



CASE STUDY



Leading
technology
and business
services firm
drastically
reduces their
RTO by
60%

About the Client

Our client are a leading edge technology and business services firm that provides impact driven solutions to businesses, enabling them outpace speed of change.

They are powered by deep industry knowledge and a distinctive partnership approach. They have a unique portfolio with a legacy of proven success stories of transformation across the entire spectrum of digital transformation, supply chains, and business operations.

Their services include:

Digital transformation services: They provide cutting edge front-end digital services leveraging our IP and accelerators.

Enterprise transformation services: They drive transformation adopting latest technologies through our consulting and implementation services.

Business process services: They enable process transformation to deliver impactful business outcomes. Cybersecurity and Privacy services: They build cyber resilience and safeguard business with fit-for-purpose security solutions.

Success Highlights

- Continuity Patrol (CP) has been implemented at DR Site located in Singapore.
- CP has been configured to support MY-SQL as Metadata DB.
- The communication from CP to all applications, databases and virtual servers are encrypted and updated into the Metadata DB.
- Monitoring of the application services along with Nutanix Protection Domain, Nutanix Leap, SAP HANA, and Oracle Data guard has been configured.
- Workflow orchestration has been configured based on the Runbooks shared by individual application, database, and operating system stakeholders.
- CP went through successful DR drill for 5 major applications with **60% less RTO time (3-4 hours of RTO reduced to <1 hour with automation)**

Problem Statement

- Customer has highly complex heterogeneous IT infrastructure which contains [Nutanix Prism AOS](#), [Nutanix leap](#), [Nutanix Protection Domain](#), [Oracle Data Guard](#), [Microsoft SQL Server Native Log Shipping](#), [SAP HANA Replication](#), [MYSQL Native Replication](#) with appliances for network management and password vaulting systems.
- Customer has employed SME to manage the infrastructure specific to technologies such as Nutanix PRISM, Storage, Servers, and Application etc.
- Customer need DR automation to reduce the RTO of their applications spread across 1000+ branches and minimizing the dependency on SME's for conducting DR drills.
- Customer conducts DR drill on 4 banking applications (out of 23 applications) each month during weekends and the **existing RTO is 3-4 hours** due to manual coordination.



Challenges Involved

- Handling complex infrastructure.
- Critical timelines to bring up the application in DR site.
- Allocation and coordination of SME resources across geography.
- Manual validation and verification process to confirm the application availability.
- Huge dependency on subject matter experts.
- Managing appliances for DNS entries and third-party applications based on the available CLI & API Approach.

Business Need

- Disaster Recovery Software to supports heterogeneous platform support ([Nutanix Prism AOS](#), [Nutanix leap](#), [Nutanix Protection Domain](#), [Oracle Data Guard](#), [Microsoft SQL Server Native Log Shipping](#), [SAP HANA Replication](#), [MYSQL Native Replication](#)).
- Run DR operations seamlessly with Monitoring, Automating, Orchestrating and Managing applications from IT service availability standpoint.
- The software to run parallel execution of DR operation management with single click of button .
- DR software to have multi-level authentication as per Customer standards.
- Remove or minimize the dependency on SME to run DR drills every month.

IT DR Infrastructure

Below is brief of Customer production environment:

Nutanix Protection Domain

- Nutanix Protection Domain has been configured along with NCC version 4.6.0 and Acropolis Version 6.5 LTS and replication via Prism.
- Nutanix Hypervisor version 20201105.30398 is configured at production and DR Environment in Asynchronous Replication.
- VMS are being replicated via protection domain to DR Nutanix environment.
- For data replication, configured forward (DNS A) and reverse (DNS PTR) DNS entries for each ESXi management host on the DNS servers used by the Nutanix cluster.

Nutanix Leap

- Nutanix Leap has been configured with Prism Central, Primary and Recovery availability zones are configured with synchronous replication schedule.
- AOS contains data services for data protection, automated data tiring and security. AOS comes with a built-in hypervisor called Acropolis Hypervisor (AHV).
- 3 Recovery Entities are configured for availability zones.
- Protection policies and recovery AZ (Availability Zone) Sequences are configured for each entity.
- Recovery procedures, plans of Boot order dependencies and Network information's are configured in protection policies.

Oracle RAC with Data Guard

- Oracle RAC Data Guard 19C has been configured with ASM Grid Architecture.
- 2 Nodes at production and 2 Nodes at DR has been configured.

SAP HANA

- SAP HANA Setup system replication for Primary (active) and DR (Active, Data preloaded) has been configured.

