"*Fuzing*" Flash & HDDs into Virtual Hybrid Volumes

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MILK CHOCOLATE
Reese's
2 PEANUT BUTTER CUPS

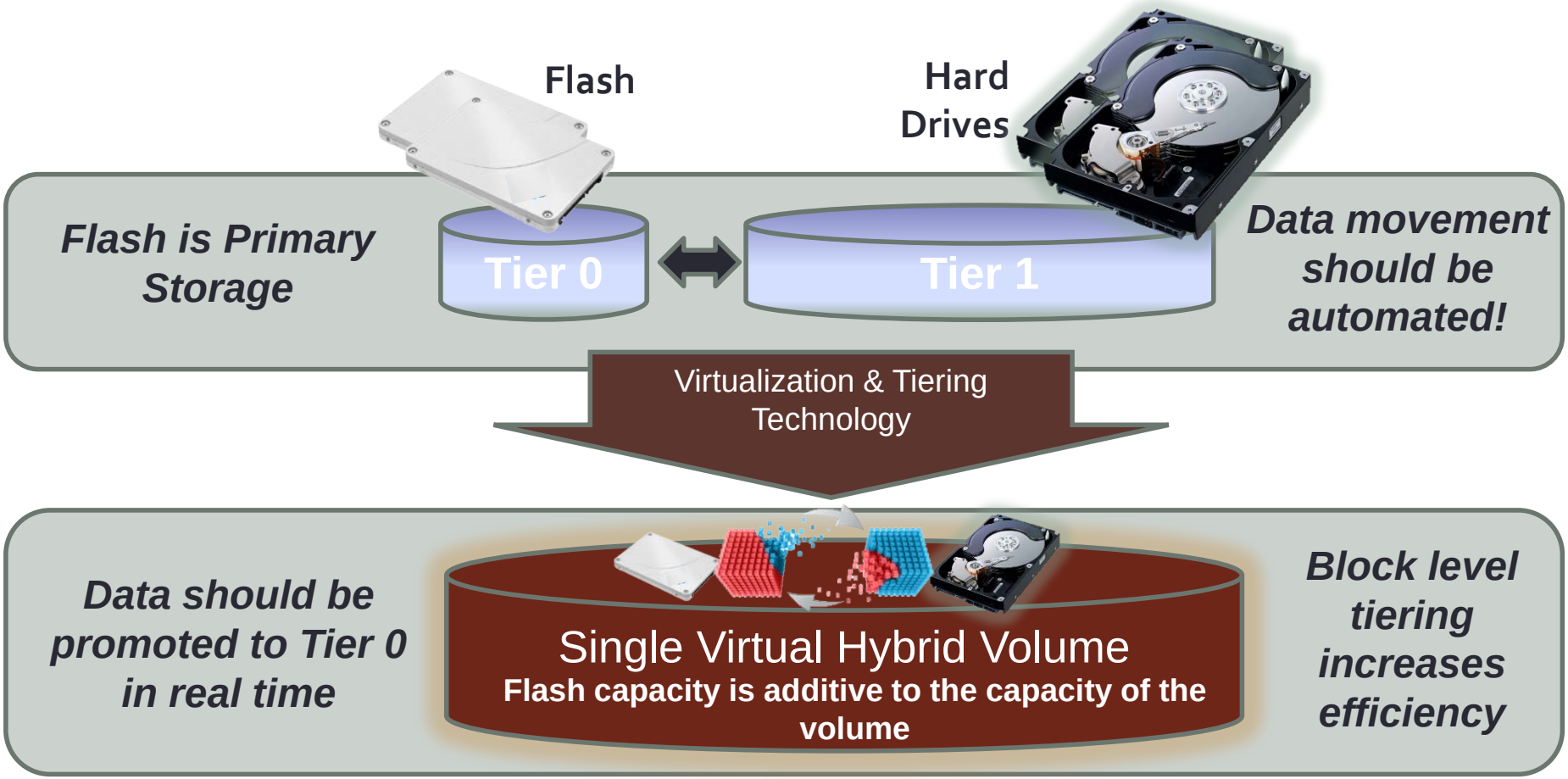
Storage Challenges

- Performance requirements continue to increase
- Flash is still expensive
- Diverse applications have different workloads

