**ISSUE:**

**LVM BUG with CLVMD RUNNING:**

**Live demo & Restoration of missing VG.**

Testserver:

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1. First when we checked the vg's output before extending the LVM.

[root@testserver ~]# vgdisplay vg00

--- Volume group ---

VG Name vg00

System ID

Format lvm2

Metadata Areas 2

Metadata Sequence No 165

VG Access read/write

VG Status resizable

MAX LV 0

Cur LV 7

Open LV 7

Max PV 0

Cur PV 2

Act PV 2

VG Size 71.38 GiB

PE Size 128.00 MiB

Total PE 571

Alloc PE / Size 415 / 51.88 GiB

Free PE / Size 156 / 19.50 GiB

VG UUID t5bgtZ-xQuR-ZVu7-UXKM-swZr-46MJ-8JKhwR

2. The error which was thrown while extending the LV.

[root@ testserver ~]# lvextend -l+1 /dev/vg00/auditvol

Size of logical volume vg00/auditvol changed from 256.00 MiB (2 extents) to 384.00 MiB (3 extents).

Error locking on node usnencvl072-priv: Volume group for uuid not found: t5bgtZxQuRZVu7UXKMswZr46MJ8JKhwRVeIxaIMWR5O5cDPFly2CFt3DbaKcS64X

Failed to lock logical volume vg00/auditvol.

Error locking on node usnencvl072-priv: Volume group for uuid not found: t5bgtZxQuRZVu7UXKMswZr46MJ8JKhwRVeIxaIMWR5O5cDPFly2CFt3DbaKcS64X

Problem reactivating logical volume vg00/auditvol.

The Red Hat article which mentions the above issue.

Volume group got removed during lvm operation in Red Hat High Availability cluster with clvmd running. ---> https://access.redhat.com/solutions/2453881

3. Volume group gone missing after extending the LVM but the file systems are mounted at this time.

[root@ testserver ~]# lvs vg00

Volume group "vg00" not found

Cannot process volume group vg00

[root@ testserver ~]# vgs

VG #PV #LV #SN Attr VSize VFree

appclus 4 1 0 wz--nc 1.17t 99.98g

vgapp 1 4 0 wz--n- 125.00g 30.00g

vgapp02 1 1 0 wz--n- 525.00g 17.00g

4. When we checked the recent LVM metadata which is present in /etc/lvm/backup/vg00 we found that the last extended size of the LVM "auditvol" of VOlume Group "vg00" is not updated in it.

# cat /etc/lvm/backup/vg00

description = "Created \*after\* executing 'lvextend -L +2G /dev/mapper/vg00-varvol'"

creation\_host = "usnencvl072.nmcorp.nissan.biz" # Linux usnencvl072.nmcorp.nissan.biz 2.6.32-504.el6.x86\_64 #1 SMP Tue Sep 16 01:56:35 EDT 2014 x86\_64

creation\_time = 1485359737 # Wed Jan 25 08:55:37 2017

vg00 {

id = "t5bgtZ-xQuR-ZVu7-UXKM-swZr-46MJ-8JKhwR"

seqno = 165

format = "lvm2" # informational

status = ["RESIZEABLE", "READ", "WRITE"]

flags = []

extent\_size = 262144 # 128 Megabytes

max\_lv = 0

max\_pv = 0

metadata\_copies = 0

physical\_volumes {

pv0 {

id = "AkCHcP-wNrS-vtlE-1vjl-EOk0-ou5A-O66vFw"

device = "/dev/sda3" # Hint only

status = ["ALLOCATABLE"]

flags = []

dev\_size = 78247936 # 37.3115 Gigabytes

pe\_start = 2048

pe\_count = 298 # 37.25 Gigabytes

}

pv1 {

id = "bZCcOG-Njay-hAtr-bZP0-de2B-3qhr-tq0VrJ"

device = "/dev/sda2" # Hint only

status = ["ALLOCATABLE"]

