

Impresa Meter Data Hub

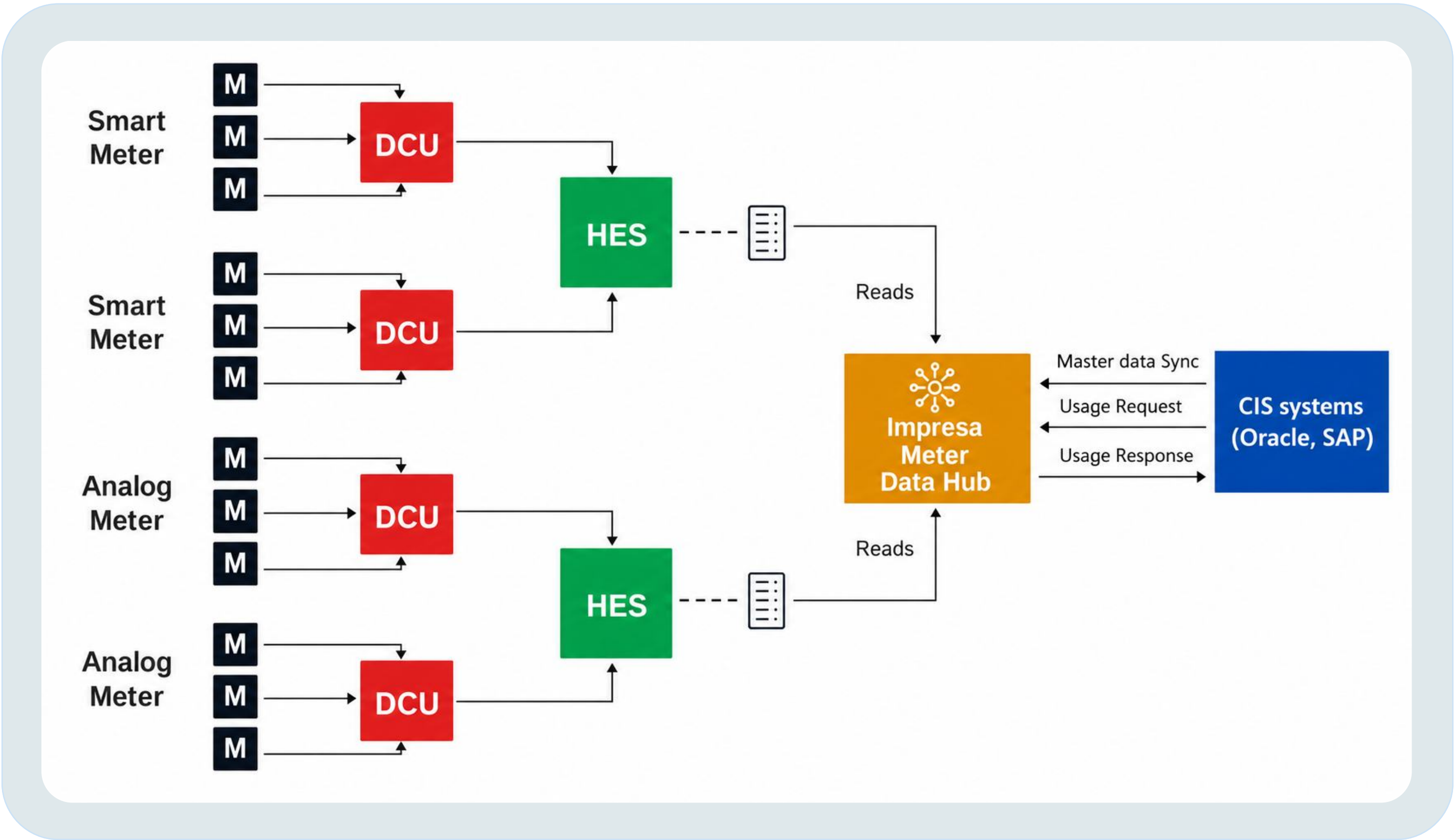
AI-Powered Smart Meter Data Management for Modern Utilities

Impresa Meter Data Hub is an advanced Smart Meter Data Management platform pre-integrated with a Prepaid Engine and Utility Customer Portal for streamlined billing and faster payments. Its VEE (Validation, Estimation, and Editing) engine ensures rapid and precise data processing. Beyond managing meters and service points, it enables measurement and usage transaction processing. Bill determinants and exceptions are seamlessly published to downstream billing or ERP systems, empowering utilities with end-to-end operational intelligence and efficiency.

