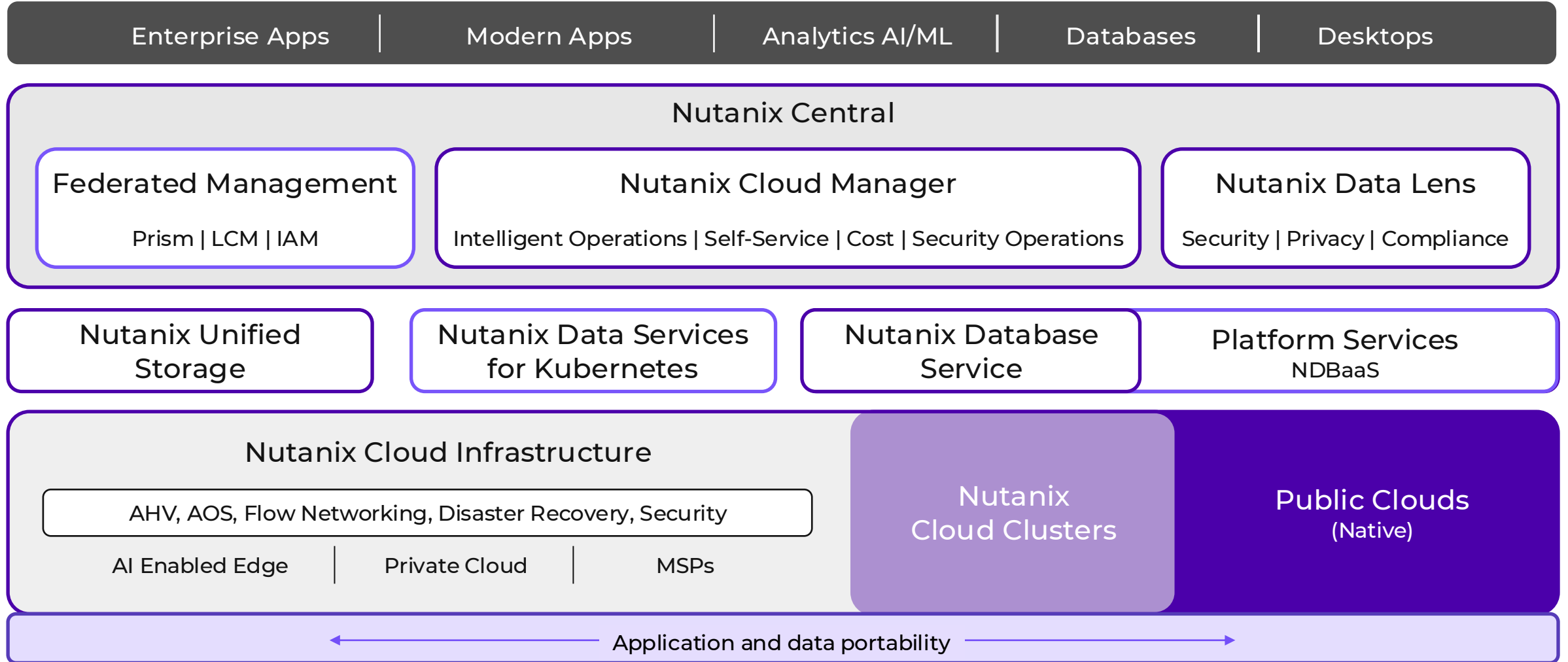


Nutanix 1

NUTANIX

Nutanix Cloud Platform: One Platform for Hybrid Multicloud

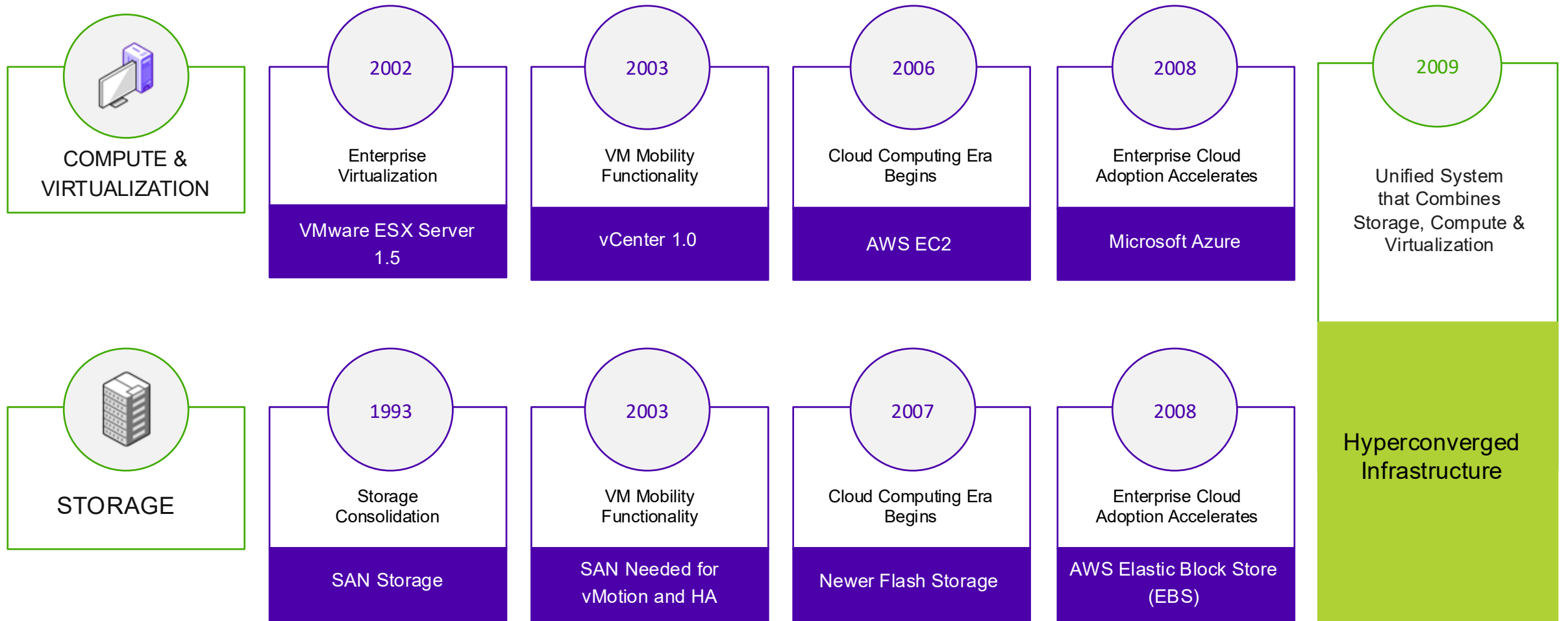


Introduction to Next Generation HCI

Speaker - Title

NUTANIX

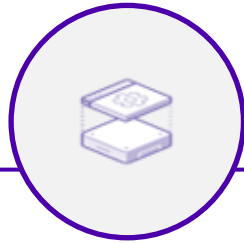
The Evolution of IT Infrastructure



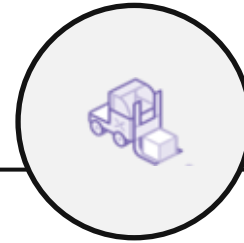
Challenges with Centralized Storage



Necessitates long-term capacity planning and forecasting



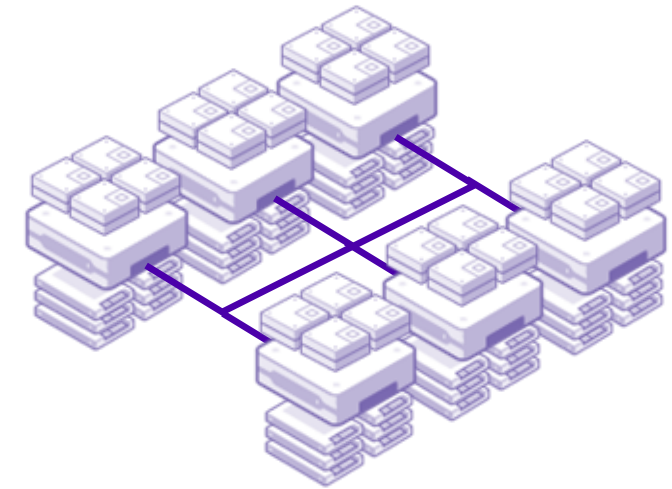
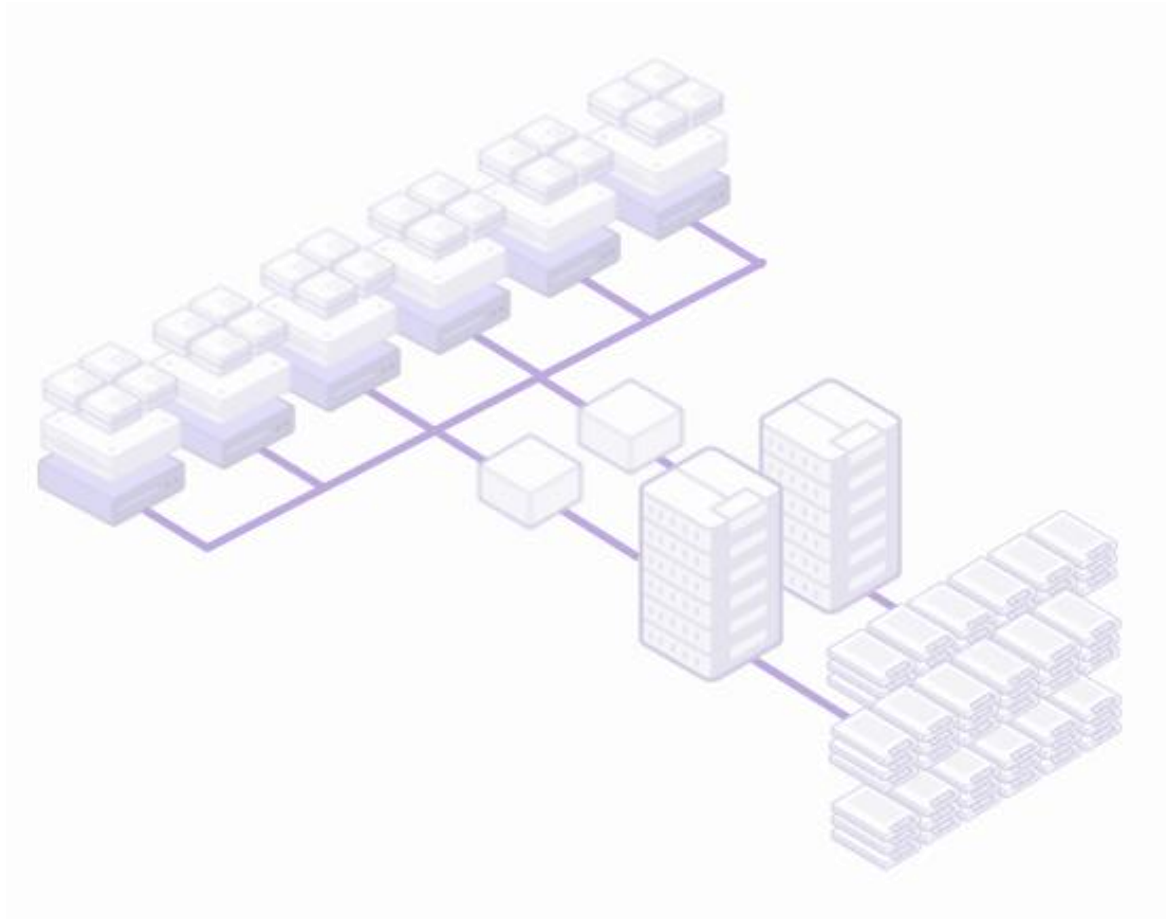
Prevents rapid application provisioning



Requires forklift upgrades and refresh

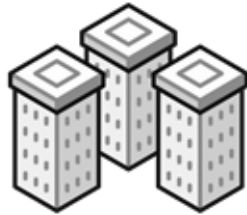
Non-adaptive to changing business needs

HCI is a Fully Distributed IT Infrastructure



Integrated Compute, Storage, Virtualization,
Network, and Security

Nutanix HCI Can Help Every Hybrid Cloud Strategy



Modernize Infrastructure

Speed app deployment
and scaling

Up to 40% TCO Savings
Over 3 Tier Architecture



Extend to Edge and Cloud

Move workloads to public cloud or deploy
at edge faster and more cost-effectively

