— SOLUTION OVERVIEW

KubeForge: Centralized Cluster Mangement

Context

Modern enterprise environments increasingly rely on Kubernetes based platforms to orchestrate containerized workloads at scale. Kubernetes provides powerful automation capabilities that streamline application delivery, deployment, and reliability. These capabilities are managed and organized as units of compute, network, and storage that comprise Kubernetes clusters. Each cluster can be deployed across multiple environments, cloud providers, and mission systems. As organizations mature and scale, clusters are added to support dynamic operational requirements such as onboarding new systems, creating new environments, and supporting new workstreams.

The Problem

As the number of clusters grows, organizations face significant operational challenges related to visibility, consistency, security, costs, and lifecycle management. Traditional approaches to cluster management typically involve manual processes and disparate resource definitions that are inefficient and difficult to govern, resulting in:

- Limited centralized visibility into cluster health and inventory
- Inconsistent policy enforcement and configuration drift
- Increased operational overhead for upgrades and maintenance
- Difficulty maintaining compliance across distributed environments
- Slower response to security findings and operational issues
- Unpredictable costs and limited cost control options

The Solution

KubeForge addresses these challenges by providing a centralized capability for cluster inventory, policy management, operational visibility, and lifecycle coordination across distributed environments. Built on open-source cloud-native technologies including Backstage and Crossplane, the solution emphasizes flexibility, interoperability, and long-term sustainability while reducing dependency on proprietary management platforms. The platform enables scalable cluster operations, improve governance, and support evolving mission needs across cloud and hybrid environments.

Differentiation

- **DoW Ecosystem Optimization:** Purpose-built to integrate natively with DoW operational patterns, Platform One tooling, and Big Bang environments.
- **Zero Vendor Lock-In:** Built strictly on an open-source core with zero proprietary dependencies.
- **Extensible Architecture:** CCM leverages open-source frameworks and APIs to enable flexible integration with mission systems, CI/CD pipelines, identity providers, and operational tooling without dependence on proprietary platform constructs.

Your mission is our commitment

Contact us at build@bridgephase.com to inquire about working together.