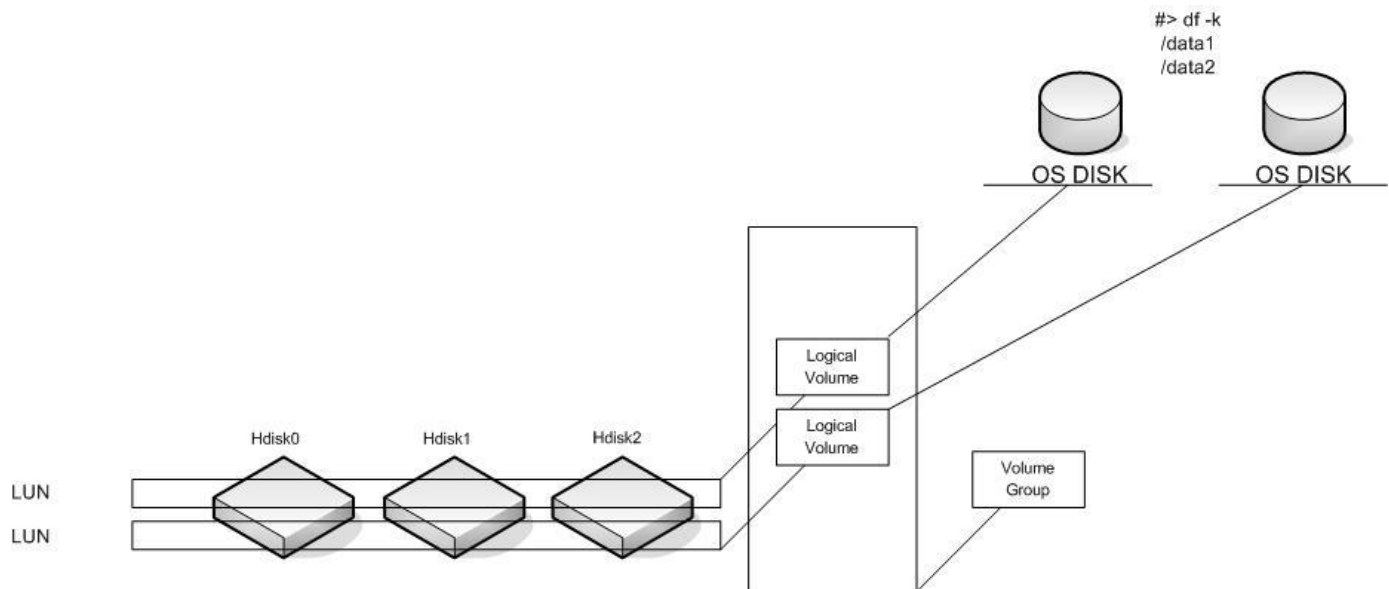# IBM Volume Manager in a nutshell

Listing Volume Groups

```
root@paritem:/ >lsvg
rootvg
HACMPvg
paritemvg
yatirimvg
pbackupvg
ybackupvg
```

Detailed information about a Volume Group

```
root@paritem:/ >lsvg paritemvg
VOLUME GROUP:       paritemvg              VG IDENTIFIER:
00c076eb00004c000000010852f95257
VG STATE:           active                 PP SIZE:       32 megabyte(s)
VG PERMISSION:      read/write             TOTAL PPs:     3196 (102272 megabytes)
MAX LVs:            256                    FREE PPs:      5 (160 megabytes)
LVs:                2                      USED PPs:      3191 (102112 megabytes)
OPEN LVs:           2                      QUORUM:        3
TOTAL PVs:          4                      VG DESCRIPTORS: 4
STALE PVs:          0                      STALE PPs:     0
ACTIVE PVs:         4                      AUTO ON:       no
MAX PPs per VG:     32512
MAX PPs per PV:     1016                   MAX PVs:       32
LTG size (Dynamic): 1024 kilobyte(s)       AUTO SYNC:     no
HOT SPARE:          no                     BB POLICY:     relocatable
```

Listing logical volumes in a Volume Group

```
root@paritem:/ >lsvg -l paritemvg
paritemvg:
LV NAME              TYPE        LPs  PPs  PVs  LV STATE       MOUNT POINT
```

```
parfslog                jfs2log    1    1    1     open/syncd    N/A
paritemlv               jfs2     3190 3190    4     open/syncd    /paritem
```

