



Doculabs MarketFocus White Paper:

The EMC Centera/Documentum Solution

Analyzing its fit for compliance, enterprise content and records management, and information lifecycle management (ILM)



Information Lifecycle Management (ILM) is a concept that is rapidly being adopted in large organizations. ILM is about effectively treating information as a resource (just like human resources and capital equipment); that is, organizations should manage and leverage information as an asset, reduce its risks as a liability, and reduce the costs of keeping it. ILM is not a product or service, but a strategy that is based on the concept that the way organizations use their information assets changes over time, and the importance and business relevance of the information to the organization also changes over time.

EMC and Documentum (a division of EMC) offer advanced storage management and enterprise content management technology solutions. EMC and Documentum are unique in the industry because they offer a joint solution for ILM that includes content and records management application software, advanced storage management hardware, and storage software. Thus, customers can get the elements they need for ILM from a single vendor, rather than arbitrarily assembling multiple technologies and components.

Doculabs was recently commissioned by EMC and Documentum to review the organization's strategy and approach for delivering ILM solutions. This report provides Doculabs' perspective on the key business drivers for ILM, and how EMC and Documentum address these drivers.

What's Inside

The Business Case for Information Lifecycle Management

Describes the concept of Information Lifecycle Management (ILM) and highlights a number of key business drivers and market drivers for ILM.

The EMC/Documentum Approach

Provides an overview of the EMC/Documentum approach, identifies the components of the solution, and explains how the combined solutions address key ILM challenges.

Solution Scenarios

Provides a number of solution examples and implementation scenarios that explain how Documentum and EMC Centera can be deployed to address organizational ILM strategies and application priorities.

Case Study Examples

Provides brief summaries of real-world examples that illustrate the business value that the combined EMC/Documentum solution can deliver while addressing ILM requirements.

Business Benefits

Highlights a number of key business benefits that the combined EMC/Documentum solution can deliver, illustrating how customers can take advantage of the combined solution to realize the value of their ILM strategies.

Final Word

Provides Doculabs' overall opinion of the combined EMC/Documentum solution.

Appendices

Outlines a number of key questions that organizations should ask themselves when developing their ILM strategies, and lists a number of regulatory bodies that impose compliance requirements in particular industries.

The Business Case for Information Lifecycle Management

Information Lifecycle Management (ILM) is a concept that is rapidly being adopted in large organizations. ILM is about effectively treating information as a resource (just like human resources and capital equipment); that is, organizations should manage and leverage information as an asset, reduce its risks as a liability, and reduce the costs of keeping it.

ILM is not a product or service, but a strategy that is based on the concept that the way organizations use their information assets changes over time, and the importance and business relevance of the information to the organization also changes over time. Thus, it makes sense to have a strategy, policies, and supporting systems for intelligently managing these changing information requirements in a cost-effective manner, providing services that are appropriate for any given stage of the information lifecycle – from creation to deletion. This ensures that the access “service level” for a given piece of information is in alignment with the way the information needs to be used at any particular stage, within any business process.

There are many reasons why organizations are adopting ILM as a strategy. In general, the business drivers that justify ILM investments fall into three categories: business improvement, risk reduction, and IT efficiencies. An ILM strategy addresses all three areas in accordance with your business’ requirements and priorities (as highlighted in the table on the following page).

ILM is also gaining traction as a result of the huge volumes of unstructured information that exist in most organizations today. This information takes on many forms, including images, office documents, computer-generated reports, graphics, engineering drawings, multimedia files, and e-mail. Most industry analysts estimate that this unstructured information makes up more than 80 percent of the information in most organizations.

If organizations are to improve their businesses while reducing their risk, they need sound strategies and solutions for managing these information objects throughout their lifecycles. This is especially true for content that is under increased scrutiny due to existing and emerging regulatory requirements and stringent records management demands in the wake of corporate accounting scandals. Such content is often “fixed” content that cannot be changed and must be retained in its final (static) form for compliance reasons.

Technology is at the heart of ILM, and organizations implementing ILM often review many different products from a wide variety of vendors. Some of the solutions that organizations can leverage in their ILM strategies include content management systems, records management systems, e-mail systems, storage systems, and storage management systems, to name a few.

In most cases, this means that organizations pursuing ILM must deal with multiple vendors and applications, and the associated systems may be misaligned when dealing with how the information should be managed. Although few vendors can bring the multiple aspects of ILM together in a cohesive fashion, organizations implementing an integrated ILM solution (which includes storage management, enterprise content management, and records management technologies) will be able to manage their information far more effectively than those who adopt disparate point solutions.

