Data Protection and Disaster Recovery for Nutanix Private Cloud

Why Business Continuity is Critical for Your Cloud Platform

DATA PROTECTION AND DISASTER RECOVERY FOR NUTANIX PRIVATE CLOUD

The Nutanix private cloud solution is uniquely suited to meet your company's needs. Nutanix eliminates IT complexity, simplifies management, integrates data services, and improves data protection (DP) and security. Your cloud will be more agile, scalable, and, ultimately, more effective at ensuring business continuity. Nutanix reduces the cost of deploying and operating a private cloud, while satisfying ever-increasing service levels agreements.

The Nutanix private cloud solution, featuring data protection and disaster recovery (DR) services, allows customers to reduce or even eliminate reliance on a patchwork of third-party solutions. Nutanix combines highly resilient, scale-out infrastructure with efficient snapshot, cloning, and replication technologies. Intelligent software capabilities provide increased protection of your applications and data while reducing complexity and cost. Nutanix software provides native data protection and DR functionality and are designed to be:

- **Application-centric**. Nutanix makes it easy to prioritize your applications and assign tailor-made protection policies.

- **Multi-hypervisor and cross-hypervisor.** Nutanix provides native data protection support for VMware vSphere, Microsoft Hyper-V, and Nutanix AHV (included with purchase). You can also perform cross-hypervisor replication between AHV and vSphere to help optimize costs.

- **Simple to manage.** The complexity of DP—with multiple solutions, devices, and interfaces—is a huge problem. All Nutanix DP and DR functionality is managed through a single pane of glass interface.

- **Policy-based.** DP and DR are based on protection policies that you that allow you to deliver the right level of protection on a per-application basis.

- **Accessible via APIs.** Nutanix provides full REST APIs that facilitate automation. Every action that can be performed from the Prism UI can be performed from PowerShell, scripts, or application programs.

- **Copy-efficient.** Nutanix DP and data reduction technologies help you minimize the number of full data copies and the bandwidth needed for replication. This saves on space and cost, providing complete DP while allowing you to quickly provision clones for analytics, dev/test, and other functions.

- **Private, hybrid and multicloud.** Data protection and disaster recovery that spans private and public clouds,
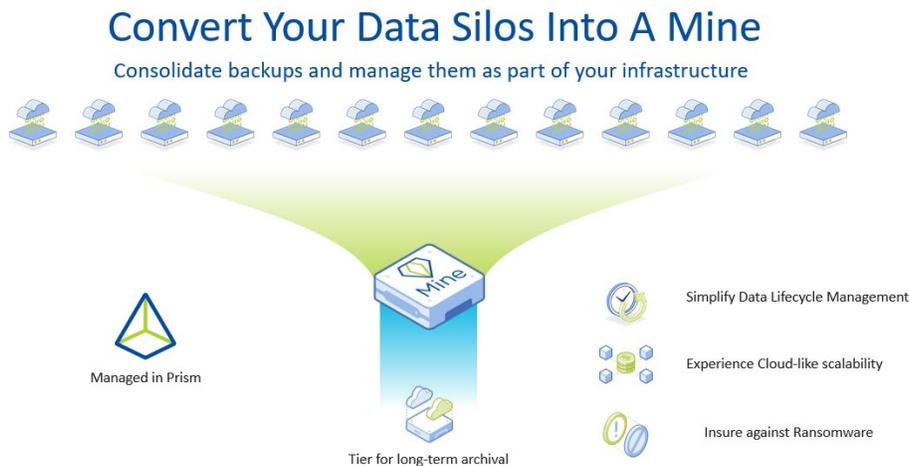
BUILT-IN INFRASTRUCTURE RESILIENCE

Infrastructure resilience is the first line of protection for your applications and data. Nutanix HCI improves upon conventional infrastructure by converging otherwise separately sourced servers, storage, and storage networks into a platform that is fault resistant, with no single points of failure or bottlenecks. The system uses a shared-nothing architecture with data, metadata, and services distributed across all nodes within a cluster. The Nutanix private cloud solution is designed to detect, isolate, and recover from failures; survive system hardware and software issues; and maintain data availability.

