

To interact with the Ceph cluster nodes, Cephadm uses SSH connections. By using these SSH connections, Cephadm can add new hosts to the cluster, add storage, or monitor these hosts.

Exploring Ceph Management Interfaces

Ceph is deployed in a containerized version, and no extra software is necessary in bootstrap node. You can bootstrap the cluster from the command-line interface in the bootstrap node of the cluster. Bootstrapping the cluster sets up a minimal cluster configuration with only one host (the bootstrap node) and two daemons (the monitor and manager daemons). You interact with the cluster for maintenance and scaling operations, such as adding more cluster hosts or storage. Red Hat Ceph Storage 5 provides two interfaces: the Ceph CLI and the Dashboard GUI. Both interfaces are deployed by default when you bootstrap the cluster.

The Ceph Orchestrator

You can use the *Ceph orchestrator* to add hosts and daemons to the cluster easily. Use the orchestrator to provision Ceph daemons and services and to expand or contract the cluster. To use the Ceph orchestrator via the command-line interface (CLI), use the `ceph orch` command. You can also use the Red Hat Ceph Storage Dashboard interface to run orchestrator tasks. The `cephadm` script interacts with the Ceph Manager orchestration module.

The following diagram illustrates the Ceph Orchestrator.

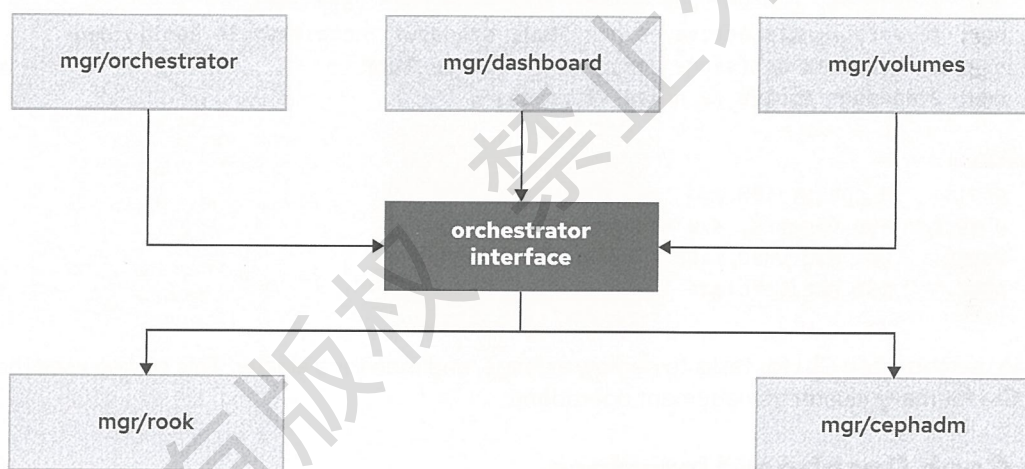


Figure 1.5: The Ceph Orchestrator

The Ceph Command-line Interface

Cephadm can launch a containerized version of the shell with all the required Ceph packages installed. The command to run this containerized shell is `cephadm shell`. You should run this command only in the bootstrap node, because only this node can access the admin key ring in `/etc/ceph` when bootstrapping the cluster.