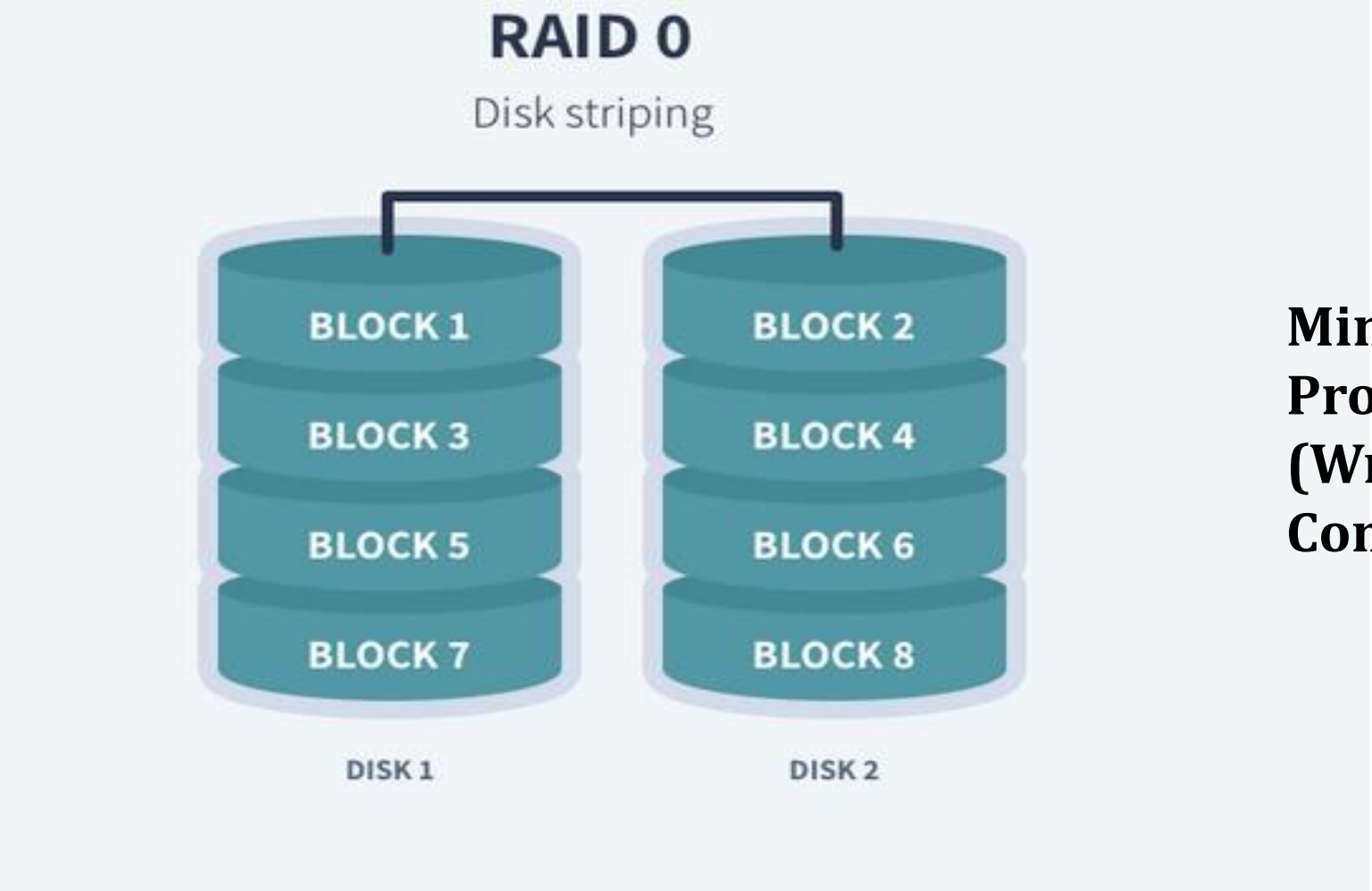
Disk Reliability – RAID Levels

- RAID 0 (Striping)
- RAID 1 (Mirroring)
- RAID 2 (Parity Bit)
- RAID 3 (Bit-interleaved Parity)
- RAID 4 (Block-interleaved Parity)
- RAID 5 (Block-interleaved Distributed Parity)
- RAID 6 (P + Q Redundancy)

RAID 0 - Striping



Minimum number of disks: 2
Pros: Increased performance (Write and read speeds).
Cons: No redundancy.