Hybrid Storage

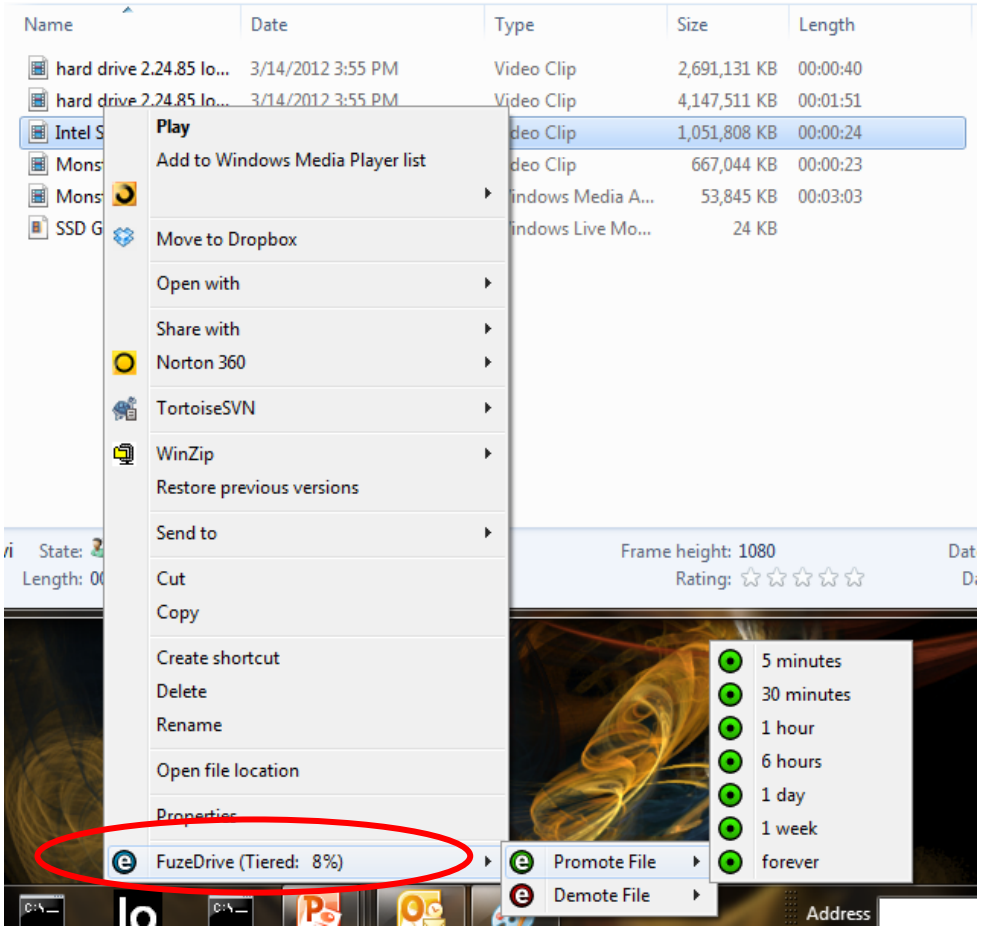
- Storage Systems with blend of high speed and low speed media tiers
  - Typically Flash and HDD
  - Can Be Flash/Flash
- 2 Techniques for moving data to the fast tier
  - Caching – Makes copy of data
  - Tiering (Automated Data Movement) – Flash is primary storage
- Tiering provides ability to create Virtual Volumes
  - Simple to manage