flags = []

dev\_size = 71696384 # 34.1875 Gigabytes

pe\_start = 2048

pe\_count = 273 # 34.125 Gigabytes

}

logical\_volumes {

auditvol {

id = "VeIxaI-MWR5-O5cD-PFly-2CFt-3Dba-KcS64X"

status = ["READ", "WRITE", "VISIBLE"]

flags = []

creation\_host = "localhost.localdomain"

creation\_time = 1447189542 # 2015-11-10 14:05:42 -0700

segment\_count = 1

segment1 {

start\_extent = 0

extent\_count = 2 # 256 Megabytes ---> Still showing 256MB and not the new extended size of the LVM.

5. When checking the PV we can see that the PV is intact since the /dev/sda2 and /dev/sda3 are shown in the pvdisplay.

# pvdisplay

"/dev/sda2" is a new physical volume of "34.19 GiB"

--- NEW Physical volume ---

PV Name /dev/sda2

VG Name

PV Size 34.19 GiB

Allocatable NO

PE Size 0

Total PE 0

Free PE 0

Allocated PE 0

PV UUID bZCcOG-Njay-hAtr-bZP0-de2B-3qhr-tq0VrJ

"/dev/sda3" is a new physical volume of "37.31 GiB"

--- NEW Physical volume ---

PV Name /dev/sda3

VG Name

PV Size 37.31 GiB

Allocatable NO

PE Size 0

Total PE 0

Free PE 0

Allocated PE 0

PV UUID AkCHcP-wNrS-vtlE-1vjl-EOk0-ou5A-O66vFw

6. Since it is confirmed that only the vg is gone missing and the PV is not modified we have restored the VG as shown below and hence the "vg00" is brought back.

[root@ testserver ~]# vgcfgrestore -f /etc/lvm/backup/vg00 vg00

Restored volume group vg00

[root@ testserver ~]# vgs

VG #PV #LV #SN Attr VSize VFree

appclus 4 1 0 wz--nc 1.17t 99.98g

vg00 2 7 0 wz--n- 71.38g 19.50g

vgapp 1 4 0 wz--n- 125.00g 30.00g

vgapp02 1 1 0 wz--n- 525.00g 17.00g

[root@ testserver ~]# vgs

VG #PV #LV #SN Attr VSize VFree

appclus 4 1 0 wz--nc 1.17t 99.98g

vg00 2 7 0 wz--n- 71.38g 19.50g

vgapp 1 4 0 wz--n- 125.00g 30.00g

vgapp02 1 1 0 wz--n- 525.00g 17.00g

7. As mentioned in the Red Hat article we have the below LVM packages in the other servers testserver2, testserver3, testserver4

# rpm -qa|grep lvm2

lvm2-libs-2.02.143-7.el6.x86\_64

lvm2-2.02.143-7.el6.x86\_64

lvm2-cluster-2.02.143-7.el6.x86\_64

testserver2 :

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1. When Team done the same LVM extension in this server we did not face the issue of the Volume group "vg00" gone to missing.

2. The reason is that the lvm2 packages present in this server are as follows,

# rpm -qa|grep lvm2

lvm2-libs-2.02.143-7.el6\_8.1.x86\_64

lvm2-2.02.143-7.el6\_8.1.x86\_64

lvm2-cluster-2.02.143-7.el6\_8.1.x86\_64

These servers already have updated lvm2 packages which has the bug fix as mentioned in the Red Hat article.

Conclusion :

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This issue occurs only on the cluster servers where the lvm2 packages are of the version mentioned below and clvmd is used and whenever the non-clustered lvm in the server is extended. This is especially for RHEL6.8 with the below lvm2 packages.

# rpm -qa|grep lvm2

lvm2-libs-2.02.143-7.el6.x86\_64

lvm2-2.02.143-7.el6.x86\_64

lvm2-cluster-2.02.143-7.el6.x86\_64