Up to 60% Faster
Over Refactoring



Enable Modern Apps Anywhere

Build modern K8s apps once and securely run
them and their data anywhere

Up to 53% Savings
Over Cloud Native



HCI Benefits

1. Agile Operations

2. Sustained Innovation

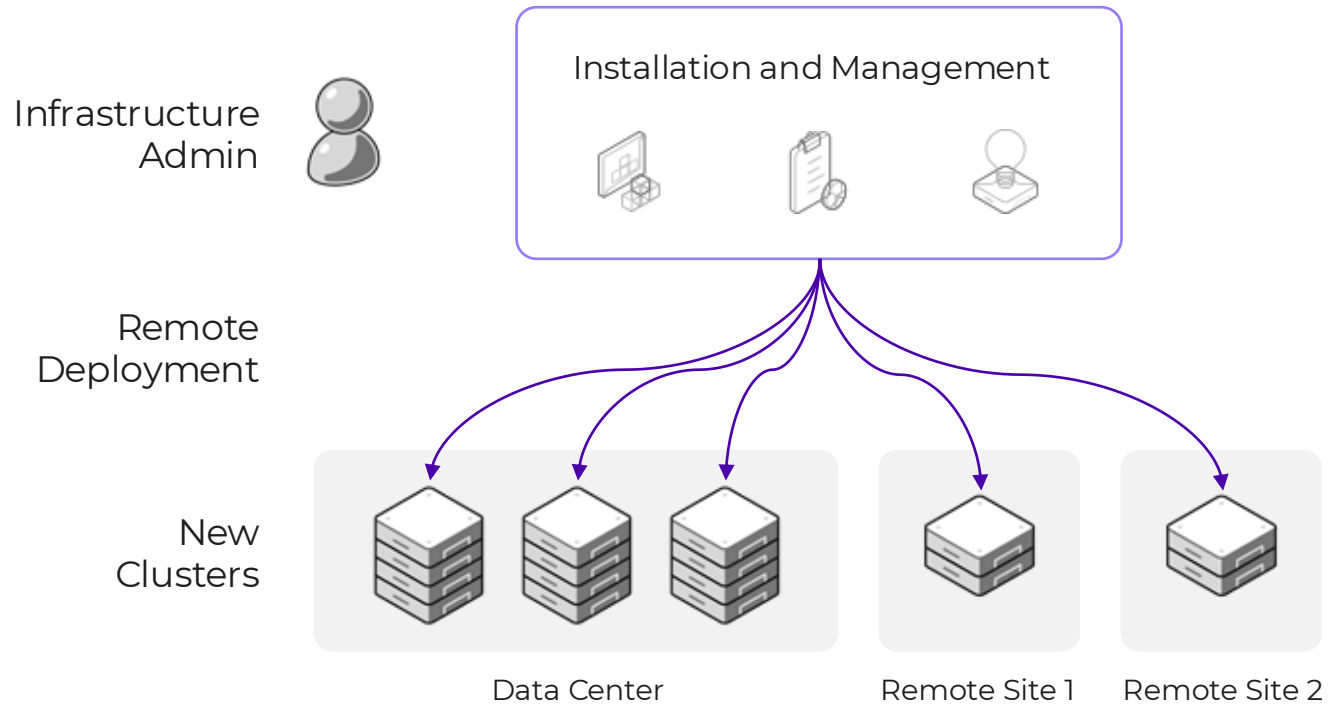
3. Optimized Economics

Agile Operations

Enable greater IT efficiency and enable
IT to focus on driving business value

NUTANIX

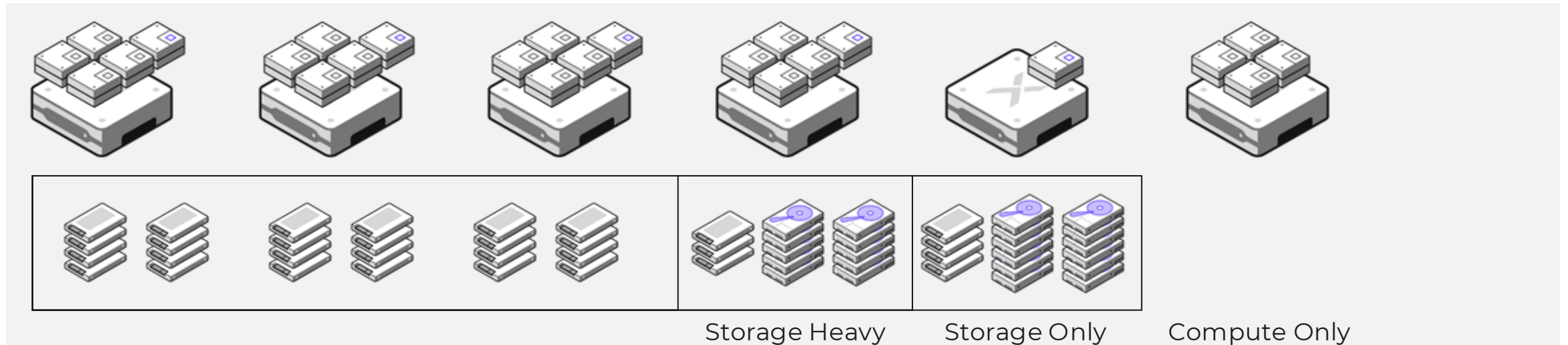
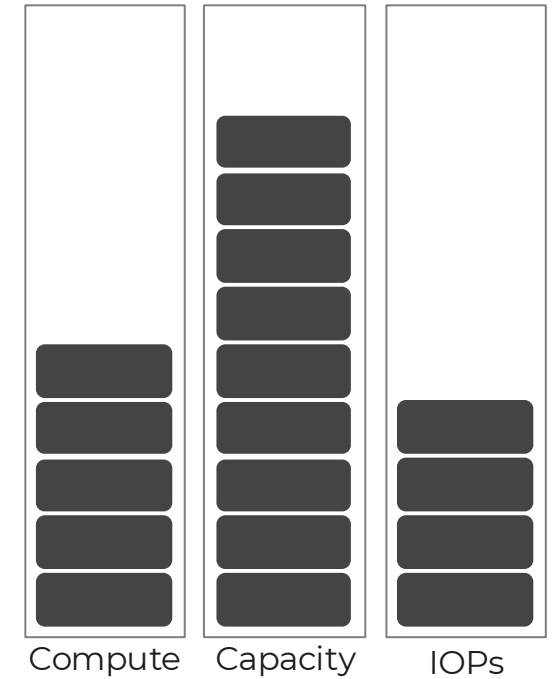
Simple, Fast Deployments



- Complete install in less than 1 hour
- Single installer for all deployments
- Image multiple clusters, across sites
- Deploy Hypervisor + AOS

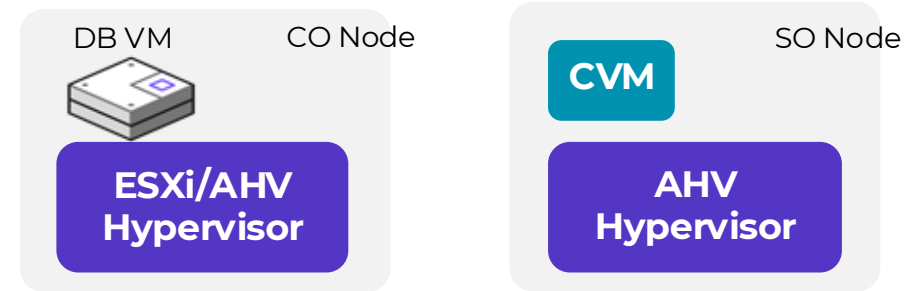
Flexible Scaling with HCI

- Performance and capacity scale linearly
- Scale compute and storage independently
- Mix & Match node types
- Data automatically rebalanced



Compute Only

- Greenfield cluster with CO and SO nodes only
- SO nodes : HCI or NVMe Only based on use case.
- Performance similar to HCI cluster
- Manageability Support
 - Foundation : Imaging and Cluster Creation
 - LCM : LCM ESXi CO upgrade (NX)
 - NCC : NCC checks for CO
 - AOS : Expand Cluster, Remove Node, Network segmentation, Data protection
- Primary use case is database services
- Sizer : Option to size with CO+SO



Select the nodes you want to handle, and enter the IP/hostnames you want them to have. You can optionally assign a special role to each node.

BLOCK SERIAL	<input checked="" type="checkbox"/> NODE	NODE SERIAL	VLAN	IPMI MAC	IPMI IP	HOST IP	CVM IP	HOSTNAME OF HOST	NODE ROLE (i)
[Redacted]	<input checked="" type="checkbox"/> A v	Not Needed (i)	N/N (i)	Not Needed (i)	[Redacted]	[Redacted]	Compute-only (i)	[Redacted]	Compute-only (AHV/ESX) v
[Redacted]	<input checked="" type="checkbox"/> A v	Not Needed (i)	N/N (i)	Not Needed (i)	[Redacted]	[Redacted]	Compute-only (i)	[Redacted]	Compute-only (AHV/ESX) v
[Redacted]	<input checked="" type="checkbox"/> A v	Not Needed (i)	N/N (i)	Not Needed (i)	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Storage-only (AHV) v
[Redacted]	<input checked="" type="checkbox"/> A v	Not Needed (i)	N/N (i)	Not Needed (i)	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Storage-only (AHV) v
[Redacted]	<input checked="" type="checkbox"/> A v	Not Needed (i)	N/N (i)	Not Needed (i)	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Storage-only (AHV) v

Cluster Settings

Node Type ?

