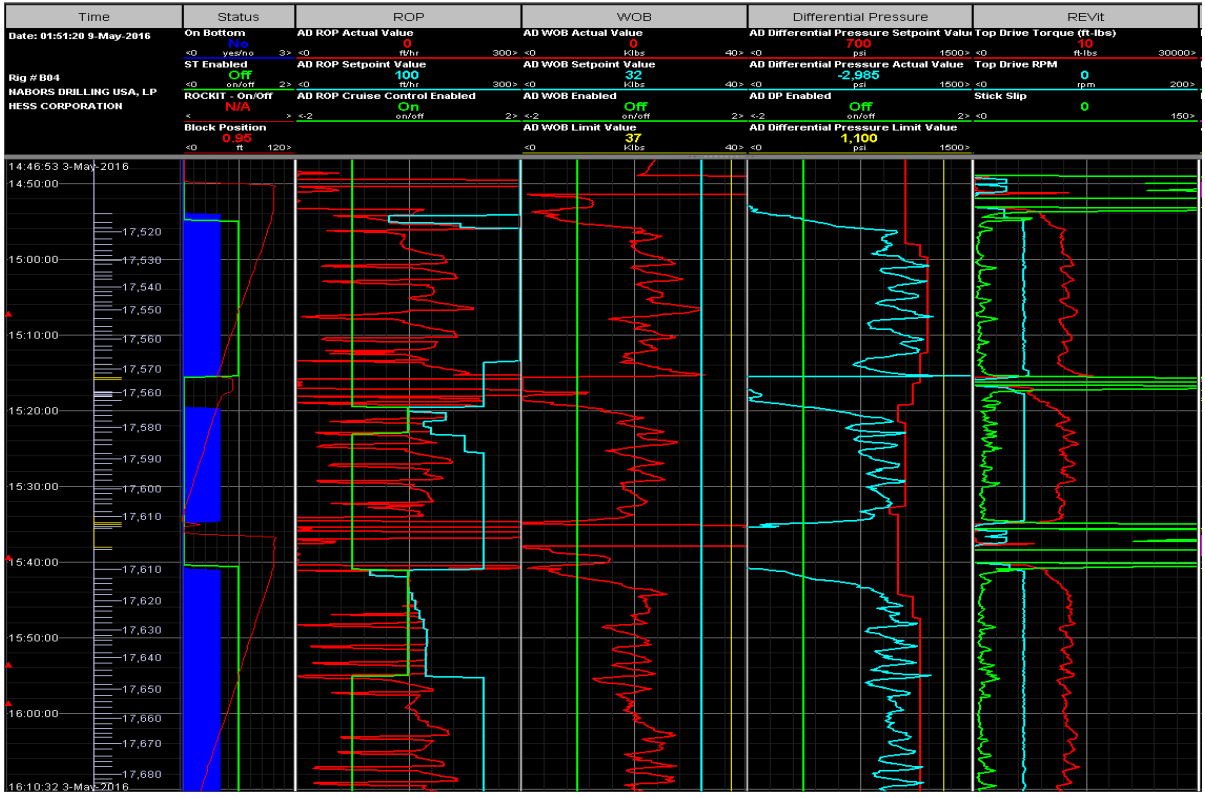
DataCloud Introduction

Autodriller Dysfunction – Hess Project

- Periodic oscillation in any one, two, or three control parameters:
  - WOB
  - ROP
  - delta P

- Most common cause: one or more of the parameters reaches a control limit or setpoint and oscillations begin



Technology Solution Summary - Drillytics

Drillytics is an application that ingests rig data, processes it, and provides alerts and prescriptions back to the rig in real-time with an average latency of less than 5 seconds.

Drillytics acquires data through industry protocols (WITSML) and formats the data by ensuring parameters are consistently named and units of measurements are standardized so the data can be readily compared. Once this is complete, the real-time analysis occurs using a complex events processing engine. The output produced is sent to the driller's console (via WITS0) as well as to displays and databases in the client's real-time operations center, allowing multiple end-users to view the data in industry standard log viewing applications.