An integrated approach to ILM distinguishes between the relatively small amount of content that organizations must keep for compliance or other regulatory reasons, and the vast amounts of content that does not necessarily need to be retained, allowing for appropriate and efficient deletion. Most inefficiencies in managing content over the long term stem from organizations keeping vast amounts of content they don't need to, resulting in unnecessary cost, ineffective records management, and inefficiencies in accessing the right information quickly. By themselves, storage systems, ECM systems, and records management systems can't address these issues, but when tightly integrated, can be extremely powerful tools.

Business Drivers for ILM

Driver	What Organizations Need	How ILM Can Help
Business improvement ("offense")	<ul style="list-style-type: none"> ▪ Take full advantage of the information that exists within the organization ▪ Reduce inefficiencies ▪ Save time ▪ Save money ▪ Improve customer service 	<ul style="list-style-type: none"> ▪ Eliminate or minimize manual or paper-based processing ▪ Help users quickly find the information they're looking for, regardless of format or location ▪ Fast access for frequently-retrieved information
Risk reduction ("defense")	<ul style="list-style-type: none"> ▪ Compliance with industry or government regulations ▪ Security and protection of sensitive information ▪ Business continuity ▪ Reduce the pain and cost of information discovery that can be required for legal inquiries or audits 	<ul style="list-style-type: none"> ▪ Policy-based management of information categorization, retention, and disposition ▪ Security at both the application layer and storage layer ▪ Information profiling and search to accelerate discovery ▪ Architectures that ensure data integrity and protection, promoting business continuity
IT concerns	<ul style="list-style-type: none"> ▪ Flexibility and scalability to address the organization's changing needs over time ▪ Ability to leverage existing IT investments ▪ Ability to leverage existing IT skills and minimize the need to support multiple new systems ▪ Cost effective approaches for information management 	<ul style="list-style-type: none"> ▪ A common infrastructure to manage and control multiple types of content in any format ▪ Ability to scale as volumes grow ▪ Secure retention on cost-effective media whose performance aligns with usage demands ▪ Ability to separate content that must be kept from the larger volumes of content that can be deleted (significantly reducing the volume to manage over time) ▪ Ability to purge the information as soon as policies permit ▪ A unified platform that can reduce infrastructure costs

Organizations are looking to ILM to help them address drivers for business improvement and risk reduction, while also addressing IT concerns.

The EMC/Documentum Approach

EMC is the world leader in information storage systems, software, networks, and services. In 2003 EMC acquired Documentum, which provides an integrated software platform that addresses the full range of enterprise content management (ECM) and life cycle management requirements – including document management, web content management, digital asset management, records management, collaboration, and e-mail management.

EMC and Documentum are unique in the industry because they offer a joint solution for ILM that includes content and records management application software, advanced storage management hardware, and storage software. Thus, customers can get all the elements they need for ILM from a single vendor, rather than arbitrarily assembling multiple technologies and components.

ILM requires that information be effectively managed at multiple layers. It requires good content control and access capabilities at the front end, where users interact with the content; it also requires sound back-end information management storage to provide a secure vault for information storage.

On the front end, Documentum provides an object-oriented repository that contains the “content store,” where the content itself is managed, and the “metadata store,” where metadata (data about the content itself) is managed in relational databases. The content store (which is the logical repository for content such as documents, images, e-mail messages, and rich media) can be mapped to suitable physical storage media such as storage area networks (SAN), network attached storage (NAS), and content addressable storage (CAS) to meet customer requirements for availability, performance, and cost of ownership.

At the storage layer, EMC provides multiple approaches that can support ILM strategies in conjunction with the content management layer on the front end. For example, Documentum metadata can be stored on EMC SAN devices, which offer the highest performance and availability and are typically used to store transactional data managed through relational databases. Documentum-managed content can be stored on NAS devices, which offer high performance, availability, and scalability requirements in a multi-protocol environment where a SAN infrastructure is not a requirement (such as in file serving applications). Finally, “fixed” content (unchanging digital assets retained for active reference and long-term value, such as records under the control of Documentum Records Manager) can be stored on EMC Centera, which is a CAS device that is optimized for fixed content and provides functionality not available in tape, optical, or traditional disk solutions.

