GlusterFS

GlusterFS is a distributed, software-defined filesystem. Storage devices, called “bricks”, are selected on one or more nodes to form logical storage volumes across a Gluster cluster.

- Runs on commodity hardware (even a Raspberry Pi!)
- Scale-out design: easy to increase storage by simply adding more nodes
- Provides features like cross-node and cross-site replication, usage balancing, and iSCSI storage access
heketi

heketi is the RESTful volume management interface for GlusterFS.

- Allows for programmatic access to the most common GlusterFS volume management tasks
- Can manage multiple clusters from a single instance
- Lightweight, reliable, and simple
Full Hyper-Convergence

Now, both GlusterFS and heketi run in containers on your Kubernetes or OpenShift cluster.

- Requires some additional administrative changes, but greatly reduces hardware costs
- Applications have native access to GlusterFS-backed storage via heketi
- The GlusterFS containers don’t have to run on all nodes, they can be set to run only on nodes that can fulfill its storage needs
- Easy to scale out
GlusterFS cluster

or

kubernetes

OPENSHIFT

NODE

POD

POD

POD

POD

GlusterFS cluster

DISKS
Dynamic Provisioning

User

apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: gluster1
annotations:
  volume.beta.kubernetes.io/storage-class: gluster
spec:
  accessModes:
    - ReadWriteMany
  resources:
    requests:
      storage: 5Gi

Admin

apiVersion: storage.k8s.io/v1beta1
kind: StorageClass
metadata:
  name: gluster
provisioner: kubernetes.io/glusterfs
parameters:
  endpoint: "heketi-storage-endpoints"
  resturl: "http://10.47.0.1:8080"
  restuser: "joe"
  restuserkey: "My Secret Life"
DEMO!

Sorry online readers. ;)

Thanks!

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Projects:
- GlusterFS - https://www.gluster.org
- heketi - https://github.com/heketi/heketi
- https://github.com/gluster/gluster-kubernetes
- https://github.com/gluster/gluster-containers