



---

# Commercial Kubeflow Support on Azure

## D2iQ Kaptain

---

Technical  
Preview



## The Leading Independent Kubernetes Platform



# D2iQ Cloud-Native Capabilities



# Why so many organizations fail on their ML investments

## Inconsistency

- Data scientists use a wide variety of tools (components, versions, or implementation patterns) costing significant time and money
- Separate engineering teams within an organization build bespoke one-off systems
- No reliable, uniform, and reproducible pipelines

## Decentralized

- No standard or centralized place to store the results of training experiments
- No easy way to compare one experiment to another
- Teams often are forced to create custom containers specific to the project at hand

## Production Readiness

- No established path to deploy model to production
- Existing system cannot grow with the business
- Model training often limited by capacity of data scientists' desktop
- ML capabilities are often limited to a few data scientists and engineers



## Automated

Deploy + Operate

Any Infrastructure

Air-Gap Support

GPU Ready



## Integrated

Best of Breed Open Source  
Components

Enterprise Grade  
Production Ready

Add Missing Components  
(Spark + Horovod)

Integrated Quickstart  
Notebooks



## Secure

End-to-End Security

Single-Sign-On

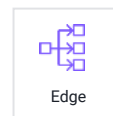
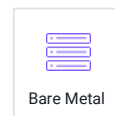
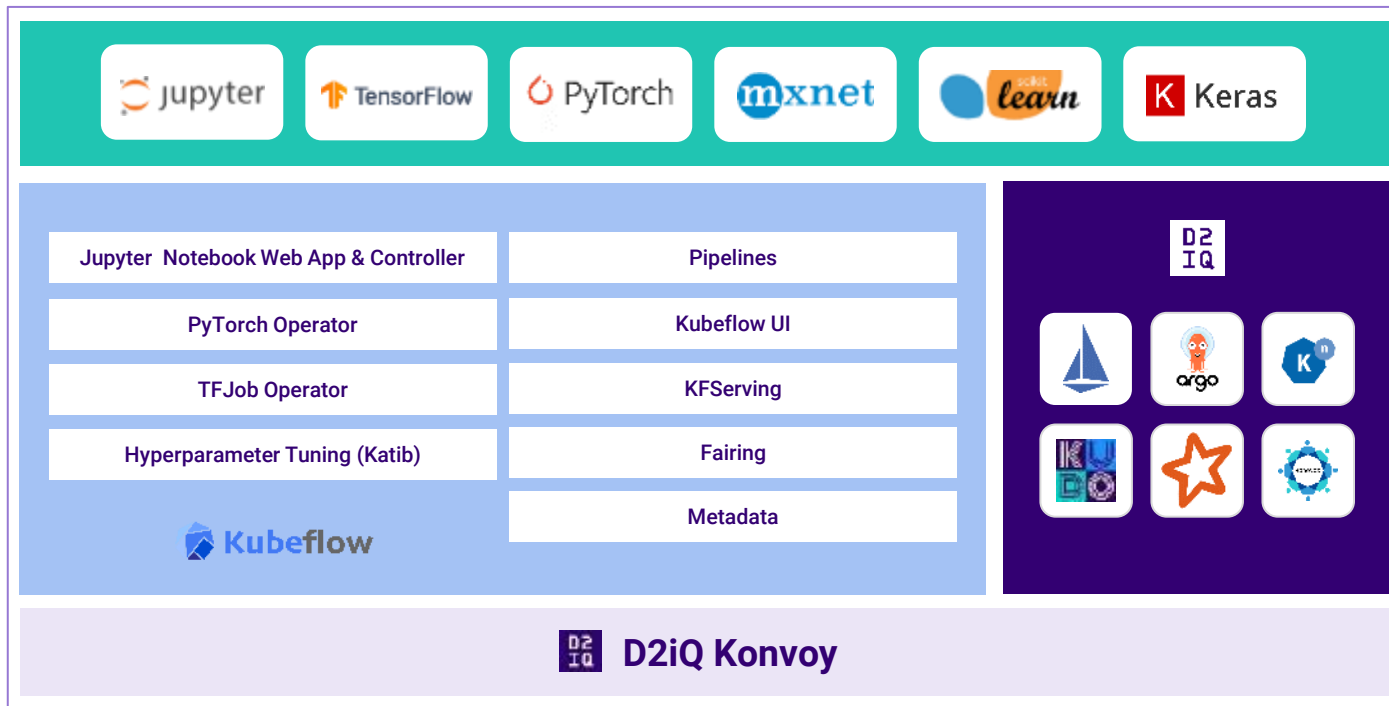
Multi-Tenancy