Thus, the combined EMC/Documentum approach gives organizations the flexibility and power of managing the information both at the application software layer and at the storage layer. In addition, the solutions are DoD 5015.2-certified, underscoring their fitness for records management and compliance applications.

Solution Components

Integrating the Documentum Enterprise Content Management platform with EMC networked storage platforms and services helps address various storage requirements at different stages of the information lifecycle. With this solution, customers can ensure that highly valued content that must be immediately accessible or frequently accessed is stored on high-performance storage, while archived content is moved to EMC Centera for long-term retention. EMC Centera enables companies to meet the unique requirements of storing and managing “fixed content”—unchanging digital assets that require online access along with assured content authenticity and scalability.

The major components that Documentum and EMC provide for such fixed content management scenarios are the following:

- At the application software layer, Documentum’s content management platform provides a repository for managing nearly any type of electronic content. The Documentum Content Server provides all the services that organizations require for true enterprise content management, including services for content creation and modification, access control, publishing, and distribution.

Documentum also offers Documentum Records Manager, a full-featured records management solution that enables organizations to effectively manage those content objects that are declared as records. This allows records to be organized and managed according to established classification plans, with full audit trail capabilities and the ability to track retention and disposition schedules. To help automate the process of classifying content objects in the Documentum repository as records, organizations can use Documentum Content Intelligence Services (CIS).

- At the storage layer, EMC Centera provides an efficient, secure, tamper-proof storage platform, storing information in non-erasable, non-rewritable form while providing users with fast, online access to stored content. The magnetic-based hardware and software solution allows a single administrator to manage up to 160 terabytes of stored content.

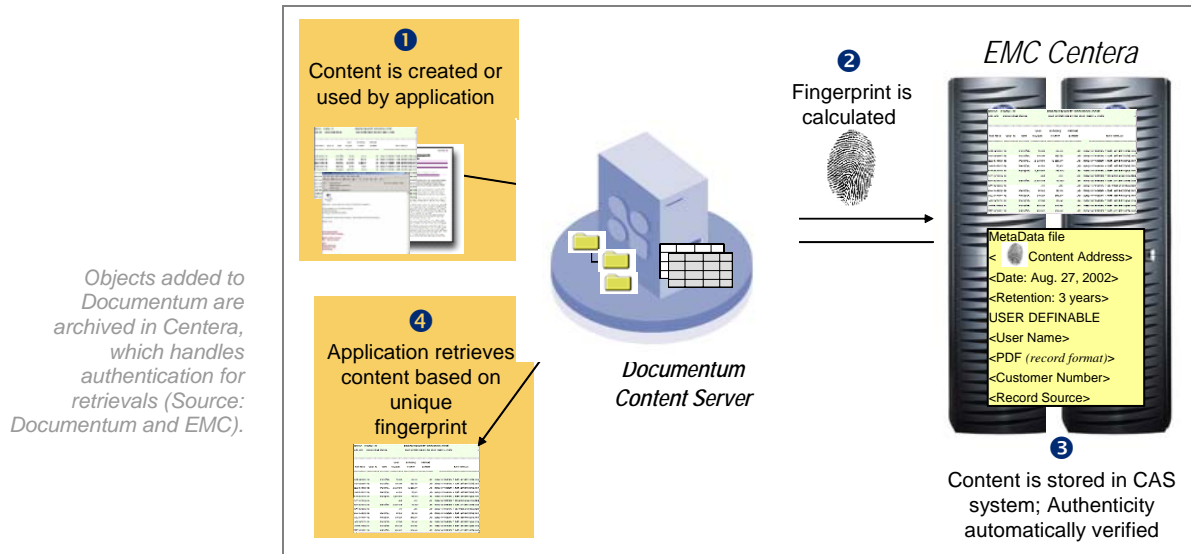
Centera uses an approach called Content Addressed Storage (CAS) in which each content object has a “digital fingerprint” – a unique identifier that enables content to be managed at the object level and ensures content authenticity. Centera also offers advanced features to insure content integrity and business continuity. These include “self-healing” capabilities that continuously monitor the system to detect and repair errors, and content mirroring to maintain duplicate copies and enable automatic recovery across Centera clusters.

For more rigorous compliance applications, EMC offers Centera Compliance Edition. The solution allows stored content objects to be managed according to established records management policies. This allows objects to be fully deleted when its retention period expires, and prohibiting the premature deletion of content. Such features are critical to ensuring compliance with regulations such as Sarbanes-Oxley, SEC Rule 17a-4, 21CFR Part 11, and HIPAA.