EFFICIENT BACKUPS AND SNAPSHOTS

Regular backups are the second line of defense in DP (after system resilience), and the only protection against user, administrator, and application errors that result in data being deleted or corrupted. Nutanix private cloud provides three levels of backup and recovery. On-cluster snapshots provide the first line of defense and represent the fastest and most convenient recovery from application problems or user errors. Remote backup lets you replicate snapshots to a remote location for longer-term retention and site-level resilience. Using these capabilities, you can easily implement disk-to-disk, disk-to-cloud, or disk-to disk-to-cloud backup models and tailor the number of backups you retain to your exact needs.
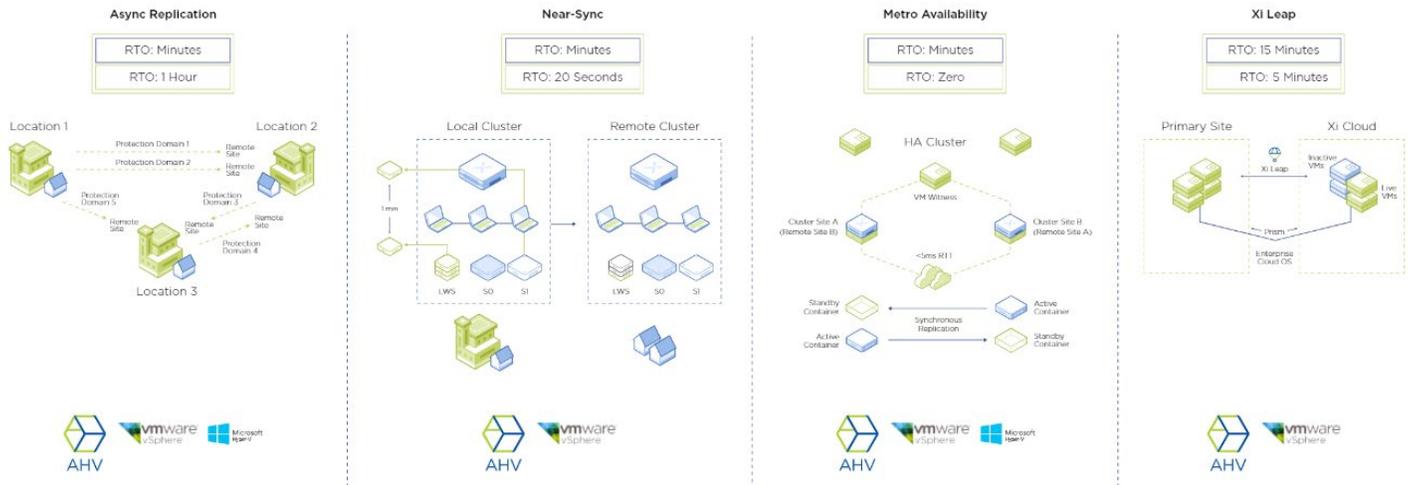
INTEGRATED DATA PROTECTION

Nutanix provides integrated DP services by consolidating backup, archival, and recovery in a single turnkey solution. Nutanix Mine hyper converges backup software and target storage in one unified solution to bust IT silos and reduce complexity of patching together point products for DP. With Nutanix Mine, you can experience intuitive backup simplicity, web scale scalability, and unmatched backup performance. Using these capabilities, you can easily manage end-to-end lifecycle of your data, from creation to retirement using a single dashboard. Nutanix Mine makes it very simple to create application consistent backups and allows granular recovery to confidently deliver on your service SLAs, safeguard against ransomware, and archive data seamlessly for long-term retention and compliance whether on-premises or in the public cloud.

