System Administration HW2

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1 Reference

1.1 Playing with LVM

1.1.1 Storage For NASA Course

1. Logical Volume, Physical Volume and Volume Groups
2. Creating Volume Groups
3. Creating Logical Volumes
4. Use rest of free space on LVM partition with new Logical Volume
5. Finding all partitions with filesystems

1.1.2 Need More Space

1. LVM2 學習筆記
2. vgextend - lvm resizing

1.2 PTT Alert

1. PTT
2. 臺灣第一大社群網站停擺多日
3. PTT 當機超過 3 日未復原，站方今早終於恢復服務上線
4. PTT 當機 1 小時修復　鄉民喊：根本「黑暗期」

2 Problem

2.1 Playing with LVM

2.1.1 Storage For NASA Course

Part 1

```
sudo vgcreate storage-vg /dev/sdb /dev/sdc
```

Part 2

```
sudo lvcreate -L 150G -n student storage-vg
sudo mkfs -t ext4 /dev/storage-vg/student
```

Part 3

```
sudo lvcreate -L 350G -n ta storage-vg
sudo mkfs -t ext4 /dev/storage-vg/ta
```

Part 4

```
sudo lvcreate -l 100%FREE -n hsinmu storage-vg
sudo mkfs -t ext4 /dev/storage-vg/hsinmu
```

2.1.2 Need More Space

First, I resize ta's LVM. Then, I extend the volume group to /dev/sdd storage. Lastly, I resize hsinmu to the rest of volume group.

```
sudo lvresize -L -150G /dev/storage-vg/ta
sudo vgextend storage-vg /dev/sdd
sudo lvresize -l 100%FREE /dev/storage-vg/hsinmu
```

2.2 PTT Alert

The disaster happened because RAID(Redundant Array of Independent Disks) crashed and needed to reconfigure them.

The official solution is to recover original machine's RAID first and if it doesn't work, then restore backup storage to backup machines. However, I think a better solution would be: restore backup storage to backup machine as fast as possible first and then if original machine's RAID is all fixed, then synchronize these fixed storage to backup machine. The reason why I think this solution is better is because there are extremely many users in PTT, therefore, I think we should fix it as fast as possible first.