- HCI
- HCI + SO
- HCI + CO
- CO + SO

Predictable Performance When Scaling



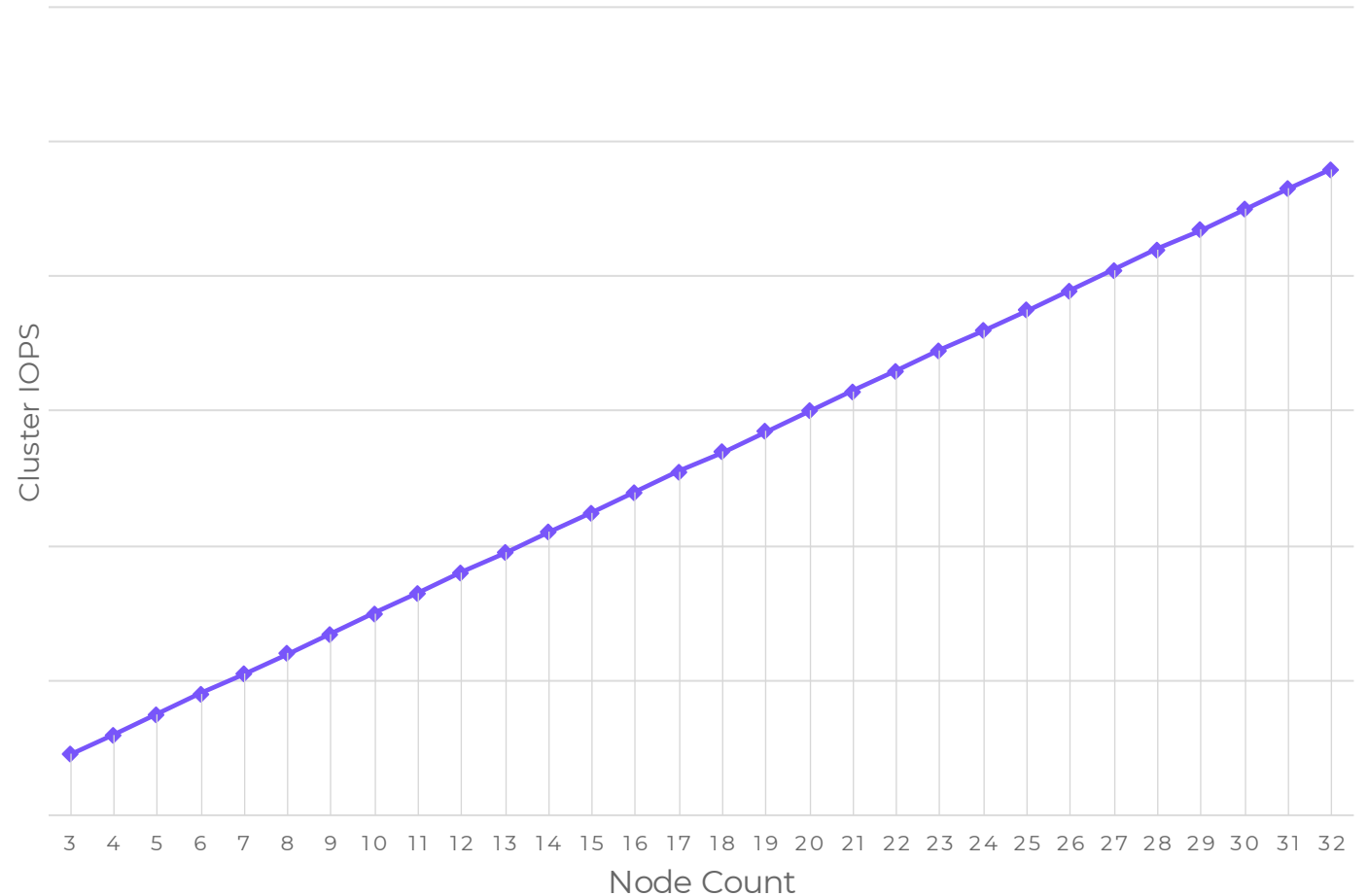
Consistent performance per node



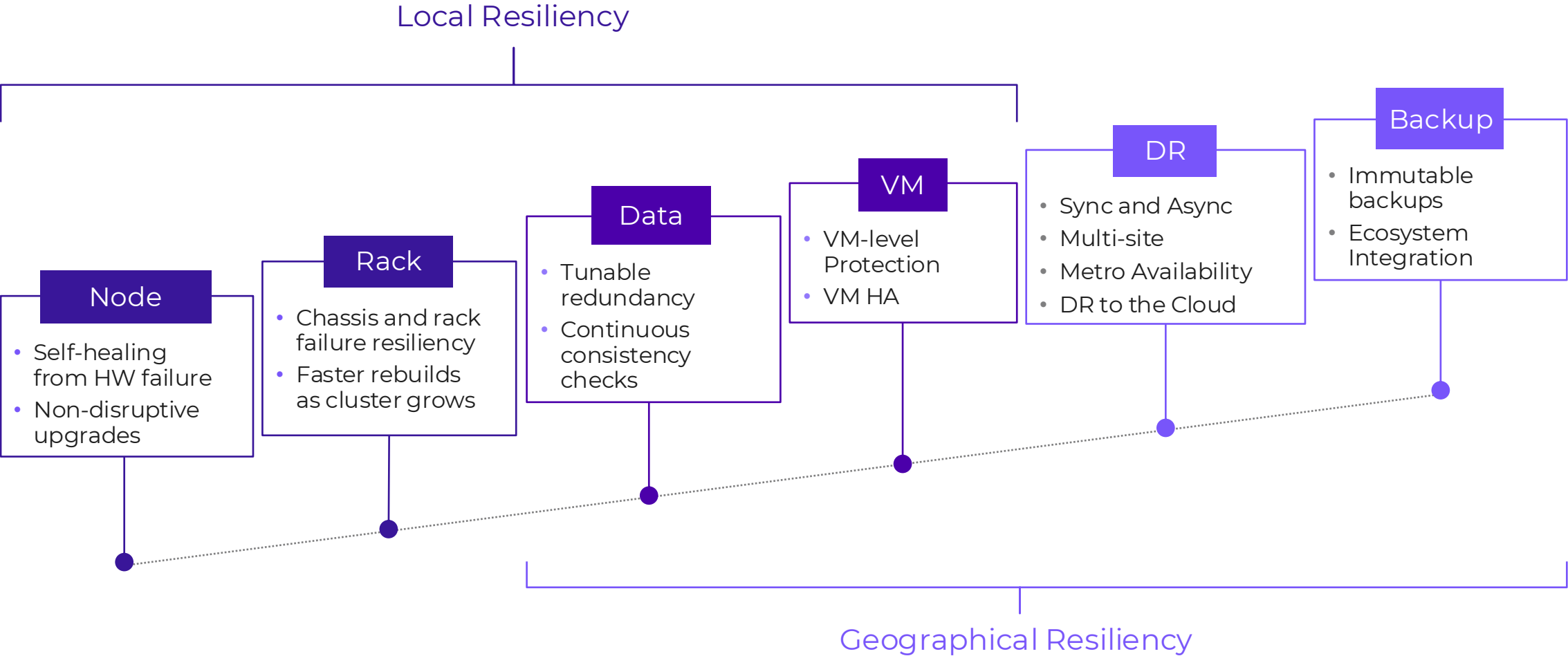
Data Locality minimizes impact of other workloads in the cluster



No penalty for large clusters








Continuous Availability... From the Ground Up



Nutanix Security Benefits

Security by Design



-  Spend less time securing your infrastructure
-  Monitor and patch vulnerabilities without downtime
-  Secure your sensitive data and apps without friction
-  Build defense-in-depth with a growing ecosystem
-  Meet certification and standards with ease

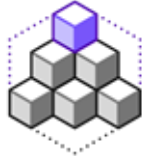
Simplified Maintenance and Upgrades



Easy to Use



Intelligent



Scalable

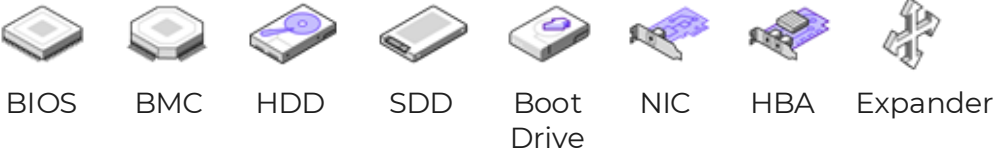
Software → Firmware Full Stack Upgrades

Cloud Infrastructure

Cloud Management

Unified Storage

Automatic Dependency Management



Unified Upgrade Process



Unified Management

Self Service

Apps

Security

Virtualization

Storage

Data Protection

The collage displays several key Nutanix management interfaces:

