Nutanix Kubernetes Platform
https://squasta.github.io
Updated: 7th of September 2024

- Documentation
- Download NKP
- Licences & Pricing
  - SKU
    - NKP Starter
      - NKP on Nutanix Infrastructure only
      - Bundled with NCI Pro & Ultimate
    - NKP Pro
      - Enterprise ready stack
      - NKP on different infrastructure provider
      - Priced by vCPU
    - NKP Ultimate
      - Fleet Management
      - Life cycle management of applications through FluxCD
      - Priced by vCPU
- NKP Management tools
  - UI
  - NKP CLI
- Automation
  - GitOps Workflows (Continuous Deployment)
    - FluxCD
  - Package manager
    - Helm
      - Chart Museum
  - Applications
    - Catalog applications
    - Custom Applications
    - Partner Applications
  - Reloader
    - Automatically triggers updates on the dependent applications
- Security
  - Centralized Authentication System
    - DEX
      - GitHub
      - LDAP
      - OpenID Connect
  - RBAC
    - Admin Role
    - Kubernetes
    - NKP RBAC
  - TLS certificate management and issuance
    - Cert Manager
  - FIPS 140-2 compliance
  - Air-gapped deployment
    - For dark sites
- Troubleshooting
  - NKP insights
  - Intelligent copilot
    - AI Navigator
- Operations
  - Cost Management
    - Kubecost
      - AI navigator
  - Governance
    - Open Policy Agent
      - Gatekeeper
  - Observability
    - Metrics
      - Prometheus
    - Logs
      - Fluentbit
      - Grafana Loki
    - AI Assistant
    - Dashboards
      - Grafana Dashboard
    - Tracing
      - Jaeger
      - Kiali
- Network
  - For the Nutanix provider only
    - CNI
      - Calico
      - Cilium
  - Load Balancer
    - Metal LB
  - Ingress Gateway
    - Traeffik
  - Service Mesh
    - Istio
  - DNS
    - CoreDNS
- Integrated data services
  - Files, Objects & Block Storage
  - Nutanix Database Service (NDB)
  - Nutanix Data Services for Kubernetes (NDK)
- Storage
  - Backup
    - Velero
    - Rook Ceph
  - CSI Drivers
- Supported Operating System
  - Managed OS
    - Rocky Linux
  - Bring Your Own
- Resources organisation
  - Global
    - Workspace
      - A logical grouping of clusters that maintain a similar configuration
      - Projects
        - Applications
        - Deployments
        - Role Bindings
        - Roles
        - ConfigMaps
        - Secrets
        - Quotas and Limit Ranges
        - Network Policies
- Architecture
  - Environment types
    - Single Cluster
    - Multicluster
  - Cluster types
    - Management Cluster
      - Is the cluster where you install NKP
      - Self-managed
    - Managed Cluster(s) (aka NKP Clusters)
      - NKP
        - Provisionning Via Cluster API
          - On Nutanix
          - On VMWare
          - On AWS
          - On Azure
          - On GCP
      - Amazon EKS
      - Microsoft AKS
    - Attached
      - Any Conformant Kubernetes distribution
      - Google GKE
- Main components
  - Konvoy
    - Cluster life cycle manager
      - Relies on
        - Cluster Application Programming Interface (API)
          - Concepts and terms
        - Calico
        - Other open source components
  - Kommander
    - Fleet management
      - Observability
      - Control
      - Governance
      - Operational insights
  - Konvoy Image Builder (KIB)
    - Creates Cluster API-compliant machine images
      - Relies on
        - Ansible
        - Packer
        - Goss
- What is it ?
  - A new solution in Nutanix Portfolio
    - Following acquisition of D2IQ (formerly Mesosphere)
      - An old story with Kubernetes
  - A consolidated orchestration and management environment by simplifying Kubernetes management & deployment
    - A Complete Production-Ready Platform
    - Multi-cloud fleet management
    - Best-of-breed automation services that reduce complexity and establish consistency & standardization
    - Remove Cloud Native Complexity to Speed Innovation Across the Enterprise
  - Built on pure upstream CNCF-conformant Kubernetes
  - Hybrid multicloud solution
  - Easily overcome Day-2 operational barriers
    - Security
    - Observability
    - Backup and restaure
    - Governance
    - Reliability
    - Upgradeability
  - For platform engineers