### NUTANIX

## Cloud Native & Containers with Red Hat & Nutanix

## Challenges Of Building And Running Modern, Containerized Applications

Enterprises' app development outpaces IT's ability to support it Kubernetes is deep and complex, and evolves fast with its growing ecosystem of technologies Legacy infrastructure isn't built to handle Kubernetes

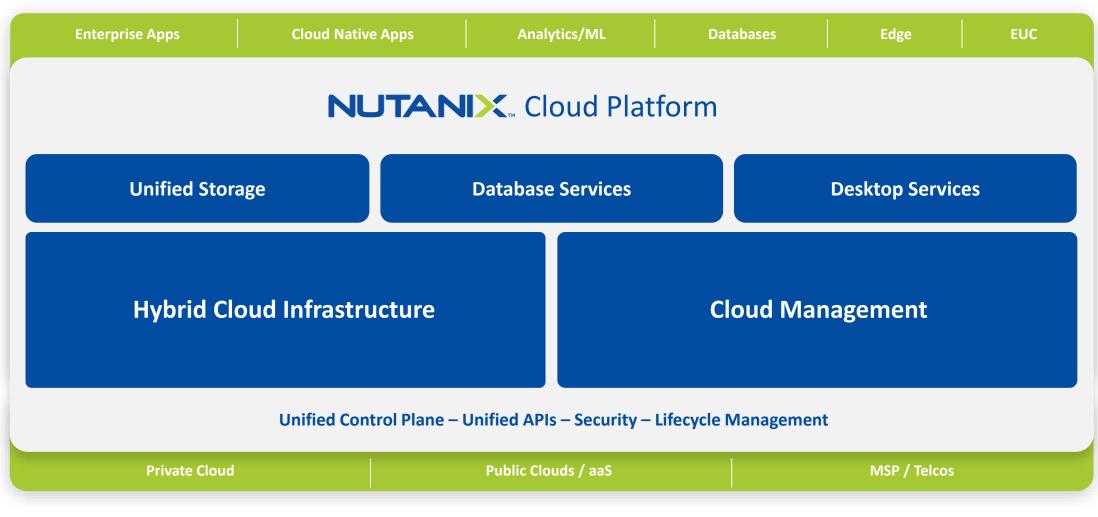
Developers will resort to shadow IT and use public cloud resources when their work is held up by lack of access to resources and services Many organizations don't have inhouse expertise and can't keep up with new functionality Kubernetes is a distributed system, requiring compute, storage, and networking that adapts to the way it operates.

# NUTANIX

# Our Cloud-Native Mission

Deliver the best infrastructure to run cloud native workloads at scale using any Kubernetes distribution

### Nutanix: One Platform for Hybrid Multicloud



### One platform for Kubernetes and Containers



### NUTANX Cloud Platform



Hewlett Packard Enterprise Lenovo

aws -

Microsoft

### Cloud Native is Better on Nutanix

### Scalable Infrastructure



Kubernetes Clusters Worker Node Pools HCI Infrastructure Scale

#### Invisible Infrastructure



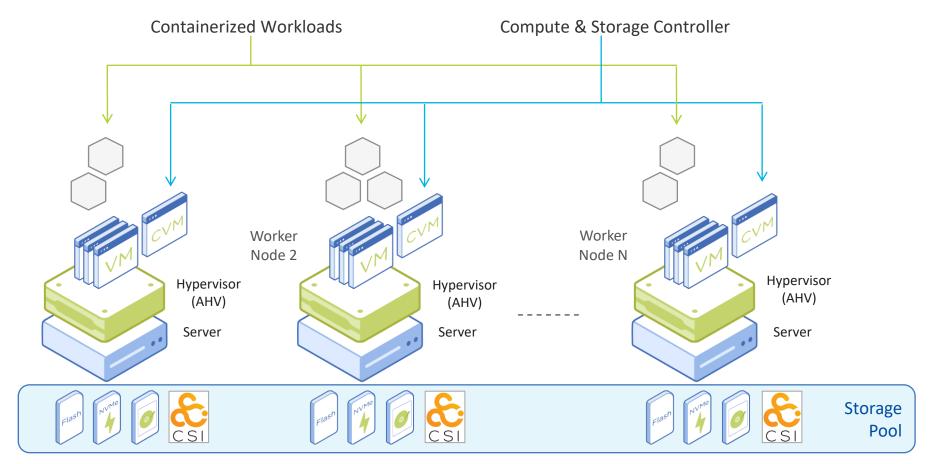
Infrastructure Security Kubernetes, Virtualization Seamless Lifecyle Ops

