

Case Study

Kalnin Ventures cut down their analytic platform deployment time and cost with Amorphic



Executive Summary

In November 2019 Kalnin purchased new energy assets to quadruple the size of company and to increase total well count by 33x. They put together a three year “crawl-walk-run” strategy roadmap for their BI and reporting. They had very stringent target of reaching the “crawl” stage by Feb 2021 to unify all their data sources on AWS cloud and create compliance and production reports. Also, they wanted to give their business and new-hire data scientists easy access to data. Their existing data sources were sitting in purpose-built databases, domain specific applications and Microsoft Azure. Kalnin used Cloudwick’s production ready cloud analytics platform, Amorphic, on AWS to unify all their data sources at a single place and cut down deployment time and cost to meet their “crawl” deadline. Cloudwick is implementing Amorphic to be Kalnin’s self-service data and analytics platform on AWS, to drive operational performance for PDP (Proved Developed Production) wells. Three AWS environments - Production, Development and QA - have been set up, that will be used for this deployment.

Customer Challenge

Current state of IT in Kalnin was facing multiple challenges:

- Rudimentary, built for purpose databases
- Unintegrated, multiple data streams
- Receive data by email, SFTP, and manual parsing
- New data streams take weeks to configure and optimize
- Disparate, traditional E&P applications with limited integrations
- No AI/ML Applications
- Point system automations (e.g., Plunger automation)

The above challenges warranted a unified cloud data analytics platform which can act as a single source of truth for all Kalnin wide data.

Kalnin Ventures

About the customer

Kalnin Ventures (KV) - Founded in 2015 by Chris Kalnin and group. To date, they have invested \$1.3 bn in natural gas assets in Texas and Northeast Pennsylvania. KV is a value driven firm that believes in the combination of visionary strategy and focus on execution for long-term sustainable value. KV’s strategy is to find undervalued or under-appreciated natural gas assets and optimize (eventually automate) with technology to make them profitable through operational excellence.

“...our strategy of PDP weighted cash flow yielding investments, where we can leverage technology to drive operational performance”

– Chris Kalnin

Technologies/Services Used



Amazon Glue



DMS



Amazon Athena

Why did Kalnin Ventures choose AWS and Cloudwick?

Kalnin was looking for the ability to get to production quickly and at a fraction of the cost. They needed a system to help all of their groups in the future, without having to re-engineer or re-architect everything. Kalnin was looking to optimize the entire process of using technology - finding and nursing undervalued natural gas assets with the use of best-in-class technology integrations.

Cloudwick's Amorphic solution unifies data, users and analytics across AWS Data Warehousing, Machine Learning and Artificial Intelligence services, with a low-risk development and minimal operational support. Amorphic also provides self-service usability and supports productive and seamless data collaboration, dash-boarding, and notebook sharing - all via an architecture that is 100% AWS-native to the user's account. Amorphic makes any data stored in AWS - shareable, searchable and analyzable - by any analytic user, Data Scientist, Data Engineer, or any data-driven Application Developer using **Amazon S3**, **Redshift**, **Athena**, **SageMaker**, and some other tools relating to Data Lake, Data Warehousing, and AI/ML.

These are some core capabilities that make Amorphic invaluable to a data-driven business like Kalnin.

Cloudwick solution on AWS

The Amorphic solution will provide Kalnin with a cloud-based data analytics platform on AWS, which will act as a single source of truth with all the data in a centralized data warehouse to drive business intelligence needs with data governance for easy access and sharing. This will automate the manual data 'ingest' and 'transform' process and standardize the ingestion for structured, semi-structured, and unstructured data from disparate sources like database(s), publicly available sources and API (s). The existing data relates to daily real-time operational and non-operational data - Hydrocarbon allocations containing information related to field data capture; Production volume accounting; Daily and monthly regulatory reporting data; Daily well production estimates; and Monthly volume allocations for AFE management. Amorphic will allow Kalnin to generate data models for a set of KPIs around daily operations, finance, accounting, and marketing needs and the ability to ingest geospatial data for graphing well data on a mapping software. The platform will host dashboards and send reports directly to those needed.

Amorphic will also act as a data historian for various time series generated in oil and gas operations.

The following reports will be delivered to finance, marketing, engineering, and geology:

- ✓ Monthly pricing comparison report
- ✓ Production and revenue volume
- ✓ Production forecasting
- ✓ Graphs for well information
- ✓ Data Historian Time Series Reports

What benefits did Kalnin Ventures get from the Amorphic solution?

- ✓ Kalnin will get the structured data in a place where they can easily access, analyze, and generate necessary reports.
- ✓ Amorphic will remove all manual data ingest, preferably through logic or public cloud mechanisms (AWS Glue and Kinesis Streams). The solution will provide a standardized data ingest methods for flat files, streaming data, and direct database ingestion.
- ✓ Data Scientists will easily access their data in a centralized location, perform and use nearly any AWS ML tools with minimal setup time.
- ✓ Kalnin will get data schemas, modelling, and data dictionaries.

Future Roadmap

- ✓ POC for Well Automation with AWS IoT Greengrass, IoT Core, IoT Management, IoT Events, and betas with Predictive Maintenance
- ✓ Start ingesting unstructured data from wellsite and operations

About Cloudwick:

Cloudwick is an AWS certified Advanced Consulting Partner that specializes in building native data lakes that power faster, cheaper and more agile cloud analytics for IT, business users and data scientists.

Whether you need to migrate your analytics to the cloud, add decision automation to your business intelligence, improve customer experience with machine learning or want to build or buy a data lake, Cloudwick has a complete portfolio of services and solutions.