Bridge the AI/ML Divide Between Data Science and IT Infrastructure

DKube and VMware Private AI

Our Partnership

DKube and VMware Private AI complement each other and help organizations manage their AI/ML model and modern workloads.

Learn More

About DKube

DKube on VMware Marketplace

About VMware Private AI

VMware Tanzu Overview

One of the key challenges of commercializing artificial intelligence and machine learning (AI/ML) projects is that IT and data science teams often operate in separate environments with very little synergy. As a result, AI/ML projects tend to incur high costs and rarely make it into commercial production. Now, with DKube Machine Learning Operations (MLOps) Platform on VMware Private AI, the divide between teams can be closed.

DKube is a Kubeflow based enterprise grade end-to-end MLOps platform that enables data scientists to develop, tune, deploy and monitor complex models. DKube consists of several Kubernetes services including DKube Controller, Data Versioning, Logging & Monitoring, Authentication and Model Monitoring to enable the definition, execution and tracking of ML workloads.

All of this functionality is integrated into a flexible, UI-based workflow that is intuitive enough to allow team members across an organization - from data to production engineers - to collaborate on common AI/ML projects within hours of starting the installation. Given the open source foundations of Kubeflow and MLflow, customers have access to the top-of-the-line services at much lower costs than other MLOps products in the industry.
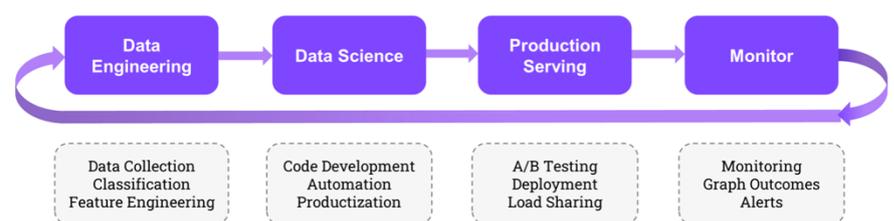

Figure 1: DKube end-to-end MLOps workflow

VMware Private AI helps organizations realize value from their generative AI initiatives faster while maintaining the privacy and control you expect for your sensitive data, whether it resides in a data center, public cloud, or at the edge. The VMware Private AI Reference Architecture combines our proven VMware Cloud Foundation infrastructure with best-in-class technologies and frameworks from NVIDIA and other leading vendors, as well as open-source projects.

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About VMware Tanzu

VMware Tanzu enables customers' software supply chain to be more secure - all the way from app development to having their apps running in production. Moreover, the portfolio offers a cohesive developer experience across any Kubernetes to speed application development and delivery cycles.
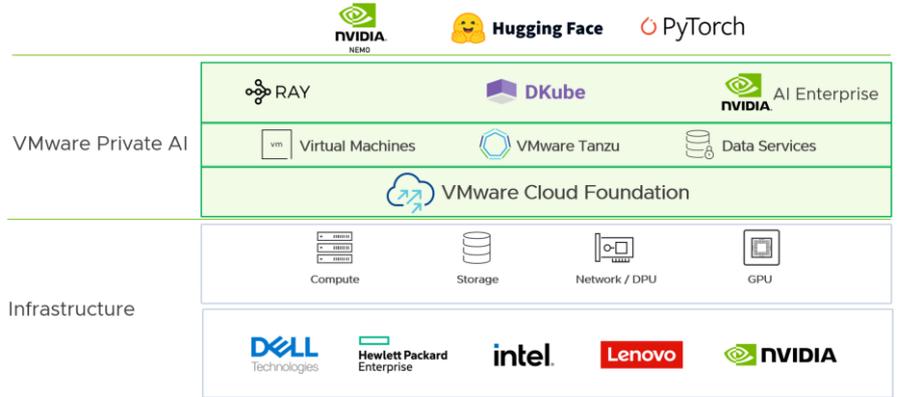

Figure 2: VMware Private AI Reference Architecture

With VMware Private AI, get the flexibility to run a range of AI solutions for your environment. Deploy with confidence, and achieve great performance in your model with vSphere and VMware Cloud Foundation's GPU integrations.

Benefits of DKube on VMware Private AI

With DKube MLOps Platform and VMware Private AI, data scientists and IT teams can easily advance AI/ML projects from the research stage to commercial adoption and deployment. DKube is optimized to run on either private or multi-cloud environments, making it a perfect complement for VMware Private AI, which offers companies a simple and consistent interface for Kubernetes workloads in any public cloud or private on-premises infrastructure.

