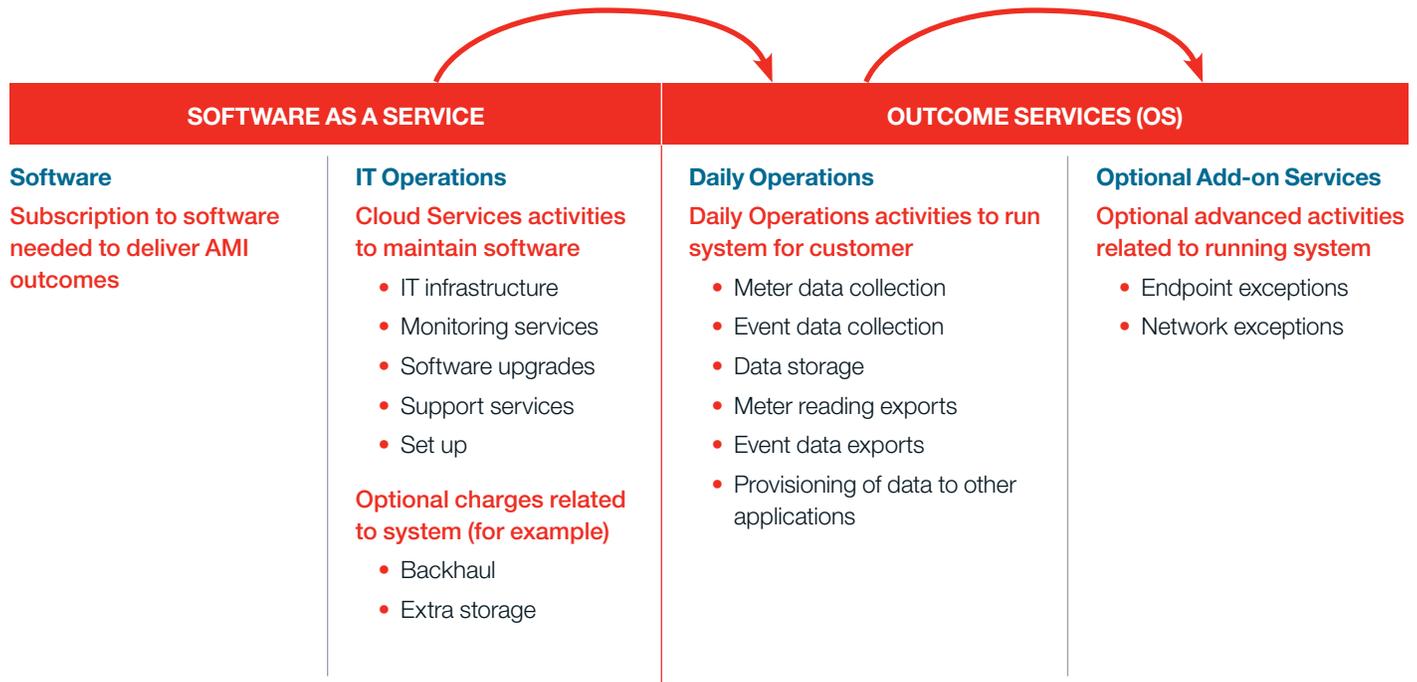




Itron Total Outcomes for AMI

Itron Total Outcomes for AMI includes smart grid and AMI functionality for electric, gas and water endpoints. Each Itron Total Outcomes package contains core and optional components. At the core is Software as a Service (SaaS) and IT infrastructure management and monitoring. This package provides access to the relevant application(s) for utility operators to manage their Itron AMI system. With optional outcome services, Itron will actively manage the AMI system activities on the utility's behalf.

By monitoring systems and mitigating issues, Itron ensures successful AMI operations. Billing data, interval data and meter events are collected from all endpoints under the network on a daily basis and at the stated service level. Itron performs first-tier troubleshooting procedures for endpoint and network exceptions and, if issues arise, routes exceptions to on-site service teams for field investigation and problem resolution.



Components of Meter-to-Cash Software as a Service & Outcome Services

SOFTWARE AS A SERVICE

Itron Total Outcomes for AMI includes access to the OpenWay® Operations Center applications for data collection, network monitoring and security delivered through a through a SaaS deployment model. Customers may also purchase optional SaaS applications for performance reporting and Customer Service Representative (CSR) web portal access.

Components and Activities

Software subscription

- » Subscription or term license
- » Help desk support

Enterprise-level, scalable IT architecture

- » Managed IT environment
- » System setup
- » Application access via web client

System maintenance

- » Software upgrades
- » Database backups
- » Disaster recovery (optional)

System monitoring

- » IT network performance
- » Availability/up-time
- » Intrusion detection

Optional IT/operations charges

- » WAN backhaul charges
- » Cellular charges for cellular endpoints
- » Extra storage for 15-minute data
- » Extra storage for five-minute data

System service-level commitments

- » System availability

Standard Meter and Endpoint Configurations

Residential electric meters

- » One register channel: daily midnight reading
- » One kWh load profile channel: hourly readings
- » Voltage max, min, average: 15-minute readings
- » For net energy metered (NEM) customers only: One net kWh channel, hourly readings

Commercial electric meters

- » One register channel: daily midnight reading
- » Four load profile channels (ex. kWh d, kWh r, kVAh, etc.): 15-minute readings
- » Voltage max, min, average for all phases: 15-minute readings
- » One net kWh channel, as needed for NEM customers: 15-minute readings

