

## InfiniFlash™ System IF500

All-Flash Storage System for OpenStack®

### Features

- **OpenStack integration**
  - Up to 512TB in 3U chassis
  - 8TB InfiniFlash cards, up to 64 per chassis
- **Ceph tuned for maximum performance with InfiniFlash**
- **Modular architecture, non-disruptive expansion**
  - 64TB to 512TB in 3U
  - up to 6PB in one rack
- **Low power consumption, only 450W typical for 512TB**

### Benefits

- **Fast access to data, opens new world of applications and services**
- **High performance storage for OpenStack/Ceph environments**
- **Cost-effective flash storage rivaling that of HDD based systems and public-cloud storage**
- **Greater than 10 times the reliability (AFR) of HDD arrays<sup>1</sup>**
- **Independent scaling of compute and storage nodes**

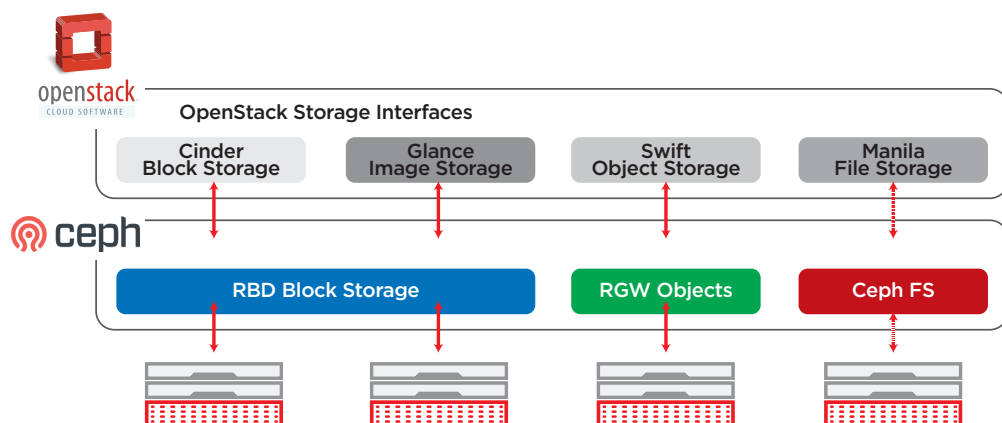
With the growth of mobile, social, Big Data, and the Internet of Things, the quantity and variety of data has skyrocketed. InfiniFlash System IF500 is a massive scale-out, high performance, all-flash storage system that provides boundless scale, efficiency, and resiliency for OpenStack environments.

### InfiniFlash

The InfiniFlash System IF500 provides petabyte-scale capacity, high density and performance for OpenStack/Ceph environments, delivering breakthrough economics for customers with big data storage requirements. The IF500 delivers the performance of an all-flash array with the economics of an HDD-based system. It is the ideal storage choice for medium to large OpenStack deployments, providing very low latency, extreme IOPS, and sustained throughput.

Each system can be configured with up to 64 hot-swappable cards, delivering up to half a petabyte (512TB<sup>2</sup>) of raw flash storage in a 3U enclosure and up to 6PB in a single rack. The IF500 scales easily as each unit may connect up to eight servers. The Ceph cluster software provides high availability, load balancing, data replication and storage services required by OpenStack solutions.

### One Storage Platform for all OpenStack Storage



InfiniFlash

The InfiniFlash system contains all the hardware necessary for hyperscale storage for Big Data: up to 64 InfiniFlash cards in a 3U chassis, and SAS connectors for up to 8 servers.

The InfiniFlash operating system software is available to provide flash optimized scale out and management, providing large capacity block and object storage interfaces, easing administration and saving you time.

IF500 Server Node Guidelines

The IF500 requires a companion server, containing a dedicated Linux OS along with the flash-optimized Cephstorage cluster software. The general requirements for this server are outlined on this page.

Contact Information  
Phone: 800-578-6007  
For more information, please visit:  
[www.sandisk.com/enterprise](http://www.sandisk.com/enterprise)



At SanDisk, we're expanding the possibilities of data storage. For more than 25 years, SanDisk's ideas have helped transform the industry, delivering next generation storage solutions for consumers and businesses around the globe.

InfiniFlash System Product Specifications	
Capacity	
Maximum raw capacity	512TB <sup>2</sup> in 3U
Performance <sup>3</sup>	
IOPS	>780,000 IOPS
Throughput	7GB/s
Power and Connectivity	
Input voltage	90-264 VAC
Input frequency	47-63 Hz
Input current	12 Amps max
Power cords	2x IEC C14
Power per node	Active: 750W, Idle: 250W
Connectivity: SAS 2.0 6Gb/s	8 SFF-8088 connectors; Future zero-downtime upgrade to SAS 3.0 12Gb/s
Reliability, Availability and Serviceability	
MTBF	1.5 million hours
Hot-swappable hardware	Expanders, fans, power supplies, flash cards
Fans	N+2 (Sustain any two fan failures)
Power Supplies	N+1 (Sustain any one power supply failure)
Expanders	N+1 (Sustain any one expander failure)
Compatibility	
Node OS (IF500)	Ubuntu 14.04
Application Servers	All Linux distributions

InfiniFlash Software Specifications	
Scalability	
Per cluster or namespace	10s - 100s of nodes
Maximum unique objects (per cluster or namespace)	1B per device group; no limits on device groups
Maximum replicas	10 per unique object
Total cluster maximum	15PB
Services and Protocols	
Cloud protocol access	RESTful API, Swift, S3 API
Block access	iSCSI
Snapshots	256
Data protection	Snapshots, configurable replicas, erasure coding
Disaster recovery	Geographic asynchronous replication of objects
Management	CLI, RESTful HTTP
Maximum storage zones (for protection)	64,000 per cluster or namespace

	Entry	Mid	High
IF500 Capacity	64TB to 128TB	256TB	512TB
CPU	2 x socket Intel Xeon E5-2690 12C 2.6GHz	2 x socket Intel Xeon E5-2695 14C 2.3GHz	2 x socket Intel Xeon E5-2698 16C 2.8GHz
Memory	64	64	128
Network	1 x Mellanox X3 Dual 40GbE	2 x Mellanox X3 Dual 40GbE	3 x Mellanox X3 Dual 40GbE
	2 x LSI 9300-8e HBA SAS Cables x 8	3 x LSI 9300-8e HBA SAS Cables x 9	4 x LSI 9300-8e HBA SAS Cables x 10
Other		2 x PCIe slot for NVRAM (for future)	3 x PCIe slot for NVRAM (for future)

Available from  
SanDisk partners

<sup>1</sup> InfiniFlash AFR based on internal testing. Results available upon request.  
<sup>2</sup> 490TB usable capacity.  
<sup>3</sup> Based on internal testing. Test report available. Results and performance may vary according to system adoption, configuration and broader system architecture.  
Specifications subject to change without notice. 1TB = 1,000,000,000,000 bytes.  
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