



METER DATA UNIFICATION FOR ADVANCED METER INFRASTRUCTURES

The OSIsoft Meter Data Unification Synchronization (MDUS) system helps you put the finishing touch on your advanced meter infrastructure (AMI) initiative. This software collects meter data and delivers it to your SAP® AMI Integration for Utilities software – in real time – enabling you to perform operations such as billing and time-of-use calculations. An SAP-qualified business solution, the software also integrates data with operational management systems to help you manage outages, demand response, and other smart grid processes.

Collecting the Data for the Smart Grid

If you've already made the decision to go with SAP® software for managing an advanced meter infrastructure (AMI) on the smart grid, you're in good company. Utilities everywhere know that SAP AMI Integration for Utilities software uses smart-meter data to help optimize demand management, increase responsiveness, and improve customer service.

SAP AMI Integration for Utilities does not manage AMI processes on its own. To make AMI work, you also need a high-volume data-collection system that sits between the smart meters in your network and your SAP software. This is where the OSIsoft Meter Data Unification Synchronization (MDUS) system can help.

The Conduit for Real-Time AMI

OSIsoft MDUS serves as a real-time data collector that connects to smart meters to orchestrate AMI processes. As an SAP-qualified business solution, this system is specifically designed to complement SAP AMI Integration for Utilities. Rather than a stand-alone system that may not grow with your business, OSIsoft MDUS integrates with your SAP software environment and helps make AMI processes possible. To develop the solution, OSIsoft, LLC

worked closely with SAP as part of the SAP AMI Lighthouse Council. This is a consortium of utility companies and vendors that helped define the technical requirements for integrating SAP software with the AMI head-end systems that receive meter data directly.

What does this mean for you? It means that we designed our system to work directly with Web services made available by SAP AMI Integration for Utilities. This level of "preintegration" makes for rapid deployments and fast time to value. It also allows you to perform important tasks without customization – tasks such as billing calculations, meter provisioning, remote disconnect-reconnect, remote move in–move out, and AMI data synchronization.

What's more, you can extend OSIsoft MDUS to focus on smart grid initiatives beyond AMI – such as power generation, transmission and distribution, and water management. In the end, you have a robust data collection system that supports immediate AMI initiatives such as meter to cash, as well as a complete operational data management infrastructure for end-to-end smart grid operations.

Automated and Self-Maintained

To make AMI possible, you want a reliable data connector that you can trust to work on its own. This is why we've designed OSIsoft MDUS with advanced, self-maintained interfaces that automatically detect meters and create all required configuration records. This means hands-off operations for your IT staff.

Most AMI installations involve a wide range of head-end system vendors. Acknowledging this reality, we designed our interfaces to communicate with multiple head-end systems to recognize all associated meters. When these interfaces detect a new head-end system, they trigger the automatic creation of new meter-data repositories that include detailed data such as serial numbers, unique identification ID (UID), and meter manufacturer information. This automation alleviates administrative burdens on IT and allows your technical staff to focus on more productive activities.

Our interfaces also support the two-way communication that makes AMI such a valuable technology to utilities and consumers alike. For example, you can analyze incoming meter data and respond back to customers with options that may reduce consumption and help minimize energy costs.

OSIsoft MDUS also integrates meter data into your SAP software, allowing you to perform the data aggregation and business data validation required by regulatory authorities. You might also choose to do the

aggregation of time-of-use data within OSIsoft MDUS to relieve data transfer load and computational resources on your SAP software. Either way, OSIsoft MDUS helps automate critical aspects of regulatory compliance. Here again, this alleviates burden on your IT staff and frees you up to focus on more critical AMI issues.

Scalable and Highly Available

OSIsoft MDUS efficiently stores all data on a highly scalable server. Built on Microsoft Windows Server 2008, 64-bit platform, this server can support millions of meters on its own. With federation, just a few of these servers can support the needs of the world's largest utilities.

A powerful data archive on the server integrates into Microsoft Windows Active Directory for authentication and authorization – with access control down to the meter-attribute level. This means that you can grant specific access to individual meters or even meter attributes.

The server is also highly available. With no single point of failure, and the scalability needed to support the heaviest of loads, it can serve data to thousands of users and applications simultaneously. The server also supports multiple technical protocols including SQL-JDBC, OLE DB, OPC, and Web services. This enables the broad and easy access you need to manage billing processes, integrate with customer portals, or support any other business requirement related to AMI and the smart grid.

Ready Integration with SAP Software

Some data connectors run parallel to your back-end technical environment and generate volumes of redundant data that you then need to manage. OSIsoft MDUS, on the other hand, actually integrates with your SAP software environment and generates complementary data rather than duplicate data.

When OSIsoft MDUS detects a new meter, for example, it records all technical information – such as registers and channels – in a data directory using the IEC 61968-9 standard. It then connects to available Web services in SAP AMI Integration for Utilities to create a more business-oriented representation of the meter. All data is synchronized to enable a holistic picture of the meter. This helps you manage AMI processes in the real world without creating duplicate versions of master data.

By integrating with your back-end SAP software, OSIsoft MDUS acts as the critical intermediary that allows you to communicate with smart meters in your network. And because it is designed specifically to work with SAP AMI Integration for Utilities, OSIsoft MDUS minimizes the customization typically required with other offerings. This helps you get up and running as soon as possible to get your AMI and smart grid initiatives off the ground.

Your Choice for AMI and Smart Grid Initiatives

OSIsoft has spent years developing innovative solutions to enable a wide range of



smart grid initiatives. By partnering with SAP to develop OSIsoft MDUS, we bring to bear this expertise on your AMI operations. You can:

- **Automate key data collection processes** to support your AMI initiative without overburdening your IT staff
- **Scale up to meet data volume demands** with scalable servers that help ensure high availability
- **Connect quickly to preexisting Web services in SAP AMI Integration for Utilities** to manage complete AMI processes
- **Deploy rapidly and accelerate your time to value** with a system designed to integrate with and complement SAP AMI Integration for Utilities
- **Improve regulatory compliance** with automated data aggregation and data validation
- **Branch out to other smart grid areas** with a complete data management platform for smart grid operations

Learn More

To find out more about OSIsoft MDUS, call +1 510-297-5800 or visit us online at www.osisoft.com.

OSIsoft and SAP-Qualified Business Solutions

As an SAP-qualified business solution, OSIsoft MDUS provided utilities with a smart grid solution that offers integration with SAP AMI Integration for Utilities. SAP-qualified business solutions are complementary to SAP software offerings and provide

additional choices and flexibility for organizations running SAP software. An SAP-qualified business solution is developed or integrated in accordance with SAP development guidelines, has certified integration with the SAP NetWeaver® technology platform, and has undergone solution qualification by SAP to meet additional criteria. SAP-qualified business solutions address a specific business or technology focus, such as advanced metering infrastructure. They have an established track record of successfully serving customer needs in the focus areas selected by SAP.



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