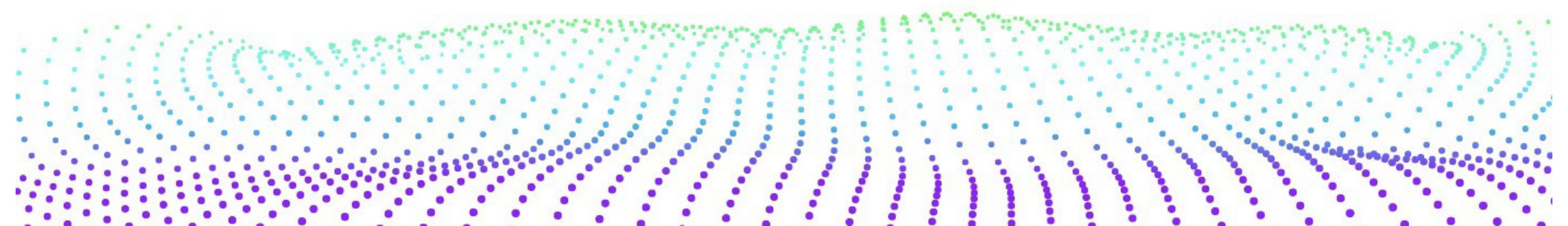




Infinidat and Kasten: Application-Centric, Lightning-Fast Backup and Recovery at Multi-PB Scale