Hybrid Storage - “Fuzing” Flash and HDD



Cost Points of HDD Solutions
Tunable Per Workload Requirements

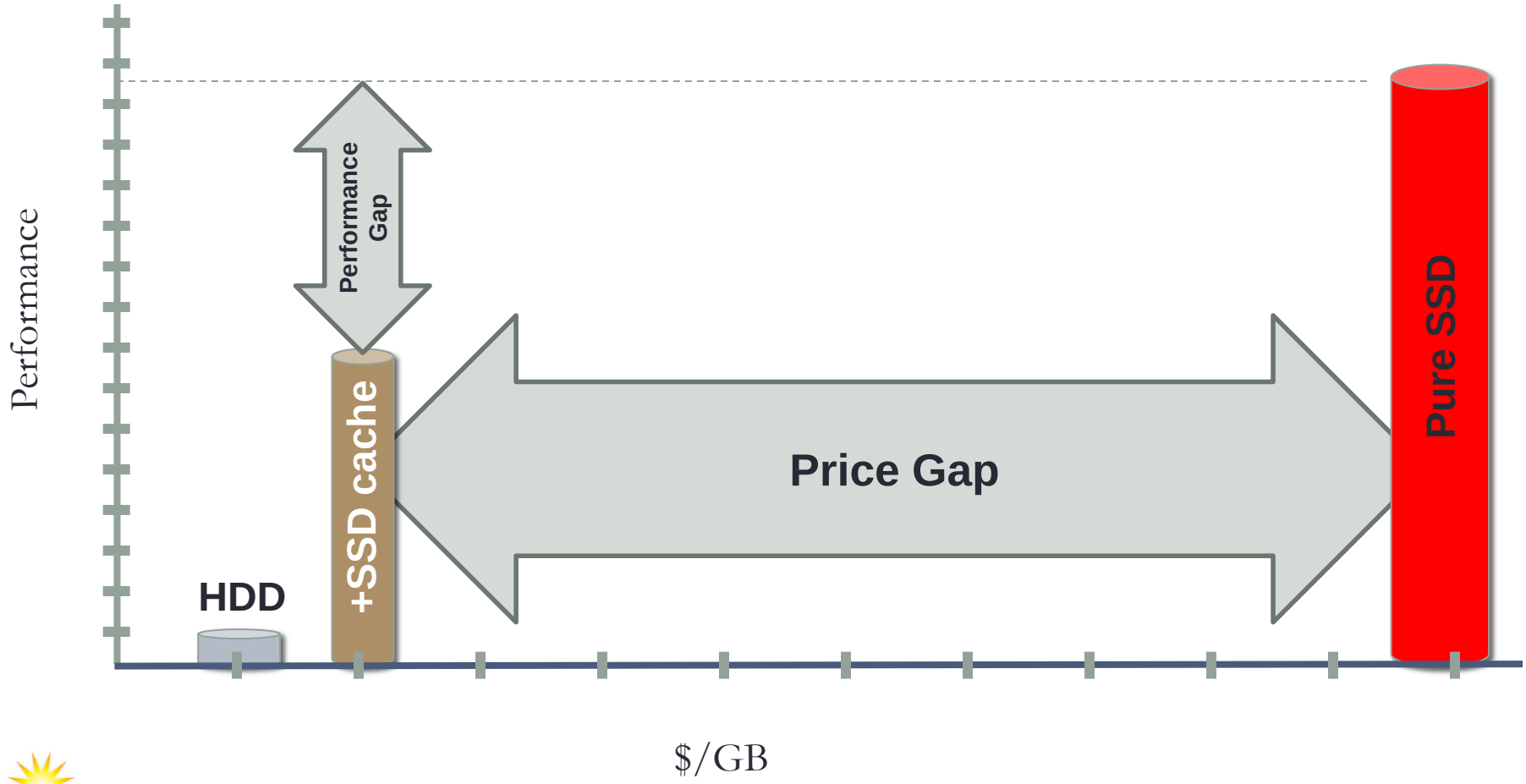
Tiered Virtual Volume Advanced Feature - Pinning



