Case Study:

State of California – High-Speed Rail Authority

CHALLENGE

The California High-Speed Rail Authority wanted to migrate from an on-premise computing environment to AWS, allowing for multiple environments for construction management of an extensively large and complex project.

Red River was tasked with the implementation of FI$Cal, California's statewide financial information system to be used by the four partner agencies and departments. The primary objective of the project was to replace the state's aging legacy financial systems and eliminate fragmented and diverse reporting by implementing standardized financial management processes and systems across all departments and control agencies.

The Authority needed increased flexibility and control over core construction management Line-Of-Business, as well as a secure, scalable and highly available AWS Cloud environment.

SOLUTION

The AWS project was conducted in two phases. Phase one focused on the migration of five core Line-Of-Business workloads, from a contractor hosted and operated data center, to a secure, scalable and highly available AWS Cloud environment. This included:

- Integrated COTS products employed in large scale horizontal infrastructure construction project and contract management.
- A COTS enterprise asset management product utilized by the construction sector.
- GIS platforms supporting construction planning and management. Environmental impact analysis, risk and mitigation management systems.
- SharePoint 2013 document repository and management sites supporting 3000 users with 1+ TB data, with growth projection through construction to several Terabytes.

Phase two included the modernization and optimization of cloud-based workloads and the migration of additional application workloads.

This project used the following AWS services: EC2, RDS, Route53, CloudTrail, CloudWatch, CloudFormation, IAM, SES, Trusted Advisor, Work Spaces, Work Docs, Configuration and Directory Service.

Other tasks included:

- Design and implement cloud hosting solutions for multiple line of business enterprise project management applications used in large scale civil engineering projects. Design and implement system integration solutions for custom web applications and geo-spatial COTS products.

ABOUT RED RIVER

Red River brings together the ideal combination of talent, partners and products to disrupt the status quo in technology and drive success for business and government in ways previously unattainable. Red River serves organizations well beyond traditional technology integration, bringing more than 20 years of experience and mission-critical expertise in security, networking, analytics, collaboration, mobility and cloud solutions.

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- Cross functional teams employed agile methodologies to design and implement complex custom web applications integrated with geo-spatial COTS products.

- Extensive use of AWS CloudFormation scripts to provision virtualized and configured infrastructure from code. AWS Systems Manager used to automate post deployment server configuration and compliance using PowerShell, Python, and AWS CLI functions. AWS CloudWatch and Lambda utilized to continuously monitor all environments with configured alarms and notifications.

RESULTS

The implementation of the new technology was successful, allowing the California High-Speed Rail Authority to use FI$Cal and have a secure AWS Cloud environment. With the completion of the project, the Authority now has all partner agencies using the same technology and financial platform, making transactions much smoother and easier.

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