

Parameter	Definition
<code>osd_max_backfills</code>	Maximum number of back fills for an OSD
<code>osd_backfill_scan_min</code>	Minimum number of objects per backfill scan
<code>osd_backfill_scan_max</code>	Maximum number of objects per backfill scan
<code>osd_backfill_full_ratio</code>	Threshold for backfill requests to an OSD
<code>osd_backfill_retry_interval</code>	Seconds to wait before retrying backfill requests

Configuring Hardware

Using realistic metrics for your cluster's expected workload, build the cluster's hardware configuration to provide sufficient performance, but keep the cost as low as possible. Red Hat suggests these hardware configurations for the three performance priorities:

IOPS optimized

- Use two OSDs per NVMe device.
- NVMe drives have data, the block database, and WAL collocated on the same storage device.
- Assuming a 2 GHz CPU, use 10 cores per NVMe or 2 cores per SSD.
- Allocate 16 GB RAM as a baseline, plus 5 GB per OSD.
- Use 10 GbE NICs per 2 OSDs.

Throughput optimized

- Use one OSD per HDD.
- Place the block database and WAL on SSDs or NVMeS.
- Use at least 7,200 RPM HDD drives.
- Assuming a 2 GHz CPU, use one-half core per HDD.
- Allocate 16 GB RAM as a baseline, plus 5 GB per OSD.
- Use 10 GbE NICs per 12 OSDs.

Capacity optimized

- Use one OSD per HDD.
- HDDs have data, the block database, and WAL collocated on the same storage device.
- Use at least 7,200 RPM HDD drives.
- Assuming a 2 GHz CPU, use one-half core per HDD.
- Allocate 16 GB RAM as a baseline, plus 5 GB per OSD.
- Use 10 GbE NICs per 12 OSDs.

Tuning with Ceph Performance Tools

Performance tools provide benchmarking metrics to examine clusters for performance issues.