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Setting up one of the
**Largest Cities
in US for Success**

Cloud Onboarding with
Customized Automation for
a Major US City

Major US cities are straddled with the challenges of modern age. Businesses are growing and populations are rising. With that, demands for higher standards of living are increasing, including strong technical infrastructure for government entities that support city functions. As cities grow, so do volumes of data. The need to streamline how data is processed, maintain secure systems and guarantee stable services is more important than ever, especially between city departments. A well-run city creates an appealing setting for tech companies looking for new locations with minimal business hurdles. In anticipation of further growth and in an effort to increase the city's desirability, migration of existing infrastructure to the cloud was initiated. By adopting cloud technology, the city can utilize new technologies in a much faster, agile and efficient manner. This allows the city better orchestrate the functions of its various departments, align processes, and better facilitate communication within the city network. Most importantly, it lays the groundwork for the future technological state of the city.

> **Staying ahead of the curve: Implementing the latest AWS cloud technology with customized automation requirements – AWS Control Tower**

The city administration understood the move to the cloud would provide more agility, elasticity and faster time to market for their departments to perform. But there was also a conscious decision taken to ensure federal regulations, compliance, and security and governance requirements would proactively be met well before the organization would start utilizing cloud services for production and development purposes.

In order to begin implementation, the city partnered with Zensar for cloud onboarding and migration expertise. Zensar conducted a three day long customized workshop to gather their compliance standards, followed by three weeks of design and implementation. The following approach was applied:

Strategize, design and implement AWS multi-account structure based on organization departments and environments while taking cost, security and networking requirements into consideration

Build and implement proactive and reactive tagging strategies with a focus on billing, automation, business and security requirements

Provide automation of new AWS account creation based on City's standards and baselines

Design and implement automated guardrails across AWS multi-accounts by way of automatic deployment of config rules, service control policies, cloud trail and cloud watch logs

Design and implement AWS multi-account networking including on-prem connectivity, external ingress and egress traffic inspection and filtering through network appliances, routing and multi-layer network security

Design, integration and automation of AWS accounts with City's enterprise SSO (Okta)

Integration of City's enterprise SIEM tool (Sumo Logic) with AWS multi account audit logs

Provide self-service capability to provision AWS Services with multi-level approval workflow using AWS native services and serverless functions.

Zensar's collaborative approach coupled with strategic solutions helped design a roadmap for the development of the city within the legal boundaries

Design and Implement structure and best practices for AWS Control Tower
- Define billing strategy to decide multi account strategy
- Implementation of Control Tower with 35+ guardrails

Build and implement control tower account factory add-ons through custom automation
- Automation of AWS new account integration with Okta for SSO
- Automation for provisioning of 50+ config rules as additional guardrails
- AWS network automation
- Automation of AWS Service Catalog for self-service of AWS services provisioning through workflows
- AWS Identity and Access Management (IAM) policy automation

Design and implement transit gateway with custom route domains for custom routing requirements
- VPN termination on transit gateway

Custom Amazon Virtual Private Cloud (Amazon VPC) automation
- Amazon VPC Automation with AZ's, subnets and security groups creation
- Automation of defined ports opening across security groups per subnet

AWS Transit Gateway automation
- Automation of new account transit gateway attachment
- Automation of custom transit gateway route tables, specific association and propagation requirements

Design and automation of Okta integration
- Automated provisioning of 40+ AWS roles with predefined access policies based on the City's requirements
- Design and automation of AWS roles association with Okta & Active Directory (AD) management groups and roles
- Automation of AWS alias creation with email notification for AD groups automation

Sumo Logic integration with central AWS audit logs
- Includes AWS CloudTrail logs
- Aggregated Amazon CloudWatch Logs, including AWS Config rules non-compliance notifications

AWS Service Catalog with pre-built products and workflow
- Automation of provisioning of service multi account catalog portfolio and individual products in new accounts
- 7 products related to Amazon Elastic Compute Cloud (Amazon EC2) and Amazon Relational Database Service (Amazon RDS) instances with custom and pre-defined fields including tags
- Automation of approval workflows for any provisioning of products

Benefits to the City by migrating to the Cloud

With the latest customized solutions built through AWS Control Tower,the city now has dynamic security, 100% compliance and governance for any new AWS account as well as fully automated account creation in minutes.

It became easy to manage accounts, implement guardrails, and execute automation as add-ons through AWS Control Tower.

