

# VMware on VKS on VMware vSphere Foundation - Proof of Concept



This service is designed to assist with the initial proof of concept and review of a VKS on a VMware vSphere Foundations deployment, configuration of VKS and assess possible environment enhancements by integrating VKS. The following license models qualify for this service:

## VMware vSphere Foundation (VVF)

- o VMware vSphere
- o vCenter
- o VCF Operations
- o VCF for Logs
- o vSAN
- o VKS

## Project Scope

The goal of the engagement is to deploy a VKS on VVF proof of concept environment, per the Customer's requirements and Architect's design, and assist with troubleshooting and best practices to showcase how it would work for their environment. Services will be performed over a 4 - 6 concurrent week period. All services will be performed remotely.

To maximize the session, it is important that the Customer has their configuration requirements documented, and remote access prepared prior to the scheduled session. Configuration requirements will be completed via remote access on the existing on-prem infrastructure as-is by the Architect assigned to the project. There will be little to no change, except as needed to install/configure VKS on vSphere in a PoC environment, to the existing infrastructure in order to meet the Customer's requirements.

This engagement is organized as follows:

- Phase 0: Preplanning
- Phase 1: Initiate
- Phase 2: Plan·Phase 3: Execute
  - o Task 1: Deploy
  - o Task 2: Initiate
  - o Task 3: Review
- Phase 4: Close

### Preplanning

The customer will work to ensure that they have current infrastructure compute, storage, networking and licensing required to setup a VKS for vSphere proof of concept environment to run on Customer onprem hardware.

- Customer provides access to a functional vCenter environment.
- Customer provides necessary network and storage resources.
- Customer provides sample application or workload for use as a standard demo app.
- Customer provides access to GitHub/GitLab or equivalent Git repository.
  - o Customer agrees to a simplified GitOps demonstration workflow.
- Customer provides sample application code or agrees to use a standard demo app.
- Customer agrees to use open-source or Tanzu-supported pipeline tools (Jenkins, Tekton, Tanzu Build Service).

After initiation of the project, the Customer will receive an email requesting the following information:

1. Scheduling: Open times for remote session schedule
2. Remote Access: Description of Remote Access for the Consultant to access their environment
3. Stakeholders: Who the Customer would like the Sr Consultant to work with on a day-to-day basis
4. Regulations and Controls: Description of relevant regulations and controls that affect the environment - software development lifecycle, administrative, HIPAA, regulatory, security and audit controls, etc.
5. Configuration Requirements: Confirmation that the below has been made available
  - a. A minimum VMware VVF standard install for a 3+ node environment prior to start of project.
  - b. Networking has been configured with 3 subnets x.x.x.x/24 and DHCP enabled
  - c. Ability to create certificates (SSL for HTTPS)
  - d. 3 available compute nodes with min 128GB RAM and 2 NICs each
  - e. ~1 TB of storage space
  - f. Ability to make firewall changes specific to the VKS nodes

The engineer will remote in during the scheduled time and complete the following tasks:

1. Initiate: Perform Customer environment interview to confirm current infrastructure configurations and prepare the VKS for vSphere plan
2. Plan: Gather deployment information
3. Validate customer test app requirements
4. Execute: Deploy VKS for vSphere
  - a. This will encompass the initial provisioning of networking, certificate management, load balancing, data storage, and other essential infrastructure elements.
5. Initiate PoC deployment
  - a. Deploy TKG management and workload cluster(s) on vCenter
  - b. Validate networking and storage integration with vSphere
  - c. Demonstrate workload deployment (sample app or containerized service)
  - d. Provide high-level documentation of setup and lessons learned for future deployment
6. Introduce Customer to GitOps
  - a. Overview session on GitOps concepts and benefits
  - b. Configure Git repository for cluster/application manifests
  - c. Deploy ArgoCD or Flux to manage workloads
  - d. Demonstrate change management via Git commit → cluster sync
  - e. Provide a sample GitOps workflow guide
7. Introduce Customer to CI/CD pipeline
  - a. Intro session on CI/CD concepts in a Tanzu environment
  - b. Set up pipeline using GitHub/GitLab, Tekton, or Tanzu Build Service
  - c. Build and containerize a consultant-provided sample application to demonstrate process
  - d. Demonstrate automate deployment into a Tanzu Kubernetes cluster
  - e. Provide example pipeline YAML/scripts and documentation
8. Close: Review install, lessons learned, and review proposed improvements to business use case with Customer

Services are limited to the following configuration assumptions:

- The service is designed to cover 1 vCenter cluster, 3 VKS clusters, and 1 customer app with best effort (there may be redevelopment required for some apps, depending on current application architecture)
- This service is designed for corporate customers completing a greenfield deployment at a single site.
- If configuration is more complex (i.e., stretched cluster or multi-instance designs) or requires additional functionality (additional clusters and/or domains), a custom Scope of Work can be developed to meet the Customer's needs.