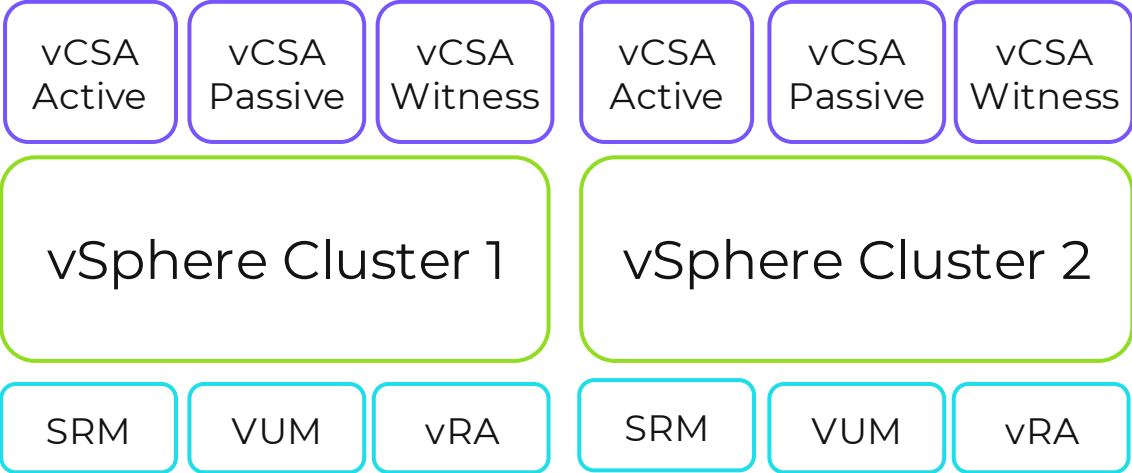
- OpenStack Dashboard:** Shows 'Images & Snapshots' and 'Volume Snapshots' sections with tables of image details and snapshot information.
- VMware vRealize Automation:** Features a 'Service Catalog' with various application tiles such as 'CentOS 64-bit Base', 'CentOS 7', 'Windows 2012 R2 Base', and 'WordPress 4.2.1'.
- Cisco UCS Director:** Displays a 'Server' configuration page with various settings and a 'Server' icon.
- VMware vSphere Web Client:** Shows a 'Summary' page for a VM named 'esx-01a.corp.local', detailing CPU, memory, storage, and configuration.
- SPAR Management Console:** Displays 'Provisioning' and 'Storage Systems' sections, including a table of virtual volumes and a 'Thinly Provisioned Savings' chart.
- Other Tools:** Includes a 'Cluster Runway' dashboard showing 'Cluster CPU U' and 'Cluster La', and a 'Data Protection' interface with a 'Cluster CPU U' section.



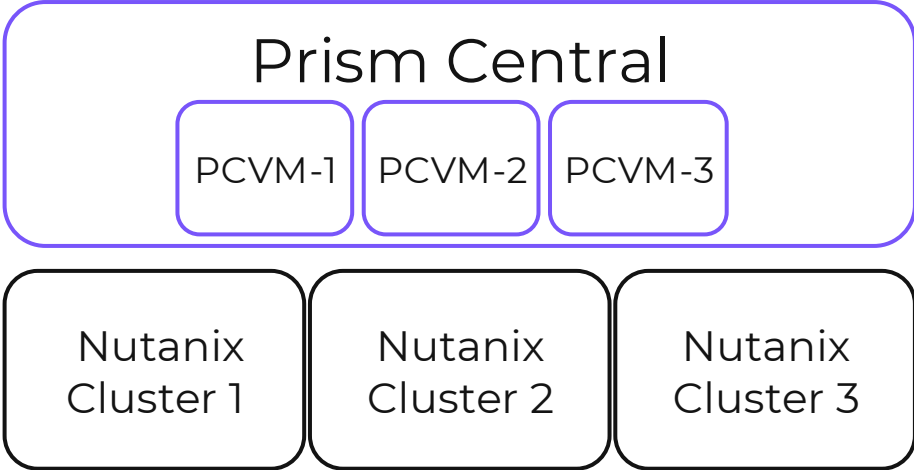
Virtualization with AHV

NUTANIX

Why Consider Different Virtualization?



Simplicity in Architecture



Nutanix Navigates Uncertainty in 3 Ways

1. Nutanix AHV is a Virtualization Alternative to VMware



Enterprise-ready to run all your workloads, Nutanix AHV is an included hypervisor alternative to VMware vSphere.

2. Nutanix HCI is the Foundation of Your Journey to the Hybrid Cloud



When you run VMware with Nutanix HCI you reduce your exposure to market shifts, then, when ready, migrate to Nutanix AHV and unlock the hybrid cloud.

3. Migrate VMware or a Key Workload to Nutanix AHV Today



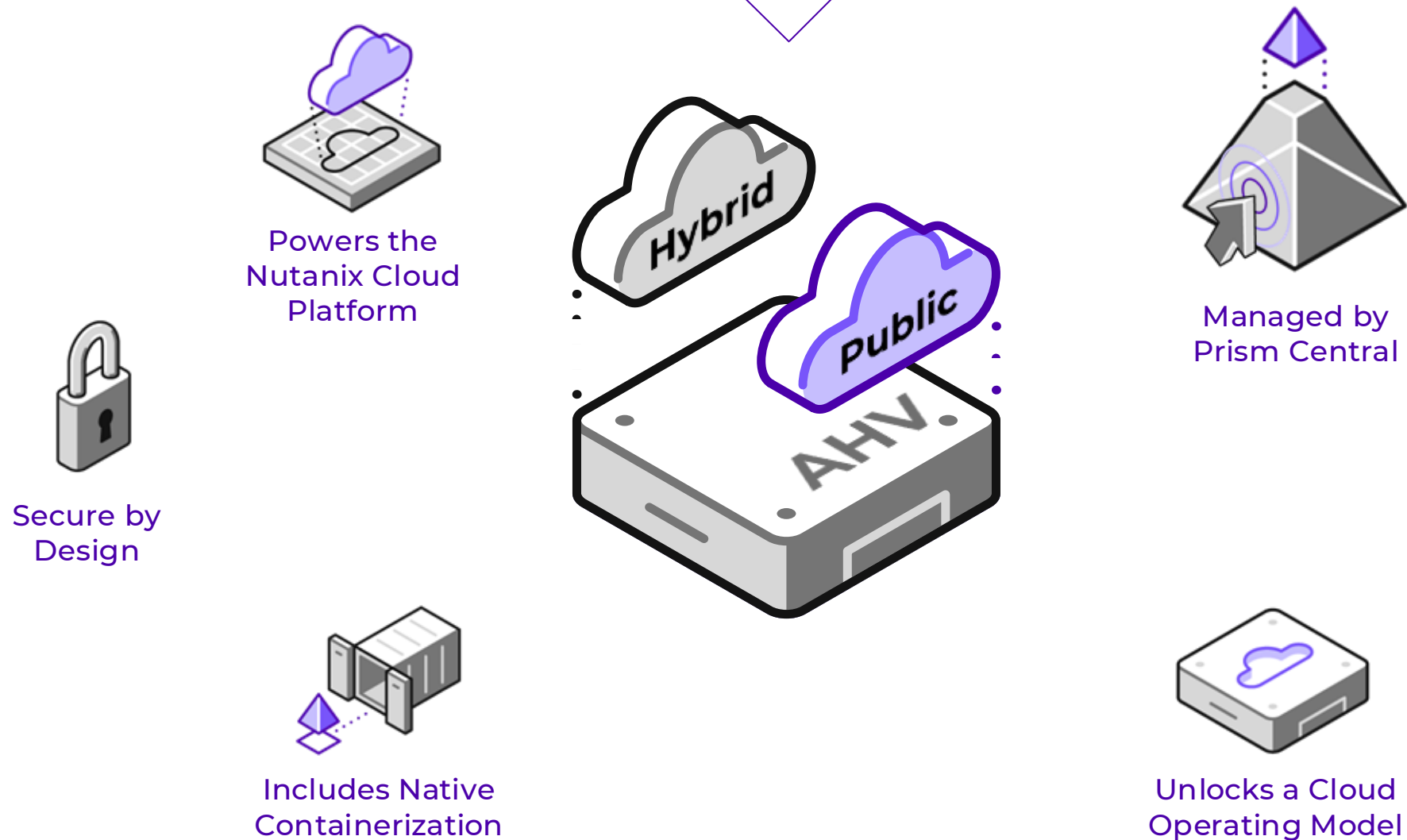
Don't feel overwhelmed, begin your hybrid cloud journey by migrating VMware or a workload to AHV and expand from there.