#### **Built-In Data Services**



Volumes, Files, Objects Database as a Service Certified CSI Drivers

### Flexible Scale-out Architecture



✓ Start small and scale without limits

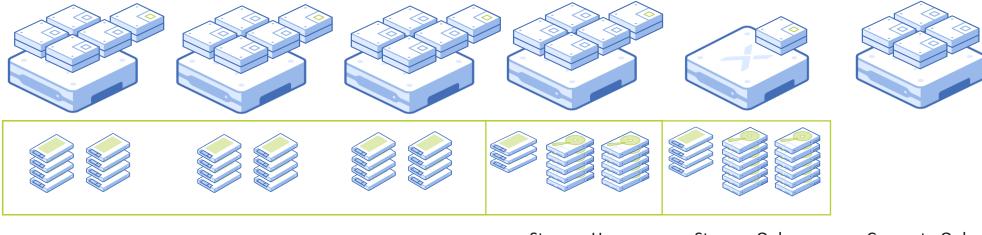
✓ Increase capacity one node at a time

- ✓ Keep data local for maximum performance
- ✓ Mix node types and hardware generations

### Flexible Scaling with HCI

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

Compute	Capacity	IOPs



Storage Heavy Storage Only

### Predictable Performance when Scaling





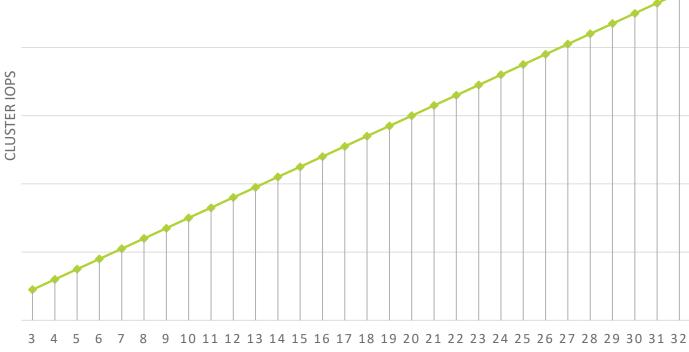
Data Locality minimizes impact

No penalty for large clusters

Consistent performance per

of other workloads in the cluster

node



NODE COUNT



### Cloud Native is Better on Nutanix

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### HCI Is Superior To Bare Metal For Containers

#### **RESOURCE UTILIZATION**

- HCI takes full advantage of powerful CPU scheduling features
- HCI offers superior consolidation over bare metal
- HCI storage fabric optimizes performance and capacity as you scale

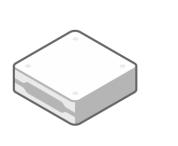
#### RESILIENCE

• HCI minimizes cluster downtime

#### MANAGEMENT AND USER EXPERIENCE

- HCl automates firmware management
- HCI enables simple management of multiple Kubernetes clusters running on the same hardware

# Hypervisor (AHV) Server



#### STORAGE AND DATA SERVICES

• HCI simplifies persistent storage configuration and management for stateful containers

