



CASE STUDY: Foundation for Asset Management and the Future

The utility client of Xtensible is one of the largest community-owned electric utility company in the United States with a customer base of over 1 million delivering:

- Electric
- Water
- Sewer
- Reclaimed water
- Chilled Water

Partnering with Xtensible for consulting services:

- Architecture & Strategy
- Enterprise Information Management
- Data Architecture & Modeling
- Technical Design

THE NEED

The Utility searching to optimize operations by improved and efficient utilization of both data at rest and data in motion across the enterprise.

Accomplished through a Common Information Model approach, supporting current and future business analytics

BUSINESS VALUE

- Analytics Platform Data Architecture
- Enterprise Asset Management
- Data Management and Governance Framework

RESULTS

Enterprise Asset Management provisioning of asset related data to business users for analytics and visualization, including real-time conditions, financial decisions, inventory, planning and procurement. Established a foundation for the enterprise.

OPPORTUNITY

The vision of the utility client is to operate their business to best serve their customers. This vision includes advancing the usage of their data to enable digital transformation pertaining to how the data is integrated, stored, accessed and utilized for reporting and enterprise analytics, and through canonical APIs for a new mobile app.

The integration solution supports streaming and a robust set of canonical APIs with rigorous data governance. The design established a central enterprise data repository (a.k.a. "foundation data layer"), with a data access layer serving data consumers on demand. The logical data model for both the canonical APIs and the foundation data layer is a common Enterprise Semantic Model (ESM), providing consistent data semantics for both data-in-motion and data-at-rest. The ESM data model is based on the IEC CIM model and is managed through a data governance process. Establishing a common definition and data management framework that enables users to make efficient use of the data. Reporting and analytics must support various customer technologies and include latest advanced analytics technology with possibility for future expansion to meet changing business needs.

THE APPROACH

The start of the journey focuses on enterprise asset management, asset data architecture design as well as the data management framework and methodologies to develop a holistic overall approach for enterprise asset management linked with business intelligence and analytics. This work was driven based on the utility corporate vision and goals, targeting the Golden Record for and the 360 Degree view of assets.

Xtensible worked closely with the utility to assess existing processes, systems, data quality, and the maturity level of their enterprise asset data management and laid a foundation for a comprehensive:

- Business design
- Systems Vision
- Data architecture
- Execution plan

The plan incorporate how to integrate processes and data across disparate systems for assets and eliminating the need for multiple data entries and present a single version of the truth. A comprehensive data architecture for asset data management was developed to include core foundational components such as data principles, current and future architecture, gap analysis, constraints, technical requirements and interoperability requirements.

ASSET 360 INFORMATION MODEL

The interoperability requirement for the asset management solution was designed by Xtensible through the development of the Utility Information Model and laid the foundation for future extension into other subject areas such as Work, Meter, Customer, Operations Measurement and Network Connectivity Model.

The solution integrates applications such as Asset and Maintenance Work Management, Financial, GIS, Data Historian, Outage Management, meter data management, laboratory information management systems to name a few including the data visualization and analytics.

RESULTS

The extended Enterprise Asset Management Teams, maintenance, operations, planning, procurement, and Capex/Opex decision makers where the primary beneficiaries of this initial engagement. But this initial focus on EAM did not prevent the teams from keeping the long-term strategic focus of Enterprise Information Management Journey in mind.

“Enter data once and use it many times provides the direction to perform the complete ongoing collation, storing, and sharing of all asset information with all corporate system. The information collection begins before the asset is even procured and continues through out the life-cycle of the asset. The architecture developed for the asset ‘golden record’ is an enterprise design and architecture that is reusable for developing other ‘golden records’ such as customer, meter and others”, stated by Phillip Jones, VP of Solution Development from Xtensible.

WHAT IS HAPPENING NEXT?

Xtensible continues to provide professional services to the client for:

- Enterprise Information Management
- Data Architecture & Data Modeling
- Business Intelligence & Data Analytics
- System Integration Design

Together we have continued to expand utilizing an agile workflow, and a loosely-coupled architecture with a Common Information Model approach to give business users a unified asset view, comprehensive analytics, and visualization based on the developed roadmap.



- GOLDEN RECORD -

“ENTER DATA ONCE AND USE IT MANY TIMES”



BUSINESS UNITS INVOLVEMENT

- Information Technology
- Asset Management
- Grid Operations
- Customer and Meter
- Digital Innovation



TECHNOLOGIES

- MD3i
- Cymphony
- Oracle Fusion
- NiFi
- Kafka
- Oracle eAM
- Tibco DV
- Snowflake
- PowerBI
- OSISoft
- FogLAMP
- Cisco
- AWS

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