Everywhere you turn, data volume is surging. E-mail systems alone are causing exponential data growth—but when you factor in application data, metadata from business systems, and incremental backups, the wave of information that must be managed and maintained may seem uncontrollable.

An information life cycle management (ILM) strategy is designed to reduce storage costs by matching data with the most cost-effective storage media based on its value and where it is along the information life cycle timeline. Through ILM, enterprises can create and support data classification, optimize data placement on storage devices, enhance utilization of existing storage resources, and automate data movement and retention processes so information can be efficiently managed from the time it is created until the time it is destroyed or archived.

UNDERSTANDING THE INFORMATION LIFE CYCLE
Managing the sea of enterprise data starts with understanding the five stages in the information life cycle:

1. **Origination**: A record is created by an employee or received by the organization.
2. **Distribution**: Records are transferred internally or externally, which creates an audit trail (and thus more data).
3. **Use**: The information is used to make business decisions.
4. **Maintenance**: Data is stored for later reference or compliance purposes.
5. **Disposal**: Data is destroyed in accordance with regulations.

At each stage, information should be matched with storage media that optimizes access speed and cost. When a record is created, for example, it should typically reside on fast (but often high-cost) disk media. As the record ages and is accessed less frequently, ILM technologies can automate its movement to a slower (but more cost-efficient) storage system. After the record has been maintained for the period specified by compliance regulations—which may be up to 30 years in some cases—it can then be automatically destroyed.

Tiered storage solutions are critical to making ILM possible. In a tiered storage solution, current transactions remain in the high-performance online transaction processing (OLTP) environment. Reporting data in history tables can be maintained in mid-tier storage systems, helping to control costs while still meeting service requirements. And to help further reduce costs, historical or reference data can be stored offline on tape or other long-term storage devices.

ILM solutions are designed to automate the movement of data across tiers of storage based on configurable policy rules. Because the files typically stay in the same place in the directory structure regardless of which physical storage tier they occupy, this movement can be transparent to both end users and business applications.

**TACKLING THE E-MAIL BEAST**
As one of the major sources of new data volume in virtually every enterprise, e-mail systems should be one of the first targets for ILM. The vast majority of e-mails are simply business as usual—but when faced with a lawsuit or an alleged compliance violation, it is critical that your organization be able to find relevant e-mail records quickly.
The costs associated with producing electronic records as part of the legal discovery process can be daunting unless you have an ILM system that enables you to search across application and departmental archives. In addition, e-mail archiving as part of an ILM infrastructure can enhance the performance of messaging systems by reserving the fastest storage media for the most recent records.

**TAKING AIM AT DATABASE GROWTH**

As business systems age, the databases supporting them begin to fill with information that is rarely (if ever) accessed. In addition, “just in case” data—information that is of no immediate value but may be useful in the future—can represent a large percentage of the total data volume in many organizations. This data frequently resides on tier 1 storage (the fastest and most costly storage platform). By moving “just in case” data to lower-cost storage, ILM technologies can help reduce demands on high-performance disk systems, speed application performance, and reduce the time needed to upgrade applications and back up databases.

ILM can help keep the rising tide of application data from overwhelming your data center by helping achieve three main goals:

1. **Streamline information storage management and cut costs:** For IT leaders seeking ways to achieve rapid up-front cost savings, ILM projects often focus on driving up storage asset utilization, finding opportunities to reclaim and consolidate storage, and lowering operational and management costs by using fewer devices and software tools.

2. **Enhance efficiency:** Improvement and automation of information management processes can play an instrumental role in delivering efficiency gains that are substantial and sustainable. Tiered storage architectures that incorporate techniques such as information classification, definition of storage and retrieval service levels, and variable cost structures can help achieve these objectives.

3. **Mitigate risk and simplify compliance:** Archiving and retention technologies can help improve space management in primary storage tiers, protect information assets with long-term value, and identify data that must be retained to meet regulatory requirements. ILM practices play a key role in enabling enterprises to respond to audits and legal discovery requests by allowing IT administrators to locate and retrieve documentation quickly, along with the associated metadata to demonstrate originality and chain of custody.

**RIDING THE DATA WAVE**

They say you can spend a lifetime learning to surf and becoming one with the ocean. Fortunately, coping with the swelling waves of information in the data center doesn’t require quite the same commitment. ILM gives you the tools to automate data storage in a way that helps balance efficiency and costs, streamline administration, and preserve access to data that may be needed in legal discovery or compliance investigations. In addition, ILM solutions are flexible—enabling you to adapt your information management policies as your business changes.