Centralized Logging Platform

SUMMARY

Our client, a leading provider of digital solutions for the agricultural sector, faced a significant challenge managing the logging practices across development teams working on a digital application. There was no standardized logging approach, which created operational hurdles, including inconsistent visibility into application data, troubleshooting issues, and security vulnerabilities. As the number of development teams increased and the application grew in complexity, these hurdles began affecting the security and reliability of the entire system. An organized and unified logging solution was needed to manage the overall system's health and maintain clear and secure visibility into the application's performance.

SOLUTION

The solution was to create a streamlined and scalable platform for centralized logging that could handle logs from various teams and environments, ensuring both clarity and accountability.

This involved implementing a modified ELK stack using Amazon Web Services (AWS) tools, with OpenSearch serving as a replacement for Elasticsearch to handle the search, analysis, and storage of log data across different environments. AWS Lambda functions, integrated with Logstash, were employed to manage log data ingestion, while OpenSearch Dashboards replaced Kibana for visualizing log data. This setup enabled a centralized environment where all teams could access and analyze logs from a unified platform.

Supporting AWS services played a pivotal role in this architecture. An ECS container, running Logstash, helped process and store log data efficiently. AWS Route 53 provided DNS management, ensuring seamless routing of requests, while a VPC established secure connectivity between services. To accommodate the scale and growing workload of the multiple development teams, an Elastic Load Balancer (ELB) distributed incoming traffic effectively, so the system remained responsive under increased demand.

RESULTS

~99%	Thousands	~90%
Reduction in time to log messages	Of dollars saved annually by being able to scale up and down	Reduction in sources needed to see application trends