Information on Using the migratepv Command in AIX 3.2

Special Notices

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> **Note:** The information in this document has **not** been verified for AIX 4.1.

Warning: Please do not use this document if the system is a /usr client, diskless client, or dataless client.

migratepv Syntax

```
migratepv [ -l lv_name ] source_disk destination_disk(s)
```

Notice that the "-l lv_name" is optional and that more than one destination disk can be included.

General Steps for Using migratepv

Warning: Please do not use this document if the system is a /usr client, diskless client, or dataless client.

Warning: The migratepv command only migrates logical volumes of 512 logical partitions (2 GB) or less. You can check the size of a logical volume with the "lslv <lv_name>" command.

1. With the following command, determine which disks are included in the volume group to be migrated. (Replace VG_NAME with the volume group name.)

   ```
   lsvg -p VG_NAME
   ```

   Sample output:

   ```
   rootvg:
   PV_NAME  PV STATE    TOTAL PPs   FREE PPs    FREE DISTRIBUTION
   hdisk0   active      159         0           00..00..00..00..00
   ```

2. If the disk to which you are migrating is new, perform these steps:

   a. Make sure the disk is available with the following command.

      ```
      lsdev -Cc disk
      ```

      Sample output:

      ```
      hdisk0 Available 00-08-00-30 670 MB SCSI Disk Drive
      hdisk1 Available 00-08-00-20 857 MB SCSI Disk Drive
      ```

      If the disk is not listed or is listed but not in the available state, you may need a CE's help to check/install your hardware.

      If it is listed and in the available state, then make sure it does not belong to another volume group:

      ```
      lspv
      ```

      Sample output:

      ```
      hdisk0          0000078752249812    rootvg
      hdisk1          000000234ac56e9e    none
      ```

   b. To add the new disk to a volume group, enter the command:

      ```
      extendvg VG_NAME hdisk#
      ```

      CAUTION! If extendvg finds that the hdisk contains information, it will issue the following warning but will NOT prevent you from including it in another volume group.

      ```
      0516-014 linstallpv: The physical volume appears to belong
               to another volume group.
      0516-631 extendvg: Warning, all data belonging to physical
               volume hdisk3 will be destroyed.
      extendvg: Do you wish to continue? y(es) n(o)?
      ```

      If you answer yes, ALL INFORMATION on the physical disk WILL BE LOST. BE CAREFUL!!!

3. With the following command, determine the number of PPs you will need for the migratepv. (Replace hdisk# with the source hdisk.)

   ```
   lspv hdisk# | grep "USED PPs"
   ```

   Sample output:

   ```
   USED PPs:            159 (636 megabytes)
   ```

   For the above example, you would need 159 FREE PPs in this volume group to successfully complete the migratepv.

4. Determine the number of free PPs on the destination disk(s). Run the following command for EACH DESTINATION DISK IN THE VOLUME GROUP. (Replace hdisk# with the destination hdisk.)

   ```
   lspv hdisk# | grep "FREE PPs"
   ```

   Sample output:

   ```
   FREE PPs:           204 (816 megabytes)
   ```

5. Now, add up the FREE PPs from all of the destination disks (determined in step 4). If the SUM is LARGER than the USED PPs from step 3, then you will have enough space to complete the migratepv procedure. If not, then another disk will be needed to get enough FREE PPs.

6. With the following command, check to see if hd5 is on the source disk. (Replace hdisk# with the source hdisk.)

   ```
   lspv -l hdisk# | grep hd5
   ```

   Sample output:

   ```
   hd5           2     2     02..00..00..00..00    /blv
   ```

   If you get no output, then hd5 is not on that hdisk. Skip to step 6c.

   If you get output similar to the sample shown above, perform the following:

   a. To migrate the rootvg, it is important to run migratepv with the "-l hd5" flag before running it on the entire disk. Use the following command:

      ```
      migratepv -l hd5 <source_disk> <destination_disk>
      ```

      After the command is completed, a message will be displayed which will warn you to run bosboot on the destination disk. (See part 6b.) Note the hdisk listed in the message.

      Note: If you attempt to run migratepv with a destination disk that is not a part of the volume group, you will get these errors:

      0516-320 getlvodm: Physical volume hdisk1 is not assigned to a volume group.

      0516-812 migratepv: Warning, migratepv did not completely succeed; all physical partitions have not been moved off the PV.

