





Flash Voyager DX IP SAN Cluster Appliance

Scalable Flash & Flash Hybrid with Data Deduplication

StoneFly's Flash Voyager DX series of IP SAN Cluster Appliances offers enhanced performance, redundancy, scalability, and availability. Voyager's scalable architecture brings the flexibility to start small, and scale up to 200 TB of flash-based IP SAN storage or over a PetaByte of tiered (SSD and SAS) storage.

The cornerstone of the Flash Voyager DX is the award winning StoneFusion IP SAN operating system with built-in optimized data deduplication technologies for increased storage efficiency.

StoneFly's data deduplication capability allows users to fit 5x to 137x more data within the same storage footprint without reducing overall performance, greatly minimizing the cost outlays for expensive flash-based SSD disks.

The Voyager's high-performance storage subsystem offers redundant, active/active connectivity for appliance redundancy and increased system performance. Additionally the Voyager DX offers cost-effective expansion via optional Flash Expansion Arrays and Flash Expansion Units. This high-end performance makes the Flash Voyager DX ideal for critical applications involving online transaction processing, databases, email, disk-based archives, disk-to-disk backup, virtual servers and other core business uses.

The Flash Voyager DX base configuration comes standard with dual hexa-core storage virtualization engines and 64GB of data packet and command queuing cache per cluster node, redundant 80-PLUS® certified hot-swappable power supply modules, and choice of six bonded gigabit Ethernet (GbE) or quad bonded 10Gb RJ-45 copper iSCSI connections per cluster. Available hardware upgrades include up to 1.5TB cache per node and up to fourteen bonded gigabit or eight 10Gb (RJ-45/CX4 Copper, SFP+, SR/LR Optical) iSCSI connections per cluster.

The new Flash Voyager DX can be used as super-fast iSCSI storage for conventional workstations and servers, as well as virtualized machines. It was designed to deliver exceptional performance at an economical price point. Featuring active-active components for business continuity, the Flash Voyager DX offers full RAID protection and requires no down time for storage expansion. Its architecture enables customers to start smaller and then expand to up to 448 drives. For added flexibility, configurations can be mixed and matched according to customer need with any combinations of flash-based SSD, nearline 7200RPM SAS, and enterprise 10k or 15k SAS drives.

StoneFly Flash Voyager DX IP SAN Cluster Appliance	Base Unit with 1 Expansion Array	y Expansion Unit	
Host Interface (iSCSI)	Standard: 6 Bonded Gigabit or 4 Bonded 10Gb RJ-45 Copper iSCSI Connections Optional: 14x1Gb, 2x/4x/8x10Gb (RJ45/CX4 Copper, SFP+, SR/LR Optical)		
Storage Capacity per Unit	6Gb Flash-Based SSD: 1.9TB - 7.6TB 6Gb SAS 7200RPM: 8TB - 96TB	6Gb SAS 10k RPM: 7.2TB – 19.2TB 6Gb SAS 15k RPM: 2.4TB – 9.6TB	
RAID Levels (Battery Backed)	0, 1, 0+1, 3, 5, 6, 10, 30, 50, 60		
Expansion	Up to 2 Expansion Arrays and 12 Expansion Units with Standard Configuration. Up to 4 Expansion Arrays and 24 Expansion Units with SAS Expansion Kit.		
Power Requirements	6 Power Supply Modules/Power Cords 100VAC@25A, 240VAC@12.5A, 50-60Hz	2 Power Supply Modules/Power Cords 100VAC@9A, 240VAC@4.5A, 47-63Hz	
Temperature	Operating: 10° to 35°C (50°F to 95°F), Non-operating: 40° to 60°C (-40°F to 149°F)		
Relative Humidity	8 to 90%, Non-Condensing		
Form Factor	5U Rackmount	3U Rackmount	
Dimensions (HxWxD)	8.75" x 19" x 27.75" (217 x 485 x 705mm)	5.25" x 19" x 20.25" (133 x 485 x 514mm)	





