



CaminoSoft
Information Lifecycle Management

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CaminoSoft

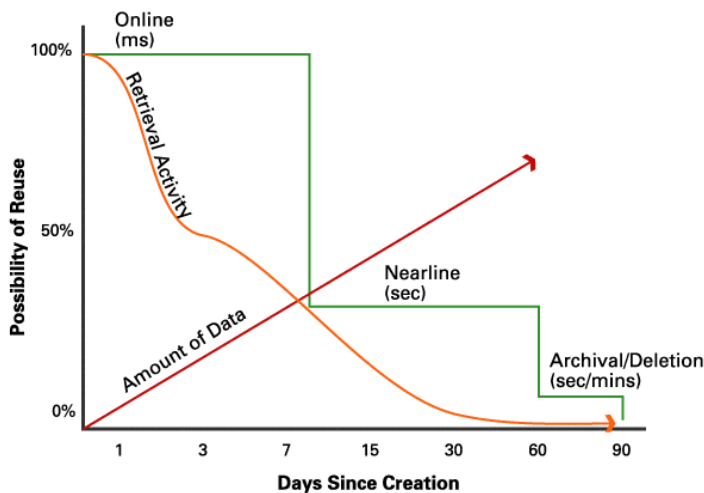
**Information Lifecycle
Management**

Information Lifecycle Management

“The probability of reuse of data has historically been one of the most meaningful metrics for understanding optimal data placement and remains a key metric for effective HSM (Hierarchical Storage Management) implementation.”

This observation from Horison Information Strategies about reference patterns predicts that data can be allocated to storage levels that are commensurate with cost *and* performance throughout its “lifecycle,” as shown below.

Data Reference Patterns



Source: Horison

Because industry is generating new data at a rate exceeding 50% per annum and accumulating more of it over longer timeframes, the management of storage—specifically, its information content—has become increasingly difficult. As many observers see the issue, this complexity is being further fueled by regulations (SEC, HIPAA, etc.) and organizational recognition of “data value” as an intrinsic element in a file retention policy.

So how does an organization shape data growth, regulations, and value into an intuitive, unobtrusive set of “Information Lifecycle Management” policies that are autonomous, automatic, and transparent?

According to Horison, advanced policy-driven SRM (Storage Resource Management) software will be required and should evolve to measure reference patterns and trigger management policies that result in moving data, in conjunction with HSM, to the most optimal storage location throughout its lifetime.

CaminoSoft’s ILM Vision

CaminoSoft’s mission is to design, develop, and maintain a comprehensive portfolio of advanced Information Lifecycle Management (ILM) solutions. These are tightly integrated with vendor operating systems to provide seamless operation and maximize the customer’s utilization of costly server, storage, and human resources.

The Company's solutions are distinguishable by their innovative designs, functional characteristics, intuitive interfaces, and scalability. Due to their ease of adaptation, these solutions are routinely integrated into applications by partner vendors to create vertical and industry solutions that exploit market opportunities. Trials are underway that combine Computer Associates' BrightStor Portal SRM and CaminoSoft's Managed Server HSM™ to form new functionality that activates data management policies applied to a list of administrator-supplied files. By extending such batch processing to real-time, continuous measuring of data access patterns, policy-based migration can be adapted to "on-the-fly" administrator-supplied criteria.

The merging of rules-based policy and intuitive principles into an actionable, real-time data migration decisions is a key objective of CaminoSoft's ILM vision. This is made possible by integrating robust SRM and HSM building blocks into a cohesive application, capable of operating as an inboard server or outboard appliance. Such software development is facilitated through inherent adaptability and flexibility—fundamental CaminoSoft design requirements.

Storage management, however perceptive, is no substitute for structured backup, server failover, and file replication processes. For this reason, CaminoSoft's ILM suite is not only compatible with popular backup applications but also includes its high availability solutions StandbyServer™ for NetWare and OFFSite Archive™ for NetWare. The former solution monitors the health and mirrors the volumes of multiple primary servers, providing both automatic failover and data access if storage becomes unavailable; the latter solution sends point-in-time "snapshots" of data to a safely located remote server, facilitating centralized open-file backup, data replication, and quick disaster recovery.

