



# Decreasing application latency using server side flash

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## SSDs in the datacenter is no longer a scary proposition

- Enterprise SSD not just for early adopters anymore
- Server OEMs and Storage Vendors all offering flash storage solutions
- There are new approaches to SSD server use



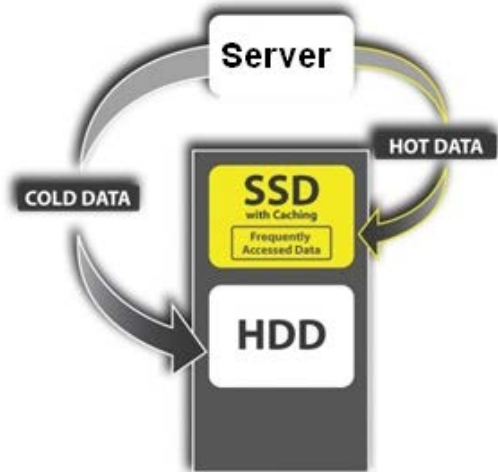
## Server-Side-Flash Storage Acceleration

- Utilize existing server hardware - 2.5" (SATA/SAS) or PCIe SSD's
- While still making use of your current storage investment
- Buy Flash for performance not capacity

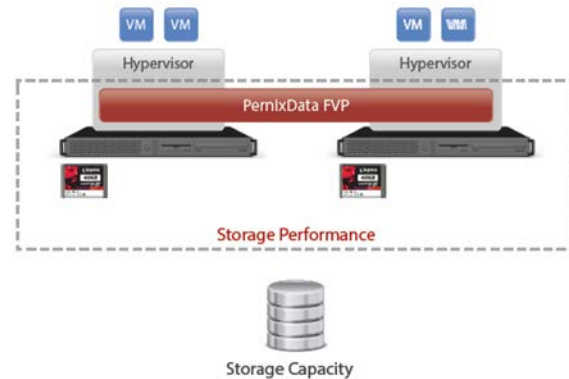


## This isn't a new concept

- The solutions in the marketplace today are better than ever
- Several approaches available depending on your environment



## Accelerate Virtualized Applications with Server Flash



*Deploying FVP with Kingston SSDs takes < 20 minutes and requires no changes to VM, hosts or storage*

