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Enabling Cloud Native DevOps with Diamanti Enterprise Kubernetes Platform

Digital transformation is well underway in the enterprise, primarily driven by the runaway success of the Everything-As-A-Service economy. It is transformational because it requires changes across the three foundational aspects of enterprise IT: people, process and technology. In this journey, DevOps has emerged as the new practice of automating processes between software development and IT teams and Kubernetes has become the ubiquitous platform of choice for deploying applications.

The new era of cloud native DevOps brings various new tools and best practices to boost the application development flow making it fully automated, self-service capable and API-driven, giving independence to both the developer and the operator. With cloud native DevOps, developers can deliver applications and updates to end users at a much faster pace, without worrying about the underlying infrastructure.
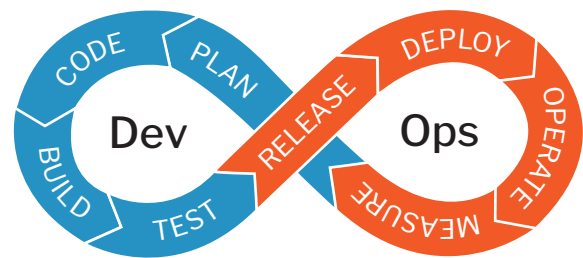

FIGURE 1: DevOps: Development + Operations Lifecycle

Cloud native DevOps encompasses the following tenets:

- Microservices architecture enables teams to work in a lean and agile fashion
- Loosely coupled systems tied together with automation provide faster time to market
- Elasticity, scalability and resilience offer on-demand expansion
- Containerization makes applications portable and reusable
- Self-service capabilities and API driven CI/CD give flexibility to developers

Diamanti is
Kubernetes certified

Scalable and Highly Performant CI/CD with Diamanti

The Diamanti Enterprise Kubernetes Platform provides enterprises with turnkey operational infrastructure using standard virtualization protocols for storage and networking alongside open-source CNI and CSI plug-ins.

Figure 2 shows the building blocks of a full stack cloud native CI/CD environment on the Diamanti Enterprise Kubernetes Platform. The Diamanti platform includes low-latency and high-performance NVMe flash storage, 40 GbE networking, and open-source Docker and Kubernetes pre-installed. Cloud native CI/CD environments and other container workloads can be deployed in minutes after racking and stacking the Diamanti cluster, where each pod is assigned a routable IP address due to Diamanti's innovative approach to network virtualization for containers.
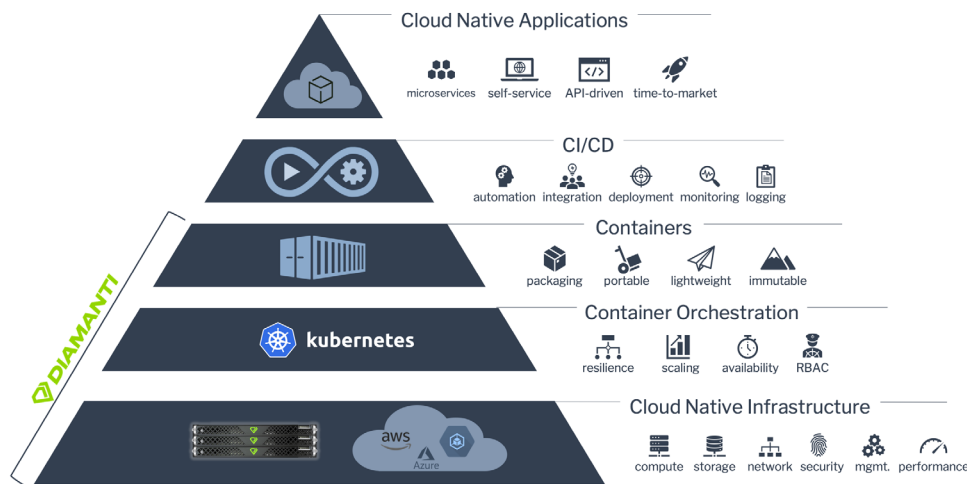

FIGURE 2: Building Blocks of Full Stack Cloud Native CI/CD Environment on Diamanti