How it Works

The Documentum components (Content Server and Records Manager) are natively integrated with the Centera API. This allows Documentum to write objects directly to Centera instead of a file system. Object metadata is still stored in a relational database and managed by Documentum at the application software layer.

Users can add information and attributes to Documentum under the organizational file plan, and retrieve it from Centera online. Centera remains transparent to users, providing reliable storage and automatic authentication for content retrieval. Each object is assigned a unique content address or “fingerprint”, and is managed at the object level – enforcing Documentum-defined retention and destruction periods on individual objects (as opposed to volumes of objects stored on an optical disk or tape). The system can securely and completely dispose of a record by overwriting it seven times.



Solution Scenarios

This section provides a number of solution examples and implementation scenarios that illustrate how Documentum and EMC Centera can be used to address organizational ILM strategies and application requirements.

Solution Examples

EMC Centera and Documentum components can be used in various combinations to address different application priorities for ILM. The following table identifies a number of application priorities, and the EMC and Documentum components that can be used together to address them.

Application Priority	Solution Components
Management of high volumes of "fixed" content	<ul style="list-style-type: none"> ▪ EMC Centera ▪ Documentum Content Server
Enterprise content management (dynamic and fixed content)	<ul style="list-style-type: none"> ▪ EMC Centera ▪ Documentum Content Server ▪ Documentum Content Intelligence Services
General records management	<ul style="list-style-type: none"> ▪ EMC Centera Compliance Edition ▪ Documentum Records Manager ▪ Documentum Content Intelligence Services
Sarbanes-Oxley compliance	<ul style="list-style-type: none"> ▪ EMC Centera Compliance Edition ▪ Documentum Records Manager ▪ Documentum Content Intelligence Services ▪ Documentum Compliance Manager
E-mail archival/compliance	<ul style="list-style-type: none"> ▪ EMC Centera ▪ Documentum Content Server ▪ Documentum Records Manager ▪ Legato EmailXtender
Digital asset management	<ul style="list-style-type: none"> ▪ EMC Centera ▪ Documentum Content Server ▪ Documentum Media Services

EMC and Documentum components can be used in combination to address a wide variety of applications for ILM.

Implementation Scenarios: Using Documentum and EMC Centera to Support ILM Strategies

As organizations move forward with establishing and maintaining their ILM strategies over time, there are a number of key activities they must undertake. First and foremost, they need to classify their information and determine the rules and policies for how to treat the information. Once this is established, organizations need to implement tools to handle the policy-based management of the information, implemented in a manner that is cost effective and still ensures appropriate levels of accessibility, security, and performance based on the value of the information itself.

Documentum's content management technologies and EMC's Centera storage platform are among the key components that EMC provides to address ILM strategies. As mentioned, the combined Documentum/Centera solution delivers information management and protection at both the application layer and the storage layer. This gives organizations the flexibility to protect their information in ways that make the most sense for their business needs, or to impose checks and balances (such as ensuring that Centera-level policies provide safeguards over any user actions at the application software level).

When it comes to implementing Documentum and Centera technology solutions for ILM, organizations can deploy a solution in stages according to their near-term and long-term priorities, rather than committing to the whole solution from the outset. For example, organizations can:

- ***Start with a Documentum solution.*** Organizations whose concern revolves around organizing and classifying multiple types of content and reducing information silos can start with a Documentum solution. This allows organizations to immediately gain user productivity while instituting organizational control over content, and later migrate the content to Centera's robust platform as volumes grow and as the organization becomes ready to extend its content and records management disciplines to the storage layer.
- ***Add Centera to an already-deployed Documentum system (5.2 and higher).*** Documentum Content Server 5.2 and higher offers native support for Centera. This means that files can be stored directly to Centera upon import and check-in, or moved to Centera through a migration job or change in life cycle state.
- ***Add Centera to an older version of Documentum (4.2 and 5.1).*** Organizations with an existing older deployment of Documentum eContent Server 4.2x and 5.1 can use Content Services for EMC Centera (CSEC) to provide archive support for existing documents (but not direct storage at import and check-in).
- ***Add Documentum to an existing Centera deployment.*** Organizations using Centera in conjunction to another application can derive significant benefit from adding Documentum. With this approach, organizations continue to reap the benefits of Centera's advanced storage infrastructure, while adding the application-level control and comprehensive content management functionality that Documentum's solution provides.
- ***Start with both Centera and Documentum.*** Organizations requiring maximum control over their content for offensive, defensive, and IT requirements should consider deploying both Centera and Documentum from the start, and using the combined functions of the application layer and the storage layer to ensure ironclad control, retention, integrity, and security.

