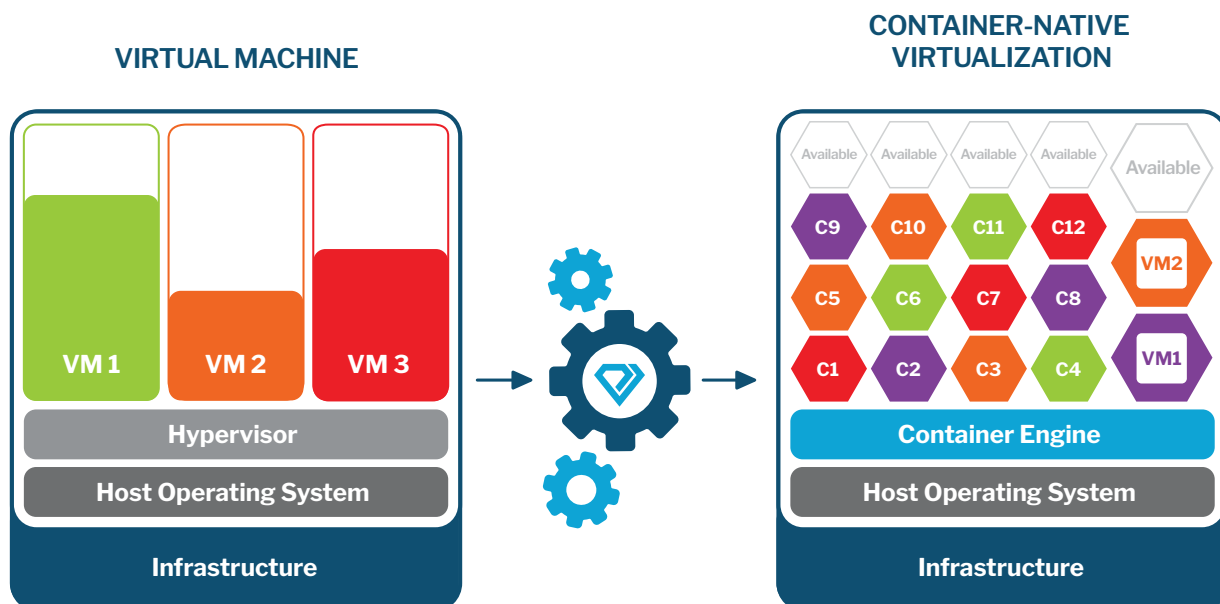


Run Your VMs on Kubernetes

Streamlining IT infrastructures using Kubernetes increases agility and lowers costs

As more organizations look to modernize their legacy IT infrastructures, making the switch to containers is a logical place to start. But it's likely that there will be workloads that cannot be easily containerized.

That's why Diamanti simplifies and streamlines the transition by providing a unifying Kubernetes platform that enables running of VMs and containers side by side, thereby helping enterprises get the cost savings, performance and increased agility that are now possible with today's Kubernetes-based technology. And because VMs won't simply disappear, Diamanti's Ultima platform lets you lift and shift your existing VMs and run them inside containers — giving you the benefits of going cloud native without expensive and time consuming refactoring.



What Containers Do That VMs Can't

Back in the early 2000s, server virtualization via VMs was a real IT breakthrough. Today however, especially compared to containers, the resources required for using VMs to host applications can become cost prohibitive.

Because containers only need to house the application code (not the OS) they are far lighter than VMs, requiring less memory, storage and CPU. Applications run more efficiently. Containers can be spun up and down much more quickly and many more containers can be packed on to a server.



How Much Can You Save?

How much can you save by making the transition from VMs to containers. See the three-year Total Cost of Ownership (TCO) comparison below. Or try the online calculator on [Diamanti.com](https://www.diamanti.com). By entering some basic data you'll get an instant read on the savings that Diamanti can deliver.

Portability/Ending Cloud Lock In

In addition to the very substantial resource savings, applications hosted in containers are also far more portable: containerized applications can be easily moved across environments, e.g., from a data center to a cloud platform and back. This portability is a key way containers create greater levels of flexibility and agility. It also spells the end of "cloud lock in"— organizations no longer need to keep applications hosted in a cloud environment where the costs are no longer optimal.

TCO Savings (3Y):

VMware/MS SQL vs Ultima Accelerator

\$13M Savings (39%)

VMWARE/MS SQL

DIAMANTI ULTIMA ACCELERATOR



Environment Comparison

Servers	100	Diamanti Nodes	43
CPU Cores	44	CPU Cores	52
Memory (GB)	51,200	Memory (GB)	33,024
Storage (TB)	300	Storage (TB)	688
IOPS	25,000,000	IOPS	43,000,000



Cost Comparison

Compute Cost	\$1,770,000	Compute Cost	\$1,637,225
Storage Cost	\$1,728,000	Diamanti Software & Storage Cost	\$4,730,000
Network Cost	\$5,520	Network Cost	\$5,520
Software Cost (VMWare & MS SQL)	\$29,077,800	Software Cost (MS SQL)	\$13,939,200
Total Cost (3-years)	\$33,640,320	Total Cost (3-years)	\$20,514,445

Why Diamanti: Hyperconverged Kubernetes Performance

Diamanti was founded to help organizations streamline their transition away from traditional IT environments and take full advantage of containers and Kubernetes, which has emerged as the de facto standard for container orchestration.

