

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)

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