Detailed information about a Logival Volume

```
root@paritem:/ >lslv paritemlv
LOGICAL VOLUME:     paritemlv               VOLUME GROUP:   paritemvg
LV IDENTIFIER:      00c076eb00004c000000010852f95257.2 PERMISSION:    read/write
VG STATE:           active/complete         LV STATE:       opened/syncd
TYPE:               jfs2                    WRITE VERIFY:   off
MAX LPs:            4096                    PP SIZE:        32 megabyte(s)
COPIES:             1                       SCHED POLICY:   parallel
LPs:                3190                    PPs:            3190
STALE PPs:          0                       BB POLICY:      relocatable
INTER-POLICY:       maximum                 RELOCATABLE:    yes
INTRA-POLICY:       middle                  UPPER BOUND:    32
MOUNT POINT:        /paritem                LABEL:          /paritem
MIRROR WRITE CONSISTENCY: on/ACTIVE
EACH LP COPY ON A SEPARATE PV ?: yes
Serialize IO ?:     NO
```

Listing physical volumes in a Logical Volume

```
root@paritem:/ >lslv -l paritemlv
paritemlv:/paritem
PV              COPIES          IN BAND      DISTRIBUTION
hdisk5          798:000:000     20%          160:160:159:160:159
hdisk6          798:000:000     20%          160:160:159:160:159
hdisk7          797:000:000     20%          160:160:159:160:158
hdisk4          797:000:000     19%          160:159:159:160:159
```

Listing All Physical Volumes in the system

```
root@paritem:/ >lspv
hdisk0          00c076eb47dc9ccd                rootvg          active
hdisk1          00c076eb48a321d1                rootvg          active
hdisk2          00c076eb52dc8486                HACMPvg
hdisk3          00c076eb52dc87cb                HACMPvg
hdisk4          00c076eb52f945b8                paritemvg       active
hdisk5          00c076eb52f948ec                paritemvg       active
hdisk6          00c076eb52f94c26                paritemvg       active
hdisk7          00c076eb52f94f61                paritemvg       active
hdisk8          00c076eb52f9882e                yatirimvg
hdisk9          00c076eb52f98b5c                yatirimvg
hdisk10         00c076eb52f98e8b                yatirimvg
hdisk11         00c076eb52f99260                yatirimvg
hdisk12         00c076ebb148f11d                pbackupvg       active
hdisk13         00c076ebb148f470                pbackupvg       active
hdisk14         00c076ebb14935e2                ybackupvg
hdisk15         00c076ebb1493921                ybackupvg
```

Detailed information about a Physical Volume

```
root@paritem:/ >lspv hdisk5
PHYSICAL VOLUME:    hdisk5                  VOLUME GROUP:   paritemvg
PV IDENTIFIER:      00c076eb52f948ec VG IDENTIFIER      00c076eb00004c000000010852f95257
PV STATE:           active
STALE PARTITIONS:   0                       ALLOCATABLE:    yes
PP SIZE:            32 megabyte(s)          LOGICAL VOLUMES: 1
TOTAL PPs:          799 (25568 megabytes)   VG DESCRIPTORS: 1
```

```
FREE PPs:            1 (32 megabytes)        HOT SPARE:        no
USED PPs:            798 (25536 megabytes)   MAX REQUEST:      1 megabyte
FREE DISTRIBUTION:   00..00..00..00..01
USED DISTRIBUTION:   160..160..159..160..159
```

Listing logical volumes on a Pyhsical Volume

```
root@paritem:/ >lspv -l hdisk5
hdisk5:
LV NAME             LPs   PPs   DISTRIBUTION          MOUNT POINT
paritemlv           798   798   160..160..159..160..159 /paritem
```

Changing FileSystem Properties

first check the avaliable free space
previously explained
lsvg <volume group name>

adding 40GB to a mount point
Chfs -a size=+20000000 /pbackup   (20000000/512=39063MB)

can also be made by smitty chfs
Smitty chfs > Change / Show Characteristics of an Enhanced Journaled File System > Select the file system

changing a mount point
Chfs -d /pbackup /paritem_backup

config file
/etc/filesystems

further chfs options are in chfs manual pages
man chfs

if there is hacmp managed system then
changing filesystem should be made by "smitty hacmp"
Smitty hacmp > System Management > Logical Volume Management > Shared File Systems > Enhanced Journaled File Systems > Change / Show Characteristics of a Shared Enhanced Journaled File System > Select the File System

iyi Çalı malar,
Ergem PEKER

```
#########################################
Tarih    : 04.05.2006
DBA      : Ural Ural
Açıklama : ODMTEST serverında filesystem size arttırma işlemi sırasında karşılaştı ımız
sorun ve çözümü aşa ıdadır.
#########################################
```

