LVM: Display basic information about Physical Volumes, Volume Groups and Logical Volumes

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LVM: Display basic information about Physical Volumes, Volume Groups and Logical Volumes

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# Display information about a Physical Volume within a Volume Group
# -----------------------------------------------------------------
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# The default is to print every known physical volume in the system
along with
# its physical disk name, physical volume identifiers (PVIDs), to
which volume
# group (if any) the physical volume belongs, and the state of the
volume group
# as active if the volume group is varied on or concurrent if it is
varied on
# in concurrent mode

root@<server>:/root#> lspv
hdisk0          00c6413062a7f098                    rootvg
active
hdisk1          00c641308076d6da                    rootvg
active
```

```
hdisk2          00c6413062c3f43d                    None
hdisk3          00c641308076d74a                    None



root@<server>:/root#> lspv -l 00c6413062a7f098
pvid=00c6413062a7f098:
LV NAME               LPs     PPs     DISTRIBUTION          MOUNT
POINT
localoptlv            80      80      00..00..80..00..00
/local/opt
hd1                   8       8       00..00..08..00..00
/local/home
lv_dumplv             32      32      32..00..00..00..00    N/A
hd11admin             1       1       00..00..01..00..00    /admin
hd10opt               12      12      00..00..12..00..00    /opt
hd6                   122     122     00..122..00..00..00   N/A
hd8                   1       1       00..00..01..00..00    N/A
hd5                   2       2       02..00..00..00..00    N/A
hd9var                8       8       00..00..08..00..00    /var
hd3                   12      12      00..00..12..00..00    /tmp
hd4                   5       5       00..00..05..00..00    /
hd2                   21      21      00..05..16..00..00    /usr



root@<server>:/root#> lspv -p 00c6413062a7f098
pvid=00c6413062a7f098:
PP RANGE  STATE   REGION        LV NAME             TYPE       MOUNT
POINT
  1-2     used    outer edge    hd5                 boot       N/A
  3-112   free    outer edge
113-144   used    outer edge    lv_dumplv           sysdump    N/A
145-266   used    outer middle  hd6                 paging     N/A
267-283   free    outer middle
284-288   used    outer middle  hd2                 jfs2       /usr
289-289   used    center        hd8                 jfs2log    N/A
```

```
290-293   used    center        hd4                jfs2       /
294-309   used    center        hd2                jfs2       /usr
310-317   used    center        hd9var             jfs2       /var
318-329   used    center        hd3                jfs2       /tmp
330-409   used    center        localoptlv         jfs2
/local/opt
410-417   used    center        hd1                jfs2
/local/home
418-429   used    center        hd10opt            jfs2       /opt
430-430   used    center        hd11admin          jfs2       /admin
431-431   used    center        hd4                jfs2       /
432-575   free    inner middle
576-719   free    inner edge




# Small script to display some interesting information about Physical
Volumes



DISP="1"; ls -l /dev/hdisk* | awk '{print $10 " " $5 $6}' | sed -e
"s:/dev/::" -e "s/,/ /"  | while read DISK MAJOR MINOR
do
   SIZE=$(bootinfo -s $DISK)
   LUN=$(lscfg -l $DISK | sed -e "s/^.*L//" -e "s/ .*$//" | cut -c-2)
   VG=$(lspv | awk -vSDISK=$DISK '$1 == SDISK {print $3}')
   [ "$DISP" == "1" ] && echo -e "DISK t SIZE t LUN t MAJOR t MINOR t
VG" && DISP="0"
   echo -e "$DISK t $SIZE t $LUN t $MAJOR t $MINOR t $VG"
done

DISK     SIZE    LUN     MAJOR   MINOR   VG
hdisk0   76800   81      17      0       rootvg
hdisk1   13312   82      17      3       rootvg
hdisk2   20480   83      17      4       None
hdisk3   10240   84      17      2       None
```

```
# To show the WWID/UUID of a physical volume we can use '-u' option
that will give us the
# following informations in columns:

# - Physical disk name
# -  Physical volume identifiers (PVIDs)
# - Volume group (if any), or label (if any), belonging to
# - The state of the volume group (Active|Concurrent|Locked)
# - Unique device identifier (UDID)
# - Universally Unique Identifier (UUID)




# for instance:



lspv -u
   hdisk0     00f7136b54a8b920      rootvg       active
3924240C50 14DAB108806OPEN-V07HITACHIfcp05VDASD03AIXvscsi
69250cca-5886-21d0-8355-2ddc6327095c
   hdisk1     none                 None
3924240C50 14DAB317606OPEN-V07HITACHIfcp05VDASD03AIXvscsi
7847a5c4-4a9a-197d-ee28-94780dbaad1b
   hdisk2     none                 None
3924240C50 14DAB317906OPEN-V07HITACHIfcp05VDASD03AIXvscsi
fdd6bae3-96e2-acb5-a33f-8f65c8aca390
   hdisk3     none                 None
3924240C50 14DAB317A06OPEN-V07HITACHIfcp05VDASD03AIXvscsi
68a80ae5-2da4-12a7-1f60-2497727958b5
   hdisk4     none                 None
3924240C50 14DAB10A806OPEN-V07HITACHIfcp05VDASD03AIXvscsi
747df427-ef61-2cbc-41a0-c4b345e36f59
```

