
Update on Kubernetes Storage and OpenStack Integration

Huamin Chen
CTO Office, Red Hat

Volume Provision

- Standalone Cinder Volume Provisioner actively developed at kubernetes incubator
 - <https://github.com/kubernetes-incubator/external-storage/tree/master/openstack/standalone-cinder>
 - Provision Cinder Volume for Kubernetes without a full blown OpenStack setup
 - Storage orchestration
 - Manila Provisioner incubated
 - <https://github.com/kubernetes-incubator/external-storage/tree/master/openstack-sharedfilesystems>
 - Contributions and test drives welcome
-

Volume Snapshot

- External Kubernetes Volume Snapshot Controller.
 - <https://github.com/kubernetes-incubator/external-storage/tree/master/snapshot>
 - Support OpenStack Cinder, GCE PD, AWS EBS, Glusterfs, hostpath (dev only)
 - Discussion about Kubernetes in tree inclusion still on ongoing.
 - Highly engaged project
-

Volume Resize

- In tree Kubernetes Volume Expansion Controller.
 - <https://github.com/kubernetes/kubernetes/tree/master/pkg/controller/volume/expand>
 - Support most Kubernetes in tree volumes
-

CSI Driver

- Initial Cinder CSI Driver work at <https://github.com/kubernetes-csi/drivers/tree/master/pkg/cinder>
 - Now under OpenStack Cloud Provider repo <https://github.com/kubernetes/cloud-provider-openstack/tree/master/pkg/csi/cinder>
 - Ceph FS and RBD CSI drivers
 - <https://github.com/ceph/ceph-csi>
 -
-

External Cloud Provider

- External Kubernetes Cloud Provider Repo
 - <https://github.com/kubernetes/cloud-provider-openstack>
 - Thanks dims
 - Can be used by other projects (CSI, Snapshot, etc)
-

Still missing: Block Volume

- Kubernetes Block Volume.
 - Not formatted by kubelet and mounted as a device into the container
 - Good for data services that don't need a filesystem or can manage block storage on their own.
 - Supported by most in tree block volumes (gce pd, rbd, iscsi, fc, etc)
 - Need to support BlockVolumePlugin interface
-