RockPigeon – SigmaStream's WITSML Store

Overview

RockPigeon is SigmaStream's next-generation WITSML server, built to extend industry standards while solving long-standing challenges in drilling data management. Fully compliant with WITSML versions 1.3.1.1 and 1.4.1.1, RockPigeon provides robust support for standard store functions (getFromStore, addToStore, updateInStore, deleteFromStore) across a comprehensive set of objects, including Wells, Wellbores, Rigs, Trajectories, MudLogs, Tubulars, Messages, Risks, and more.

Unlike conventional WITSML implementations, RockPigeon introduces advanced capabilities such as high-frequency log creation, multi-stream composite logs, and scalable data dissemination across hundreds of wells, making it an essential backbone for data-driven drilling operations.

Benefits

- High-Frequency Data Support – Generate and store time-series logs at frequencies greater than 1 Hz, enabling analysis of transient drilling phenomena often missed at lower sampling rates.
- Composite Log Creation – Combine mnemonics from multiple sources publishing at different frequencies into a single, synchronized log (e.g., blending a 1-second drilling recorder, 20 Hz surface sub, and 200 Hz vibration sensor into a 100 Hz log).
- Proven Scalability – Tested to ingest, manage, and disseminate data from more than 200 wells simultaneously without loss of fidelity.
- Standards Compliance – Seamlessly interoperates with industry-standard WITSML-based applications and workflows.
- Flexible Log Management – Configure mnemonics, data points, and frequencies to meet both engineering and analytics requirements.
- Integration with YellowHammer – Subscribes to YellowHammer's federated data channels for precise frequency control and alignment.

Features

WITSML Standards Support

- Versions 1.3.1.1 and 1.4.1.1
- Store Functions: getFromStore, addToStore, updateInStore, deleteFromStore

- Supported Objects: Well, Wellbore, Rig, Trajectory, MudLog, WellGeometry, Tubular, BhaRun, Message, Risk, Marker, FormationMarker, FluidReport, Target, CementJob, Log (up to 500 mnemonics and 300,000 data points per request)

Custom Log Generation

Creation of user-defined logs by aggregating data from multiple streams with different sampling rates. Frequency normalization and alignment via YellowHammer integration. Retains sub-second data fidelity for high-resolution engineering analysis.

High-Volume Multi-Well Operation

Tested at 200+ wells in parallel. Scales to support enterprise drilling campaigns without sacrificing speed or data integrity.

System Requirements

Server
- OS: Windows, Ubuntu 14+, CentOS 6+, MacOS X
- CPU: Quad-core 3.0 GHz or higher
- Memory: 8 GB+

Summary

RockPigeon delivers the next step in WITSML evolution: a standards-compliant store with the ability to generate high-frequency, multi-stream composite logs, while scaling across hundreds of wells in real-world deployments. By combining WITSML compliance with SigmaStream's unique federation and synchronization technologies, RockPigeon ensures engineers have access to the high-fidelity, time-aligned data needed for advanced analytics, predictive maintenance, and real-time operational optimization.

Contact

info@sigmastream.com

Houston, TX

713.234.6345

www.sigmastream.com