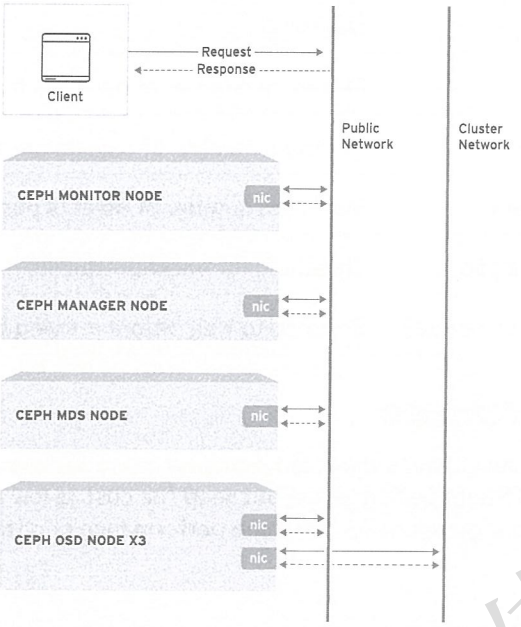

Figure 12.1: Separate networks for OSD and client traffic

The Ceph daemons automatically bind to the correct interfaces, such as binding MONs to the public network, and binding OSDs to both public and cluster networks.

Manually Controlling the Primary OSD for a PG

Use the primary affinity setting to influence Ceph's selection of a specific OSD as the primary OSD for a placement group. A higher setting makes an OSD more likely to be selected as a primary OSD. You can mitigate issues or bottlenecks by configuring the cluster to avoid using slow disks or controllers for a primary OSD. Use the `ceph osd primary-affinity` command to modify the primary affinity for an OSD. Affinity is a real number between 0 and 1.

```
[admin@node ~]$ ceph osd primary-affinity osd-number affinity
```

Recovery and Backfilling for OSDs

When Ceph adds or removes an OSD on a cluster, Ceph rebalances the PGs to use the new OSD or recreate replicas stored in the removed OSD. These backfilling and recovery operations can generate a high load of cluster network traffic, which can impact performance.

To avoid degraded cluster performance, adjust the backfilling and recovery operations to create a balance between rebalancing and normal cluster operations. Ceph provides parameters to limit the backfilling and recovery operations' I/O and network activity.

The following list includes some of those parameters:

Parameter	Definition
`osd_recovery_op_priority`	Priority for recovery operations
`osd_recovery_max_active`	Maximum number of active recovery requests per OSD in parallel
`osd_recovery_threads`	Number of threads for data recovery