NKP Design

Product Code: CNS-CLDN-A-WRK-DSGN

At-a-Glance

Stage: Design

The Nutanix Kubernetes Platform (NKP) Design provides Cloud Native teams with expert-led, hands-on guidance to design a scalable, high-performing Kubernetes solution using Nutanix technologies. This engagement delivers tailored NKP architecture aligned with business and technical goals, incorporating recommended practices for performance, scalability, and flexibility. It also ensures seamless integration with existing infrastructure and prepares teams for Day 2 operations. Ideal for the Design phase of a hybrid multicloud journey, the engagement lays a strong foundation for long-term success.

Related Services

- NKP Deployment
- Infrastructure Design
- NUS Design

Service Scope

Our highly skilled consultants—experts in Kubernetes architecture and operations—lead collaborative design sessions to define solution requirements and desired outcomes. These sessions engage key customer stakeholders across architecture, virtualization, security, and DevOps to ensure alignment and clarity. Following the design sessions, the consultant delivers a comprehensive Design Document and Configuration Workbook, detailing the conceptual, logical, and physical design of the Kubernetes environment. The resulting design is reusable across multiple environments, including development, testing, and production, enabling consistent, scalable deployments.

Essential Edition

For customers who want to deploy NKP on an on-premises Nutanix Cloud Infrastructure (NCI) or Nutanix Cloud Clusters (NC2) cluster.

The Essential Edition includes the following activities:

- Gather and document solution requirements, constraints, assumptions, dependencies, risks, mitigations, and decisions in the design session
  - Review containerized workload use case system resource requirements with customer application owners
  - Assess NKP Control Plane, Workers, and infrastructure nodes quantity and capacity requirements based on solution sizing
- Develop NKP architecture, including Cluster API (CAPI) provisioning method, interoperability, security, and scalability for future growth
- Identify integration required for the customer-supplied identity provider (IdP) used for cluster-based authentication

- Identify virtual networking for NKP nodes (east-west / north-south)
  - Plan communications for NKP Control Plane and Workers
- Identify virtual storage for NKP nodes and containerized workload design
- Plan default container storage interface (CSI) integration-based solution for NKP
- Identify an NKP image registry solution as needed
- Plan SSL certificate strategy
- Develop a validation plan

Advanced Edition

The Advanced Edition is for customers who want to deploy NKP on a supported cloud or on-premises infrastructure provider, including NKP Platform Applications.

The Advanced Edition includes the following activities:

- Everything in the Essential Edition
- Identify an NKP Compute base machine template, as needed
- Review Graphics Processing Unit (GPU)-targeted containerized workload use cases and assess NKP Worker node pools, quantity, and capacity requirements based on solution sizing, as needed
- Design an NKP backup strategy using the default provided NKP backup solution

Enterprise Edition

The Enterprise Edition is for customers who want to deploy NKP on a supported cloud or on-premises infrastructure provider. It includes NKP Platform Applications and multicluster management capabilities.

The Enterprise Edition includes the following activities:

- Everything in the Advanced Edition
- Design NKP multitenancy model, including role-based access control (RBAC) policy
- Review containerized workload use cases and assess NKP Worker node pools, quantity, and capacity requirements for the NKP management cluster and managed workload clusters based on solution sizing
- Document observability design elements for centralized monitoring and logging as they pertain to the designed multitenancy model

Site Design Topology

Single Site

- Each edition supports a single site topology design in a single physical site.

Project Management

Nutanix Project Management (PM) oversees Nutanix resources and aligns execution with your goals, scope, and timelines.

