Simplifying Kubernetes Management

Nutanix Kubernetes Platform (NKP) for Cisco Hyperconverged with Nutanix



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Overview

Nutanix Kubernetes Platform (NKP) for Cisco Compute Hyperconverged with Nutanix provides automation tools, integrated data services, and unified management capabilities on a proven, highly secure hyperconverged infrastructure foundation.

Nutanix Kubernetes Platform (NKP) for Cisco Compute Hyperconverged with Nutanix provides the capabilities and governance that enterprises need to keep Kubernetes environments running smoothly, backed by joint validation and support from two industry leaders. With automated upgrades, streamlined scaling, and integrated monitoring, organizations can reduce operational overhead and maintain performance across diverse environments.

Whether running on-premises, across multiple public clouds, or at the edge, NKP delivers a consistent operational model that simplifies workload portability and ensures seamless Kubernetes management anywhere your applications live.

Proven compute infrastructure through a powerful partnership

Cisco UCS® delivers the performance, security, and reliability enterprises need for business-critical infrastructure and, in this solution, is seamlessly integrated with Nutanix as part of a 360-degree collaboration. Organizations that adopt these solutions from Cisco and Nutanix benefit from pretested architectures and joint support that reduce risk and accelerate time to value.

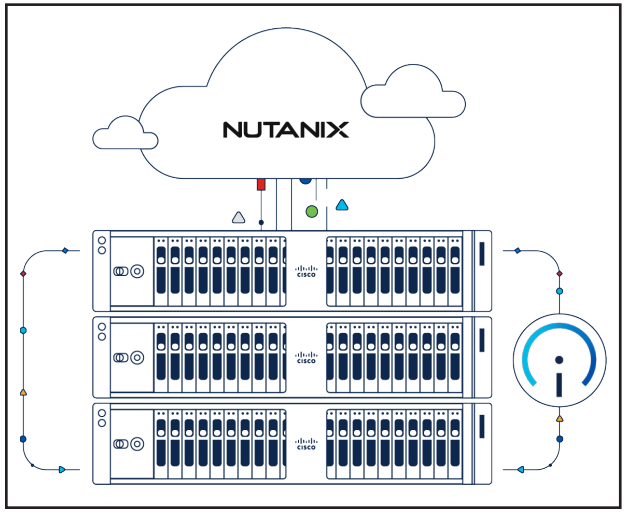


Figure 1. Cisco Compute Hyperconverged with Nutanix

An integrated solution for enterprise-scale Kubernetes challenges

69% of organizations run Kubernetes across multiple clouds or environments.[1]

Complex Kubernetes management across diverse environments risks becoming cumbersome– compromising the agility and scalability that containerization promises to provide. Without the right management tools, Kubernetes deployments can become a strain on IT resources through:

- Complex, manual lifecycle management workflows that waste developers' time managing Kubernetes clusters.
- Disjointed, siloed operations for VMs and containerized workloads.
- Challenges managing persistent storage for stateful applications, sometimes driving a need for additional data-storage vendors.
- Additional operational overhead for extending Kubernetes to edge deployments.

[1] Statistics sourced from: https://thenewstack.io/the-2023-state-of-kubernetes-in-production/

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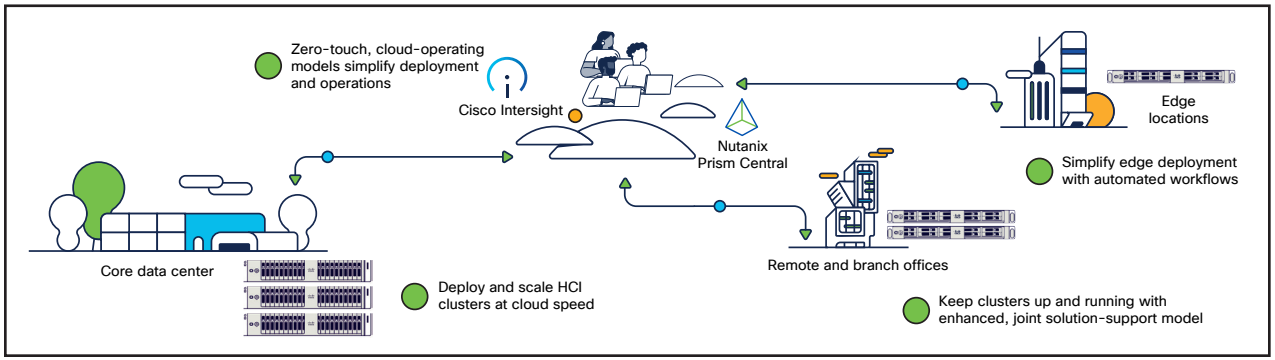


Figure 2. Simplified operations with Cisco Intersight and Nutanix Prism Central

How it works

The joint solution from Cisco and Nutanix leverages Cisco Intersight® for deploying and managing physical infrastructure, while Nutanix Prism Central oversees the hyperconverged environment. Through deep API integration, Cisco and Nutanix provide a seamless, unified cloud-operations model.

