

Product Information Note

PowerSpring Meter Data Management System

Introduction

Meter Data Management (MDM) is a critical component in realizing the full potential of Advanced Metering Infrastructure (AMI) or Smart Metering, especially for industrial and commercial meters used in the gas distribution business.

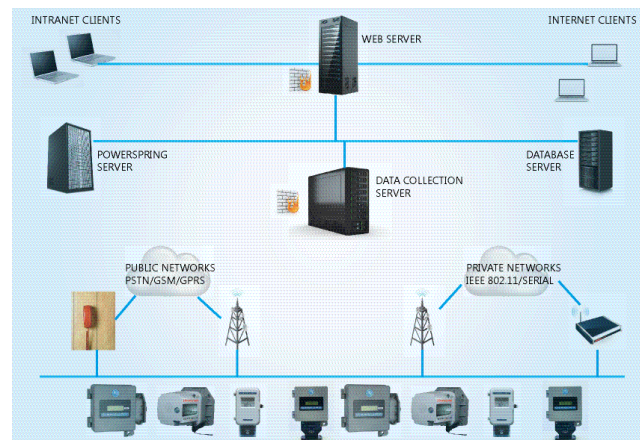
Honeywell's PowerSpring Meter Data Management System eases IT integration of AMI/Smart Metering and facilitates the distribution of the meter data across the utility enterprise by framing the volumes of metering data retrieved from field meters into manageable and familiar information.

PowerSpring MDM provides a database repository and gas distribution business logic to:

- Automate the complex process of collecting meter data from multiple meter data collection technologies
- Evaluate the quality of data and publish it in the appropriate format to utility enterprise systems for billing, metering, operations, engineering, customer service, etc. PowerSpring MDM thus creates an immediate positive impact on gas distribution business processes.

As an MDM system, PowerSpring aggregates large volumes of granular interval meter data, and then pre-processes it smartly and efficiently before such data is commercially processed by various other enterprise utility applications. The sheer volume of meter data from gas meters requires consistent, corporate-wide "best practice" rules for managing the increased potential for data error. With the deployment of smart meters or AMIs, PowerSpring also handles the storage and distribution of non-billing data and messaging such as two-way commands, Hi/Lo pressure alarms, outage alarms, zero flow conditions, tamper alarms, etc. As the gas utility industry evolves, PowerSpring MDM uses state-of-the-art technology to ensure compliance to stringent IT data security standards and user policies without compromising human factors and ease to use.

- PowerSpring, a market-leading meter data management system with multiple vendor support and IT friendly systems, supports the following powerful features:
- Data Collection system
- Data management
- Data storage
- Web-based user interface
- Customizable, flexible, and scalable architecture



Data Collection System

PowerSpring Data Collection System supports data collection for all Mercury Instruments products. The data collection system:

- Manages collection of meter readings as well as other telemetry type data (i.e. pressures, temperatures, etc) and facilitates two-way communication
- Simplifies integration of new meters and billing systems acquired through mergers and acquisitions
- Enables ad-hoc, off-cycle read requests
- Simplifies future integration of new AMI technologies

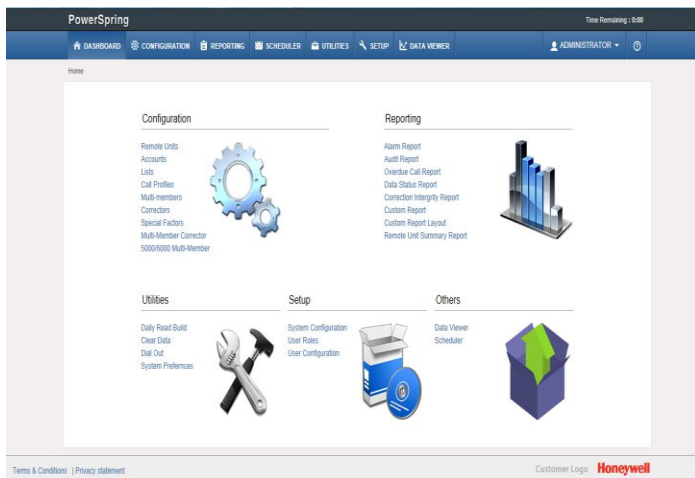
The PowerSpring Data Collection System supports upload of aggregated, billing-determinant parameters and meter reads through FTP, email or configurable location as if a single meter reading system is deployed. The system maintains the necessary information about the collection system used to obtain readings from each meter in order to interact with each one appropriately. When a reading window opens, the PowerSpring MDM can bundle readings from multiple meters into a single, integrated delivery to the billing system.

All meter reading processes can follow the same automated, consistent path to billing. This simplifies the spot deployment of new meter reading technologies, once again without modifying the existing billing processes or systems.

Because meter reading systems can vary widely in read frequency and overlap in geographic areas, the request and response functionality also includes user-definable logic for processing questionable reads. The PowerSpring MDM enables users to define "best read" logic for using multiple and overlapping readings within the same request window. If valid readings cannot be obtained within the reading window, the system can derive an acceptable reading or initiate a new read request using call retry business rules

Data Storage

PowerSpring MDM has a powerful Microsoft™ SQL-based data storage system for both meter data and configuration data. The database maintains data integrity and powerful audit trails on the changes performed on the base line system. Understanding what load data was the "best available" at a point in time is a critical MDM capability. The system database maintains snapshots of each meter read associated with a time reference, making it much easier to resolve billing and settlement questions and



disputes.

Web Interface

PowerSpring MDM provides a powerful Human Factors-centric user interface for an enhanced user experience. The Web interface supports Internet access to reports, which can be customized for each user with respect to the type of the parameters to be included in each report.

