

# Redundant array of independent disks

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The advantage of controller-based RAID is that it is cheaper because it simply uses processors on the disk controllers. However, controller-based RAID is restricted by the power of the processor and the memory bandwidth of the controller, which makes it slower than IOP RAID.

On the other hand, software RAID can be implemented using a disk controller driver or an operating system. Software RAID is cheaper than hardware RAID but is not as reliable. Software RAID may be useful in small applications where quality performance is not really expected. It is used in the drivers of the hard disk controllers and is independent of the operating system.

Operating System based RAID uses a RAID engine in the operating system. Both disk controller driver and operating system driver RAID are dependent on system processor which can be specifically used in low performance and lightly loaded environment.