# VessRAID™1000s Series[1]

**Vess RAID**

Dual Ports SAS-to-SAS/SATA RAID 6 Storage System
Enterprise Level Features at an Entry Level Price

### VessRAID™ Your Data and Your Money

Powered by the field proven PROMISE enterprise RAID engine, the VessRAID™ series provides a data storage solution that is commercially affordable yet without compromise. VessRAID™ offers a flexible, full-featured system that can function as direct attached storage (DAS), in a storage area network (SAN), and with JBOD expansion.

VessRAID™ provides RAID robustness features such as Media Patrol, Predictive Data Migration (PDM), Perfect RAID™ advanced error handling plus user notification to secure your data and keep you informed about what is happening. Combined with a full selection of RAID levels and options, finding a safer data storage solution at any price would be a tremendous challenge.

### Totally Green Power

VessRAID™ allows users to power down the entire system when the disk drives have not been accessed or are not scheduled to be accessed for some time. Periodically, the system performs a disk-to-disk backup or restore operation on a user-scheduled basis. When the operation is finished, the VessRAID™ returns to standby mode. Meanwhile, the Wake-on-LAN feature provides added flexibility, enabling authorized hosts to access the VessRAID™ over a network or over the Internet at anytime.

VessRAID™ 1000s uses 80 PLUS® certified[2] power supplies. 80 PLUS® power supplies lower energy consumption through greater efficiency, as well as reducing of heat output, maintenance costs, and total cost of ownership.

Total Green Power results in a dramatic reduction of idle spinning time of disk drives, extending their service life, reducing the probability of failure, lowering the amount of heat the subsystem generates, and cutting the amount of power the subsystem consumes. All of these mean significant cost savings for your business as well as a more environmentally friendly workplace.

### One-Plug-Auto-Service (OPAS)

With its USB port, VessRAID™ users can collect system historic status log information simply by plugging in a USB stick. The VessRAID™ automatically records a full report of system status, firmware version, event logs, setup, array configuration, and other essential information. You can collect a full system profile without using a host PC, laptop, network or serial connections. OPAS literally helps to shorten the turnaround time of conventional system diagnostic flow, and will come with more advanced applications like firmware upgrade, event log history, system setup restore, and array configuration scripts installation as a full service release.
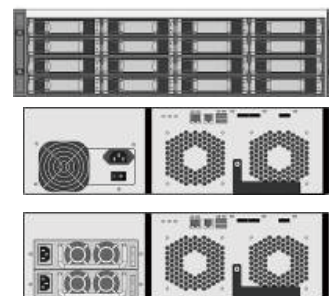
### Your Comprehensive Storage Partner

PROMISE storage solutions comprise various combinations of host bus adapter, Vess system and enclosure series connection. A VessRAID™ storage system can be direct attached with the FastTrak TX8668[3] adapter as host channel, and downlinks secondary VessJBOD™ expansion enclosures up to 80TB. A VessJBOD™ enclosure supports IOP based RAID adapter like SuperTrak™ EX8654, SuperTrak™ EX8658, and SuperTrak™ TX8658 as a massive disk storage pool.

## System Highlights and Benefits

- :: 16/12 hot-swappable SAS/SATA drive bays in a robust 3U/2U chassis
- :: 3Gb/s Serial Attached SCSI and Serial ATA drives support
- :: 512MB ECC shared cache (up to 2GB), with optional battery backup units
- :: Single or Dual hot-swap redundant power supply unit with 80PLUS Certified
- :: Up to 820MB/s disk sequential throughput
- :: OPAS via USB service
- :: Comprehensive embedded web-based management via Ethernet – WebPAM PROe
- :: Power Scheduler Operation
- :: LUN Mapping and Masking
- :: Multiple global or dedicated hot-spare drives
- :: PerfectRAID™ and Predictive Data Migration™ technology for robust error handling and recovery
- :: LCD Panel support (optional)
- :: Wake-on-LAN support

| Quick Selection Guide | | |
|---|---|---|
| | **HBA** | **System** |
| A | FastTrak TX8668 | VessRAID series |
| B | SuperTrak EX8654 | VessJBOD series |
| C | SuperTrak EX8658 | VessJBOD series |
| D | SuperTrak TX8658 | VessJBOD series |

RoHS 2002/95/EC

[1] VessRAID™ 1000i Series, Quad-port iSCSI-to-SAS/SATA RAID6 Storage System will be available H2, 2009
[2] Single PSU is 80 PLUS Bronze Certified, Redundant PSUs have 80 PLUS power efficiency
[3] FastTrak TX8668, Low Profile PCIex4 SAS/SATA RAID HBA with 8 external ports will be available in Q2, 2009