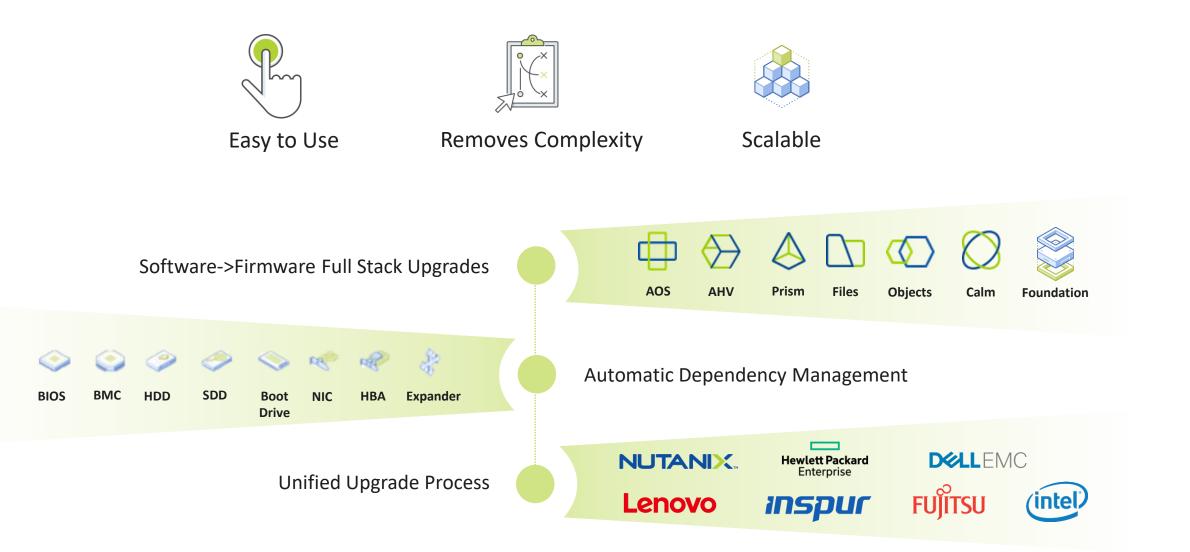
#### SECURITY

• HCI is more secure as a result of multi-tenant isolation

**Nutanix HCI** 



### LCM: One-Click Infrastructure Upgrades



### Cloud Native is Better on Nutanix

#### Scalable Infrastructure

Kubernetes Clusters Worker Node Pools HCI Infrastructure Scale

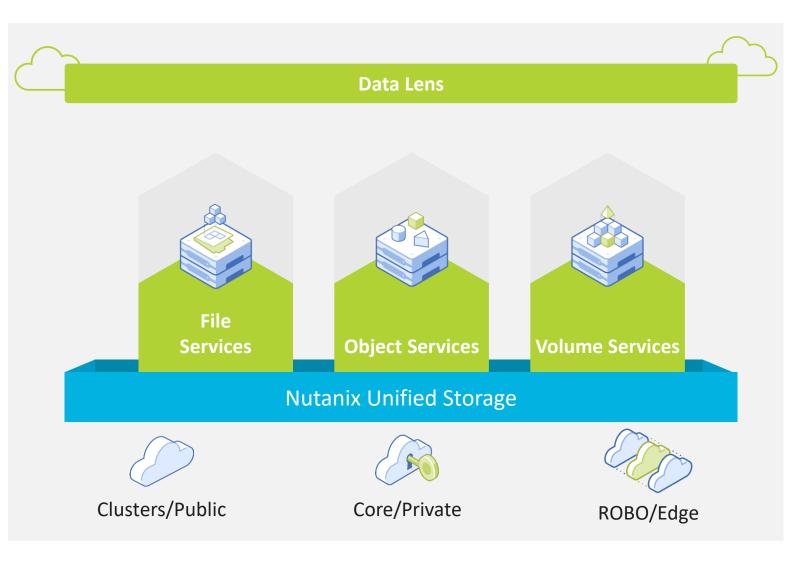
Infrastructure Security Kubernetes, Virtualization Seamless Lifecyle Ops

#### **Built-In Data Services**



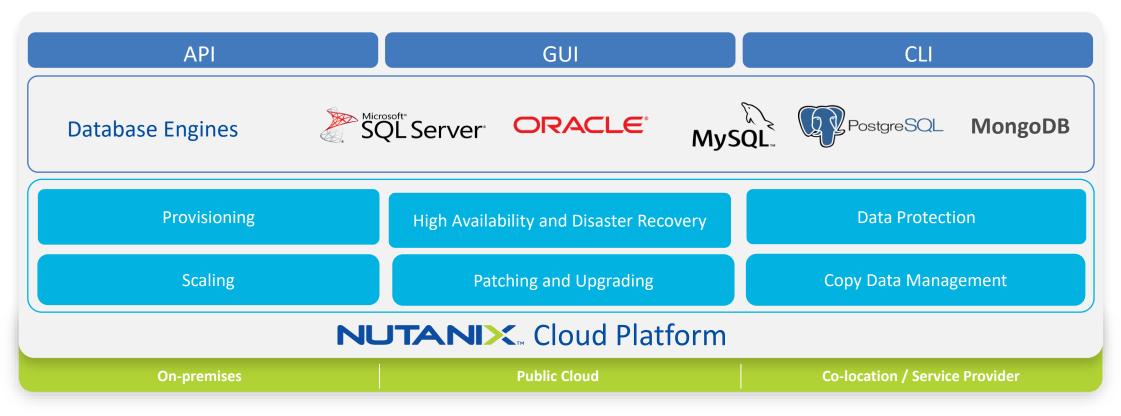
Volumes, Files, Objects Database as a Service Certified CSI Drivers

