Reducing File System Size in AIX 4.1

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About This Document

This document explains how you can reduce the size of file systems in the rootvg volume group by making a system backup, editing "/image.data", and reinstalling the system. It then describes how non-rootvg, or user-created, volume groups may be imported into your newly installed operating system. This document applies to AIX 4.1 on the RISC System/6000.

Note: If you do NOT need to reduce the "/usr" or "/" or "/tmp" or "/var" file system, you can use the SIMPLER procedure which consists of the following steps:

1. Backup the data to tape
2. Unmount the file system
3. Remove the file system
4. Recreate the file system at the smaller size
5. Mount the file system
6. Restore the data from tape

Steps

Note: It is recommended that you back up any file systems that are not in the rootvg volume group before following this procedure.

1. With the machine in Normal mode, log in as root.
2. Remove any files that you do not want in the file systems that you plan to reduce. If you are not sure of the origin or purpose of a particular file, do not delete it.
3. Make sure all file systems in the rootvg volume group are mounted. **If not, they will not be included in the reinstalled system**

note: Ensure that /tmp has at least 8 mb free prior to moving on to step 4.

4. Type "mkszfile". This will create a file "/image.data", which will contain a list of the active file systems in the rootvg volume group, which will be included in the mksysb tape that you will create.

5. Use an editor to edit the "/image.data" file. Change the size of all the rootvg file systems that you are reducing to reflect the sizes you want for those file systems.

   Example: The /image.data file currently shows the file size of /usr to be 40MB with the following entry:

   lv_data:

   ```
   VOLUME_GROUP= rootvg
   LV_SOURCE_DISK_LIST= hdisk0
   LV_IDENTIFIER= 000011651bee8429.6
   LOGICAL_VOLUME= hd2
   VG_STAT= active/complete
   TYPE= jfs
   MAX_LPS= 512
   COPIES= 1
   LPs= 10
   STALE_PPs= 0
   INTER_POLICY= minimum
   INTRA_POLICY= center
   MOUNT_POINT= /usr
   MIRROR_WRITE_CONSISTENCY= on
   LV_SEPARATE_PV= yes
   PERMISSION= read/write
   LV_STATE= opened/syncd
   WRITE_VERIFY= off
   PP_SIZE= 4
   SCHED_POLICY= parallel
   PP= 10
   BB_POLICY= relocatable
   RELOCATABLE= yes
   UPPER_BOUND= 32
   LABEL= /usr
   MAPFILE=
   LV_MIN_LPS= 8
   ```

   The line above "LPs" indicates the number of logical partitions required by the logical volume. You will need to change this value to the new size that you want the logical volume to be. If you want to reduce reduce the size of /usr from 40 MB to 32 MB, you would edit the /usr entry to look like this:

   ```
   LPs= 8
   ```

   Important: Make sure that you DO NOT enter a value which is less than the size required to contain the current data. Doing so will cause the reinstallation procedure to fail. Look at the line above "LV_MIN_LPS= #" this is the smallest number of logical partitions that you can allocate to this logical volume.

6. Check for any user defined paging space(s) with the following command:

   ```
   lsvg -l <vgname>
   ```

   where "<vgname>" is the name of the volume group. If there are any user defined paging space(s), do the following to deactivate the paging space:

   a. Execute the command:

      ```
      chps -a n <paging_space>
      ```

   b. Reboot the system.

7. Unmount all file systems that are NOT in the rootvg volume group.

8. If you have any non-rootvg volume groups, varyoff and export them with the following commands. (Substitute VGname with the name of the volume group.)

   ```
   varyoffvg VGname
   exportvg VGname
   ```

9. With a tape in the tape drive, type the following command:

   ```
   mksysb /dev/rmt0
   ```

   This will create a complete system backup of the rootvg, which will include file-system size information (in the /image.data file) for use in the installation procedure.

10. Follow the instructions in Chapter 5 of the AIX Version 4.1 Installation Guide ("Installing BOS from a System Backup"), using the tape that you created in step 9.

11. When the operating system installation is complete, you will need to reboot the system in normal mode. The reduction of the file systems is now complete.

12. If you have any non-rootvg volume groups, you can import them with the following commands. (Substitute VGname with the name of the volume group; substitute PVname with the name of any one of the physical volumes in the volume group.)

    ```
    importvg -y VGname PVname
    varyonvg VGname
    ```

13. Now, you can mount all the file systems with

    ```
    mount all
    ```

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