Large US City Becomes Future Ready by **Modernizing Its Data Center**

◤ **Case Study**

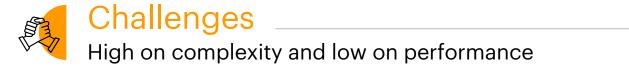## Overview
Transforming the data center

The administration of one of the largest US cities, confronted with exponential growth of data generation, found that its existing legacy infrastructure solution was inadequate to meet the demands of city services reliably and sustainably. Much of the client's infrastructure was not on supported and bug-free versions.

Zensar's brief:
Plan and deploy a roadmap for data center transformation with the goal of enhancing performance, cost-efficiency, and disaster recovery capabilities.

Beyond the brief:
Working closely with the client's team, we enabled a seamless transition with meticulous planning and execution to avoid disrupting city services.

Challenges

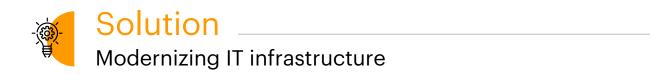## High on complexity and low on performance

The client's IT ecosystem was weighed down by multiple challenges:

- Complex application footprint running on legacy Vblock infrastructure
- Traditional approach for managing connectivity between on-premises infrastructure and VMware Cloud (VMC) on Amazon Web Services (AWS)
- Databases and WebLogic applications running on legacy Solaris servers using 1G network

All these challenges, made worse by a lack of documentation, resulted in unsatisfactory timelines. Adding to the stress was a penalty of half a million dollars per month in case of delays.

The city's IT organization needed a partner they could count on to modernize the data center, especially with complex solution components, such as migrating critical SAP HANA production workloads.

Solution

Modernizing IT infrastructure

We transformed the client's legacy data center, collaborating with the client's team throughout the three phases of the solution.

Discovery: We started the engagement by gaining a deep understanding of the client's IT ecosystem, which included:

- On-prem legacy Vblock infrastructure hosted VMware X86 workloads.
- VCF, HCX, and NSX-T deployed on-prem within the HP GreenLake environment.
- Legacy Solaris servers running an outdated version of Oracle 9i, along with WebLogic applications on version 8.x.
- F5 and Palo Alto load balancers, network switches, and Infoblox for DNS management.
- Multiple versions of Windows operating systems, including old Win 2000/2003.

Deployment: We designed and deployed a strategic plan that included these key actions:

- Removed the Direct Connect link and VPN from VMware Transit Connect.

- Established peering between AWS Transit Gateway (TGW) and VMware Transit Connect.
- Upgraded VCF with a complex migration from NSX-V to NSX-T.
- Conducted VCDR testing for mission-critical applications.
- Migrated workloads from VMware x86 servers hosted on legacy Vblock infrastructure to the on-prem environment and VMC on AWS.
- Implemented NSX-T micro-segmentation.
- Enabled modernization for Oracle hosted on Solaris.

Documentation: We created high- and low-level design documentation that captured details about the updated infrastructure, migrations, testing, and modernization initiatives on supported and bug-free versions.
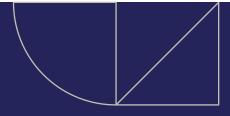
Impact
Greater reliability and scalability

According to internal benchmarks, these results were delivered:

- Reduced infrastructure spending by 12 percent
- Improved latency by pairing AWS Transact Gateway and VMware Transit Connect
- Set up successful disaster recovery and testing for mission-critical applications

Business outcomes: The solution helped boost the reliability and scalability of city services with improved resource management, cost-efficiency, and resiliency.

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