



# ATTO Benchmark Report with HP Storage P2000 G3 FC MSA

### Configuration #1: Dual Channel Host Adapter

Storage System: HP Storage P2000 G3 FC MSA with 24 – 2.5” 300GB HP 6Gb SAS drives

Storage Expansion: HP Storage D2700 Disk Enclosure with 25 – 2.5” 72 GB HP 6Gb SAS drives

Fibre Channel HBA: ATTO Celerity 82EN dual channel 8Gb Fibre Channel, PCIe2.0 x8

Driver: 1.41MP  
Flash Bundle: osx\_fls\_celerity\_100728

Platform: Apple Xserve 3.1 running OS 10.6.6

### Setup

- Four RAID 5 groups in a 11+1 configuration
- RAID 5 Chunk size set to 64KB
- Two RAID 5 groups mapped to each controller on the P2000
- All 4 RAID 5 groups striped into one volume using ATTO Express Power Center – interleave of 64KB
- Default settings everywhere else

### IOMETER Performance (No File System)

Reads: 1518 MBPS  
Writes: 1119 MBPS

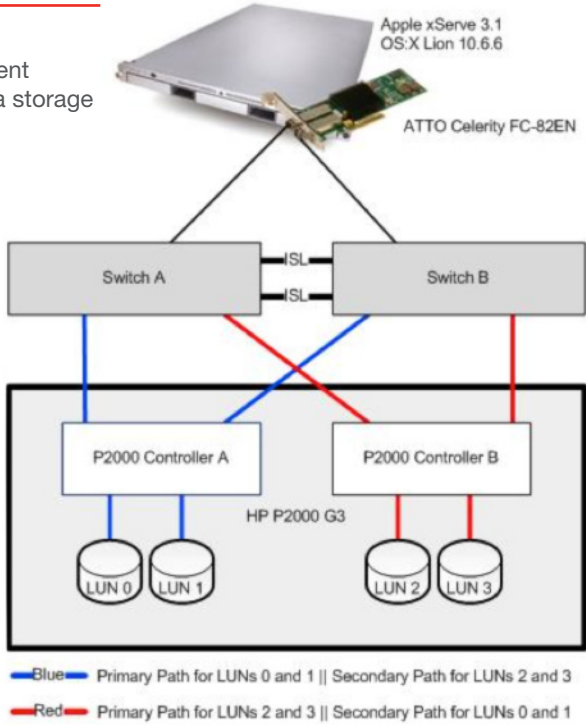
### AJA Disk Utility Performance (OSX File System)

Reads: 1345 MBPS  
Writes: 971 MBPS

### AJA Video Stream Performance Calculator

Runs IO that simulates video and calculates the number of concurrent streams that can be run through a storage system.

- DVCPProHD 1080i50  
Reads: 48 streams  
Writes: 32 streams
- DVCPProHD 1080i60  
Reads: 55 streams  
Writes: 36 streams
- 1920 x 1080i (8-bit)  
Reads: 10 streams  
Writes: 6 streams
- 1920 x 1080i (10-bit)  
Reads: 8 streams  
Writes: 5 streams
- 1920 x 1080 (10-bit RGB)  
Reads: 5 streams  
Writes: 3 streams
- 2048 x 1556 (10-bit RGB)  
Reads: 3 streams  
Writes: 2 streams



## Configuration #2: Quad Channel Host Adapter

Storage System: HP Storage P2000 G3 FC MSA with 24 – 2.5” 300GB HP 6Gb SAS drives

Storage Expansion: HP Storage D2700 Disk Enclosure with 25 – 2.5” 72 GB HP 6Gb SAS drives

Fibre Channel HBA: ATTO Celerity 84EN quad channel 8Gb Fibre Channel, PCIe2.0 x8

Driver: 1.41MP

Flash Bundle: osx\_fls\_celerity\_100728

Platform: Apple Xserve 3.1 running OS 10.6.6

### Setup

- Four RAID 5 groups in a 11+1 configuration
- RAID 5 Chunk size set to 64KB
- Two RAID 5 groups mapped to each controller on the P2000
- All 4 RAID 5 groups striped into one volume using ATTO Express Power Center – interleave of 64KB
- Default settings everywhere else

### IOMETER Performance (No File System)

Reads: 1748 MBPS  
Writes: 1417 MBPS

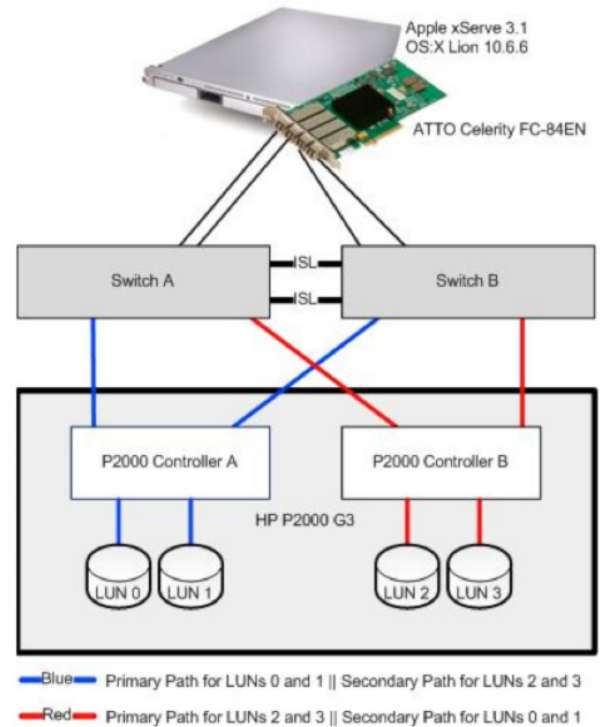
### AJA Disk Utility Performance (OSX File System)

Reads: 1487 MBPS  
Writes: 1070 MBPS

## AJA Video Stream Performance Calculator

Runs IO that simulates video and calculates the number of concurrent streams that can be run through a storage system.