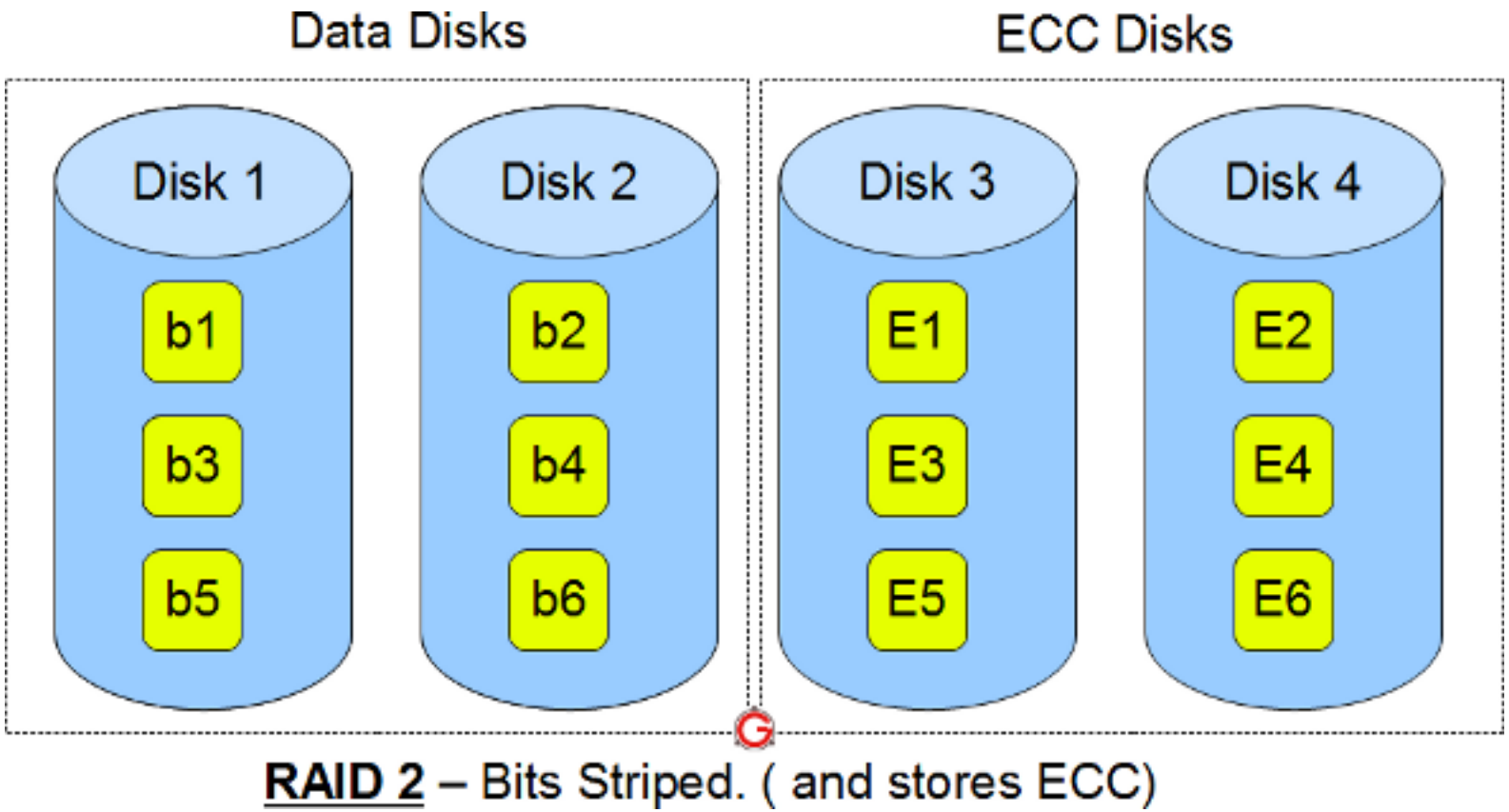
RAID 1 - Mirroring

Minimum number of disks: 2
Pros:
- **Fault tolerance and easy data recovery.**
- **Increased read performance.**

