Two-way mirroring or active-active

In two-way mode, Ceph synchronizes the source and target pairs (primary and secondary). This mode allows replication between only two clusters, and you must configure the mirroring agent on each cluster.

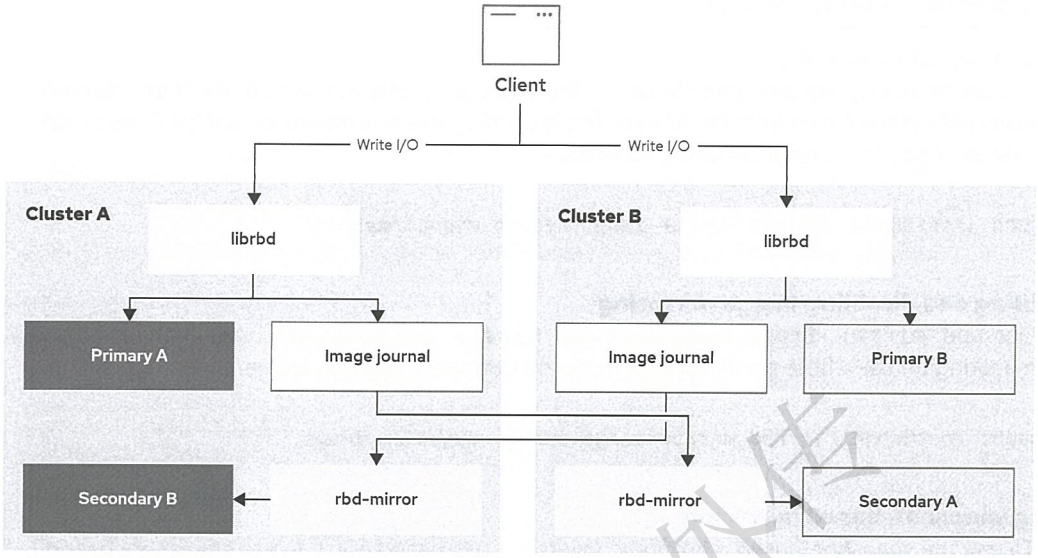

Figure 7.2: Two-way mirroring

Supported Mirroring Modes

RBD mirroring supports two modes: pool mode and image mode.

Pool Mode

In pool mode, Ceph automatically enables mirroring for each RBD image created in the mirrored pool. When you create an image in the pool on the source cluster, Ceph creates a secondary image on the remote cluster.

Image Mode

In image mode, mirroring can be selectively enabled for individual RBD images within the mirrored pool. In this mode, you have to explicitly select the RBD images to replicate between the two clusters.

RBD Image Mirroring Modes

The RBD images asynchronously mirrored between two Red Hat Ceph Storage clusters have the following modes:

Journal-based mirroring

This mode uses the RBD journaling image feature to ensure point-in-time and crash-consistent replication between two Red Hat Ceph Storage clusters. Every writes to the RBD image is first recorded to the associated journal before modifying the actual image. The remote cluster reads from this journal and replays the updates to its local copy of the image.

Snapshot-based mirroring

Snapshot-based mirroring uses periodically scheduled or manually created RBD image mirror snapshots to replicate crash-consistent RBDs images between two Red Hat Ceph Storage clusters. The remote cluster determines any data or metadata updates between two mirror snapshots and copies the deltas to the image's local copy. The RBD `fast-diff` image