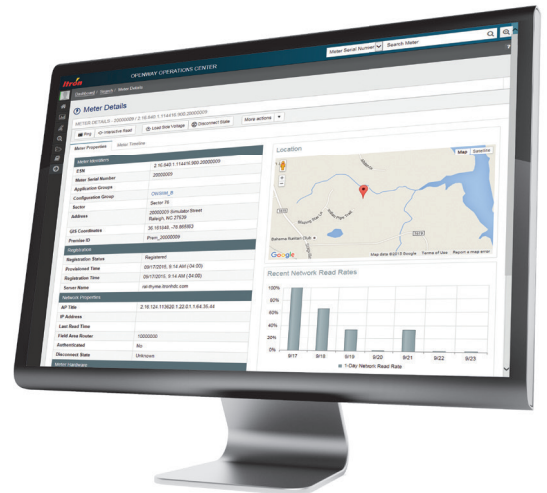


OpenWay[®]

Collection Manager



Itron's industrial IoT (IIoT) networks are managed by a centralized hub between the meter population and utility back office systems and processes, such as meter data management, billing, outage management, distribution automation and load control.

In OpenWay, Collection Manager software manages high-volume, secure communications to the meter population, including performing reads, operating the disconnect switch, updating the firmware and updating the behavior of the meter for electric, gas and water devices. The solution transparently manages metering devices across the network to allow technologies and customer needs to evolve under a common headend.

With Collection Manager, utilities benefit by:

- » **Automation of meter reading processes.** Collection of measurement data on demand or through a recurring schedule with data stored at the meter for retrieval, according to the utility business needs. Reading the entire population can be achieved with single request through the use of an efficient multicast function.
- » **Operation of the disconnect switch within seconds.** The service switch empowers the utility to reduce field operations expenses but also offers opportunities to introduce innovative new programs, such as pre-payment or service limiting in the residential market. This valuable capability is also protected with multiple safety and security controls, including operations secured with a unique key by meter, load side voltage check and position verification.
- » **Future-proofing the smart meter** through remote firmware downloads and configuration updates to electric, gas and water endpoints while maintaining normal operations over the network.
- » **Empowering utility conservation programs** to encourage consumer behavior through participation in demand response and dynamic pricing programs.
- » **Simplifying IT integration** and delivering a lower total cost-of-ownership through open standards and enterprise application integration.
- » **Minimizing infrastructure costs** by leveraging industry standard third-party software, including Microsoft, Oracle and VMware.
- » **Maximizing system uptime** with flexible failover and Disaster Recovery approaches that can be defined by the utility using industry standard features at the application, database and network levels.
- » **Achieving and maintaining operational excellence** based on lessons learned from our utility and city customers managing millions of meters and devices. From initial deployment through steady-state operations, our customers are empowered with an intuitive, interactive user interface that highlights exception conditions through mapping, search and Key Performance Indicators (KPI).

FEATURES AND BENEFITS

Advanced Metering Operation

Collection Manager was specifically designed to securely manage two-way communications to millions of meters for interval data collection and facilitate customer conservation efforts through demand response. Architecturally, Collection Manager was designed to be a robust, integrated transaction engine to manage the interface to the meter population with a focus on managing the scale and state of every device within the system. In addition, the system was designed to maximize automation within the software to minimize the operational headcount. With the Collection Manager, utilities can:

- » Track and update various meter programs used in the field. This information is stored, versioned and available upon request from asset management systems.
- » Collect Register data to support basic billing rates, including kWh, TOU and demand with reset.

- » Collect interval data from the entire meter population on a configurable schedule that can be defined by the utility according to the priority of the data to support the use case, such as billing, theft or voltage regulation. Collection Manager supports both a polling and push architecture to enable collection as frequently as every 15 minutes or pull days/weeks of data stored at the meters. Additionally, the system has automated retry logic to handle exception conditions and maintain data continuity.
- » Eliminate field visits for firmware and configuration updates through over-the-air changes for electric, gas and water meters.
- » Enable outage verification operations. This includes traditional pinging of meters over the IP protocol to the network card as well as past the network interface into the meter itself. Additionally, the utility can verify line- and load-side voltage to remotely resolve service complaints for loss of power at the panel.
- » Supports multiple protocols, including ANSI C12.19/C12.22 and IEC DLMS/COSEM application protocols used between the headend and meter in a manner that is transparent to upstream systems.
- » Support IPv4/IPv6 backhaul options, including cellular, WiMax, Ethernet, etc.

Security

The network's security architecture is based on a security model that emphasizes the integrity of control, availability and confidentiality needed for two-way command and control of AMI systems using asymmetric cryptography for application layer security, in addition to any network layer security.

Collection Manager offers an integrated security approach using the Itron Security Manager (ISM) application to apply AES

symmetric key and ECC asymmetric key security to each C12.22 and DLMS/COSEM application layer message. Refer to the ISM data sheet for more details.

IT Convergence with Operations

The AMI network management system provides an intuitive and simplified user interface that leverages Itron's expertise and investments in data collection technology to improve usability and lower cost of ownership. The interface provides simplified access to the network's data collection and network management system functionality, allowing operations managers, IT and data managers, and upstream data subscribers to perform their own scheduling and data storage activities.

User productivity is increased by simplifying processes to manage devices in the system while ensuring all system components reflect the same meter state and programming. The network management solution provides a single, unified interface for managing meters and endpoints in the system, reducing integration costs and project timelines.

- » Manage bulk recurring data collection schedules and/or rely on upstream MDM through web services
- » Supports optional data storage to view all data, events and alarms collected from meters and endpoints in a meter timeline view
- » Associate meters and endpoints to physical locations in support of operational reporting and queries using integrated Google Maps
- » Monitor real-time system activities and historic KPIs (key performance indicators) for network communications and data collection, including non-communicating meters, read rate and comm rate statistics
- » Schedule and manage command and control operations such as data collection and on-demand functions and queries

- » Create custom queries against meter or job contexts and take actions directly on the returned results

System Availability

The Collection Manager architecture is designed to achieve a system availability of 99.99% or better. Through a combination of application features, such as an n+1 approach for failover. This provides seamless failover capabilities to ensure that any infrastructure breakdowns will have minimal-to-no impact on utility operations. The Collection Manager architecture allows for the failure of an individual OpenWay server with minimal impact to any current operating jobs within the system. The solution also supports a variety of Disaster Recovery approaches using industry standard approaches and functions, such as Windows Clustering, Oracle RAC, Oracle Data Guard, load balancing and DNS. This variety of options enables the utility to maintain a Recovery Time Objective (RTO) and Recovery Point Objective (RPO) in support of the business and IT policies.



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CORPORATE HQ

2111 North Molter Road
Liberty Lake, WA 99019 USA

Phone: 1.800.635.5461

Fax: 1.509.891.3355