

EMC CLARiiON AX150 Competitive Comparison

| Functionality | AX150 | HP MSA1500/ MSA 20 | HP MSA1510i/ MSA 20 | StoreVault S500 (NetApp) |
|---|--|---|---|---|
| Single / Dual Controllers | Yes / Dual Active-Active | Yes / Dual Active-Active (non-HPUX requires 3 rd party software) | Yes / Dual Active-Passive | Yes / No |
| Ports per Controller | 2 x GigE, 2 x 2Gb FC | 1 x 2Gb FC | 2 x GigE | 2 x GigE |
| Dual Path Management/ Failover | Yes / Yes | Yes/ Yes (\$2K option per server) | No / Yes (\$2K option per server) | No |
| Maximum Capacity (Raw) | 6 TB | 6 TB w/ one MSA 20 (can add up to 8 MSA 20s) | 6 TB w/ one MSA 20 (can add up to 8 MSA 20s) | 6 TB |
| # Servers/ LUNs | 10 / 256 | 20 / 32 | 20 / 32 | ? / 32 |
| Data Storage | Windows, Linux, Solaris, Netware, VMWare | Windows, Linux, HP-UX, NetWare | Windows | Windows, Linux, Unix, Mac, NetWare via NFS or CIFS |
| RAID Levels | 10, 5 | 0, 1, 10, 5, 6 | 0, 1, 10, 5, 6 | 4, RAID DP (dual parity) |
| Max # Drives | 12 | 12 (per MSA 20) | 12 (per MSA 20) | 12 |
| Drive Type, Size/Speed | SATA II: 250GB/1.5Gbs, 500GB/3.5Gbs; 7.2K rpm | SATA: 160, 250, 500GB; all 1.5Gbs and 7.2K rpm | SATA: 160, 250, 500GB; all 1.5Gbs and 7.2K rpm | SATA II: 250, 500GB; all 1.5Gbs and 7.2K rpm |
| Read/ Write (MB/s) | Up to 300 / 300 | Greater than 100 | Greater than 100 | ? |
| Memory per Controller | 512 MB | 256 MB (upgrade to 512) | 256 MB (upgrade to 512) | 256 MB |
| Cache Protection | Single - Battery Backed Dual - Mirrored w/UPS | Battery Backed | Battery Backed | None |
| Cluster Support | MSCS, Oracle, NetWare, NEC | MSCS, Linux | No | No |
| Redundant Power Supply / Redundant Cooling | Single and Dual redundant/ Dual redundant | Dual redundant / Dual redundant | Dual redundant / Dual redundant | Dual redundant / Dual redundant |
| Hot-swappable components/ Hot spare | Yes / Yes | Yes / No | Yes / No | Yes / Yes |
| Array Management | Anywhere on network | At server using array | At server using array | Anywhere on network |
| Snapshots | Included | Option (\$3K per server) | No | Included |
| Standard Warranty | 1 Year NBD | 3 Year APR | 3 Year APR | 45-day, install support only |
| MSRP Single - 1TB/6TB | \$6K / \$13.4K | \$11K / \$18.3K | \$11K / \$18.3K | \$5K / \$12K (estimated) |
| MSRP Dual - 1TB/6TB | \$8.7K / \$15.5K | \$15K / \$22.7K | \$15K / \$22.7K | Not available |

EMC CLARiiON AX150 Competitive Comparison

| Functionality | AX150 | Apple XServe | IBM DS400 | IBM DS300 |
|--|---|---|---|---|
| Single / Dual Controllers | Yes / Dual Active-Active | No / Dual (configured as separate arrays) | Yes / Dual Active-Active | Yes / Dual Active-Active |
| Ports per Controller | 2 x GigE, 2 x 2Gb FC | 1 x 2Gb FC | 2 x 2Gb FC | 2 x GigE |
| Dual Path Management/ Failover | Yes / Yes | No / No | Yes / Yes | Yes / Yes |
| Maximum Capacity (Raw) | 6 TB | 7 TB | 12 TB (2 enclosures) | 4.2 TB |
| # Servers/ LUNs | 10 / 256 | 24+ / 16 | ? / ? | ? / ? |
| Data Storage | Windows, Linux, Solaris, Netware, VMWare | Windows, Linux, Mac, NetWare | Windows, Linux | Windows, Linux |
| RAID Levels | 10, 5 | 0, 1, 0+1, 3, 5 | 0, 1, 10, 5, 50 | 0, 1, 10, 5, 50 |
| Max # Drives | 12 | 14 | 40 (2 enclosures) | 14 |
| Drive Type, Size/Speed | SATA II: 250GB/1.5Gbs, 500GB/3.5Gbs; 7.2K rpm | Ultra ATA: 250GB/? Gbs, 500GB/? Gbs; 7.2K rpm | SCSI: 73, 146, 300GB - 10K rpm; 36, 73, 146GB - 15K rpm ; ? Gbs | SCSI: 73, 146, 300GB - 10K rpm; 36, 73, 146GB - 15K rpm ; ? Gbs |
| Read/ Write (MB/s) | Up to 300 / 300 | Up to 380 / 300 | Not provided | Not provided |
| Memory per Controller | 512 MB | 512 MB | 512 MB (upgrade to 1GB) | 512 MB (upgrade to 1GB) |
| Cache Protection | Single - Battery Backed Dual – Mirrored w/UPS | Optional Battery Backed | Battery Backed | Battery Backed |
| Cluster Support | MSCS, Oracle, NetWare, NEC | No | MSCS | MSCS |
| Redundant Power Supply / Redundant Cooling | Single and Dual redundant/ Dual redundant | Redundant / Redundant | Redundant / Redundant | Redundant / Redundant |
| Hot-swappable components/ Hot spare | Yes / Yes | Yes / Yes | Yes / Yes | Yes / Yes |
| Array Management | Anywhere on network | Anywhere on internet | At server using array | At server using array |
| Snapshots | Included | No | Option (\$3K) | Option (\$3K) |
| Standard Warranty | 1 Year NBD | 1 Year limited | 1 Year NBD | 1 Year NBD |
| MSRP Single - 1TB/6TB | \$6K / \$13.4K | N/A | \$8.4K / \$20K | \$6K / \$13.4K (4.2TB max) |
| MSRP Dual - 1TB/6TB | \$8.7K / \$15.5K | \$6.3K / \$13.3K (7TB) | \$11.4K / \$23K | \$8.6K / \$16K (4.2 TB max) |

