DATASHEET

USE CASES

OIL&GAS

sqlstream

Capture and analyze all your data in real time to increase operational efficiency, reduce risks, and adjust compliance on the go

BENEFITS

Optimize well & field production continuously & in real time

Predict and avoid equipment failure in real time

Monitor and manage land and marine fleets in real time

Reduce satellite transmission cost: reduce amount of data sent

Reduce hardware footprint, power consumption, cooling cost

Integrate across all data silos: deliver instant, company-wide business, operations, and risk intelligence to top management

BACKGROUND

The ability to ingest, analyze, and act on high-volume and high-velocity data is becoming increasingly critical to oil and gas exploration and delivery companies. These companies want immediate value from data to improve business efficiency and performance, while addressing continuously changing business conditions, including: uncertain and volatile oil and gas pricing, changing energy policies, production challenges, emerging competition from new sources of energy, and operational management cost and inefficiency.

The massive increase in data sources and volume is challenging business analysts who need real-time information to drive operational efficiencies. Business analysts need to quickly develop applications that ingest data at higher rates, analyzing live data with historical data for accurate business context, and operationalize insights.

SQLstream's streaming analytics platform, SQLstream Blaze, replaces the asset-based analytics model with a functional one that enables oil and gas companies to meet these challenges in a dynamic, efficient, scalable way.

OPERATIONS

Streaming ingestion and analytics enable automatic actions that can adjust entire production systems to eliminate production challenges, reduce operational costs, and recognize opportunities in real time.

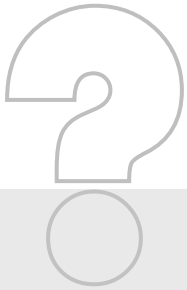
SAFETY

Real-time data processing predicts and eliminates well integrity and cargo safety risks, personnel health & safety risks, and system security threats before they occur.

COMPLIANCE

Operational requirements are automatically updated and deployed when changes in physical work conditions negatively affect the environmental impact, or when changes in policies demand a readjustment of product, processes, or price strategies.

DATASHEET



How does Blaze enable real-time analytics for a lower cost?

1. Streaming applications are deployed for optimal performance near data sources at the edge, on premises, or in the cloud.

2. Blaze is based on declarative SQL for automatic optimization and parallelization, dramatically reducing runtime footprint and hardware requirements.

3. Blaze enables data to be analyzed and acted on as the data arrive, without needing to store, eliminating unnecessary security risks and storage costs.

sqlstream

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DATA CHALLENGES AND THE BLAZE APPROACH

Field production optimization

High volumes of data streaming from DOF&DFS: Blaze ingests and analyzes high-volume, high-velocity data from multiple, disparate sources and formats, at rates of millions of records per second.

Manually updating reservoir models and predict performance: Blaze streams field data to model; compares newly arriving data against model continuously and in real time; adjusts production automatically to meet objectives.

Delayed detection of onset of leak & shut down: Blaze incrementally adjusts analytics results and pushes automatic updates in production parameters, from adjusting vacuum pressures to shut downs.

New data: Real-time geology interpretation and adaptive new well delivery processed can reduce trial&error and optimize the number of wells

Equipment failure detection

Blaze captures, processes & analyzes all the sensor data streams in real-time, enriching it at the same time with historical and non-operational data to generate instant alarms, alerts, and automatic adjustment or shut-down of equipment. New data management applications can be developed, tested, and maintained while data is in motion and the business operations are up and running.

Rig equipment: Reduce non-rotating time, wellbore instability,blowout.
Oil field facilities: Reduce NPT, do repairs during normal maintenance.
Electric submersible pumps: Avoid unscheduled WO & NPT.
FPSO: Avoid expensive interruption to offloading oil to FPSO.
Refineries & petrochemical plants: Avoid unscheduled repair & fire/explosion, environmental hazards, and personnel safety risks.
Pipelines/compressors: Avoid unscheduled repair & fire/explosion.

Fleet monitoring and management

Monitor position & performance of drilling vessels, oil tankers, FLNG, work boats, FSPO from onshore: Stream sensor data to on-board s-Server, deliver rolled up KPIs to data center in real time, generate real-time alarms & alerts for immediate control & response.

Oil tanker demurrage: Manage marine, land, and rail traffic data continuously and in real time to reduce and calculate demurrage for payment and legal defense.

Real-time land fleet performance monitoring: Monitor tanker truck, field vehicle, & heavy equipment performance data continuously and in real time, e.g. tire pressure of tar sand mining trucks, local temperatures, pressures, flow levels, etc.

Data management applications development

Slow development, high costs: Use existing apps, databases, data warehouses, and skill sets. Business analysts, SQL, and Java developers can build streaming apps in minutes that deliver streaming ingest, analytics, and actions to operationalize insight.

BLAZE DIFFERENTIATORS

Millisecond latency: actions are operationalized through apps that deliver triggers and alerts based on real-time, record-by-record contextual analysis of live and historical data, including time-series and spatial operators.

Centralized streaming data visibility and security at global scale: data is viewed globally and flowing live through deployments using telemetry; data can be managed and marshalled for storage or analyzed without storing, for optimal value and security.

Zero downtime: continuous business operations are maintained while changing streaming application logic or queries, on-the-fly, while data is in motion.