Two-Way Communication

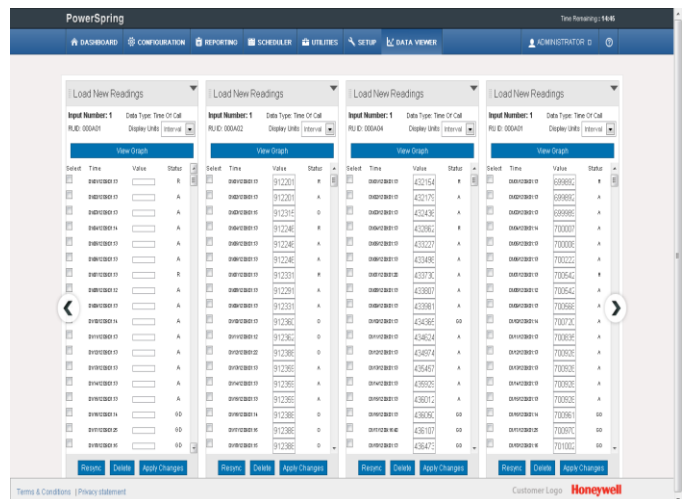
Two way communications provides the ability to receive data from meters and be able to write new configuration data during a communications session.

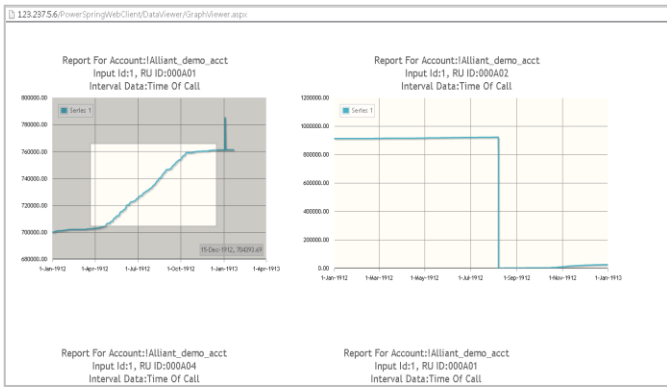
With two-way communication to the meters/volume correctors and data loggers, utilities can perform on-request reads to help with bill settlement. With a customer on the phone, customer service representatives can request the most recent meter read for accurate and timely information relative to an inquiry.

Analysis and Presentation

PowerSpring allows utility customers to have an effective network asset monitoring and management system. Additional information about energy usage and long-term historized data helps with analyzing gas distribution, consumption patterns and demand forecasts using relevant demand forecast tools.

PowerSpring MDM also provides a rich set of interfaces both in the form of APIs and open database communications to enable easy interfaces to third-party analysis tools with optimal efforts.





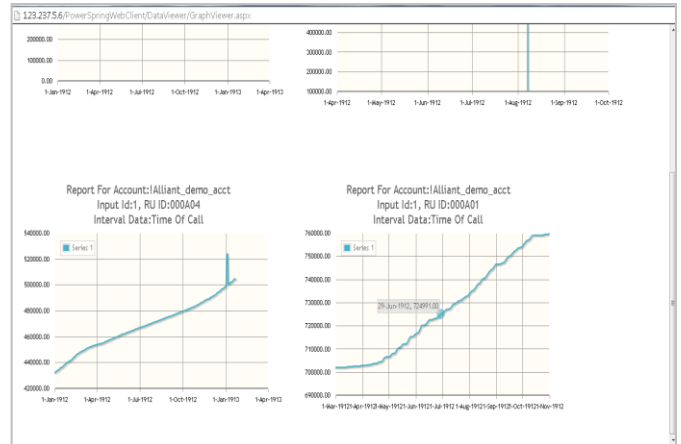
Enhanced Product Integration

- Full communications support for the following Mercury Instruments Products
 - EC-AT
 - Mini-AT
 - Mini-Max
 - AccuTest
 - Turbo Corrector
 - ER
 - Pulse Accumulator
 - Sentry
 - ERX
 - SIP
 - CNI2
 - CPA
 - ECI-II
 - NC1
- Full Alarm Log support
- Full Event Log support
- Support for “Next Call or Reporting Time” scheduling
- IP Connectivity support

Alarm Forwarding – Event Control Center (Optional)

The Alarm Forwarding application provides virtually real-time notification of events, which can occur at remote sites being monitored by Mercury Instruments remote devices of all types, whether they are instruments or data-loggers. With Alarm Forwarding, the proper personnel can be notified of events by email, SMS/text message enabled cell phones, pager or fax. Alarms (events) are selectable by remote unit or alarm type.

PowerSpring Web provides a Web interface for internal or external customers. It is directly connected to the PowerSpring SQL database, and customers using PowerSpring Web have direct, secure and meter-specific access to their data. Internal users (metering, billing, gas control, etc.) can have access to all meters while a company can only see meters associated with them. This solution also provides on-demand polling functionality when communications permit. Data is available 24-hours-a-day, accessible from anywhere an Internet connection can be made. All this translates to no more bulletin boards, faxing or emailing reports to customers.



Remote Access Software

PowerSpring also includes a browser-based application that runs on Windows™-based laptops, PDAs or MS Windows mobile-based smart phones. This application can be used to provide limited PowerSpring access to field technicians or installation teams to perform functions such as meter synchronizations, device setup, address changes, contact changes, alarm and input configuration changes, etc.

Find Out More:

To learn more about gas metering products and solutions, contact your Honeywell Process Solution representative, visit www.mercuryinstruments.com or call 513-272-1111.

Automation and Control Solutions

Honeywell Process Solutions
Mercury Instruments LLC
1280 Kemper Meadow Drive
Cincinnati, OH 45240 USA
Phone: 513-272-1111
www.honeywell.com

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