Cons:
- **Lower usable capacity.**
- **Higher cost per bit**

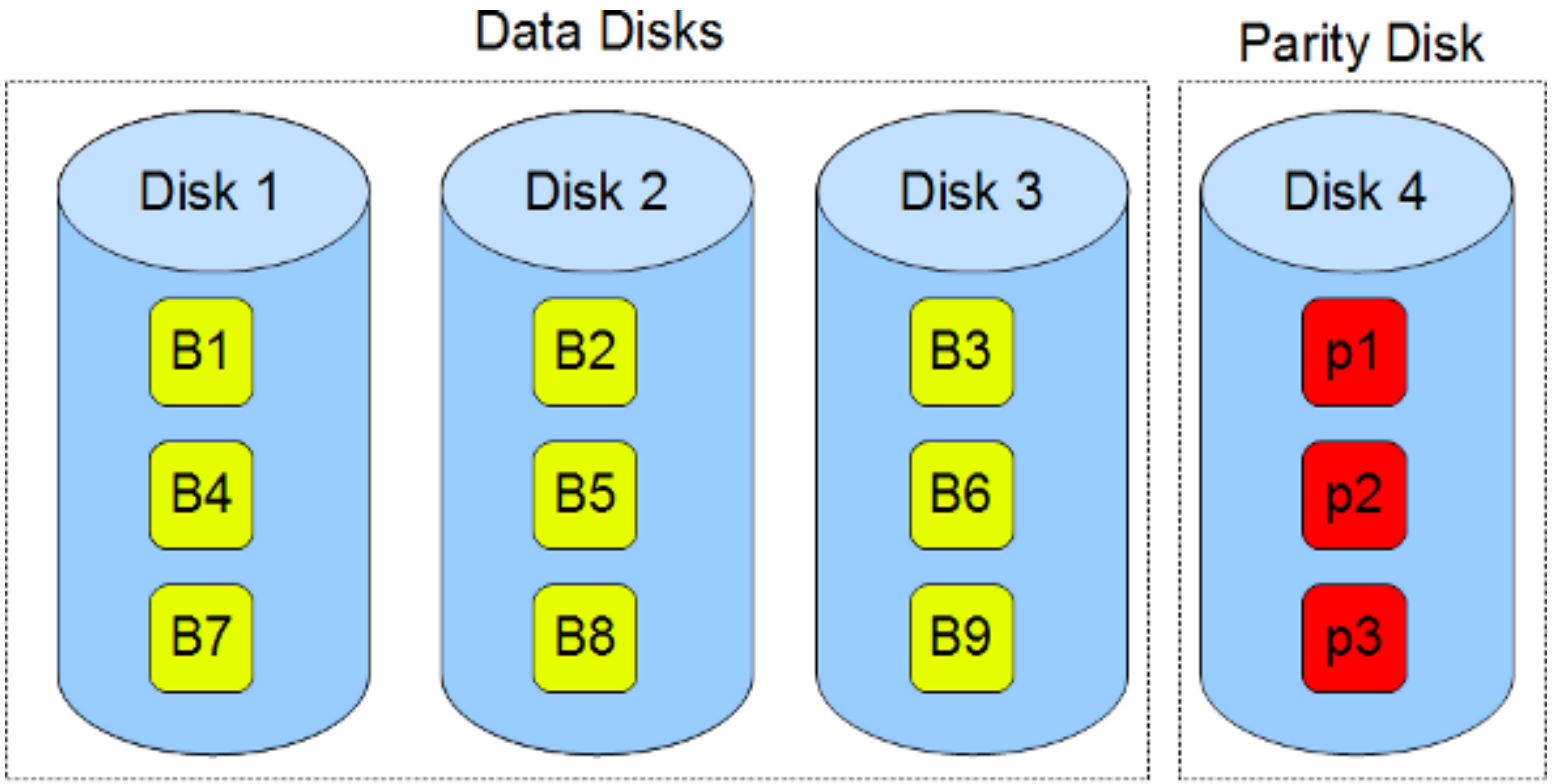
Business use: Standard application servers where data redundancy and availability is important.