Core project management activities may include the following:

- Serve as a single point of contact for all project communication
- End-to-end Nutanix resource management

- Coordinate change window(s) and implementation schedules with customer
- Track and facilitate readiness and prerequisite completion
- Conduct project kickoff/technical readiness meeting(s)
- Integrate customer resources into the high-level project timeline
- Send status update(s)
- Manage timeline(s)
- Deliver created artifacts to the customer
- Facilitate project closeout activities

Limitations

- Excludes continuous integration (CI) design of containerized workloads
- Excludes CAPI infrastructure provisioner design
- Selected CAPI provisioner must support the hardware platform where NKP will be deployed
- Excludes Nutanix Data Services for Kubernetes (NDK)
- Excludes considerations that would require customization or enhancement of the existing Nutanix products' capabilities

Essential Edition

- For each quantity purchased, design is limited to a single on-premises NCI or NC2 Cluster in a single physical site or cloud region
- Containerized workload system requirements review limited to up to 3 applications
- Excludes continuous delivery design of containerized workloads
- Cluster API provisioning method limited to the Nutanix infrastructure

Advanced Edition

- For each quantity purchased, design is limited to a single provider type and up to 2 physical sites or cloud regions

  Note: For more than a single provider type or 2 locations/sites, a custom statement of work (SOW) is required

- Containerized workload system requirements review limited to up to 5 applications
- Excludes continuous delivery design of containerized workloads
- NKP Compute base machine template design limited to a single template
- GPU workload-related design limited to a single node pool

Enterprise Edition

- For each quantity purchased, design is limited to up to 2 locations/sites and 2 supported providers

  Note: For more than 2 locations/sites or provider types, a custom SOW is required

- Containerized workload system requirements review limited to up to 8 applications

- NKP Compute base machine template design limited to a single template per provider type
- GPU workload-related design limited to a single node pool per provider type
- NKP multitenancy model design limited to a single NKP managed environment (1 NKP management cluster)
- Additional provider location/site and cluster design limited to up to 1 NKP workload cluster per provider
- NKP multitenancy design limited to up to 1 NKP workspace and 2 NKP projects
- RBAC design limited to up to 3 default NKP RBAC personas and via the NKP user interface (UI)
- Excludes continuous delivery design of containerized workloads outside of default NKP-supported methods

Supported On-premises Providers

- Nutanix Cloud Infrastructure (NCI)

Advanced and Enterprise Edition

- Pre-provisioned Bare Metal
- VMware vSphere

Supported Public Cloud Providers

- Nutanix Cloud Clusters (NC2)

Advanced and Enterprise Edition

- Amazon AWS
- Microsoft Azure
- Google Cloud Platform

Enterprise Edition

- Amazon Elastic Kubernetes Service (EKS)
- Microsoft Azure Kubernetes Services (AKS)

Project Management

- Excludes scheduling customer resources and activities
- Excludes detailed project plan (schedule) development and management
- Excludes responsibility for creating, managing, or delivering change management communications

Prerequisites

- Targeted containerized workload use cases have been identified
- Customer-provided Infrastructure, Storage, and Networking Design Document

Required Product Licenses

Essential Edition

- Nutanix Kubernetes Platform Starter

Advanced Edition

- Nutanix Kubernetes Platform Pro

Enterprise Edition

- Nutanix Kubernetes Platform Ultimate

Delivered Artifacts

Delivered Artifacts will be provided in English only. Delivery in additional languages must be mutually agreed upon in writing by both parties in advance and may be subject to additional fees.

Delivered Artifact	Description
Configuration Workbook	Captures all required configuration settings and decisions gathered during the design session to support accurate and consistent solution deployment.
Design Document	Captures the customer's solution architecture based on design session outcomes, detailing both high-level and low-level designs. It documents requirements, constraints, assumptions, and risks, and provides clear rationale for design decisions to ensure the solution meets performance, availability, scalability, and other critical objectives.

Level of Effort

Essential	Advanced	Enterprise
Typically up to 3 days	Typically up to 4 days	Typically up to 5 days

Delivery Type

Delivery Type	Delivery Activities
Virtual	• Virtual design session • Virtual documentation • Virtual project management Note: Any in-person project management activities provided solely at Nutanix's discretion

Related Products

- Nutanix Kubernetes Platform (NKP)
- Nutanix Cloud Infrastructure (NCI)

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- Nutanix Cloud Clusters (NC2)
- Nutanix Unified Storage (NUS)
- Nutanix Database Services (NDB)

Terms and Conditions

This document contains the entire scope of the service offer. Anything not explicitly included above is out of scope. This service offer is subject to the Nutanix Services General Terms and Conditions that can be viewed at https://www.nutanix.com/support-services/consulting-services/terms-and-conditions

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