Future-Proof Your Architecture

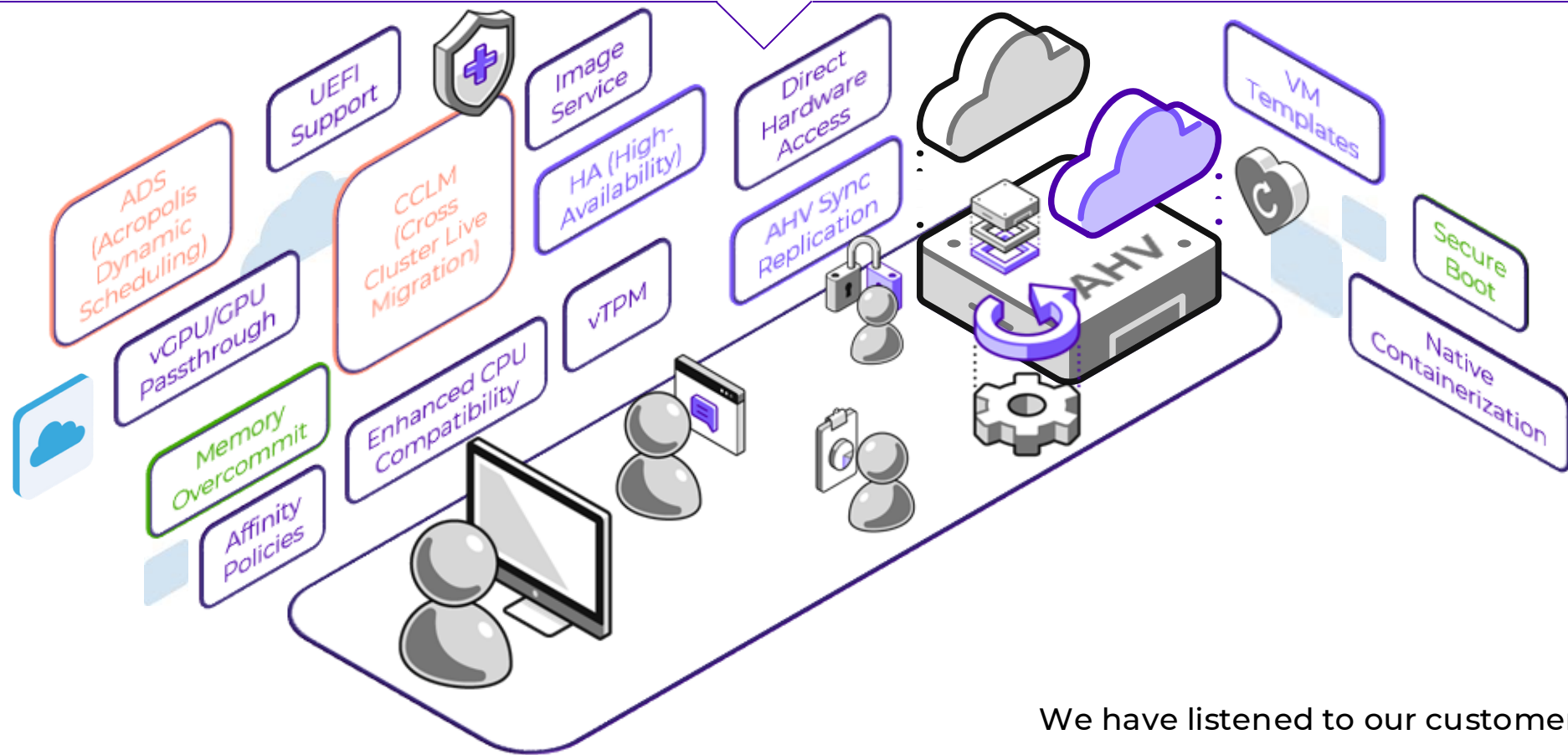
Reduce Risk with a Multi-Vendor Strategy

Enable Choice to Run Workloads Your Way

Introducing AHV, the Center of Your Cloud Architecture



AHV is Enterprise Ready



We have listened to our customers

... and have spent the last 7 years making AHV Enterprise Ready.

AHV: Enterprise Ready Virtualization



Secure

Hardened by default, secured through automation, ready for what's next.



Powerful

AHV focuses on running your applications without complexity



Powers All Clouds

AHV is a powerful, hybrid cloud virtualization platform

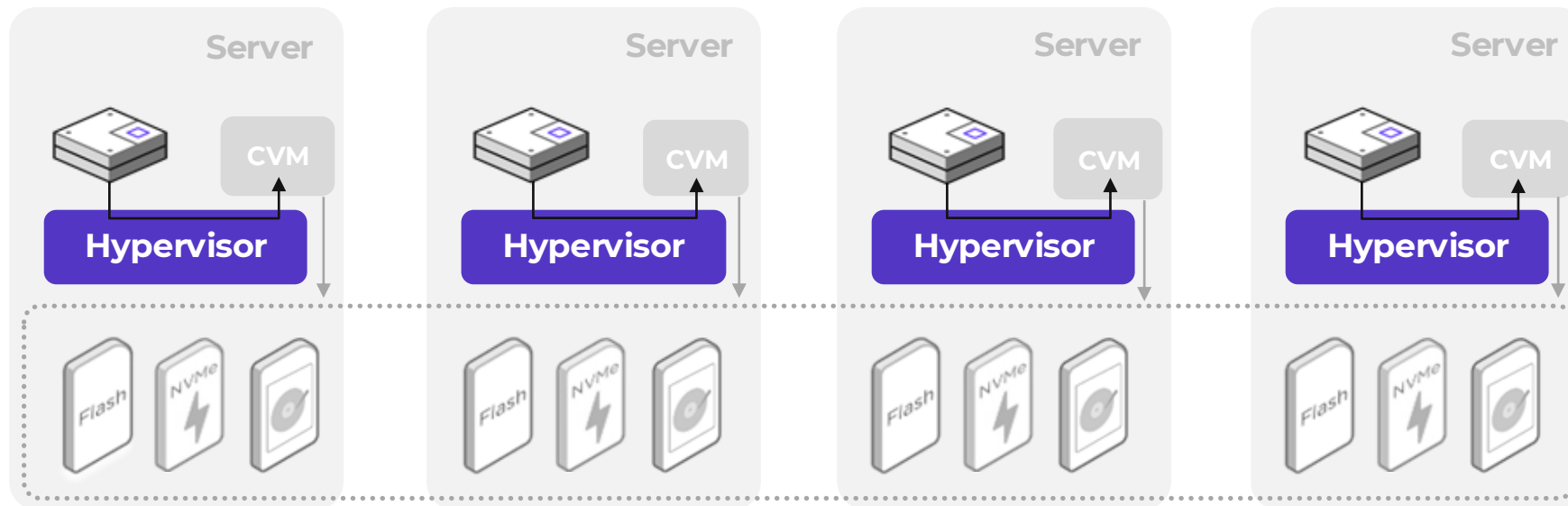


Fully Integrated

Take advantage of a full-stack hybrid solution



AHV Host



Distributed Storage

AHV Host

Virtualization Appliance derived from EL7

Configuration tailored by (and for) **Nutanix**

- **SELinux** security profiles
- **Memory** control for perf and overcommit
- **CGroups** for VM protection and resiliency

Nutanix contributes to **Open Source**

- Enhancements for commodity features
- Delivery of entirely new features
- Security and functional fixes
- Sponsor and present at OSS events