Technology Solution Summary - Drillmetrics

Drillmetrics is an application that stores and visualizes all of the data being ingested, processed, and produced by Drillytics across all of the client's wells allowing for cross-well comparisons and analysis as well as tracking of key performance indicators and metrics over time.

Drillmetrics stores data in Azure SQL or Cassandra. For visualization, Drillmetrics utilizes a custom built HTML5 dashboard. Drillmetrics can also connect with other visualization platforms such as Microsoft's Power BI.

Results from Initial Customer - Hess

Sample Size:
~100 Wells

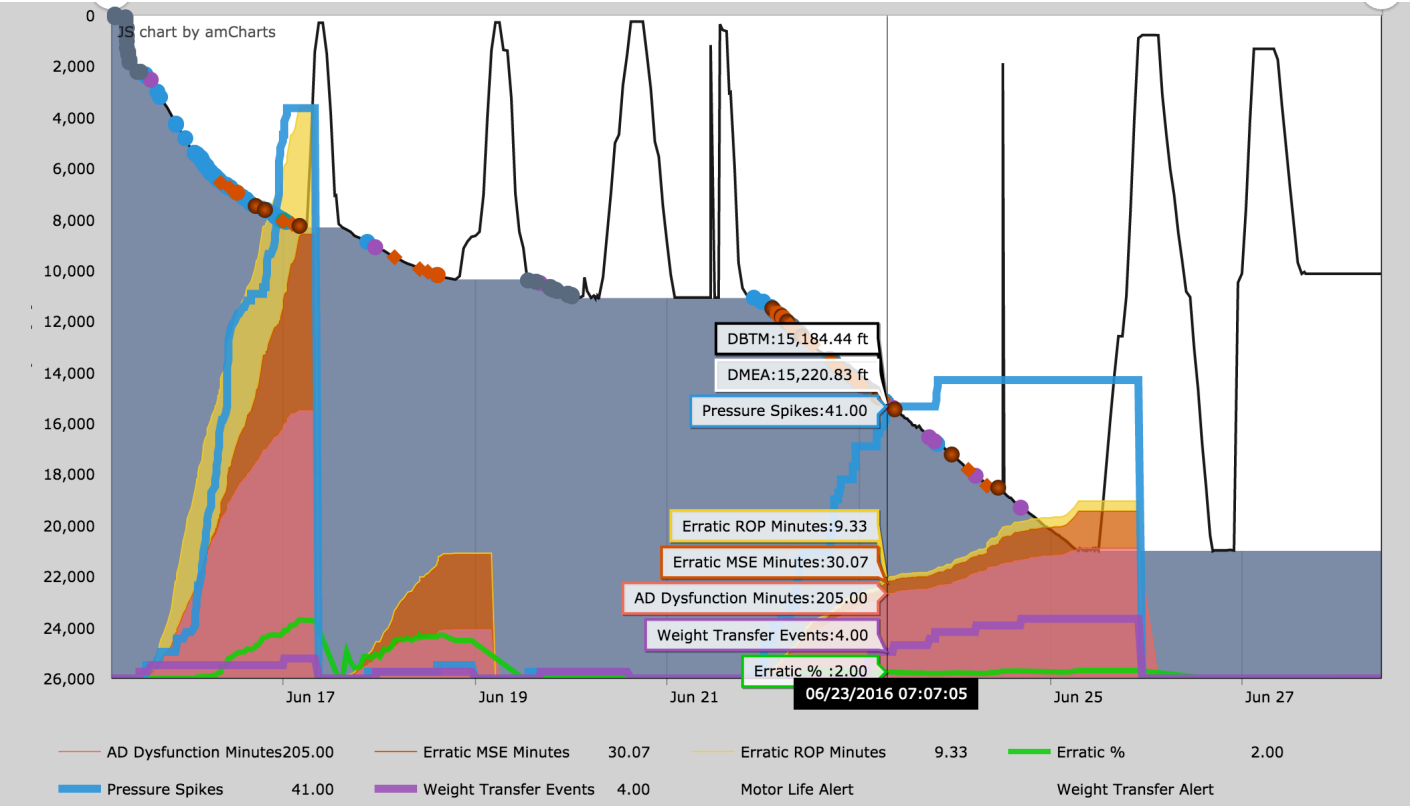
Prescription Accuracy:
~90 percent

Savings:
Average $25k USD / well

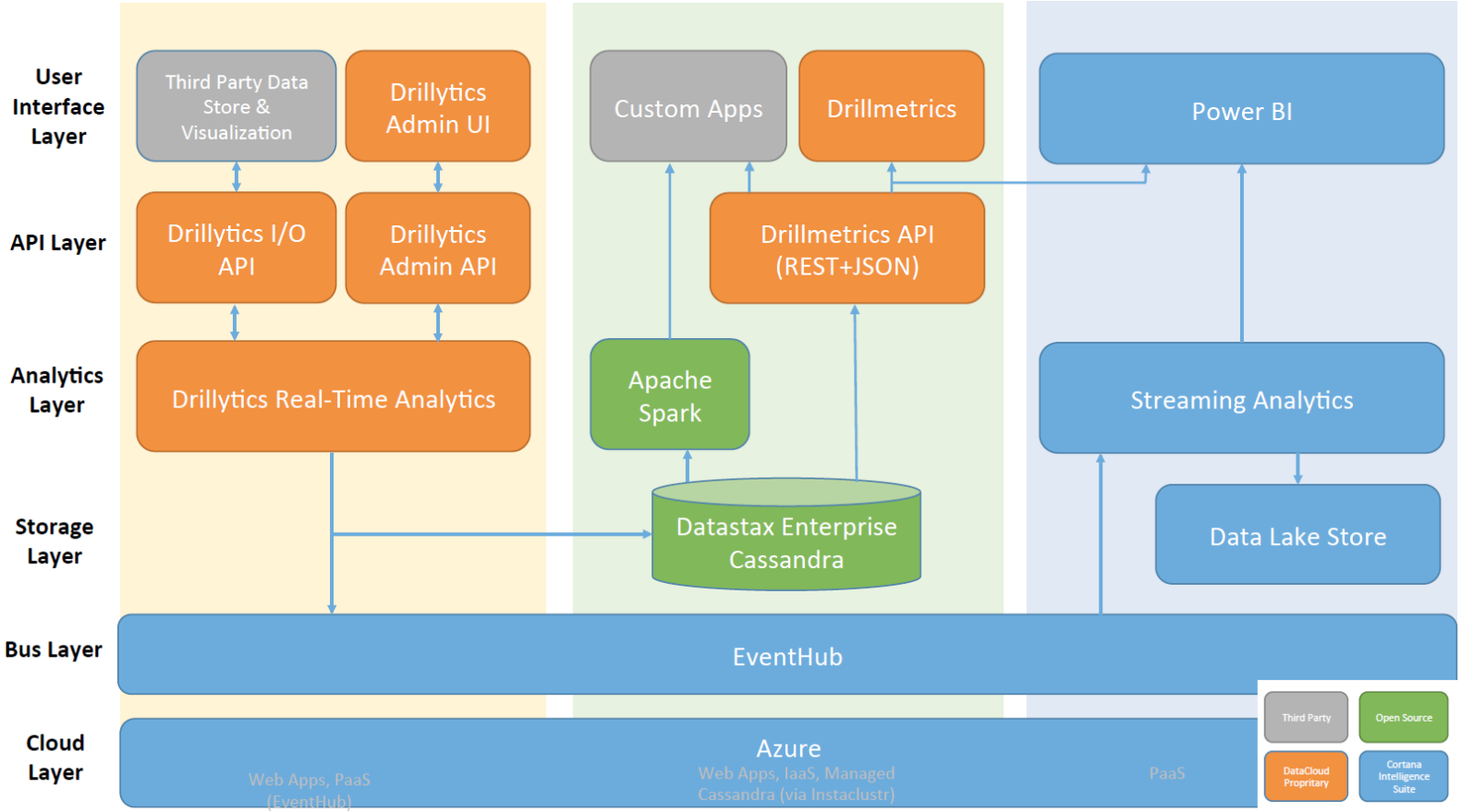
400 percent ROI

Go To Browser

Note - Placeholder Slide: Go to Browser for Well Examples



DataCloud Architecture



Technology Summary – Combined Platform Benefits

DataCloud has built robust architecture that seamlessly provides E&P clients the following three invaluable capabilities:

