Western Digital.

Top Ten Things to Know About Flash

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Flash Memory Summit

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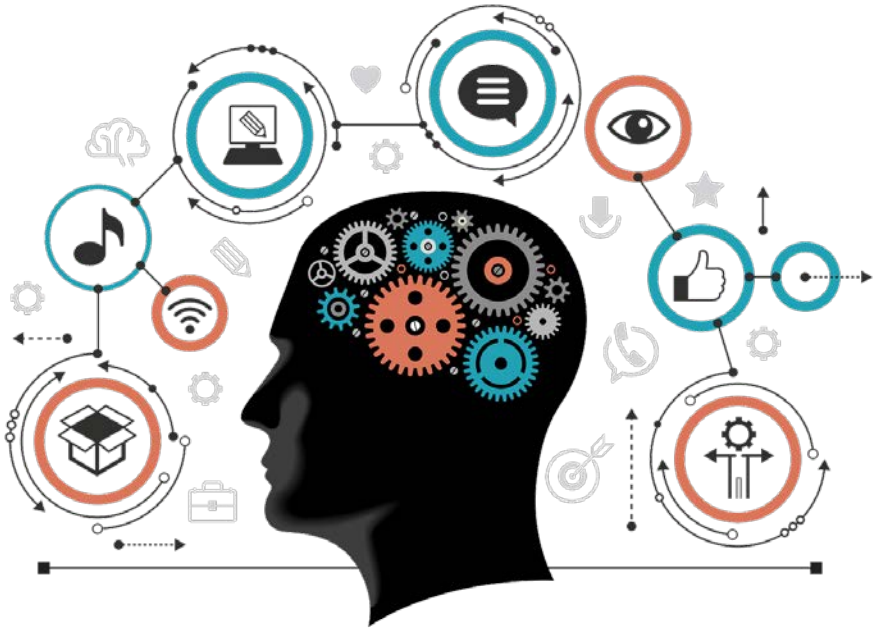
Top 10 Things to Know About Flash

Last year's top ten list is still valid!

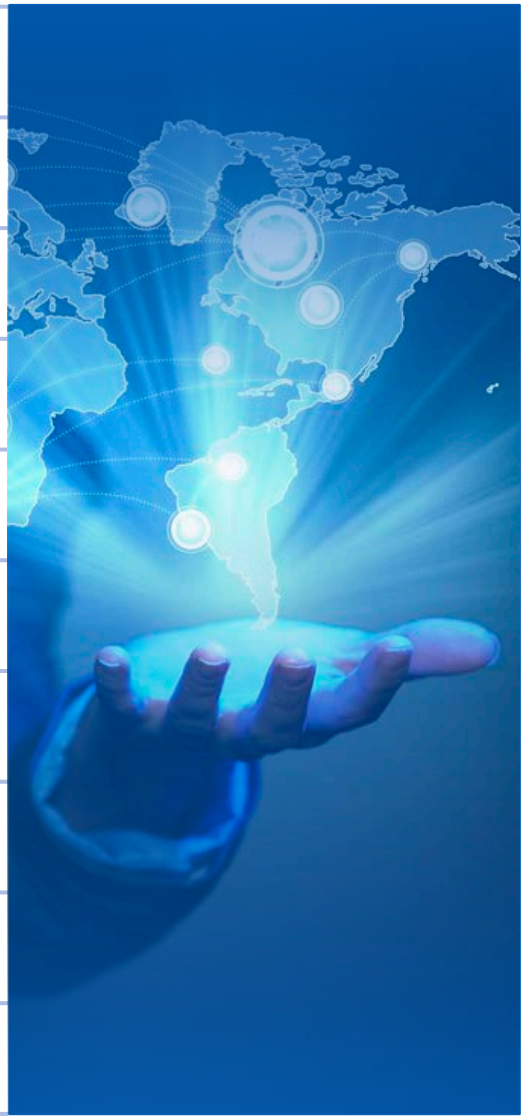
Some items on the list have become more common knowledge and will phase out here, with lesser known but equally important pieces of information being shared

Let's quickly review last years list and then jump to newer material..



