

Re: Trying to move /usr – Fixed

Source: <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/questions/2007-08/msg01320.html>

- *From:* Michael S <msherman77@xxxxxxxxxx>
 - *Date:* Tue, 21 Aug 2007 01:30:09 -0400 (EDT)
-

I was able to rectify the problem by removing /home, which was a link and was pointing to /usr/home and then recreating it as a directory.

Thanks everyone for their suggestions,
Michael

--- Vinny
<vinny-mail-01+20070820usrmv@xxxxxxxxxxxxxxxxxxxxxxxxxx>
wrote:

Michael S wrote:

I reverted to the old /usr.
What I had done:
Initially I set up the newly installed drive (da2)
to have only one partition (da2s1d) which I chose

to

be /user (note the e).
I tarred /usr to a file in /user
tar -cf /user/usr.tar /tar

and extracted the file
tar -xf usr.tar
I had the whole structure of /usr underneath

/user/usr

And then
cd usr
mv * ..

to have everything under /user

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After thinking about that mv command, I have come to the conclusion that /dev/da2s1d does not in fact contain a /usr directory structure and if mounted will be empty. Why?

Note /dev/ad8s1e is an empty partition (a new disk, if you will on my system that I will in this demonstration).

Also, I'll use user and usrdemo as the names of the user and usr directories that Michael is using, respectively. I don't want to overwrite my own usr directory needlessly.

Observe:

Create a mount point and mount the disk

```
t# cd /
t# mkdir user
t# mount -t ufs /dev/ad8s1e /user
```

```
t# pwd
/user
t# mkdir -p usrdemo/path
```

Check our partition (there is a dot (.) after the df command, look closely):

```
t# df .
Filesystem 1K-blocks Used Avail Capacity Mounted
on
/dev/ad8s1e 507630 6 467014 0% /user
```

Create a file for no reason.

```
t# touch usrdemo/path/file.txt
t# cd /
t# ls -laR /user
total 6
drwxrwxrwt 3 root wheel 512 Aug 20 22:05 .
drwxr-xr-x 26 root wheel 1024 Aug 20 21:59 ..
drwxr-xr-x 3 root wheel 512 Aug 20 22:05
usrdemo
```

```
/user/usrdemo:
total 6
drwxr-xr-x 3 root wheel 512 Aug 20 22:05 .
```

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```
drwxrwxrwt 3 root wheel 512 Aug 20 22:05 ..
drwxr-xr-x 2 root wheel 512 Aug 20 22:05 path
```

```
/user/usrdemo/path:
total 4
drwxr-xr-x 2 root wheel 512 Aug 20 22:05 .
drwxr-xr-x 3 root wheel 512 Aug 20 22:05 ..
-rw-r--r-- 1 root wheel 0 Aug 20 22:05 file.txt
t# cd /user
```

Let's look at what file system we're on again:

```
t# df .
Filesystem 1K-blocks Used Avail Capacity Mounted
on
/dev/ad8s1e 507630 6 467014 0% /user
```

Still on the new drive.

Now that we're in the /user directory let us try, as Michael says "to have everything under /user". Right idea, but mv is not the tool in this case: The next command causes much trouble:

```
t# mv * ..
```

will in fact move the contents of /user to the parent directory which is in fact /, the root of the file system.

There is nothing left in /user:

```
t# pwd
/user
```

```
t# ls -la
total 4
drwxrwxrwt 2 root wheel 512 Aug 20 22:06 .
drwxr-xr-x 27 root wheel 512 Aug 20 22:06 ..
```

If we change directory to the .. directory target (the same target as the mv command) we'll see the usrdemo directory.

```
t# cd ..
t# ls
.cshrc compat lib proc
usb
.profile dev libexec
rescue usr
```

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```
.snap dist media root
usrdemo
COPYRIGHT dvdrom mnd sbin
var
bin entropy mnt sdvd
boot etc user sys
cdrom home portable tmp
```

If we change to it and check our file system:

```
t# cd usrdemo/path/
t# ls
file.txt
t# df .
Filesystem 1K-blocks Used Avail Capacity Mounted
on
/dev/ad4s1a 507630 99704 367316 21% /
```

We find it now sitting as a directory the / root partition!
In Michael's case it would be sitting on the old /usr partition. Definitely not what we wanted.

So what has happened is that the mv * command with Michael's usr directory actually overwrote the current /usr directory with the contents of the tar archive. Seems like a no-op but there could be symbolic link issues, i.e. /usr/home -> /home.

I hope that is semi-coherent.

What you probably want to do to replace a /usr partition is something like this:

```
cd /
mkdir user
mount -t ufs /dev/da2s1d /user
cd /usr
pax -rw -pe . /user
```

pax is like tar. -rw means to read (r) from the source (.) and write (w) to the destination (/user). -pe means to preserve everything (permissions, ownership etc).

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Having done that, you now have a duplicate usr directory structure "under" /user i.e. /user/bin /user/lib and so on.

Now you can switch the fstab entries like you planned, reboot, and you should have replaced /usr with the new drive.

Hope this helps, although you may have some issues in the future due to any unintended consequences of the tar/mv command combination.

Vinny

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