

# The Path to Data Efficiency

A Comprehensive Guide to  
Intelligent Information Management



# What to Expect from This Guide

This guide provides a detailed overview of how Intelligent Information Management (IIM) technology simplifies information-based processes for organizations of all sizes. Whether you're looking to enhance security and compliance, boost collaboration, improve customer service, or generate a long-term financial ROI, this guide is the ideal starting point for your search for the perfect solution.



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# What is Intelligent Information Management?

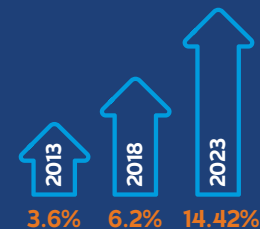
Information is the lifeblood of business, fueling processes and facilitating crucial decision-making. However, as organizations scale, this information can become difficult to manage, leading to bottlenecks, security concerns, collaboration issues, and other costly inefficiencies. Intelligent Information Management (IIM) solutions orchestrate how this information is accessed and transmitted across your organization, leading to tremendous benefits.

## Why Invest in Your IIM Strategy?

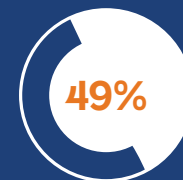
The adoption of IIM solutions is on the rise, with countless companies using these platforms to aid with:

-  **Compliance**
-  **Risk Reduction**
-  **Financial ROI**
-  **Productivity**
-  **Collaboration**
-  **Customer Service**

With growing economic pressures and a far more competitive labor market, many organizations are continuing to double down on investments in Intelligent Information Management solutions like document management. This trend can be summed up with the following statistics from AIIM:



The number of organizations using 7-10 information management systems has risen from 3.6% in 2013 to 6.2% in 2018 and 14.42% in 2023<sup>1</sup>



49% of organizations have achieved basic automation, with an additional 33% using integrated systems<sup>1</sup>



14.88% of information management professionals held senior executive roles, and 54.16% held mid-level executive roles<sup>1</sup>

1. <https://info.aiim.org/2024-state-of-the-intelligent-information-management-industry>

# Benefits of Intelligent Information Management

## ✓ Increased Security and Compliance

Regular audits require the safeguarding of documents and personal information. Organizations frequently implement Intelligent Information Management solutions to automate document retention, provide convenient access to records during audits, and restrict access to protected information to only those trained and authorized to handle it.

## ✓ Reduced Costs and Increased Productivity

Storage costs, compliance fines, inconsistent payment schedules, and revenue recognition all affect your organization's bottom line. IIM solutions solve these challenges while boosting productivity so that staff can focus on more valuable job functions.



## ✓ Improved Collaboration

Multiple file versions can often be confusing, and disjointed processes for passing off documents to approvers and other collaborators can lead to severe bottlenecks. Automated document routing, version control, and tools for approvals, redactions, and other collaboration efforts ensure your organization can work collectively and efficiently.

## ✓ Enhanced Customer Service

When retrieving information is time-consuming, customers are often left waiting for answers. By providing readily available access to countless records, your team can be ready to field any questions that come their way. IIM solutions with public portal functionality take this a step further by facilitating customers' self-service access to information.



# Finding The Right IIM Solution

Intelligent Information Management solutions come in countless forms, each with its own set of features, functionality, and capabilities. Understanding your information needs and the tools that will be critical to your success will allow you to quickly narrow your search and find the right solution for your business.

## Types of IIM Solutions



**On-Premise:** With an on-premise solution, your organization owns the software, which also means bearing additional responsibilities and costs. This often means paying for the software upfront, as well as any hardware and maintenance costs for the on-premise server. An experienced technician will also be required to keep the system running smoothly.



**Cloud-Based:** With a cloud-hosted solution, the responsibilities and costs of server maintenance are shifted to the provider for a monthly or quarterly cost. Adding additional resources to your solution can be as easy as flipping a switch. For web browser-based solutions, cloud-hosting has the added benefit of document access from any authenticated device.