The flow of meter data in a smart metering infrastructure involves several interconnected components to ensure efficient & accurate billing processes. Smart meters, deployed at the consumer's premises, continuously collect & store consumption data. This data is then transmitted to Data Concentrator Units (DCUs), which act as local aggregation points. The DCUs consolidate data from multiple smart meters & forward it to the Head-End System (HES). HES then forwards the refined data to the Meter Data Hub (MDH), where it is stored, analyzed, & made available for various applications. Finally, the billing systems retrieve the necessary information from the MDH to generate accurate and timely bills for the consumers. This seamless flow of data ensures the reliability of billing processes & facilitates efficient energy management for both consumers and utilities.

Key Features

- Utility-domain language understanding
- Conversational data analytics
- Governed Text-to-SQL
- Retrieval-augmented generation
- Utility ontology & knowledge graph
- Root-cause explanation
- Intelligent recommendations
- Document & procedure intelligence
- Text and voice interaction
- Role-based & auditable AI



Learn More
To schedule a live demo or find out more information,
visit www.impresa.ai or call +1-281-794-5700

Master Data Management

Master Data Sync synchronizes device and customer master data from CIS and billing systems (e.g., SAP and Oracle CC&B) to the Meter Data Hub. It automatically updates changes such as meter lifecycle, device configurations, account details, service points, contacts, and installation status through secure integration APIs.



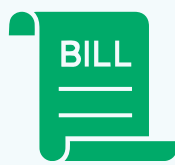
Business Benefits

- Unified Meter Data Intelligence
- Trusted Billing Foundation
- Faster Meter-to-Cash Processing
- AI-Powered Data Quality
- Enterprise Visibility
- Operational Automation



Data Pipeline

Data Pipeline imports real-time and batch meter data from HES, smart meter gateways, and manual sources, supporting JSON, XML, and CSV formats for both AMI and non-AMI environments.



Bill Determinants

Bill Determinants calculates accurate billable usage by applying configurable factors and Time-of-Use (TOU) rules, generating interval and scalar consumption values for downstream billing.



VEE

AI-Based Validation & Estimation (VEE) validates and processes incoming meter data using built-in validation and estimation rules, while integrated exception management enables efficient tracking and resolution of data quality issues.



Exception Management

Exception Management automatically logs and prioritizes processing exceptions, enabling authorized users to assign, track, and resolve issues efficiently.

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Intelligent Insights



Operational Reporting

Operational Reporting delivers real-time meter performance and operational dashboards.



Toolbox

Toolbox manages integration metadata, subscriber messaging, and publishes bill determinants and exception events.



Data Storage

Data Storage & Archiving securely stores and archives meter data with encryption, scalable performance, configurable retention, and audit-ready traceability.



Prepaid Engine

Prepaid Engine automates prepaid billing, balance validation, and remote connect/disconnect.

Related Products

- Impresa CX
- Impresa Interact
- Impresa Prepaid
- Revenue Intelligence
- Smart Meter Intelligence
- Grid Intelligence
- Customer Intelligence

AI-Powered Meter Data Hub Architecture

Cloud Native Architecture

AI-Powered Analytics

Open API integration

Event-driven processing

Enterprise Security

Scalable for Millions of Assets

Impresa.ai Advantage

Impresa.ai is an advanced Artificial Intelligence platform designed to revolutionize the electricity and energy industry. By leveraging cutting-edge AI and machine learning algorithms, Impresa.ai provides actionable insights, predictive analytics, and optimization solutions for energy management.

With a focus on improving grid efficiency, reducing energy waste, and ensuring sustainability, Impresa.ai empowers utilities, businesses, and consumers to make data-driven decisions, enhance operational performance, and transition toward a more reliable, smart, and green energy future.



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