

Updating AIX using alt_disk_copy

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Getting older means problems with memory. That's why I'm writing here - to make a braindump. dd if=/dev/brains of=/this/blog.

Check, how many disks are in rootvg:

```
lsvg -p rootvg
```

Check, how many free disks we have:

```
lspv | grep None
```

Check the sizes of the free disks:

```
bootinfo -s hdiskXX
```

or (POSIX-way):

```
getconf DISK_SIZE /dev/hdiskXX
```

We should have at least as many free disks of the same size as rootvg has. If rootvg is mirrored and has two 73GB disks, we should have two free 73GB disks.

If we don't have enough free disks on the LPAR, we can split rootvg. Of course if rootvg is mirrored. Check first which disks are there, and from which disk the LPAR was booted:

```
lsvg -p rootvg
```

```
bootinfo -b
```

Remove another disk from rootvg! If rootvg contains hdisk0 and hdisk1, and the LPAR was booted from hdisk0, split hdisk1 from rootvg. Trust me - it makes life easier in case of errors and accidental reboots ;-)

I use the following one-liner to remove (almost) all logical volumes from the disk:

```
lsvg -l rootvg | tail +3 | grep -v sysdump | awk '{print "rmlvcopy \"$1\" 1 hdisk1"}' | sh -v
```

Next check if you still have any logical volumes on the disk to remove from rootvg:

```
lspv -l hdisk1
```

if you have any sysdump devices, deactivate them first using sysdumpdev and then remove.

```
sysdumpdev -P -p /dev/sysdumpnull
```

```
rmlv lg_sysdumplv
```

If you have any other logical volumes, check if they have a copy and they should be migrated to another disk:

```
migratepv -l lv00 hdisk1 hdisk0
```

When the disk is empty and contains no more logical volumes, remove it from rootvg.

```
reducevg -f rootvg hdisk1
```

Don't forget to remove boot record. Just in case.

```
chpv -c hdisk1
```

OK. Now we have a disk or two disks to make a copy of rootvg. Let's do it! But first check if you have /etc/exclude.rootvg file and remove it or copy it to a safe place.

```
alt_disk_copy -B -d hdisk1
```

or

```
alt_disk_copy -B -d "hdisk2 hdisk3"
```

It takes a little bit time. But after this step we have two identical copies of rootvg. We can boot from either disk and have the same system.

Now we start to update our second copy of rootvg. We should first "wake up" it, then remove all emergency fixes we have and the update.

Wake up:

```
alt_rootvg_op -W -d hdisk1
```

Removal of emergency fixes:

```
INUCLIENTS=1 chroot /alt_inst /usr/sbin/emgr -l
```

```
INUCLIENTS=1 chroot /alt_inst /usr/sbin/emgr -rL
```

If you still don't have a directory with AIX update, mount it from your NFS server or copy it locally.

```
mount -o soft nfs-server:/aix/update /mnt
```

Then start the longest process ever.

```
alt_rootvg_op -C -I "acNgXY" -b update_all -l /mnt
```

The first I is big i - installp options, the second I is small L - location.

Update usually runs very long. It depends, if you update a TL or just a SP. SP update can run 30-60 minutes. TL update can run several hours. But when it is done, you must check if it really was so successful as installp says:

```
chroot /alt_inst /usr/bin/oslevel -s
```

```
chroot /alt_inst /usr/bin/lppchk -vm3
```

If not, try to find an error ;-) If everything is ok, let altinst_rootvg sleep again.

```
alt_rootvg_op -S -t -d hdisk1
```

Updated rootvg can now "sleep" till the server's maintenance window comes. But be careful - don't add new filesystems or change something on the server, that changes files in rootvg, including ODM. Because you'll lose all of your changes after reboot with new AIX version. Postpone all changes till after the maintenance window or recreate altinst_rootvg every time you change rootvg.

When you are allowed to reboot the server, set up new boot list and reboot the server.

```
bootlist -m normal hdisk1
```

```
shutdown -Fr
```

After reboot install new emergency fixes, if you have any, and your update is finished.

Happy AIXing :-)