Carvel Baus
Kubernetes CSI/Golang Developer
November 8, 2023

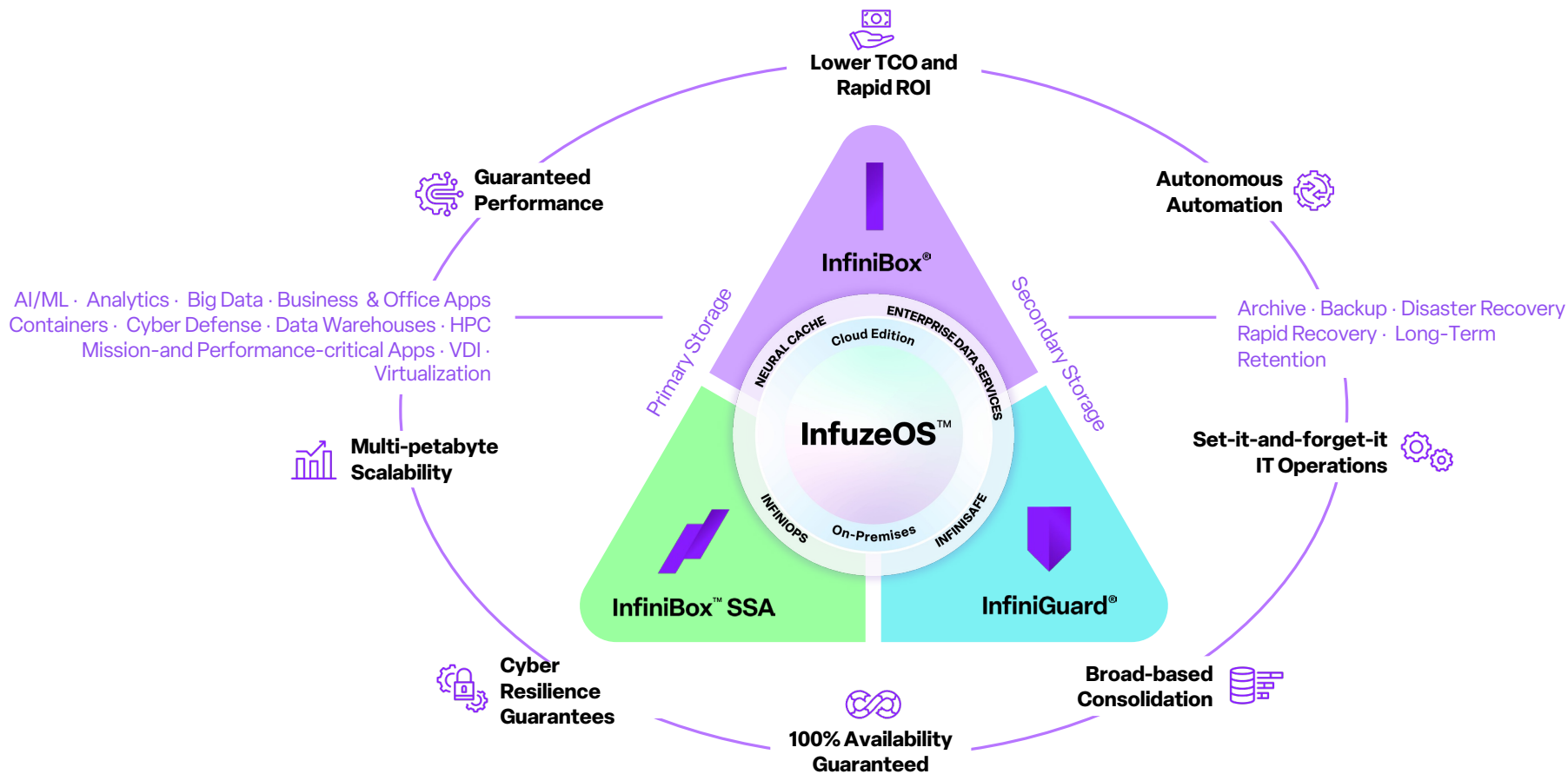


Data Protection Challenges of Kubernetes Platforms

