

## Information Lifecycle Management

From major medical clinics to Major League Baseball – find out how ILM is benefiting all types of organizations, and how it can benefit you.

A Business Brief  
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## Chapter 1

# Introduction

Billions of transactions, millions of emails, thousands of online databases. Information is at the heart of a business, and growing like never before. Everything is generating data – from cell phones to PDAs and even cars. As you read this sentence, the flow of data is continuing to expand by billions of bits and bytes. The reality of today's business environment demands that data be more than just an asset—it must create a competitive advantage for your business.

To cope with this data explosion and create that competitive advantage, IT organizations ranging from geophysical firms and medical imaging labs to online libraries, financial firms, and others are looking for strategies to help them manage information more effectively, meet legal requirements, better utilize storage resources, and maximize ROI. In short, they're looking for information lifecycle management (ILM) solutions.

## What is ILM?

ILM isn't about a box—it's data creation to deletion, and everything in between. Fundamentally, ILM provides organizations with processes and technologies for managing data through the information lifecycle most efficiently and effectively. This involves aligning the IT infrastructure with business objectives and recognizing that the value of data changes as it ages. Data that may be critical to today's business decisions may be far less important tomorrow. In fact, it is estimated that 90 percent of stored data is seldom to never accessed after 90 days. Consequently, as data ages, it should be shifted automatically to more cost-effective storage media and technologies, based upon its relevance, to save money and better utilize storage resources.

The Storage Networking Industry Association (SNIA), working with a cooperative initiative of systems integrators and industry leaders such as Sun Microsystems, has developed an industry definition for ILM – a strategic vision based on open standards:

*“Information Lifecycle Management is comprised of the policies, processes, practices, and tools used to align the business value of information with the most appropriate and cost-effective IT infrastructure from the time information is conceived through its final disposition. Information is aligned with business requirements through management policies and service levels associated with applications, metadata, and data.”*

Embracing a common definition better serves the industry and its customers because it helps standardize ILM approaches, practices, implementation and interoperability. This open approach supports and promotes development of the most effective ILM solutions to meet business requirements across the industry.

So, in contrast to what some will assert, ILM is not a box, a quick fix, or buzzword. It's more than tiered storage, HSM, or content management – it's a journey, a management process that requires planning and decision making, inside and outside of IT. Although the approach to ILM may come from different perspectives, all in the industry agree that the need to deploy ILM solutions is becoming more and more urgent.

## Chapter 2

# Why is ILM Needed Now?

The pressing need for ILM is being driven from several directions: rising costs, compliance requirements, legal support, and the need to maximize the bottom line.

### Escalating Costs of Enterprise Data Management and Archiving

The information explosion is all around us. In the past it was easy to hide behind the inexpensive, continuously declining cost of disk storage. But today the information is growing faster than the decline in prices. Estimates indicate information stored on computer systems is growing by more than 100 percent per year, and the cost of managing storage is rising to more than 90 percent of the acquisition cost. What's more, industry experts believe that storage utilization rates are running only 40 to 60 percent, which means that *nearly half of every dollar spent on storage may be wasted*. Information can no longer exist in storage silos or one-dimensional life cycles. Implementing a strategy to manage information more efficiently has become an economic imperative.

### Compliance

Compliance requirements come from many directions, driven by internal and external factors. Examples include email legalities, business process requirements, export and import controls, and regulatory compliance requirements such as: Sarbanes-Oxley, which addresses financial control and reporting issues raised by recent corporate financial scandals; Gramm-Leach-Bliley, which involves the adoption of strict privacy measures around financial institutions' customer data; and the Healthcare Insurance Portability and Accountability Act (HIPAA), which relates to the protection of consumers' healthcare information. Non-compliance with these regulations or other requirements can result in large fines and/or legal action.

### Litigation Support Readiness

Recent high-profile cases illustrate the surge in lawsuits against all types of organizations – from drug companies to building products companies to financial institutions and more. If your organization becomes involved in a lawsuit, you may be required to produce all documents relevant to a particular issue, including email. To be able to produce the documentation needed in the time required, and to be able to support the myriad other needs required during the litigation process, an effective information management solution must be in place.

### Enterprise Content Management

The information explosion has created great business potential. As data grows, the need to better manage the content grows, while the opportunity to maximize the value of the business content also increases. Organizations such as Major League Baseball Advance Media (MLB.com) are finding ways to maximize content with one of the most interactive, multi-functional websites in the sports world. When the Boston Red Sox beat the New York Yankees in the 2004 American League Playoffs, the MLB.com site sold mini-vision clips of the final out for \$0.99, and full games for \$3.95. The demand to see that final out will continue for years—but while today the content is being held on high-performance disk, over time it will make economic sense to move it down the tiers of storage gradually to tape. As MLB.com is demonstrating, maximizing business content opportunities and managing the content appropriately throughout its lifecycle, contributes directly to the bottom line.