### Unified Storage For A Cloud Native World



- Unified Data Platform
- Full-featured CSI
- Security-First Design
- Web-scale Architecture
- Flexible Consumption

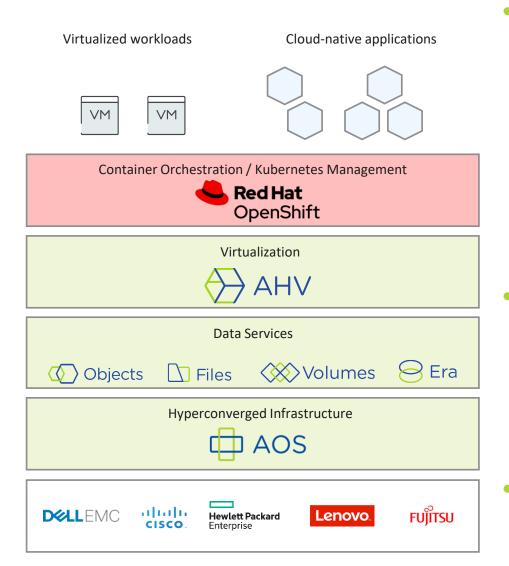
### Nutanix NDB – Hybrid Multicloud DBaaS



- Automated management of 100s of databases on hybrid multicloud
- Meet security, HA, disaster recovery, performance, scale, and cost requirements
- Enable developers to self-service their database needs
- Enable DBAs to focus on the organizations most critical databases

# Conclusion

### Build An Enterprise K8s Stack With Nutanix & Red Hat



### Best Infrastructure for K8S

- Nutanix HCl is architected for Kubernetes and distributed environments (scalable, resilient)
- Integrated storage solutions, automation, and more
- Supports VMs and containers in the same environment
- Integrates with key public cloud platforms and cloud native technologies via strategic partnerships

### **Benchmark for operational simplicity**

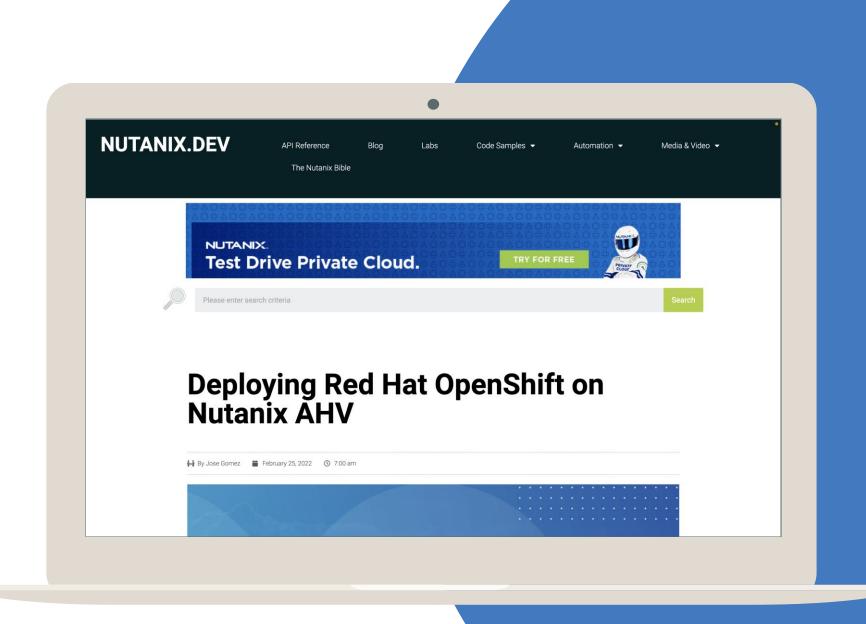
- Deploys rapidly & reliably
- Offers an intuitive, public cloud-like user experience
- Full stack support from a single leading vendor

