TATSOFT

Tatsoft is a premier Platform Developer for real-time data monitoring, SCADA and HMI Systems, Distributed Data Aggregation and Advanced Visualization tools. With over 25+ years of experience solving complex problems, the Tatsoft team has industry-proven expertise working with leading companies worldwide, to deliver robust industrial applications in a wide variety of industries and environments, from plant floor to the executive management level.

Case Study - Oil and Gas

Company
Apache Corporation

Industry
Oil and Gas

Location
United States, Canada, Egypt, the United Kingdom North Sea and Argentina

Website
www.apachecorp.com

Challenge

Apache needed a way to use real-time data to help increase efficiency, drive and improve performance, significantly lower well costs, and to be able to make better data-driven strategic decisions in real-time.

Solution

Apache chose FactoryStudio from Tatsoft to accelerate its performance and learning by using such FactoryStudio capabilities as its ability to combine high speed data with low-latency data sources in real-time, and its ability to use high-end analytics tools to aggregate, analyze, and present real-time information.

Results

The project is in full production, including loading historical data from approximately 800 wells, to enable “lessons learned” analysis.

1. **75-80% SAVINGS** in direct cost per average well using the FactoryStudio solution than current land-based EDR systems.
2. **93-95% SAVINGS** compared to the current vendor costs of other "high-end" solutions and systems that also included real-time models and logging visualization at the rig.
3. Up to **100 Hz** received data rates for this project.

As prices rise, so does the need for efficiency

To continue growing, especially with the drop in oil prices, Apache needed a large efficiency driver and improvements on performance to drive down well costs and make more acreage economic.

The proper use of data is crucial to accelerate these efforts, so Apache made the strategic decision to be data-driven in their decision-making.

Why FactoryStudio?

FactoryStudio was designed to take in all forms of data, file types, and communication protocols for seamless integration.

The data acquisition model also allows for actual data aggregation. All of the different data collected, in all file types and protocols, are stored in one database. Once it is centrally stored, all the data can be viewed on customizable charts in a multitude of ways. The centralized data also creates an environment where a drilling engineer can easily compare historical data for pre-well planning, while drilling the well, and in retrospect.

Distributed data-analytics is a key design concept developed by Tatsoft for FactoryStudio. The rig application runs algorithms in real-time to determine rig state, data quality and trustworthiness, hydraulic models, MSE calculations and vibration analysis, as well as performing time to depth transformations.

The development of the visual displays was also carefully constructed. The use of vector graphics gave the needed flexibility and rapid prototyping for display development and, unlike the traditional pixel- based graphics, the vector graphics engine supports mobile applications on both HTML5 and native iOS, and faster creation of displays for time/depth data, drilling mnemonics, and geology information.

The system includes

- Rig state determination
- Data quality verification
- Real-time Bayesian model
- Smart Alarms
- Integration to the daily drilling report database
- Real-time visualizations
- Open application layer with a Human Machine Interface (HMI)

All at the rig site!

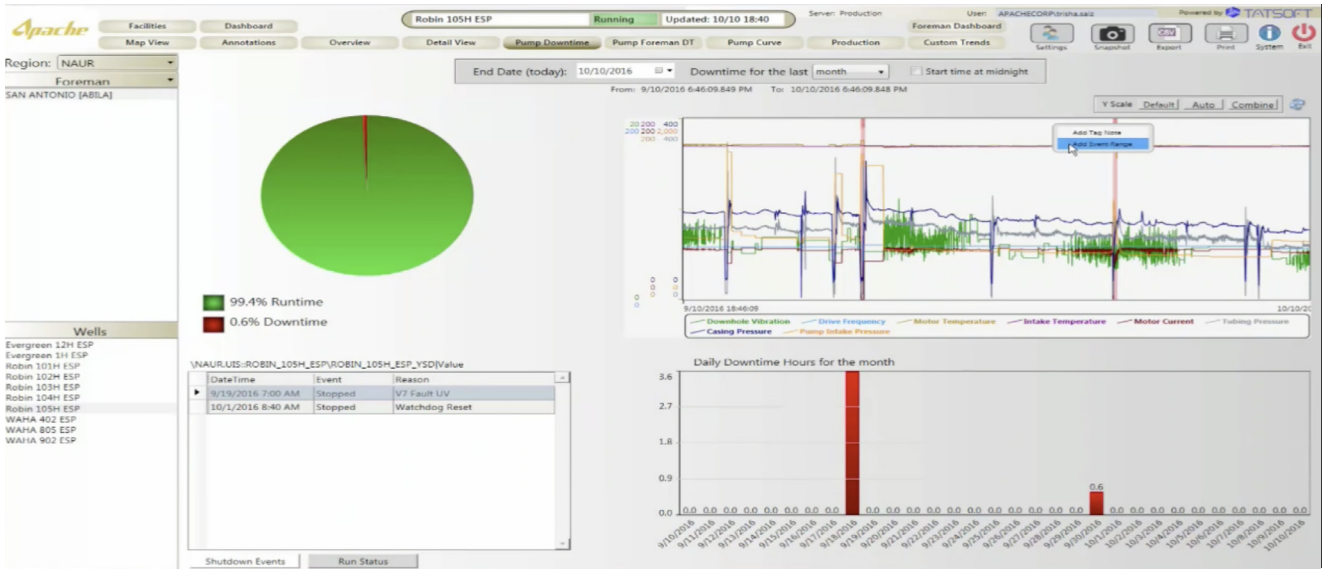
What changed?

Apache now has the advantage of capturing and retaining access to real-time, multi-frequency data to leverage with other data sources and capabilities

Conclusion

Following the highly successful project and implementation Apache green-lit the next 2 phases of development, which included: development of smart alarms, advisory services, and high-end analytics.

The rig-centric approach has proven to work successfully, and simultaneously the solution also supports virtual, as-needed, real-time control centers.



+1 (855) TAT-SOFT (828-7638)
info@tatsoft.com

2929 Allen Pkwy #200
Houston, TX 77019

www.tatsoft.com