

FlashSoft®

Software Product Brief

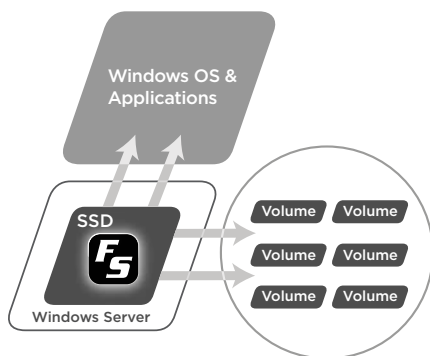
FlashSoft 3.8 for Windows Server® and Windows Server Hyper-V

FlashSoft software for Windows Server enables IT managers to cost-effectively boost database and application performance on Windows Server 2012, 2008 and Windows Server Hyper-V 2012 R2 while simultaneously reducing the IOPS load on the storage infrastructure. FlashSoft enables a solid-state device (SSD) to function as a cache for frequently accessed data in a server. FlashSoft software is installed as a filter driver within the Windows driver stack. By caching the hot data on a high-speed SSD installed on the server, access times are reduced and applications spend less time waiting for data.

FlashSoft for Windows Server accelerates enterprise applications, such as Microsoft SQL Server®, MySQL®, Microsoft Exchange and Microsoft SharePoint®.

- Experience SSD performance benefits with existing servers and storage
- Use any standard SSD attached via PCIe, SAS, SATA or NVMe from any vendor
- 16TB per cache and up to 4 caches per server to support your largest datasets

Solid-state server-side caching software



Installs in the OS
on the server.

Accelerate Windows Server Hyper-V Clusters¹

FlashSoft software for Windows Server targets Cluster Shared Volumes (CSV). Hyper-V virtual machines hosted on CSV can be accelerated with FlashSoft — with full support for Hyper-V cluster features like LiveMigration and Failover. FlashSoft supports the use of CSVs when the cache is used in write-through mode. FlashSoft installs as a base Windows Server driver, not inside virtual machines, making it efficient to run and simple to install and manage.

Support for Large Datasets

FlashSoft supports up to 16TB of flash as cache, and up to 4 caches per server, allowing users to accelerate extremely large datasets. Large datasets often are deployed across multiple storage volumes. FlashSoft supports up to 2048 accelerated volumes.

Simple Deployment & Transparent Operation

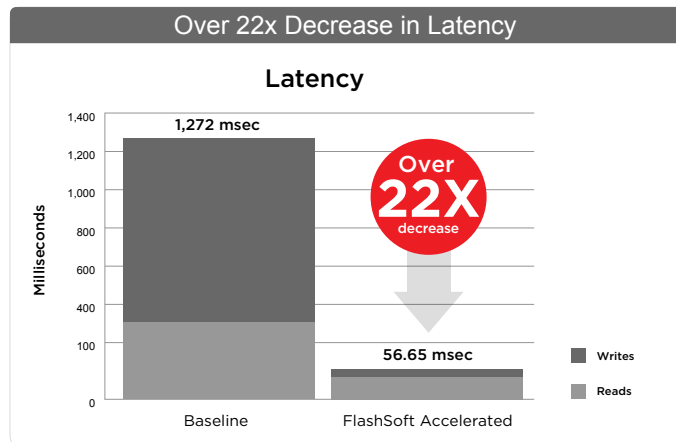
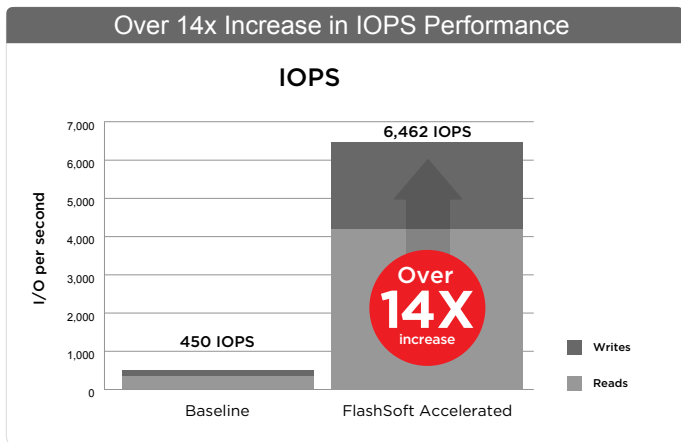
The software installs in a few minutes and runs transparently. Manage from a familiar Windows GUI or using PowerShell. FlashSoft software automatically identifies the hot data and begins accelerating applications.

File-level Policy-based Caching for Maximum Caching Efficiency

With FlashSoft an administrator can set a policy to exclude certain files on an accelerated volume for the cache. Especially useful in Hyper-V environments, this policy can deliver the maximum benefits of caching without modifying VM configurations.

Minimal System Overhead

FlashSoft for Windows Server requires minimal server resources — typically just 3 to 5 percent of CPU capacity and under 500MB of RAM.



SanDisk conducted a synthetic performance test² on a dual processor Dell PowerEdge™ server with 128GB RAM. Two Optimus Ascend™ (SAS) SSDs were configured as a 30GB RAID1 (mirrored) write-back cache to accelerate a 100GB HDD storage back end. The benchmark program *fiio.exe* was used to generate a workload and measure performance.

Performance tests illustrate FlashSoft software was able to accelerate the workload from 450 IOPS to 6,462 IOPS – **over 14x increase in performance** compared to the non-accelerated back end. Storage latency was also greatly improved dropping from 1,272 milliseconds to 55.65 milliseconds – **over 22x improvement in response time**.

System Requirements

Operating System

- Microsoft Windows Server 2008 R2, 2012, 2012 R2 (64-bit)
- Windows Server Hyper-V 2012 R2

SSD Hardware

- FlashSoft software runs on any standard SSD (PCIe, SAS, SATA or NVMe)
- Minimum cache size: 16GB
- Maximum cache size: 16TB

Server Memory & CPU

- Recommended CPU: Dual core or greater, 2GHz or above, 64-bit x86 processor
- Memory utilization: 500MB
- CPU utilization: 3%-5%
- All server configurations: rack mount, tower, blades or skinless

Storage

- Any direct-attached storage (DAS) or storage area network (SAN) including Cluster Shared Volumes (CSV)

Contact a FlashSoft Specialist

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1. CSV support and Windows Failover Clustering support is limited to Write-through (read-only) functionality.
 2. Based on internal testing conducted by SanDisk. Full configuration details and measured results are on record.