# Kaptain Platform Features

- KUDO for lifecycle management
- Air-gapped installation and workloads support
- Supports Istio 1.6.8 and Kubernetes 1.17
- Dedicated ingress gateway with Dex integration
- Resource and workloads monitoring
- Garbage collection of dangling resources
- Resilience testing

# Architecture of the Kaptain Platform



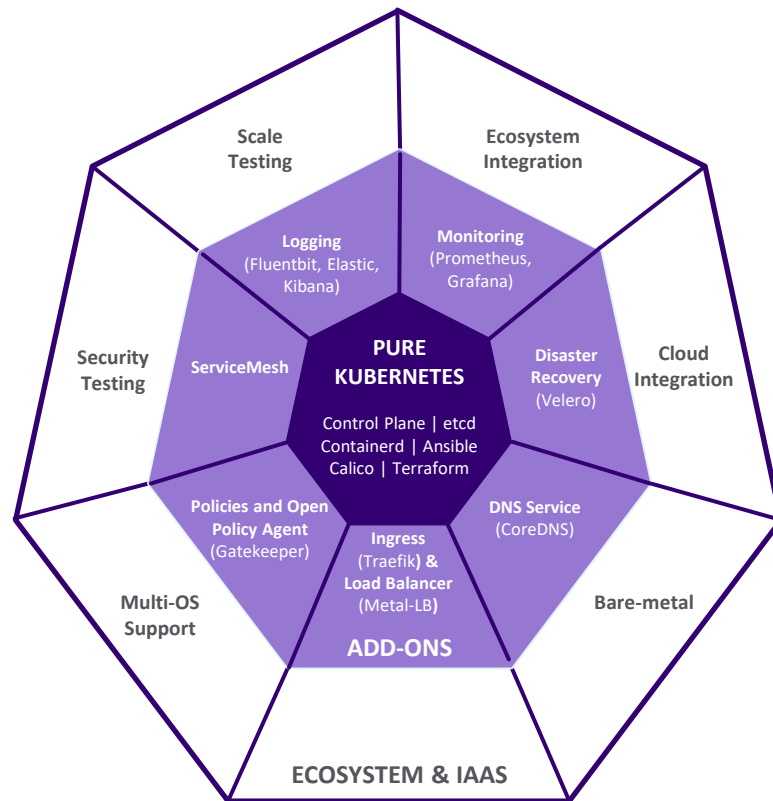
# Kaptain

Only on D2iQ Konvoy



## D2iQ Konvoy - Production Grade Kubernetes

- Enterprise Grade
- Ready for Day 2 Operations
- Open Source Upstream Components
- Any Infrastructure