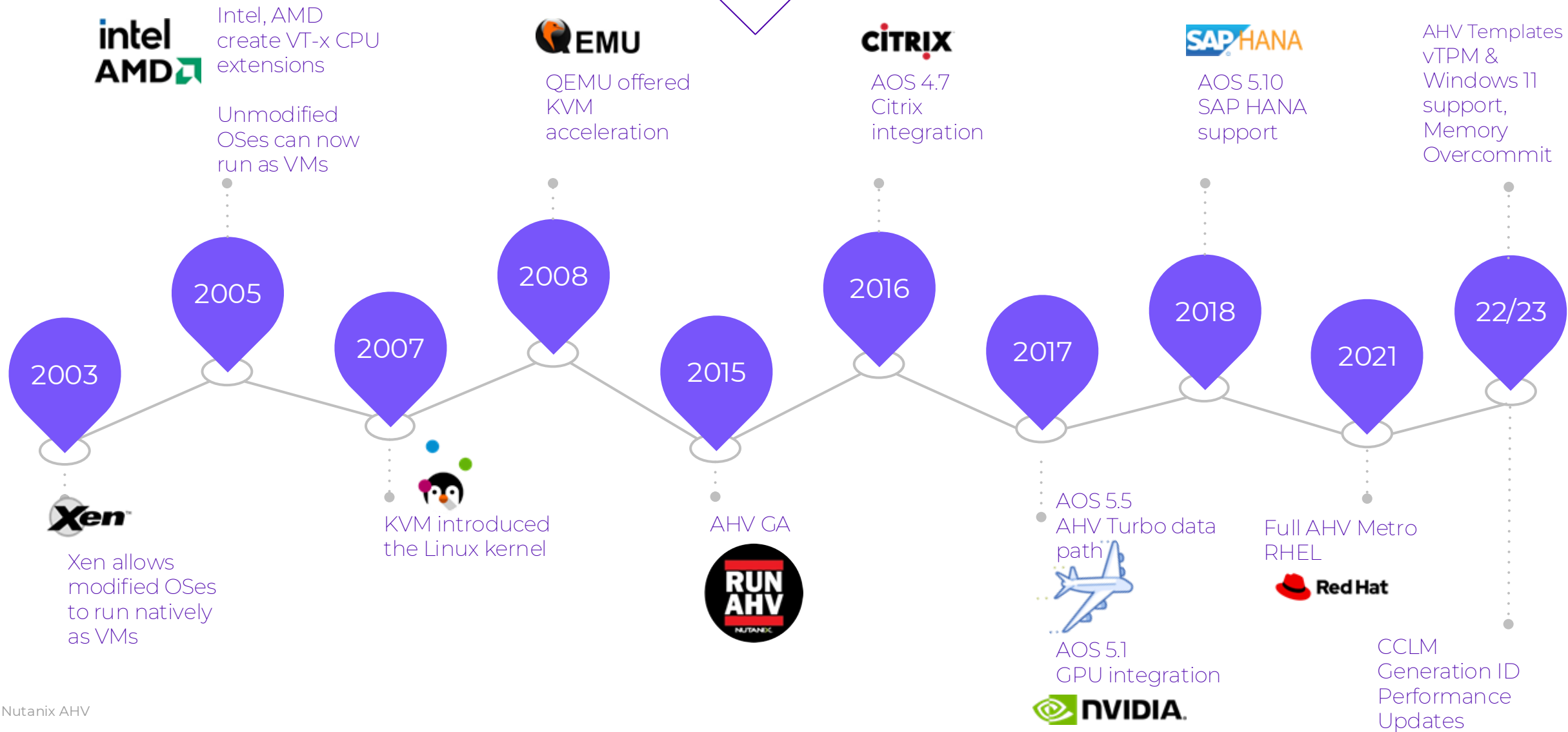
Using various **Open Source Projects**

- Linux **Kernel** 5.10
- **QEMU** 4.2, **Libvirt** 6.0
- **Open vSwitch** 2.14
- Derived from EL8, QEMU 6.2, and Libvirt 8.0

Uses **Nutanix** software (such as)

- Storage **redirector**
- AHV **Turbo** (aka. Frodo)

Evolution of Virtualization and AHV





Prism

NUTANIX

Nutanix's Vision for Cloud Management

Single Pane



Scale



Multi-Product



Multi-Site

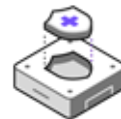
Seamless Platform



IAM and
API



Observability
and
Governance



Infrastructure
operations

Enterprise Grade



NVD



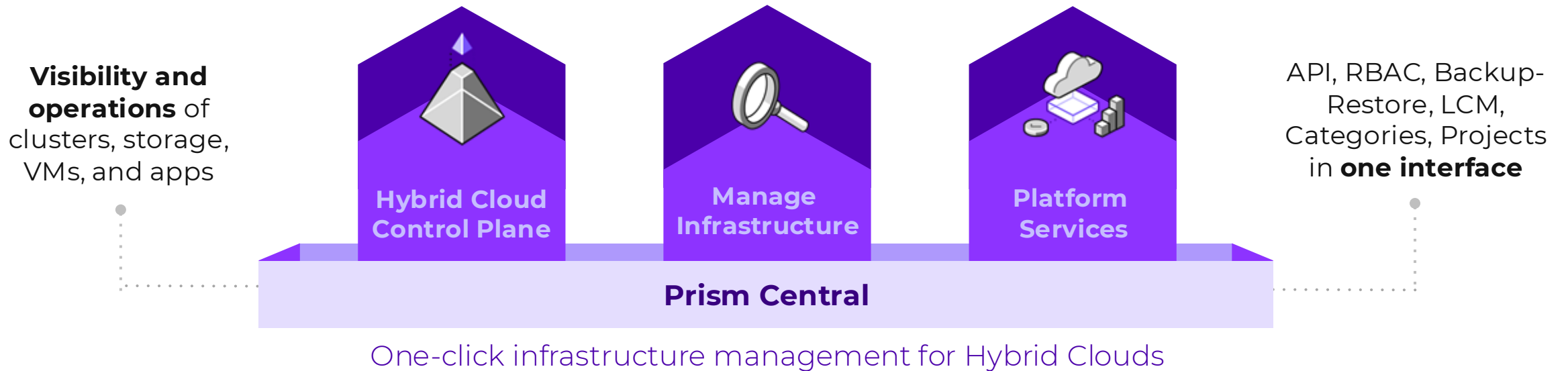
Infra Operations



Global Operations

What Is Prism?

Prism is a datacenter management software that provides a centralized platform to operate infrastructure and applications across hybrid clouds at scale.



AOS and ESXi Support | Fine-grained RBAC | API-SDK Support | Nutanix Marketplace | Backup Restore | LCM

One-Click Cluster Management

Prism simplifies workloads through the entire VM lifecycle

Host Profile

- Standardize cluster host configuration based on user info (i.e. auto-mount containers)

Virtual Networking

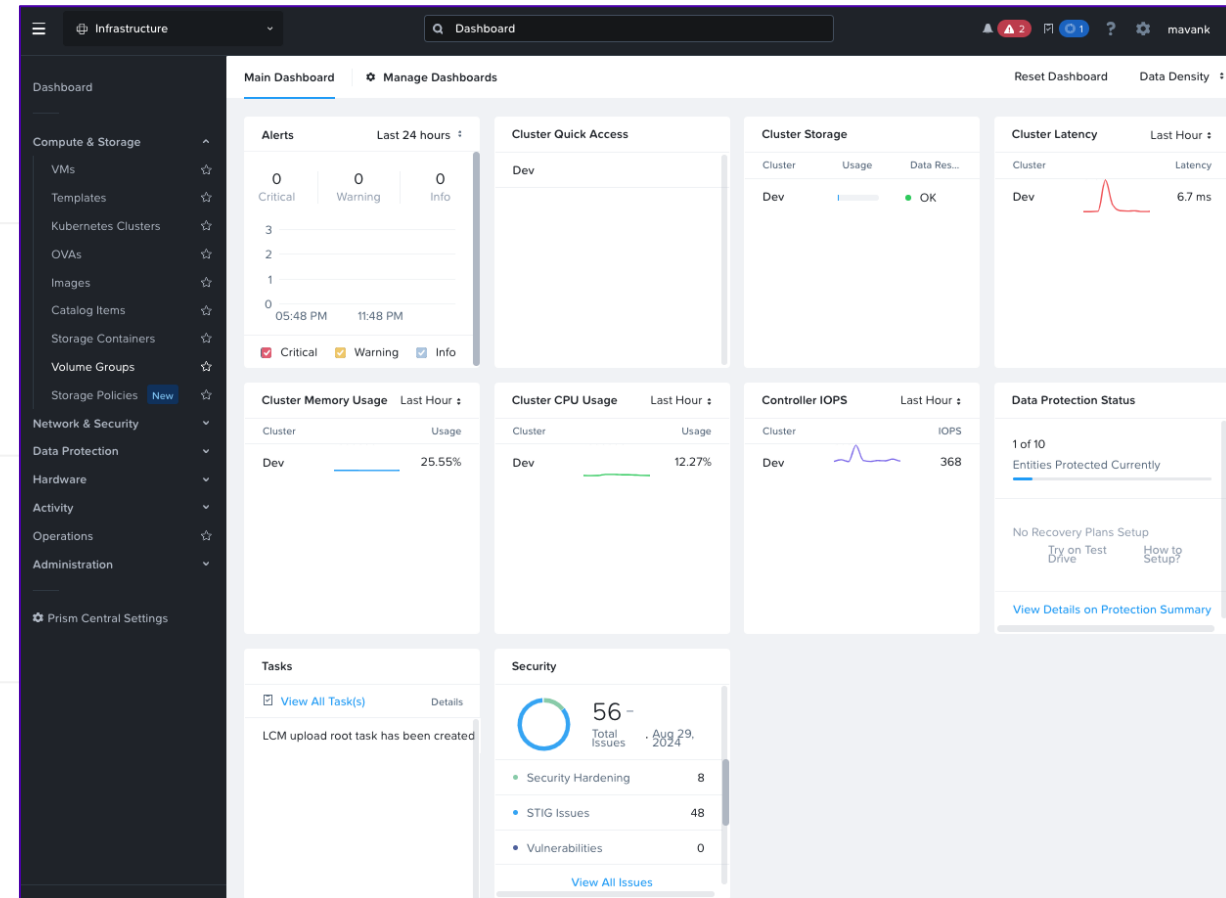
- Setup and configure layer-2 VLAN-backed virtual networks spanning a cluster

