



# Transforming customer experience with a cloud-native, multi-cloud platform

for one of India's largest leading private banks.

*How NTT improved business velocity & customer experience through a hybrid multi-cloud strategy for one of India's largest banks.*

## Client profile

Founded in 1994, the client is one of India's leading private banks, and one of the country's largest companies by market capitalization on the Indian stock exchanges.

Today, they have a network of over 5,600 branches, with over 16,000 ATMs and have a presence in over 2,900 Indian cities and towns, offering a wide range of retail, commercial and transactional banking to consumers as well as businesses of all sizes.

*NTT delivered improved CX for the client's customers, employees, and partners alike by extending the existing data center into the cloud and leveraging cloud-native services like PaaS and CI / CD.*

## Summary

**Augmenting legacy, on-premise data center infrastructure with cloud-native infrastructure and services while maintaining security and compliance.**

As a leading player in the extremely competitive banking sector, the client felt that enhancing customer experience through improved digital and system performance would be key to maintaining its competitive advantage.

To achieve this goal, a hybrid multi-cloud solution was conceptualized – one that comprised the client's existing data center, as well as cloud services from both AWS and Google Cloud Platform (GCP) deployed by NTT, and would enable the client to select the appropriate cloud execution based on business needs, rather than be confined to a single cloud platform.

## Challenge

**The need to improve customer experience and business agility by seamlessly extending the existing on-premise data center to the cloud, while factoring in inherent complexities such as application and platform refactoring.**

As is the case with other large banks and financial institutions, aging, legacy infrastructure in the on-premise data center was an area of concern for the client. With a heightened focus on CX, the client wanted to ensure that it could significantly improve the agility, scalability and availability of applications and services being used by employees, partners and customer alike.

A suite of PaaS and Continuous Innovation / Continuous Delivery (CI / CD) services were identified by the client to achieve these objectives, and the primary challenge was to incorporate these services into the IT landscape by extending the on-premise data center to the cloud as seamlessly as possible.

In addition to improving performance, another key imperative of this initiative was to reduce existing operational costs by leveraging consumption-based billing models where possible to show demonstrably lower TCO.

## AWS cloud landing zone components

- EC2 Compute services
- Elastic Load Balancing
  - Application Load Balancing
  - Network Load Balancing
- Auto-scaling
- Transit Gateway
- S3
- DDoS Advance Shield
- Route 53
- Internet provisioning
- Virtual Private Gateway (VGW)
- Direct Connect
- Identity Access Management (IAM)
- Monitoring services
  - CloudWatch
- CloudTrail
- Security Hub

## GCP cloud landing zone components

- Compute Engine
- Elastic Load Balancing
  - Application Load Balancing
  - Network Load Balancing
- Cloud DNS
- IAM
- VPC Firewall Rule
- Cloud Routes
- Internet provisioning
- Dedicated / Partner interconnect
- Cloud Storage
  - Nearline
  - Coldline
- Pub/Sub
- Security Control Center
- Compute Engine Autoscaler

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## Transformation

### Extending the existing data center through a managed, secure hybrid multi-cloud environment

After conducting a number of workshops with the client to map the existing datacenter and application landscape and understand business needs, NTT architected a solution where application landing zones would be deployed on both AWS and GCP, allowing the client to move applications from their existing data center into the cloud.

The proposed cloud landing zones would be a mix of cloud native components, BYOL security components, all interconnected through the client's MPLS infrastructure, resulting in improved agility and performance that would enable productive employees, partners, and customers. Another key element of the design would be using cloud automation to achieve greater agility while minimizing human intervention.

### Deploying & managing multiple redundant availability zones while ensuring security and compliance

For each landing zone, NTT architected multiple VPCs, each with its own specific role. For example, a Transit VPC was created to manage traffic between the cloud landing zone the bank's data center and branches. A key consideration of the design was that traffic between the existing data center, the bank branches, the cloud landing zones and the users would flow optimally and securely.

NTT also designed the architecture to be highly available by integrating robust failover protocols into the solution.

### Automated provisioning provides greater agility

Using industry-leading 3<sup>rd</sup> party tools for provisioning and automation allows significantly improved multi-cloud deployment, allowing management teams and developers to use the same tools and configuration files across multiple cloud platforms.

The tools chosen also allow for automated infrastructure management not just across cloud but other technologies that are part of the overall solution, significantly reducing time to provision new infrastructure and applications, ensuring that the client's infrastructure is significantly more agile than it previously was.

## Outcomes

Underpinning the client's capabilities is now a fully redundant hybrid environment comprising the client's existing data center, with agile, secure cloud infrastructure that is highly available and billed consumptively.

Infrastructure is regularly upgraded and upscaled to meet the growing needs of the business, and is seamlessly delivered using the latest automation tools.

This new, modernized digital infrastructure allows the client deliver higher levels of customer experience, innovate faster and launch new products and services secure in the knowledge that the new hybrid multi-cloud landscape could scale seamlessly to meet growing business needs while ensuring that costs were always under control courtesy of consumption-based billing.