In a perfect world, data would be automatically and transparently put where it needs to be based on business requirements such as cost, compliance, legal protection, and maximized business potential. Implementing ILM can start this process. To be effective, however, the implementation of ILM must be based on a comprehensive strategy.

## Case Study

### **ILM Helps Cleveland Clinic Maintain Outstanding Quality Care**

In the healthcare industry, reliable, efficient access to medical data can mean the difference between life and death. The Cleveland Clinic, recently named by U.S. News and World Report to be one of the top five hospitals in the nation, is one of the world's largest and busiest health centers. The organization is challenged with maintaining massive volumes of patient data— currently growing at 1.5 TB per week. Physicians at the clinic need to refer quickly to a patient's history to aid in diagnosis and treatment. Even after the death of a patient, data is kept for its research value. To maintain the data reliably, efficiently, and cost-effectively, the Cleveland Clinic chose to deploy Sun's Content Infrastructure System across their radiology and cardiology departments. The multi-tiered, policy-managed archiving system utilizes Sun StorEdge™ SAM-FS/QFS software to manage and store large amounts of data on different types of storage media based on how current the data is and how quickly it might be needed. The software automatically moves data that is less often accessed to lower cost media such as tape, while keeping data requiring quick access on high-performance disk storage. Sun's Content Infrastructure System is expected to reduce IT cost and complexity by providing continuous policy based data migration to application appropriate media over time, and self-service restore.

## Chapter 3

# Three Things Every ILM Strategy Needs

An ILM strategy isn't truly comprehensive or fully baked unless it includes three critical areas: a data lifecycle management (DLM) infrastructure, security, and integration.

The first element, DLM, refers to a value-based infrastructure that helps determine the right access, right performance, and right media. This is the physical infrastructure that delivers ILM and helps reduce the total cost of sharing information and making it accessible to users.

The second element, critical to any thorough ILM strategy, involves security. Who has access? How is identity verified? And how is the information protected? Security is essential to comply with industry regulations (such as the California Database Protection Act and pending federal database protection legislation), restrict access to sensitive information, and help protect your organization by mitigating risk.

The third integral element is systems and application integration. Although some vendors can offer the benefits of an end-to-end product line and broader experience, typically no single vendor has *all* the pieces needed for a customized, comprehensive ILM strategy that best meets your particular business needs. An open systems approach that assembles best-of-class components and involves ISV partners helps result in the best possible solutions for your organization.

## Chapter 4

# Sun Microsystems – the Choice for ILM

With the depth of experience that comes with over 20 years as a systems vendor, it's no surprise that Sun takes a thorough systems approach to ILM. Sun understands that ILM isn't about a box and, because of this, only a systems company can deliver true ILM. Sun's approach involves the three elements critical to a comprehensive ILM strategy: a DLM infrastructure, Security, and Integration.

### Sun's Complete Information Ecosystem for DLM

The data explosion has changed the rules for information management, calling for a more holistic approach. Sun's Information Ecosystem, which addresses every aspect of data—from creation to deletion and everything in between, meets this demand. Sun's wide range of offerings include everything from the OS to servers, storage systems, NAS appliances, SAN infrastructure devices such as tape and switches, and an extensive storage software line featuring services such as management, backup and recovery. No other company can provide storage solutions so tightly integrated into overall data center systems, from the operating system and application software to server and storage hardware. The result is a true Information Ecosystem that manages data like never before and helps organizations leverage information for maximum growth and profit. Sun's complete infrastructure for DLM enables your organization to stop keeping data just for the sake of keeping data – with Sun's help you can start using your data assets to reduce risk and reap maximum profit for your business.



### Sun's Security and Identity Management Tools

Security is absolutely critical to ILM. As recent newspaper headlines have illustrated, when companies lose or mishandle information such as customer credit card numbers or other personal data, it is not only embarrassing—it can cause irreparable harm or damage to the people whose information was stolen as well as to the company itself. Sun's Solaris 10 operating system and security and identity management tools are key pieces of the puzzle that keep information safe.

Three requirements for a secure infrastructure are authentication, access, and containment. 1) A person's identity must be *authenticated* and a system put in place for verification of identity, 2) there must be an efficient, automated way to provide *access* and a unified view of your organization's information for those who need it, such as customers, operations, management, HR, or former employees, and 3) information must be controlled and *contained* appropriately, using preemptive and defensive techniques, to ensure it is kept out of the wrong hands. Sun can provide the critical security and identity management tools needed to develop an infrastructure for a secure system. Sun's identity

management products provide a unified portfolio for using, sharing, and managing identity information. The groundbreaking Solaris 10 operating system brings to market identity security, data security, access security, application security and system security. Representing 3,000 engineering years and a \$500 USD million-plus R&D investment, Solaris 10 contains more than 600 innovative new features and is the most advanced UNIX(R) operating system ever. Security and identity tools are built in, offering a level of integration that creates a huge advantage for organizations running secure environments. Solaris 10 is open, unified, and secure – meeting the needs identified as critical to a comprehensive ILM strategy.