Flash Hybrid Tiered Storage

NL SAS	15K SAS	SSD	SSD
NL SAS	15K SAS	SSD	SSD
NL SAS	15K SAS	SSD	SSD
NL SAS	15K SAS	SSD	SSD

Virtual Storage for Virtualized Environments

- VMware Certified
- Microsoft Hyper-V
- Citrix Xen Certified
- KVM

Flash Voyager DX IP SAN Cluster – Key Software & Hardware Features



StoneFusion® Operating System

Intuitive

Management

Platform for IP SANs

and Beyond

StoneFly StoneFusion 8.0 Base iSCSI Management 64-Bit Operating System

- Logical Volume Creation and Patented Advanced Storage Virtualization Services
- 200 iSCSI Volumes Supported with 1022 Concurrent Host iSCSI Sessions
- iSCSI Port Teaming, Failover and Load-Balancing
- Volume-Level Access Control and Dynamic Volume Management
- Support for iSCSI, SNMP Traps, UPS, Nagios, RAID Monitoring, Call Home
- System-Wide Graphical Performance and Utilization Reporting
- Advanced Report Management
- Automated Online Volume / Storage Expansion

StoneFly StoneFusion 8.0 Advanced Features Package

- StoneFly Active / Active Clustering Services with Host and IP SAN Load Balancing, Seamless Failover and Failback Operations
- Optimized Data Deduplication for Increased Storage Efficiency
- StoneFly Snapshot Services with 2520 Delta-Based Snapshots per Subsystem
- Mountable Read-Write Snapshot Volumes
- Snapshot Schedule Utility, Command Line Interface Utility
- StoneFly Real-Time Synchronous Mirroring of iSCSI Volumes and Nodes (Campus Mirroring)
- Multi-Site/Multi-Appliance Replication and Unified Central Management System
- Tiered Storage Architecture with Hardware and Software Support

Available Software Upgrade Options

- Thin Provisioning with Space Reclamation

- Asynchronous Replication (One-to-Many & Many-to-One);
- NAS (CIFS/NFS)
- Hardware-Enabled Block Level AES 256 Volume Encryption;
- VSS Support



StoneFly i7003-D Dual 1U Storage Concentrator Cluster, Quad 6Gb SAS Connection

- Hot-Swappable Cluster Nodes with Failover and Failback
- Dual Hexa-Core Storage Virtualization Engines per Cluster Node
- 64GB to 1.5TB Data Packet and Command Queuing Cache for $\mathsf{SSPP} \ensuremath{\mathtt{@}}$ per Cluster Node
- Scale Capacity to 448 Drives with up to 4 Expansion Arrays & 24 Expansion Units
- Supports 1Gb Copper, 10Gb RJ-45/CX4 Copper, SFP+, SR/LR Optical
- One Gigabit Management Port per Cluster Node
- Redundant 80-PLUS® Certified Hot-Swappable Power Supplies
- Dynamic Storage Expansion



StoneFly Flash Voyager DX Expansion Array

- Dual Active-Active Hot-Swappable Storage Controllers with Transparent Failover/Failback
- Sixteen Hot-Swappable 6Gb Flash-Based SSD or SAS Disk Drives per Chassis
- RAID Levels 0, 1, 0+1, 3, 5, 6, 10, 30, 50, 60, and Global Spares
- ECC-Protected RAID Cache with Battery Backup on Each Controller
- Dual Out-of-Band Ethernet Interfaces for Remote Status Monitoring & Configuration
- Redundant 80-PLUS® Certified High-Efficiency Hot-Swappable Power Supply Modules
- Scale Capacity with up to 6 Expansion Units per Expansion Array



StoneFly Flash Voyager DX Expansion Unit

- Redundant JBOD Expander Controllers for Dual RAID Controller Configurations
- Sixteen Hot-Swappable 6Gb Flash-Based SSD or SAS Disk Drives per Chassis
- In-Band Enclosure Management Service to Monitor/Control All Enclosure Elements
- Redundant 80-PLUS® Certified High-Efficiency Hot-Swappable Power Supply Modules

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