Cisco Intersight and Nutanix Prism Central work together "out of the box," giving IT teams access to a unified Intersight dashboard to monitor Cisco HCI solutions running Nutanix software from multiple Prism Central applications.

Learn more about Cisco Compute Hyperconverged with Nutanix

The first release integration (incorporating Nutanix Prism Central 2024.3 or later) supports each Prism Central instance with 25 registered clusters, 200 hosts, and up to 5000 alarms. It supports all Cisco HCI hardware, including:

- **Cisco UCS M6 servers:** Featuring third-generation Intel® Xeon® Scalable Processors in a Cisco UCS rack server.
- **Cisco UCS M7 servers and nodes:** Featuring fourth- and fifth-generation Intel Xeon Scalable Processors in both Cisco UCS rack server and Cisco UCS X-Series modular systems.

Cisco UCS provides unmatched hardware flexibility, allowing businesses to repurpose existing rack servers into Nutanix clusters without needing new hardware. Its unique software-driven approach enables in-field reprogramming, maximizing IT investments while supporting seamless transitions to Nutanix HCI.

Storage and data resilience

Over 60% of containerized applications now require persistent storage, making enterprise-grade data services essential for Kubernetes environments.

NKP on Cisco leverages Nutanix Data Services for Kubernetes (NDK) to support stateful workloads with confidence. NDK provides application-aware backup, disaster recovery, and migration, helping enterprises protect their most critical workloads while maintaining high availability across hybrid- and multicloud architectures.

Integrated security and governance for Kubernetes

NKP on Cisco offers built-in enterprise security features, including Role-Based Access Control (RBAC), secrets management, and policy enforcement. With consistent governance across on-premises data centers, public clouds, and edge sites, organizations can maintain a

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unified security posture while simplifying audit readiness and reducing operational risk. NKP also provides robust multitenancy support, allowing multiple teams to securely share infrastructure while maintaining strict resource isolation and governance across environments.

A unified platform for modern workloads

NKP delivers enhanced Kubernetes management capabilities as part of Nutanix Cloud Infrastructure (NCI) on Cisco, which offers a unified platform to run both VMs and containers side by side, all managed through a single control plane.

Enterprise-ready management tools

NKP automates deployment, scaling, upgrades, and security for Kubernetes clusters, reducing the operational burden of managing containerized applications at scale. With pure, upstream Kubernetes and no forks, organizations avoid lock-in while gaining enterprise-grade operational control.

Beyond deployment, NKP streamlines Day 2 operations with integrated monitoring, automated lifecycle management, and consistent policy enforcement across clusters. Integrated Nutanix storage and networking services ensure seamless support for both stateful and stateless workloads, helping enterprises manage Kubernetes with confidence from initial rollout through ongoing operations.

NKP also supports a rich ecosystem of developer tools, including popular CI/CD pipelines and GitOps workflows, enabling teams to build, deploy, and manage applications with greater speed and consistency.

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Leading use cases for NKP on Cisco

- **Hybrid-cloud deployments:** Manage Kubernetes clusters across on-premises infrastructure and public clouds while maintaining consistent operations.
- **Edge computing:** Extend containerized applications to the edge to support latency-sensitive workloads, including analytics and lightweight inference models.

49% of organizations are actively piloting or using Kubernetes at the edge, with AI as a key driver.

- **Workload consolidation:** Run VMs and Kubernetes workloads side by side without managing separate infrastructure silos.

86% of enterprises running both VMs and containers want to unify them on a single infrastructure platform.

For more information

Learn more about how Nutanix and Cisco simplify hybrid multicloud management.

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Why Cisco + Nutanix for Kubernetes

- Pre-validated designs and streamlined deployment processes.
- Unified support and operational consistency across environments.
- A growing, trusted partnership focused on delivering practical, future-ready solutions.

NKP is now available on Cisco Compute Hyperconverged with Nutanix, with flexible deployment options to meet organizations wherever they are on their cloud-native journey.

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