Top 10 Things to Know About Flash 2016 Summary

1. Cost of acquisition for an SSD solution can be lower than an HDD solution cost
2. Great potential for power reduction vs. HDD solution
3. Better UBER allows for removing or simplifying RAID
4. Growing SSD capacity points allow for denser solutions
5. Lower solution cost per GB results from RAID and tiering simplification
6. HW consolidation possible with SSDs can reduce SW license cost
7. SSDs allow for lower cost options in mid range performance solutions
8. Flash endurance isn't an issue for most datacenter solutions
9. NVM Express® allows for a standards based approach
10. NAND devices being used for reasons other than performance

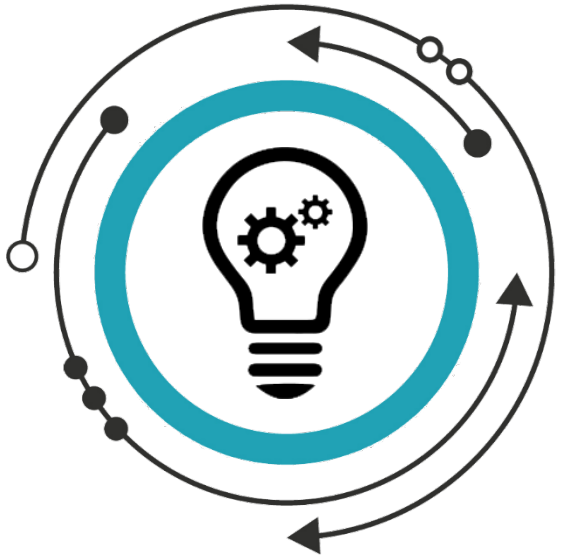


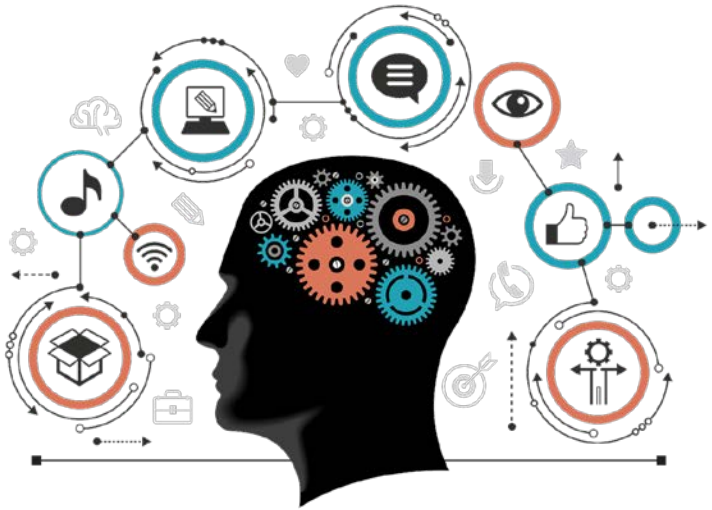
New Entries for the List

1

We face continuing challenges to increase HDD performance access density for high-end capacity points for mechanical reasons.

This creates next generation high-density solution opportunities for flash. *HDDS will continue to have lots of use cases.*

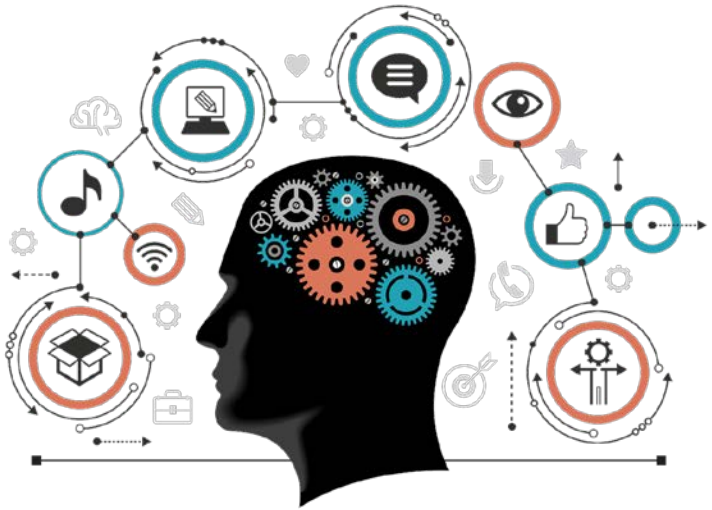




New Entries for the List

2

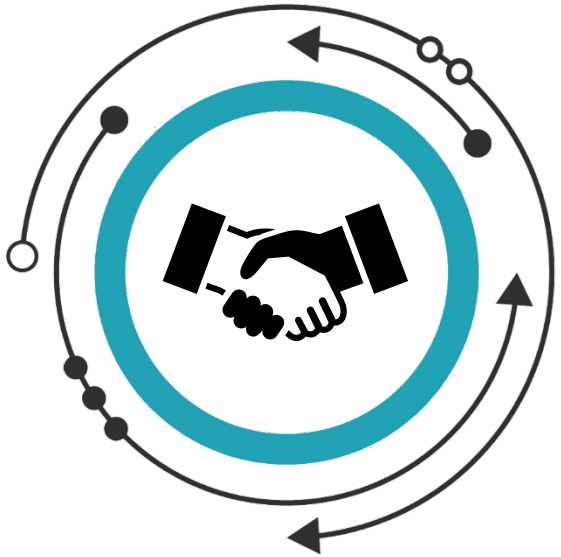
New “designed for flash” form factors fill this gap and provide both capacity and performance density improvements, including a more efficient way to build with 1u enclosures (8 drives replace (2) 2.5 inch drives)

