Highway Three Solutions (2013), Ltd
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Highway Three Solutions was brought in to evaluate a custom built Data Management Platform (DMP), which was not meeting the clients needs for scalability and reliability.   H3 designed a more flexible solution using AWS tools that would allow for chaining schedules, error handling,

The DMP supported 200GB+ a day of incoming data from a variety of sources (Beeswax, Neustar, Experian) and was architected and implemented using AWS Glue. This tool provided a robust container to run the ETL scripts, chain jobs for dependencies, and allow flexibility in data-stores for later use in querying using Zeppelin.

To support both the DMP and supporting systems, Highway Three architected and built a highly available and scalable web application infrastructure based on a microservices architecture in an AWS environment. FE and BE components were designed to run in a Docker container and leveraged Amazon's Elastic Container Service for container orchestration. Infrastructure ran in two availability zones such that when a given zone was down a parallel set of infrastructure was still able to service end users.

AWS development and tools included:

- building out highly automated CI/CD pipelines(Amazon CodePipeline) to deliver application artifacts and infrastructure as code changes via Cloudformation templates.
- Implemented monitoring of key metrics for FE, APIs, and other infrastructure to detect potential issues in environments.
- building out application infrastructure completely as infrastructure as code via Cloudformation templates.
- defining IAM policy permissions for various AWS resources.
- Implemented serverless functions in AWS Lambda for integration with other Amazon services such as Cognito, S3, CodePipeline

- Architected and built infrastructure to support user management, authentication and authorization via Amazon Cognito and tying it together will social providers like Google.
- Deployed Amazon API Gateway with throttle, secure, manage, version and deploy APIs
- Created detailed access rules for S3 via bucket polices and IAM policies.
- Implemented complex solutions that require cross account access for Amazon resources such as S3.
- Defined load balancing infrastructure that routes traffic to different APIs or FE instances based on url routes and hostnames using Amazon Application Load Balancer
- Asset storage in Aspera (programmatically created nodes on S3 storage)