The Data Redundancy Pattern

given:

- some data
- some storage device

solution:

- use multiple storage devices
- store multiple copies of the data redundantly (plus some parity)
- keep all copies and parity in sync
The Data Redundancy Pattern

advantages:

dramatic increase of storage device reliability

may be applied to hard disks, SSDs, main memory, any storage device, entire systems or even data centers,...

drawbacks:

additional write effort

additional parity computation effort

additional storage required
Data Center Example

DC (1)

RAID
BACKUP

Internet

DC (2)

RAID
BACKUP