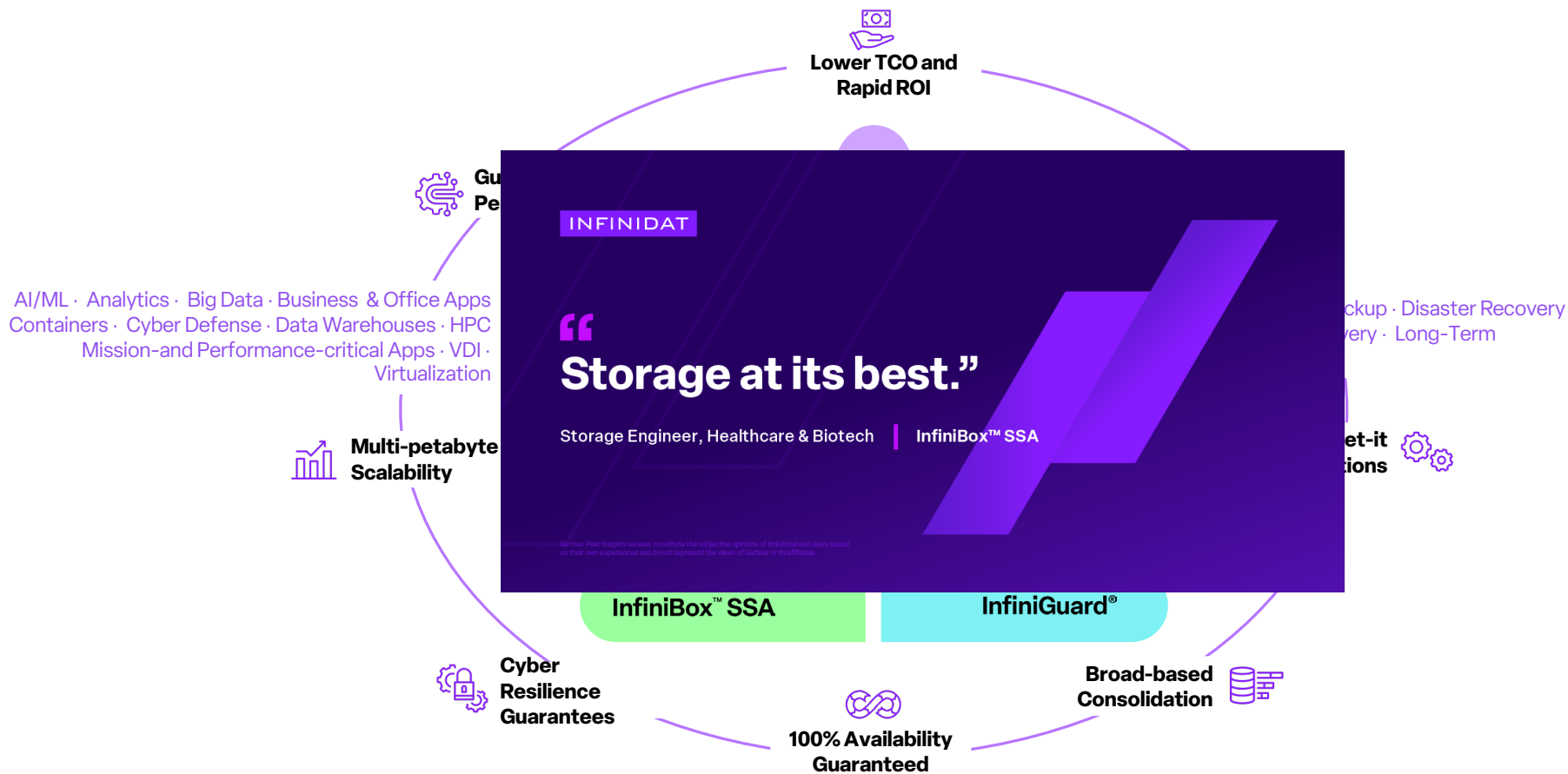
- Application Consistency
- Volume Consistency
- Scalability
- Performance impact
- Disaster recovery



