Introduction to oVirt
Hyperconvergence

oVirt + Gluster

Gobinda Das (Associate Manager, Software Engineering)

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Agenda

- Virtualization
- oVirt
- oVirt Hyperconvergence
Traditional Server Architecture
Virtualized Server Architecture
It’s a virtualization management application.
Manage h/w nodes.
Manage storage and network resources.
Deploy & monitor vms in DC.
Using KVM as hypervisor to manage vms.
oVirt Hyperconvergence

- combines compute, storage, networking and management capabilities in one deployment.
Deployment

- Simple and easy deployment with Cockpit UI / CLI based deployment.
Features

- IPv4/IPv6
- Multipath
- NBDE
- VDO
- Node Replacement
- Single Click Cluster Upgrade
- Gluster logical network
Use same hostname for Storage and Public Network
Select if hosts are using IPv6 (Default will be IPv4)

- Host1
  - Storage Network
  - Public Network

- Host2
  - Storage Network
  - Public Network

- Host3
  - Storage Network
  - Public Network
Gluster Deployment

Raid Information
- Raid Type: RAID 6
- Stripe Size(KB): 256
- Data Disk Count: 10

Multipath Configuration
- Blacklist Gluster Devices: checked

Brick Configuration
- Select Host: host1-storage.network.example....

<table>
<thead>
<tr>
<th>LV Name</th>
<th>Device Name</th>
<th>LV Size(GB)</th>
<th>Enable Dedupe &amp; Compression</th>
</tr>
</thead>
<tbody>
<tr>
<td>engine</td>
<td>/dev/sdb</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>data</td>
<td>/dev/sdb</td>
<td>500</td>
<td>X</td>
</tr>
<tr>
<td>vmstore</td>
<td>/dev/sdb</td>
<td>500</td>
<td></td>
</tr>
</tbody>
</table>

Configure LV Cache

* Arbiter bricks will be created on the third host in the host list.
The Policy-Based Decryption (PBD) is a collection of technologies that enable unlocking encrypted root and secondary volumes of hard drives on physical and virtual machines.

The current implementation of the PBD in Red Hat Enterprise Linux consists of the Clevis framework and plug-ins called pins.

- **tang** - allows volumes to be unlocked using a network server.

The Network Bound Disc Encryption (NBDE) is a subcategory of PBD that allows binding encrypted volumes to a special network server.

The current implementation of the NBDE includes a Clevis pin for Tang server and the Tang server itself.

Right now we support only CLI based NBDE feature. User need to run playbook separately prior to RHHI deployment.

Ref: https://github.com/gluster/gluster-ansible/blob/master/playbooks/hc-ansible-deployment/README.ME
Node Replacement

HOST PREPARATION

GLUSTER PEER MEMBERSHIP RESTORATION

GLUSTER VOLUME RECONFIGURATION

LOGIC FOR REPLACING WITH SAME FQDN/IP

LOGIC FOR REPLACING HOST WITH DIFF FQDN/IP
## Cluster Upgrade

### Red Hat Virtualization

### Compute > Clusters

<table>
<thead>
<tr>
<th>Status</th>
<th>Name</th>
<th>Comment</th>
<th>Compatibility Version</th>
<th>Description</th>
<th>Cluster CPU Type</th>
<th>Host Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Default</td>
<td></td>
<td>4.4</td>
<td>The default server cluster</td>
<td>Intel Broadwell Family</td>
<td>3</td>
</tr>
</tbody>
</table>

**Upgrade** button available for cluster upgrade.
Simplicity

Stability

Functionality

Security

Large Community Support
Way to Contribute

Join the community
- Find bugs, File Them, Correct Them.
- Translate, Write Documentation.
- Design Interfaces, Develop new features.
- Share your experiences.

Everyone can make a difference.

- Websites, Repository, Bug Tracking:
  - [http://www.ovirt.org](http://www.ovirt.org)
  - [http://www.ovirt.org/project/subprojects/](http://www.ovirt.org/project/subprojects/)
  - [https://gerrit.ovirt.org/](https://gerrit.ovirt.org/)
  - [https://gerrit.ovirt.org/](https://gerrit.ovirt.org/)
  - [https://bugzilla.redhat.com/](https://bugzilla.redhat.com/)
  - [https://bugzilla.redhat.com/](https://bugzilla.redhat.com/)

Mailing lists:  [http://lists.ovirt.org/mailman/listinfo](http://lists.ovirt.org/mailman/listinfo)
IRC:  #ovirt on OFTC
Thank You :)

Gobinda Das
godas@redhat.com
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