



Customer Background

ConocoPhillips is a leading oil and gas company operating across 15 countries, with six operating segments spanning from Alaska to the Asia Pacific region. Headquartered in Houston, Texas, and with total assets exceeding \$124 billion, the company focuses primarily on oil production and exploration.

With such a large global footprint, data from its assets had historically existed in silos across disparate technologies and standards. To improve operational efficiency and enhance decision-making, ConocoPhillips launched an IT-OT convergence initiative as part of its broader enterprise data strategy.

“HighByte Intelligence Hub has been instrumental in helping us bridge IT and OT data across our global operations. It provided the flexibility and scalability we needed to connect multiple historians and SCADA systems into a unified data model. By standardizing how we integrate and contextualize data, we’ve accelerated the development of new use cases while reducing complexity in our data pipelines.”

Karthik Radhakrishnan Staff Data Architect at ConocoPhillips

Company Profile

Name ConocoPhillips

Industry Oil & Gas

Headquarters Houston, TX USA

Website conocophillips.com

CHALLENGE

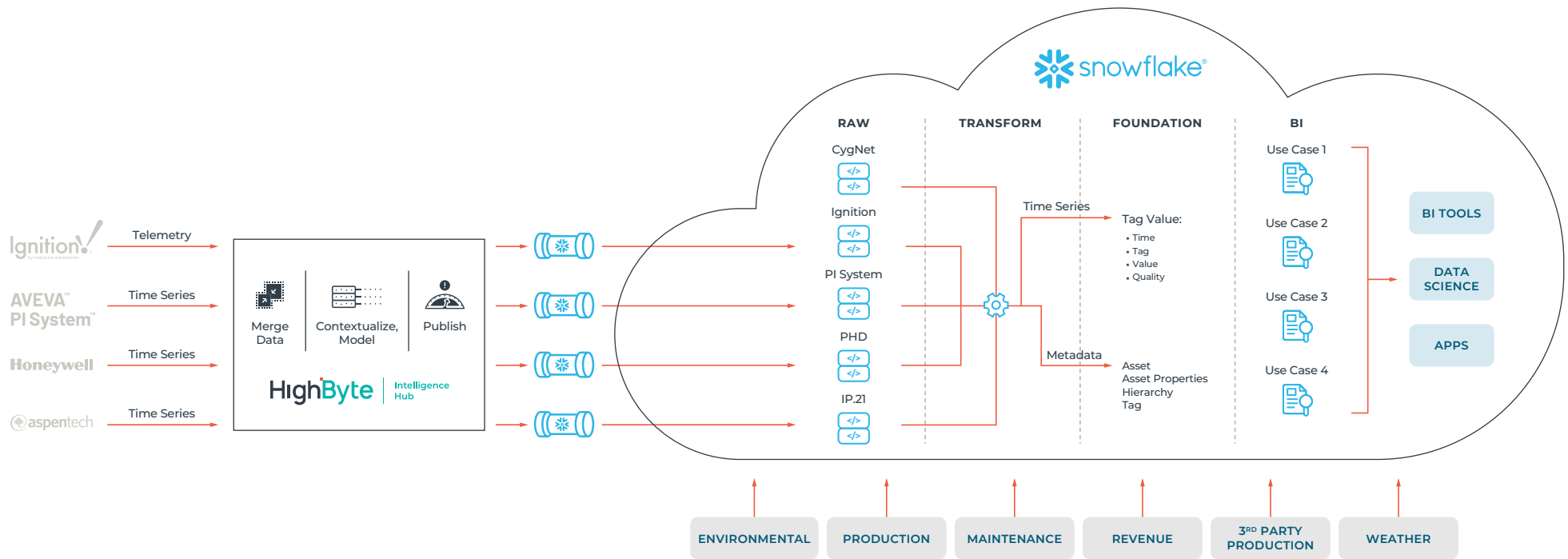
- Information was spread across many technologies—from SCADA to multiple historians, including Honeywell PHD, Aspen InfoPlus.21, and AVEVA PI System. Each technology was managed independently, making it difficult to unify data and enable cohesive, data-driven decision-making.
- Operational Technology (OT) data lacked the necessary metadata and contextual information needed to make it meaningful or actionable for analytics and business insights.
- Data integration methods varied widely, with non-standard approaches that were complex to manage and time-consuming to maintain, creating bottlenecks in scaling the company’s enterprise data platform.

APPROACH

- Deploy HighByte Intelligence Hub to standardize and contextualize OT data across multiple business units.
- Integrate OT data sources, including multiple dissimilar historians, into a centralized Snowflake environment.
- Implement a common data model to harmonize and contextualize time-series data, creating a homogeneous data layer.
- Integrate metadata, such as asset hierarchies and tag context, providing contextualized insights.

BENEFITS

- Ingesting over 1 billion rows of sensor data daily across multiple SCADA and historian systems.
- Powering more than 400 dashboards by the common data model.
- Significantly reduced data integration complexity and maintenance efforts.
- Enabled advanced analytics and AI/ML use cases, including gas lift optimization to improve well performance and reduce costs.



“ConocoPhillips has built a great foundation for IT-OT convergence. By using HighByte Intelligence Hub to standardize and contextualize data from across their global assets, the team is enabling faster decision-making and process optimization at scale. Their work is a great example of how a strong data architecture can accelerate innovation and operational efficiency across the enterprise.”

John Harrington Chief Product Officer at HighByte

WHAT'S NEXT

- Scale the Industrial DataOps architecture to onboard additional assets and IoT data sources across global operations.
- Continue to grow sensor data points and expand ingestion pipelines to handle increased system connectivity.
- Continue the IT-OT convergence strategy to support advanced analytics and data-driven decision-making across the enterprise.

About HighByte

HighByte is an industrial software company addressing the data architecture and integration challenges faced by global manufacturers as they digitally transform. HighByte Intelligence Hub, the company's proven Industrial DataOps software, provides modeled, ready-to-use data to the Cloud using a codeless interface to speed integration time and accelerate analytics. Learn more at highbyte.com.



Watch [ConocoPhillips Full Session On-Demand](#).