Diamanti advances Kubernetes platform with new funding and technology

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By Liam Rogers, Christian Perry

Hyperconverged Kubernetes infrastructure provider Diamanti has raised new funding and expanded its hardware and software to support hybrid cloud deployments and machine learning use cases. Additions include the ability to add GPUs to its D20 product and a new hybrid cloud control plane.

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Introduction

Diamanti, a vendor of hyperconverged infrastructure (HCI) for Kubernetes-based applications, has secured a new round of funding to fuel its growth, and has announced new capabilities for its hardware and software. Additions include the ability to add GPUs to its D20 product to support machine learning (ML) workloads, and a new hybrid cloud control plane called Spektra. Additionally, the company recently released version 2.3 of the D20 platform, with updated support for Kubernetes 1.15 and enhancements to storage and networking functionality.

451 TAKE

Diamanti differentiates itself with an HCI platform purpose-built for bare-metal containers and Kubernetes that makes use of PCIe cards to boost performance by offloading storage and network virtualization. The company is working to expand the functionality of the platform with Spektra, in order to integrate more with public clouds and target a wider range of use cases, providing its customers with valuable hybrid cloud capabilities. Considering that the Diamanti platform is architected to maximize the efficiency of containers without impairing any of the strengths (like application mobility), having a path to cloud is a natural extension. There could be opportunity to leverage the software-only version in the public cloud for new customers as a go-to-market strategy, to drive customers toward the on-premises product, but for now Diamanti intends to continue to build on the strengths of its appliance and offer Spektra as a value-add to existing customers.

Context

The San Jose-based Kubernetes infrastructure platform vendor was founded in 2014. In October 2018, the company appointed a new CEO, Tom Barton, in addition to several other new hires to the management team. In November 2019, Diamanti closed a $35m series C round. Investors included ClearSky, Goldman Sachs, Threshold Ventures, Northgate Capital, GSR Ventures and CRV. This brings total funding to $80m. Diamanti intends to use this funding to expand its go-to-market and engineering efforts.

In our Voice of the Enterprise: DevOps, H2 2019 survey, we found that 36% of organizations have adopted Kubernetes and another 18% are in the proof-of-concept phase. Additionally, of those with Kubernetes in use, one-third expect to standardize on Kubernetes within the next two years. Additionally, in our Voice of the Enterprise: Servers & Converged Infrastructure, Budgets and Outlook 2019 survey, 36% of current HCI users indicate that they are leveraging HCI to support emerging technologies such as containers. We can expect that the number of HCI deployments supporting containers will increase as general HCI adoption increases and the platforms become part of a hybrid cloud strategy for more customers.

Product

Diamanti's keystone is its D20 platform, a 1U x86-based bare-metal HCI platform for Kubernetes. The D20 also uses two added PCIe cards to offload storage and network virtualization. Recently, Diamanti released software version 2.3, which adds support of Kubernetes 1.15 along with the latest version of the Container Storage Interface (CSI) and its capabilities.

To respond to growing adoption of hybrid cloud and interest from its own customer base, Diamanti has developed a hybrid cloud control plane for Kubernetes. The D20 platform already had the ability to leverage public cloud object storage. Spektra will allow customers to easily manage and migrate containerized applications and data volumes between clusters on on-premises private clouds (such as the Diamanti D20) or public clouds – namely AWS, Azure and GCP – in turn allowing organizations to place applications and data at the appropriate execution venue based on application requirements. In our Voice of the Enterprise: Storage, Workloads and Key Projects 2019 survey, the top three factors influencing execution venue choice included cost, security and application performance. However, in the context of public cloud, the ability to access services unique to a cloud vendor can also be a driving force.

The Spektra software can be run on-premises or in a hybrid cloud. It can also be leveraged by MSPs to operate multi-tenant environments. Diamanti has been working with a small batch of customers for a tech preview, and general availability of Spektra is expected for the first half of 2020, at which point the functionality will be rolled out to existing customer deployments.

An update to the platform sees the ability to add NVLinked GPUs as an option within the product so that it can support machine learning and artificial intelligence workloads that leverage Kubernetes-based ML framework Kubeflow. Spektra can then be used to manage resources, including GPUs for a given cluster. Customers will be able to choose from a range of options when it comes to GPU density and storage capacity, depending on their needs.

Competition

In the Venn diagram of Kubernetes and HCI, Diamanti will ultimately encounter competition from both spheres. Larger players such as Dell EMC (VxRail), HPE (SimpliVity), Hitachi Vantara (UCP HC), IBM, NetApp (NetApp HCI), Nutanix and VMware (vSAN) all offer HCI products, and some of these vendors have been more progressive than others in attacking the container opportunity. Of those turning more attention to container management and Kubernetes are VMware via Project Pacific and Tanzu, HPE with its Container Platform, NetApp with NKS (which can be used with NetApp HCI) and Nutanix with Karbon. Cisco is also going after the intersection of HCI and containers via its Cisco HyperFlex Application Platform for Kubernetes. Additionally, Red Hat offers an HCI product, as well as an SDS product for containers (OpenShift Container Storage); the vendor has seen success with its OpenShift container platform, although Red Hat does partner with Diamanti for a D20 with an integrated OpenShift platform. As these vendors continue to roll out CSI plug-ins within their storage portfolios, we can expect that their HCI platforms will be targeted more at container data persistence in the future. Many of these HCI vendors also offer customers appliances with GPUs.

There are additional storage vendors that provide platforms for stateful container data persistence, including the likes of DataCore, LINBIT, MayaData, Portworx, Quobyte, StorageOS and Virtuozzo. In 2019 Commvault acquired SDS and container storage player Hedvig to bolster the cloud-native capabilities of its data protection platform. However, aside from DataCore (which offers an HCI product) and LINBIT, these vendors focusing on an SDS approach emphasize non-HCI software-only products, which differs from Diamanti's HCI Kubernetes platform model.

SWOT Analysis

STRENGTHS

Diamanti's platform is purpose-built to support containers and maximize resource efficiency and performance. With Spektra, the platform provides a unified control plane and data plane of a dynamic Kubernetes-based hybrid and multi-cloud environment, while the D20 hardware serves the on-premises functionality.

WEAKNESSES

Diamanti is a relatively small company compared with incumbent storage vendors, which have put increasing emphasis on Kubernetes and cloud-native infrastructure support.

OPPORTUNITIES

As the company rolls out Spektra, it could stand to gain from offering a software-only version of its product as a new path to market and a way to capitalize on interest in hybrid cloud management tools that span both the control plane and data plane.

THREATS

Diamanti must contend with the fact that many organizations are still running containers within VMs, and although the company provides KVM support, customers may be inclined to use existing infrastructure to support VMs.