   WARNING: Please do not proceed further if the system is a /usr client, diskless client, or dataless client.

   b. Execute the following with the hdisk listed in the message from migratepv:

      ```
      bosboot -a -d /dev/<destination_disk>
      /usr/sbin/mkboot -c -d /dev/<source_disk>
      ```

   c. With the following commands, determine if you have a logical volume of type sysdump on the source disk that contains the rootvg.

      ```
      lsvg -l rootvg | grep sysdump
      ```

      Sample output:

      ```
      hd7         sysdump    2   2   1    open/syncd    /mnt
      ```

      If you get no output, then there are no logical volumes of type sysdump on that hdisk. Skip to step 7.

      If you get output similar to the sample shown above, run the following command, where yyy is the logical volume name (usually hd7) found in

the output of the previous command and where hdisk# is the source hdisk.

```
lspv -l hdisk# | grep yyy
```

Sample output:

```
hd7           2     2     00..00..02..00..00    /mnt
```

If you get no output, skip to step 7.

If you do get output from the lspv command, run the sysdumpdev command, to check if this logical volume is the primary dump device:

```
sysdumpdev -l
```

Sample output:

```
primary              /dev/hd7
secondary            /dev/sysdumpnull
```

If /dev/hd7 is listed as primary in the output, then logical volume hd7 is the primary dump device (/dev/hd7), and you will need to change the primary dump device. Use the following command:

```
sysdumpdev -Pp /dev/sysdumpnull
```

7. Now, migrate the disk. (NOTE: This may take an hour if the source disk is large.)

   ```
   migratepv <source_disk> <destination_disk(s)>
   ```

   Note: If the source disk on which you run migratepv contains hd5 and you run migratepv without first running it with the "-l hd5" flag (see step 6), you will get the following errors:

   ```
   0516-1011 migratepv: Logical volume hd5 is labeled as
             a boot logical volume.
   0516-812 migratepv: Warning, migratepv did not completely
            succeed; all physical partitions have not been
            moved off the PV.
   ```

   Note: If you attempt to run migratepv with a destination disk that is not a part of the volume group, you will get these errors:

   ```
   0516-320  getlvodm: Physical volume hdisk1 is not assigned
             to a volume group.
   0516-812  migratepv: Warning, migratepv did not completely
                   succeed; all physical partitions have not
                   been moved off the PV.
   ```

8. If you want to remove the source hdisk from the volume group, run the following command:

   ```
   reducevg VG_NAME <source_disk>
   ```

9. If you plan to physically remove the old disk from the system, run the following command:

   ```
   rmdev -l <source_disk> -d
   ```

10. If you migrated your primary dump device (step 6c), run the following command (where /dev/hd# is usually /dev/hd7):

```
sysdumpdev -Pp /dev/hd#
```

Example

In the following example, migratepv is used on a rootvg that contains only one disk. The commands entered are shown along with important output.

Input:

```
lsvg -p rootvg
```

Output

```
rootvg:
PV_NAME    PV STATE    TOTAL PPs   FREE PPs    FREE DISTRIBUTION
hdisk0     active      159          0           00..00..00..00..00
```

Input:

```
lsdev -Cc disk
```

Output:

```
hdisk0 Available 00-08-00-30 670 MB SCSI Disk Drive
hdisk1 Available 00-08-00-20 857 MB SCSI Disk Drive
```

Input:

```
 lspv
```

Output:

```
 hdisk0          0000078752249812    rootvg
 hdisk1          000000234ac56e9e    none
```

Input:

```
extendvg rootvg hdisk1

lsvg -p rootvg
```

Output:

```
rootvg:
PV_NAME    PV STATE    TOTAL PPs   FREE PPs    FREE DISTRIBUTION
hdisk0     active      159          0           00..00..00..00..00
hdisk1     active      204          204         40..41..41..41..41
```

***** Since hdisk0 contains 159 PPs which have to be migrated, and hdisk1 has 204 PPs available, we have enough room to migrate.

Input:

```
migratepv -l hd5 hdisk0 hdisk1
bosboot -a -d /dev/hdisk1
/usr/sbin/mkboot -c -d /dev/hdisk0

sysdumpdev -Pp /dev/sysdumpnull
migratepv hdisk0 hdisk1
reducevg rootvg hdisk0
sysdumpdev -Pp /dev/hd7
```

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