Trilliant

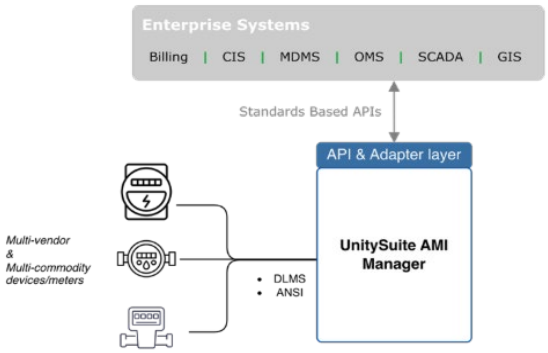
Solution Overview
AMI MANAGER

Product: UnitySuite AMI Manager
One HES for Every Meter, Vendor, and Commodity

Application: Multi-commodity Head-end Operations and Device Management

Trilliant's UnitySuite AMI Manager is the head end system at the operational heart of the UnitySuite Software Platform, running electric, water, and gas metering estates from a single deployment and a single operational model.

The AMI Manager acquires intervals and registers data, executes scheduled and on demand reads, manages connect and disconnect operations, orchestrates firmware campaigns, processes events and alarms, and enforces security across the full device population, concurrently across commodities and vendors. A mixed estate never means a second system, a second team, or a second integration.



Vendor agnostic by architecture

Protocol drivers implement DLMS and ANSI as generic, configuration driven engines rather than per meter builds. Supporting a new standards compliant meter is a configuration exercise covering object mappings, security suite selection, and communication profiles, completed in weeks through a defined build, test, and integrate cycle rather than a vendor development cycle measured in quarters. Native meter data formats are preserved through onboarding, so nothing is lost between the device and the enterprise.

Multi-tenant by design

A single platform instance can serve multiple utilities, operating companies, or service territories, each with strict isolation of device populations, data, users, and configuration, enforced from the authorization layer down through storage and messaging. Shared infrastructure never means shared visibility, whether for shared service organizations, metering as a service operators, or a single utility separating business units and jurisdictions.

Core services engineered for AMI traffic

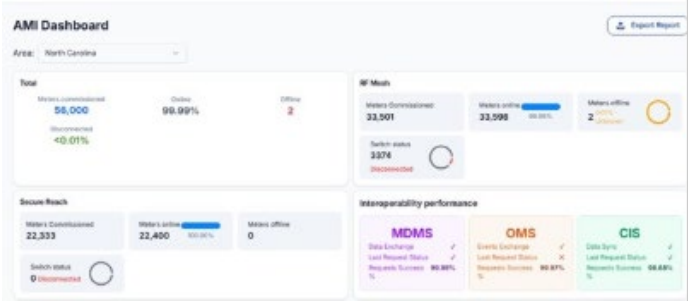
The HES core comprises cooperating services for large scale communication scheduling, resumable firmware over the air campaigns, an authoritative device registry, event and alarm classification and routing, store and forward through interruptions, and validation of readings before downstream delivery. Services communicate over an enterprise grade message broker with in-memory caching, chosen for the bursty reality of AMI traffic: read windows, storm driven event floods, and firmware campaign waves.

Deployment and scale

The AMI Manager is packaged entirely as containers on a lightweight, production grade Kubernetes distribution, deploying identically on premises, in private or public cloud, or in hybrid configurations with no provider lock in. It scales horizontally by adding service instances and nodes, with capacity validated against a tiered model from one million to multi-million meters under sustained realistic traffic.

Reports, dashboards, and an AI assistant

Operational visibility comes from reports and dashboards that users shape themselves rather than fixed vendor screens, filtered by service area, commodity, network, or device population, and run on demand, on schedule, or exported for various purposes. A built in AI assistant collapses the reporting cycle from days to minutes: a field operations lead can ask for all meters silent in the last day grouped by neighborhood and prioritize truck rolls immediately, with answers drawn only from data the requesting user is authorized to see.



Security

Security is implemented as a platform service rather than a per module afterthought. All user and system access is governed by centralized identity and access management supporting single sign on, multi-factor authentication, fine grained role-based access control, and full audit logging, with secrets, keys, and certificates held in a dedicated secrets management service under controlled issuance and rotation. Transport security uses TLS 1.3, and device level security implements the DLMS and ANSI cryptographic suites, including high level security authentication and secured firmware transfer. Tenant scoped roles, isolated data domains, and tenant specific cryptographic material extend the model in multi-tenant deployments, and database access is tiered with per service accounts and explicit default deny rules.

Layer	Standards	Purpose
Enterprise Integration	IEC CIM (IEC 61968), MultiSpeak	Interfaces to external/back-office systems
Metering Protocols	DLMS, ANSI C12 family	Vendor agnostic communication with electric, water, and gas meters
Security	TLS 1.3, DLMS and ANSI security suites	Protection of data in transit, at rest, and device level authentication

Advantages:

Multi-commodity
One platform for electric, water, and gas.

Vendor agnostic
Connect standards-compliant meters fast.

Multi-tenant
One instance, many utilities.

Insight on demand
Analytics and AI in minutes.

Proven scale
Built for millions of meters.

Secure & open
Strong security. Easy integration.

DISCOVER THE *Power Of Choice*

The **Power of Choice** gives utilities the freedom to select the devices, communications technologies, applications, and deployment path that best fit their operational needs without being forced into a single technology approach.

Questions, comments: info@trilliant.com

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