



EMC's "Making Storage Simple" Approach Solves Business Problems for Mid-Sized Enterprises

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Management Summary

If your enterprise has small- or mid-scale IT operations, we can assume a few things are true:

- **IT matters.** Applications such as e-mail, file serving, ERP, CRM, and IP telephony support the business. Workers rely on them to do their jobs, suppliers and customers may use them, and operations would slow or cease if they did not functioning properly.
- **Quality is important.** While smaller IT operations have *less* IT infrastructure, it does not mean that they want or prefer lower service levels. The need for quality of service is universal: reliability, flexibility, cost-effectiveness, and performance. Specific service level requirements are determined by business needs, not enterprise size, revenues, number of employees, or IT budget, per se.
- **Resources are limited.** You cannot have it all and, frankly, are a bit envious of the resources available to large firms. Smaller operations, by definition, have less money and human talent at their disposal. Large staffs with diverse, specialized skill sets are not luxuries they can afford. Perhaps only one person or a fraction of one is dedicated to IT. By the nature of the job, this person must be a jack-of-all-trades and master of none.
- **Resellers and the Web are purchasing sources.** Smaller operations procure IT advice, products, and services from local resellers and over the Internet. They do not have the purchasing power to win significant attention from vendor sales forces.

EMC focused on these characteristics when it developed its "Making Storage Simple" approach for how enterprises with mid-scale IT operations can acquire, deploy, and manage information storage. Drawing from its now wide array of products and services for information storage management, it put together a series of targeted, integrated EMC Express Solutions that are designed for ease of use, low cost, modest scalability, and good feature sets. These solutions solve specific business problems focused on:

- Networked storage
- Backup and recovery
- Archiving
- E-mail
- Business Protection

If you thought EMC information storage solutions were only for large-scale operations, it is time to have another look. Read on for the details.

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Embracing the Mid-Scale Operation

It started with the *Symmetrix*, the storage line that paved the way for open, consolidated storage in the 1990s and established EMC's reputation as a vendor of high-end systems to large enterprises. Then EMC acquired the *CLARiiON* line of modular arrays from Data General in 1999. This gave it a foothold among mid-sized enterprises, albeit weighted toward the larger ones. Many of these enterprises have an IT infrastructure that we call a *Mid-Scale Operation*.¹ Since then, it has acquired a string of software solutions focused on smaller operations operations, including *VisualSRM*, *VisualSAN*, *Legato Networker*, *EmailExtender*, and *DiskExtender*, and *Dantz Retrospect*. It also expanded its *Celerra* line of NAS platforms downstream and introduced the entry-level *NetWin* based on *Windows Storage Server*. In 2004, EMC rolled out the *CLARiiON AX100*, a smaller-scale networked storage platform with up to 12 SATA drives and a street price starting under \$5,000.

Today, EMC's hardware, software and service offerings span the requirements of small-, mid-, and large-scale IT operations. Clearly, it is no longer a company just for the big fish.

EMC Express Solutions

***EMC Express Solutions* are its most recent effort to cater to mid-scale IT operations. These are targeted, turnkey packages of hardware, software, and optional services for storing, backing up, archiving, and protecting information.** They are:

- Integrated solutions that solve specific business problems around fast growth, industry competitiveness, fixed budgets, and corporate governance²,

¹ This terminology was introduced and explained in *Why SMB is a Meaningless Acronym – Trying to Define the Middle* in *The Clipper Group Captain's Log* dated December 14, 2004, at <http://www.clipper.com/research/TCG2004096.pdf>.

² For details about what these problems and opportunities might entail, see *Using Data Solutions to Foster Opportunity in Mid-Scale IT Operations* in **The Clipper Group Voyager** dated March 4, 2005, at <http://www.clipper.com/research/TCG2005012.pdf>.

- Simplified for ease of acquisition, deployment, and use,
- Sized for small and mid-scale operations,
- Full featured (i.e., not dumbed down),
- Offered at low entry prices, and
- Available through a bevy of EMC Velocity resellers, integrators, and over the Web.

Like two interlocking pieces of a jigsaw puzzle, this set of attributes is a good fit for the targeted enterprises. Moreover, EMC Velocity reseller channel partners can configure, price, and order using the Express Solutions configuration tool (wizard) directly on EMC's *Powerlink* Web site. According to EMC, configuration takes less time than booting up a PC. After selecting some parameters, it recommends an optimal configuration with a bill of materials and price. The point here is that EMC has made it very easy to purchase and deploy Express Solutions, both for the resellers and end customers.