Because many organizations find the shift in responsibilities and added benefits of cloud-hosting appealing, it has become the preferred option industry-wide for many years.



## Key Features to Look For



**Workflow Automation:** For streamlining document indexing, workflow automation is a powerful tool for storage, archiving, tracking and managing retention schedules, and routing documents through approval processes like invoices.



**Advanced Search:** If your organization handles a large volume of documents, advanced searching options can help you find what you need. For example, you can drill down to specific documents by layering index fields or applying Boolean logic (“and,” “or,” “not,” etc.) to distinguish how to layer these fields, which can filter out irrelevant results.



**Version Control:** If your documents often have different iterations throughout their lifecycle, being able to filter by document version can provide insights into what these documents contain and when.



**Collaboration Tools:** For documents that require revisions and edits throughout their lifecycle, the ability to add comments, redactions, stamps, and other editing marks eliminates the need to download or even print the document for these changes.



**Document Sharing Tools:** For documents that occasionally require collaboration outside of their typical departments, advanced sharing tools, such as timed document links and the ability to request access, can be highly effective for saving time and enhancing process flexibility.



**Mobile Access:** With organizations looking to leverage their documents and information in an increasing number of processes, this information needs to be accessible in more scenarios, such as during service calls, conferences, promotional events, and other situations where mobile access would be more convenient than a desktop application.



# Creating an Effective IIM Strategy

Creating an effective Intelligent Information Management strategy involves blending best practices and applying them to your organization's goals.

- ✓ **Setting Clear Objectives:** To establish your goals, look for areas of improvement within your business with highly repeatable processes and a proven return on investment from others in your field. An accounts payable department may want to automate the 3-way matching or invoice routing processes. A human resources department may want to streamline the completion of onboarding forms. It's also important to understand why you're automating these processes. Is it for better compliance, improved productivity, enhanced customer service, or something else?
- ✓ **Identifying Stakeholders:** Identifying who will be affected by this new solution ensures that their voices are heard and that their buy-in is considered, which can drastically affect the rate of the solution's adoption. Key factors to consider are who will be using the solution on a daily basis, who will be supporting it, and who will be managing change within their departments or divisions.
- ✓ **Establishing IIM Policies:** Understanding the privacy compliance regulations and retention schedules of your area will govern how you develop your policies. Without effective regulations, it's worth considering who within your organization will need access to each document type and for how long each document will be relevant.





# Document Capture: OCR, AI, and Machine Learning

An Intelligent Information Management solution must manage your organization's information effectively. This information must be in a leverageable form, making document capture a crucial component of any IIM system. It removes stagnant information from paper, PDFs, and other unusable formats to fuel your business processes.

## Types of Document Capture

Document capture comes in various forms, each designed for different workloads and circumstances. Below we outline each level of document capture as well as their pros and cons.



### Good: KeyFree Indexing

With KeyFree indexing, employees can quickly index documents using a simple click and highlight method. This OCR tool speeds up indexing compared to manual keystrokes but still requires human input to digitize each document.