Case Study Examples

This section includes three examples of how the combined Documentum-EMC Centera solution can be used to support organizational ILM strategies.

Publicly-Traded Holding Company

A multi-billion dollar company has grown dramatically over the past few years through acquisition, and now consists of dozens of companies reporting to a central corporate headquarters. The combined entity has hundreds of thousands of employees.

Each individual operating company complies with the regulations of its particular industry. At the corporate level, though, the company had no approach for consolidating and centrally controlling the massive volumes of records, communications, and documents in order to comply with the records management implications of regulations such as Sarbanes-Oxley. In addition, the disparate IT systems used to generate or capture relevant records were decentralized across the individual businesses, making it difficult and costly to respond to discovery inquiries, such as requests to produce e-mail exchanged between specific individuals.

The company's approach was to first define an ILM strategy that prioritized records management policies and procedures, and then to deploy a system to centrally manage and store all electronic records in accordance with the defined policies and procedures. Documentum Records Manager provides the classification scheme, and gives the company options for user-initiated records classification or automated classification using Documentum's Content Intelligence Services. The records themselves are archived in multiple Centera systems, ensuring that the records are securely stored in unalterable form with full audit trail capabilities, and can be quickly accessed online by only authorized individuals.

With the combined solution, the company realized a number of benefits. Not only could the company demonstrate a sound technology infrastructure to support its compliance practices, it also greatly simplified the information discovery process, saving time and money while reducing risk to the organization. For example, the organization was able to respond to a subpoena for information in a matter of days instead of weeks or months, and was able to verify the existence and proper handling of records.

In addition, the company benefited from online access to records and better support for its day-to-day business processes. Finally, the company benefited from a business continuity standpoint by having a secure long-term archive that will remain accessible many years into the future, with the scalability to handle ever-increasing volumes of information.

Private Brokerage Firm

A small, independent brokerage firm uses hundreds of independent representatives to manage portfolios and transactions for its clients. Many documents are created or captured within the field offices, including account enrollment forms, customer tax records, or financial records needed for account setup, correspondence, etc. In addition, the company headquarters generates documents such as account enrollment kits, trade confirmations, client statements, monthly reports distributed to field representatives, correspondence, contracts, trading supervision policy documentation, and trade monitoring and sampling logs.

To support compliance with SEC regulations while simplifying business processes, the company deployed a combined Documentum/Centera system. The Documentum repository is used to centrally control documents created by headquarters, as well as documents from the representatives' offices, which the representatives add to the repository either directly from their desktops or via remote scanning.

The Centera system then archives all of the electronic records, which representatives access directly from their agent portals in order to service their customers. Centera's authentication and authorization capabilities ensure security and non-disclosure of sensitive customer data.

Manufacturer

A manufacturing company expands its capacity by constructing a new factory. A whole host of documents and records must be maintained and accessible throughout the construction of the facility, as well as once the facility is completed and ready for ongoing use.

Examples of key records used during the construction process include environmental studies, engineering drawings, construction bids, contracts, permits, tax records, and correspondence. Once the facility becomes operational, the organization must maintain records such as operation and maintenance reports, standard operating procedures, safety documentation and records, inventory records, shipping records, human resources documents, financial records, contracts, license agreements, and legal documents.

To ensure the accessibility and proper retention of all official records, the organization implemented a combined Documentum/Centera system. The organization defined a highly structured file classification plan in Documentum, and assigned specific users the responsibility of declaring key documents as records. The Centera storage back end provides the secure long-term archival of all records, and manages retention and disposition at the record level, based on the rules established within Documentum. Finally, the Documentum/Centera system ensures that key documents are online and readily accessible by authorized management and staff, improving their productivity in completing their day-to-day job tasks.

