

DATA SHEET

SFA14KX/SFA14KXE

High Performance Block Storage with Embedded Application Option

Game Changing Next-Generation Storage for Data-Intensive Environments



At 3.5 million IOPs and 60GB/sec from a single 4U appliance, the SFA14KX[®] is the fastest storage solution in the industry today, and delivers the highest density available with the ability to drive an unmatched number of SSDs and spinning

drives in the least amount of space. This extreme level of density makes the SFA14KX ideal for data centers with limited space, or any high-performance environment wanting to be able to expand capacity without adding the complexity of many appliances to manage and the cost of powering and cooling a large number of controllers.

Data Growth is a Challenge and a Strategic Opportunity

Data-intensive Enterprise and HPC communities recognize that one of the biggest challenges we face is the ability to manage and take advantage of huge data growth. Compute performance grows at a much faster rate than storage media performance, and data is growing faster than compute, so it is no surprise that the majority of users agree that performance is the number one storage and Big Data challenge, and that storage has become the most strategic part of the high performance data center.

Faster Drives and Interconnects do not Solve the Problem

There are several technologies that will each help in at least one dimension of the problem: access, performance or growth. New flash products raise the performance of an individual drive. Private, public, and hybrid cloud offer some cost and capacity relief to certain classes of data. Higher performance networks will drive data into and out of compute faster. New technologies like burst buffers will speed applications. But each of these alleviates only one part of the problem.

Hyper-Converged Platform Accelerates and Balances New Technology

The revolutionary SFA14KX is the highest performance block storage and hyper-converged platform in the industry today with an architecture that harnesses the power of the latest technologies, accelerates them with DDN high-performance software features and balances them to deliver the fastest performance with the lowest latency.

FASTEST PERFORMANCE

- 3.5 million IOPS, 60GB/s in 4U
- Eliminates need to buy flash arrays to front your spinning disk
- Highly-optimized Internal PCIe fabric and 12Gb back-end SAS fabrics ensure fast, low latency data access
- Latest networking connectivity options for current environment support and future-proofing
- Unique embedded application options for ease-of-management and lower latency

HIGHEST DENSITY

- Unprecedented density per U, per system and up to 9PB in a single rack

GREATEST PROTECTION

- Scalable, declustered RAID provides superior rebuild times, higher data availability, and protection for new large format drives

SIMPLEST AT SCALE

- Converged hardware significantly reduces costs and complexity – Lower number of ports, cables and network devices lowers acquisition, and administrative costs by up to 70%
- Industry's largest building blocks scale up or out – start small and scale up or out with your choice of building block

Declassified RAID

As disk and solid state drive densities continue to grow, limitations in the flexibility of traditional RAID configurations become apparent. Constantly increasing drives sizes mean that drive rebuild times are increasing as well, and since traditional RAID is fixed to a certain limited number of drives users are encountering long drive rebuild times due to a small number of drive devices writing to a single spare drive. SFA Declassified RAID (DCR) significantly improves rebuild performance. DCR allows for the striping of data across a much larger set of physical disks than was previously available in traditional RAID and greatly increasing the parallelism of drive rebuilds. It is this parallel process that enables rebuilds to run much faster than traditional RAID. In addition to decreasing recovery times, DCR can also result in increased storage efficiency and higher IOPs performance

Configurations Start Small and Scale on Demand

SFA14KX building blocks start in the hundreds of terabytes and scale to over 17 petabytes. Select the building block size best suits your requirements profile across IOPs, streaming bandwidth, capacity and number of devices under management. The extreme performance and capacity one SFA14KX means a lower overall controller-to-drive ratio in your data center, significantly reducing the cost per terabyte of powering and cooling your data storage. A smaller number of controllers also means fewer devices to manage which reduces administrative cost and complexity.



Technical Specifications

System Features	Active-Active Storage Controller in Single 4RU enclosure; Supported Drives: Up to 1,872*; Max Capacity: drive and enclosure dependent (currently 21.7PB); 2 Compute Controllers: 4 x 18-core Intel CPUs, 512GB DDR4 memory; 72 x 12Gb/s SAS 2.5" slots; 4 x 480GB SSD System Drives; 4 x 480GB SSD Virtual Machine Drives (SFA14KXE); Redundant Power	
Host, Storage Fabric and Network Ports	SFA14KX: 12x InfiniBand™ EDR/FDR; 24x Fibre Channel (FC16) Ports	SFA14KXE: 8x InfiniBand™ EDR/FDR/Ethernet, 40/100GbE Ethernet, 4x on Intel® Omni-Path
System Fabric and Expansion Ports	24x SAS 12Gb/s (4 Lane Mini-SAS HD)	
Software Features	SFX®, LUN Mapping and Masking, Intelligent Write Striping, Read QoS, Port Zoning Detection, Data-At-Rest Encryption, DirectProtect Data Integrity Check/Correction, Python Space API, CLUI and Web GUI, SNMP Notification	
Drive Enclosure Models	SS8462: 4U, 84 Drive Enclosure; SS9012: 4U, 90 Drive Enclosure	
Supported RAID Levels and DCR Configurations	RAID 6: 8+2, 4+2; RAID 5: 8+1, 4+1; RAID 1: 1+1	

Product Specifications Subject to Change
*Using SS9012 Enclosures,

FOR MORE INFORMATION: ddn.com/products/converged-storage-platform-sfa14kx/

ABOUT DDN®

DataDirect Networks (DDN) is the world's leading big data storage supplier to data-intensive, global organizations. DDN has designed, developed, deployed, and optimized systems, software, and solutions that enable enterprises, service providers, research facilities, and government agencies to generate more value and to accelerate time to insight from their data and information, on premise and in the cloud. For more information, visit our website www.ddn.com or call 1-800-837-2298.

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