Convert Your Data Silos Into A Mine

Consolidate backups and manage them as part of your infrastructure

Managed in Prism

Tier for long-term archival

Simplify Data Lifecycle Management

Experience Cloud-like scalability

Insure against Ransomware

DISASTER RECOVERY

Nutanix Leap DR provides three tiers of application and data protection, depending upon the demands of a company's SLAs. Business continuity metrics, such as RPO (recovery point objective), are achieved with asynchronous, near synchronous, and synchronous replication options. With these integrated and simple-to-use capabilities, Nutanix customers can provide DR for a variety of applications, some of which might have been unprotected in the past.

Choose the Right Disaster Recovery Solution

Async Replication	Near-Sync	Metro Availability	Xi Leap
RTO: Minutes	RTO: Minutes	RTO: Minutes	RTO: 15 Minutes
RTO: 1 Hour	RTO: 20 Seconds	RTO: Zero	RTO: 5 Minutes

DR-AS-A-SERVICE

Deploying a dedicated DR datacenter and maintaining your own solution is complex and Capex heavy. With Nutanix Xi Leap DRaaS, even the smallest businesses can take advantage of the DR capabilities that larger enterprises enjoy, including simplified automation, orchestration, and failover/failback, whether planned or unplanned. As a true cloud service, Xi Leap provides guaranteed SLAs so that you can meet your auditors' demands. The service also includes non-disruptive one-click failover/failback testing that is isolated from your production environment. You can now easily meet your RPO and RTO objectives effortlessly, irrespective of whether you replicate to a DR site or into the cloud.
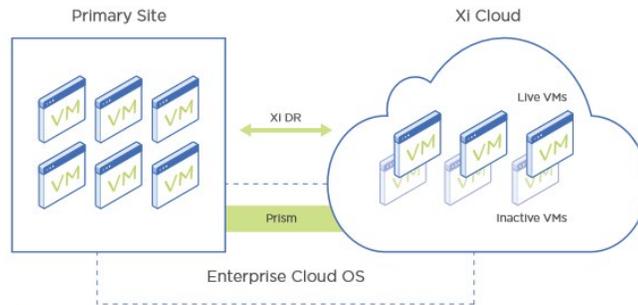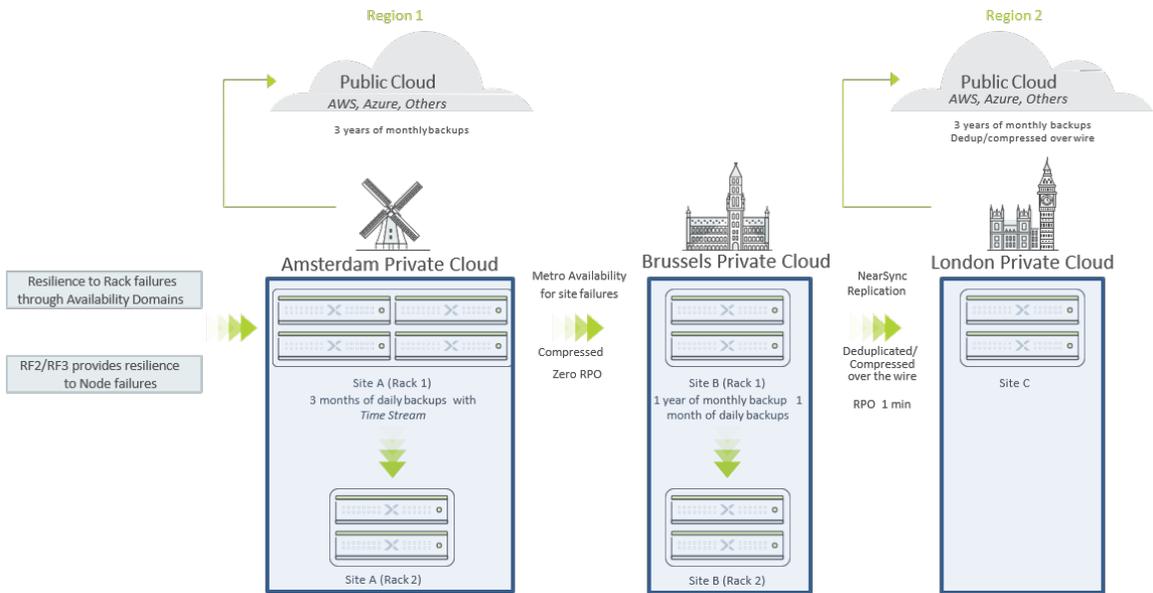