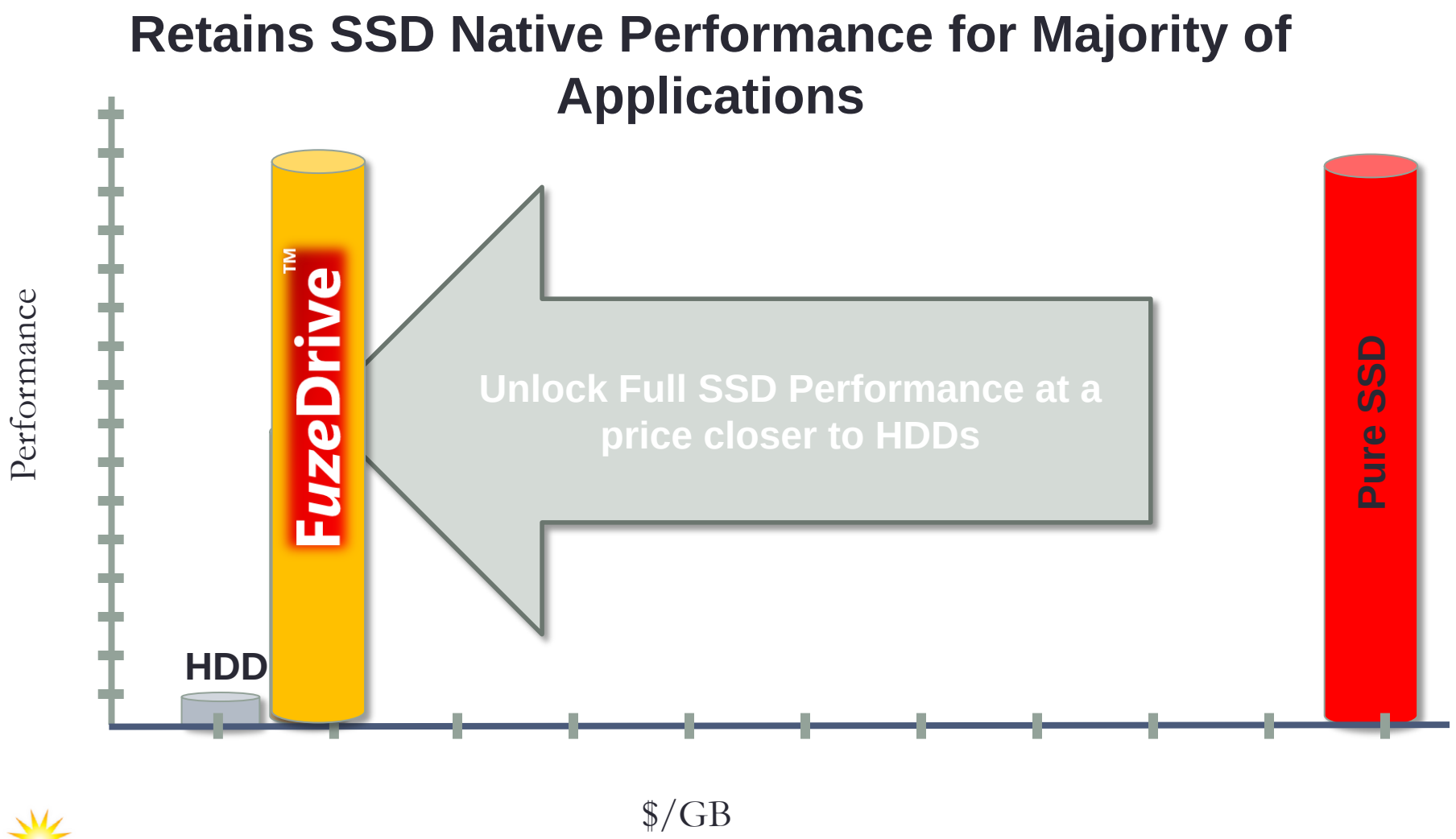
- Users can “pin” a file to either SSD or HDD
- On Demand or scheduled
- Ability to move or move and lock to either tier

