# VTrak D5000 Series

Unified Storage System

# Key Highlights

## Simplify Your Storage Environment

- Consolidate SAN and/or NAS workload on the same storage solution
- Hybrid interfaces allow Concurrent FC & ISCSI connections for SAN as well as NAS protocols

## Realize Superior Value

- Accelerate enterprise applications
- Reduce latency and speed operations with up to 50% higher performance
- As low as $60 per terabyte

## Consolidate Infrastructure

- Massively scale up to 512 drives
- Flexible 10GbE and optional 8/16G FC, with 6G SAS/SATA[1] and 12G SAS interfaces
- Integrate into existing Open Directory and Active Directory environments

## Eliminate Downtime

- Fully redundant design for enterprise
- Active-Active Dual Controller with ALUA support for access flexibility
- Upgrade & expand without downtime

## Proactive & Predictive Analytics

- Background data integrity scrub with parity
- Predictive Data Migration (PDM) to minimize maintenance

## Applications

- Video Compressed Workflow
- General IT Infrastructure
- Virtualized Applications
- High Bandwidth Applications
- Backup and DR target

## VTrak D5000 Unified Storage System

VTrak D5000 series unified storage systems deliver uncompromising scalability, flexibility, and affordability for the mid-tier while providing simplicity and efficiency for minimizing total cost of ownership. Customers can respond more quickly to changing storage capacity and performance requirement needs.

## Accelerate Business with VTrak D5000

VTrak D5000 enables data driven business with an integrated combination of high-performance hardware, adaptive storage software, flexible protocols and application dependent front and backend connectivity at an affordable price.

## Unlock Power of Flash Cache at Affordable Price

Flash Cache accelerated VTrak D5000 storage systems deliver impressive performance, boosting throughput and lowering latency. User has option to add Flash Cache for read and write acceleration. PROMISE intelligent data caching automatically promotes hot data to cache in real time, so you get the full benefit of flash performance.
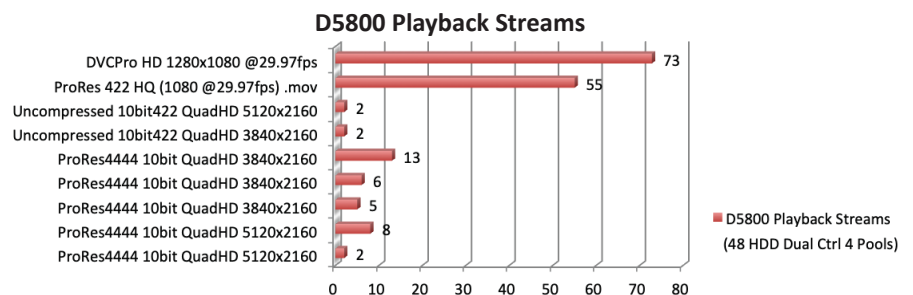
## Not just for IT, Optimized for video application environments

The Promise VTrak D5000 is optimized for 10Gb Ethernet via SMB/NFS protocols for large file data ingesting, streaming, or processing between the VTrak D5000 NAS storage appliance and its clients. Data can also be directly transferred between the VTrak D5000 appliance and clients over the SAN via iSCSI/Fibre Channel network. This means higher bandwidth performance and lower latency data transfers, perfect for Media & Entertainment, HPC applications, and other video-centric environments. In addition the VTrak D5000 supports Open Directory and Active Directory making it fully integrateable into your existing networking environment.

## Edit & play back compressed video faster

A faster processor, 10Gb Ethernet ports, and more memory is just the beginning. Enhanced cached mirroring design, auto-regeneration of data to mitigate frame drops and optimized disk access all add up to blazing performance for broadcast and editing environments.
The VTrak D5000 Series optimizes performance to enable media professionals to increase productivity by allowing efficient processing of compressed video, delivering best-in-class performance and reliability.

### D5800 Playback Streams

| Stream | D5800 Playback Streams |
|---|---|
| DVCPro HD 1280x1080 @29.97fps | 73 |
| ProRes 422 HQ (1080 @29.97fps) .mov | 55 |
| Uncompressed 10bit422 QuadHD 5120x2160 | 2 |
| Uncompressed 10bit422 QuadHD 3840x2160 | 2 |
| ProRes4444 10bit QuadHD 3840x2160 | 13 |
| ProRes4444 10bit QuadHD 3840x2160 | 6 |
| ProRes4444 10bit QuadHD 3840x2160 | 5 |
| ProRes4444 10bit QuadHD 5120x2160 | 8 |
| ProRes4444 10bit QuadHD 5120x2160 | 2 |

D5800 Playback Streams (48 HDD Dual Ctrl 4 Pools)

## Scalable, reliable and cost-efficient

With VTrak D5000 you can "pay as you grow" from 64 Tera Bytes to Peta Bytes for long-term storage investment protection. Perfect not only for compressed video workflow environments but ideal for low cost backup/archive applications. Additionally, VTrak D5000 series comes with high-availability dual controllers, hot-swappable modular disk array, and a 3 year 24x7 technical support, with next business day on-site parts replacement warranty. Expansion units can start from 2u24 small form factor to large form factor 2u12, 3u16, 4U24 and up to the high density 4u60 and 5u102 JBOD expansion options. The VTrak D5000 is the most affordable Enterprise storage solution starting as low as $60 per terabytes plus additional savings from less cooling, less rack space and energy costs.

