A D2IQ KUBERNETES PLATFORM USE CASE: HYBRID AND MULTI-CLOUD KUBERNETES ARCHITECTURE

Hybrid and Multi-cloud
Powered by Kubernetes

Challenges
With a goal of maximizing flexibility and minimizing lock-in, IT teams are designing architectures that can span on-premises, private cloud, and multiple public cloud (AKA “hybrid and multi-cloud”) environments. The native capabilities of Kubernetes provide great baseline capabilities. However, Kubernetes management both within and across clouds and on-premises environments has the following challenges:

Code Modifications
On-premises and public cloud Kubernetes ecosystems typically differ. As a result, code modifications are often required to adapt to the ecosystem.

Clunky management
Each environment typically has its own distinct Kubernetes controls. These inconsistencies make management across a hybrid or multi-cloud environment clunky at best.

Limited mobility
Diverse ecosystems and management tools combine to restrict application and container consistency across platforms. As a result, mobility is limited.

On-Premises or Private Cloud
D2IQ gives you everything you need to run production Kubernetes in hybrid and multi-cloud environments – both the right technology and the right expertise to implement that technology. D2IQ’s purpose-built automation provides fast implementation with flexible configuration in place of time-consuming customization.

The diagram depicts a hybrid and multi-cloud Kubernetes implementation that spans on-premises and public cloud environments. A single management cluster supports multiple clusters across on-premises and multi-cloud environments.
D2iQ Kommander was architected to be infrastructure-agnostic. Kommander manages both infrastructure and applications across hybrid and multi-cloud environments. It does so by abstracting differences among environments and automating management processes.

Kommander federates workloads and projects into a logical whole. So, the local Kubernetes cluster can be federated across multiple Amazon Web Services clusters. Alternatively, clusters could also be federated across a great number of supported public clouds. Kommander also works with any Kubernetes distribution (AWS, EKS, D2iQ, and more) without requiring modifications to the distribution.

By providing a consistent management approach across federated Kubernetes clusters / workspaces, D2iQ provides workload portability, workload mobility, and efficient, automated management. These capabilities enforce a consistent approach across complex hybrid and multi-cloud environments.

Outcomes

Hybrid multi-cloud Kubernetes with D2iQ helps government agency and business IT teams create unparalleled successful outcomes.

- **Development Speed**: Consistent development and operations environment increases speed of development.
- **Efficient Management**: A single automated management overlay maximizes efficiency across the environment.
- **High Mobility**: Workloads can be migrated seamlessly among clouds and on-premises environments.