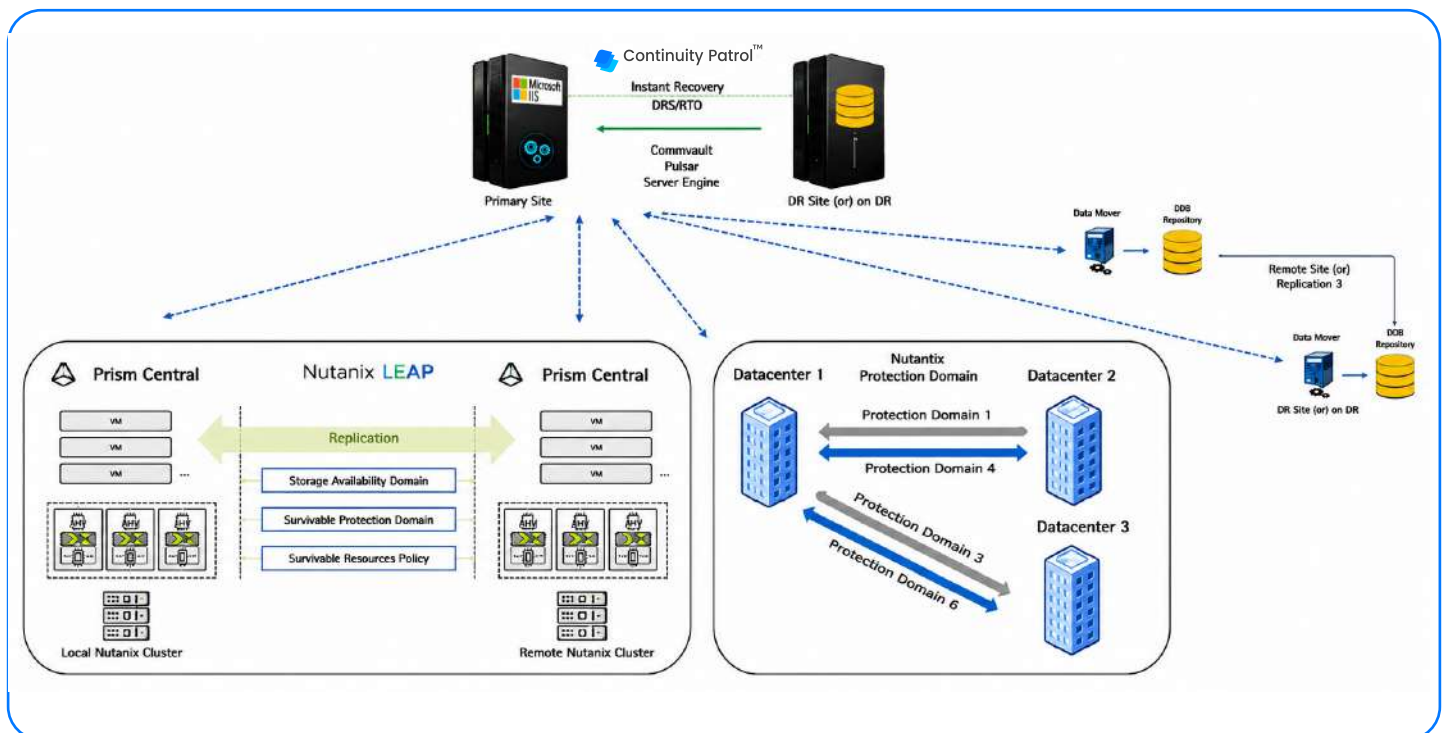
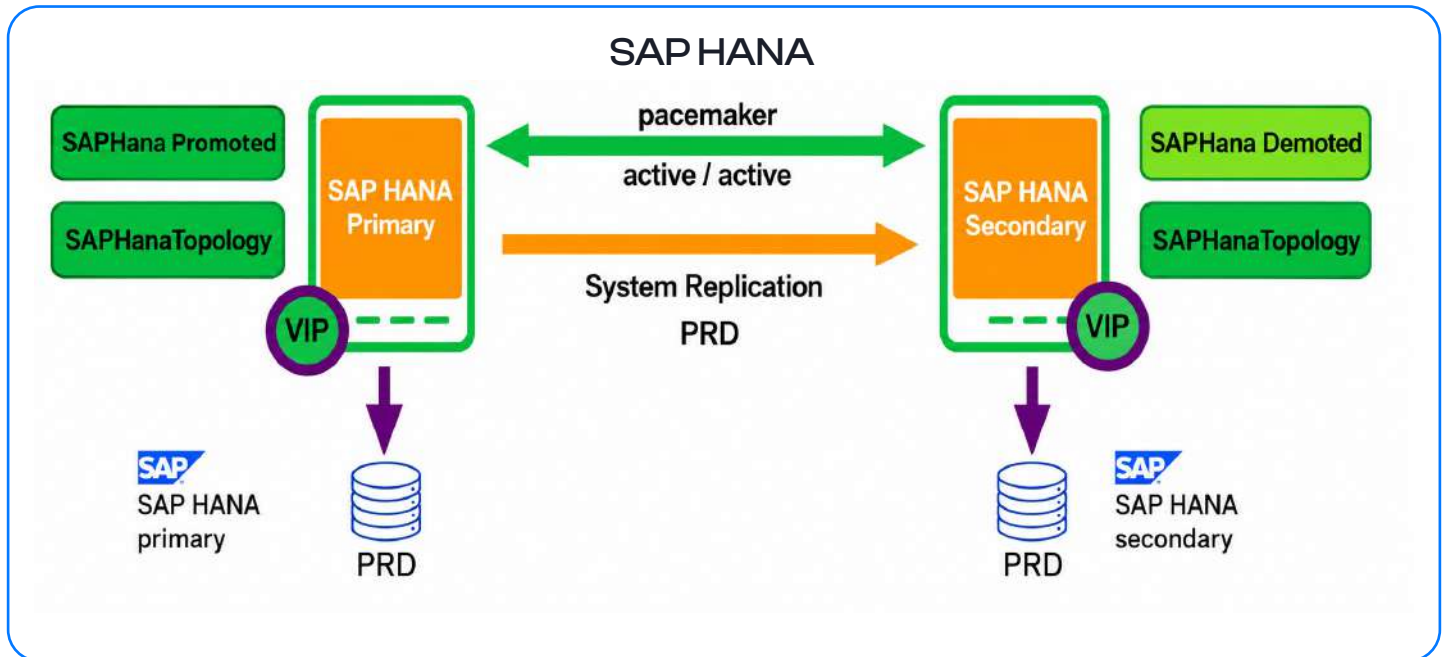
Solution Offered

