For enterprise and SMB businesses, Tyrone Opslag Unified Block Series is the perfect choice for a highly reliable, scalable and affordable SAN storage system.

OPSLAG UNIFIED BLOCK SERIES
Dual Active Controller & High Availability Design

Tyrone Opslag Unified Block series of products are high performance, simple, secure, scalable and affordable SAN storage system for enterprise and SMB. It is an ideal solution to the applications of mission critical data center, virtualization integration, media and entertainment, or large-scale surveillance; and also, backup and disaster recovery in enterprise, SMB or ROBO (Remote Office/Branch Office) deployments.

The series features a wide range of form factors including a 24-bay, 4U 3.5" LFF chassis, 3U 16-bay, 2U 12-bay, and a 26-bay, 2U 2.5" SFF chassis. This allows more deployment flexibility to meet users' budgets and rack density limitations. The advanced series is a proven high availability SAN storage system. All of the critical components are hot pluggable and designed with full redundancy. This design allows this series to withstand multiple component failures and achieve 99.999% availability.

PRODUCT HIGHLIGHTS

- High Performance SAN storage system with Dual (Active/Active) controller

- High availability design with no single point of failure

- Intel® Xeon® D-1500, Quad core processor, up to 128GB RAM per controller

- Latest 12Gb SAS 3.0 technology

- Built-in 10GbE iSCSI

- Up to 12,000MB/s sequential read and 8,000MB/s sequential write throughput, up to 1.5 million sequential IOPS

  * Optional feature

- Scale up solution supports over 2.6PB of raw storage capacity

- Advanced Storage Management
    - Thin Provisioning
    - SSD Cache (read and write cache)*
    - Auto Tiering*
    - Snapshot

- Flexible I/O host cards for iSCSI SAN or Fibre Channel SAN

- Local clone and remote replication for disaster recovery

- Virtualization support for VMware VAAI, Microsoft Hyper-V ODX, and Citrix

- Cache-to-Flash memory protection technology

VALUE & PERFORMANCE SERIES

Opslag Unified Block Value Series is an ideal solution for applications in mission critical data center, virtualization integration, media/broadcast, or large scale surveillance; and also backup and disaster recovery.

D3V-QUA-424D	
Form Factor	4U 24-bay, LFF
RAID Controller	Dual-active controller
Processor	Intel® D1500 family 4-core processor
Memory (Per Controller)	DDR4 ECC 4GB, up to 64GB
Host Connectivity (per Controller)	Host Card Slot 1 (optional): 4 x 16Gb FC (SFP+) ports 4 x 10GbE iSCSI (SFP+) ports 4 x 1GbE iSCSI (RJ45) ports 2 x 16Gb FC Host Card Slot 2 (optional): 4 x 10GbE iSCSI (SFP+) ports 4 x 1GbE iSCSI (RJ45) ports Built-in 2 x 10GBASE-T iSCSI (RJ45) ports Built-in 1 x 1GbE management port
Expansion Connectivity	Built-in 2 x 12Gb/s SAS wide ports Mix & match 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SATA SSD
Drive Type	Mix & match 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SATA SSD
Expansion Capabilities	Up to 10 expansion units using value/performance series 12Gb SAS expansion enclosure D3V-QUA-424S/D	D3-QUA-424D (LFF 24-bay), D3-QUA-316D (LFF 16-bay), D3-QUA-226D (SFF 26-bay)
Max. Drives Supported	284
Dimension (HxWxD)	19" Rackmount 170.3 x 438 x 515 mm
Memory Protection	Cache-to-Flash module* Battery backup module + Flash module (To protect all memory capacity) Super capacitor module + Flash module (To protect up to 16GB memory per controller)
LCM	USB LCM (optional)
Power Supply	80 PLUS Platinum, two redundant 770W (1+1) AC Input 100 ~127V 10A, 50-60Hz 200 ~ 240V 5A, 50-60Hz

