D2iQ Dispatch

GitNative CI/CD for Enterprise-Grade GitOps

Overview

While leveraging Kubernetes within an organization, developers require simple capabilities for deploying new code fast into development, testing, and production environments. The choice of a Continuous Integration/ Continuous Deployment (CI/CD) tool is a main focus in ensuring developer agility and productivity. However, the tools that developers are using for developing, testing, and deploying their applications are often rooted in technologies that were designed for a pre-cloud native era. The applications they're building require a flexible and scalable infrastructure CI/CD platform to meet increasing demands that support multiple projects without centralized teams causing bottlenecks. In addition, significant configuration of the build system is stored in the legacy build system itself and not in a centralized location dedicated for storing code/ configuration - like a Git repository, making it difficult for organizations to port or migrate applications.

Introducing Dispatch

Dispatch is a pre-packaged GitNative CI/CD platform that leverages Kubernetes' native services to enhance build and deployment capabilities. By design, Dispatch is a stateless GitOps service for ecosystem integration that is modular and helps implement best-in-class, cloud native services.

Dispatch reduces the overhead required for developing and deploying code pipelines by providing scalability and control over cost. In addition, Dispatch facilitates a portable pipeline configuration to enable moving pipelines to other Kubernetes clusters or Dispatch installations.

With Dispatch, developers and operators can build, deploy, and manage the application lifecycle using industry best practices and modern GitOps processes. Because Dispatch is designed to enable a clear separation of responsibilities between developers and operators, developers can publish, and operators can deploy in sync.

Developer Empowerment

Dispatch users can leverage multiple domain specific languages (DSL) to build a declarative pipeline, reduce onboarding time and enhance developer experience with multiple declarative languages, such as CUE (json-like), Starlark (python-like), JSON, or YAML. The flexible DSL with multiple options makes it easier for developers to create abstractions and build pipeline so they can spend more time writing code thereby accelerating feature development and rapidly deploying time to value. Dispatch provides different strategies for deploying applications such as Blue/Green, A/B or Canary.

Key Benefits

### Embrace True Cloud Native CI/CD GitOps Processes

Store build system configurations in Git so you can migrate to a new build cluster with ease and confidence.

Minimize Onboarding and Ramp Up Time

Choose from multiple pipeline languages, such as CUE, Starlark, JSON, and YAML, so you can develop pipelines with powerful programming constructs, without having to slow down or learn another language.

Gain Greater Flexibility Across Cloud Native Architectures

Leverage the best open source and CNCF projects, such as Tekton and Argo, to build and deploy applications without the risk of vendor lock-in.
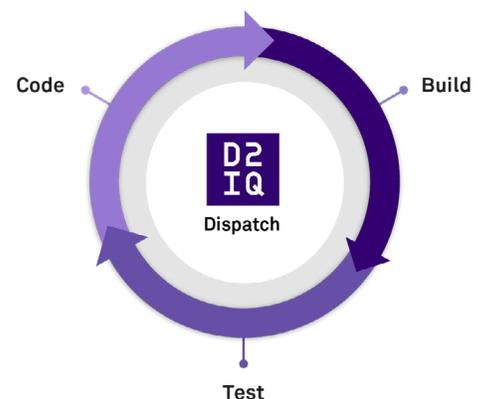
Operational Freedom

Dispatch delivers capabilities to ensure a simplified and consistent CI/CD environment and operational experience, while also delivering the programmatic integration power that developers require across application services. This capability can empower a wide variety of target deployments, such as developer workstation, on-prem, multi-cloud 3rd party Kubernetes infrastructure, or even Jenkins. Developers and DevOps engineers can seamlessly integrate their underlying Kubernetes features into their build and deploy processes. Dispatch enables a GitOps derived architecture to govern the operational state. Dispatch also ensures operational readiness of applications and secure deployments through leading version control and Git practices.
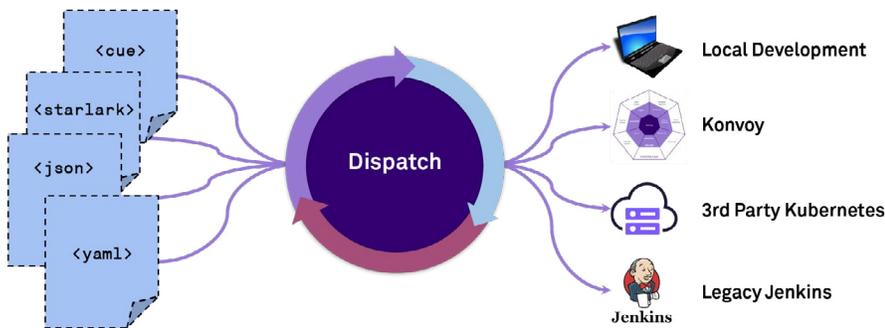
Cloud Native Foundation

