Multi-cluster data replication with NooBaa

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Why should I care about multi-cluster?
Performance ★
Fault tolerance ★
Specialized HW or services ★

Vendor lock-in ★
Regulation ★
Collaboration ★
How applications data is shared in multi-cluster?
Main Data Services

★ Object-store
★ Database
★ Filesystem
★ Queue
Object-store

Bucket

Bucket

Bucket

Bucket
Data Services are siloed by default

The problems with siloed data are the same as we described for a single cluster.
Performance ★
Fault tolerance ★
Specialized HW or services ★

Reminder

Vendor lock-in ★
Regulation ★
Collaboration ★
What is the solution of NooBaa’s data service?
NooBaa is the non siloed Object-store

★ Top layer - Applicative
  ○ Buckets, Accounts, Permissions

★ Middle layer - Policy
  ○ Mirror, Tiering, Spread

★ Bottom layer - Storage
  ○ PVs and Cloud storage
  ○ Location aware
NooBaa’s top layer is providing a scalable S3 service for applications.
NooBaa’s bottom layer connects to any storage such as PVs and cloud providers object storage outside of the cluster.
NooBaa’s middle layer defines a flexible placement policy per bucket - **tiering, mirror** and **spread** over any set of resources.
Making it super easy to manage
Zero touch - New Cluster

★ Federate NooBaa services to new clusters using Kubernetes Federation v2:
  ○ https://github.com/kubernetes-sigs/federation-v2/
★ Connect local cluster storage and “local” cloud storage defined by Federated Storage Classes
★ Ready to serve new/federated applications
Zero touch - New Application

★ With Object Bucket Claim (OBC) applications dynamic provisioner their buckets in kubernetes

★ The claim will be processed in every deployed cluster creating the object bucket native to that platform

★ NooBaa’s default reaction to a bucket claim is to update the bucket placement to mirror to local cluster resources, thus seamlessly reducing latency and increasing throughput.
Live demo

★ Multi-cluster setup
★ Storage resources
  ○ adding PVs, cloud, removing...
★ Bucket placement
  ○ lets make some changes
The NooBaa project
https://github.com/noobaa/noobaa-core

★ We invite you to Star and Watch to get notifications on releases.
★ Open issues for any question you have.
https://www.noobaa.com/try
Subscribe to our newsletter.

We will also invite you to our Slack discussions.
Would love to talk

★ https://twitter.com/NooBaaStorage

★ support@noobaa.com

★ You are welcome to reach out to me directly

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Q&A

(Hallway track?)
THANK YOU

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