

Red Hat

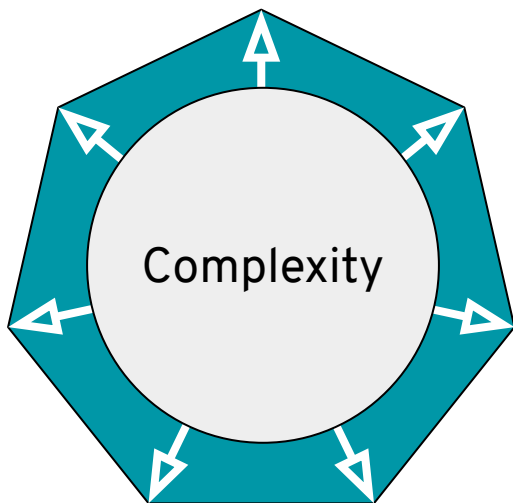
Hybrid / Multi-Cluster Storage

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Why Hybrid or Multiple Clusters?

- Performance
- Fault tolerance
- Specialized HW or services



- Vendor lock-in
- Regulation
- Collaboration

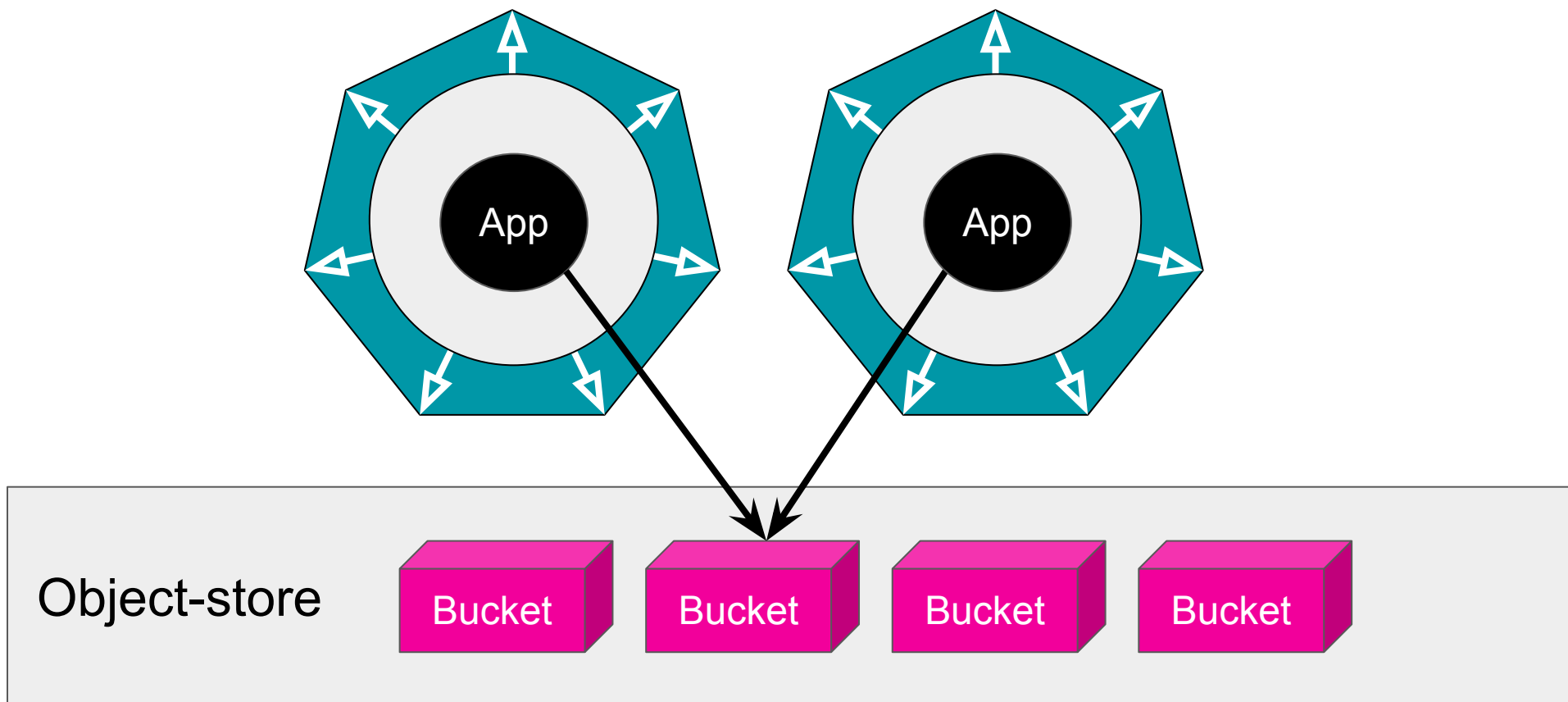
How Applications Share Data in a Multi-Cluster environment:

- Object-store
- Database
- Filesystem
- Queue

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Object Storage



NooBaa - MultiCluster Gateway

The screenshot shows the OperatorHub.io website interface. The browser address bar displays the URL: `operatorhub.io/?provider=%5B%22Red+Hat%22%22%22NooBaa%22%22radanalytics.io%22%22The+Rook+Authors%5D`. The main header features the OperatorHub.io logo, a search bar, and a 'Contribute' button. Below the header, a 'Welcome to OperatorHub.io' message states: 'OperatorHub.io is a new home for the Kubernetes community to share Operators. Find an existing Operator or list your own today.'

The main content area displays a grid of 11 operator cards. The 'NooBaa Operator' card, provided by NooBaa, is highlighted with a pink circle. The card includes the NooBaa logo, the title 'NooBaa Operator', and a description: 'NooBaa is an object data service for hybrid and multi cloud environments.'

