LSA DIGITAL
Lean Scaled Architects

CASE STUDY

MODERN APPLICATION/CLOUD ENTERPRISE ARCHITECTURE & ROADMAP

CLIENT CHALLENGE

For one of the world's largest transportation and engineering services agencies, the challenge was clear: aging infrastructure and mounting technical debt from legacy applications were impacting service reliability, maintenance costs, and agility needed to build and deliver transportation services of the future.

APPROACH & INSIGHTS

Address the problem in three phases: first, analyze the existing application and infrastructure portfolio, understanding the value from a business capability perspective; second, design a modern future state architecture, timing existing technology retirements with the right mix of future hybrid on-premise and cloud services; third, recommend an "achievable" future state operating model that balances agility and governance.

Analyze current state. Using a mix of data collection forms (from business and IT) and service discovery (CMDB / ServiceNow), we used an EA modeling and analysis repository to build "just enough" architecture to paint a layered "TOGAF-style" picture, including business capabilities, applications, and infrastructure. This revealed significant IT equipment risks (with approximately 60% of IT infrastructure beyond useful life). A business-centric application analysis revealed that 50% of the 342 applications needing to be eliminated or consolidated (mostly relying on technology that was at risk of End-Of-Life), and 19% of applications appropriate for cloud modernization.

SNAPSHOT

Enterprise Architecture, Cloud Modernization

Transportation

TOGAF-style EA modeling, ServiceNow, TBM

PAIN POINTS

Aging infrastructure and technical debt from legacy applications impacted service reliability and agility.

RESULTS

- Built a strong business case for agency funding to modernize application service delivery.
- Enabled quick scalability and faster deployment and delivery of services.
- Increased opportunities to leverage automation for improved efficiency.
- Enhanced measurement, continuous improvement, and business insights with advanced cloud analytics.

APPROACH & INSIGHTS (CONTINUED)

Design future state architecture. A simplified & consolidated application landscape was designed to optimize the future state architecture, applying design patterns to applications (e.g., hybrid cloud, hybrid + edge), considering for a realistic gradual migration (e.g., applying a Strangler pattern)

Recommend a future-state operating model. After interviewing staff to understand the client's existing IT services capabilities, an "achievable" future state operating model was designed. Major recommendations included the establishment of a Cloud Center of Excellence (CCOE) and Modern Enterprise Architecture service. This combination of services were designed to improve cloud capabilities and overall service delivery agility, and at the same time drive enterprise adoption of standards (e.g., compliance with data privacy and security policies).

The future state architecture and operating model changes were justified using a TBM (Technology Business Management) approach to building holistic financial model that included three choices: (1) Refresh hardware only (2) Refresh hardware + public cloud modernization (3) Refresh hardware + private cloud modernization. This helped the client strike the right balance between cost, risk, and service agility.

CLIENT RESULTS

The completion of the project helped the client to build a strong business case for agency funding needed to modernize application service delivery. This was shown to provide the following key benefits:

- Ability to quickly scale up and down
- Faster deployment and delivery
- Increased opportunities to leverage automation
- Improved measurement, continuous improvement, and business insight through advanced built-in cloud service provider analytics

In addition, we exported the EA modeling and analysis repository for the client, providing a "head-start" to build out a sustainable, automated EA repository to continue alignment of business needs with technology landscape.