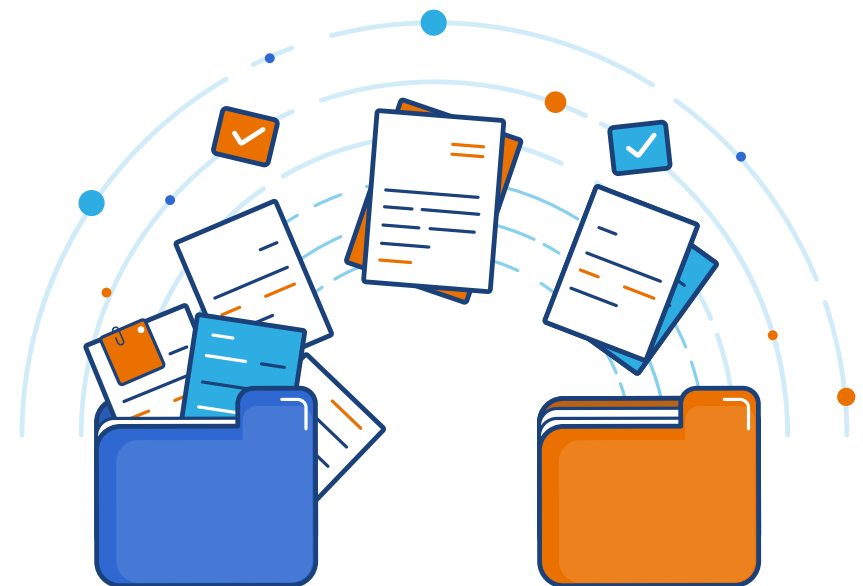
### Better: Templated Capture

Templated document capture can be a highly effective solution when the documents have a set layout. Templated capture can be a cost-effective method for mass extraction of internal or business partner documents where your company has control of the format.



### Best: Intelligent Document Processing (IDP)

IDP solutions use AI and machine learning technology to capture information from documents en masse regardless of format. These solutions yield unprecedented accuracy even when lifting header, footer, table, and densely packed information.



# Types of Intelligent Document Processing

Intelligent document processing (IDP) is the most effective option, but it still requires a strategic approach to implementation. Below are different types of IDP solutions, each with its own set of use cases.



**AI Models:** AI-assisted document capture uses large language models to contextualize documents and recognize the information that needs to be extracted. These models are trained on billions of data points and are typically designed for specific document types and use cases.



**ML Models:** Machine Learning models typically use Key-Value pairs which are trained to match the desired information to the surrounding context within a document. These models require far less data to train but must be trained on the specific documents and formats they are intended for.



**AI-Fueled ML Extraction:** AI can also contextualize human requests for specific extractable data, which can then be lifted using machine learning. This is a cost-effective way to extract information accurately without relying solely on AI and machine learning models.



# Going Paperless with Web Forms

Organizations may opt to capture information using web forms for complete end-to-end digitization. This further streamlines form-based processes and offers several additional benefits.

## Benefits of Web Forms

- ✓ **Streamlined Data Collection:** Web forms facilitate accurate data collection directly from those filling out the documents. For example, instead of lifting data from paper onboarding forms, vendors or hires can fill out these forms digitally so the data is immediately available.
- ✓ **Additional Automation:** Web forms can speed up form completion by populating fields with predicted inputs from previous forms or by automatically calculating numeric information.
- ✓ **Improved User Experience:** Web forms break complex forms into manageable chunks, displaying only fields relevant to the user. They also prevent fields from being filled with data that shouldn't be there. Dates, for example, could be required to be in DD/MM/YY format, preventing input errors.
- ✓ **Secure Data Management:** With all data existing only in digital form within a secure IIM solution, your organization can prevent leaks through loose paper forms full of personal information.

## Features to Look For

- ✓ **Automation Options:** Automation options like automatic calculations and predictive field population are not available in every web form solution, but their ability to drive efficiency during form completion cannot be understated.
- ✓ **Key Solution Integrations:** Integrating with additional solutions like human resources information systems (HRIS) and enterprise resource planning systems (ERP) allows web forms to share data with these systems, ensuring that your entire organization has access to the most accurate and up-to-date information.
- ✓ **Effortless Workflow Creation:** The ability to route web forms easily through automated workflows drives collaboration and eliminates bottlenecks. No-code workflow creation tools simplify the implementation process and allow your organization's internal admins to make changes as needed.
- ✓ **Live, Editable Forms:** Web forms that remain live and editable throughout the entire workflow allow approvers and collaborators to make necessary revisions during the process.

# Organizing and Archiving Information with ECM

Every IIM platform needs a way to organize and archive the information it manages. Enterprise Content Management (ECM) is the most effective avenue for this, offering tools for archiving, structuring, retrieving, and controlling access to this information.