- The ability to access streaming rig data in real-time, without having to implement any new IT systems or protocols
- The ability to subject drilling data to advanced machine learning pattern recognition techniques and computer-based cognitive abilities via artificial intelligence
- The ability to deliver near instantaneous alerts and prescriptive recommendations to the rig and client points of contact

Size of the Opportunity – Two Market Views

Available Market for NPT Reduction

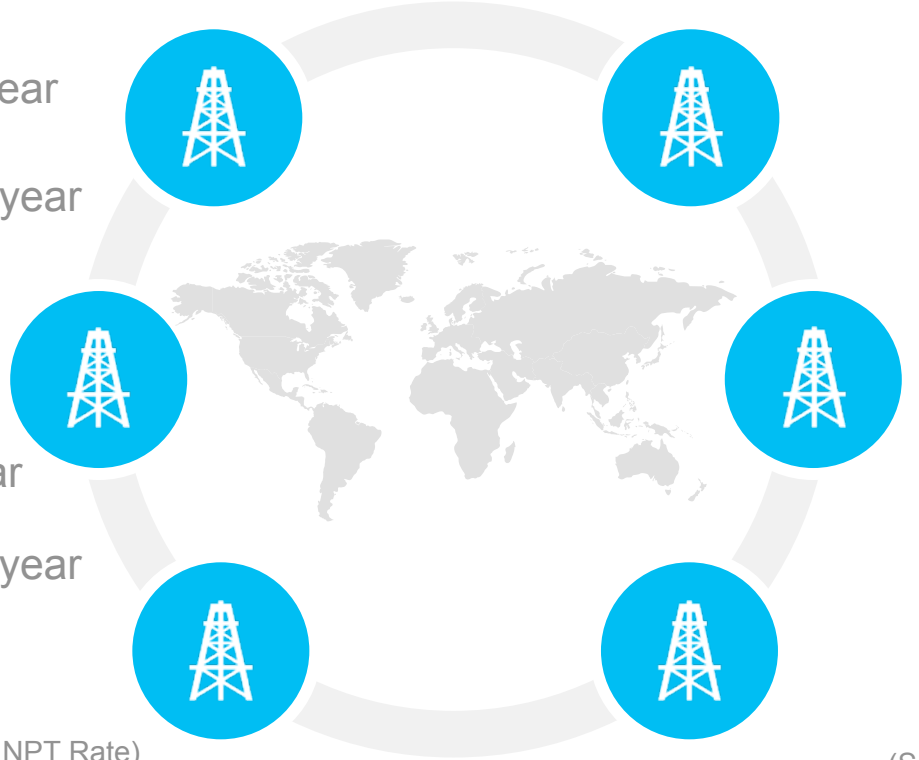
Annual Worldwide

2016 (Trough)	1,500 Rigs	$6B / year
2014 (Peak)	3,700 Rigs	$54B / year

Annual United States

2016 (Trough)	410 Rigs	$2B / year
2014 (Peak)	1,900 Rigs	$26B / year

(Market Size: Rigs x Spread Rate x NPT Rate)



Available Market for Oil and Gas Data Analytics

Annual Total Oil and Gas Analytics Market

2016: $8B

2019: $19.6B

CAGR: 36%

(Source: Markets and Markets)

Scaling with Microsoft

Credibility: Microsoft capabilities within client organizations

Scale: Azure technology and Microsoft account teams

Reliability: Enterprise grade

Analytics Capabilities: Cortana Intelligence Suite and access to world class product teams

Growth: Reliance on high level managed services such as Stream Analytics, Machine Learning, Power BI, and Event Hubs allows our E&P clients to focus on core business operations

Discussion

Thor Kallestad – thor@datacloud.com
Matt Larkin – matt@datacloud.com

The Competition