Operations Optimizer Advanced

**Delivering a central data repository to enable
revenue assurance and AMI operations**

SOLUTION OVERVIEW

AMI data has become one of the pillars needed to support utility business processes. Having timely and complete data is no longer an option. Therefore, utilities must utilize the best analytic solutions to help manage meters and the network used to collect and report this data.

Operations Optimizer (OO) Advanced is a set of power analytic applications as part of the Operations Optimizer solution designed to provide actionable insights on the performance of the AMI system. The OO Advanced bundle includes insights on the ability to read and report meter data, the health of the neighborhood area network (NAN) and meter revenue leakage. This bundle of OO modules is intended for utilities who want to save labor hours, reduce truck rolls and maximize AMI performance.
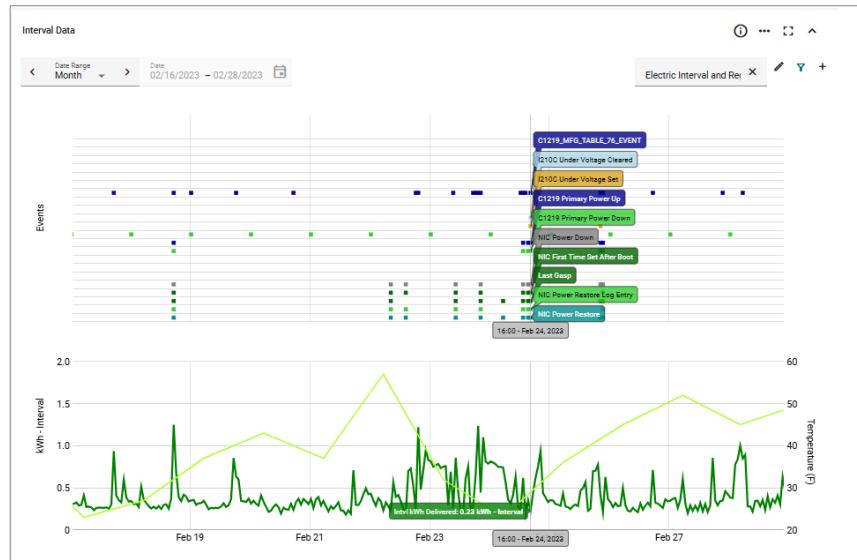
KEY BUNDLE COMPONENTS

Revenue Assurance

Revenue Assurance utilizes smart meter data, meter events and configuration data to protect against revenue leakage and other non-technical losses by analyzing transformer imbalances and identifying tampered or bypassed meters. With Revenue Assurance you can:

» Use the collection of more than 100 analytical methods to identify service points and transformers associated with potential theft, diversion and tampering, and show the timelines associated with these events.

» Detect, resolve, monitor and recover revenue losses associated with unauthorized use, self-reconnects and meter bypasses.

» Integrate distributed intelligence analytics results into Revenue Assurance, allowing you to operationalize this edge analytic in the backoffice.

Graph showing events and usage data before and after a theft event

AMI Operations

AMI Operations utilizes smart meter data, meter events and configuration data to identify and diagnose meter data collection and delivery problems. With AMI Operations you can:

» Identify read quality issues such as missing reads, missing billing registers, negative reads, high or low reads, and estimated meters.

» Detect meter exceptions or events that will keep the meter from communicating.

» Resolve back-office data issues such as configuration mismatches or incorrect location data.

» Receive alerts for meters that go above a threshold temperature.

Network Operations

Network Operations uses the AMI network communications attributes network statistics to identify conditions that require operational attention. With Network Operations you can:

» Identify meters that lack mesh redundancy.

» Identify over- and under-utilized network Access Points, Field Area Routers and Relays that can become network chokepoints and bottlenecks.

» Identify issues associated with battery-powered devices, such as gas and water ERT modules.

Meter Temperature Monitoring

Meter Temperature Monitoring uses meter temperature readings and/or high meter temperature events to identify meters reporting temperatures over a configurable threshold and provide statistics for assessing meter temperature history.

Integrations

The OO Advanced bundle includes integrations with UIQ and the utility CIS, making it possible to drive as much value as possible from your analytics solution.

Workflow and Rule Automation

The OO workflow feature is used to track events and exceptions through their process lifecycle. With this feature, you can:

» Assign work automatically.

» Create work orders automatically.

» Record field investigation results automatically.

» Track the history of all investigations.

A Centralized Data Repository and Ad Hoc Reporting

The OO Advanced bundle pulls data from the head-end (AMM and Network Center) along with needed CIS data to provide a rich data repository that will support the various pre-built use cases in the bundle. With this rich data set, data analysts can ask new questions and create new use cases using a rich set of Query and BI tools.

