



# VTrak E5000 Series

16Gb Fibre Channel to 12Gb SAS/SATA  
High-Availability Storage System for Big Data

VTrak E5000 RAID Storage Subsystem for Enterprise Data Centers and Cloud

## Benefits

- High-performance, high-bandwidth allowing more than 12.8 GB/s aggregate transfer rate
- High-Availability provides assurance of continuous operation
- Active-Active Dual Controller with ALUA for performance and access flexibility
- 80 PLUS GOLD certified PSUs, Deliver power efficiency, and Energy Star Ready
- Advanced diagnostics and reporting with persistent error log
- Auto sensing and auto optimizing for cable lengths and types
- Support massive capacity by cascading up to 9 J5000 12Gb or Jx30 6Gb SAS/SATA JBOD Storage Expansions

## Tech Highlights

- Quad 16 Gb FC ports per Controller provides maximum bandwidth
- 12 Gb SAS backend storage interface to support the fastest HDD/SSD
- Backward compatible to 8 Gb and 4 Gb on Fibre Channel interface, and to 6 Gb on SAS/SATA interface
- Conveniently accessible persistent error logging and HTML formatted Service Report
- Online Capacity Expansion allows Volume size to grow with ease
- Software Updates without disrupting operation
- Background Data Integrity Checking and Parity Rebuild
- Predictive Data Migration (PDM) minimizes maintenance requirement
- Customized OEM hardware software options

## Affordable Enterprise-level Storage

- Delivers an affordable high-performance Fibre Channel to SAS Storage solution with advanced enterprise level reliability and functionality.
- Four 16Gb Fibre Channels ports and Two 12Gb SAS port (SFF-8644) per controller for connecting Host and Storage Expansion, respectively. Perfect for applications requiring huge bandwidth.
- Redundant and Active-Active components of controllers, power supplies, and cooling units providing optimal data availability for any unforeseen circumstance.
- Full featured Enterprise-level Storage System to accommodate any size of business environment.

## Data Center Ready

- Fully backward compatible with 6 Gb SAS/SATA devices, users have the ability to deploy 6/12 Gb SAS/SATA hard drives and SSDs in the E5000 Series.
- Efficient power supplies provide up to 90% power efficiency that improves TCO by conserving power, reducing heat output and improving cooling costs.
- Flash arrays enable optimized speed for key enterprise applications that need High-speed transfer rate and reduced latency.
- Employing the latest Intel multi-cores Broadwell-DE based architecture helps in providing ample processing power and achieving transfer speed at line-rate on both 16Gb Fibre Channel Front-end interfaces as well as the 12Gb SAS Backend interfaces.

## Cloud Ready

- As consumers and businesses become more mobile, the need for data access, retrieval, and distribution anywhere at any time means that data must be protected and available at all times.
- Data centers, hyperscale computing, and high-performance computing not only require performance and reliability, but flexibility and cost-efficiency for tiered storage management. E5000 series equipped with SSD, SAS or SATA provides the versatility and scale for such demands.