One SDS Architecture, All Platforms

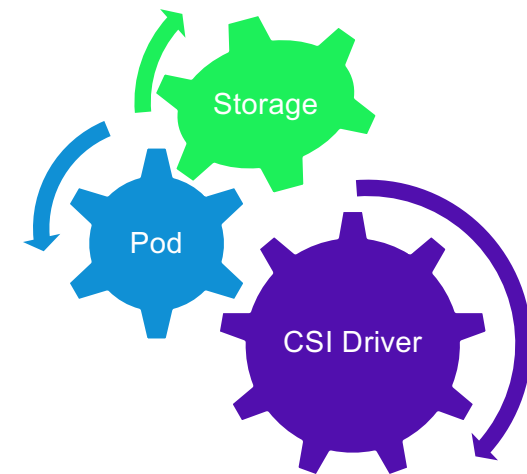


One SDS Architecture, All Platforms



In what way does persistent storage integrate with Kubernetes?

- Kubernetes is the de-facto standard for container orchestration
- Heavy demand to run Stateful Applications
- Advanced Storage and Data protection capabilities
- CSI is a standard for exposing arbitrary block and file storage systems to containerized workloads on Kubernetes
- CSI increased the autonomy and flexibility of developers



InfiniBox Container Storage Interface (CSI) Driver



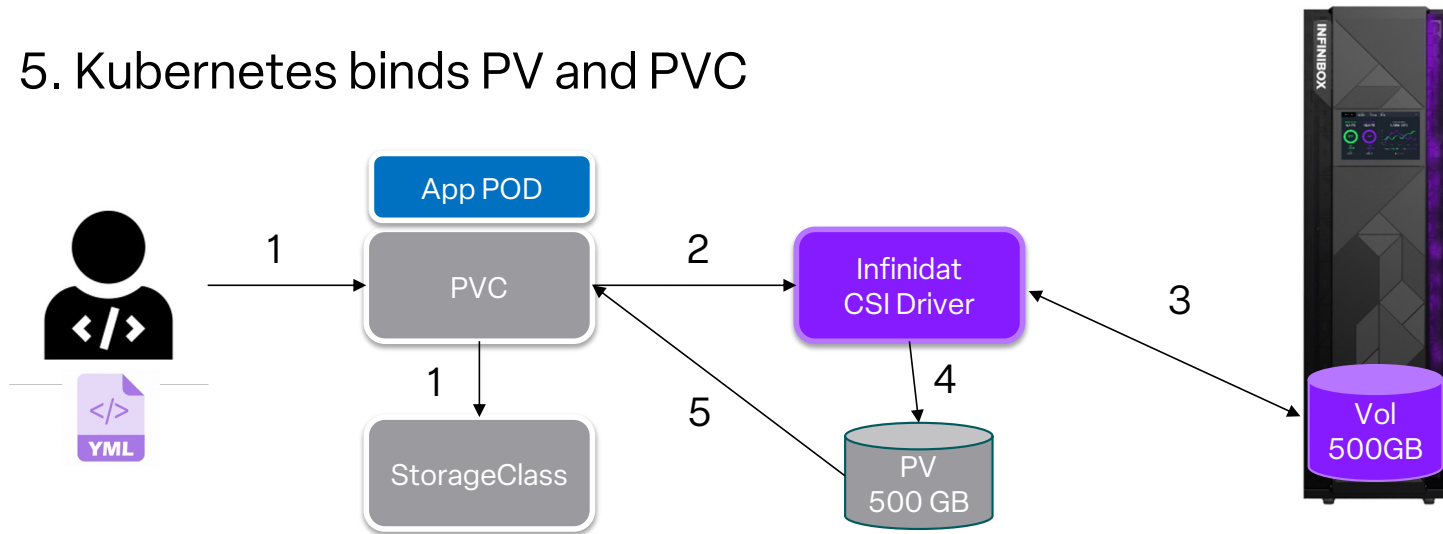
- Features
 - ✓ Multiple InfiniBox systems
 - ✓ Dynamic provisioning
 - ✓ Raw block
 - ✓ Cloning
 - ✓ Resize
 - ✓ Immutable snapshots
 - ✓ Restore
 - ✓ Import
- Protocols
 - ✓ FC / iSCSI / NFS / NFS-TreeQ
- Deployment Methods
 - ✓ Helm for upstream K8s
 - ✓ Operator for OpenShift



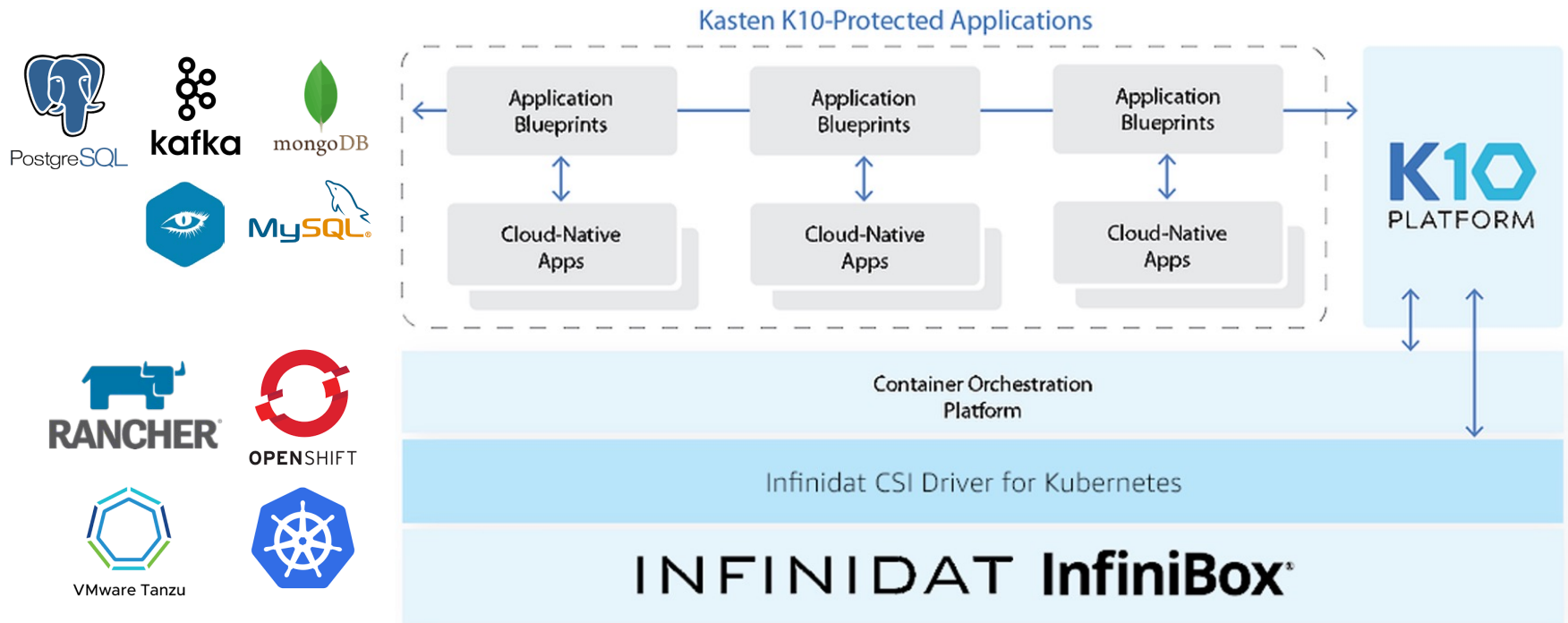
"Infinidat is the front-runner for enterprise storage innovation" GigaOm 2023

