Replace LVM disk to upgrade capacity

This example will copy /dev/sde1 mounted on /backup to /dev/sdf1 mounted on /replace and afterwards change mount point, logical volume and volume group names to the source names.

Prepare new disk

- fdisk /dev/sdf
- **n** to create a new partition, select **1** and accept all defaults
- **w** to write the new partition table and quit
- mkfs.ext3 /dev/sdf1
- lvm
- lvm > pvcreate /dev/sdf1
- lvm > vgcreate vg_replace /dev/sdf1
- lvm > vgdisplay vg_replace to check ### of free extents
- lvm > lvcreate -l### vg_replace (do not use -LxxGB, use size with -l### which is number of extents)
- lvm > lvrename vg_replace lvol0 lv_replace
- lvm > vgcfgbackup to backup volume group configurations
- lvm > exit
- mkfs -t ext3 /dev/vg_replace/lv_replace
- mkdir /replace
- mount /dev/vg_replace/lv_replace /replace

Copy content and assign new disk

- rsync -avH /backup/* /replace/
- umount /backup
- umount /replace
- lvm
- lvm > lvrename vg_backup/lv_backup lv_backup1
- lvm > lvchange vg_backup/lv_backup1 -an
- lvm > vgrename vg_backup vg_backup1
- lvm > lvchange vg_backup1/lv_backup1 -ay
- lvm > lvrename vg_replace/lv_replace lv_backup
- lvm > lvchange vg_replace/lv_backup -an
- lvm > vgrename vg_replace vg_backup
- lvm > lvchange vg_backup/lv_backup -ay
- lvm > exit
- mount /dev/vg_backup/lv_backup /backup -o noatime,user_xattr

Setting up LVM on top of a Linux Software Raid

- prepare the new disks with a partition (see above), do not create the filesystem yet
- mdadm –create –verbose /dev/md5 –level=1 –raid-devices=2 /dev/sde /dev/sdf
- watch the progress with cat /proc/mdstat
- when finished, restart the computer (shutdown -r now)