Business Benefits

Together, EMC and Documentum provide a high-volume, enterprise-class ILM infrastructure that allows organizations of any size to address requirements for business improvement and risk reduction. Specific business benefits of the combined solutions include:

- Operational efficiency improvements, such as reduction of manual processing and routing, reduction of paper storage, and faster access to key documents for customer service.
- Centralized control over corporate records, supporting established records management policies and practices to comply with government, industry, or corporate governance regulations
- The ability to manage information at both the application software layer and the storage layer
- Support for consistent policies across all records, providing a single system for managing records, and enabling the use of business rules for retention and disposition
- Assurance of secure long-term management and control over critical documents (and their versions) in non-erasable, non-rewritable form
- Reduced cost of information discovery (for audits, litigation, etc.)
- Assurance of information accessibility and record loss prevention for business continuity
- Scalability to accommodate increasing volumes of information over time in a cost-effective manner
- IT benefits from having a single integrated platform to maintain and administer, rather than multiple point solutions (reducing infrastructure costs)
- The flexibility to implement solutions in stages, addressing highest priority requirements first

Final Word

In an effort to improve business efficiency while reducing risk, organizations are embracing the concept of information lifecycle management (ILM) to more efficiently manage their unstructured content. Organizations need technology solutions to intelligently manage the archival and accessibility needs of their content assets as the business value and retrieval demands of the content changes over time.

EMC and Documentum provide a compelling joint solution for organizations implementing ILM. Since these solutions are delivered by a single vendor, organizations implementing them benefit from a sophisticated front-end content management and a tightly integrated, robust back-end storage management solution. Other ILM offerings that do not address both areas are inherently limited.

Appendices

Appendix A: ILM Strategy Questions

As businesses move forward in formulating their ILM strategies and technology approaches, there are a number of key questions they should ask themselves. For example:

1. Have you completed an inventory of the types of information you need to manage? Have you determined how this information should be classified, and the levels of service and accessibility required on this information?
2. Have you defined policies and procedures around information retention and disposition? Have you defined your information security and compliance policies?
3. Do you want to improve your ability to meet customer demands and improve operational efficiency? Do your users need faster access to relevant information in order to accomplish this?
4. Do you need to tie your Information Lifecycle Management strategy closer to your key business processes (e.g. accounts receivable or claims processing), applications, and initiatives (e.g. customer self-service)?
5. Do you have rigorous regulatory requirements for compliance, litigation risk reduction, and business continuity? Does this entail requirements for records authenticity, completeness, integrity, and disaster recovery?
6. Do you need to validate and audit your processes for creating and managing content?
7. Are your current systems and applications heterogeneous in nature, encompassing multiple platforms and multiple information management and storage approaches?
8. Are you strategically consolidating your IT resources for managing multiple types of content (such as images, documents, e-mail, and digital assets) throughout their life cycles (including creation, capture, organization, storage, collaboration, access, and distribution)?
9. Do you want to align your storage resources to the value of the data to the business at any given point in time, in order to meet usage demands while reducing the cost of storage where possible?
10. Do you need to centrally manage and control all of your information assets, with an integrated view into all information assets of your business, whether they are structured (i.e. transactional data) or unstructured (i.e. documents)?
11. What about e-mail? Do you need to address the way your organization manages e-mail, for regulatory compliance, litigation risk reduction, or operational cost reduction and efficiency purposes? Do you need to reduce the volume of e-mail you archive and manage?

Appendix B: Matrix of Sample U.S. Auditing or Regulatory Bodies by Industry

Industry	Regulations and Auditing Bodies
All public companies	<ul style="list-style-type: none"> ▪ Sarbanes-Oxley ▪ SEC ▪ FASB ▪ ISO
Brokerage and financial services	<ul style="list-style-type: none"> ▪ SEC (Rule 17a-3, 17a-4, etc.) ▪ NASD 3010 ▪ NYSE
Banking	<ul style="list-style-type: none"> ▪ USA Patriot Act ▪ Gramm-Leach Bliley Act
Government	<ul style="list-style-type: none"> ▪ Department of Defense (DoD) 5015.2 ▪ NARA ▪ Freedom of Information Act
Pharmaceuticals	<ul style="list-style-type: none"> ▪ FDA Good Manufacturing Practices ▪ FDA 21 CFR Part 11 ▪ OSHA
Healthcare	<ul style="list-style-type: none"> ▪ HIPAA

Sound ILM strategies can help organizations ensure that they are in compliance with key regulations and can respond to audit and discovery requests in a cost-effective manner.

About Doculabs



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Hundreds of leading organizations within the Fortune 1000 – from financial services companies to major technology software providers – have turned to Doculabs for assistance with their technology strategies.

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