

Flash practices



IT efficiency: redefining the economics of storage

It seems intuitive that replacing conventional rotating disks with solid state drives (SSDs) will always boost performance. But sometimes you need dramatic performance improvements. Follow these guidelines to help you ensure the switch to SSD or flash-based storage gives you the improvements you're looking for.

Understanding input-output (IO) bottlenecks can help eliminate them

Having the fastest car on the freeway doesn't matter if traffic is slowed to a crawl. Intelligently managed SSDs can help avoid unnecessary slowdowns.

Storage vs performance

Cost per IO can be more important than cost per gigabyte.

IO 'blender effect'

Virtualized workloads can get IO requests scrambled with other virtual machines on the same server.

Operation latency

Access time increases the farther the memory is from the CPU core.

Overcommitted storage

Performance strain of over-matched drives can lead to IO bottlenecks.



Go for the low-hanging fruit

Evaluate the time your personnel spend waiting for operations to complete. Add SSDs selectively, where they can do the most good:

Boot drives in servers

Boot drives can be set up as nearly read-only devices, limiting wear and tear dramatically.

Storage drives in user workstations and laptops for knowledge workers

Improved employee productivity justifies the capital expenditure.

Server-centric caching

If a server is having problems accessing shared storage, server-side caching can accelerate access to files by greatly increasing the number of virtual machines allowed to operate on each physical machine.

Where to turn

Dell has implemented SSDs/flash in a variety of form factors:

- Hybrid or all-flash solutions in a Dell Compellent Storage Center SAN
- Hybrid or all-flash solutions in the Dell EqualLogic PS Series arrays
- Dell PowerEdge Express Flash PCIe SSDs
- Drive alternatives in a Dell PowerVault MD Series direct attached storage enclosure

To learn more about how we can help you with your SSD/flash implementation, contact us at (704) 554-1065.