Economics of SSD Caching

Webscale Caching Benefits vs. All Flash

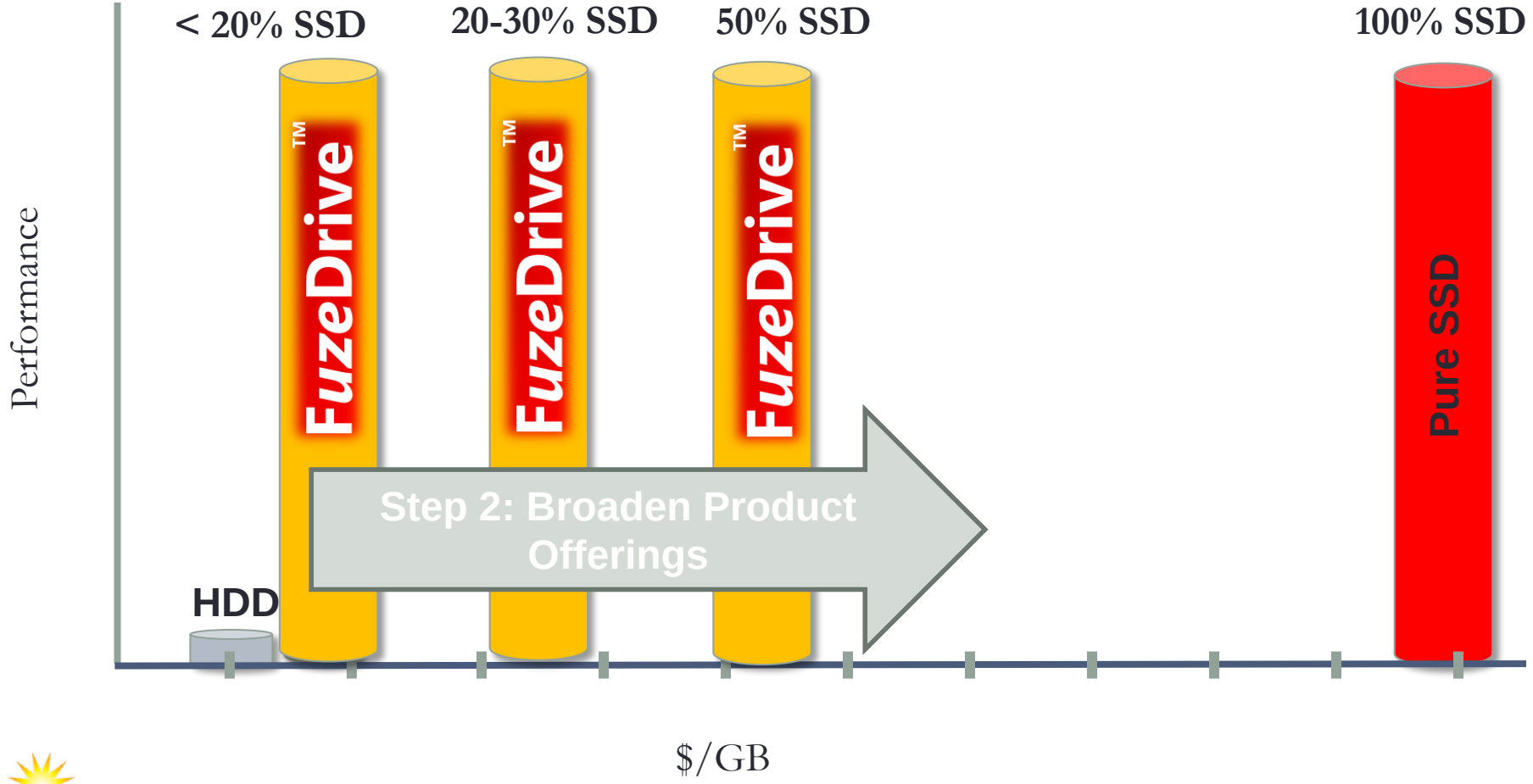


Economics of Tiering #1

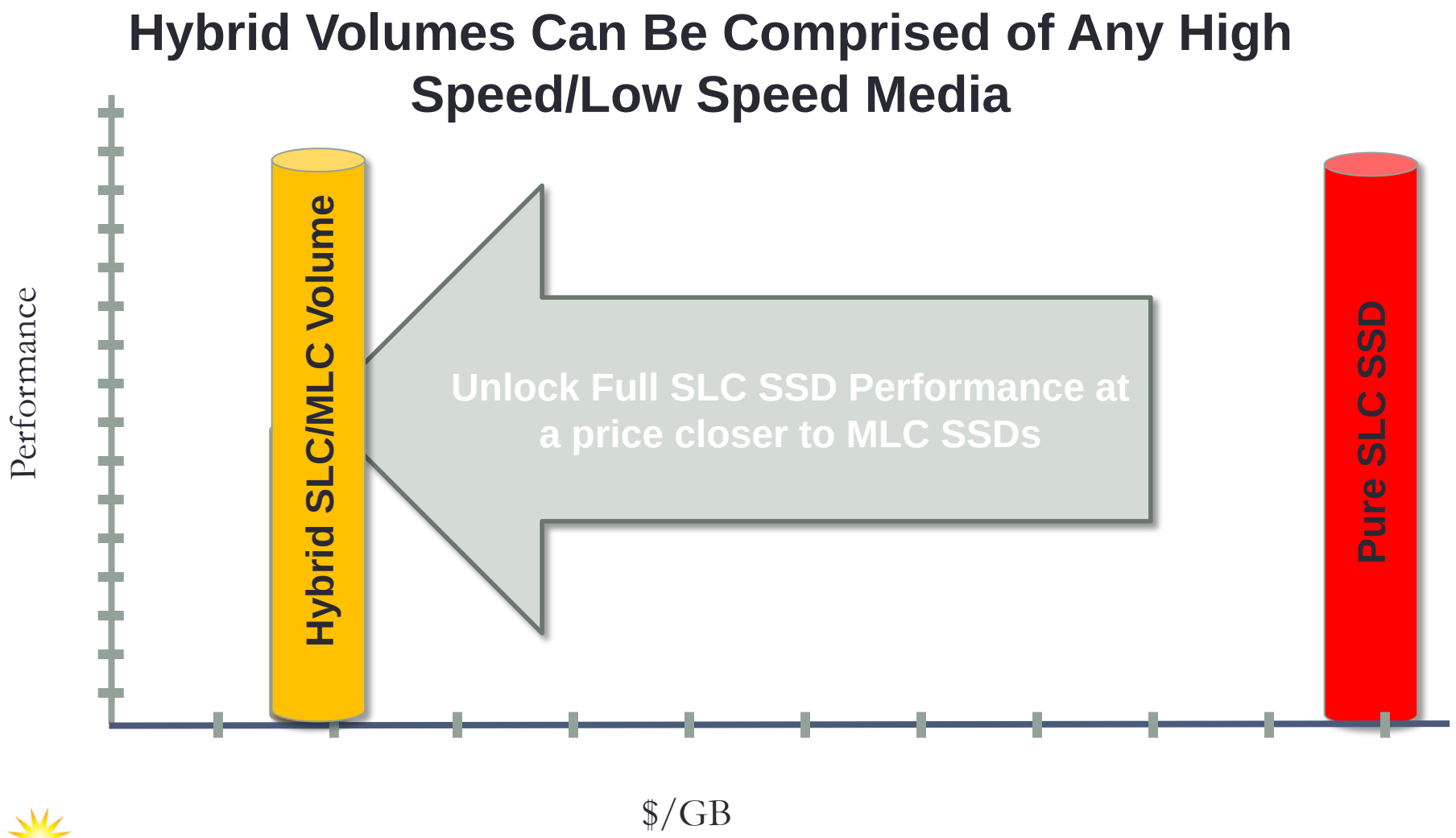


Economics of Tiering #2

