



IMPLEMENTATION OVERVIEW

UtilityIQ®: One Headend, More Meter Choice

Expanding Meter Choice with Cellular Third-Party Meter Integrations

Itron has extended its proven platform by enabling public and private cellular networks, along with RF mesh, under a unified utility-grade headend. This hybrid approach allows utilities to select the right transport for each endpoint. Mesh where density and cost-efficiency make sense, and cellular where reach, speed, or flexibility are required – all under one universal headend.

With UtilityIQ® (UIQ) utilities can implement standards-based, third-party cellular meters through a software-only model. This light touch approach supports core AMI operations while giving utilities more choice and greater supply flexibility.

Enabling Third-Party Cellular Meters in the UIQ Portfolio

This implementation model focuses on integrating third-party cellular meters as an option for utilities to expand device choice while maintaining a single headend operating model. Third-party cellular meters are supported within UIQ as a standards-based option for AMI deployments where cellular connectivity is preferred or required.

In this model:

- » Third-party meters include integrated cellular communications
- » Interoperability is based on DLMS UA Generic Companion Profiles (GCP)
- » UIQ remains the single system of record and control

This approach allows utilities to extend or complement existing AMI deployments—including mesh-based or grid edge deployments—without changing headends or operating models.

Why Standards Matter for Cellular + AMI

- » DLMS/COSEM provides a common language for smart meter data, communications, and security.
- » Generic Companion Profiles (GCPs) define how key AMI use cases are implemented, ensuring consistent behavior across cellular and mesh deployments.
- » Together with a universal headend, true interoperability is enabled across meters partners and communication networks.
- » The result is greater flexibility, lower integration costs and complexity, and reduced vendor lock-in.



Core AMI Capabilities

UtilityIQ supports foundational AMI operations for standards-based third-party cellular meters through a software-only integration model aligned to DLMS/COSEM GCP capabilities. This includes the following:

- » Core AMI 1.0 operations via DLMS UA GCP for standards-based use case implementation
- » Scheduled and on-demand meter reads (billing, move-in/ move-out, investigation)
- » Events/alarms ingestion supported by the DLMS UA GCP profile
- » Remote service operations supported by the meter and agreed scope (e.g., connect/disconnect where available)

Path to Grid Edge Capabilities

UtilityIQ provides a flexible foundation for cellular AMI deployment while simultaneously supporting a clear path to adding Grid Edge Intelligence. For utilities pursuing advanced grid modernization use cases, the Itron Riva meter can be deployed alongside third-party cellular. This allows utilities to align the right technology to the right operational need.

With UtilityIQ as the unified headend, utilities can evolve at their own pace, deploying standards-based third-party cellular meters for core AMI operations and add Itron Riva meters for advanced Grid Edge Intelligence and manage a flexible deployment strategy through a consistent operating model.

TARGET USE CASES AND DEPLOYMENT FLEXIBILITY

This model is best suited for utilities that want to add or expand cellular coverage quickly and simply, without introducing a separate headend. It is also suited for utilities that want supplier flexibility for core AMI meter-to-cash deployments. Other common scenarios for cellular include service for low-density or remote territories, small acquisitions, pilots, and sites where mesh is not feasible.

Value and Benefits

- » **Interoperability:** add standards-based meters while keeping a consistent UIQ operating model
- » **Supply flexibility:** broaden qualified meter sourcing options and reduce dependency on a single meter supplier for core foundational AMI needs
- » **Light-touch integration:** Open integration model that enables software development and integration activities to be performed by either Itron or qualified third-party partners
- » **Faster expansion:** deploy cellular immediately without the overhead of network infrastructure
- » **Unified operations:** Manage mixed endpoint deployments through a consistent operating model for AMI workflows, security administration, and reporting
- » **Path to Grid Edge Intelligence:** Deploy Itron Riva meters at any point alongside third-party cellular meters



HOW IT WORKS

UNIVERSAL HEADEND SYSTEM

UtilityIQ manages both mesh and cellular endpoints in the same product. Core headend applications —Advanced Metering Manager, Firmware Upgrader, Meter Program Configurator—operate across transports, minimizing training and operational disruption.

The Network Abstraction Suite enables cellular pacing, transport optimization, and secure integration with Itron Security Manager, ensuring all devices (cellular and mesh) operate consistently.

A key component of the UtilityIQ architecture is the “meter plugin”, which is analogous to a device software driver. The system uses plugins to translate message packets between the device and UtilityIQ, using the device’s native protocol. This ensures consistency of use case execution at these upper layers by creating plugins that are unique to the given device and conform to the vendor’s metering application protocol.