Built on a cloud-native foundation, Dispatch enables a best-of-breed CI/CD DevOps toolchain to deploy state-of-the-art solutions and orchestrate software lifecycle management. Dispatch provides a solid foundation and rich Git focused features for the developer and Site Reliability Engineer (SRE) or operator. As the industry continues to mature, Dispatch is future proofed so organizations can protect their investments, take advantage of evolving technologies, and have unlimited choices to improve their specific platform use.
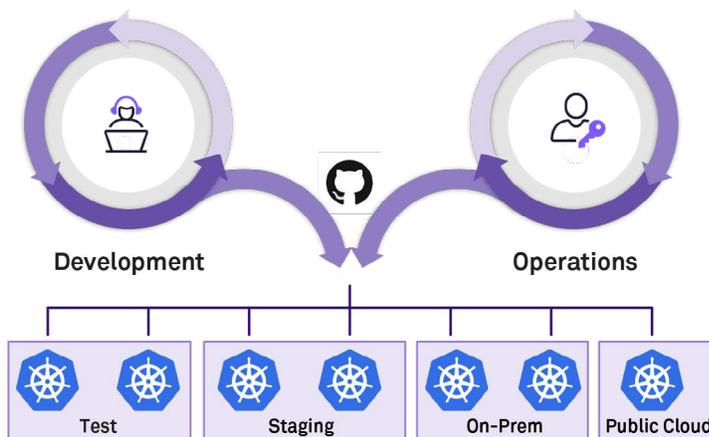
Distributed Computing Is In Our DNA

The founders of D2iQ are some of the earliest innovative minds in the world of sophisticated distributed computing environments. Their innovations are a driving factor in the success of the largest application deployments in the world.

This experience and insight into the complexities of managing and operating expansive cloud native services at massive scale are foundational to the development of D2iQ's technologies. By applying this unique experience to the world of Kubernetes, D2iQ ensures that your organization is able to swiftly move towards a successful Day 2 outcome.

GitNative

Dispatch enables GitNative — a design principle method for developers to leverage application workflow — to program a Git repository that simplifies working with tools like Prow, tags etc. With Dispatch, developers can leverage CI with GitNative tools so that an operator's CD workflow is enabled for a GitOps derived architecture.

Meeting Organizational Requirements

One of the core factors in the success of Kubernetes is the flexibility and speed by which it empowers development teams to rapidly deliver software at significant scale. Dispatch provides a simple installation, secrets management, Role Based Access Control (RBAC), and scalability that is natively available to Dispatch users when used with D2iQ's Konvoy. RBAC capabilities can empower division of labor across developers and operator roles, to ensure the greatest management flexibility for specific organizational needs. By leveraging Dispatch's Kubernetes controllers, developers can manage the CI portion by utilizing Git repository webhooks for build and development activities. Additionally, when used with Konvoy, facilities such as log, metrics visualization and reporting dashboards are natively provided to the Dispatch user for enhanced troubleshooting and productivity. D2iQ also offers full stack support for these Dispatch and Konvoy components.

Enable Developers to Manage Their Own Pipelines

Enhance productivity by enabling developers to independently manage their pipeline, without central teams slowing them down. With multiple choices for pipeline configuration, development teams can create pipelines with powerful programming constructs and deploy applications to various environments with multiple rollout strategies to ensure zero downtime.

Empower DevOps With Modern GitOps Processes

Empower developers and operators to rapidly build, deploy, and manage the application lifecycle using modern GitOps processes. Dispatch is designed to enable a clear separation of responsibilities between developers and operators, so that developers can publish independently without being slowed down, and operators can deploy in harmony.

Provide Enterprise Architects With Best Practices

Provide recommendations to teams on best practices or set center of excellence guidelines, so they can efficiently leverage Kubernetes integrations for Day 2 operational needs. Architects can maintain compliance by leveraging a GitOps methodology that provides a historical view of holistic changes to code, infrastructure, and deployments. This provides development teams with easy auditing and repeatable deployments, thereby saving valuable deployment time and resources.

Driving Day 2 Success With D2iQ

The Leading Independent Kubernetes Platform

As you move swiftly to adopt new Kubernetes based applications and cloud native services, needs will arise for simplifying ongoing operations and ensuring organization control over an expanding Kubernetes footprint. Dispatch is designed from the ground up to help organizations rein-in wasted resources, deliver organization-wide governance over CI/CD, and empower developers and operators within the organization for tremendous control and flexibility. D2iQ offers enterprise-grade support for our complete Kubernetes stack from CI/CD tools like Tekton and Argo to bundled tools for logging and monitoring.

Whether you're in need of a guided, opinionated distribution that reduces time to market from months to days, management or operation of your production deployment, or someone to pick up the phone in the middle of the night, D2iQ can deliver a complete spectrum of technology solutions and services to enable an enterprise Kubernetes experience that is ready to meet Day 2 operational expectations.

Features and Benefits

Features	Benefits
Multiple Choices for Pipeline Configuration	Choose from CUE (JSON-like), Starlark (Python-like), JSON, or YAML to configure build pipelines. The ability to leverage a high level language that developers are most comfortable with, makes Dispatch much easier to use than other Tekton based CI/CD platforms using procedural YAML.
GitOps-Based Application Build and Development	Store both pipeline configuration and application deployment configuration in a Git repository. Dispatch enables governance of operational state through Git repositories, providing secure separation of developers and operators, as well as enabling easy auditing and repeatable deployments.
Cloud Native Components	Leverage CNCF projects, such as Tekton and Argo, that natively take advantage of Kubernetes' built in facilities, such as compute, network, storage, and security.
Multi-Tenancy for Build Pipelines	Enable different developer teams to run their pipelines in separate Kubernetes namespaces for secure separation and governance.
Centralized Monitoring, Logging and Alerting	Konvoy integration enables central monitoring and alerting of issues arising within operational and application infrastructure, as well deep cross-cluster logging for easier troubleshooting. As issues are detected, they can be resolved before they escalate, thereby saving valuable time.

D2 IQ

To learn more about about how D2iQ can be your partner in the cloud native journey, go to **www.D2iQ.com**.