## VTrak E5000 Specifications

	2U/24 Bay	2U/12 Bay	3U/16 Bay	4U/24 Bay
Model and Number	 <b>E5320f</b>	 <b>E5300f</b>	 <b>E5600f</b>	 <b>E5800f</b>
Drive Support	Up to 24 2.5" drives	Up to 12 3.5" drives	Up to 16 3.5" drives	Up to 24 3.5" drives
External I/O Ports	<ul style="list-style-type: none"> <li>• 6/12 Gb SAS, 6 Gb SATA HDD and SSD</li> <li>• Supports any mix of SAS and SATA drives simultaneously in the same enclosure</li> </ul> Each SBB2.0 RAID Controller has four 16 Gb FC SFP ports for Host interface and two 12 Gb SAS standard Mini SAS HD ports (SFF-8644) for Storage Expansion, RJ45 1Gb Ethernet and RS232 for Management ports			
<b>Operational Features</b>				
RAID Levels	0, 1, 5, 6, 10, 50, 60			
RAID Stripe Size Support	64K, 128K, 256K, 512K and 1MB			
Hot Spares	Global or dedicated with revertible option			
Max LUNs per Subsystem	1024			
Max Luns per array	32			
Advanced Storage Features	<ul style="list-style-type: none"> <li>• Advanced Cache Mirroring over PCIe Gen3</li> <li>• Simple, drag-and-drop LUN Masking and Mapping</li> <li>• Asymmetric LUN Unit Access (ALUA)</li> <li>• Volume Copy</li> </ul>		<ul style="list-style-type: none"> <li>• PerfectFlash - Non-Disruptive Software Update</li> <li>• I/O performance &amp; power monitoring tools</li> <li>• USB Service Log</li> <li>• LDAP Support for central user management</li> </ul>	
Background Activities	<ul style="list-style-type: none"> <li>• Media Patrol</li> <li>• Background Synchronization</li> <li>• Foreground Initialization</li> <li>• Rebuild</li> <li>• Redundancy Check</li> </ul>		<ul style="list-style-type: none"> <li>• Disk SMART Polling</li> <li>• Online Capacity Expansion (OCE)</li> <li>• RAID Level Migration (RLM)</li> <li>• UPS Monitoring</li> <li>• Feature rich task scheduler for background activities</li> </ul>	
PerfectRAID Features	<ul style="list-style-type: none"> <li>• Predictive Data Migration (PDM)</li> <li>• Intelligent Bad Sector Remapping</li> <li>• SMART Error Handling</li> <li>• NVRAM Error Logging</li> </ul>		<ul style="list-style-type: none"> <li>• Disk Slot Power Control</li> <li>• Read/Write Check Table</li> <li>• Write Hole Table</li> </ul>	
GreenRAID Features	<ul style="list-style-type: none"> <li>• Four levels of advanced power management disk drive (MAID) support</li> <li>• Efficient 80Plus Certified power supplies</li> </ul>			
<b>System Management</b>				
Management Interfaces	<ul style="list-style-type: none"> <li>• Web Based management using WebPAM PROe (Ethernet)</li> <li>• Command Line Interface (CLI) or Command Line Utility (Serial Port or Ethernet via Telnet, SSH)</li> <li>• Third Party Management Support via SNMP, CIM</li> </ul>			
Supported Operating Systems	Windows Server 2008, 2012, HyperV, OS X 10.x, RHEL 6.5, 6.6, SLES 11, VMWare ESX v6.x			
<b>Mechanical Specifications</b>				
Voltage	100--240 Vac Auto--Ranging			
Current (Maximum)	9A @ 100 Vac; 4A @ 240 Vac			
Power Conversion Efficiency	>80% @ 110V (>20% load), >80% @ 240V (>20% load) Temperature Range			
Temperature Range	Operational: 5° to 35°C, Non-Operational: -40° to 60°C			
Humidity	Operational: 10% to 90% (Non-Condensing), Non--Operational: 5% to 95% (Non-Condensing)			
Acoustic Noise Levels	55 dB (Typical), 65 dB (Maximum)			
Shock	Operational: 5G, 11 ms duration, Non-Operational: 10G, 11ms duration			
Vibration	Operational: 0.3G, 5 to 500 Hz, Non-Operational: 1G, 5 to 500 Hz			
Safety and Emission Certification	EMC Class A: CE, FCC, VCCI, BSMI, RCM and KC Safety: IEEE CB, UL/cUL and TUV			
Environmental Standards	RoHS, GreenPC, WEEE			
Power Supply	Efficient 80PLUS GOLD Certified redundant PSU			
Dimensions (H x W x D)	88mm x 446.7mm x 420mm (3.5" x 17.6" x 16.5")	88mm x 446.7mm x 507mm (3.5" x 17.6" x 19.96")	131mm x 446.7mm x 507mm (5.2" x 17.6" x 19.96")	174.4mm x 446.7mm x 507mm (6.87" x 17.6" x 19.96")
Weight	13.8Kg(30.4lbs) w/o drives 19.2Kg (43.3 lbs) w/ drives	14.8Kg(32.6lbs) w/o drives 24.8Kg (54.7 lbs) w/ drives	25Kg(56 lbs) w/o drives 38.3Kg (84 lbs) w/ drives	29.6Kg(64 lbs) w/o drives 49.6Kg (108 lbs) w/ drives
<b>Warranty and Support</b>				
Warranty	3-year full system limited warranty, optional extended warranty, onsite parts replacement program			
Support	24/7 e-mail and phone support, 24/7 access to PROMISE site-drives, firmware, and compatibility list			

