**HP Helion OpenStack @2.0: Ceph Firefly <xxx> Storage Solution**

* Overview
  + Block Storage – remain same
  + Object Storage- remain same
  + File System (need to check whether we are supporting or not, if not then I think we can remove it)
  + Ceph Cluster- remain same
  + Ceph Object Gateway- remain same
* Ceph Storage Reference Architecture – may change??
* Prerequisite
  + Hardware Recommendation
  + Hardware Preparation
  + Hardware Recommendation in the Production Environment
  + Install and Configure HP Helion OpenStack for KVM hypervisor is it only for KVM or are we planning to support of ESX too.
* Ceph Automated Install (Installation procedure will change)
  + Install Workflow Diagram
  + Download Ceph Package: Tarball files
  + Run the Provisioning Tool
  + Verify the Instance
  + Provision Additional Ceph Nodes
* Configuring Ceph Cluster and client nodes using ansible playbooks
  + Setting up Ceph Solution
    - Run the Ansible Playbook
    - Ceph Deployment in Different Stages
  + Scaling Ceph Cluster
    - Add Monitor Nodes
    - Add OSD Nodes
  + Heartbeat Monitoring Tool (Optional) unable to understand the usage of this in production environment.
  + Ceph Cluster Validation
  + Ceph Client Validation : these are the repeated step
    - Glance
    - Ceph Glance Clone Copy On Write
    - Cinder Volume
      * Creating Cinder Volume
      * Creating a Cinder Backup
      * Mounting Volume and Copying a New Image
      * Restoring Data From Cinder Backup
      * Verifying the attachment of Volume to a VM
    - Volume Snapshot
    - Nova
      * Attaching Cinder Volume to Nova Instance
    - Ceph RADOS Gateway Validation
    - Creating a User
    - Working with the Swift Client
* Ceph Monitoring- Monasca ????
* Ceph Administration
  + Block Device Commands
  + Control Commands
* Ceph RADOS Gateway
  + Example: DMZ
    - Assumptions
    - Procedure to perform on Proxy Server
      * Install General Packages
      * Stunnel Install and Configuration
      * HAProxy Install and Configuration
      * Validate the Installation
  + Example: Client
    - Installing Duplicity
    - MySQL Archive to Swift API Use Case
* Manually Bringing up Ceph Cluster
* Ceph Authentication (is it valid)??
* Manual Ceph Configuration ????
* Glance-Ceph Interoperability
  + Ceph Glance Clone Copy on Write **similar topic is there above**
* Cinder Ceph Storage
  + Configuring Cinder Storage
  + Cinder Backup Ceph Storage
  + Configuring Cinder Backup
* Nova Ceph Storage
  + Configuring Nova
* Ceph RADOS Gateway
* Ceph RADOS Gateway Pools
  + Pools
  + User and Sub-user
  + Access and Secret Keys
* Ceph RADOS Gateway- Keystone Authentication
  + Assumption
  + Integration of Helion OpenStack HAProxy, Keystone, RADOSGW
    - Ceph Admin Node
    - Helion Controller Nodes
    - Ceph RADOS Gateway Nodes
  + Validating the Configuration
* Troubleshooting
* Glossary
* Related Topic