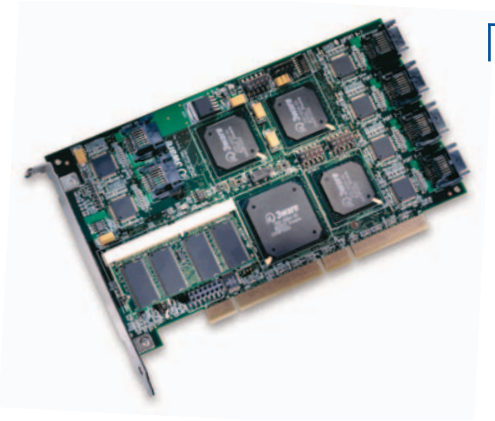

StreamFusion

AMCC's intelligent cache algorithm dynamically detects the presence of many simultaneous data streams and efficiently manages the data through controller cache for guaranteed bandwidth

Performance Features

- **StreamFusion**
  Optimized handling of multiple RAID 5 write streams for maximized performance
- **StorSwitch**
  Non-blocking switch fabric for better controller throughput and optimized interleaved disk access
- **RAID 5 Fusion**
  Optimized access to full stripe write data via advanced firmware caching algorithms

StreamFusion Markets

- **Disk-to-Disk Backup & Near-line Storage**
  Disk-based multi-streamed storage environments that rely on rapid data recovery
- **Security and Surveillance**
  Security video storage on disk for quick and easy searches for security events
- **Supercomputing**
  Fault tolerant environments where high volumes of sequential data is written
- **Desktop Systems**
  Enterprise level features including write journaling and multi-stream capabilities for the desktop or workstation

Performance with Multiple Write Stream Caching

AMCC's 3ware 9000 series RAID controllers combine the unprecedented power of StreamFusion, StorSwitch architecture, and RAID 5 Fusion to deliver unequaled performance in multi-streamed RAID 5 environments where performance, redundancy, and data protection are most important.

StreamFusion boosts performance by adding support for multiple streams, workloads with multiple simultaneous writes to disk, through the 9000 series' write caching layer.

Data Optimization

StreamFusion is built on advanced caching algorithms that optimize the flushing of write data to assure the most efficient use of available bandwidth. StreamFusion, coupled with RAID 5 Fusion, uniquely flushes write data in a way that avoids partial stripe writes thus minimizing the number of RAID 5 disk operations for superior data optimization.

The firmware combines the efficiency of the caching layer with advanced hardware acceleration that minimizes the number of buffer accesses needed to calculate parity when writing full stripes of data.

AMCC's silicon-based StorSwitch architecture boosts overall subsystem performance by providing a dedicated channel for each drive. Each drive in an array independently performs reads and writes. No drive is negatively impacted by bus arbitration while executing I/O commands. Similar to an ethernet switch, performance scales as drives are added.

Streaming Efficiency

Streaming efficiency characterizes how competently a controller writes streams as data loads become heavier. RAID controllers are most efficient when only one stream is being handled. The 9000 series consistently outperforms its competition as streams are added. AMCC bests its closest competitor's efficiency by over five times with two or more streams (Figure 1).

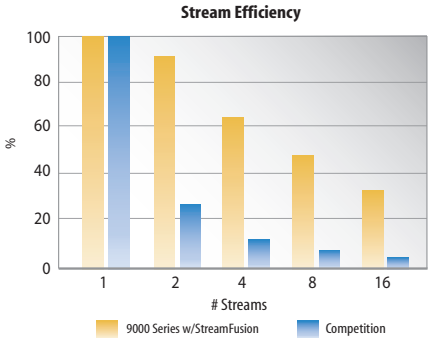

Figure 1: 9000 series bests the competition in stream efficiency. StreamFusion takes affect with 2 or mores streams.

StreamFusion enables AMCC 3ware 9000 controllers to excel by efficiently using all outstanding streams. As the number of streams increases, the total bandwidth is divided equally among the various streams. Many simultaneous applications may therefore be seamlessly sustained without the RAID controller being the performance bottleneck as is the case with software RAID and other hardware RAID controllers (see figure 2).

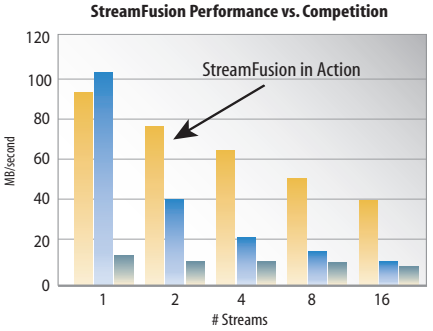

Figure 2: Guaranteed bandwidth across multiple streams. StreamFusion vs. hardware & software RAID competitors

StreamFusion, with StorSwitch and RAID 5 Fusion, assures high performance, scalability and data optimization for many RAID environments in both optimal and degraded modes of operation.

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