

Thin LVM and badblock

Kernel reports problems with

```
[5528686.859719] blk_update_request: I/O error, dev sda, sector 85981696 op 0x0: (READ) flags 0x0 phys_seg 1 prio class 0
```

Filter out sector numbers from journal:

```
journalctl | grep 'dev sda, sector' | cut -d ' ' -f 12 | sort | uniq
```

```
82053408
85981440
85981536
85981544
85981552
85981560
85981568
85981696
85981704
85981712
85981720
85981728
85981736
85981744
85981752
85984832
85984840
85984848
85984856
85984864
85984872
85984880
85984888
85984896
85984904
85984928
```

```
smartctl -a /dev/sda | grep UNC
```

```
40 51 08 b8 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006b8 = 85984952
40 51 08 b0 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006b0 = 85984944
40 51 08 a8 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006a8 = 85984936
40 51 08 a0 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006a0 = 85984928
40 51 80 80 06 20 e5 Error: UNC 128 sectors at LBA = 0x05200680 =
85984896
```

Disk /dev/sda: 111,79 GiB, 120034123776 bytes, 234441648 sectors

Disk model: KINGSTON SA400S3

Units: sectors of 1 * 512 = 512 bytes

```
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 711FEF16-FBD0-45BB-BA56-52B93B733D8E
```

Device	Start	End	Sectors	Size	Type
/dev/sda1	34	2047	2014	1007K	BIOS boot
/dev/sda2	2048	1050623	1048576	512M	EFI System
/dev/sda3	1050624	234441614	233390991	111,3G	Linux LVM

Calculate LVM position for bad sector 85984896 by subtract Start section 85984896 - 1050624 = 84934272

Get PE size

```
pvdisk /dev/sda3
```

, it is 4M, so 4096.

LBA block (sector) size is 512, so each PE takes 8192 sectors.

The same information you can find in:

```
# cat /etc/lvm/backup/pve | grep extent_size
    extent_size = 8192          # 4 Megabytes
# cat /etc/lvm/backup/pve | grep pe_start
    pe_start = 2048
```

```
echo 84934272 / 8192 | bc
10367
```

Region is used by thin provisioning:

```
pvdisk -v -m
```

```
Physical extent 8128 to 24425:
  Logical volume    /dev/pve/data_tdata
  Logical extents   0 to 16297
```

!!! DONT KNOW HOW TO REMAP LVM SECTORS

```
lvcreate -l1 pve -n bb85984896 /dev/sda3:10367
```

Zeroing sectors

Confirm that sector read fails:

```
dd if=/dev/sda of=/tmp/dump.raw bs=512 count=1 skip=85981696
hdparm --read-sector 85981696 /dev/sda
```

```
hdparm --write-sector 85981696 --yes-i-know-what-i-am-doing /dev/sda
```

```
40 51 08 b8 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006b8 =  
85984952..85984959  
40 51 08 b0 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006b0 =  
85984944..85984951  
40 51 08 a8 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006a8 =  
85984936..85984943  
40 51 08 a0 06 20 e5 Error: UNC 8 sectors at LBA = 0x052006a0 =  
85984928..85984935  
40 51 80 80 06 20 e5 Error: UNC 128 sectors at LBA = 0x05200680 = 85984896  
to 85985023
```

```
for i in {85984896..85985023}; do echo $i; hdparm --write-sector $i --yes-i-  
know-what-i-am-doing /dev/sda; done
```

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