* Optional feature

Operating System
- 64bit embedded Linux

Storage Management
- RAID level 0 ,1 ,0+1 ,3 ,5 ,6 ,10 ,30 ,50, 60, and N-way mirror
- Flexible storage pool ownership
- SSD Cache
- Auto Tiering
- Global, local, and dedicated hot spares
- Write-through and write-back cache policy
- Online disk roaming
- Spreading RAID disk drives across enclosures
- Background I/O priority setting
- Instant RAID volume availability
- Fast RAID rebuild
- Online storage pool expansion
- Online volume extension
- Online volume migration
- Auto volume rebuilding
- Instant volume restoration
- Online RAID level migration
- SED drive support
- Video editing mode for enhanced performance
- Disk drive health check and S.M.A.R.T attributes
- Storage pool parity check and media scan for disk scrubbing
- SSD wear lifetime indicator
- Disk drive firmware batch update

iSCSI Host Connectivity
- Proven QSOE 2.0 optimization engine
- CHAP authentication
- SCSI-3 PR (Persistent Reservation for I/O fencing) support
- iSNS support
- VLAN (Virtual LAN) support
- Jumbo frame (9,000 bytes) support
- Up to 256 iSCSI targets
- Up to 512 hosts per controller
- Up to 1,024 sessions per controller

Fibre Channel Host Connectivity
- Proven QSOE 2.0 optimization engine
- FCP-2 & FCP-3 support
- Auto detect link speed and topology
- Topology supports point-to-point12 and loop
- Up to 256 hosts per controller

High Availability
- Dual-Active (Active/Active) SAN controllers
- Cache mirroring through NTB bus
- ALUA support
- Management port seamless failover
- Fault-tolerant and redundant modular components for SAN controller, PSU,
- FAN module, and dual port disk drive interface
- Dual-ported HDD tray connector
- Multipath I/O and load balancing support (MPIO, MC/S, Trunking, and LACP)
- Firmware update with zero system downtime

Security
- Secured Web (HTTPS), SSH (Secure Shell)
- iSCSI Force Field to protect from mutant network attack
- iSCSI CHAP authentication
- SED drive support

Storage Efficiency
- Thin Provisioning with space reclamation
- Auto Tiering with 3 levels of storage tiers

Networking
- DHCP, Static IP, NTP, Trunking, LACP, VLAN, Jumbo frame (up to 9,000 bytes)

Advanced Data Protection
- Snapshot, block-level, differential backup
- Writeable snapshot support
- Manual or schedule tasks
- Up to 64 snapshots per volume
- Up to 64 volumes for snapshot
- Up to 4,096 snapshots per system
- Remote Replication
- Asynchronous, block-level, differential backup based on snapshot technology
- Traffic shaping for dynamic bandwidth controller

- Manual or schedule tasks
- Auto rollback to previous version if current replication fails
- Up to 32 schedule tasks per controller
- Volume clone for local replication
- Configurable N-way mirroring
- Integration with Windows VSS (Volume Shadow Copy Service)
- Instant volume restoration
- Cache-to-Flash memory protection[10]
- M.2 flash module
- Power module: BBM or SCM (Super Capacitor Module)
- USB and network UPS support with SNMP management

Virtualization Certification
- Server Virtualization & Clustering
- VMware VAAI for iSCSI & FC
- Microsoft ODX

Easy Management
- USB LCM, serial console support, online firmware update
- Intuitive Web management UI, secured web (HTTPS), SSH (Secured Shell), LED indicators
- S.E.S. support, S.M.A.R.T. support, Wake-on-LAN, and Wake-on-SAS Green & Energy Efficiency
- 80 PLUS Platinum power supply
- Wake-on-LAN to turn on or wake up the system only when necessary
- Auto disk spin-down

Host Operating Systems Support
- Windows Server 2008, 2008 R2, 2012, 2012 R2, 2016
- SLES 10, 11, 12
- RHEL 5, 6, 7
- CentOS 6, 7
- Solaris 10, 11
- FreeBSD 9, 10
- Mac OS X 10.11 or later

10 The function is optional and is not included in the default package.
12 16Gb Fibre Channel only supports Point-to-Point topology.

Let's Talk

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