



EMC Takes More Steps Down the ILM Road — Offers More Options to Enterprises

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Management Summary

EMC recently announced a bevy of new information storage products and enhancements. They cover a lot of territory, especially the areas of data mobility and replication. However, a **broad theme interconnects the various products, features, and benefits - Information Lifecycle Management (ILM), the linchpin of EMC's strategy for information storage.** There are several reasons why it is helpful to see how the announced products fit into ILM:

- It makes the details easier to assimilate,
- It shows how EMC intends them to deliver broad business value, and
- It clarifies where they may fit into your own enterprise's information storage strategy.

First, what is ILM? Think about it in terms of a bicycle ride. First, you start pedaling furiously in a low gear from a standstill position. Speed increases as you shift through gears until reaching a comfortable cruising pace. After traveling for a distance and enjoying the scenery, a change in terrain arises that you must navigate. It might be a hill, intersection, or road obstacle. Different speeds, gears, and pedaling intensities are required before resuming the cruising pace. And so it goes until you reach the destination. There is a right time for each speed and gear along the way, and the efficiency (and enjoyment) of the ride depends on using them appropriately.

Instead of a bicycle journey, **ILM manages the journey of data from creation to deletion.** Like shifting gears, it moves data between different tiers of storage in response to events, business needs, and the changing value of data over time. Like the leverage of a particular gear, the tiers have unique price/performance characteristics. Finally, the goal of ILM is to place data in the right tier at the right time – to maximize the value derived from its cradle-to-grave journey, while minimizing the cost to store it.

EMC's announced products and enhancements support ILM in two fundamental ways:

- **Delivering and enhancing storage tiers:** *SRDF/Star, VMware/SRDF qualification, and ILM Acceleration Services*
- **Intelligently moving data between tiers:** *Open Replicator for Symmetrix, Email-Xtender, DatabaseXtender, Celerra File-Mover, Documentum Content Storage Services, and Express Solution for E-mail*

Read on for the details.

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Essence of ILM

ILM is a strategy for dynamically managing data through its lifecycle, from creation to deletion, as its value changes over time. It is a broad concept that spans business and IT.¹ EMC has embraced ILM as a central strategy for developing and integrating its diverse hardware, software, and services portfolio. In the interest of simplicity, consider that the underlying technology breaks down into two fundamental components:

Tiered Storage

Tiered storage is the structural foundation of ILM. It means having multiple pools of storage, each with different performance, availability, recoverability², and cost characteristics. Think in terms of *regular*, *mid-grade*, and *premium* or *silver*, *gold*, and *platinum*. ILM places data in the most appropriate tier at any point in time, as defined by business requirements and the data's value. Not all data needs the best performance and availability, nor can the cost be justified. **ILM optimizes the balance between storage service levels and cost, so enterprises can “do more with less” with their information.**

Intelligent Data Movement

Intelligent data movement is the active part of ILM. It uses information about data (i.e., metadata) to classify it and then move it between storage tiers when appropriate. Ideally, smart software handles the process in a non-disruptive and automatic fashion, once IT administrators have programmed the classification policies. This would deliver the benefits of ILM while minimizing management costs and maintaining application availability.

The new information solutions that

¹ For details, see *Top 10 Things You Should Know About Information Lifecycle Management* in **The Clipper Group Explorer** dated May 11, 2004, at <http://www.clipper.com/research/TCG2004041R.pdf>.

² Some categorize recoverability separately from the storage tier. Recoverability describes how quickly and fully data can be restored after a failure, which is determined largely by the data protection and replication scheme applied to the data.

EMC recently announced either deliver and enhance storage tiers or intelligently move data between them.

Tiered Storage Solutions

SRDF/Star delivers an ultra-high level of recoverability for remote mirroring scenarios that involve Symmetrix DMX storage arrays in three data centers. In this configuration, the primary replicates data synchronously (SRDF/S) to a metro-area bunker and asynchronously (SRDF/A) to a remote target, creating three current but geographically dispersed data copies. SRDF/Star detects when the primary fails and then synchronizes the surviving two sites and establishes an asynchronous link between them. It eliminates the exposure of having only one current copy of data following a disaster. SRDF/Star delivers a *top tier* of data protection for the most demanding requirements. It will be available in the first quarter of 2005.³

SRDF enhances recoverability of storage tiers, and qualification with VMware can lower the cost of a mirroring solution by enabling server consolidation at the target site. VMware creates virtual partitions of Intel servers, allowing more applications to run on a given server. VMware is currently available.

