

# VM disk Expansion LVM+XFS

Expand the original disk or add a second vdisk from Infrastructure client.

If you want to perform a grow w/o reboot you have to add a second disk **THEN TAKE A SNAPSHOT!!!**

then from on the vm either create an additional partition on the free space. The partition type is 8e

```
cfdisk /dev/sda
```

# for example if the new partition is /dev/sda3

# create logical disk /dev/sda3

# make disk visible to linux

```
partprobe  
pvcreate /dev/sda3
```

if you are running a newer kernel you can issue this command to male linux re-read the disk geometry:

```
echo "1" > /sys/class/scsi_device/<device>/device/rescan
```

or assign the whole new disk to lvm assuming it's /dev/sdb

```
apt-get install scsitools  
rescan-scsi-bus.sh  
cfdisk /dev/sdb
```

### for example if the new partition is /dev/sda3

```
pvcreate /dev/sdb
```

now you have to extend the volgroup. use `lvdisplay` to see which is the name of the group, in this example it's base

```
lvdisplay  
--- Logical volume ---  
LV Name                /dev/base/root  
VG Name                 base  
LV UUID                 8cL9Qd-ksIn-1Ve2-94ym-gTrW-8jet-91tnah  
LV Write Access         read/write  
LV Status                available  
# open                  1  
LV Size                 5.00 GB  
Current LE              1280  
Segments                1  
Allocation               inherit
```

```
Read ahead sectors    0
Block device          254:0

--- Logical volume ---
LV Name                /dev/base/tmp
VG Name                base
LV UUID                mEnEXY-Ut0f-P439-MDpg-BlT3-n8hI-Q6KIfm
LV Write Access        read/write
LV Status              available
# open                 1
LV Size                1.00 GB
Current LE             256
Segments               1
Allocation             inherit
Read ahead sectors    0
Block device          254:1

--- Logical volume ---
LV Name                /dev/base/swap
VG Name                base
LV UUID                fm2A23-FPb3-itQa-Fvf2-QQmj-giwI-j8FZAf
LV Write Access        read/write
LV Status              available
# open                 2
LV Size                2.00 GB
Current LE             512
Segments               1
Allocation             inherit
Read ahead sectors    0
Block device          254:2

--- Logical volume ---
LV Name                /dev/base/data
VG Name                base
LV UUID                GZKUbb-hZn2-igXN-3dxj-TNz9-1C15-I8u8MR
LV Write Access        read/write
LV Status              available
# open                 1
LV Size                1.52 GB
Current LE             389
Segments               1
Allocation             inherit
Read ahead sectors    0
Block device          254:3
```

and we assume the new partition is /dev/sda3

```
vgextend base /dev/sda3
```

check with pvscan if the extend was successful

```
pvscan
```

Now we extend the "data" partition to 11.5 GB. See man lvextend for other options  
11.5 G is the NEW total size of the disk we want to extend!

```
lvextend -L 11.5G /dev/base/data
```

Extend with 20G

```
lvextend -L +20G /dev/base/data
```

now we have to grow the filesystem /data

```
xfs_growfs /data
```

## For swap

```
swapoff /dev/base/swap lvextend -L 3.9G /dev/base/swap mkswap /dev/base/swap swapon  
/dev/base/swap free
```

Check if filesystems are ok, and only then release the snapshot

For ext2/ext3

```
resize2fs /dev/base/data
```

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