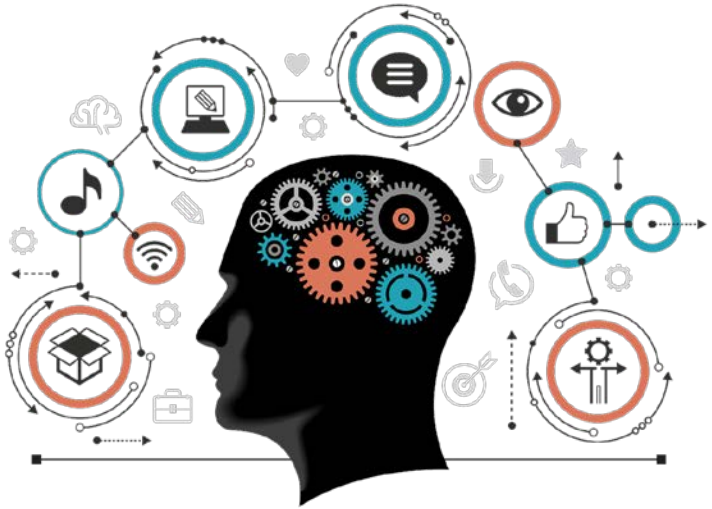


New Entries for the List

3

Resource pooled solutions allow for simplified server and storage design points. Less complex multi-node “Heavy Iron” systems and more 1u enclosures (leveraging off new small form factors and 2 socket non-multi-node HW)

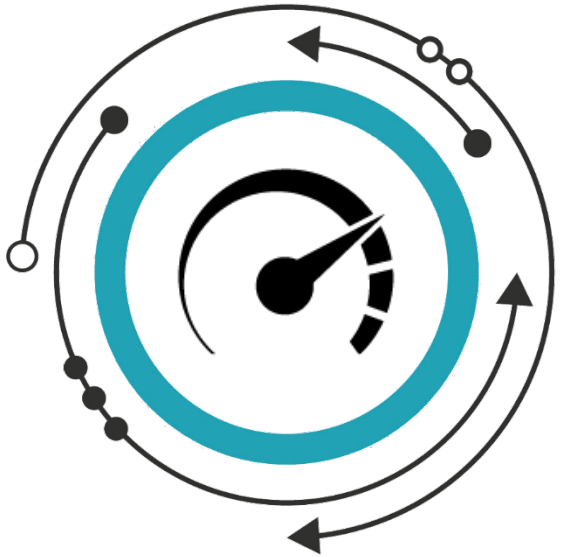


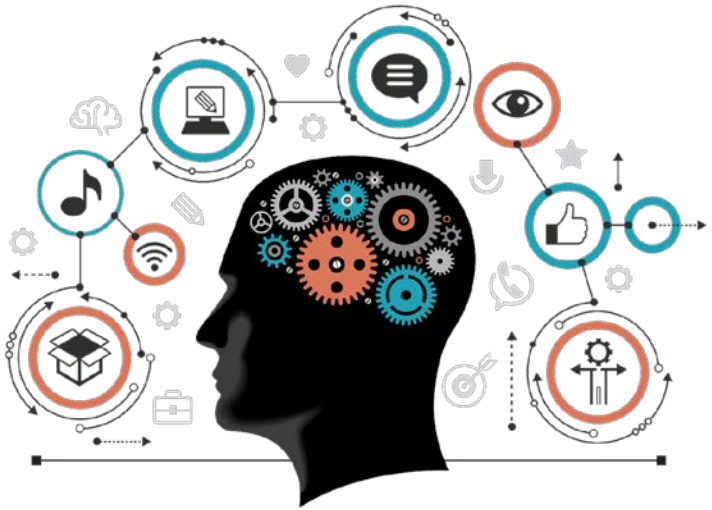


New Entries for the List

4

Efforts such as Open19 will accelerate the resource pooled design footprint in the industry while still allowing for “in the box” differentiation (resource pooled implementation is best designed for flash use)





New Entries for the List

5

NVM Express® over fabric allows for this simplified HW to be utilized to build large scale fabric based designs