Self-provisioning enabled the city to offer self-service capabilities to end users with two-level approval workflow utilizing AWS Cloud native solutions.

Future updates to existing accounts have been simplified with automated pushes of new product versions. These solutions were implemented at a cost of less than $20 per month.

City departments can now easily collaborate by following simple security processes and still maintain separate data and services as required to meet compliance requirements.
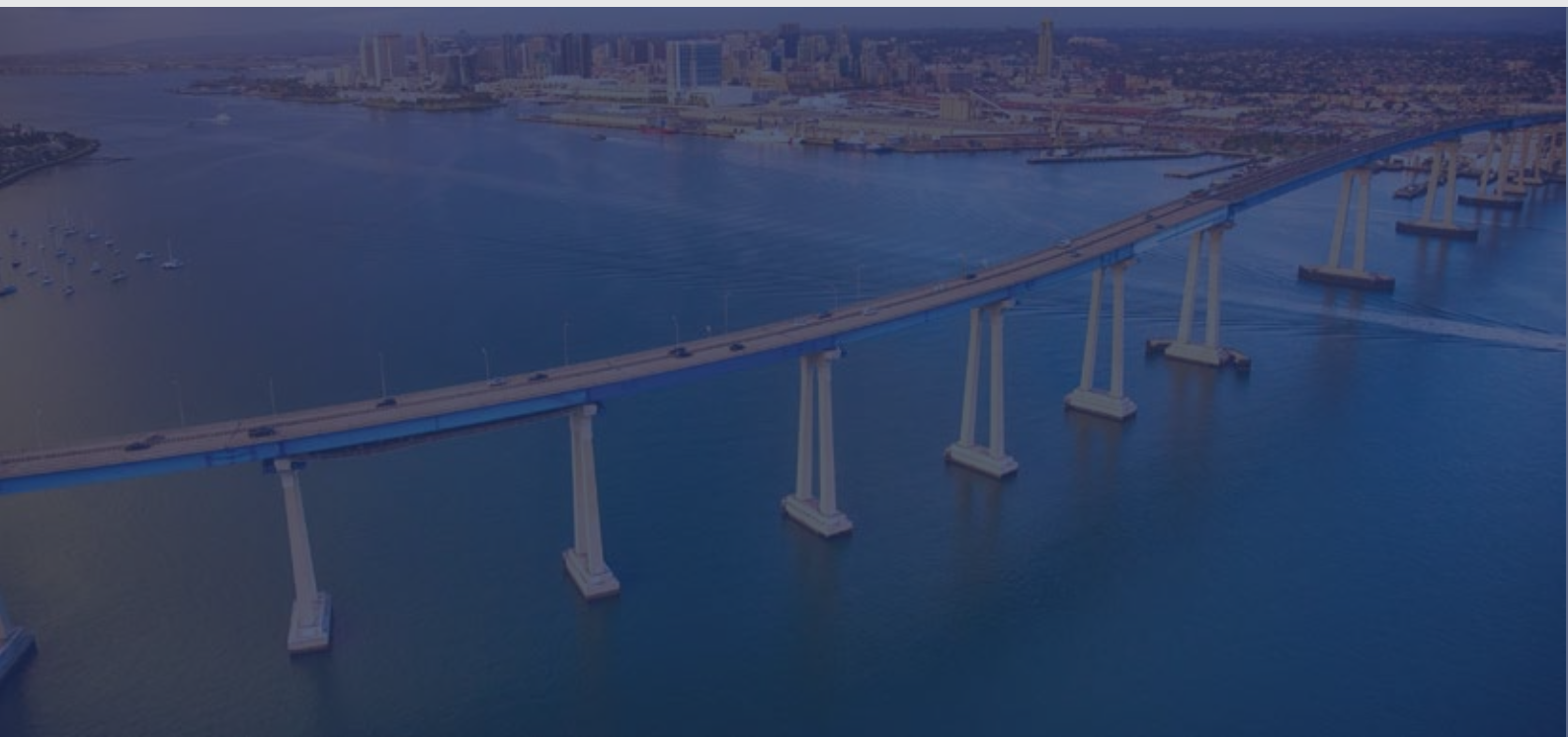
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With headquarters in Pune, India, our 10,500+ associates work across 30+ locations, including Milpitas, Seattle, Princeton, Cape Town, London, Singapore, and Mexico City.