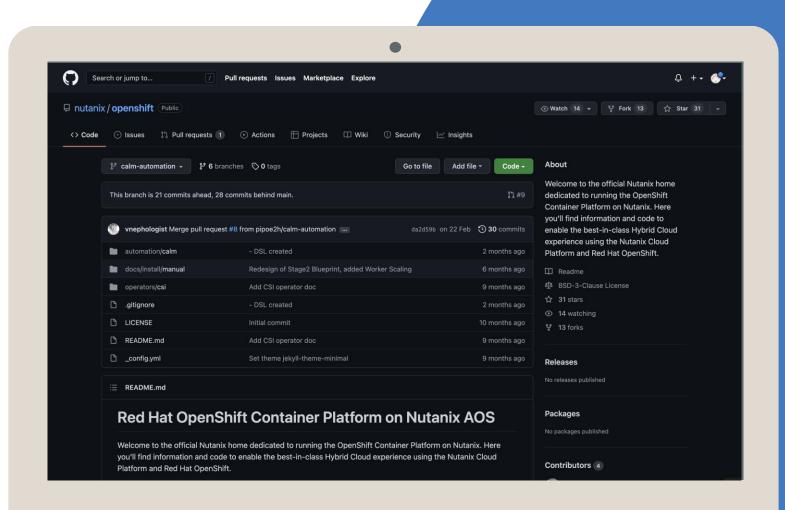
### Accelerates app development

- Easily meet developers' needs for IT resources and services

Red Hat OpenShift Container Platforr		III 🌲 4 🗢 🤗 kube;admin 🗸	
<ul> <li>Administrator</li> <li>Home</li> <li>Operators</li> </ul>		ix CSI Operator ×	
	Latest version		
	2.4.1	Overview	
	Capability level	The Nutanix CSI Operator for Kubernetes packages, deploys, manages, upgrades the Nutanix CSI Driver on Kubernetes and OpenShift for dynamic provisioning of persistent volumes on Nutanix Enterprise Cloud platform.	
	Full Lifecycle	The Nutanix Container Storage Interface (CSI) Driver for Kubernetes leverages Nutanix Volumes and Nutanix Files to provide scalable and persistent storage for stateful applications.	
	Auto Pilot	With the Nutanix CSI Provider you can:	
	Source	Provide persistent storage to your containers	
	> Certified	<ul> <li>Leverage PVC ressources to consume dynamically Nutanix storage</li> </ul>	
	> Provider > Nutanix	<ul> <li>With Files storage classes, applications on multiple pods can access the same the benefit of multi-pod read and write access.</li> </ul>	ervices

=	Platform Services -							0 🛛 ?
	OPENSHIFT Enterprise Kubernetes Build, Deploy and Manage containerized apps		s	R Annone ·	Paget AllPagets + Pods Trim + See + Sectioners. Rev 1 News, i Sete 1	Countral		
				turn Operation > Noticeh =	and the second	54 e electrone 54 e electrone per sec	300, 014 AM	
	> Marketplace						P Search mathematics	Q Filters
	Preferred Partners							
	OpenShift by Nutaria eL7.2	Application	Palo Alto Networks by Nutaria vit 20	Application	HYCU Data Protecti by Nutaria v4.00	Appleation on for Nutanix		
	Red Hat <sup>4</sup> OpenShift <sup>6</sup> is an enterprise-ready Kubernetes container platform with full-stack automated operations to manage hybrid cloud, multic		A VM-Series, virtual next-generation firewall, deployment biveprint for Nutanix Caim allows for simple, repeatable, and automated deployment		HYCU Data Protection for Nataolix is the industry's first and only purpose-built beckup and incovery software for Nataoix, HYCU combines size			
	Runs on Nutanix	Get	Runs on Nutanix	Get	Ruta on Nutanix	Get		
	Nutanix Applications							
	Files by Mutania v2.2.0	Application	Era by Nataria v20.0	Application	Karbon by Nutaria v2.0.0	Application	Objects by Nutanax v2.0.0	Application
	Simple, Revible, intelligent enterprise file storage for the cloud era.		Era is a database as a service (DBaaS) that automates and simplifies database administration, bringing one click simplicity and invisible op		Karbon empowers you to deliver and manage an end-to-end, production-ready Kubornetes onwronment with push-button simplicity while preservin.		Nutarix Objects' (Objects) is a software defined Object Store Service. This service is designed with an Amazon Web Services Simple Storage S	
	Rumi un Nutanix	Get	Rum on Nutania	Get	Runs on Nutanik	Get	Rum on Nutanix	Get
	Calm SaaS	Application	Flow Security Central by Notania	Application	Frame by Nutaria	Approation	Beam by Nuttenic	Application
	Calm is a multi-bound application management framework delivered by Nutaria		Flow Security Central (FSC) is a SeaS profit helps cloud-locused organizations to gain com		Run full Desktops an Applications in you	r browser.	Multi-cloud cost governance to optimize private clouds	spending across public and
	Rues on	Get	Runs on	Get	Ruts on	Get	Runs on	Get





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