opslag™ sa

Tyrone®

D1-QF4 4Gb FC-SAS High Availability Systems

OPSLAG storage systems are designed for high availability, non-stop services, applications demanding high throughput, and flexible storage planning with cost effectiveness for small and medium businesses

Highlights

1. Two 4Gb FC ports per controller.
2. Up to 1500MB/Sec. throughput.
3. AJA System test (Write + Read)
   * 1920x1080 10-bit RGB: 643.4 + 622.7 MB/Sec
   * 2048x1556 10-bit RGB: 621.1 + 635.8 MB/Sec
4. Fully redundant & hot pluggable designs: RAID controllers, power supplies, fan modules, battery backup modules, & JBOD expansion..
5. Green storage designs: auto disk spin down, advnced cooling mechanism, & 80 PLUS energy-efficient power supplies.
6. Advanced data protection: RAID6, 60, writeable snapshot, Windows VSS support.
7. Flexible volume management for multiple application & environments: (VMWare, Hyper-V, Citrix support), cloud, storage, SQL, Exchange, Surveillance, file backup, email, boot from SAN, & etc.
8. High connection availability: load balancing & failover.
9. Extendable capacity up to 216TB

High Availability

D1-QF4 4Gb FC system is specially designed for high availability applications. The D1-QF4 is well equipped with fully redundant components for all major functions, including redundant RAID controllers, power supplies, fan modules, battery backup modules, and SAS JBOD expansion ports. Being hot pluggable, all of them provide non-stop services. In addition, the firmware is high available as well, including RAID 6, 60 support, Opslag writable snapshot, Windows VSS support, and volume configuration restoration; all of these are provided to reduce the chance of rebooting or shutdown. Distinct from others,D1-QF4 is able to upgrade firmware without system down time. Both firmware image and volume handling are well protected by the redundant RAID controllers; when one RAID controller is down or has lost the connection, the other RAID controller takes over its tasks immediately. The volumes and the services are transferred seamlessly simultaneously

Outstanding Performance

D1-QF4 IOPS is 100,000 at maximum, much higher than other storage systems within the same segment in the current market; besides, its throughput is 1500MB/Sec. at maximum.

Applications

The optimized IOPS and throughput are capable of providing run-time critical online services, such as Cloud storage, SQL, Exchange, and high-end surveillance storages. Furthermore, with the 4GB FC interface, D1-QF4 is ideal for virtualization environments - VMWare, Hyper-V, and Citrix. Users can install up to 32 OSes in the 4Gb FC system through the Boot-from-SAN feature. With this feature, the multiple OSes/Servers can be managed easily and well protected by Opslag's advanced data protection features, and there will be no system downtime caused by single point of failure.

Green

All D1-QF4 systems are equipped with Opslag's default green features for power saving. In most cases, the hard drives consume most power. With the autodisk spin down feature and proper configuration, the power consumption ofhard drives can be reduced to a minimum, and users will not even notice this feature. D1-QF4 monitors the environment temperature for cooling mechanism and the fan modules respond accordingly. The power supply modules are all 80 PLUS power efficient for better power converting rate. In virtue of the reduction of hard drive power consumption, the advanced cooling mechanism, and the energy-efficient power supplies, the unnecessary power cost is decreased greatly

Ordering Information

Controller Configuration

D1-QF4-212D, D1-QF4-316D, D1-QF4-424D	Dual controllers*
D1-QF4-212C, D1-QF4-316C, D1-QF4-424C	Single controller

Optional Components

TSATA board	SATAII drives support on dual conroller models

* The specific functions of dual controller are not available in D1-QF4-212C, D1-QF4-316C, D1-QF4-424C

Hardware Components

	D1-QF4-212D D1-QF4-212C	D1-QF4-316D D1-QF4-316C	D1-QF4-424D D1-QF4-424C
RAID Controller	Dual Controllers Single controller	Dual Controllers Single controller	Dual Controllers Single controller
No. of Host Channels Per Controller	2 x 4Gb FC	2 x 4Gb FC	2 x 4Gb FC
Expansion Enclosure	D1-QJ6 series	D1-QJ6 series	D1-QJ6 series
Cache Memory Per Controller	2GB, up to 4GB, with battery backup	2GB, up to 4GB, with battery backup	2GB, up to 4GB, with battery back
No. of Hard Drives (SAS & SATA II)	12	16	24
Max. no. of hard drives (SAS & SATAII)	72	72	72
Power Supply	2 x 500W	2 x 500W	3 x 500W
Fan	2	2	2
Dimensions	2U 19" Rackmount 422.8mm x 500.6mm x 88.0mm (W x D x H)	3U 19" Rackmount 422.8mm x 500.6mm x 130.0mm (W x D x H)	4U 19" Rackmount 422.8mm x 500.6mm x 176.0mm (W x D x H)

Feature Highlights

Green	Auto disk spin down Advanced cooling mechanism 80 PLUS energy-efficient power supplies
FC	Up to 32 multiple nodes support Up to 128 sessions per controller
Raid & Volume	RAID level 0,1,0+1,3,5,6,10,30,50, JBOD, N-way mirror Up to 1024 logical volumes Up to 32 hard drives per volume group Once logical volume can be shared by as many as 16 hosts Global and dedicated hot spare Write-through or white-back cache policy Online volume expansion Instant RAID Volume availability Auto volume rebuilding On-line volume migration without system down time
High Availability	Dual-active RAID controller Cache mirroring through high bandwidth channels Flexible RAID group ownership management Management port seamless take-takeover Online firmware upgrade, no system down time Multi-path & load-balancing support (Microsoft MPIO)
Advanced Data Protection	OPSLAG's writable snapshot Microsoft Windows Volume Shadow Copy Services (VSS) Configurable N-way mirror Instant volume configuration restoration Hot pluggable battery backup module (BBM)
Management	LCM; Serial console; SSH telnet; HTTP Web UI; Secured Web (HTTPS); S.E.S.
Notification	Email; SNMP trap; Browser pop-up windows; Syslog; Windows Messenger
OS Support	Windows; Linux; Solaris; Mac
Virtualization	VMWare; Hyper-V; Citrix
Warranty	1-year warranty for system 1-year warranty for battery backup module

Requirements

AC Output	100-240V ~ 7A-4A 500W with PFC(Auto Switching)
DC Output	3.3V-25A; 5V-32A; 12V-40A
Operating Temperature	0 to 40°C
Relative Humidity	5% to 95% non-condensing

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