

CASE STUDY

Cloud Data Platform Deployed for Ozarks Electric Cooperative Provides New Visibility Into Customer Energy Usage

Ozarks Electric Cooperative was unable to effectively monitor and quantify the power savings resulting from a recently implemented time-of-use rate program. As a cooperative utility serving more than 70,000 homes, businesses, farms and industries in Northwest Arkansas, Ozarks needed a new data analytics platform that would provide better visibility into how effectively the new voluntary program was working.



Challenge

Fayetteville, Arkansas-based Ozarks Electric Cooperative had a need for a foundational data analytics platform that would support, identify and validate new rate models, including time-of-use rates to incentivize customers to charge electric vehicles and shift general power consumption to off-peak hours and to help manage periods of high demand on the system.

Ozarks needed the ability to access meter data in a format that allowed it to interact with other system data. This situation was caused primarily by a reliance on manual processes to pull data from some meters.

The project enabled better access to the data and provided optimal platform functionality to provide transparency and visibility.

Solution

1898 & Co. worked with Ozarks to evaluate potential technology solutions based on the utility's needs, team capabilities, potential future use cases and cost constraints. Following evaluation, 1898 & Co. designed and implemented a modern data analytics platform in Microsoft Azure using data lake storage and Azure Synapse Analytics.

The goal was to build a cloud-native data platform that allowed Ozarks to ingest and aggregate its meter data on a daily basis.

The initial use case was to gain visibility to data that could validate time-of-use rates, providing clarity on how much impact the rates were having in reducing the utility's peak load during the day. By validating that data, Ozarks gained additional visibility into other parts of the grid for future analytics use cases.

The initial phase focused on collaborating with Ozarks staff to gain an understanding of existing technology as well as evaluating the needs of future projects beyond the initial use case requirements. This evaluation rolled up to a technology platform recommendation to fit the unique needs of the cooperative.

The second phase involved platform design and deployment of the data in Microsoft Azure using Terraform, an Infrastructure as Code tool. The core of the deployed services was Microsoft Synapse Analytics and Azure Data Lake Storage, creating a highly scalable yet cost-effective platform.

Following platform deployment, 1898 & Co. built out the required pipelines to ingest meter data on a daily basis and created the necessary aggregations to support time-of-use rate analysis. The data feeds and aggregations were then made available to the required stakeholder via Power BI.

The Ozarks team was trained during the duration of the deployment process to gain functionality in managing and interacting with the platform.

Outcome

This new platform has given Ozarks the ability to analyze the consumption profile of all meters subscribing to the time-of-use rate structure and compare that profile against the profile generated by meters subscribed to the traditional rate structure. This new capability allows the utility to assess whether the rates are having the desired impact while allowing for planning of future analytics of additional metering use cases.

Services

- Software selection
- Cloud infrastructure deployment
- Data engineering
- Data curation
- Platform training

About 1898 & Co.



1898 & Co. is a global business, technology and security consultancy serving critical infrastructure industries. We partner with clients to plan, secure and optimize their business. As part of Burns & McDonnell and our 120 years of industry experience, we understand the complexity of your asset-intensive business model, the trends impacting your industry, and the need to ground big ideas in operational realities For more information, visit 1898andCo.com.