SSD Capacity is Additive - Increased Active Data Coverage

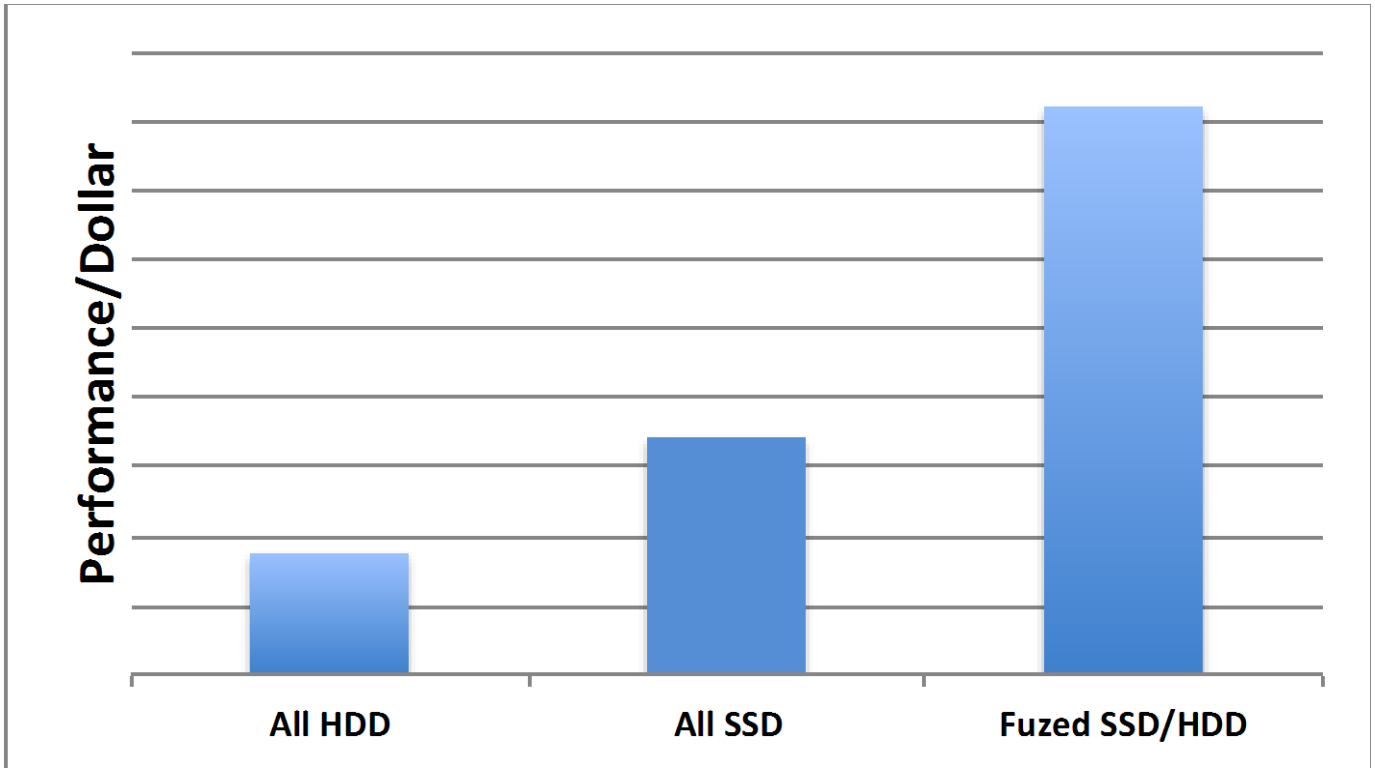


Economics of Flash -> Flash Tiering

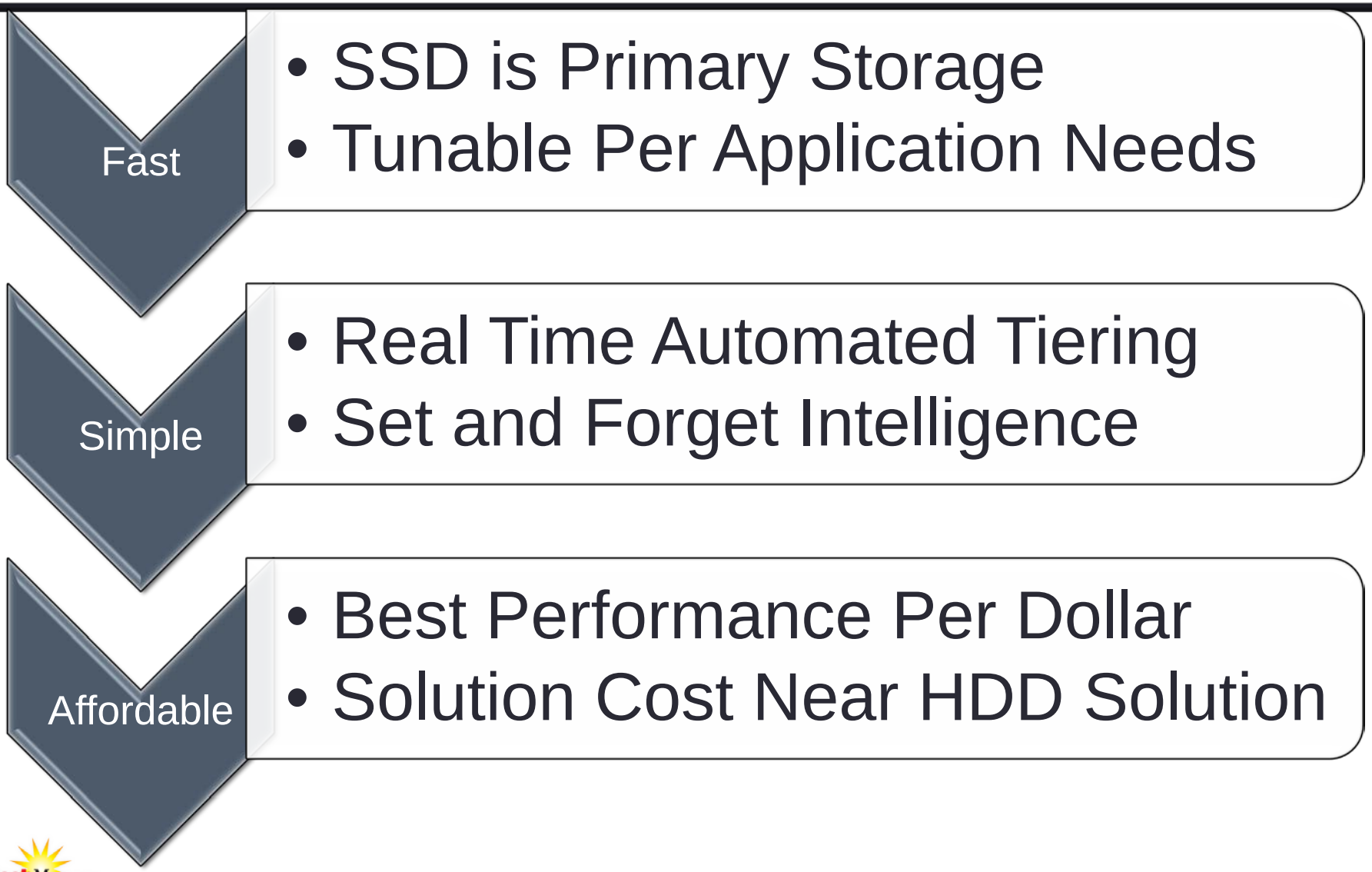


Performance/Dollar

Hybrid Virtual Volumes Provide The Highest Performance Per Dollar



Virtual Tiered Storage



Enmotus – What We Do

Enmotus develops *FuzeDrive*™ Intelligent hybrid storage software that enables you to build hybrid storage solutions with commodity hardware by "*Fuzing*" different classes of storage and creating fully automated virtual hybrid storage.

Thank You