A/UX: How to Partition for Two 45MB Cartridges

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TOPIC ---

In our office, we use 45MB removable cartridges as standards for hard disk
storage. Some of us now want to use A/UX. Is it feasible to put A/UX on two
separate 45MB cartridges and run it as is? If yes, what partitioning would you
recommend?

DISCUSSION --

If you have two 45MB cartridge drives on a Macintosh running A/UX, it may be
possible to separate the standard A/UX Root&Usr partition into Root and Usr
partitions on two different drives. Here is the list of disk partitions and
their sizes from the standard A/UX 2.0b for an 80MB drive:

Approx. size	Partition
16K	Macintosh Driver
16K	Free
54567K	A/UX Root&Usr (slice 0)
18432K	A/UX Swap (slice 1)
3072K	A/UX Autorecovery
2048K	MacPartition
1K	Free A/UX (slice 3)
1K	Free

For this particular situation, we would suggest that you put the "Macintosh
Driver", the "A/UX Root"(/), the "A/UX Swap", and the "MacPartition" partitions
on one drive, and put the "Usr"(/usr) partition on another drive. You may
remove the "A/UX Autorecovery" partition if you have a way to recover from any
disk disaster.

The total size of the "Macintosh Driver" (16K), the "A/UX Swap" (18432K), and
the "MacPartition" (2048K) partitions is 20496K. Therefore, you can create the
"Root" (/) file system with the size of about 45MB – 20496K. Note that the
current disk space occupied by the "Root" file system (excluding /usr) is about
20MB. Therefore, you have about 5MB of space for growing in the "root" drive.
The entire disk size (in blocks) can be found from the report of "dp
/dev/rdsk/cXd0s31" (X is the SCSI ID of the drive).

Use the "dp" command to create the above partition names and sizes in one
drive. Within "dp", write down the size (in block) of the "Root" (/) file
system for later "newfs" use.

On the other drive, you can allocate the entire 45MB for the "Usr" (/usr)
partition. Use the same "dp" to create the "Usr" (/usr) partition, and write
down its size. Note that the current disk space occupied by the "Usr" (/usr)
is about 18MB. Therefore, you have about 25MB (maybe less due to 5 percent
"low-water-mark" required on BSD UFS) space to grow.

To balance the disk space between the two drives, you can "symbolically" link
some files or directories from the "Root" drive to the "Usr" drive.

To make a "Root" (/) Berkeley file system (UFS) do:

    # newfs -s number-of-blocks-for-root /dev/dsk/cXd0s0

"X" is the SCSI ID of the 45MB "Root" drive.

To make a "Usr" (/usr) Berkeley file system (UFS) do:

    # pname -cY -s2 "Usr"
    ==> /dev/dsk/cYd0s2

"Y" is the SCSI ID of the 45MB "Usr" drive, and assume "Usr" is the partition
name created in the drive.

newfs -s number-of-blocks-for-usr /dev/dsk/cYd0s2

After you have these file systems created, you can mount the above two file
systems. Here is an example:

    # mount /dev/dsk/cXd0d0 /45root
    # mount /dev/dsk/cYd0s2 /45usr

After mounting the file systems, you can use either "cpio" or "tar" to copy the
following files and directories (exclude /usr) onto the 45MB "Root" drive:

    /.[a-z]*
    /[a-t]*
    /[v-z]*
    /[A-Z]*

and copy the following /usr directory onto the 45MB "Usr" drive:

    /usr
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