RAID

- RAID0 - striping
- RAID1 - mirror
- RAID5
    - do not use
    - very slow write
    - rebuild takes days, and during rebuild another disk may fail = fatal
- RAID6 - striping with double parity (5+2, 13+2).
    - minimum 4 disks
    - allow 2 disk failure
    - slower write than RAID5 (requires udpate parity on 2 disks)

Recommended levels for safety:

- RAID10 = RAID 1 + 0 = i.e two mirrors (RAID1) stripped as RAID0
- RAID6
- RAID60 = RAID 6 + 0 - two RAID6 sets stripped as RAID0

Raid controllers

- controllers where RAID can be disabled, and all disks are exposed to host are called: HBA, JBOD, IT-MODE
    - H200
    - H310 ???
    - PERC 6 (no i letter)

Dell

- SAS1 - 3Gbps
    - SAS5E
        - SFF-8470 connector
        - supported by MD3000 (the same SFF-8470 connector)
    - SAS6E
        - SFF-8088 connector

- PERC 6
    - no memory
    - only JBOD, RAID0, RAID1
    - disks exposed to host
- PERC 6i
    - memory
    - 3Gbps connector, requires such midplane
    - no possibility to expose disks directly to host (trick is to create one RAID0 per disk)
- PERC 6iR (PERC 6 I/R)
- H series - SAS2 - 6Gbps - different connectors comparing to SAS1

- PERC H700
    - SAS2
    - SSD support
    - battery option
    - memory slot
    - must be inserter into dedicated PCI RAID slot
    - no possibility to expose disks directly to host (trick is to create one RAID0 per disk)
- **H200**
    - **plain HBA**
    - no raid
    - JBOD - all disks exposed to host (so called IT-mode)
- H310
    - **plain HBA**
- H330
    - 8 internal ports
    - can be flashed into HBA Flash/Crossflash DELL H330 RAID Card to HBA330/12Gbps HBA IT Firmware

H310/H710/H710P/H810 Mini & Full Size IT Crossflashing

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