PV creation flow

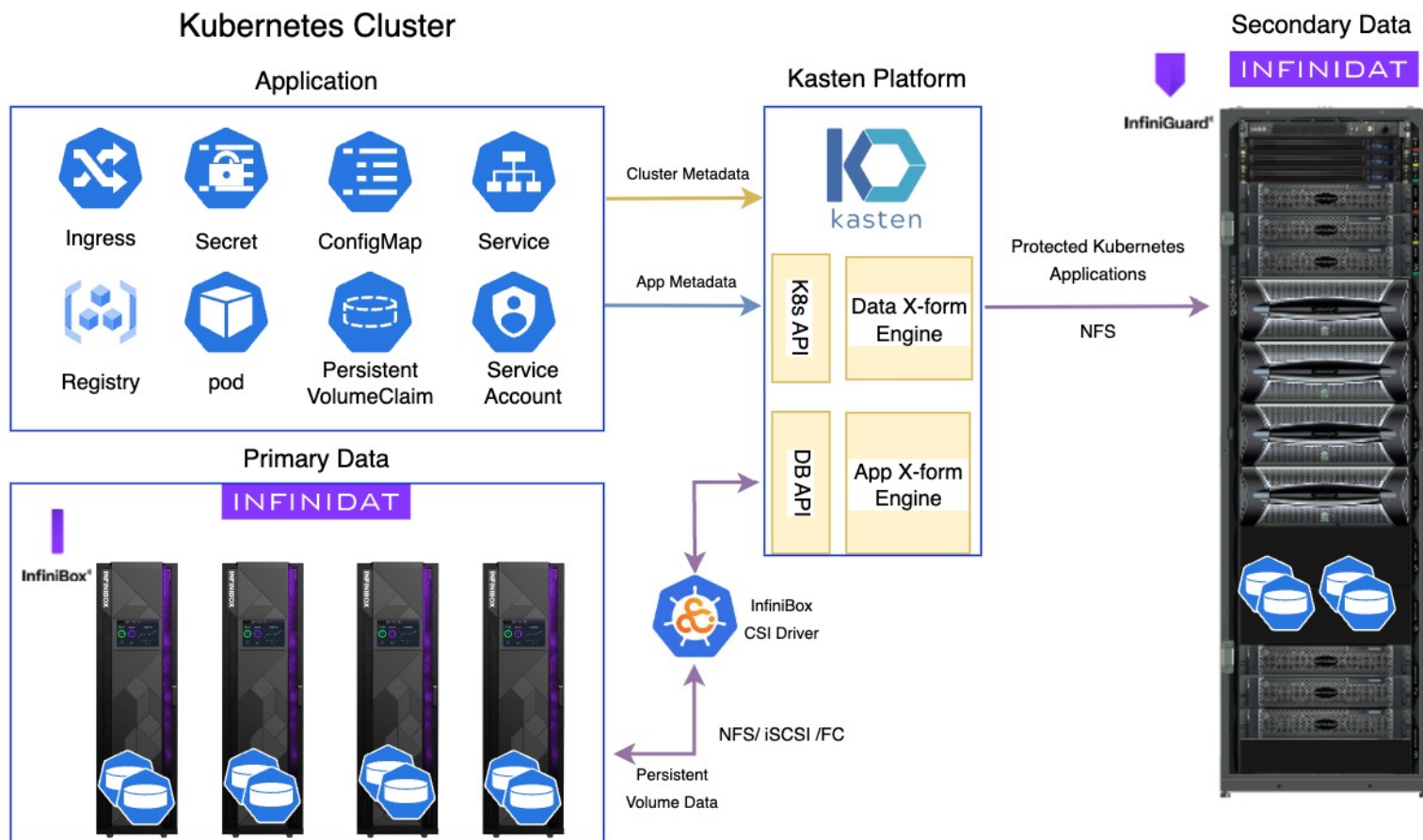
1. Developer / App creates a PVC, specifies a StorageClass
2. CSI driver is notified of a request
3. CSI driver provision volume in InfiniBox
4. CSI driver creates a PV resource
5. Kubernetes binds PV and PVC