Figure 16: Nutanix Xi Leap disaster recovery service

Region 1

Public Cloud
AWS, Azure, Others

3 years of monthly backups

Region 2

Public Cloud
AWS, Azure, Others

3 years of monthly backups
Dedup/compressed over wire

Amsterdam Private Cloud

Resilience to Rack failures through Availability Domains

RF2/RF3 provides resilience to Node failures

Site A (Rack 1)
3 months of daily backups with *Time Stream*

Site A (Rack 2)

Metro Availability for site failures

Compressed

Zero RPO

Brussels Private Cloud

Site B (Rack 1)
1 year of monthly backup 1 month of daily backups

Site B (Rack 2)

NearSync Replication

Deduplicated/ Compressed over the wire

RPO 1 min

London Private Cloud

Site C

Metro Availability

Enable continuous availability with zero data loss for your mission critical applications during planned maintenance or unplanned disasters by synchronously replicating data across sites.

Recovery Plan
Define and Test your recovery strategy in advance using Nutanix's Disaster Recovery Orchestration. Create, validate and test failover for recovery of workloads, controlling boot sequencing of VMs.

NearSync Remote Replication

Achieve RPOs as low as one minute. Replicate data across sites based on configurable schedules across hypervisor vendors

Rich Third-party Integration

Integration with VSS and 3rd-party solutions enables application-consistent backups.

veeam · HYCU · VERITAS
Zerto · COMMVAULT

Centralized Management using Prism

Did You Know? Nutanix provides

- ✅ Shared nothing architecture with no single point of failure
- ✅ Data and meta-data redundancy
- ✅ Data integrity checks during reads
- ✅ Silent error detection for data consistency
- ✅ Automatic isolation and recovery during disk failures
- ✅ Self-service restore of individual files from VMs

Hardware Platforms

Nutanix provides a range of choices to meet your platform needs with our NX Series, as well as solutions with various validated OEM Appliances and Third-Party Server Vendors. These solutions cover options for compute or storage heavy node, all flash storage options and many more, to meet unique customer needs. More details can be found here: nutanix.com/products/hardware-platforms/

COMPLETE DATA PROTECTION AND DISASTER RECOVERY FOR YOUR PRIVATE CLOUD

Nutanix private cloud solution with data protection and disaster recovery brings the best of both worlds together. A private cloud built with the Nutanix HCI platform is fault resistant with no single points of failure and no bottlenecks. Transforming to the Nutanix HCI platform then allows you to connect to public clouds within an hour to create a true hybrid multicloud platform. The HCI components use a shared-nothing architecture with data, metadata, and services distributed across all nodes within a cluster. Self-healing allows a cluster to detect, isolate, and recover from failures; survive system hardware, software, and hypervisor issues; and maintain data availability—all without operator intervention.

When you combine built-in data protection and disaster recovery capabilities you can achieve maximum application availability. That requires a comprehensive approach that includes resiliency at every level to meet the needs of different tiers of applications, within your datacenter. Using application-granular snapshots and recovery, policy-based protection domains, asynchronous multisite replication, synchronous replication, and centralized management, Nutanix provides a comprehensive approach to backing up critical data, protecting applications, and surviving disasters without specialized skill or investment.

The Nutanix private cloud solution is uniquely suited to meet your company's needs. Because Nutanix eliminates IT complexity, simplifies management, integrates data services, and improves data protection and security, and provides choice of public clouds, it enables your cloud platform to be more agile, more scalable, and—ultimately—more effective at ensuring business continuity.