Flash Storage Arrays

All-Flash **VS** Hybrid

When to use what?

I have needs for:
Real-Time Analytics
OLTP
Databases

I have needs for:
General Purpose Storage
Server Virtualization
VDI

> "Low latency is my biggest need"

> "I'm interested in balancing performance, capacity, & cost"

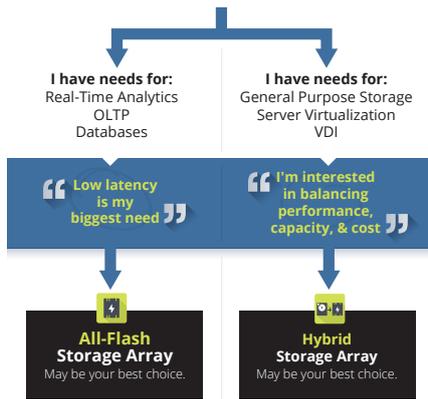**All-Flash**
Storage Array
May be your best choice.

Hybrid
Storage Array
May be your best choice.

What is the deal with Flash?

Flash is dramatically faster and uses less energy and space than traditional disk-based storage and is perfect for those applications that require performance. However disk-based storage isn't going away just yet and is still great for those applications where low-cost and high capacity trumps performance

SSD	SSD + HDD	HDD
$$$$	$$	$
All-Flash can be expensive but in applications where performance and latency are critical, All-Flash is the way to go.	A hybrid flash system that mixes flash with low cost disks is ideal for most enterprise workloads.	Traditional disk-based storage is low cost but has high latency, low IOPS and uses more energy and rackspace as capacity grows.

What is the deal with latency?

Really important when you need fast reliable performance.

CPU Cycle Time

	Latency	Work	Cost/Benefit
Hard Disk	●	●	○
Hybrid	○	●	●
All-Flash	○	●	●

The Cost Difference?

It really depends on what your workload is.

	All-Flash			Hybrid	
	$/GB	$/IOPS		$/GB	$/IOPS
General Storage	$$$$	$$$$		$	$
Server Virtualization	$$$	$$$		$$	$$
VDI	$$$$	$		$$$	$$
Real Time Analytics	$$$$	$		$$	$$$
Enterprise Apps	$$$	$$$		$$	$$

Key Tips

- Understand your workloads
- Monitor actual ongoing performance characteristics
- As you hit a "tipping point" consider the next level of storage
- Don't count out All-Flash because it is expensive (if it's the right solution, it's the right solution)
- Consider working with a vendor that can step you into what you need
- Consider working with a vendor that does not force you into an all-flash or hybrid solution.
- With Tegile you can go **All-Flash** or **Hybrid**: Get the best of both worlds

Compromise Nothing.

Tegile Systems offers both an All Flash and Hybrid storage solution so you won't hear us taking a stand on one versus the other. We work with our customers to understand their application workloads and storage requirements before making a recommendation on whether All-Flash or Hybrid is the ideal solution.

Tegile All-flash

Tegile All-Flash Storage Arrays feature high density enterprise flash solid state drives designed to support mission-critical applications that require extremely high performance at low latency for extend periods of time.

Tegile Hybrid

Tegile Hybrid Flash Storage Arrays deliver a perfect balance of data management, performance and economics by providing a flexible amount of high density flash solid state drives and metadata accelerated high density hard disk storage.

The All-Flash Solution   The Hybrid Solution