Residential and commercial gas meters

- » Time-synced hourly interval consumption data
- » Time-synced meter events and alarms
- » Daily register read

Residential and commercial water meters

- » Time-synced hourly interval consumption data
- » Time-synced meter events and alarms (including customer leak alerts)
- » Daily register read
- » Remote disconnect valve configuration if disconnect valves are deployed

OUTCOME SERVICES (OPTIONAL)

If desired, the utility may also contract with Itron to provide daily operations and additional outcome services. These optional services can be added any time throughout the system deployment or afterward. Outcome Services include all of the above Software as a Service components and activities, plus:

Daily Operations

- » Meter data collection
- » Endpoint and network exception identification
- » Event data collection
- » Meter reading exports to billing
- » Event exports
- » Provisioning of data to other apps
- » CSR access via web client

Add-on Services

- » Endpoint exception mitigation
- » Field Area Network exception mitigation
- » Firmware upgrades

Operational Service Level Commitments and KPIs

- » Read rates
- » File delivery

DAILY OPERATIONAL ACTIVITIES

Data collection – Data collection from all metered endpoints on the network is done on a daily basis. Meter alarms (including outage events) are delivered in near real-time via file export.

Daily data collection schedule

- » For electric meters, interrogations are set up to run multiple times per day for all meters.
- » For gas and water meters, typical interrogations are configured to run multiple times per day for all meters. The interrogation schedule for battery-operated endpoints is configurable and will be determined during the design phase deployment. For gas meters, the solution can be configured to support Gas Day Take readings by 9:00am Central Time.
- » In addition, the optional CSR portal application provides an interface where operators can issue contingency read requests at any time.

Data Storage and Access – All meter reading data is stored online for 60 days to 13 months, depending on the size of the system. Additional years of storage can be included for an incremental fee.

Network Operations and Monitoring – Itron monitors the status of field network devices (Cisco Grid Routers) and performs first-tier troubleshooting procedures when issues arise. If the issue cannot be resolved, then Itron routes the issue to the utility for field investigation and problem resolution. An optional service may be purchased to have Itron investigate and resolve in the field (see “Outcome Services (Optional Add-on Charges)” section).

Network Firmware Updates – Itron will apply firmware updates to Cisco Grid Routers. Such updates will be coordinated and scheduled with utility approval.

Endpoint Monitoring – Itron monitors the status and communication to all endpoints. For non-communicating endpoints, communication retries are done automatically for up to three days (configurable) after which time a manual investigation is triggered. If the issue cannot be resolved with back-office troubleshooting procedures or if theft is apparent, then the issue is routed to the utility for field investigation and problem resolution. An optional service may be purchased to have Itron investigate and resolve issues in the field (see “Outcome Services (Optional Add-on Charges)” section).

Meter Reading Exports for Billing and On-request Readings

Meter reading data can be requested on-demand and/or exported to the utility for billing purposes once each day.

Export options

- » MultiSpeak web service request for register data
- » Itron AMI Billing Export – XML-based request/response interface. Utility system makes request for billing register data for accounts on given bill cycle.
- » Daily scheduled data export in XML format. This export can include the daily register reading and/or the hourly and 15-minute interval data for all channels set-up in the meter. Or, separate file exports can be set up for register readings and interval reading data.

The schedule for the daily data export in XML format is configurable, but by default is set to 8:00am, utility local time. Data is exported to the utility via a secure Virtual Private Network (VPN) connection (preferred) or via secure FTP to a file directory for use by the utility applications.

Meter Event and Alarm Processing

All meter alarms are exported from the system in near real-time after they are received from the AMI meters and network.

Integration options

- » Alarms and events are exported to the utility via a secure Virtual Private Network (VPN) connection (preferred) or secure FTP to a file directory for use by the utility and other utility applications (e.g. outage management). Such data is provided in Itron Alarms and Events via XML format.
- » Utility subscribes to the MultiSpeak meter alarms web service API
- » Meter/endpoint events are delivered after the daily data collection process is completed

AMI Operator Access to Itron CSR Portal Application

With Itron managing daily operations of the AMI system, the utility customer service representatives will have access to the data collected via the CSR portal web application.

- » View and report on endpoint energy and water consumption and alarms and events
- » Search by various customer attributes
- » Execute remote connect/disconnect with assist/no assist for residential electric meters and water meters with remote disconnect valves installed
- » Execute on-demand read, meter ping (electric) and load-side voltage test (electric)



OUTCOME SERVICES (OPTIONAL ADD-ON CHARGES)

If desired, Itron can participate further in the network and endpoint operations and maintenance processes. Offered as an add-on to the Daily Operational Activities above, the following additional services are available:

Endpoint Exception Mitigation – Investigation of non-responsive endpoints reported by the collection system. May include removal/replacement of endpoint (device supplied by utility), pit lid replacement (provided by utility), repair of damaged/cut cable (splice kit not included) and endpoint RMA processing.

Field Area Network Exception Mitigation – Investigation and replacement of non-communicating network devices that have failed due to device issues. Does not include replacement/investigation of devices which are non-communicating due to vandalism, power failure and other issues not related to the device.

Endpoint Firmware Updates – Itron will apply firmware updates to electric, gas and water endpoints. Such updates will be coordinated and scheduled with utility approval.



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