For example, Diamanti's Ultima Accelerator HCI appliance delivers a complete, hyperconverged platform that deploys in minutes, delivering everything needed to implement a containerized strategy at enterprise scale. Some of the key benefits of relying on Diamanti include:

- ✓ **INTEGRATION:** Having a fully integrated, highly available system for running applications eliminates the need for separate elements for virtualization, disaster recovery, servers and shared storage.
- ✓ **PERFORMANCE:** Diamanti delivers acceleration that reduces latency while eliminating the need for traditional storage management. A single storage pool, requiring zero user administration, is available across all nodes of the system.
- ✓ **FOOTPRINT:** Consolidating servers and storage into a single appliance makes it possible to replace a whole rack of older servers with less than a handful of smaller appliances. That not only means less rack space but also fewer devices to power, cool, manage, and maintain.
- ✓ **RESILIENCE:** Diamanti platforms are self-healing, designed to automatically identify, mitigate, and correct problems in the infrastructure in real-time, enabling applications to achieve maximum uptime even when local IT resources and VM expertise are limited.
- ✓ **SECURITY:** Diamanti delivers full encryption for data at rest and in transit and role-based access controls for managing exactly who has access to your applications and data.



Start Your Free Trial

Right now, Diamanti is offering a free, no-risk, 60-day trial so you can see for yourself how Diamanti supports your transition from VMs to containers. We'll provide our Ultima Accelerator appliance fully loaded as a 3-node Kubernetes solution on 3 Dell- or Lenovo-certified servers.

See how easy it is to get started with Kubernetes. Enjoy the simplicity of managing your VMs and containers with a single set of tools. You also get \$100 of training on Udemy.



If you're not completely happy after 60 days, we'll take everything back — but the training is all yours.

Go to Diamanti.com and click on [Promotions](#) to get started.

Simplifying the Transition with KubeVirt

Despite the advantages of containers, VMs aren't going to disappear completely anytime soon. For various reasons, organizations may not want to invest in refactoring an application for containers. Because most organizations will have both VMs and containers for the foreseeable future, Diamanti supports KubeVirt, making it possible to administer both VMs and containers side-by-side via a single platform.

Here's how KubeVirt containerizes VMs:

- Using the open source KubeVirt tool, Diamanti enables you to take an application currently running in a legacy VM and run it on the same type of VM, but now within a container.
- KubeVirt does this by defining CRDs (Custom Resource Definitions) for the creation of VMs that can now run inside KubeVirt (just as Kubernetes creates pods using the pod specification in Kubernetes).
- KubeVirt then manages those VMs using controllers to monitor any changes in VM specs and then act accordingly.
- The result is a common, shared working environment for both VMs and containers: KubeVirt provides the virtualization functionality while storage, scheduling and networking is delegated to Kubernetes.

And Diamanti's feature-rich, high-performance plug-ins for storage and network management take it to the next level. The VMs can take advantage of the QoS capabilities of the Ultima Accelerator to give higher, deterministic performance compared to legacy virtualization infrastructure. And with the ability to mirror data across nodes and provide static IP addressing, the VMs can failover within the cluster without the overhead of storage and network reconfiguration.

In short, you get the benefits of hosting your applications in a lightweight Kubernetes container environment — lower infrastructure costs, less latency, etc. — without having to undertake a heavy duty refactoring. This buys you time to do a complete conversion of the application to run in a container if that is in fact possible.



No Matter How You Measure It, Diamanti Comes Out on Top

FEATURES:

GigaOm declared Diamanti a leader and outperformer.

PERFORMANCE:

In head-to-head tests running SQL Server, Diamanti was more than 4X faster than AWS or Azure.

ROI:

Ultima Accelerator delivers 5-year Total Cost of Ownership savings of 42-85% compared to public clouds. And an 80% smaller hardware footprint than legacy infrastructures.

I/O AND LATENCY:

In benchmark tests Diamanti Accelerator demonstrated near zero I/O wait times while also showcasing low and consistent (<100 microsecond) latency, even when running high workloads.

About Diamanti

Diamanti is committed to providing easy Kubernetes solutions to businesses across all industries. Kubernetes is in our DNA – with our innovative technology and world-class partnerships, we have the tools to modernize your infrastructures and drive your digital transformation.