in the Energy Data Management component of SAP, at which point the Interval data is available for further processing in SAP.
**Enhanced Synchronization Capabilities** – Additional services have been added to support synchronization of new objects. Key among these are services that support sending Premise data and Device Location data. The ability to link devices is also possible. This will be useful for linking a communication module to a device or CTPTs. A tighter link with the Energy Data Management (EDM) module is also established in this release.

**Enhanced Meter Data Consumption Capabilities** – With EhPS, utilities will no longer be required to pass interval data to SAP EDM. An option exists to request framed usage data according to the TOU bins or critical peak times. Agents will have the ability to view interval data from the MDUS if required, for example, to analyze a rate or view the details behind a TOU bin. Interval data can continue to be replicated in SAP if desired.

**Meter Commands** – Additional web services are available that support connection status change and operational state check. If a meter has these remote capabilities, a connection status change request or an operational state check initiated in SAP will be sent to the MDUS. EnergyIP will route this request to the appropriate AMI head-end and upon execution of this request, EnergyIP will send back the information to SAP to complete the process.

**Event Handling** – New functionality is available to handle events coming from the meter. Certain event data will be sent to SAP for further action.

**Experience:**
eMeter, A Siemens Business provides essential software that enables electric, gas, and water utilities to realize the full benefits of the Smart Grid with the lowest cost of ownership. Leading utilities worldwide depend on eMeter Smart Grid Management Software to reduce operational costs, improve customer service, and drive energy efficiency. With the most large-scale deployments in the industry and strategic partnerships with SAP, Accenture, HCL, IBM, Sparta, CSC, Logica, and Verizon; eMeter has built a reputation for unparalleled expertise that ensures customer success.