

Re: [SLE] /usr almost full

Source: <http://linux.derkeiler.com/Mailing-Lists/SuSE/2005-01/0635.html>

From: Jon Nelson (jnelson-suse_at_jamponi.net)

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Date: Thu, 6 Jan 2005 19:02:43 -0600 (CST)

To: "Paul W. Abrahams" <abrahams@acm.org>

On Thu, 6 Jan 2005, Paul W. Abrahams wrote:

> *On Thursday 06 January 2005 6:01 pm, B. Stia wrote:*

> >

> > *Going to have a problem soon. My /usr partition is 94% full. (didn't realize that /usr/lib_64 was over 300 megs alone) When I originally setup my system I created several large partitions, some of which have lots of space.*

>

> *I've set up several SuSE systems, and for a long time I thought it was wise to have separate partitions for the separate top-level partitions (/usr,/var,/home, etc.). But my experience now is that it's better to put everything in one partition to avoid precisely the pickle you're in -- one partition grows unexpectedly while the others still have plenty of room left.*

>

> *I think the idea of having separate partitions for separate components of the top-level filesystem is really a historical remnant of the days when you needed to distribute the filesystem over several hard drives because a single drive wasn't big enough. Those days are gone. I know there's a case to be made for having /usr, say, mounted read-only so people don't muck with it, but really, you can do just as much by setting the permissions properly.*

>

> *Maybe I'm missing something here. I'd like to hear other opinions.*

There IS an even better option. Use LVM. I haven't set up a Linux box without LVM in... years. Personally, I use a *small* /boot (maybe 100M), and the one of the two following scenarios (let's say I've got /dev/hda):

```
/dev/hda1 /boot 100M This is the boot partition.  
/dev/hda2 SWAP xxxM Swap  
/dev/hda3 / 500M This is / (aka, 'root')  
/dev/hda4 LVM REST This is the first "pv" for LVM
```

I create a Volume Group (aka, "block device") out of /dev/hda4. Then, I create logical volumes (aka "partitions") from the Volume Group. If I were to name my LVM "system", here is what I might do:

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```
/dev/system/usr /usr 750M
/dev/system/var /var 750M
/dev/system/tmp /tmp 1.0G (also symlink /var/tmp and /usr/tmp -> /tmp)
/dev/system/opt /opt xxxM
/dev/system/usr_local /usr/local xxxM
/dev/system/multimedia /multimedia (shared multimedia) xxxM
```

and so on.

Later, if I find that 750M is not enough for /usr (and I'm using a reasonable filesystem like ext2/3, jfs, even reiser can be enlarged !! NOTE: ext2/3 can also be shrunk!!), I go into single-user mode ('init 1' or 'telinit 1', etc...), and then issue the following commands.

For jfs:

Do not unmount.

Enlarge the "partition" (logical volume):

```
lvresize --size=+500M --test /dev/system/usr
```

!! The plus '+' is very important.

If that looks OK, then I reissue without --test.

Remount:

```
mount -o remount,resize /usr
```

jfs will automatically enlarge to the size of the LV.

For ext2/3:

Bear with, it's been a while.

Unmount

use resize2fs

mount

For reiser/xfs/other? Dunno. Don't use them.

Now, obviously your volume group has to have space available, but hey, with today's disks, that's not usually a problem. Or, go buy another disk, add it to the volume group, and then add /dev/hda only a 5G and you need 30G of space over 3 filesystems? Buy another drive and use LVM.

I use LVM on top of raid5 or raid1.

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Carpe diem - Seize the day.

Carp in denim - There's a fish in my pants!

Jon Nelson <jnelson-suse@jamponi.net>

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