## VessRAID™ 1000s Series Scifications

| VessRAID System | VessRAID 1730s[1] | VessRAID 1740s | VessRAID 1830s[1] | VessRAID 1840s |
|---|---|---|---|---|
| **System and Controller Features** | | | | |
| Form Factor | 2U | 3U | 2U | 3U |
| Drive Support | 12 Drives (3.5") | 16 Drives (3.5") | 12 Drives (3.5") | 16 Drives (3.5") |
| | SAS(3Gb/s), SATAII(3Gb/s), NCQ, TCQ | | | |
| Controller | Single (Intel® IOP348 800MHz) | | | |
| Host Channel | Dual Ports SAS-wide (x4) over SFF-8088 | | | |
| Promise Expansion Enclosure | One Port SAS-wide (x4) for VessJBOD 1740 or VessJBOD 1840 | | | |
| Data Cache | 512MB~2GB ECC cache memory with Optional BBU (Battery Backup Unit) | | | |
| Command Queue Depth | 1024 | | | |
| **Operational Features** | | | | |
| RAID Levels | RAID 0, 1, 1E, 5, 6, 10, 50, 60 | | | |
| Hot spares | Global or Dedicated w/ revertible option | | | |
| Max LUNs per subsystem | 256 | | | |
| Max LUNs per array | 32 | | | |
| Variable Block and Sector Size | 64KB ~ 1MB stripe block sizes<br>512B, 1KB, 2KB, 4KB sector size | | | |
| LUN Mapping & Masking | Dynamically change LUN ID & initiator access control | | | |
| Disk Data Formats | Supports Disk Data Format (DDF) for drive roaming between Vtrak™ and VessRAID™ series systems. | | | |
| Background Activities | Media Patrol<br>Background Synchronizing; Initialization<br>Rebuild; Redundancy Check<br>SMART Condition Pooling<br>OCE (Online Capacity Expansion)/RLM (RAID Level Migration)<br>Priority Control; Throttle Rate Control and watermarking per BGA (background activities) in Disk and NVRAM | | | |
| RAID Robustness | PDM (Predictive Data Migration)<br>PerfectRAID™ advanced error handling<br>Array Error Recovery<br>Read/Write Check Table, Write Hole Table, Bad Sector Re-map Table<br>NVRAM event logging | | | |
| **System Management** | | | | |
| Supported OS | Windows 2000, XP, 2003, Vista, 2008[2]<br>RedHat Linux<br>SuSE Linux<br>Novell Netware 6.5 SP6<br>FreeBSD 7.0<br>Solaris 10 Update5<br>Mac OS X 10.5 | | | |
| Management Tools | WebPAM PROe via Ethernet<br>CLI/CLU via RJ-11 or Ethernet<br>SNMP via Ethernet<br>LCD Control Panel (Optional)<br>OPAS via USB service<br>UPS Monitor via USB service<br>Power Scheduler Control | | | |
| Management Interfaces/Protocols | Ethernet, RJ-11 Serial Port, USB<br>SNMP, SSL, Telnet, SLP | | | |
| Event Notification | Email , SNMP, NETSEND, Buzzer, LEDs, LCD Control Panel | | | |
| **System Information** | | | | |
| AC Input | 90 ~ 264 VAC, 47 ~ 63Hz | | | |
| Current (Maximum) | 6A (100V); 3A (240V) | 7A (100V); 3.5A (240V) | 6A (100V); 3A (240V) | 7A (100V); 3.5A (240V) |
| Power Supply | Single 350W<br>90-264V full-ranging w/PFC<br>80PLUS Bronze Certified | Single 450W<br>90-264V full-ranging w/PFC<br>80PLUS Bronze Certified | Dual 350W<br>90-264V full-ranging w/PFC<br>80PLUS Power Efficiency<br>Hot swappable and redundant | Dual 450W<br>90-264V full-ranging w/PFC<br>80PLUS Power Efficiency<br>Hot swappable and redundant |
| Temperature | 5° ~ 40°C[3] (-40° ~ 60°C non operational) | | | |
| Relative Humidity | 10% to 80% non-condensing | | | |
| Dimensions (H x W x D) | 88.2 x 446.2 x 461 mm<br>3.5 x 17.6 x 18.1 in | 130.1 x 446.2 x 461 mm<br>5.1 x 17.6 x 18.1 in | 88.2 x 446.2 x 461 mm<br>3.5 x 17.6 x 18.1 in | 130.1 x 446.2 x 461 mm<br>5.1 x 17.6 x 18.1 in |
| Weight | TBD | 11 kg (24.25 lbs) w/o drives<br>20.6 kg (45.41 lbs) w/ drives | TBD | 13.2 kg (29.10 lbs) w/o drives<br>22.8 kg (50.26 lbs) w/ drives |
| Safety/EMI | CE, FCC Class B, VCCI, BSMI, CB, KCC, C-Tick, UL, TUV | | | |
| Base Configuration | VessRAID 2U/3U Unit w/ Drive Carrier<br>RJ11-to-DB9 Serial Data Cable, Power Cord (Single PSU: 1; Dual PSU: 2)<br>Quick Start Guide, Set of Screws, CD (Product Manual, SNMP files, QSG) | | | |
| **Warranty and Option** | | | | |
| Warranty | 3 years limited warranty[4] | | | |
| Supported Hardware Options | LCD Panel, Front Bezel, Sliding Rail, Battery Backup Unit, SAS Cable | | | |

[1] VessRAID 2U units will be available in Q2, 2009

[2] Microsoft® WHQL for Windows Server 2003 and 2008

[3] Operational Temperature between 5° ~ 35°C if BBU installed

[4] BBU and FAN are covered by one year limited warranty

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