

# AutoCache™ for VMware

A complete host-based I/O caching solution designed to accelerate business-critical applications

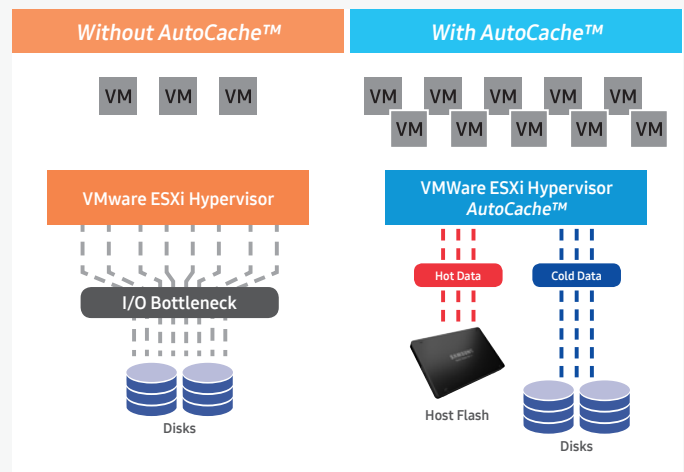


## Greater VM density, efficiency and performance

AutoCache™ is a complete host-based I/O caching solution designed specifically to accelerate business-critical applications in physical and virtualized servers by using SSDs and DRAM as a local cache. It works with both virtual and physical operating systems. AutoCache supports write back caching as well as read caching.

AutoCache 3.x for VMware works with the VMware ESXi™ 6.0 U1, U2, and later version and fully supports the vSphere® API for I/O Filtering (VAIO). Depending on the workload, AutoCache 3.x for VMware increases VM density by up to three times and increases business-critical application performance by up to four times while maximizing system resource usage and freeing up CPU cycles to support more business applications.

AutoCache is incredibly easy to deploy, by virtue of being totally transparent to system operation and fully integrated with native management infrastructure for the hypervisor. It requires no guest OS agents and no changes to current storage processes such as backup, snapshot or replication services.



Samsung AutoCache™ is designed to increase virtual machine (VM) density and accelerate business-critical applications in servers.

## Key features

### VMware Certified

AutoCache (as of 3.0) fully supports VMware IO Filter (VAIO) to enable virtual data services. It supports all VMware value-added features such as VAAI, vMotion, HA, DRS, DPM, and VAIO

### Read and Write Back Caching

Accelerates all types of IO operations for virtual machines while Minimizing traffic to datastores. Write back caching ensures data protection by replicating data across hosts and optionally across multiple cache devices within a host.

# Accelerate applications

## Industry-leading Performance

Provides up to 300K IOPS per host

## Dynamic Caching System

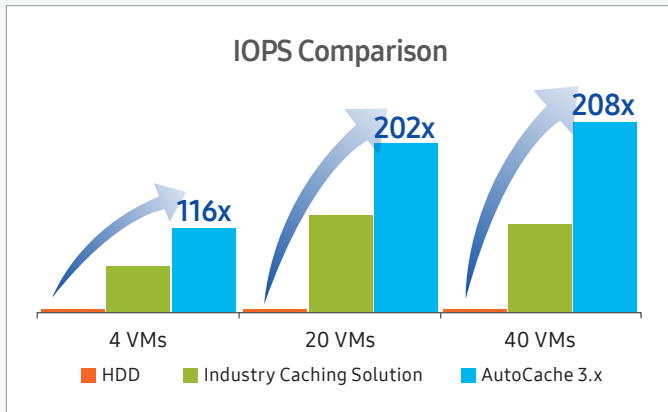
SSD and DRAM cache space is dynamically allocated to new Virtual Machine Disks. This guarantees that cache space is used optimally between virtual machines.

## More AutoCache features

- Single-node read caching and multi-node write back caching
- Live installation without rebooting
- Immediately accelerates DAS, SAN and NFS without any reconfiguration
- No agents for guest OSs
- Full integration with vSphere management infrastructure
- Support for any SSD (NVMe, PCIe, SAS or SATA)
- Support for up to 8 cache devices per host
- Redundancy across multi-SSDs
- Adaptive caching
- Cache persistence across VM reboot
- Cache fast warm feature
- Cache remote host access feature that avoids performance disruption during vMotion™

## Increased IOPS and VM Density

With over 2X IOPS increase compared to a competing industry solution and over 200X compared to an HDD baseline AutoCache 3.x for VMware delivers almost the maximum performance of the underlying SSDs with insignificant overhead.