ODMTEST - 10.91.0.1 filesystem size arttırma :

```
odmtest:/data2/oradata > lsvg
rootvg
datavg
odmtest:/data2/oradata > lsvg datavg
VOLUME GROUP:   datavg              VG IDENTIFIER:  00596bba00004c0000000105d3e950e0
VG STATE:       active              PP SIZE:        256 megabyte(s)
VG PERMISSION:  read/write          TOTAL PPs:      813 (208128 megabytes)
MAX LVs:        256                 FREE PPs:       12 (3072 megabytes)
LVs:            2                   USED PPs:       801 (205056 megabytes)
OPEN LVs:       2                   QUORUM:         2
TOTAL PVs:      1                   VG DESCRIPTORS: 2
STALE PVs:      0                   STALE PPs:      0
ACTIVE PVs:     1                   AUTO ON:        yes
MAX PPs per PV: 1016                MAX PVs:        32
LTG size:       128 kilobyte(s)     AUTO SYNC:      no
HOT SPARE:      no
odmtest:/data2/oradata > chfs -a size=+6000000 /data1
```

0516-787 extendlv: Maximum allocation for logical volume datalv
        is 800.
chfs: 0506-944 Execute module "/sbin/helpers/jfs2/chfs" failed

Çözüm :
```
odmtest:/data2/oradata > df -k
Filesystem     1024-blocks      Free %Used    Iused %Iused Mounted on
/dev/hd4            65536     26436   60%     1911     6% /
/dev/hd2          2228224    165664   93%    41982     8% /usr
/dev/hd9var        262144     30440   89%      696     2% /var
/dev/hd3           524288    435252   17%      407     1% /tmp
/dev/hd1           262144    216292   18%     1228     2% /home
/proc                  -         -     -        -      - /proc
/dev/hd10opt       131072    119080   10%      345     2% /opt
/dev/data2lv     38404096  35499652    8%     5918     1% /data2
/dev/datalv     209715200 205217388    3%    67362     1% /data1
--Aşa ıdaki komutla max sınır 800'den 900'e çıkarıldı.
odmtest:/data2/oradata > chlv -x 900 datalv
odmtest:/data2/oradata > chfs -a size=+6000000 /data1
Filesystem size changed to 425721856
odmtest:/data2/oradata > df -k
Filesystem     1024-blocks      Free %Used    Iused %Iused Mounted on
/dev/hd4            65536     26436   60%     1911     6% /
/dev/hd2          2228224    165664   93%    41982     8% /usr
/dev/hd9var        262144     30440   89%      696     2% /var
/dev/hd3           524288    435252   17%      407     1% /tmp
/dev/hd1           262144    216292   18%     1228     2% /home
/proc                  -         -     -        -      - /proc
/dev/hd10opt       131072    119080   10%      345     2% /opt
/dev/data2lv     38404096  35499652    8%     5918     1% /data2
/dev/datalv     212860928 208362636    3%    67362     1% /data1
odmtest:/data2/oradata > lsvg datavg
```

```
VOLUME GROUP:     datavg            VG IDENTIFIER:   00596bba00004c0000000105d3e950e0
VG STATE:         active            PP SIZE:         256 megabyte(s)
VG PERMISSION:    read/write        TOTAL PPs:       813 (208128 megabytes)
MAX LVs:          256               FREE PPs:        0 (0 megabytes)
LVs:              2                 USED PPs:        813 (208128 megabytes)
OPEN LVs:         2                 QUORUM:          2
TOTAL PVs:        1                 VG DESCRIPTORS:  2
STALE PVs:        0                 STALE PPs:       0
ACTIVE PVs:       1                 AUTO ON:         yes
MAX PPs per PV:   1016              MAX PVs:         32
LTG size:         128 kilobyte(s)   AUTO SYNC:       no
HOT SPARE:        no
odmtest:/data2/oradata >

#########################################
```