

A solution **FLEXIBLE** enough to **ADAPT** to your requirements

Tyrone[®]
opslag[®]
FS2

With the rise in unstructured data storage requirements, separate file and block solutions are no longer adequate for meeting business goals. Opstag FS2 series from Tyrone Systems consolidates file, block and object data in a single all-in-one storage solution, so you can achieve key business benefits in cost-effective ways. With best-in-class scalability, redundancy, performance and availability, Opstag FS2 optimizes support for critical applications and data center consolidations, all through a single intuitive interface.

Opstag FS2 is a flexible and versatile storage platform, making it an ideal storage solution for high performance computing and broadcast media operations.



DEDUPE



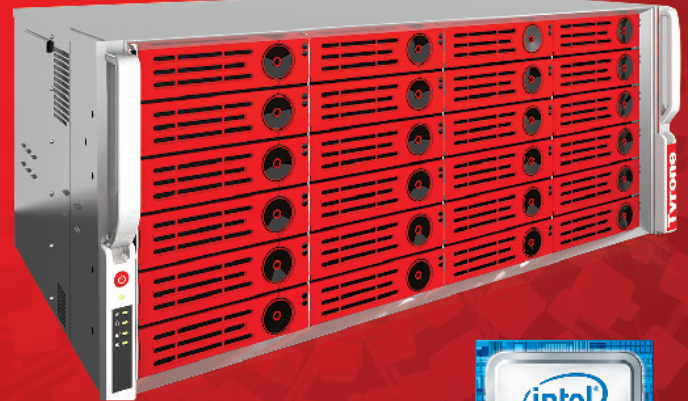
DUAL CONTROLLER



COMPRESSION



ACCELERATION



Opstag FS2 supports a variety of file and block protocol, client systems and different configurations for host connectivity.

Clients supported : Windows, MAC OS, Linux, FreeBSD, Solaris
File Protocols¹ : CIFS/SMB, AFP, FTP, NFS & NFS over RDMA
Block Protocols¹ : iSCSI Target, FC Target, SRP Target
Host Interface(s)² : Gigabit Ethernet -> Up to 12 ports (RJ45)
10G/25G/50G/100G Ethernet -> Up to 4 ports
Fibre-Channel -> Up to 4 ports
FDR/EDR InfiniBand -> Up to 2 ports
Intel Omni-path -> Up to 2 ports

Support for VTL

- Simulate with Multiple tape library
- Supports multiple users
- Archiving, Backup & Recovery, Data Protection, Disaster Recovery
- Key Features:- Tape Replacement, Deduplication, Tape Management & Data Compression
- Supported Protocol iSCSI, SRP, FC(In Development Phase)

Flexible Scalability

Opstag FS2 is a highly scalable solution offering storage capacity starting from 12TB to well over 1PetaByte. Storage capacity can be easily enhanced by adding JBOD units to primary storage. For customers requiring performance scaling along with capacity scaling, multiple FS2 units can be clustered together.

Flexible data protection and redundancy

All Opstag FS2 solutions offer a high level of redundancy and data protection. All systems support various RAID levels (0, 1, 0+1, 5, 6, 5 & 60) for protection against disk failure and is bundled with a redundant power supply as a default feature. Opstag FS2 also supports multiple snapshots with scheduling as a default feature and supports local and remote replication. For customers looking for a highly-available, Opstag FS2 supports fail-over clustering.

Opstag FS2 is a flexible solution that supports SSD caching for customers looking for extremely high IOPS. Our SSD caching algorithm is integrated at the hardware level and not at the file system level and therefore offers performance acceleration irrespective of whether you are using file or block access protocol.

Easy Management/Integration

Tyrone systems believes in keeping things simple. FS2 can seamlessly integrate with ADS & NIS and our web based management UI is very intuitive and easy to use. For system health monitoring, Opstag FS2 has support for IPMI 2.0 and for SNMP.



Our portfolio includes a wide range of models

| | MODELS | FS2-D4AC-36 | FS2-S2AC-12 | FS2-S3AC-16 | FS2-S4AC-24 | FS2-S4AC-36 | FS2-S2AC-24 | FS2-D4L6-36 | FS2-S2ICR |
|---|---------------------------|---|-------------|-------------|-------------|-------------|-------------|-------------|-----------|
| Access Protocols | File Protocols | SMB, NFS, AFS, FTP | | | | | | | |
| | Block Protocols | iSCSI, FC, SRP | | | | | | | |
| Interface Ports (per controller) | Gigabit Ethernet | 2 (Max 12) | 2 (Max 12) | 2 (Max 12) | 2 (Max 12) | 2 (Max 12) | 2 (Max 12) | 2 (Max 12) | 2 (Max 8) |
| | 10G/25G/50G/100G Ethernet | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) |
| | Fibre Channel Ports | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) | 0 (Max 4) |
| | InfiniBand/OPA Ports | 0 (Max 2) | 0 (Max 2) | 0 (Max 2) | 0 (Max 2) | 0 (Max 2) | 0 (Max 2) | 0 (Max 2) | 0 (Max 2) |
| Advanced Features* (*Discuss with sales rep before ordering) | SSD Acceleration | x | x | x | x | x | x | ✓ | x |
| | Snapshot | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Deduplication | ✓ | x | x | x | x | x | ✓ | x |
| | Replication | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | x |
| | Tape emulation (VTL) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | x |
| | Dual-Controller | x | x | x | x | x | x | x | ✓ |
| System Hardware Specs | Processor | 2 x Xeon® | Xeon® | Xeon® | Xeon® | Xeon® | Xeon® | 2 x Xeon® | Xeon® |
| | Memory | 32GB (Max 512GB) | | | | | | | |
| | RAID Levels | 0/1/5/6/10/50/60, with flash backed cache | | | | | | | |
| | HDD/SSD bays (Hot-Plug) | 36 LFF | 12 LFF | 16 LFF | 24 LFF/SFF | 36 LFF/SFF | 24 SFF | 36 LFF | 90 LFF |
| | HDD/SSD Type | SAS/SATA | SAS/SATA | SAS/SATA | SAS/SATA | SAS/SATA | SAS/SATA | SAS/SATA | SAS/SATA |
| | Max Expansion (JBOD) | 500 | 500 | 500 | 500 | 500 | 500 | 450 | 90 |
| Form Factor | 4U | 2U | 3U | 4U | 4U | 2U | 4U | 8U | |





- 1: The protocols are interface specific and not all protocols work with all interfaces e.g. FC target requires FC ports. Not all protocol options are available for all clients e.g. SRP is not available for MAC OS.
- 2: Not all host interfaces combinations are available. For e.g. it is not possible to have 12 Gigabit ports + 4 10G ports in the same unit.
- 3: SSD acceleration uses up to 4 HDD bays for populating SSDs reducing the number of available bays.

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