# D2iQ Konvoy - A Complete Cloud Native Distribution

Infrastructure Automation



Terraform



ANSIBLE

Kubernetes



kubernetes



containerd

kubeadm

Core Add-Ons



PROJECT CALICO



traefik



HELM



CSI



dex



CoreDNS



VELERO

Deploy, Monitor,  
Log



Prometheus



kibana



Grafana



elastic



fluentbit

*Swappable Components*

---

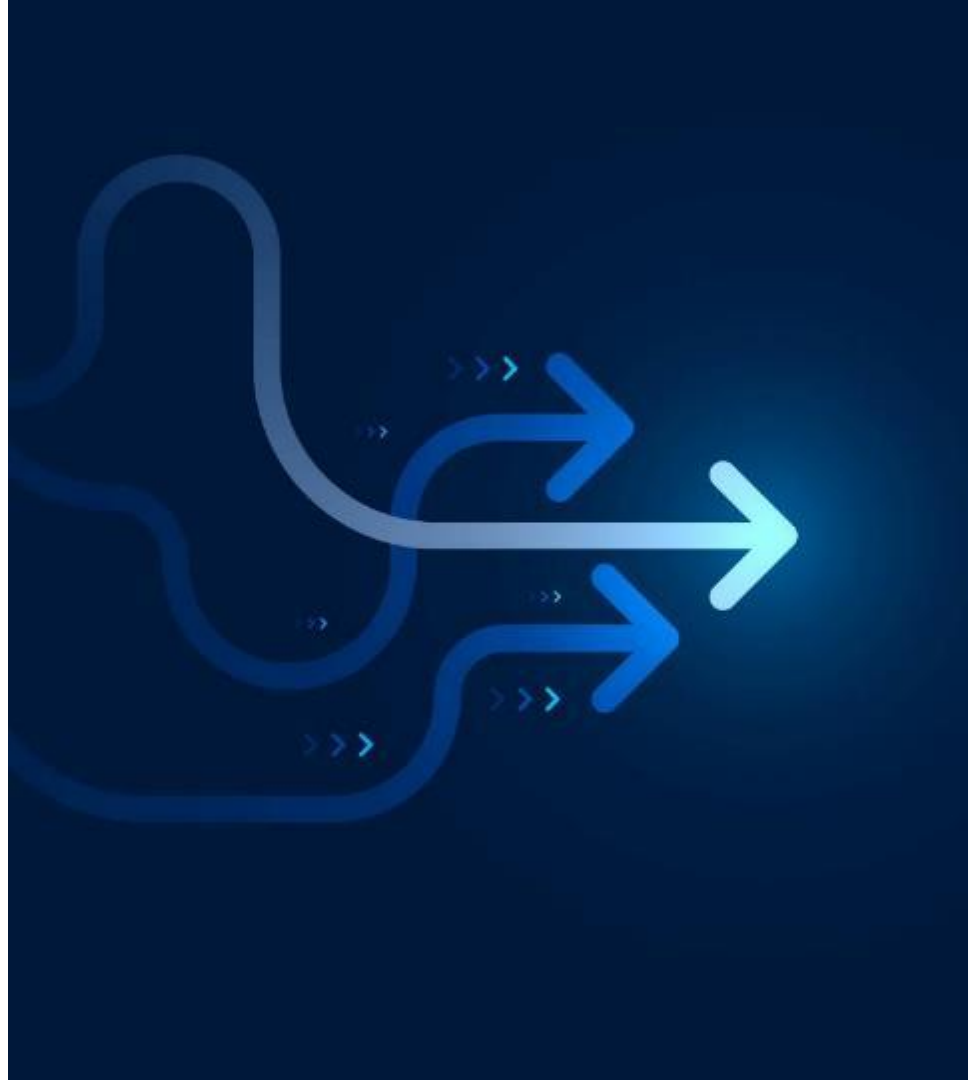
## Zero-to-Enterprise Ready in 3 Commands

---

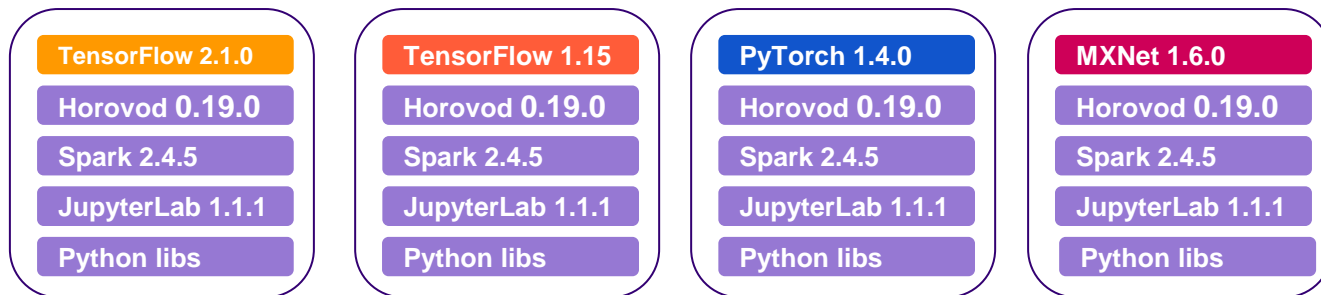
```
$ konvoy up
```

```
$ kubectl kudo init
```

```
$ kubectl kudo  
install kubeflow
```



# Accelerate Model Development with Pre-built Quickstart Docker images



**Pre-built, Integrated Docker images | Support for distributed use cases | CPU and GPU Variants**

---

# Secure out of the box

---

## Leveraging D2iQ Konvoy

- Automated Security for Kubernetes best practices
- Single Sign-on, Authentication and Authorization policies
- Service Mesh features with Istio
- Multi-tenancy with namespaces
- **End to End security across all Kubeflow components!**

### Hackers Cryptojack Microsoft Azure ML Clusters



Jessica Lyons Hardcastle | Managing Editor

37 minutes ago

Show this article:



### Microsoft discovers cryptomining gang hijacking ML-focused Kubernetes clusters

Attacks targeted Kubeflow servers that left their administration panel exposed on the internet.

# Why D2iQ Kaptain?



Time to Value

## Lower the bar to entry

- No need to be expert in K8s for executing Kubeflow ML workflows
- Seamless deployment
- Pre-baked Notebook images with different flavors of ML libraries
- Out-of-the-box integration of Spark and Horovod for dynamic distributed training

## Accelerate to production

- Fully tested and supported for integration and scale
- Out-of-the-box GPU-enabled notebooks
- Single pane of glass management and monitoring of resources (on-prem and cloud)
- Seamless execution of Kubeflow pipeline across on-prem and Azure

## Maintain security posture

- End-to-end security controls to meet multi-tenancy



---

**Let's work together**

---

Your Partner in the Cloud Native Journey