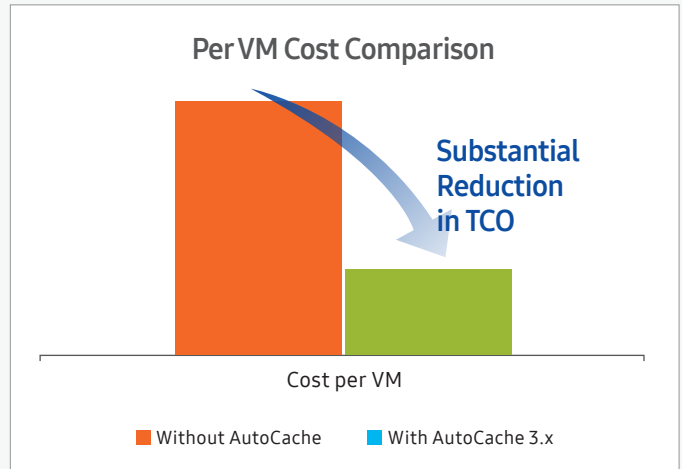


AutoCache 3.x increases IOPS up to 208x compared to a HDD baseline.

## Dramatically lower TCO

AutoCache increases VM density many times over. By allowing more VMs per server, AutoCache reduces per-VM CAPEX.

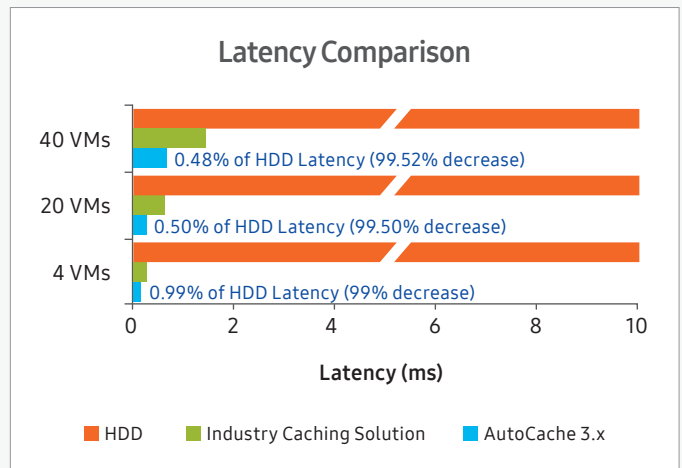
Higher VM density also means fewer servers, which translates to less space, less cooling, and less power, ultimately resulting in lower operational expenditures.



## Decreased Latency

AutoCache 3.x performs at under 1% of the latency of a traditional HDD system.

AutoCache moves frequently-accessed data to local SSDs, alleviating the bottleneck caused through writing to and reading from disk.

