14th March 2016

Maintaining Loopback devices after reboot -- Openstack: Cinder:How do you add a new LVM to PV / VG and have it remain after reboot?

I'm working with a mostly out of box packstack installer script. For the most part I've created a packstack-answers.txt file that fully automates my entire setup yet I quickly noticed that I neglected to update the following parameter (CONFIG_CINDER_VOLUMES_SIZE) and this was causing some cinder errors when creating volumes.

This causes a few errors when I try and create a volume which is larger then the 20gb file-based lvm originally provisioned for cinder volumes.

Digging through the cinder logs I find the following errors which indicate I need to expand the space used pv/vg/lvm system:

> scheduler.log: Failed   to   run   task
> cinder.scheduler.flows.create_volume.ScheduleCreateVolumeTask;volume:create: No valid host was
> found. No weighed hosts available
>
> scheduler.log:2016-03-12 21:48:48.338 1463 WARNING cinder.scheduler.filters.capacity_filter [req-
> fb67233d-7ed9-4bb5-815c-2d3a5d2f5133   1599649750d84021b72ea8dc0ccb20ba
> 9b2ebd62275d42aa897f2a3d51994069 - - -] Insufficient free space for volume creation on host
> <your_host>@lvm#lvm (requested / avail): 100/20.6

The steps to the solution were pretty straight forward but I was struggling to get them to remain after rebooting the server:

1) truncate --size 1024G /var/lib/cinder/cinder-volumes2
2) losetup --find --show /var/lib/cinder/cinder-volumes2 /dev/loop2
3) pvcreate /dev/loop2
4) lvextend cinder-volumes /dev/loop2
5) systemctl restart openstack-cinder-volume
6) Update /usr/lib/systemd/system/openstack-losetup.service to include the new file-lvm mounts:

> ExecStart=/usr/bin/sh -c '/usr/sbin/losetup -j /var/lib/cinder/cinder-volumes | /usr/bin/grep /var/lib/cinder
> /cinder-volumes || /usr/sbin/losetup -f /var/lib/cinder/cinder-volumes; /usr/sbin/losetup -j /var/lib/cinder
> /cinder-volumes2 | /usr/bin/grep /var/lib/cinder/cinder-volumes2 || /usr/sbin/losetup -f /var/lib/cinder
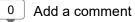> /cinder-volumes2'
>
> ExecStop=/usr/bin/sh -c '/usr/sbin/losetup -j /var/lib/cinder/cinder-volumes | /usr/bin/cut -d : -f 1 | /usr/bin
> /xargs /usr/sbin/losetup -d; /usr/sbin/losetup -j /var/lib/cinder/cinder-volumes2 | /usr/bin/cut -d : -f 1 |
> /usr/bin/xargs /usr/sbin/losetup -d;'

This resolved the issue I had with losing loopback device after rebooting. Which was causing the following error in the volume log.

/var/log/cinder/volume.log
2016-03-13 18:35:41.396 7470 ERROR cinder.volume.manager IndexError: list index out of range

How did I find this? Look at the code in the following puppet template: /usr/lib/python2.7/site-packages/packstack /puppet/templates/cinder_lvm.pp

Posted 14th March 2016 by cappetta

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