Druid and RIO Analytics
AI taking the industry to another level.

aws | partner network

Executive Summary

RIO Analytics is a technology company focused on developing artificial intelligence applications to predict the failure of industrial assets, reducing downtime and increasing operation efficiency. The combination of advanced manufacturing techniques with information technology, data science and artificial intelligence will drive the next industrial revolution. The digital platform KAIROS provides different drives os communication, data processing in real-time, data upload of sensors data, new algorithms versions for download, AI in real-time, and dashboards with analytics from the equipaments, AI prediction and sending messaging from automatic alarms.

Customer Challenge

Maintenance of industrial equipment has always been an enigma for asset-intensive industries. As an example, mining equipment must function in challenging environments, power plants face harsh operating regimes, and the refining and chemical industries must process demanding materials. These conditions put machines under pressure, and the high spending on preventive and reactive maintenance needed to keep them healthy can hurt profitability.

For over two decades, many companies have tried to implement predictive maintenance, but few have managed to apply it efficiently. The main problems encountered for this implementation are insufficient or poor-quality data, poor IT infrastructure, lack of trained professionals and the high cost of developing prediction models.

RIO Analytics developed a solution to this problem by combining knowledge in industrial equipment with artificial intelligence algorithms that are trained to predict failures and increase production efficiency, being modeled in different ways according to the behavior of each asset.

Partner Solution

Druid developed a data analytics solution for RIO Analytics based on AWS managed services. The architecture design has Cognito, API Gateway, Application Load Balancer, Auto Scaling Group and DynamoDB. Our goal was to ensure environment maintainability, scalability, and reliability, generating value and savings.

Part of this solution was the cloud replication of the on-premises database. We use the Database Migration Service CDC service for database replication with the target in a DocumetDB and the possibility to use SageMaker to perform advanced data analytics.
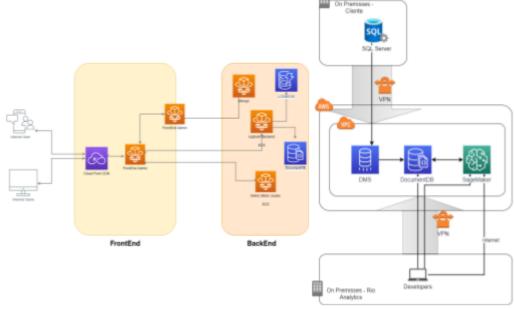
About Druid

Druid is a technology company established in 1998 focusing on the development and integration of complex, high performance, and scalable systems.

We have delivered successful projects to dozens of customers. Our high skilled team already delivered more than 500 projects.

Since 2019, we are focusing on the AWS Cloud, enabling our clients to overcome the limitations of traditional on-premises business applications and unlock the power and flexibility of Cloud.

Results and Benefits

The KAIROS platform running on the AWS cloud made it possible to store a large volume of data from 7 different plants. Each of these plants has over 200 real-time IoT sensors capturing data from the equipment. For example, data from 50 motors with 5 different variables is captured and used through the D&A tools to generate one report per day from each of these devices. Previously, these reports were generated on site in a manual way, which brought a huge performance and accuracy gain to the process.In addition, predicted failures in displacement pumps and offshore have reduced downtime by 30% to 40%.

Conclusion

As a result of the partnership between Druid and RIO Analytics, customers will be able to predict industrial asset failure - giving customers the D&A services provided by AWS, bringing artificial intelligence to assist with troubleshooting and data collection through IoT sensors. The KAIROS platform represents a step-chance in the industry, and creates an example of being digital used to support the next industrial revolution.