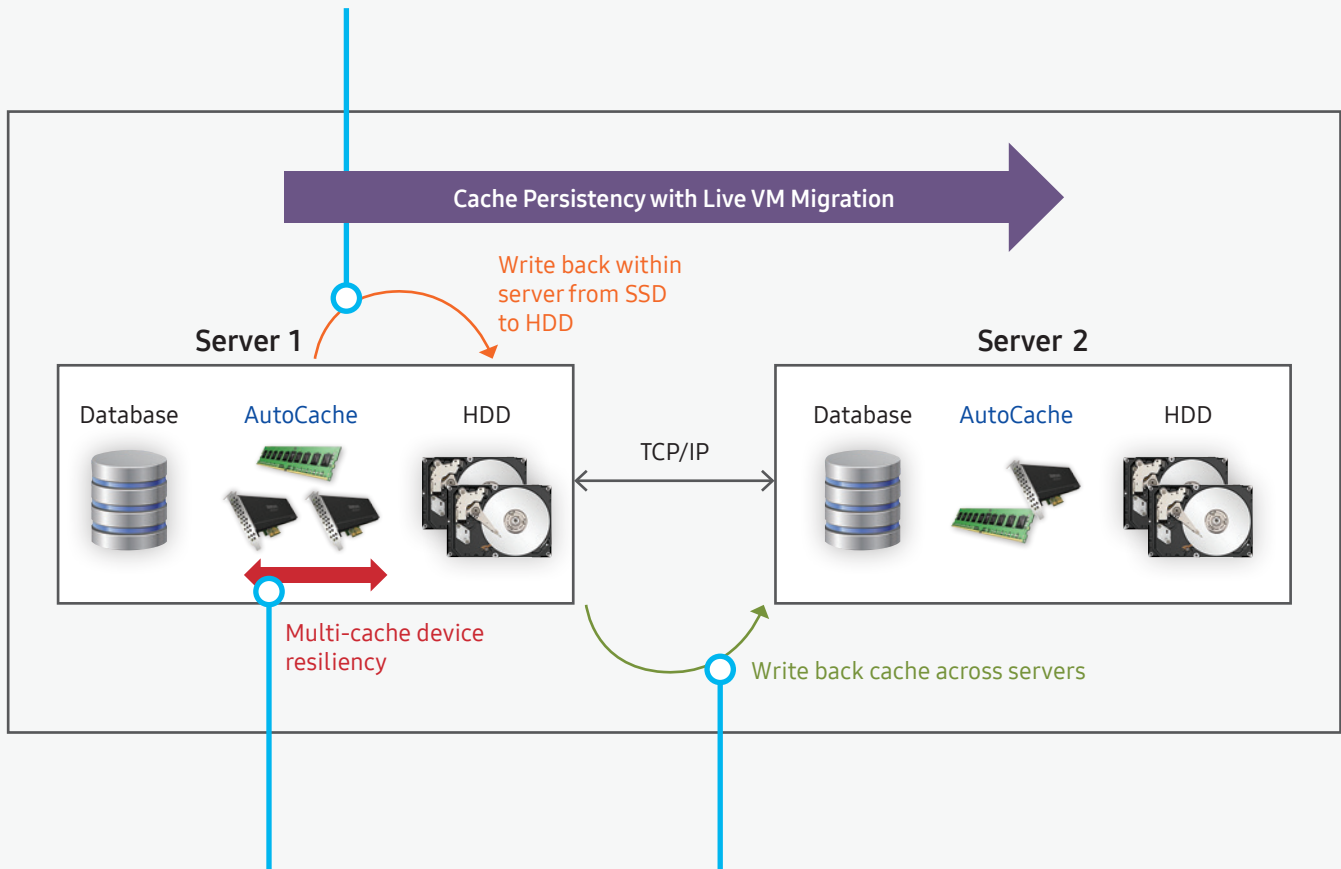


# Resilient caching

## Write back caching

AutoCache 3.x for VMWARE utilizes write-back caching to take advantage of flash memory's low latency when compared to SSDs.

Data to be written to disk is first written to flash (a much faster procedure) before being copied to an HDD at a later interval. This procedure expedites large bursts of write-to-disk commands, allowing the data to be written at SSD speeds.



## Multi-cache device resiliency

Samsung AutoCache 3.x enables increased system reliability by allowing users to replicate cached data to multiple cache devices within the same host.

## Multi-host resiliency

Samsung AutoCache 3.x enables increased system reliability by allowing users to replicate cached data across multiple hosts.

## Additional information

### Minimum system requirements

Operating system: VMware ESXi 6.0 U1 and later  
 Processor: 64-bit x86 processor with at least 4 cores  
 DRAM: at least 32GB  
 SSD: at least 64GB

### Installation information

AutoCache's deployment will not require a major IT infrastructure overhaul. It can be installed without rebooting servers or storage arrays.

For more installation information, please contact Technical Support.

### Contact us

AutoCache is currently available for enterprises and businesses worldwide, as well as small and medium sized data centers.

For further information and for other AutoCache-related inquiries, please visit our website at:

[www.samsung.com/semiconductor/AutoCache](http://www.samsung.com/semiconductor/AutoCache)

For purchase and support, contact us at:

Sales Support – [sales@samsungautocache.com](mailto:sales@samsungautocache.com)

Technical Support – [support@samsungautocache.com](mailto:support@samsungautocache.com)

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Samsung Electronics Co., Ltd.  
 129 Samsung-ro,  
 Yeongtong-gu,  
 Suwon-si, Gyeonggi-do 16677,  
 Korea

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2016-11