Here is what is available today.

EMC Express Solutions for Networked Storage

Storage consolidation offers a tried-and-true economic proposition³: If you separate storage from servers and create a centralized pool, then you experience lower storage costs, high availability, and greater IT flexibility. Centralized storage is easier to manage and employ, so operating costs are lower and utilization is higher. Backup and restore is faster and more consistent, promoting high availability. It is also easier to add and reallocate capacity, migrate data, and swap out servers. This avoids out-of-space conditions, minimizes planned downtime, and makes the IT environment more responsive to changing business needs. Consolidation is smart, and solutions sized for smaller environments are making it more broadly accessible.

EMC Express Solutions for Networked

³ See *Networked Storage – A Buyers Guide to Pain Relief* in **The Clipper Group Explorer** dated April 25, 2003, at <http://www.clipper.com/research/TCG2003017.pdf>.

Storage offer consolidated systems in three different categories:

- **SAN solutions** – Deliver block storage access with high performance using Fibre Channel connectivity. An enterprise can choose the CLARiiON AX100, CX300, CX500, or CX700 (increasing performance and scalability up the line) with Fibre Channel or ATA drives⁴. Included software is *PowerPath* for path failover and load balancing and *VisualSRM* for centralized management of data resources. Optional software is *VisualSAN* for centralized SAN management and *SnapView* for multi-purpose point-in-time copies. Cables and switches are included.
- **NAS solutions** – Deliver heterogeneous, shared file access over IP networks. An enterprise can choose the *NetWin 110* with integrated AX100 or, for higher performance and scalability, the *Celerra NS500* with integrated CX500. *VisualSRM* is included and *VisualSAN* is optional. Various peripherals are included.
- **iSCSI solutions** – Deliver block storage access at a lower cost using IP networks. An enterprise can choose the CLARiiON AX100i, CX300i, or CX500i. Another option is the NS500 iSCSI for simultaneous block and file access. *PowerPath* and *VisualSRM* are included with CLARiiON arrays, and just *VisualSRM* with the NS500. *VisualSAN* is optional. Peripherals, as appropriate, are included.

EMC Express Solutions for Backup and Recovery

Backup to disk is rapidly gaining popularity as a means to faster backups and restores. The speed of disk arrays versus tape systems means daily backups are more likely to complete in the allotted time, so they do not spill over into production hours. More importantly, recoveries happen faster, so business operations and productivity can continue with less disruption. Disk-based backup also minimizes the overhead of

physical tape management, as well as problems associated with tape media failures.

EMC *Express Solutions for Backup and Recovery* offer consolidated backup to disk in three categories:

- **Entry backup and recovery** – Includes Dantz Retrospect and CLARiiON AX100 with ATA disk, both of which are popular for smaller-scale environments. The solution supports environments with *Windows*, *Mac OSx*, *Linux*, and *Solaris* and up to 250 clients (servers, desktops, laptops) and/or 3 TB of data. The set-up utility is wizard-driven and backups run automatically.
- **Mid-tier backup and recovery** – Includes *Legato Networker* and CLARiiON CX300 or CX500 with ATA disk. The solution supports environments with *Windows*, *Linux*, *UNIX*, *OpenVMS*, and *NetWare*, and more than 250 clients and/or 3 TB of data. It is optimized for fast, single-step recovery from disk. Optional are database backup, SAN switches, and an autochanger module for a tape library (for disk to disk to tape).
- **Advanced backup and recovery** – Includes *Legato Networker* and CLARiiON CX500 or CX700 with ATA disk and *SnapView*. The solution is similar to the mid-tier option but scales higher, allows for non-disruptive backup, and even faster restores with *SnapView*.

EMC Express Solutions for Archiving

E-mail archiving software prunes messages and attachments from primary databases and places them in a secondary storage tier for data retention, search, and retrieval. Like disk-based backup, it is also gaining in popularity because of its various benefits. Regulatory compliance and corporate governance can require the retention of e-mail and instant messages for periods of time. Archiving inactive data obviates the need for users to keep personal archives on PST files, which consume lots of storage on the periphery and can be a legal liability. It also lowers costs by using inexpensive disk storage for archived data. Furthermore, the cost of the messaging server can be lower and performance improved because it works with

⁴ Fibre Channel drives have the highest performance and reliability, while ATA drives offer larger capacities and lower costs.

a smaller primary database. IT operations, like backup, restore, software upgrades, testing, and development are faster and less disruptive due to the smaller database.