Competition: AX150 advantage over HP MSA 1500 (FC) w/ MSA 20

Both Products...

- Single and Dual Controller models
- Fibre Channel SAN or direct (AX has twice # of direct connections)
- Windows, Linux, NetWare data (AX-Solaris, VMWare; MSA 1500-HPUX)
- RAID 5 and 10 (MSA also has 6)
- Battery backed cache
- Hot swappable components
- MSCS and other cluster support
- Snapshot (costly MSA option)
- Redundant power and cooling in DC (opt. 2nd power supply for AX150 SC)

AX150 Advantage!

- 30-50% lower MSRP
- High performance SATA II drives
- Dual active-active support for Windows and Linux w/o need for 3rd party software, plus NetWare
- Dual controller failover included (vs. \$2K per server for MSA)
- Hot spare
- Mirrored cache in dual controller
- Manage storage from anywhere
- 256 LUNs (vs 32)

Competition: AX150 advantage over HP MSA 1510 (iSCSI) w/ MSA 20

Both Products...

- Single and Dual Controller models
- IP SAN or direct
- Windows data
- RAID 5 and 10 (MSA also has 6)
- Battery backed cache
- Hot swappable components
- Redundant power and cooling in DC (opt. 2nd power supply for AX150 SC)

AX150 Advantage!

- 30-50% lower MSRP
- High performance SATA II drives
- Dual active-active controllers
- Dual controller failover included (vs. \$2K per server)
- Linux, Solaris, NetWare, VMWare
- Hot spare
- Mirrored cache in dual controller
- Cluster support
- Snapshot
- Manage storage from anywhere
- 256 LUNs (vs 32)

Competition: AX150 advantage over StoreVault S500 (NetApp)

Both Products...

- Single controller model
- IP SAN (iSCSI) or direct (AX has twice # of direct connections)
- Up to 6 TB using 250 & 500GB drives
- Windows, Linux, NetWare, Solaris (S500: OS supporting NFS or CIFS)
- RAID (AX150: 5 & 1/0, S500: RAID DP & 4)
- Hot swappable drives, Hot spare
- Snapshot (AX150 up to 8 manual; S500 up to 256 automated)
- Manage storage from anywhere
- Redundant power and cooling

AX150 Advantage!

- 50% more usable capacity (less disk for RAID, much less overhead)
- 1/3rd lower cost per GB (street)
- High Availability: dual active-active controllers w/ failover, cluster support
- Fibre Channel SAN or DAS
- 2x faster 500GB SATA II drives
- Battery-backed or Mirrored cache
- 1yr Support (vs. 45 days install only)
- 256 LUNs (vs 32)

Competition: AX150 advantage over Apple XServe RAID

Both Products...

- Dual Controller models
- Fibre Channel SAN or direct
- Windows, Linux, NetWare data (AX-Solaris, VMWare; XServer-Mac)
- RAID 5; AX 1+0, XServe 0+1 (1+0 has higher fault tolerance than 0+1)
- Battery backed cache
- Hot swappable components, hot spare
- Manage from anywhere on network
- Redundant power and cooling in DC (opt. 2nd power supply for AX150 SC)

AX150 Advantage!

- 20% lower *street* price for Single Controller
- Controller failover (if one XServe controller fails, half of array/data not accessible)
- iSCSI (SMBs can leverage IP network and knowledge; less complexity and cost)
- Mirrored cache in dual controller
- Cluster support
- Snapshot
- 15x more LUNs (256 vs. 16)

Competition: AX150 advantage over IBM DS300 (iSCSI)/400 (FC)

Both Products...

- Single and Dual Controller models
- FC SAN, IP SAN, or direct to servers
- Windows and Linux data
- RAID 5 and 10
- DC path management and failover
- Battery backed cache
- Hot swappable components, hot spare
- MSCS support
- Snapshot (option for DS300/400)
- Manage from anywhere
- Redundant power and cooling for DC (opt. 2nd power supply for AX150 SC)

AX 150 Advantage!

- 30% lower MSRP (SATA II drives deliver performance & price needed for SMBs vs. SCSI)
- iSCSI model scales to 6 TB (vs. 4.2)
- Solaris, NetWare, VMWare
- Broader cluster support