- DVCPProHD 1080i50  
Reads: 50 streams  
Writes: 35 streams
- DVCPProHD 1080i60  
Reads: 58 streams  
Writes: 39 streams
- 1920 x 1080i (8-bit)  
Reads: 11 streams  
Writes: 8 streams
- 1920 x 1080i (10-bit)  
Reads: 9 streams  
Writes: 6 streams
- 1920 x 1080 (10-bit RGB)  
Reads: 6 streams  
Writes: 4 streams
- 2048 x 1556 (10-bit RGB)  
Reads: 4 streams  
Writes: 3 streams



### Configuration #3: One Client with Dual Channel Host Adapter with Quantum StorNext

Storage System: HP Storage P2000 G3 FC MSA with 24 – 2.5” 300GB HP 6Gb SAS drives

Storage Expansion: HP Storage D2700 Disk Enclosure with 25 – 2.5” 72 GB HP 6Gb SAS drives

Fibre Channel HBA: ATTO Celerity 82EN dual channel 8Gb Fibre Channel, PCIe2.0 x8

Driver: 1.44MP

Flash Bundle: osx\_fls\_celerity\_100728

Platform: Apple Mac Pro 5.1 running OS 10.7

#### Setup

- Four RAID 5 groups in a 9+1 configuration
- RAID 5 Chunk size set to 64KB
- Two RAID 5 groups mapped to each controller on the P2000
- All 4 RAID 5 groups striped into one Stripe Group via StorNext – interleave of 256KB

#### IOMETER Performance (StorNext File System)

Reads: 1579.03 MBPS  
Writes: 1489.45 MBPS

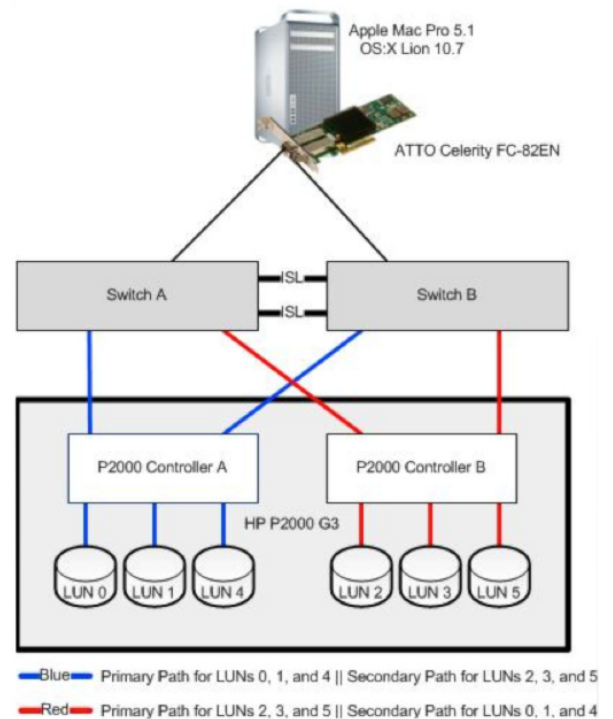
#### AJA Disk Utility Performance (StorNext File System)

Reads: 1303.4 MBPS  
Writes: 951.5 MBPS

### AJA Video Stream Performance Calculator

Runs IO that simulates video and calculates the number of concurrent streams that can be run through a storage system.

- DVCPProHD 1080i60  
Reads: 36 streams  
Writes: 25 streams
- 1920 x 1080i (10-bit)  
Reads: 7 streams  
Writes: 5 streams
- 1920 x 1080 (10-bit RGB)  
Reads: 5 streams  
Writes: 3 streams
- 2048 x 1556 (10-bit RGB)  
Reads: 3 streams  
Writes: 2 streams



### Configuration #4: Two Clients with Dual Channel Host Adapter with Quantum StorNext

Storage System: HP Storage P2000 G3 FC MSA with 24 – 2.5” 300GB HP 6Gb SAS drives

Storage Expansion: HP Storage D2700 Disk Enclosure with 25 – 2.5” 72 GB HP 6Gb SAS drives

Fibre Channel HBA: ATTO Celerity 82EN dual channel 8Gb Fibre Channel, PCIe2.0 x8

Driver: 1.44MP

Flash Bundle: osx\_fls\_celerity\_100728

Platform: Apple Mac Pro 5.1 running OS 10.7

### Setup

- Four RAID 5 groups in a 9+1 configuration
- RAID 5 Chunk size set to 64KB
- Two RAID 5 groups mapped to each controller on the P2000
- All 4 RAID 5 groups striped into two Stripe Groups via StorNext – interleave of 256KB

### IOMETER Performance (StorNext File System)

Reads: 1791.1 MBPS  
Writes: 1720.8 MBPS

### AJA Disk Utility Performance (StorNext File System)

Reads: 1782.4 MBPS  
Writes: 1347.5 MBPS

### AJA Video Stream Performance Calculator

Runs IO that simulates video and calculates the number of concurrent streams that can be run through a storage system.

- DVCPProHD 1080i60  
Reads: 69 streams  
Writes: 34 streams
- 1920 x 1080i (10-bit)  
Reads: 9 streams  
Writes: 8 streams
- 1920 x 1080 (10-bit RGB)  
Reads: 7 streams  
Writes: 5 streams
- 2048 x 1556 (10-bit RGB)  
Reads: 3 streams  
Writes: 4 streams

