



**HarperDB**  
Simplicity without Sacrifice

&

**E Casne**  
Engineering

## High Speed Data Monitoring from HarperDB & Casne

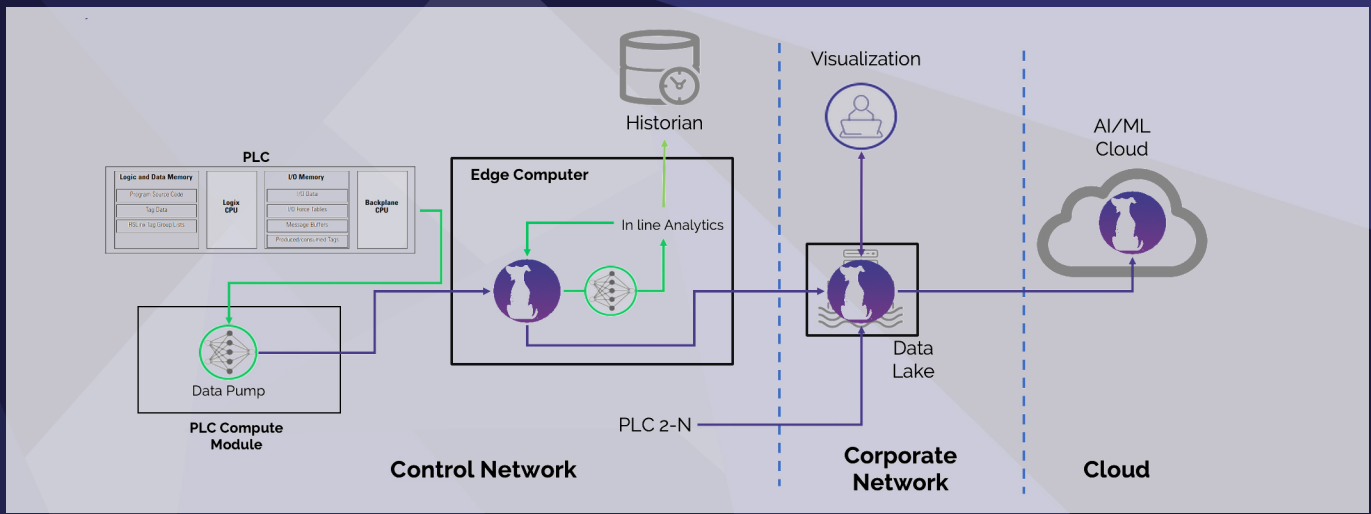
HarperDB has partnered with Casne Engineering to develop high performance data acquisition capabilities that enable organizations to capture sub-second data streams from industrial control systems such as PLCs and SCADA systems, filtering out irrelevant data at the edge and forwarding only the pertinent information for use in OT Historians and machine learning applications. This solution allows operators to gain real-time insights and detect anomalies that would normally be missed using traditional low frequency data collection technologies. HarperDB data management solution enables organizations to efficiently collect, process, and analyze data streams in conjunction with other unstructured data including machine vision, geospatial, and internet data feeds. By implementing HarperDB, clients can build data flows that improve visibility and reduce costs. The solution extracts only the data pertinent to their operations and forwards this information directly to existing plant historians, SCADA systems, reporting systems, and work management systems; reducing unnecessary data and streamlining overall data operations.

### Case Study/Project

One example where HarperDB and Casne are working together is in the industrial / utilities space. The client was challenged to catch anomalies that occur at sub-second intervals and determine the root cause for equipment failures and downtime. HarperDB and Casne developed a real-time data pump that consumes millisecond data directly from a PLC and then compares each reading against a set of operational thresholds. If a threshold is reached, the solution creates an event, aggregates the high resolution data leading up to the event, and monitors the PLC to determine the overall duration. The data is then integrated directly into their existing data historian for long-term storage, alerting, and human analysis. A separate HarperDB instance was then developed as a high fidelity data lake which can be leveraged for additional analytics and used for AI and machine learning model training. Data is automatically synchronized from the edge directly to the data lake using HarperDB's built-in clustering capabilities. This solution enables the client to use a single data management platform from plant to cloud.

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*Solution Diagram*

## About HarperDB

HarperDB is a distributed database focused on making data management easy. Because it can run anywhere and ingest any type of data at scale, HarperDB is enabling solutions like Hybrid Edge/Cloud, IoT, Rapid App Development, and Integration - ultimately reducing latency, cost, and complexity for organizations. HarperDB has an easy to use REST API, and supports NoSQL and SQL including joins.

The HarperDB software runs on anything with an operating system, from edge devices to on premise servers and into the cloud. HarperDB leverages standard interfaces so that you can use the reporting and analysis tools that best meet your needs.

HarperDB allows customers to store, access, and transport IT, OT, and IoT data, so you can get your data where it's needed when it's needed. The HarperDB solution can serve numerous use cases across industries.

## About Casne

Casne Engineering, Inc. is an advanced engineering and technology integration firm focused on utilities, power production, oil & gas, process industries, and critical facilities. Casne Engineering is composed of professional engineers, system architects, technology consultants, system integrators, and software developers for the design, implementation, and support of real-time systems. Casne implements engineered solutions for power system monitoring, energy management, condition-based maintenance, streaming analytics, complex event detection, system

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