# VTrak D5000 Specifications

## Models and Controller Feature

| Models | | | | |
|---|---|---|---|---|
| | **D5300x / D5300fx** | **D5320x / D5320fx** | **D5600x / D5600fx** | **D5800x / D5800fx** |
| Form Factor | 2RU | 2RU | 3RU | 4RU |
| Drives | 12 (LFF) | 24 (SFF) | 16 (LFF) | 24 (LFF) + 4 (SFF) |

| | |
|---|---|
| Host Connectivity | D5000xD: iSCSI and NAS Storage Sub-System, Dual HA Controller w/ 4-port 10GSFP+<br>D5000xS: iSCSI and NAS Sub-System, Single Controller w/ 2-port 10GSFP+<br>D5000fxD: FC, iSCSI and NAS Unified Storage Sub-System, Dual HA Controller w/ 4-port 10GSFP+ and 8-port 16Gb FC<br>D5000fxS: FC, iSCSI and NAS Unified Storage Sub-System, Single Controller w/ 2-port 10GSFP+ and 4-port 16Gb FC |
| Storage Expansion Ports | 2 x 2 12Gb SAS Mini-SAS (SFF-8644) per controller |
| Management Ports | 2 x RJ-45 1Gb Ethernet and 1 x RJ-11 Serial Port per controller |
| Capacity/Expansion | Online Capacity/Volume Expansion up-to 15 JBOD's |

## Data Services and Feature

| | | |
|---|---|---|
| Max Pools/Volumes | 256 volumes per pool, Max 32 pools per System; Max 512 Snapshots / 128 Clones per volume | |
| Data Services | • Snapshot<br>• Thin/Thick Clones [2] | • Thick/Thin Volumes<br>• Read/Write Cache<br>• Online Capacity Expansion |
| Advanced Storage Features | • Asymmetric LUN Unit Access (ALUA)<br>• LDAP for central user management<br>• Linux Permission, POSIX ACL,NT ACL | • Advanced Cache Mirroring over PCIe Gen3<br>• Microsoft AD, LDAP and OD |

## NAS Feature

| | |
|---|---|
| Protocol | SAN - FC Block with 16Gb FC or 10GbE iSCSI<br>NAS - SMB/CIFS v2/v3, NFS v3/v4 |

## High Availability

| | | |
|---|---|---|
| RAID Levels/Stripe | 0, 1, 5, 6, 10, 50, 60 RAID Stripe Support 64K, 128K, 256K, 512K and 1MB | |
| Hot Spares | Global or Dedicated | |
| Background Scrub | • Media Patrol & Redundancy Check<br>• Background Synchronization | • Partial Rebuild<br>• Task Scheduler for Background Activities |
| Proactive/Predictive Features | • Predictive Data Migration (PDM)<br>• Intelligent Bad Sector Remapping<br>• NVRAM Error Logging | • Drive Power Management (MAID)<br>• SMART Error Handling and Write Hole Table |

## Ecosystem Integration

| | |
|---|---|
| Supported OSs | Windows Server 2008, 2012, 2016, macOS 10.x, RHEL 6.5 to 7.2, SLES 11, 11 SP4, and 12 SP1 |
| Certifications | VMware ESXi 6.5 & Citrix Server 7.3 |

## Management Interface

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|---|---|
| Protocol | Web Based management using WEB, CLI, SSH, SNMP |

## Physical/Environmental

| | | |
|---|---|---|
| Power | Voltage: 100--240Vac Auto--Ranging<br>Max Current: 9A @ 100Vac; 4.5A @ 240Vac | Voltage: 100--240Vac Auto--Ranging<br>Max Current: 12A @ 100Vac; 4.5A @ 240Vac |
| Power Efficiency | >80% @ 110V (>20% load), >80% @ 240V (>20% load) Temperature Range, 80Plus Certified PSU | |
| Temperature Range | Operational: 5° to 35°C, Non-Operational: -40° to 60°C | |
| Humidity | Operational: 20% to 80%, Non--Operational: ~ 95% (Non-Condensing) | |
| Noise Levels & Shock | < 60dB, 25C, Operational: 5G, 11 ms Duration, Non-Operational: 30G, 11ms duration | |
| Vibration | Operational: 0.2G, 5 to 500Hz (sine wave) ; 0.41G, 3-10-200-500Hz (Random) , Non-Operational: 1G, 5 to 500Hz (sine wave) ; 2.256G, 5-80-350-500Hz (Random) | |
| Regulatory/Safety | EMC Class-A: CE, FCC, VCCI, BSMI, RCM / Safety: IEEE CB, cTUVus / Environmental: RoHS2, GreenPC, WEEE | |

## Warranty and Support

| | |
|---|---|
| Warranty | 3-year full system limited warranty including PROMISE PSP, optional extended warranty |
| Support | 24/7 e-mail and phone support, 24/7 access to PROMISE site-drives and firmware upgrade |

[1] SATA drives require a SAS-SATA adapter, [2] Thick Clones supported in SR1.1 or newer

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