Non-disruptive Upgrades

- One click OS, hypervisor, and firmware upgrades

Network Visualization

- VM-centric view for simplified monitoring and troubleshooting



One-Click VM Setup

Prism simplifies workloads through the entire VM lifecycle

Snapshots and Clones

- Rapidly create snapshots and clones of VMs

Resource Scheduling

- Determine intelligent initial placement of VMs, and dynamically balance the load across the cluster for optimal performance

Live Migration

- Move a VM from one physical host to another without interruption

Create VM

1 Configuration 2 Resources 3 Management 4 Review

Name

Description

Cluster

Number of VMs

VM Properties

CPU	Cores Per CPU	Memory
<input type="text" value="1"/> vCPU	<input type="text" value="1"/> Cores	<input type="text" value="4"/> GiB

Advanced Settings

One-Click Storage Management

VM-centric storage workflows from a single interface

Simplified Storage View

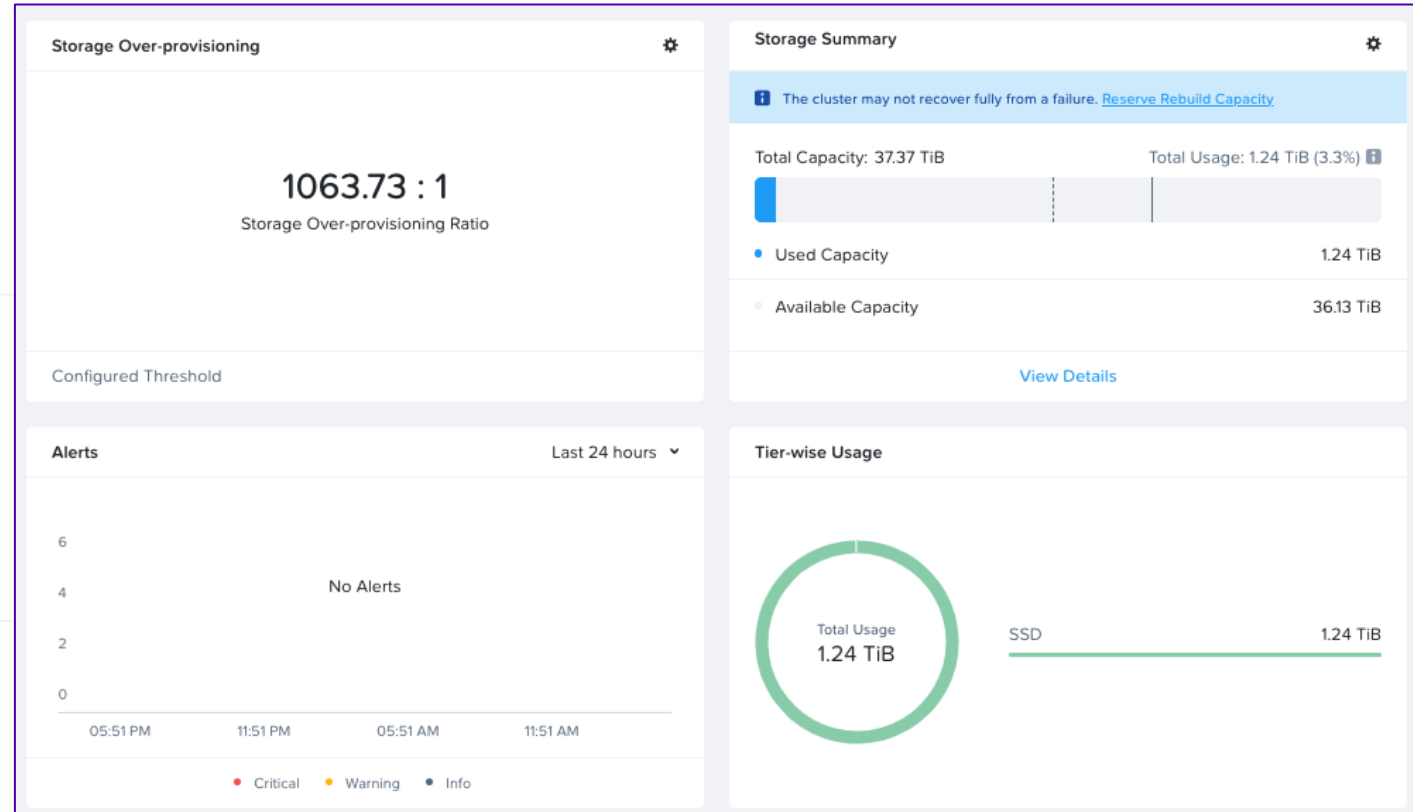
- Get a global view of storage resources across all managed clusters

Standards-based Authentication

- Integration with LDAP-based services for strong and flexible administrator authentication

DR, Backup, and Restore

- Enable resilience and data protection with snapshots and replication
- Point-in-time backups offsite to AWS S3



Fine Grained RBAC

Fine-Grained Permissions

- Every Permission is mapped to Operation/API

Roles with Fine Grained Permissions

- System Defined
- Custom Roles

Fine Grained Scope at Entity Level

- Assign authorization only to entities that are tagged with certain categories or on certain clusters

Authorization Policies

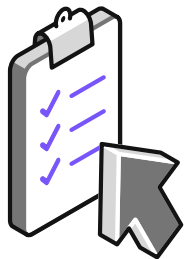
- Fine-grained permissions with user and scope definitions
- Multiple policies per role for comprehensive management

The screenshot displays the 'Create Role' configuration window. On the left, the 'Role Name' is 'Update VM'. Below it, a section titled 'Select operations to grant access' shows 'Category' selected in the 'Entity Type' dropdown, with '10/10 Operations Added'. A list of 10 operations is shown, all with green checkmarks, including 'Create Category', 'Delete Category', 'Update Category', and 'View Category'. On the right, the 'Update VM' section shows '18 Operations Added' and a list of four categories: 'Account' (5/5), 'Category' (10/10), 'Cluster Management Task' (1/1), and 'Prism Central' (2/2). At the bottom right, there are 'Cancel', 'Save', and 'Save & Create Authorization Policy' buttons.

Simplify Management with Prism

Unified Console

End-to-end infrastructure and VM management



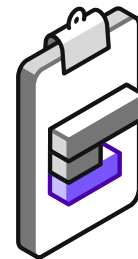
One-click Workflows

For cluster, VM, and storage operations



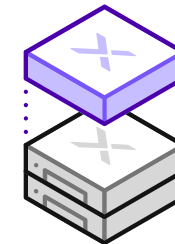
Comprehensive Protection

Built-in resilience, data protection, and resource optimization



Flexible Control

Enabling secure, granular user management



The End

That's all folks...

NUTANIX