Getting Started Today

CaminoSoft is the only vendor that offers HSM support for both Windows 2000 and Novell NetWare & GroupWise environments. And support for Linux is on the way. The Company's server-based software continually identifies print and file candidates for relocation to desired lower-cost Central Storage Pool devices.

Managed Server HSM™ puts powerful storage management policies into the hands of system administrators, enabling them to establish rules:

- for easily differentiating "production" data from "reference" data and providing structured control over file retention and deletion decisions;
- based on a wide range of criteria, such as file type, "includes/excludes," creation date, last access date, and modified date;
- that monitor and control data migration per "watermarks" and in desired operational timeframes to meet business requirements;
- which vastly reduce the amount of time needed for backup and restore, since only active data are impacted during primetime;
- to reclaim large amounts of storage space on costly storage resources, such as SAN, as well as minimize the need for future SAN expansion and expense.

Managed Server HSM

Managed Server HSM monitors disk capacity status and relocates files that satisfy administrator-defined migration policies. Files are relocated from server primary disk subsystems to secondary nearline disk and/or tertiary offline storage devices, thereby freeing up system storage resources before critical levels or "out of disk space" conditions are reached. Windows 2000 and NetWare servers are administered from a common, central Windows-based workstation. This designated console provides easy, visual control over set-up and management of all managed servers through an intuitive graphical user interface (GUI).

Managed Server HSM accomplishes the file relocation function automatically as a server-based background task without requiring manual operator intervention. This optimizes the usage and minimizes the spiraling investment in expensive high-performance primary disk storage, including, but not limited to, storage area network (SAN) resources. By constantly differentiating between infrequently accessed “reference” files and routinely accessed “production” files, the software selects non-active candidates and migrates these files when established criteria have been met.

Managed Server HSM works in concert with popular backup and virus scan utilities. These applications provide the means to protect both the active production set of files and the migrated file stubs (pointers) that are left behind in the users' directories after they have been relocated to secondary or tertiary tiers of storage. This assures managers that records can be recovered completely after damage, accidental deletion, and/or server restoration following hardware failure or other disaster. It also ensures that reference files will not be demigrated during a restore operation or virus scan.

Managed Server HSM presents a consistent, single view of storage to applications and users, regardless of online (disk), nearline (disk, M-O, CD-R, DVD, tape), or offline (media unloaded from autochanger) file physical locations. It aggregates the capacity of individual storage devices and servers on the network and automatically provisions it as needed to satisfy data migration requirements. Increasing storage does not require taking the system down or denying user/operator access and is as simple as adding on more storage devices.

Managed Server HSM manages storage in an intelligent manner, in turn reducing administrative management overhead and providing lower cost of operation. File migration, demigration (bringing files back online), and remigration (returning files back to nearline/offline storage) occur automatically and transparently to users. Throughout the process, directories remain on their primary server volumes, allowing users to continue to “see” files exactly where and how they were placed.

The Bottom Line

The ability to manage storage in an intelligent manner reduces an organization’s administrative management overhead, which in turn provides lower cost of operation. Processes such as file migration, demigration, and remigration must occur automatically and be transparent to users, allowing them to continue to “see” files in directories just as they were originally placed. Over time, list-oriented utilities and intuitive data reference algorithms will enable migration candidates to be also queued in real-time, triggering the activation of policies that optimize storage utilization. By coupling effective high availability applications with storage management, organizations are assured that their system resources remain accessible and in compliance with data retention regulations.

The bottom line: *Information Lifecycle Management is all about ensuring business continuity.* Seamless tools that minimize operational stress—inherent in managing, migrating, maintaining, and replicating data, reclaiming storage resources, averting disasters, and avoiding cost—can maximize organizational efficiency. This is essential for business growth, viability, and success.

For More Information

For more information about CaminoSoft’s ILM solutions, contact us at info@caminosoft.com or +1-805-370-3100. Visit our website at www.caminosoft.com.