



# EtherDrive® EM22

## Storage Mirror

### SUMMARY

- A storage mirroring appliance
- Create up to 255 Mirrored LUNs
- Create up to 254 Mirrored LUN Partitions
- LUNs can be masked
- LUNs can be shared
- Optional 1:N appliance redundancy
- 1U rack mounted appliance
- Eliminates storage system Single Points Of Failure



### EtherDrive SAN Appliance

CORAIID is proud to introduce the EtherDrive® EM22 Storage Mirror & Partition Appliance, a network appliance for use with EtherDrive® SAN storage solution.

The EM22 is an “in-band” network appliance using the open ATA-over-Ethernet (AoE) light weight storage area network protocol to provide block level LUN mirroring and partitioning.

AoE storage is a robust technology alternative to iSCSI or Fibre Channel. AoE is simpler and faster than iSCSI or Fibre Channel and does not require TCP/IP processing or expensive host bus adapters.

The EtherDrive® EM22 storage mirror takes full advantage of the simplicity of the AoE storage protocol to perform fast “on the fly” block address translation of read/write requests sent to EtherDrive® SAN storage.

The EM22 creates new LUNs by mirroring and partitioning physical LUNs located in one or more EtherDrive® Storage Mirrors.

Servers connect to EM22 LUNs via ordinary Ethernet connections using a standard AoE driver. EM22 LUNs look like normal physical LUNs to the host system.

The EM22 enables AoE LUNs (RAID volumes) to be synchronously mirrored across multiple storage chassis. This allows users to build storage systems

with No Single Point of Failure (NSPOF).

An EM22 storage mirror can create up to 255 LUNs. Each LUN can be a mirror (made from two EtherDrive® physical LUNs). Mirrored LUNs can be partitioned into smaller LUNs.

The EM22 storage mirror is connected to the SAN allowing it to create mirrored LUNs from any pair of physical LUNs anywhere on the SAN. Members of a mirror pair can be RAID volumes (physical LUNs) located in separate EtherDrive® storage appliances.

Once an EM22 mirror LUN has been created, it can be accessed on the SAN as a single LUN. If smaller LUNs are desired, the mirrored LUN can be partitioned by the EM22. Each partition becomes a new LUN available on the SAN.

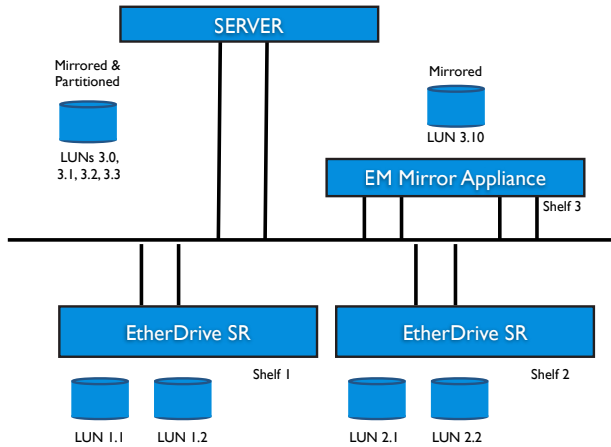
### Legacy System Support

The EM22 can be added to an existing EtherDrive® SAN and legacy LUNs can become mirrored LUNs.



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### Mirror Appliance

Each EM22 Storage Mirror added to an EtherDrive SAN is configured with a unique shelf address. As with any EtherDrive SAN there are 65,000 available shelf addresses.

EM22 storage mirrors have shelf numbers just like other AoE SAN target devices such as EtherDrive Storage Appliances and EtherDrive VirtualStorage Appliances.

Each EM22 storage mirror can create and manage up to 255 separate LUNs. Each of these 255 LUNs can be mirrored pairs of physical LUNs from EtherDrive storage appliances.

### Partition Appliance

EM22 mirrored LUNs can be divided into partitions (partitioning alone, without first creating a mirror LUN is not allowed). A mirrored LUN is given a unique LUN number, and each partition is given a unique LUN number. The EM22 can manage up to

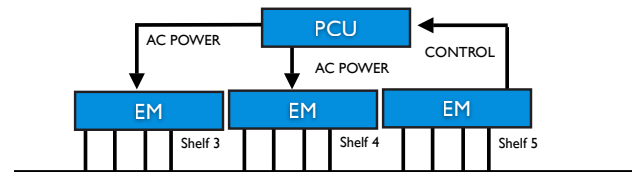
255 LUN numbers; therefore a single mirrored LUN can be partitioned into a maximum of 254 smaller LUNs. Any combination of mirrored LUNs and partition LUNs can be created by each EM22, up to 255 total LUNs

### Shared Storage

EM22 mirrored and partitioned LUNs can be masked and allocated to only selected servers/hosts, or shared by multiple hosts when using a cluster filesystem.

### On-the-fly LBA Translation

The EM22 is fast. It performs logical block address (LBA) translation in AoE frames without caching data in the appliance.



### 1:N Redundancy

The EM22 storage mirror can be configured with 1 for N (1:N) redundancy. The standby EM22 uses a heartbeat signal via the SAN to monitor all primary protected EM22 storage mirrors. A power control unit (PCU) is used to shut down a failed EM22 if heartbeat is lost.

All mirror and partition information is stored on the physical LUNs in the EtherDrive. The standby EM22 storage mirrors learn its mirror and partition information by reading from the storage.



EM22 rear view



# EtherDrive<sup>®</sup> EM22

## Storage Mirror

### SPECIFICATIONS

Number of LUNs	Up to 255 LUNs can be created
Maximum Number of Mirrored LUNs	255, when no partition LUNs are created
Maximum Number of Partition LUNs	254, when one mirror LUN is created
Maximum Mirror LUN Size	Limited only by Physical LUN member size
Control Interface	RS-232, KVM, CEC command line interface
Network Interface	Ethernet with 9K jumbo frames Four (4) 1 GigE RJ45
Access Speed	>200MB/sec
Security	MAC address filtering
Redundancy	optional active-passive 1:1 redundancy
Voltage	100-240 VAC, 50/60Hz
Power Supply	Single non-redundant power module
Cooling	4 cold swap fans
Power Consumption	< 300 Watts, heat load < 1000 BTU
Shelf Dimensions	17.5 x 1.7 x 14 inches, 18 lbs
Boot Media	FLASH (no disk)
Operating Temp	50-95 degrees F (10-35 degrees C)
Relative Humidity	20%to 90%(non-condensing)
Warranty	36 Month