## What can Server Side Flash do for you?

**Lower Latency**

**Deliver More Workloads**

**Increase Reliability**

**Maintain Redundancy**





## 5 reasons why “Server Side Flash” use is growing

**Less complex to deploy**

**Less expensive as an investment**

**Less proprietary of a solution**

**Uses existing hardware**

**Less costly to operate/upgrade**





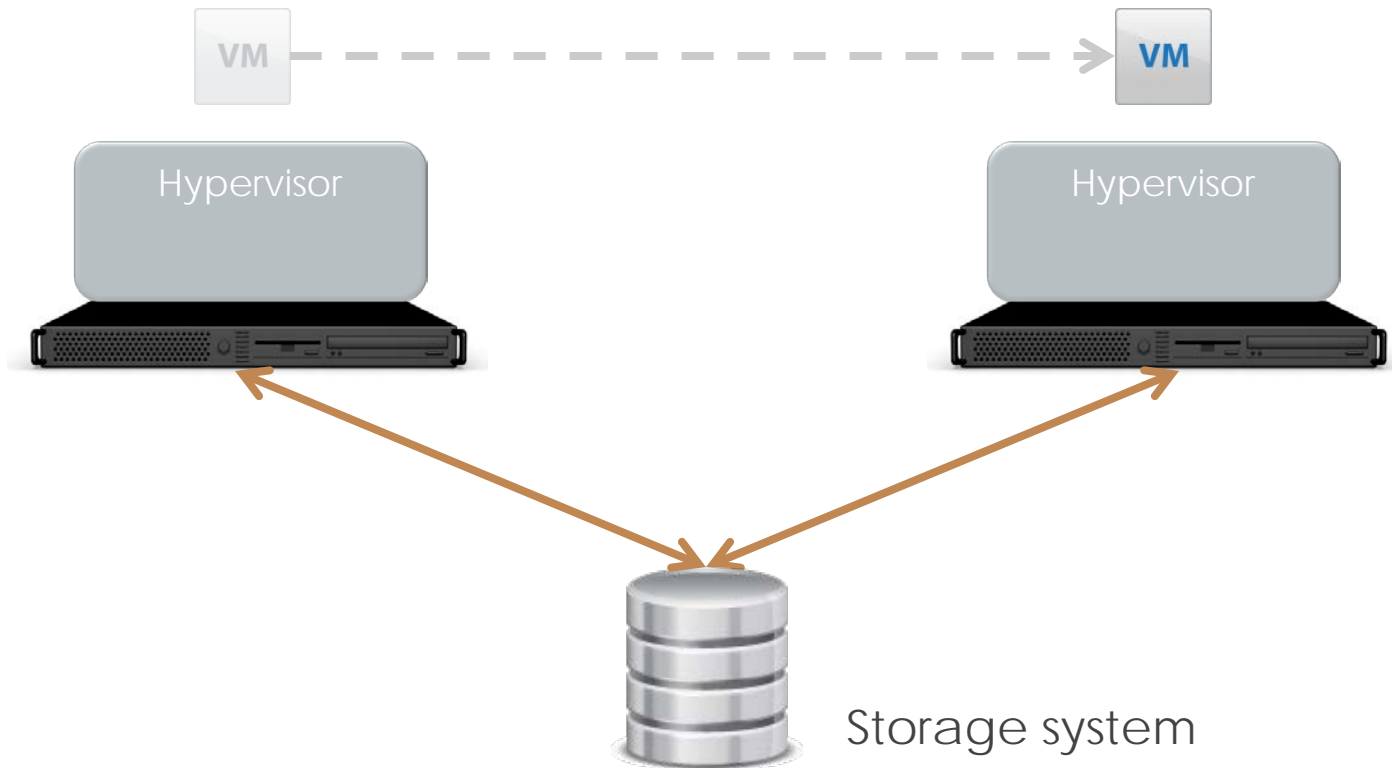
# Re-think Storage Performance

**Decouple Storage Performance from Capacity  
with PernixData FVP Software**

Bala Narasimhan  
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Proprietary and confidential

# Reference setup





# Performance or capacity?



# Virtualization ♥ Flash

Current state



Low perf at high cost  
High quality capacity and data services

Desired state



High quality capacity  
and data services

High perf at  
low cost

But, how?

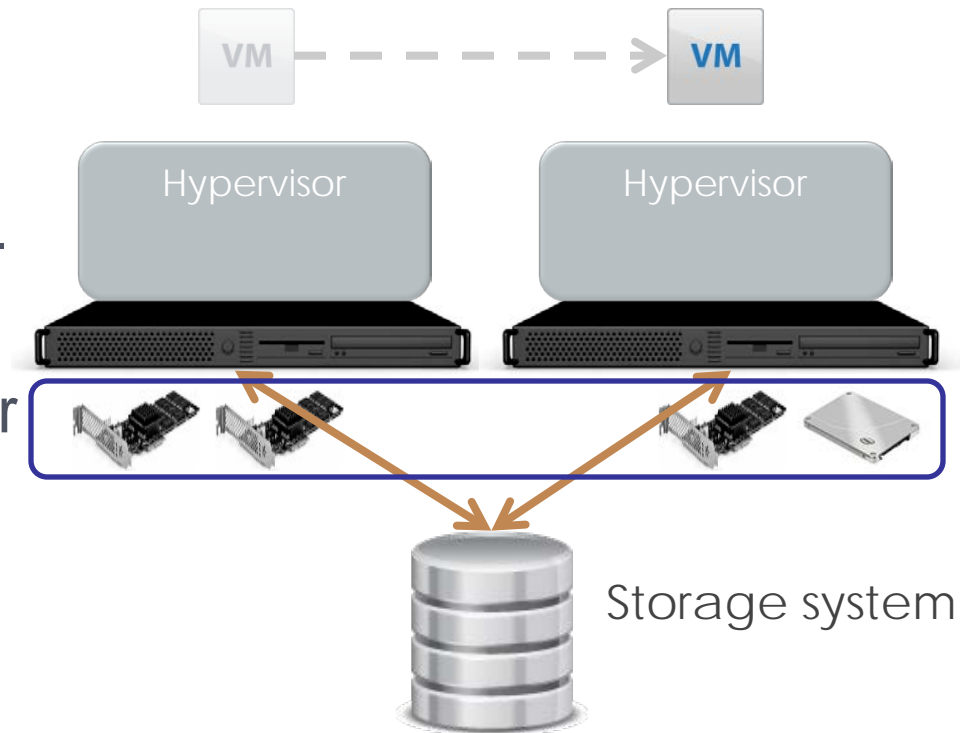


# Storage system flash has limits

- Using storage system flash
  - Many are rip-and-replace solutions
  - Higher latency: SAN Flash is “too far” across the network
  - Loss of application/VM identity
  - Higher cost, lower scalability, depends on intermediate moving parts

# Server flash with hypervisors

- Limited to niche use cases with
  - Local datastores, or
  - Single host read only cache
- Not clustered, breaks cross-host hypervisor functions
- Need custom applications or in-VM changes
- Low performance, less available virtual appliances



# Time for a brand new data tier?