```
   hdisk5     none                 None
3924240C50 14DAB109206OPEN-V07HITACHIfcp05VDASD03AIXvscsi
1999849a-f121-de41-ed45-524d5125ca0b
   hdisk6     none                 None
3924240C50 14DAB109306OPEN-V07HITACHIfcp05VDASD03AIXvscsi
b626b025-176b-11e2-1b81-0a434eed29da
   hdisk7     none                 None
3924240C50 14DAB109406OPEN-V07HITACHIfcp05VDASD03AIXvscsi
04b40450-742c-c4bb-ba4d-2643d3c0028c
   hdisk8     none                 None
3924240C50 14DAB109506OPEN-V07HITACHIfcp05VDASD03AIXvscsi
0d0370f7-41ef-9fa9-bddb-0d839c0ce11f
   hdisk9     none                 None
3924240C50 14DAB316206OPEN-V07HITACHIfcp05VDASD03AIXvscsi
a533c1f6-8855-de6f-f643-d839281cc9df
   hdisk10    none                 None
3924240C50 14DAB300D06OPEN-V07HITACHIfcp05VDASD03AIXvscsi
1a943977-07a4-d4e9-ee37-2d8074aedda2
   hdisk12    00f66148d7610585     rootvg       active
3924240C50 14DAB10ED06OPEN-V07HITACHIfcp05VDASD03AIXvscsi
5a679182-d0dc-fea5-f301-262c85d4dbee
   hdisk11    none                 None
3924240C50 14DAB318906OPEN-V07HITACHIfcp05VDASD03AIXvscsi
5209b601-ec6b-b77c-a841-6070fd334a7f
   hdisk13    none               None                    3924240C50
14DAB30C106OPEN-V07HITACHIfcp05VDASD03AIXvscsi
add30c19-9d8b-2031-65b8-152b4a590d18




# Display information about Volume Groups
# ------------------------------------------------------------------
----------------------

root@<server>:/root#> lsvg
rootvg
dbf1vg
```

```
dbf2vg
fravg
rdo1vg
rdo2vg


root@<server>:/root#> lsvg -l rootvg
rootvg:
LV NAME             TYPE       LPs     PPs     PVs  LV STATE
MOUNT POINT
hd5                 boot       2       4       2    closed/syncd  N/A
hd6                 paging     122     244     2    open/syncd    N/A
hd8                 jfs2log    1       2       2    open/syncd    N/A
hd4                 jfs2       5       10      2    open/syncd    /
hd2                 jfs2       21      42      2    open/syncd
/usr
hd9var              jfs2       8       16      2    open/syncd
/var
hd3                 jfs2       12      24      2    open/syncd
/tmp
localoptlv          jfs2       80      160     2    open/syncd
/local/opt
hd1                 jfs2       8       16      2    open/syncd
/local/home
hd10opt             jfs2       12      24      2    open/syncd
/opt
hd11admin           jfs2       1       2       2    open/syncd
/admin
lv_dumpsec          sysdump    32      32      1    open/syncd    N/A
lv_dumplv           sysdump    32      32      1    open/syncd    N/A
livedump            jfs2       2       2       1    closed/syncd  N/A

# LPs: Number of logical partitions in the logical volume.
# PPs: Number of physical partitions used by the logical volume.
# PVs: Number of physical volumes used by the logical volume.
# Logical volume state: State of the logical volume. Opened/stale
indicates the logical volume is
#   open but contains partitions that are not current. Opened/syncd
```

```
indicates the logical volume
#   is open and synchronized. Closed indicates the logical volume has
not been opened.


root@<server>:/root#> lsvg -p rootvg
rootvg:
PV_NAME           PV STATE          TOTAL PPs   FREE PPs    FREE
DISTRIBUTION
hdisk0            active            719         415
110..17..00..144..144
hdisk1            active            479         173
39..00..00..38..96




# Display information about Logical Volumes
# ------------------------------------------------------------------
----------------------

root@<server>:/root#> lslv lv_u02
LOGICAL VOLUME:     lv_u02                 VOLUME GROUP:   dbf1vg
LV IDENTIFIER:      00c8425d00004c000000012de24522f1.1
PERMISSION:     read/write
VG STATE:           active/complete        LV STATE:
opened/syncd
TYPE:               jfs2                   WRITE VERIFY:   off
MAX LPs:            1024                   PP SIZE:        512
megabyte(s)
COPIES:             1                      SCHED POLICY:   parallel
LPs:                587                    PPs:            587
STALE PPs:          0                      BB POLICY:
relocatable
INTER-POLICY:       minimum                RELOCATABLE:    yes
INTRA-POLICY:       middle                 UPPER BOUND:    128
MOUNT POINT:        /u02                   LABEL:          /u02
MIRROR WRITE CONSISTENCY: on/ACTIVE
```

```
EACH LP COPY ON A SEPARATE PV ?: yes
Serialize IO ?:     NO


root@<server>:/root#> lslv -l lv_u02
lv_u02:/u02
PV                COPIES        IN BAND       DISTRIBUTION
hdiskpower0       400:000:000   40%           000:160:160:080:000
hdiskpower20      100:000:000   20%           020:020:020:020:020
hdiskpower22      030:000:000   0%            000:000:000:010:020
hdiskpower23      040:000:000   50%           000:020:020:000:000
hdiskpower24      017:000:000   0%            000:000:000:000:017


# Copies:
#  * Number of logical partitions containing at least one physical
partition (no copies) on the physical volume
#  * Number of logical partitions containing at least two physical
partitions (one copy) on the physical volume
#  * Number of logical partitions containing three physical
partitions (two copies) on the physical volume
# In band: % of physical partitions on the physical volume that
belong to the logical volume and were allocated
#    within the physical volume region specified by Intra-physical
allocation policy.
# Distribution: Number of physical partitions allocated within each
section of the physical volume: outer edge,
#    outer middle, center, inner middle, and inner edge of the
physical volume.
```