

Unlike the `OCSInitialization` resource, the `StorageCluster` resource creation or deletion operates outside `ocs-operator` control. Only one `StorageCluster` resource per OpenShift Container Platform cluster is supported.

Describing the Rook-Ceph Operator

Rook is a cloud-native storage orchestrator that provides the platform to abstract the complexity of Ceph layout and configuration. Rook-Ceph is the primary component for the `ocs-operator`. It incorporates the Ceph cluster into the operator bundle.

Rook-Ceph is responsible for the initial storage cluster bootstrap, administrative tasks, and the creation of the pods and other dependent resources in the `openshift-storage` namespace. Many advanced Ceph features, such as Placement Groups and CRUSH maps, are reserved for Rook management. Rook-Ceph facilitates a seamless storage consumption experience and minimizes the required cluster administration.

Monitoring is an important Rook-Ceph duty. Rook-Ceph watches the storage cluster state to ensure that it is available and healthy. Rook-Ceph monitors Ceph Placement Groups and automatically adjusts their configuration based on pool sizing, and monitors Ceph daemons. Rook-Ceph communicates with OpenShift APIs to request the necessary resources when the cluster scales.

Rook-Ceph provides two *Container Storage Interface (CSI)* drivers to create volumes, the RBD driver and the CephFS driver. These drivers provide the channel for OpenShift Container Platform to consume storage.



Note

The OpenShift Container Storage operator does not create *Persistent Volume* resources, but tracks resources that *Ceph-CSI* drivers created.

Figure 13.3 visualizes the Rook-Ceph operator interaction with OpenShift Container Platform.

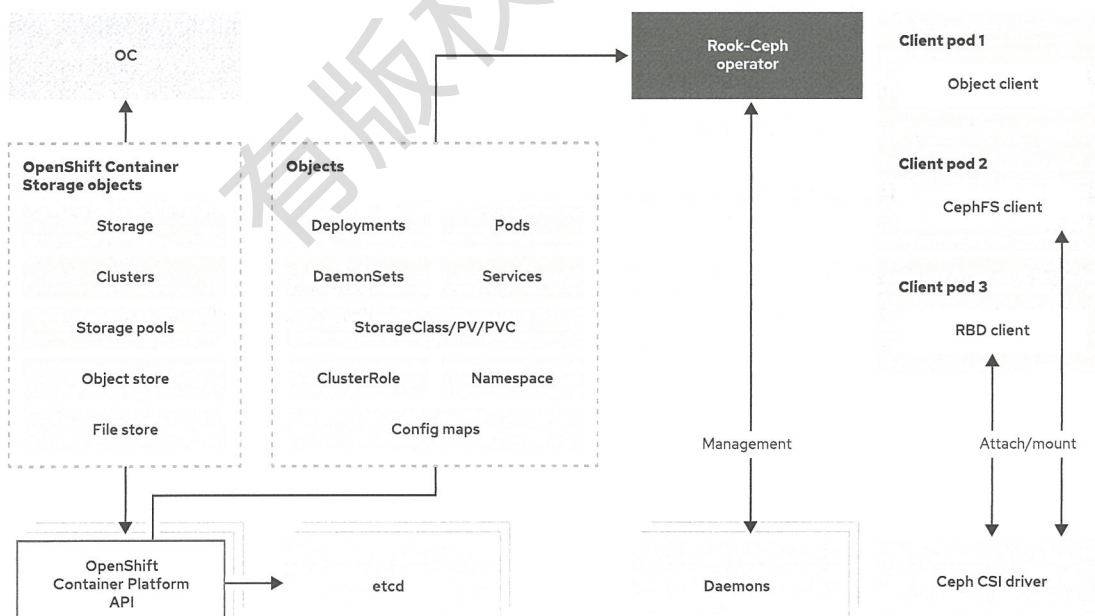


Figure 13.3: Rook Architecture