The partnership between VMware and DKube substantially amplifies the advantages extended to customers in the MLOps space. By combining the power of VMware's best-in-class Private AI virtualization platform with DKube's advanced capabilities, customers can accelerate their MLOps initiatives, reduce costs, and improve their time-to-market.

DKube is part of VMware's Partner Program, and the solution has been fully validated and supported by the partner.
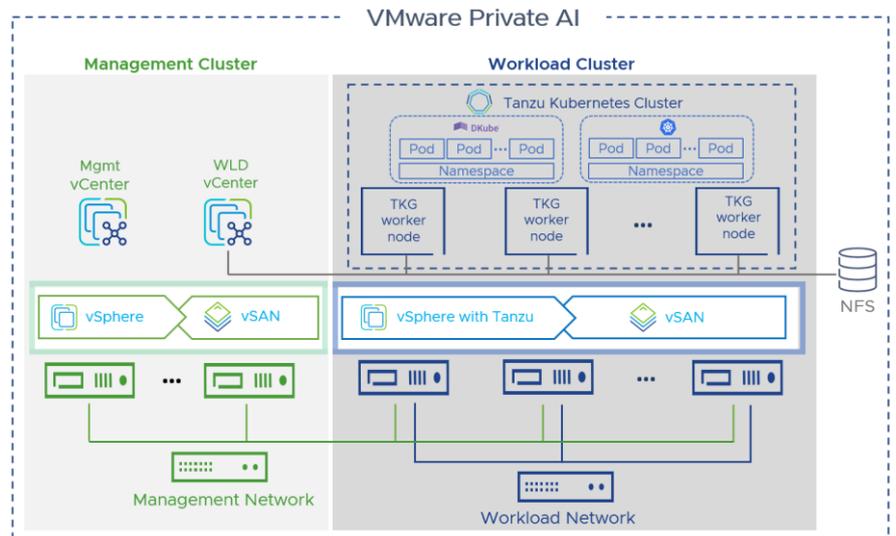

Figure 3: VMware Private AI & DKube

DKube in Action

DKube on VMware Private AI is beneficial across use cases that require complex modeling, such as pharmaceutical, federal/defense contracting, and manufacturing.

Efficient Installation

By combining DKube and Tanzu, teams can off-load the difficult, time-consuming task of integrating the hardware or infrastructure of a private or public cloud with authentication, storage, and data sources to DKube's Helm-based installation and post-install scripts. With proper planning, DKube can be operational on your Tanzu Kubernetes cluster on the same day of installation.

Cloud Flexibility

Because it runs on top of Kubernetes, DKube works with the same look, feel, workflow, and reliability on any cloud-based platform including private cloud. Therefore, your work can be quickly and easily migrated back and forth as necessary.

Automated AI/ML Model Lifecycle Management

One of the key innovations in the industry for AI/ML product development has been the concept of Kubeflow pipelines, which are built into DKube's MLOps platform and automate the lifecycle management of Kubernetes-based AI/ML models. Kubeflow pipelines can run nearly anywhere Kubernetes can run, giving Tanzu and DKube customers a highly flexible and malleable platform for their AI/ML model lifecycle management.

Efficient Installation	Cloud Flexibility	Automated Management

Use cases

DKube on top of VMware Private AI is beneficial across a variety of industries that require complex modeling, including life sciences for early disease detection, pharmaceutical drug development, federal and defense contracting for manufacturing, and more.

Pharmaceutical

- Ingest, pre-process, transform and train with multi-model datasets
- Quarantine dataset as needed
- Full audit trail of changes to datasets and training models including all versions
- Provide traceability & governance according to the local/regional regulations

Federal/Defense Contracting

- Bring the dynamic ecosystem of Kubeflow community with DKube to your federal/defense AI projects

- On-prem optimized for federal/defense needs, while allowing cloud options should you need one
- From satellite imaging for agriculture or forest management, aerial surveillance for national security, or climate research

Manufacturing

- From automated mining, farming, construction equipment, or quality inspections Kubeflow based MLOps is now available
- On-prem optimized, while allowing cloud options should you need one
- Run inference and training on the same cluster if you wish for maximum utilization

Pharmaceutical   Federal/Defense Contracting   Manufacturing

Summary

DKube on VMware Private AI enables customers to save time with an efficient Helm-based installation, leverage cloud flexibility and automate the lifecycle management of Kubernetes-based AI/ML models. Help your IT and data science teams collaborate via best-in-class model operations and infrastructure management with DKube and VMware Private AI.

How to get started

For information on using DKube and VMware Private AI, contact the DKube team by emailing info@dkube.io.

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