SanDisk DAS Cache Compatibility Matrix

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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SanDisk DAS Cache overview

SanDisk DAS Cache is a software application driver installed on a system primarily to accelerate the speed of storage input/output (I/O) operations, which in turn improves the performance of I/O intensive applications.

SanDisk DAS Cache software is compatible with:

- Linux—SanDisk DAS Cache software for Linux, version 1.5, is a kernel module that runs within the Linux operating system.
- VMware vSphere—SanDisk DAS Cache software for VMware vSphere, version 1.5, is a software module that runs within VMware ESXi 5.5.
- Windows—SanDisk DAS Cache for Windows, version 1.5, is a software application driver that accelerates the speed of storage.

SanDisk DAS Cache software accelerates server applications by leveraging a Solid-State Drive (SSD) installed on the host server and used specifically as a read-write cache for hot data—the data that applications access most frequently. In most cases, less than 20% or even 10% of active data is actually hot data. Although hot data constitutes a small fraction of the total data in storage, read and write operations on this data typically account for at least 70% to 80% of server I/O. This is why a relatively small SSD-based cache for hot data can provide I/O performance close to what you can achieve if you store all of an application's data on an SSD device.

NOTE: In this document, the term SSD device refers to any directly attached NVMe PCIe, AHCI PCIe, SAS, or SATA physical block device used as a cache. A physical SSD device might be an entire device, or a partition on a device, attached internally or externally. In any form, a cache device is referred to as an SSD in this document.

Abbreviations

The following table lists the abbreviations used in this document:

Table 1. Abbreviations

Abbreviations	Expansion
AHCI PCIe	Advance Host Controller Interface PCIe
DAS	Direct-attached storage
GUI	Graphic user interface
JBOD	Just a bunch of disks
NVMe PCIe	Non-Volatile Memory Express PCIe
PCIe	Peripheral Component Interconnect Express
PERC	PowerEdge RAID controller
SAS	Serial Attached SCSI
SATA	Serial Advanced Technology Attachment
SSD	Solid-state drive

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Compatibility matrix

General requirements

- SanDisk DAS Cache software for Windows requires less than 10 MB of disk space for installation, and typically less than 500 MB of system memory at runtime.
- SanDisk DAS Cache software for Linux requires less than 2 MB of disk space for installation, and typically less than 500 MB of system memory at runtime.
- SanDisk DAS Cache software for VMware vSphere requires less than 10 MB of disk space for installation, and typically between 140 MB to 500 MB of system memory at runtime.
- For write-back caching, the minimum drive requirements consist of two identical SSDs in a RAID 1 configuration.

Compatible operating systems

SanDisk DAS Cache software version 1.5 is compatible with the following operating systems:

- VMware vSphere:
  - VMware ESXi 5.5 Update 2

    NOTE: VMware vSphere ESXI 5.5 U2 is supported in write-through cache mode only.
- Linux:
  - Red Hat Enterprise Linux 6.5
  - Red Hat Enterprise Linux 6.6
  - Red Hat Enterprise Linux 6.7
  - Red Hat Enterprise Linux 7.0
  - Red Hat Enterprise Linux 7.1
  - Red Hat Enterprise Linux 7.2
  - Red Hat Enterprise Linux 7.3
  - SUSE Linux Enterprise Server 11 SP3
  - SUSE Linux Enterprise Server 11 SP4
  - SUSE Linux Enterprise Server 12
  - SUSE Linux Enterprise Server 12 SP2
  - Ubuntu Server 14.04 x LTS with kernel versions 3.13.0-24 and 3.19.0-25
  - CentOS 6.5
  - CentOS 6.6
  - CentOS 6.7
  - CentOS 7.0
  - CentOS 7.1
  - CentOS 7.2

NOTE: Support of SanDisk DAS Cache software on the above listed CentOS and Ubuntu operating systems must follow the ProSupport terms described at http://www.dell.com/support/contents/us/en/04/article/Product-Support/Self-support-Knowledgebase/enterprise-resource-center/server-operating-system-support.

- Linux with Kernel-based Virtual Machine (KVM):

  - RedHat Enterprise Linux 6.5
  - RedHat Enterprise Linux 6.7
  - RedHat Enterprise Linux 7.0
  - RedHat Enterprise Linux 7.1
  - CentOS 6.5
  - CentOS 7.0
  - CentOS 7.1
- Windows:
  - Windows Server 2008 SP2
  - Windows Server 2012
  - Windows Server 2012 R2

Compatible cache interfaces and devices

All SSDs must be supported within the platform.

- SATA and SAS SSDs
- PowerEdge Express Flash and other NVMe PCIe SSDs
- Fusion-IO PCIe-based SSD cards

Compatible PowerEdge systems

This section lists the PowerEdge systems that are compatible with SanDisk DAS Cache software.

PowerEdge rack systems

Compatible with following rack systems running latest firmware versions:

- Dell PowerEdge R930
- Dell PowerEdge R920
- Dell PowerEdge R830
- Dell PowerEdge R730
- Dell PowerEdge R730xd
- Dell PowerEdge R630
- Dell PowerEdge R530
- Dell PowerEdge R430
- Dell PowerEdge R330

PowerEdge tower systems

Compatible with following tower systems running latest firmware versions:

- Dell PowerEdge T630
- Dell PowerEdge T430

PowerEdge modular systems

Compatible with following modular systems running latest firmware versions:

- FX2s:
  - Dell PowerEdge FC830

  - Dell PowerEdge FC630
  - Dell PowerEdge FC430
- M1000e:
  - Dell PowerEdge M830
  - Dell PowerEdge M630
- C6000:
  - Dell PowerEdge C6320

NOTE: The storage controllers (PERC, HBA, and so on) supported on the above listed PowerEdge systems, are also compatible with the SanDisk DAS cache software.

NOTE: SanDisk DAS cache software is compatible with any directly attached SSD recognized as block device by Linux, including NVMe PCIe, AHCI PCIe, SAS, and SATA interfaces.

Compatible storage systems

- PowerEdge FD332 storage sled installed in PowerEdge FX2 enclosure
- PowerVault JBOD non-shared storage (as optional external JBOD storage)
- ScaleIO version 2.0.1

NOTE: Dell JBODs must be SAS-connected as direct-attached storage (DAS) only, and cannot be configured as shared storage. The total capacity must not exceed 256 TB and the number of volumes must not exceed 2048. Ensure that you check your server for supported DAS configurations.