Case Study- Disaster Recovery Implementation

Executive Summary

The Authority drives the smart and sustainable transformation of the metropolitan region by integrating infrastructure, mobility, utilities, and public services through a centralized, data-driven platform. With smart command and control systems, intelligent traffic management, and resilient urban planning, it aims to create a connected, efficient, and citizen-centric smart city that enhances livability and supports long-term growth. It partnered with SISL Infotech to modernize its Disaster Recovery (DR) setup on Google Cloud. The existing mix of legacy and modern systems made the transition challenging — requiring seamless data migration, high reliability, and minimal downtime.

The Challenge

Regulatory Compliance

The client needed to adhere to stringent CERT-In Cyber Security Guidelines for disaster recovery and business continuity. Non-compliance posed risks of penalties and operational restrictions, making it imperative to establish a DR strategy that met these regulatory standards.

Minimizing Downtime and Data Loss

Ensuring minimal downtime and achieving a near real-time data replication (RPO) was critical for their three applications. The client faced challenges in maintaining continuous service availability across geographically distributed users in the event of infrastructure failures or disasters.

Cost Effective DR Implementation on Cloud

Designing a DR solution that balanced compliance, performance, and cost was a significant challenge. The client sought a DR setup on GCP that could deliver high availability and quick recovery without escalating operational expenses.

High Maintenance Expenses

Establishing a physical secondary site requires high investment, operational overhead, and long implementation timelines. Cloud DR offers scalable and cost-efficient recovery readiness.

Why SISL Infotech as GCP Premier and Veeam Partner

SISL Infotech has over a decade of expertise and has earned global recognition by deploying more than 4,500 projects successfully. Authority selected SISL for their DR implemenation due to our unparalleled expertise and commitment to delivering exceptional cloud solutions. As GCP Premier and Veeam partner, we specialize in designing cost-effective, scalable, and secure DR architectures, integrating on-prem systems with cloud services seamlessly. Our certified experts ensure optimized performance, smooth implementation, and reliable ongoing support, delivering solutions that are future-ready and aligned with business growth needs.

The Solution

To address the client's need for a robust Disaster Recovery (DR) solution, SISL designed and implemented a DR setup for their 3 critical applications, currently hosted on premises over VMware infrastructure. This solution was created to restore access and functionality to the GCVE (Google Cloud VMware Engine) on GCP using Veeam Backup and Replication Tool in the event of a disaster, whether caused by natural factors or human error, while ensuring full compliance with regulatory requirements.

The Disaster Recovery (DR) implementation was carried out in three key phases

Pre-DR Setup: We deployed a fully functional Disaster Recovery environment supported by a clear DR runbook. A high-speed Partner Cloud Interconnect was established between the on-premise datacenter and GCP. A dedicated landing zone for Veeam and GCVE was created, and Cloud Storage was configured for secure backup data retention. We also integrated with GCP common services (identity, networking, logging, and monitoring) to ensure consistent governance and control. Monitoring and alerting were enabled to track data transfer, latency, and overall DR health, ensuring reliability and continuity.

DR Implementation: SISL conducted an extensive DR drill to validate system readiness. The drill involved testing each application in isolation to ensure independent functionality, followed by an integrated failover test. All dependencies were mapped clearly, manual intervention was minimized, and the architecture was designed to account for network, security, backup, and monitoring, which helped achieve the target RTO and RPO.

Post-DR Activities: Following the drill, we provided **full documentation** along with a consolidated **DR report** containing logs and evidence of each task. This reporting is critical for audit and compliance. The client chose to have future DR drills handled by the SISL team demonstrating their continued confidence in our execution.

Results

- **RTO and RPO Targets Achieved:** Met 2-hour RTO and near real-time RPO in line with audit and regulatory requirements.

- **Cost-Optimized DR Operations:** Maintained 50% DR capacity under normal conditions, scaling to 100% during disasters

- **One-Time DR Drill Executed:** Conducted a successful DR drill to test failover and recovery

- **Comprehensive DR Runbook Created:** Documented all disaster recovery procedures for client teams

- **Conducted Training:** SISL conducted comprehensive training onsite at customer's office for their team.

Benefits

Regulatory Compliance Expertise

SISL ensures DR solutions meet industry-specific compliance and audit requirements, minimizing regulatory risks.

Cost-Optimized Deployments

We implement DR environments that balance performance and cost, running efficiently during normal operations at 50% and scaling to 100% when needed.

End-to-End Support and Enablement

From setup to documentation and handover, SISL provides complete support, empowering client teams for ongoing management and future readiness.

Customized, Scalable Solutions

We design DR strategies tailored to business needs, with infrastructure that scales efficiently.

About SISL

SISL Infotech is a system integrator and provider of end-to-end IT solutions and services to startups, government institutions, SMEs, enterprises, and individuals. The organization is an GCP Premier partner and authorized commercial reseller.