Simplify Storage Operations with Infinidat CSI integrations



End-to-End Data Management with Kasten & Infinidat





Customer Use Cases

Customer Value – DevOps at Scale

Production



InfiniBox Consistency Group



InfiniBox Snapshot Group



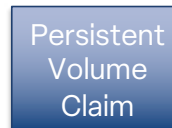
InfiniBox - 2nd Snapshot (Single Vol/FS)



Import as PV Using K8 CSI

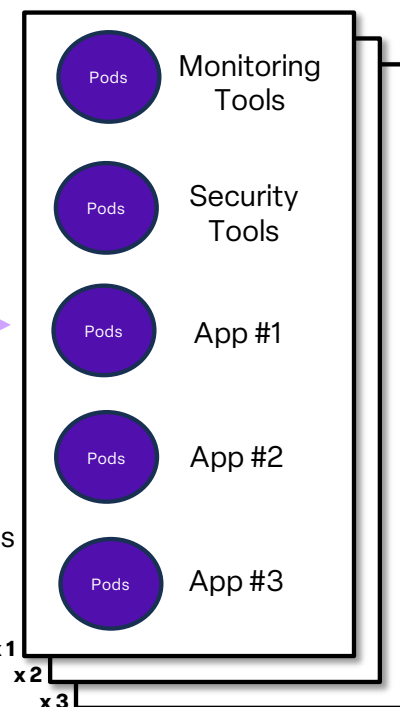


Persistent Volume Claim



Each environment gets a Single **Namespace**

Dev / Test



... Hundreds of environments!

Summary:

- The joint solution provides
 - High-performance storage that helps our customers seamlessly implement backup and recovery, disaster recovery, and stateful application mobility using Kasten by Veeam
- Multi-protocol flexibility
 - Infinidat CSI driver natively manages Kubernetes Persistent Volumes attached via block and file protocols, including Fibre Channel, iSCSI, and NFS, with all access modes
- Multi-petabyte scalability
 - Support hundreds of thousands of PVs per InfiniBox system and control multiple InfiniBox arrays within a single Kubernetes cluster
- Advanced enterprise features
 - Manage native InfiniBox snapshots and clones, including restoring from snapshots, and importing PVs created outside of InfiniBox CSI Driver

The End Users Have Spoken



 **InfiniBox Reviews**
by Infinidat in Primary Storage
4.9 ★★★★★ 441 Ratings

 **InfiniBox SSA Reviews**
by Infinidat in Primary Storage
4.9 ★★★★★ 11 Ratings

 **InfiniGuard Reviews**
by Infinidat in Data Center - Others
4.8 ★★★★★ 17 Ratings



As of October 26, 2023

The End Users Have Spoken

InfiniBox Reviews
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4.9 ★★★★★ 441

“Infinidat is the Golden Standard for Enterprise Storage.”
Storage Operations Supervisor, Banking | InfiniBox®

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InfiniGuard Reviews
by Infinidat in Data Center - Others
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As of October 26, 2023

Infinidat Drives Dramatic CAPEX and OPEX Savings

162%
5-year ROI

48%
Reduced
OPEX

51%
More efficient
storage
management

11 Month
Payback in
11 months



[Video Webinar](#)



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<https://www.infinidat.com/en/financial-benefits>

Thank you



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INFINIDAT