### Sun's Integrated and Integratable Solutions

Sun's experience as a systems vendor enables the company to provide the seamless integration of systems and software to make ILM a reality. Sun experts can review an organization's needs regarding security, content management, and compliance requirements and provide the right infrastructure to support those needs, as well as the policy-based automation required to move information transparently between different tiers of storage, based on relevance. Sun offers pre-built, ready-to-deploy systems that include everything from the OS to servers, disk storage, tape libraries, software, and services. The reduced time to deployment afforded by these systems helps increase ROI and maximizes business opportunities. Sun's entire product line is supported by professional services and support teams with a depth of experience that enables them to customize storage solutions for every customer environment—from small organizations to large Fortune 500 enterprises. In addition, with our commitment to open standards and our more than 2000 partners, Sun can deliver integrated, customized solutions featuring best-in-class products and technologies to match your business needs.

#### Does Your Business Need To Execute An ILM Strategy?

1. Is your organization required to comply with industry regulations such as Sarbanes-Oxley, Gramm-Leach-Bliley, export controls, import compliance, or HIPAA? If so, are you confident you are in compliance?
2. Do you have a record retention plan that supports your financial and business needs?
3. Does your current storage strategy adequately protect your organization's data assets and reduce the risk of large fines or litigation?
4. In the event of a lawsuit, would your IT organization be able to quickly and efficiently produce all relevant documentation required?
5. Is access to your business data sufficiently secure, contained, and limited to the appropriate people?
6. Could inappropriate access or unavailability of data represent a catastrophe to your business?
7. Do your customers and employees demand 24x7 transparent access to information?
8. Is your IT staff able to quickly and efficiently backup and restore data, even in the event of a disaster?
9. Are you confident you are achieving maximum storage utilization?
10. As business data ages, do you have the infrastructure and policies in place to shift it automatically to more cost-effective storage media and technologies, based upon its relevance?

*Answering these questions can help your organization determine the urgency of starting the ILM process.*

## Chapter 5

# How to Get Started with ILM

A fast, simple way to get started with ILM for your business is to implement one of Sun's "ILM-ready" solutions, such as Sun's Content Infrastructure Solution or the Sun StorEdge™ Compliance Archiving System.

### **Sun Content Infrastructure System**

Designing, developing, and deploying a comprehensive content management system can be complex, time-consuming, risky, and expensive. To help simplify and streamline the process, Sun developed the Sun Content Infrastructure system—a cost-effective solution that addresses the full range of data management issues, including backup and restore, business continuity, media management, archive policies, asset management, and more. The system is a fully assembled, tested, configured, multi-tiered platform that enables organizations to accelerate the deployment of an ILM strategy. It integrates easily with partner offerings and features WORM functionality as well as the choice of FC or SATA disk. The Sun Content Infrastructure System reduces the cost and complexity of content management and secure compliance, and provides organizations with a highly available, fully redundant system that's easy to use, ready to deploy, and simple to manage.

### **Sun StorEdge™ Compliance Archiving System**

The Sun StorEdge Compliance Archiving System stores and protects vital data assets to reduce risk, help ensure regulatory compliance, and increase competitive advantage. Typically installed in 15 minutes or less, the system combines the Sun StorEdge 5310 NAS appliance and Sun StorEdge Compliance Archiving software to create a NAS "lockbox" that helps protect your business and mitigate risk very quickly and cost-effectively. The system is simple to manage and supports multiple platforms, such as Microsoft Windows and UNIX. Features include software-enforced non-erasable, non-rewritable "WORM" disk and advanced security features for authenticity and integrity. Flexible configurations include options for FC or SATA disk and cluster support, to match business needs for availability, capacity, and performance.

The Sun StorEdge Compliance Archiving system can be integrated with applications such as Vignette(R) Records & Documents application software to provide organizations with complete end-to-end management of assets such as documents, emails, and images from the capture/ingestion stage through archival retention and ultimately disposition based on business processes and policies. An organization's entire content can be captured and managed on a day-to-day basis in accordance with business processes and accessed anywhere, anytime via secure Web access. Assets are transferred automatically to a storage archiving system, such as the Sun StorEdge Compliance Archiving System, which provides long-term record retention with guaranteed content authenticity. This enables organizations to continue to improve the efficiency and responsiveness of their processes while meeting increasingly stringent regulatory obligations.

## Chapter 6

# Summary

The explosion of documents, records, web content, and digital images poses a challenge to today's Content Enterprise. Information Lifecycle Management (ILM) is mission critical for businesses that want to compete in today's marketplace and increase revenue, decrease costs and meet regulatory and business compliance policies. As a systems company, Sun can provide the comprehensive ILM solutions needed to meet today's strategic business needs. Sun offers an Information Ecosystem that enables businesses, governments, and service providers to accelerate the deployment of ILM solutions to reduce risk and manage content complexity in the enterprise. Only a systems company like Sun can deliver true ILM.

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