

# CLOUD MIGRATION & ENTERPRISE CLOUD

- To increase efficiencies on the LAANC contract, LST implemented AWS "Lambda A" Functions-as-a-Service (FaaS), a serverless computing platform which enabled 100MB files every 24 hours at a 2-second execution time.

Cloud infrastructure is difficult to deploy in a mission-critical infrastructure like the FAA's Air Traffic Control (ATC) system. Such implementation can be challenged by long development cycles, labor-intensive and long procurement times, desire for custom solutions and a need for common understanding of available services. The FAA has chartered the National Cloud Implementation Services (NCIS) project, supported by LST, to provide the Program Management Office (PMO) and Air Traffic Organization (ATO) application owners with systems engineering and integration assistance as they develop the next generation of FAA systems. NCIS partners with FAA Program Offices to form-fit cloud and enterprise solutions, tailored to program needs.

An innovative and accelerated enterprise infrastructure adoption for FAA modernization - Cloud-based software and data exchange is the technical core of the FAA's UAS enterprise. LST provides support for Low Altitude Authorization and Notification Capability (LAANC) integration. LST staff developed a systematic cloud architecture approach to support ATM operations (SWIM and LAANC), enabling a high degree of automation and operational benefit.

SWIM Cloud Distribution Service (SCDS) - LST's creation of the SCDS enables the dissemination of non-sensitive SWIM data to external consumers via public cloud infrastructure. This greatly reduces the time required to on-ramp external consumers and alleviates burden on the FAA network. SCDS provides self-service provisioning, allowing consumers to select the desired SWIM data to be consumed.

Cloud-Optimization for Strategic Goals - LST develops operational scenarios and use cases around key information sharing needs, identified gaps, shortfalls, and opportunities as part of the NextGen Enterprise Services Infrastructure (ESI) and future planning efforts. We develop a cohesive strategy for evaluating Information Sharing Infrastructure (ISI) challenges and capture these within existing use cases and scenario descriptions. Employing these use cases as an instrument to explore operational needs, the team facilitates stakeholder engagement sessions, providing operational SMEs to elucidate key operational considerations for cloud against a backdrop of NAS policy and technology perspectives.

Our team assesses elements necessary to support operationally viable services on the cloud, congruent with how data must flow to support information exchange - We utilize cloud service

## LST Quick Facts

**400+**

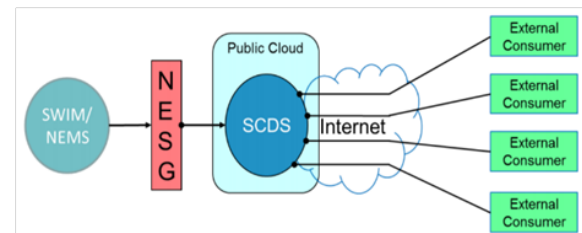
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**Contract #47QRAA22D004G**



providers Amazon Web Services (AWS), Microsoft Azure for Amazon EC2, RDS, S3, EBS, VPC, Lambda, Aurora, DynamoDB, Amazon MQ, and SQS cloud services. LST staff consider the appropriate service provider and service model (e.g., IaaS (infrastructure-as-a-service), PaaS (platform-as-a-service), or SaaS (software-as-a-service)) in support of future program implementation. Using these and other considerations, our team develops prototypes, conduct simulations, and refines solution strategies to create robust information sharing infrastructure. circuits to be delivered in the respective Service Area, as well as those circuits which have been delivered but not yet cutover in that Service Area.