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Utilities

Oracle Utilities Live Energy Connect InfluxDB Adapter

Store, archive, and retrieve time-series data from any utility device or system with Oracle Utilities Live Energy Connect InfluxDB Adapter. Simplify the process of gathering operational data. Provide the data needed for analytics and business intelligence.

STORE, ARCHIVE, AND RETRIEVE DATA IN REAL-TIME

Every day the data set generated from existing grid assets grows exponentially. As more assets, systems, and automated devices are brought online, this growth rate compounds. Increasingly, the power generation, transmission, and distribution industries are employing operational historian databases to meet their data storage, archival, and retrieval demands. As shown in Figure 1, Oracle Utilities Live Energy Connect InfluxDB Adapter (Oracle Utilities LEC InfluxDB Adapter) provides an out-of-the-box historian integration to Oracle Utilities Live Energy Connect (Oracle Utilities LEC) that allows high-performance time-series data collection, analysis, publishing, logging, and archiving capabilities.

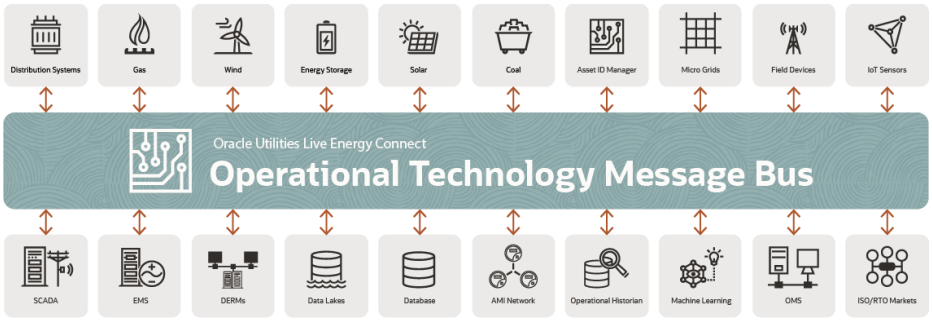

Figure 1 Oracle Utilities LEC Historian Adapter provides a time-series database integration to Oracle Utilities LEC

LEC InfluxDB Adapter is a fit-for-purpose, open-source, time-series database (historian) connecter that employs Oracle Utilities LEC as the communications hub for operational technology (OT) and Industrial Internet of Things (IIoT) data from any source. Oracle Utilities LEC InfluxDB Adapter provides a fully scalable, cost-effective, field-proven solution that can be deployed on premise or in a public or private cloud.

Key Benefits

Oracle Utilities LEC InfluxDB Adapter helps utilities

- Collect real-time data from any source
- Retrieve historical, time series data
- Integrate smart grid applications with real-time and historical data
- Build real-time operational intelligence
- Support OEM application data management and storage

Oracle Utilities LEC supports nearly every power industry protocol.

Operational Historian

An operational historian is a database purpose-built to store, archive, and retrieve time-series data for production environments. The knowledge of how the data will be generated and used informs historian design to gain efficiency and decrease computing overhead. Typically, a single sample contains 3 data points: a value, a timestamp, and a sample quality value. This time-series data differs from relational database data as historians are not transactional and do not have to update several tables with every entry.

Oracle Utilities LEC InfluxDB Adapter fulfills utilities customers' demands for high-performance time-series data collection, analysis, publishing, logging and archiving capabilities.

Operational Historian Application in the Utilities Industry

Operational historians' purpose-built design makes them excellent solutions for the data storage, archival, and retrieval demands of the power generation, transmission, and distribution industry. The time-series data generated by assets, systems, and devices connected to the grid concisely fit into the historian schema. Historians feature downsampling; keeping high precision raw data for a limited time and archiving lower precision data with compression algorithms. Data retention policies automate the downsampling process. These features combined allow historians to handle millions of data points per second and to reduce the maintenance requirements of active participation by database administrators.

Collect Real-Time Data from Any Source

With Oracle LEC InfluxDB Adapter, you can collect data from virtually any utility device or system using a wide array of protocols, including ICCP, Modbus, DNP3, OPC, and many more. LEC InfluxDB Adapter allows you to collect accurate time-series data and consistently recreate that data. Should you require integrations with other third-party historians, we have connectors to these systems as well.

Retrieve Historical, Time Series Data

Oracle Utilities LEC InfluxDB Adapter offers the ability to retrieve historical, time series data and efficiently store that data with compression algorithms. As grid edge technologies proliferate and the volume of OT data grows exponentially, the complexity of managing these rules and modifications will increase in kind. LEC InfluxDB Adapter simplifies the management of generated data by enabling data point specification, retaining data and providing time resolution policies to be managed directly from Oracle Utilities LEC batch files.

Integrate Smart Grid Applications with Real-Time and Historical Data

Open source tools often offer simplified, open application programming interfaces (APIs) to move you beyond visualization screens and human machine interfaces (HMIs) provided by original equipment manufacturer (OEM) suppliers and third-party developers. Oracle Utilities is here to help you integrate distributed energy resources (DERs), OT systems such as EMS, OMS, ADMS, and other grid control systems to interact with historical data seamlessly. This enables smart grid applications and operators to act upon real-time and relevant information to manage the grid more effectively. Our open API establishes a rich environment for you to interface with analytics tools for deeper historical analysis and richer predictive modeling.

Build Real-Time Operational Intelligence

Oracle Utilities LEC InfluxDB Adapter provides the data needed for analytics and business intelligence. Simplify the process of gathering operational data to determine various system averages, efficiencies, and losses as well as strategies for improvements, procurement, and rate case filings. Employ open source or proprietary analytics tools to deliver real-time, customized visual analytics.

HOW IT WORKS

Oracle Utilities LEC InfluxDB Adapter is a readily available as an operational historian integration to Oracle Utilities LEC. Combined with LEC's flexible architecture this fully integrated solution allows system and device data time-series data to be stored, archived, and retrieved in real-time.

Figure 2 *How Oracle Utilities LEC Historian Connector works*

This data is immediately available for operational support and business intelligence. Oracle Utilities LEC scalable architecture integrates to legacy, current, and future devices and systems via their native protocols.

BE ASSURED WITH PROVEN RELIABILITY

Oracle Utilities LEC InfluxDB Adapter is backed by Oracle and supported by experienced, OT-savvy professional services engineers who provide a quick path to getting your solution online. Oracle Utilities LEC InfluxDB Adapter is part of the Oracle Utilities LEC platform, a suite of high-availability solutions and services for the utilities industry.

The Oracle Utilities LEC Platform

Oracle's smart grid data and intelligence solutions for utility companies enable confident, real-time management of power grid assets for

- Critical infrastructure network segmentation and protection
- Independent system operator (ISO)/regional transmission organization (RTO) connectivity
- SCADA, OMS, and DMS real-time state monitoring, control, and communication
- Demand response aggregation
- Visualization
- Data analytics

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