The future integration points for oVirt storage

_Birds of a feather session_

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KVM Forum, October 2013
Agenda

- What's new in oVirt 3.3 Storage?
- Storage directions
  - Software Defined Storage
  - Storage Offloading
  - IO Performance
  - Replication
- The future integration points for oVirt Storage
  - Openstack
  - DRDB
  - Extending oVirt API
- 3.4 & Beyond
What's new in oVirt 3.3 Storage?

**Business Continuity:**

- Backup and Restore API for Independent Software Vendors (3.3.2)
- Manage Storage Connections (Multipath & DR) (3.3.1)

**Disk Management:**

- Enable online virtual drive resize
- Virtio-SCSI support
- Disks Block Alignment scan
- Disk Hooks (for disk hot-plug/unplug)
Storage directions

**Software Defined Storage (SDS)**

- GlusterFS native storage domain in oVirt 3.3
- Converged Storage Hypervisor vision (self hosted)

**Storage Offloading:**

- **LibStorageMgmt** integration
  - Ability to plugin external storage array into oVirt/VDSM virtualization stack, in a vendor neutral way
  - Can provide Array Offload capabilities, such as Snapshots/Clones, xCopy
Storage directions

LibStorageMgmt

Storage Offloading

- Open source, vendor agnostic library which provides an API for managing external storage arrays
- Current array support (varying levels of functionality)
  - Linux software target
  - SMI-I compliant arrays (NetApp, EMC etc)
Storage directions

**Storage Offloading:**
- **OpenStack Cinder** integration
  - Storage offload by design
  - LibSM Driver
  - Existing Eco System

**IO Performance:**
- On Hypervisors running multiple VMs all writes end up Random
  - Bad for:
    - SSD
    - SMR
Storage Replication directions

• Array Based
  • 3.3 DR support via Manage Storage Connections
• Distributed
  • Gluster
  • Ceph
  • DRBD
• Hypervisor based
  • QEMU-KVM
• Cinder?
Future integration points

- **OpenStack Storage stack integration**
  - Glance - consumed in oVirt 3.3
  - Cinder
    - Consume
    - Provide

- **Extending oVirt API**
  - oVirt third-party UI plug-in framework:
    - NetApp VCS 1.0 integration available for oVirt 3.2
  - oVirt Backup & Restore API next phases:
    - Leverage qemu-qa Microsoft Windows Volume Shadow Copy Service (VSS)
    - Leverage qemu block layer Change Block Tracking (CBT) to cover incremental backups.
3.4 & Beyond

- Get rid of Storage Pool Manager
- Proper iSCSI-multipathing
- Single disk snapshots
- Import existing storage domain
- Read-only disks
- Support VM Fleecing (qemu-kvm/Libvirt)
- Snapshots Live Merge
THANK YOU!

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