

FlashSoft®

Software Product Brief

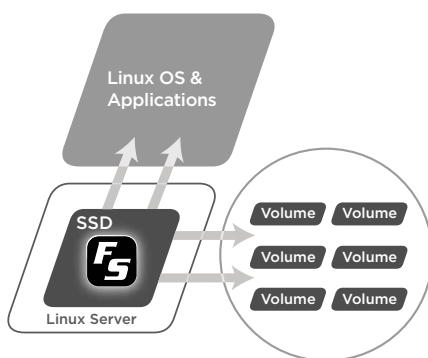
FlashSoft 3.8 for Linux

FlashSoft software for Linux enables IT managers to cost-effectively boost database and application performance on Linux servers while simultaneously reducing I/O overhead on storage infrastructure. FlashSoft software enables a solid-state device (SSD) to function as a cache for frequently accessed data in a server. The software is installed as a kernel module within the Linux OS. By caching 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 Linux accelerates enterprise applications such as MySQL® and Oracle® databases and reduces the I/O burden on backend storage. Lower latency I/O improves throughput and response time for business critical OLTP applications, increasing workload and reducing process time for OLAP operations.

- Experience SSD performance benefits with existing servers and storage
- Use any standard SSD attached via PCIe, SAS, SATA or NVMe from any vendor
- Ideal for high-end financial services, logistics, ERP, and BI applications
- Improves OLTP performance by a factor of 3x to 5x times¹

Solid-state server-side caching software



Installs in the OS
on the server.

Read-and-Write Caching or Read-Only Caching

The FlashSoft software cache can be configured as a read-write cache to enhance performance of databases and transactional applications; or it can be configured as a read-only cache for web servers, data analytics, and streaming media.

Safe Write-Back

FlashSoft can use hardware or software RAID to protect against the risk of data loss in the event of SSD failure.

Support for Large Datasets

FlashSoft supports caches up to 16TB in size, and up to four caches per server to accelerate extremely large datasets.

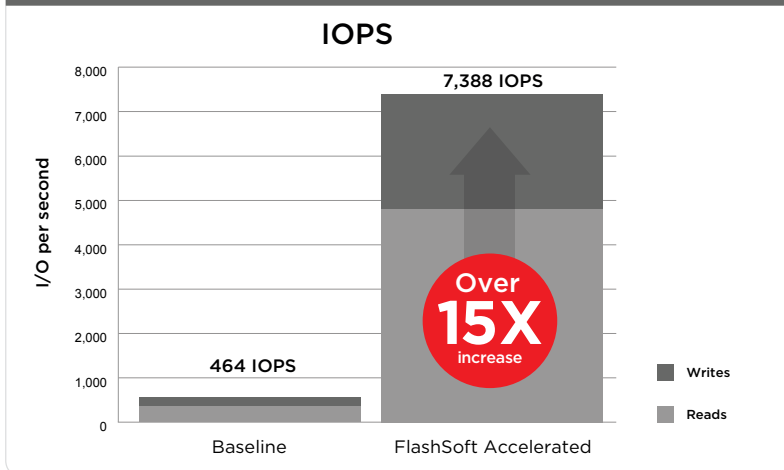
Simple Deployment & Transparent Operation

The software installs in a few minutes and runs transparently. FlashSoft software automatically identifies the hot data and begins accelerating applications.

Minimal System Overhead

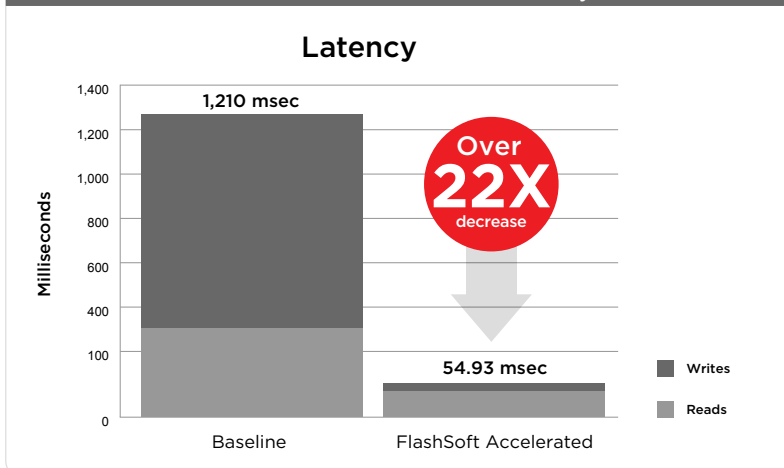
FlashSoft for Linux requires minimal server resources – typically less than 3 percent of CPU capacity and under 500MB of RAM.

Over 15x Increase in IOPS Performance



SanDisk conducted a synthetic performance test¹ on a dual processor Dell PowerEdge™ server with 64GB 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.

Over 22x Decrease in Latency



Performance tests illustrate FlashSoft software was able to accelerate the workload from 464 IOPS to 7,388 IOPS - **nearly a 16x increase in performance** compared to the non-accelerated back end. Storage latency was also greatly improved dropping from 1,210 milliseconds to 54.93 milliseconds - **a 22x improvement in response time**.

System Requirements

Operating System

- Red Hat® Enterprise Linux (RHEL) 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 7.0, 7.1 (64-bit)
- CentOS 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 7.0, 7.1 (64-bit)
- Linux KVM on RHEL and CentOS 7.0 and 7.1
- SLES 11 SP3, SP4 (64-bit)

- SLES 12
- Ubuntu Server 14.04.x LTS with kernel version 3.13.0-24 or higher

SSD Hardware²

- 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)

Contact a FlashSoft Specialist

Phone: 800-578-6007

Email: flashsoft.sales@sandisk.com

For more information, please visit: www.sandisk.com/enterprise/flashsoft

1. Based on internal testing conducted by SanDisk. Full configuration details and measured results are on record.

2. The optimal cache size depends on the amount of data on the volume being accelerated, the applications running on the server, and the peak utilization. Please consult a SanDisk FlashSoft representative to discuss the optimal SSD for your needs: flashsoft.sales@sandisk.com.

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