- Implementation will be performed in test environment provided by Customer as a first milestone.

- Customer will setup Server Operating Systems, Configure Nutanix Prism, Protection Domain, Leap Recovery Entities, SAP HANA with Operating System and Application at DR and get them tested thoroughly before start of the project.
- Perpetuuti will install Continuity Patrol software and configure it to demonstrate functionality of Continuity Patrol.
- Continuity Patrol will be configured for Nutanix Prism Central to perform monitoring and automated DR Drill (switchover/switchback) activities.
- Continuity Patrol will be integrated with Nutanix to orchestrate the management of Protection Domain and Leap DR Solution and perform DR Drill related activities.
- Management and Monitoring of Nutanix Prism based virtualization with Datalag Details will be demonstrated along with integration of same with Continuity Patrol.
- Any patch / fix or additional software installation related to application or database making changes in OS parameter such as kernel and OS filesystems need to be manually applied on DR site as well.
- During DR drill / DR execution, the workflows of Switchover, Switchback, Failover and Test Failover are executed using built-in libraries for oracle.
- A set of Change Management procedures need to be put in place to ensure any changes to the primary systems are also carried out on the systems at the DR site.



High Level Architecture Diagram



Results Achieved

- Management dashboard for DR health and proactive correction through BIA.
- Integration with SAP HANA Setup for monitoring and recovering DR procedures and initiating delta sync.
- Integration with Nutanix Protection Domain and Leap to manage Cluster, VM replication and orchestration.
- Automation of Database (Oracle Data guard, MSSQL Native Log Shipping), Windows based applications, DNS/ NATing and Firewall policies.
- Automates UI, Web, Windows & CLI based activities and processes involved.

Benefits To Business

- DR Runbook executions are automated without dependency of SMEs.
- Adherence to Business continuity compliance as per ISO 22301 standards.
- Monitors and Alerts on failure of any component configured.
- **Reduced RTO by 60%.**
- Has brought in major visibility to the Business on the overall DR.
- IT can release the application systems to users on time after completing the DR drills without any business impact.

READY FOR YOUR OWN SUCCESS STORY?

Get in touch with our automation experts and learn how you can fast-track your digital transformation initiatives.

✉ mktg@ptechnosoft.com

☎ +91 - 020 - 6687 8300

About Perpetuuiti

Perpetuuiti empowers people and businesses alike. We deliver the world's most-comprehensive and urbane automation platforms making work more human. Our platforms deliver leading-edge automation solutions for modernizing resiliency management, and turbocharging the performance of your applications, IT and business operations at speed and scale to drive exponential efficiencies.

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