EMC *Express Solutions for Archiving* offer two packages for e-mail archiving:

- **Base archiving** – Includes *Legato EmailXtender Archive Edition* and a CLARiiON CX series array. This is an all-in-one solution for short-term, automated e-mail archiving on Microsoft *Exchange*. Both the primary database and archive tier reside in the same CLARiiON array on Fibre Channel and ATA drives, respectively. This solution creates a short-term archive that is periodically overwritten. While it delivers the many benefits of offloading the Exchange database, it is not intended for long-term data retention and regulatory compliance.
- **Enhanced archiving** – Includes Legato EmailXtender, *Legato DiskXtender*, and *Centera CAS* (content addressed storage). This comprehensive archiving solution supports both Exchange and Lotus *Notes/Domino*. It is designed for long-term retention and lifecycle management of data, from inception to migration to deletion. The solution captures all messages sent and received in real time, including e-mail and instant messages. It automatically migrates and deletes data based on policy. Centera is a special object storage platform for centralized, online archiving. It eliminates data duplication, guarantees data authenticity to satisfy even the strictest regulations, scales to billions of objects, and allows for refined search and retrieval. It is also self-managing and self-healing. In short, this solution delivers the full benefits of archiving.

EMC Express Solution for E-mail

Express Solutions for E-mail delivers storage consolidation, rapid recovery, and archiving specifically for Microsoft Exchange⁵. EMC offers fundamentally two packages:

- **E-mail with base archiving** – Includes CLARiiON CX array with Fibre Channel and ATA drives, *Navisphere Manager*, PowerPath, SnapView, *Replication Manager/SE*, Legato *EmailXtender Archive Edition*, and optional SAN switches. This all-in-one solution consolidates Exchange storage on the CX array. It functions like the base archiving solution above, with the primary database on Fibre Channel drives and the short-term archive on ATA. Replication Manager/SE coordinates with Exchange and SnapView to create periodic, hot point-in-time copies for rapid recovery from logical faults (e.g., database corruption, viruses), according to an automated schedule. It offers wizard-based installation.
- **E-mail with enhanced archiving** – Includes CLARiiON CX array, Navisphere Manager, PowerPath, SnapView, Replication Manager/SE, Centera, Legato EmailXtender, Legato *DiskXtender*, and optional SAN switches. This solution consolidates the Exchange primary database and point-in-time copies on the CX, while the archive is on the Centera. It functions like the enhanced archiving solution above, providing long-term retention, regulatory compliance, and lifecycle management of Exchange data.

A third package for smaller-scale consolidation only on the AX100 is also available.

EMC Express Solution for Business Protection

These offerings deliver business protection using various replication technologies. They reduce business risks by providing remote copies for disaster recovery purposes. This can be achieved utilizing the CLARiiON CX line with either *Replistor* server-based software or *SAN Copy* and *MirrorView* array-based replication software. Mirrorview is available in either asynchronous or real-time synchronous versions. In this way, the business can achieve its particular recoverability objectives.

For all Express Solutions, EMC offers customer support and professional services,

⁵ Lotus Notes/Domino is planned for the future.

including implementation services. As it builds out Express Solutions program, expect additional packages for database applications and vertical solutions in the future.

Conclusion

EMC's Express Solutions address a number of information storage problems that enterprises of all sizes face. No doubt, you can relate to at least some of these:

- Handling inevitable data growth,
- Data protection and business continuity,
- Regulatory compliance,
- Improving service levels to the business,
- Intelligently managing data through its lifecycle,
- Complexity,
- Lowering (or containing) costs, and
- Building a more adaptable IT infrastructure.

The Express Solutions combine good products, a trusted brand, turnkey packaging with services, and easy procurement. We expect they will do well in the market, especially since mid-scale operations tend to be underserved. (Large enterprises get the most vendor attention and latest technologies because they spend the most on IT.)

If you are an enterprise with a mid-scale IT infrastructure and want to address business challenges around storage consolidation, backup and restore, archiving, and/or business protection, EMC Express Solutions may be the right choice.



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About the Author

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