RAID 2- Error Correcting Codes (ECC)



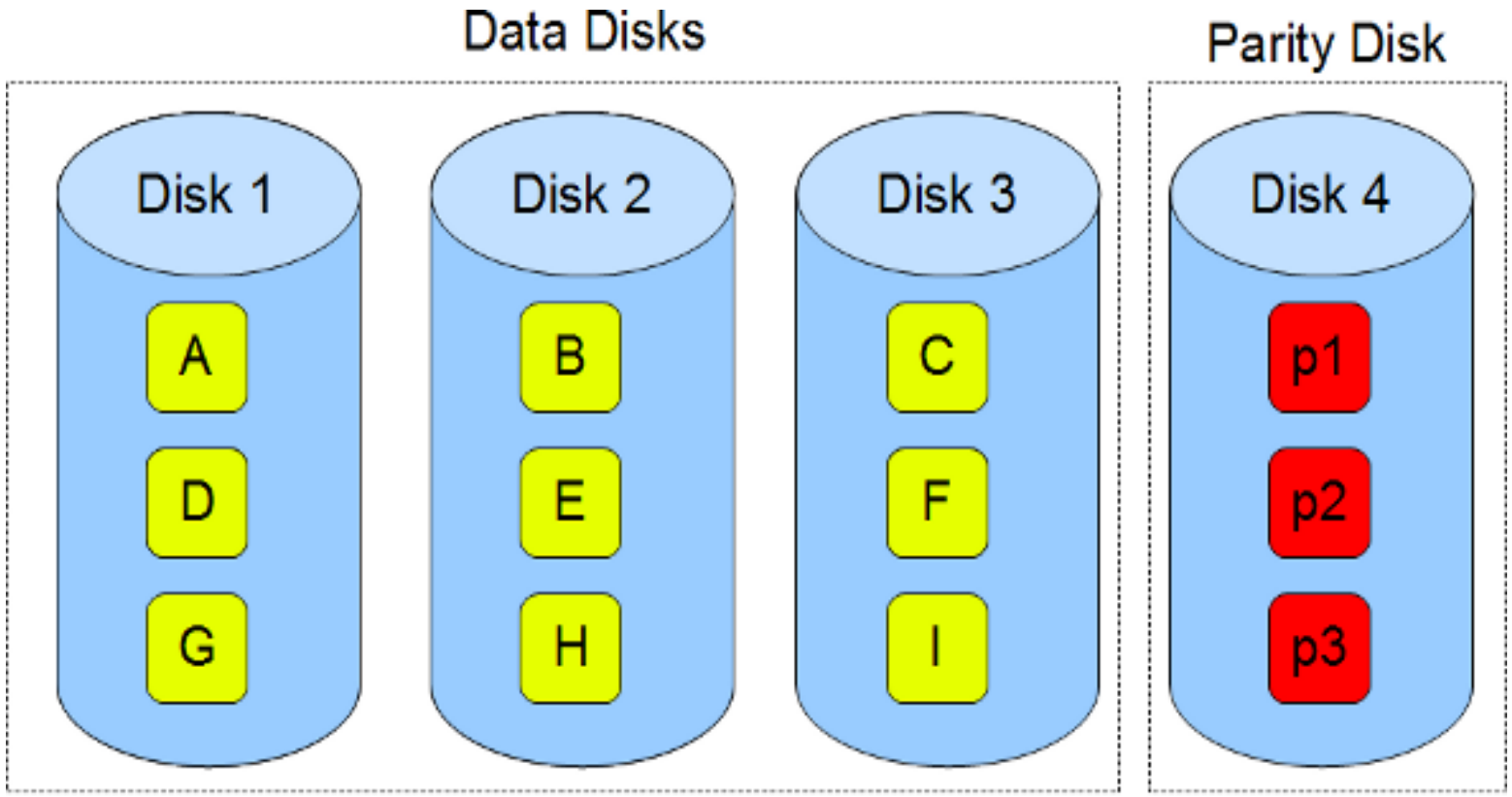
RAID 2 – Bits Striped. (and stores ECC)