Other visible operator cards include:

- Apache Spark Operator (provided by radanalytics.io)
- AWS S3 Operator (provided by Red Hat)
- Grafana Operator (provided by Red Hat)
- Kubefed Operator (provided by Red Hat)
- lib-bucket-provisioner (provided by Red Hat)
- Metering (provided by Red Hat)
- Prometheus Operator (provided by Red Hat)
- Rook-Ceph (provided by The Rook Authors)
- Rook-EdgeFS (provided by The Rook Authors)
- Strimzi Apache Kafka Operator (provided by Red Hat)

On the left side, there are filters for 'CATEGORIES' and 'PROVIDER'. The 'PROVIDER' filter shows a list of providers with counts, including Red Hat (1), Amazon Web Services (1), Appsoy (1), Aqua Security (1), AtlasMap (1), Banzai Cloud (4), CNCF (2), CrunchyData.com (1), and Dev4Devs.com (1).

A 'Screenshot' button is located at the bottom center of the operator grid.

NooBaa provides:

- Top layer - Applicative
 - Buckets, Accounts, Permissions
- Middle layer - Policy
 - Mirror, Tiering, Spread
- Bottom layer - Storage
 - PVs and Cloud storage
 - Location aware

What about a consistent API in Kubernetes / OpenShift?

Object Bucket / Object Bucket Claim

- Designed after the PV/PVC framework, provides a consistent control path for object storage
- Provides a portability layer for your clusters

What about non-object data?

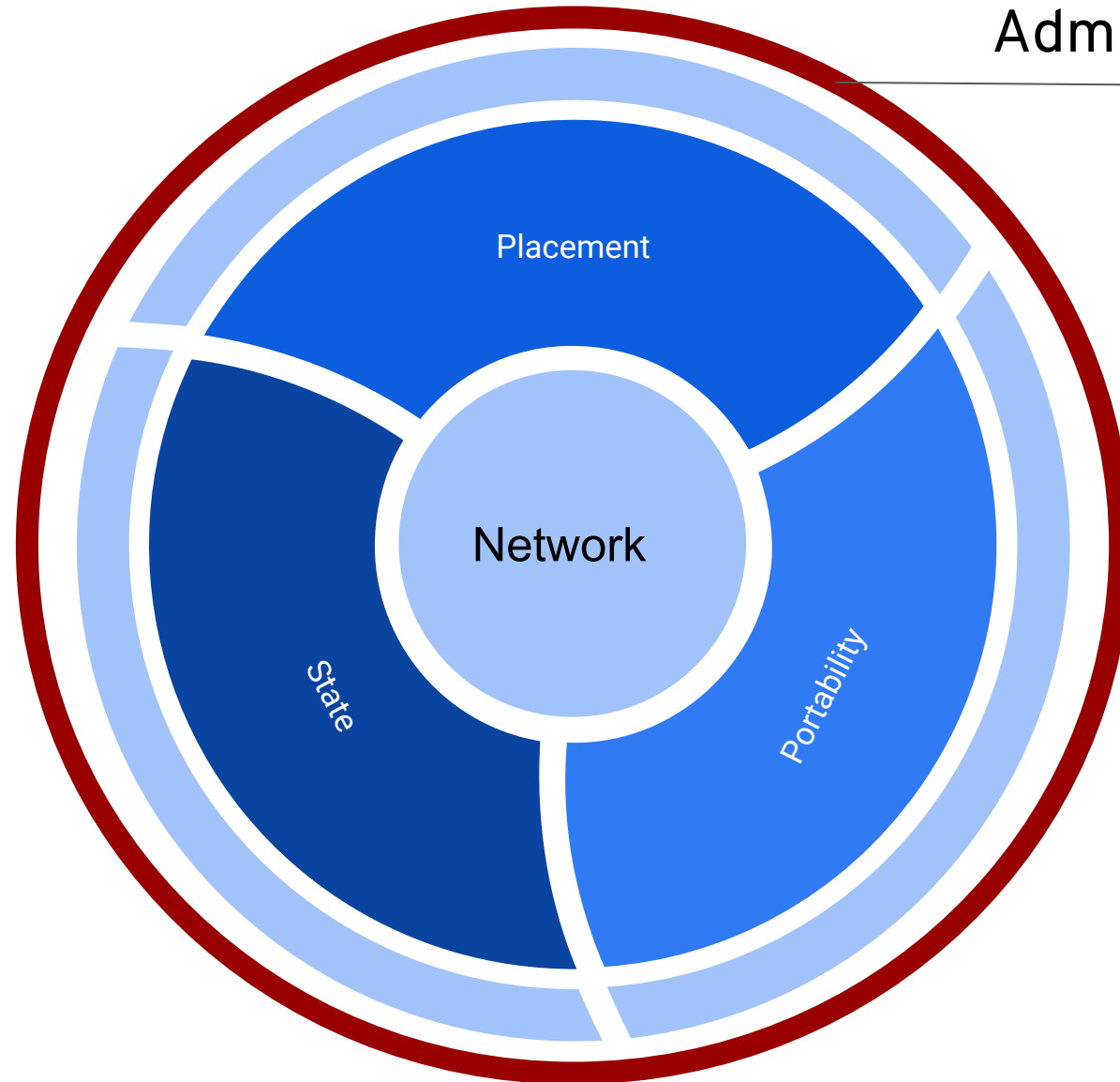
Rook

- Automated installation and administration of Ceph
 - Enhancements to provide multi-cluster capabilities providing a consistent backbone across all clusters
 - CephFS
 - Shared Storage

Community

- Snapshots
- Cloning
- Volume transference

Administration



Platform Matters

E2E Pipeline for Data Analytics

Cohesive experience across clusters

Simplified administration

Policy management across all clusters

Thank you

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