ILM Acceleration Services is a consulting service that helps enterprises chart a path and make a business case for ILM implementation. It assists with defining storage tiers, aligning data and applications, and improving storage utilization. The service can demonstrate an immediate payback from storage optimization as well as ongoing reductions in capacity procurement. It also is available today.

Intelligent Data Movement Solutions

Open Replicator for Symmetrix is a new software solution that replicates block data between a top-tier DMX platform and secondary storage tiers,

³ In addition to SRDF/Star, EMC released several other enhancements to SRDF and TimeFinder.

including heterogeneous ones, over a SAN. It runs on a Symmetrix DMX and, so, is independent of host and operating system. It copies data to and from other Symmetrix and CLARiiON platforms as well as certain arrays from Hitachi, HP, and IBM. It creates full or incremental copies of static or live data. An application can even start from a copy before it is complete, which speeds up recovery.

Open Replicator has a variety of uses for both data movement and enhancing storage tiers:

- Fast, live application migration between storage tiers,
- Data distribution to secondary tiers for activities like test and development,
- Centralized backup and restore, and
- Remote vaulting with fast restore using less-expensive secondary tiers.

Legato EmailXtender is an active ILM solution for e-mail. It archives messages based on policy from primary storage on the message server to a secondary tier on an archive server. Users can search and retrieve messages from the archive. The solution cuts e-mail storage costs, retains e-mail for regulatory compliance, speeds backup and restore, and eliminates need for .pst files on local PCs. In this announcement, EMC enhanced EmailXtender by adding support for *Microsoft Exchange 2003*, better search capabilities, and faster access to archived messages. These enhancements will be available December.

DatabaseXtender⁴ is an active ILM solution for databases. It prunes records from databases and archives them to secondary storage tiers based on policy, while preserving transparent, online access. The solution cuts storage and server costs, improves performance, facilitates compliance, and speeds backup and restore. In this announcement, EMC added support for

PeopleSoft applications as well as custom applications on Oracle and Sybase databases. This is available today.

Celerra FileMover⁵ enables active ILM for networked file systems. The new Celerra FileMover API provides open access to Celerra NAS systems for integration with automated file movement software, including solutions from Veritas, Enigma, Arkivio, and EMC Legato. Enterprises can implement file migration among tiers based on user-defined policies. The enhancements are now available.

Documentum Content Storage Services is an active ILM solution for unstructured content. It integrates the Documentum content management platform with a policy engine for moving data among heterogeneous storage tiers. Enterprises can create automated policies using rich content types and attributes. As a result, policies will be more closely aligned with the true value of content in the context of the business. This is also currently available.

Express Solution for E-mail is a pre-packaged active ILM solution for e-mail. It includes two storage tiers (CLARiiON with Fibre Channel and ATA disks), archiving software (Legato EmailXtender), and a tool for managing disk replication and restores (EMC *Replication Manager*). It is for mid-market enterprises that want an ILM solution without the hassle of integration and testing the tiered storage and intelligent data movement components, and is available today.

Conclusion

EMC's recently announced products and enhancements all deliver some aspect of tiered storage and/or intelligent data movement. If ILM is a part of your enterprise storage strategy, then you can see where they fit in. Depending on where you are in the process of implementing ILM, you may need to:

⁴ See *EMC DatabaseXtender for Archiving Data – And Actually Quite a Bit More* in **The Clipper Group Navigator** dated February 26, 2004, at <http://www.clipper.com/research/TCG2004013.pdf>.

⁵ See *EMC Celerra FileMover Optimizes File Movement in Tiered Storage* in **The Clipper Group Navigator** dated October 4, 2004, at <http://www.clipper.com/research/TCG2004081.pdf>.

- **Define a plan for getting started** (ILM Acceleration Services),
- **Enhance storage tiers based on EMC platforms** (SRDF/Star, VMware/SRDF qualification), or
- **Intelligently move data among tiers** (Open Replicator for Symmetrix, EmailXtender, DatabaseXtender, Celerra FileMover, Documentum Content Storage Services, and Express Solution for E-mail).

If so, take a closer look at EMC's latest solutions.



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