

# The State of Data Protection for Kubernetes

Containers are quickly replacing virtual machines (VMs),<sup>1</sup> with usage projected to increase by 89% in the next 2 years.

**Zerto**  
a Hewlett Packard Enterprise company

## Container Advantages

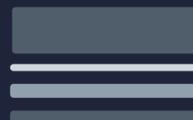
### Developer Agility



Containerization allows IT to define base images without DevOps requirements. Meanwhile, development teams can use container images to build their own stacks.

### Decoupling of Layers

In traditional storage and VMs, storage layers are hard to separate. Containers use image layers that can have different owners, and they can be stacked on top of each other.



### Cloud-Native Microservices



With microservices architecture, application components are broken into small, independent units that can be assigned to different teams.

## The Data Protection Challenges of Containers

### Containers & Pipelines

Instead of only capturing the container image, it makes more sense to protect the pipeline—the entire factory that produces the images, including configuration scripts and documentation.



### Stateless vs. Stateful



After protecting the factory and the running state, organizations still need to protect persistent application data.

### Organizational Alignment of Cloud Services

Organizations must use an aligned approach, giving developers access to the services they need while IT at-large maintains overall responsibility.



### The New Kubernetes Paradigm



By retrofitting their solution, organizations aren't able to reap the full benefits of the Kubernetes platform.

## Zerto for Kubernetes (Z4K)

### Ensure Application Resilience

The native Zerto for Kubernetes solution uses data protection as code, so applications are born protected.



### Avoid Gaps in Protection from Snapshots



Zerto for Kubernetes's replication and journaling technology allows you to simply rewind to a previous checkpoint, for low recovery point objectives and high flexibility and availability.

### Protect All Data—Including Persistent

Zerto for Kubernetes protects your applications' persistent volumes as well as all of their associated Kubernetes data.



### Avoid Vendor Lock-in



Zerto for Kubernetes offers protection and support across leading platforms, such as:

- Microsoft Azure Kubernetes Service (AKS)
- Amazon Elastic Kubernetes Service (EKS)
- Google Kubernetes Engine (GKE)
- Red Hat OpenShift
- IBM Cloud Kubernetes Service

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