Figure 3 shows an example cloud native CI/CD environment running on the Diamanti Enterprise Kubernetes Platform. Diamanti offers scalable and highly performant CI/CD on bare-metal Kubernetes infrastructure. The power of containers, Kubernetes, data volume abstraction and Diamanti's unique quality-of-service guarantees enable the solution to easily scale on demand and provide unparalleled operational uptime and efficiencies across resource allocation and usage. The Diamanti platform offers the ability to backup and replicate data for high availability, disaster recovery (DR) and seamlessly move CI/CD environments across a hybrid cloud environment.
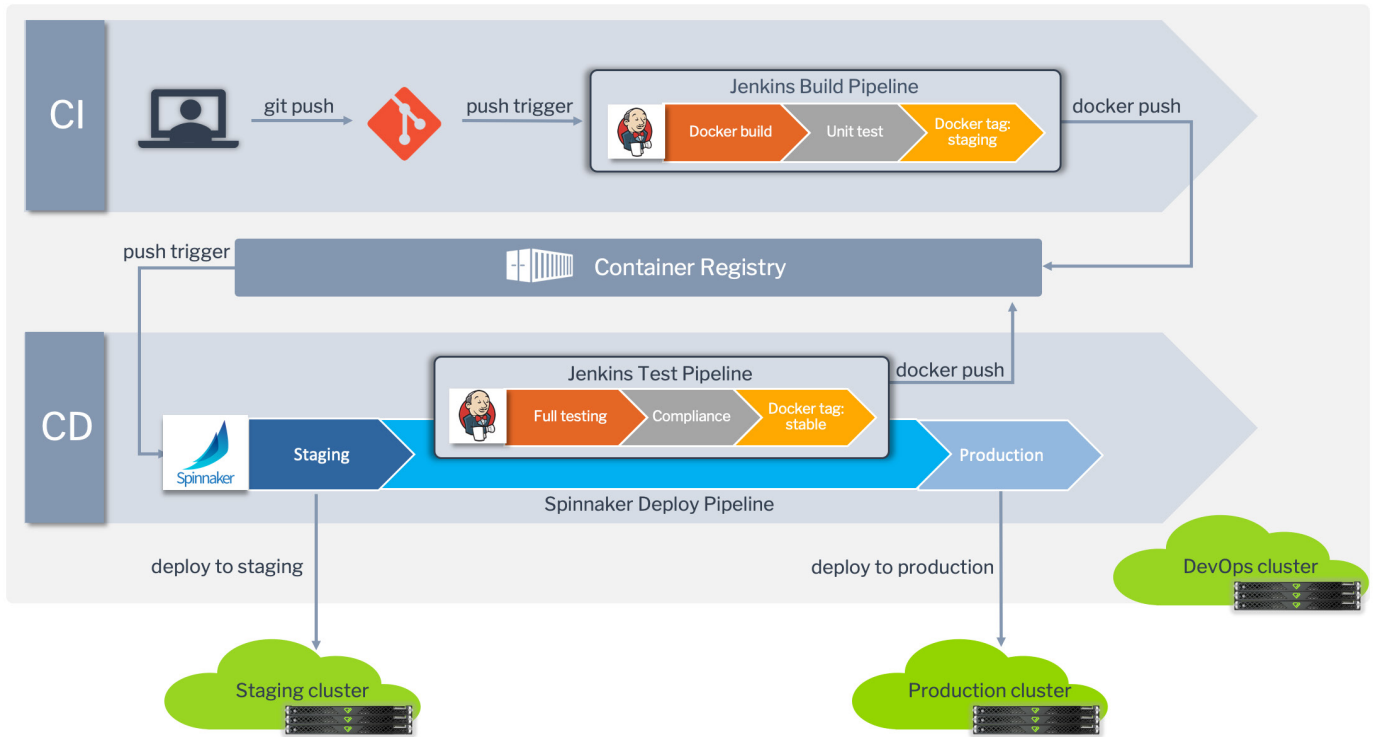
FIGURE 3: Cloud Native CI/CD Environment Running on the Diamanti Enterprise Kubernetes Platform

Implementation of multi-zone clusters on the Diamanti platform allows a Kubernetes cluster to distribute nodes across different zones, ensuring application and infrastructure availability. Diamanti simplifies multi-zone cluster configuration and management with built-in features to protect applications from failures. Diamanti offers the lowest total cost of ownership and CI/CD environments run at least 30% faster on the Diamanti Enterprise Kubernetes Platform.

Conclusion

Existing monolithic infrastructure and platforms are not well equipped to cater to an enterprise's digital transformation requirements. DevOps and Kubernetes have together become the foundation to enable the digital transformation of an enterprise. With the microservices architecture, a cloud native DevOps environment accelerates application delivery, provides on-demand scaling, and allows for seamless application portability and reuse. The Diamanti Enterprise Kubernetes Platform offers a fully integrated turnkey solution to implement cloud native DevOps at scale with the lowest total cost of ownership.

ABOUT DIAMANTI

Diamanti delivers the industry's only purpose-built, fully integrated Kubernetes platform, spanning on-premises and public cloud environments. We give infrastructure architects, IT operations, and application owners the performance, simplicity, security, and enterprise features they need to get cloud-native applications to market fast. Diamanti provides the lowest total cost of ownership to enterprise customers for their most demanding applications. Based in San Jose, California, Diamanti is backed by venture investors CRV, DFJ, Goldman Sachs, GSR Ventures, Northgate Capital, and Translink Capital.

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