METER INTEGRATION

This software-based integration model is designed to provide a structured collaborative path for bringing qualified third-party cellular meters into the UtilityIQ ecosystem. Typical integration activities include:

- » Partner Enablement and technical alignment
- » Meter Development and testing to DLMS-UA GCP specification
- » UtilityIQ meter plug in development and configuration
- » End-to-end solution testing
- » Regulatory testing and certification
- » Deployment readiness and support planning

The development effort, timeline and approach are finalized during the initial planning phase and includes:

- » Alignment among Itron, the meter partner and utility on an integration and testing plan to validate interoperability, security expectations, and operational behavior
- » Agreement on the delivery model and ownership of the Software development and integration activities, which may be performed by Itron or an approved partner

BASELINE ROLES & RESPONSIBILITIES

Successful deployments are supported by clear collaboration across Itron, the utility, the meter partner and the cellular provider.

ITRON

- » UtilityIQ Headend software providing AMI use case (collection, reads, events)
- » Standards-based integration to DLMS-UA GCP meters (within defined scope) certificate handling (as configured)
- » UIQ monitoring/alarms based on device reachability and session status visible to UIQ

METER PARTNER

- » Cellular carrier selection and commercial relationship
- » Meter hardware, firmware, and DLMS behavior
- » Modem/eUICC implementation (if embedded) and meter power/battery performance
- » Field installation quality, antenna placement (if applicable), and commissioning steps

CELLULAR PROVIDER

- » Network coverage, availability, and RF performance
- » SIM/eSIM subscription, activation, and carrier billing
- » Carrier core changes, sunsets, and radio access network evolution
- » Carrier contract and SLAs per the utility’s agreement

TROUBLESHOOTING ROLES & RESPONSIBILITIES

DOMAIN	PRIMARY OWNER	UIQ ROLE
» UIQ application availability, UIQ services, job execution, UIQ configuration	» Itron	» Troubleshoot, resolve, and provide updates per support agreement
» Meter behavior, firmware, and device level support	» Meter Partner	» Validate UIQ request/commands, provide logs/ trace evidence, coordinate triage with OEM
» Cellular coverage provisioning and service performance	» Cellular Provider	» Provide device/session symptoms visible in UIQ; support utility's escalation with supporting data

REPRESENTATIVE DLMS-US GENERIC COMPANION PROFILE USE CASES

UCID	USE CASE NAME	GCP SECTION	WHAT IT COVERS
UC 01	Energy Measurement & Registers	Metering Functions	Measurement of active/reactive energy registers used for billing
UC 02	Load Profile Recording	Metering Functions	Interval data capture for settlement, analytics, and planning
UC 03	Historical Data Access	Metering Functions	Secure access to stored consumption and billing history
UC 04	Time of Use & Multi Rate	Support Metering / Tariff	Separation of energy data by tariff periods and rate structures
UC 05	Tariff Configuration	Tariffs	Remote configuration of tariff parameters
UC 06	Calendar & Schedule Management	Tariffs	Time calendars and season schedules supporting tariffs
UC 07	On Demand Meter Reading	Meter Operations	Immediate meter reads initiated by headend systems
UC 08	Scheduled / Periodic Meter Reading	Meter Operations	Automated, recurring meter read cycles
UC 09	Remote Service Connect / Disconnect	Service Control	Supply connect and disconnect via standardized control mechanisms
UC 010	Load Limiting / Control	Service Control	Power or load control capabilities for operational policy enforcement
UC 011	Event Detection & Notification	Events & Alarms	Detection and reporting of tamper, outage, and operational events
UC 012	Power Quality Indicators	Events & Alarms	Voltage and frequency monitoring indicators
UC 013	Diagnostic & Health Information	Diagnostics	Meter health, status, and diagnostic information
UC 014	Parameter Configuration	Configuration	Secure remote configuration of meter parameters
UC 015	Clock & Time Synchronization	Configuration	Time synchronization and clock management
UC 016	Application / Firmware Support	Lifecycle Management	Support for managed meter firmware or application functionality
UC 017	Authentication & Authorization	Security	Role-based access control to meter functions
UC 018	Secure Data Exchange	Security	Encryption and integrity protection for exchanged data
UC 019	Standardized COSEM Data Model	Interoperability	Harmonized OBIS and COSEM object usage
UC 020	Headend System Interoperability	Interoperability	Multi vendor compatibility with headend systems
UC 021	Customer & Regulatory Data Access	Market Enablement	Customer energy data access and regulatory reporting support

Note: Use-case names have been simplified for readability and mapped to DLMS UA AC Electricity Smart Meter Generic Companion Profile functionality.

LEARN MORE

[DLMS/COSEM in Action](#) (White Paper)

[DLMS/COSEM Explained: The Backbone of Interoperability for Modern Utilities](#) (Blog)

[Itron Meter Integration Services Overview](#) (Web)

[Itron Meter Integration Services White Paper](#) (White Paper)

[UtilityIQ](#) (Web)

[Itron Unveils Gen6™ Network Platform and UtilityIQ® Application Suite, Strengthening Industry Interoperability](#) (Press Release)

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