



EtherDrive® PB1020

Storage Blades 3U 10Disk

The Linux Storage People

Summary

- Economically scalable block storage using Ethernet networking
- Each EtherDrive® Storage Blade bridges one IDE disk to Ethernet using the AoE storage protocol
- EtherDrive® Storage provides unlimited on-line storage capacity with scalable performance
- Blades can be accessed with software RAID
- AoE is an open protocol and implemented as a load-able driver for any operating system
- Each Blade has its own RJ-45 10/100 Ethernet connection
- Up to 750GB per Storage Blade
- 10 Blades per 3U shelf
- Up to 7.5 Terabytes per 3U shelf
- < 150 Watts per 14.5" deep shelf
- Hot swap Blades



A New Type of Networked Storage

Coraid is proud to introduce EtherDrive® Storage Blade, a new way to implement networked storage. EtherDrive® Storage is Direct Network Attachment (DNA) block storage. DNA moves the disk drive directly onto the network without any intervening computer system. Just host systems (initiators), ordinary Ethernet switches and EtherDrive® Storage Blades (targets).

EtherDrive® Storage uses the open ATA-over-Ethernet (AoE) storage protocol. A software driver is used by the host as the AoE initiator to communicate with AoE target devices.

Each EtherDrive® Storage Blade is an AoE target device. Each Blade has a small processor that bridges an Ethernet connection to an ATA (IDE) disk drive. Unlike the disk drive that is buried inside the case of a computer, EtherDrive® Storage Blades are connected via Ethernet so it is directly accessible and can be shared by networked Servers.

EtherDrive® Storage Blades can be configured into RAID arrays using host software RAID (like Linux RAID tools) or by using Coraid's AoE RAID appliance, the EtherDrive® RA20.

Host systems (servers) can use EtherDrive® Storage Blades just like a locally attached disk. They can be accessed as raw storage or you can use any filesystem and mount it, partition it and use it just like a local disk. Since the storage is on the network, it can be freed and re-attached to a new host without having to physically move anything. EtherDrive can also be used in shared storage arrays, when coupled with a sharing filesystem like GFS.

Unlimited Storage

There are no limits to how many drives can be attached to a single Server. There are no constraints to how big an EtherDrive® Storage system can be expanded. And each EtherDrive® Storage Blade can use any size disk.





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Each EtherDrive® Storage Blade connects to a port on an Ethernet network. Host systems query for an available blade and reserve it. The storage appears as a local disk drive. No hard-to-learn storage management applications. Just a few simple Linux/UNIX commands supplied with the AoE driver.



Small Minimum Configuration

The minimum configuration is a single EtherDrive® Storage Blade and a single shelf. EtherDrive® Storage Blades are cheaper to buy than any other networked storage option. The storage costs for traditional Storage Area Networks are very high. Fibre Channel switches and interfaces are expensive, take up a lot of space, and require costly system administration. EtherDrive eliminates all that by being a very simple, and affordable Ethernet based Direct Network Attachment.

Easy to Install, Easy to Grow

EtherDrive® Storage Blades themselves require no configuration. Just bolt the shelf into the rack, plug it into the switch and you're done. The cost of installing EtherDrive® Storage is less than adding Direct Attached Storage (DAS), since you don't have to open any cabinets or enclosures.

Performance You Want

Since EtherDrive® Storage is a Direct Network Attachment (DNA), you can have any performance you wish just by adding the Ethernet switches that match your requirements. Fast switches can be used to aggregate access to 1 GbE or faster. Standard Linux RAID and LVM software can stripe multiple drives into a single filesystem. Access bandwidth is limited only by the host system configuration. EtherDrive® Storage gives unprecedented configuration flexibility.

Small on the Outside, Large on the Inside

The EtherDrive® PB1020 shelf measures only 17.5 x 5.25 x 14.5 inches. A single 3U shelf holds up to 10 EtherDrive® Storage Blades for a capacity of 7.5TB of data, making it one of the most dense disk arrays currently available.

Less Power Means Less Costs

EtherDrive® Storage uses low power disk technology. 7.5 Terabytes of EtherDrive® Storage uses less than 150 watts of power. This power savings results in lower operating cost.

EtherDrive® Storage Scales

Like the Internet, an EtherDrive® Storage system can grow without bounds. As you add blades, you are adding more of everything you need for robust, fast access to your data. Since all the processing power is in the on-board processor, performance grows along with the storage, you can grow EtherDrive® Storage without bounds.



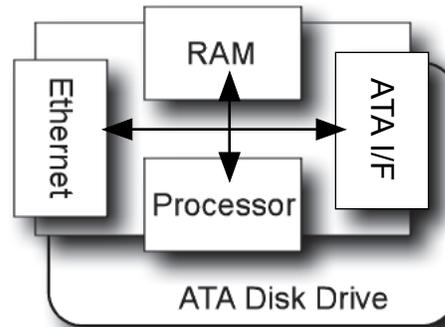
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EtherDrive® Storage Blades

AoE bridge for IDE/ATA Disk



Specifications

Disk Capacity	up to 750 GB EIDE/ATA drive
Interface	Standard 100Mbps Ethernet, RJ-45
Performance per EtherDrive Storage Blade	> 6MB/sec (48Mbps) sustained throughput, 6000 IOPS
Network Performance/10 Blades	> 60MB/sec (480Mbps) aggregate sustained throughput, aggregate 60,000 IOPS
Network Performance Scaling	Each EtherDrive® Storage Blade operates independently with its own processor, therefore storage array throughput and IOPS for a storage system is the summation of individual EtherDrive blades in an array (20 blades = 120MBytes/sec aggregate sustained throughput, and aggregate 120,000 IOPS)
Power Supply	115/230VAC auto select, 50/60Hz
Power Consumption with disk drive	< 15 Watts/EtherDrive Storage Blade (<150 Watts/Shelf)
EtherDrive Blade Dimensions	8 x 5 x 1.3 inches
Drives per Shelf	10
Shelf Capacity	Up to 7.5 TB
Expansion	Unlimited (12 bits of shelf address)
EtherDrive Blade Shelf Dimensions	17.5 x 5.25 x 14.5 inches
Operating Temp	50-104 degrees F (10-40 degrees C)
Relative Humidity	20%to 80%(non-condensing)
Warranty	36 Month
Operating System	AoE is in the Linux 2.6.11+ kernel, drivers for earlier Linux kernels are available from Coraid, Drivers are also available for FreeBSD, Solaris Apple OS X and Windows.

For information on EtherDrive® Storage Blades, call 877- 548-7200, email info@coraid.com or visit our web site www.coraid.com