KEY BENEFITS

Itron OO Advanced is a powerful bundle that helps utilities successfully manage their meters with the least amount of effort. The OO Advanced bundle makes it possible to achieve a variety of business benefits that include:
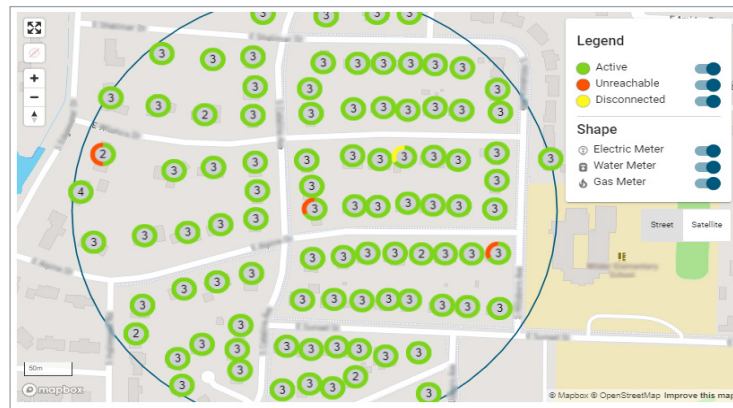
» Maximizing AMI performance by managing meter exceptions and events in a structured and intelligent manner

» Saving labor costs by realizing operational savings with effective tools that minimize back-office efforts

» Reducing unnecessary truck rolls

» Increasing revenue by detecting theft (and other revenue loss situations) and reducing estimated bills

» Identifying safety issues

CONCLUSION

OO Advanced is a proven solution used by many utilities that will help safeguard the health of your meters and network ensuring AMI data is available for the many utility business processes that depend on this data.

OPERATIONS OPTIMIZER

Operations Optimizer is used to integrate data from multiple sources and leverage big data technologies to maximize analytic performance and support various outcomes. Leading utilities count on data-driven insights from Operations Optimizer in their daily operations. Operations Optimizer is used by utilities around the globe and analyzes data from over 40 million water, gas and electricity meters, in both AMI and legacy environments, at more than 30 utilities. Operations Optimizer supports many outcomes such as AMI Operations, Network Operations, Revenue Assurance and Meter Temperature Monitoring. Operations Optimizer is available as a hosted solution and is integrated with Microsoft® Azure.

Map of nearby service points

		Service Point	Meter	ST	SetDate	AdminStatus	OpStatus	DyOp	DrpEvtSc	PatThftSc	RA0UseSc	Post10DyAvg	Latitude
					mm/dd/▢								
				E	8/10/2015	Active	Active	2543	792	63	0	0.1	
				E	12/5/2016	Active	Active	2733	769	342	0	0.0	
				E	11/15/2016	Active	Active	2473	731	23	0	9.9	
				E	1/10/2017	Active	Active	2607	695	72	0	2.6	
				E	6/14/2017	Active	Active	2717	695		21	0.0	
				E	12/7/2016	Active	Active	2733	657	307	0	0.0	
				E	2/2/2017	Active	Active	2733	620	493	0	0.0	
				E	12/5/2017	Active	Active	2544	600		50	3.3	
				E	11/3/2016	Active	Active	2402	573	81	0	7.8	
				E	9/11/2017	Active	Active	2630	567	20	0	114.5	

Analytic results displayed in a table with prioritization scores

Revenue Assurance Use Cases	OO Essentials	OO Advanced
AMI Zero Use	X	X
Channel Reverse Energy	X	X
Demand Reset	X	X
Disconnected with Events	X	X
Disconnected with Usage	X	X
Disconnected Unreachable	X	X
Drop on Event	X	X
Drop on AMI Meter Exchange	X	X
Increase on AMI Meter Exchange	X	X
Meter Bypass Detection (DI)	X	X
Pattern Theft	X	X
Repeat Offender	X	X
Stolen Meter	X	X
Consumption on Inactive Meter		X
Estimating Consumption		X
High Received Night Usage		X
Load Side Voltage (Bypassed Meter)		X
Low Night/Weekend Usage		X
Power Quality (Phase Issues)		X

AMI Operations Use Cases	OO Essentials	OO Advanced
Meter Temperature	X	X
Missing Reads	X	X
Exception States	X	X
Fatal Events	X	X
High Turnover Meters	X	X
High/Low Reads	X	X
Zero Usage (aka Fail to Zero)	X	X
Estimated Usage		X
Headend/CIS Mismatch		X
Read Rate Report		X
Register Digit Mismatch		X
Register Rollback & Spikes		X
Register Without Location		X
Service Point Lat/Long Validation		X
Service Type ID Mismatch		X

Network Operations Use Cases	OO Essentials	OO Advanced
Over/Under-Utilized Access Points		X
No Secondary AP		X
Low Ping Percent		X
Discovered Devices		X
High Churn Access Points		X
High Reboots		X
Network Health (Scoring)		X
High Hop Count		X
Event Counts by Device		X
Backup Battery Management		X

Meter Temperature Monitoring Use Case	OO Essentials	OO Advanced
High Meter Temperature	X	X

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