RAID 3 – Bit Interleaved Parity



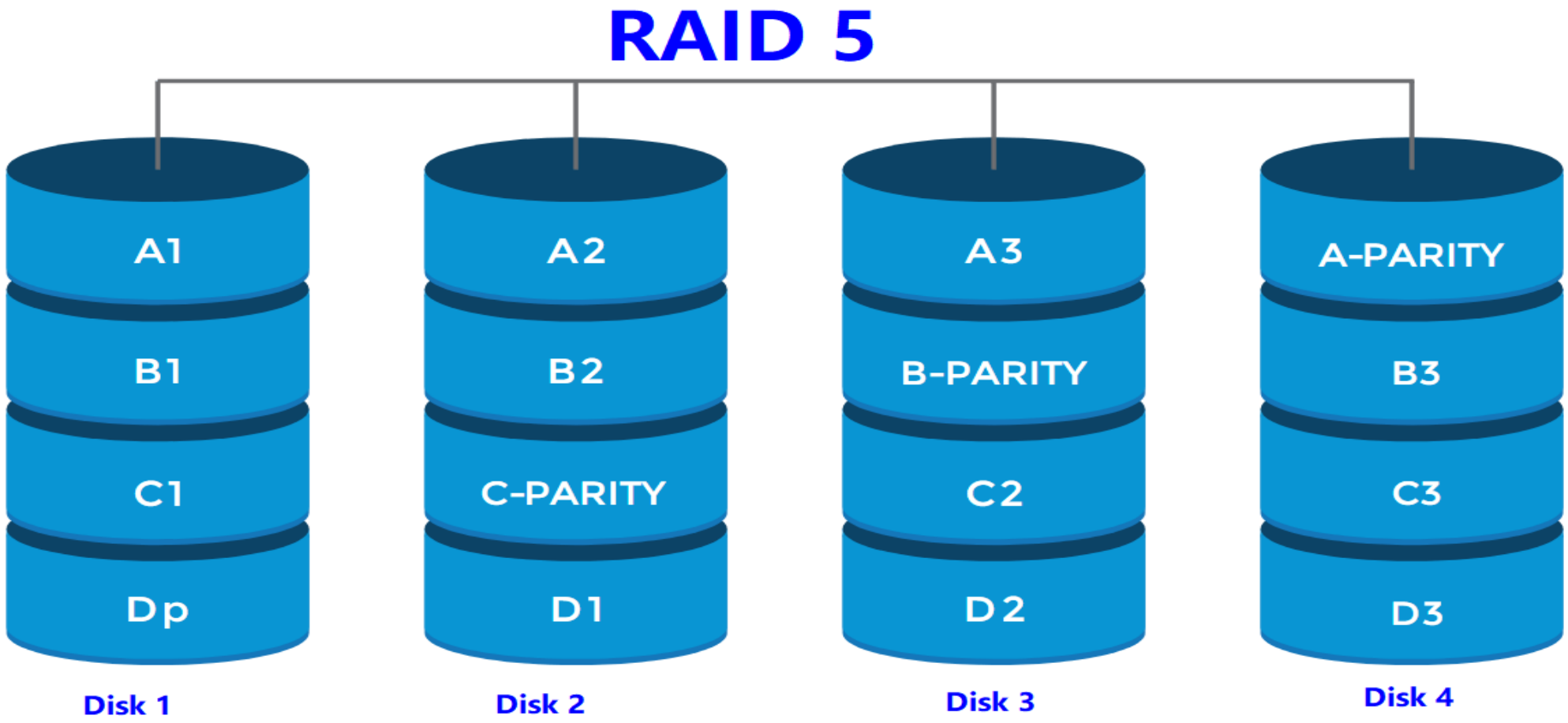
RAID 3 – Bytes Striped. (and Dedicated Parity Disk)

RAID 4 – Blocks Interleaved Parity



RAID 4 – Blocks Striped. (and Dedicated Parity Disk)

RAID 5 – Block Interleaved Distributed Parity



RAID 6 – P+Q Redundancy