## Access and Structure Options

- ✓ **Folder Structures:** Folders add layers of organization to your records, but with a well-indexed database that takes advantage of standard search techniques, there is very little practical need for folders. They do, however, add visual comfort that makes the solution more natural to end-users and allows access permissions to be applied en masse.
- ✓ **Metadata and Tagging:** Metadata and tagging are crucial to any ECM database. By associating documents with key information within, such as vendor names and invoice numbers for invoices or employee names and job titles for certain employee records, these records become instantly searchable using this information.
- ✓ **Version Control:** Some documents, such as contracts, undergo drastic changes throughout their lifecycle, and having multiple documents with the same metadata, tags, and similar content can become incredibly confusing. Version control condenses all of these document versions into a single indexed record. By selecting a date, these documents can be viewed as they were at any time.

- ✓ **Secure Data Management:** With all data existing only in digital form within a secure IIM solution, your organization can prevent leaks through loose paper forms full of personal information.
- ✓ **Public Access Portals:** For documents that require company-wide or external access, a public portal can serve as an effective repository for employees, customers, partners, and others to effortlessly find the information they need.





## Search Methods within ECM

- ✓ **Search capability** is one of the most essential functions for retrieving information within an IIM solution, and ECM provides a swiss army knife approach with various ways to archive and recall this data.
- ✓ **Index Searching** allows users to filter search results for their documents by specific words, numbers, and phrases associated with them. For example, a deal jacket for a car may include the VIN, make, and model as index fields.
- ✓ **Full-Text Searching** looks throughout the entire content of each document for data relevant to your search. This form of search is incredibly useful for e-discovery, contract searching, and other searches for specific phrases and details.
- ✓ **Filters, Sorting, and Logic** can be used to refine a search further. For example, layered searching involving multiple keywords can be combined with Boolean logic (words such as “and,” “or,” “not,” etc.) to show results that include, exclude, or require those additional words.
- ✓ **Document Sharing** for some ECM solutions, is secure, individuals can be granted direct access to records without typical access to a repository. These tools, including timed links and temporary access permissions, allow for flexible collaboration without sacrificing best practices.
- ✓ **Search Links**, which allows for the creation of saved shortcut searches, is an intuitive tool that some ECM solutions offer. This is especially useful for favoriting frequent queries and for facilitating beginner-friendly access to specific records, such as in the case of public portal systems.





# Ensuring Security

2023 saw a 72% increase in data breaches since 2021, which held the previous all-time record. Meanwhile, continued breaches cost organizations and individuals a collective average of \$4.88 million in 2024<sup>4</sup>. This troubling trend is putting tremendous emphasis on security for organizations adopting new solutions. Look for the following in your IIM solutions to make adhering to security best practices as simple as possible.

## Account-Based Access Controls

By ensuring each user's account only allows access to the information they need to do their job, you will enforce privacy compliance within your organization and limit potential breaches of sensitive information should that account be compromised.

## Two-Factor Authentication

Well-designed two-factor authentication systems can reduce the risk of account compromise by 40-50% ([cybercrime magazine](#)). Hackers are often stalled by requiring users to verify when they've attempted a log-in, and account owners are alerted, providing ample time to adjust login information, cancel an account, or take other preventative measures.

## Single Sign-On

Tying employee accounts together and tracking login activity under one domain gives system administrators crucial oversight to monitor suspicious activity and catch breaches before any damage is done.

## Compliance Certifications

Cloud solution providers with certifications in system and organization controls (SOC) compliance have been proven to work according to a high standard of information security, ensuring your organization's data is in safe hands. HIPAA compliance also requires highly secure handling of information to protect identifying and medical information.

- ✓ **Data Encryption:** Data encryption is a powerful tool for preventing unauthorized access to information. Locking data in a format requiring a specific key from an authorized account renders all information useless to would-be hackers. It's also important to consider whether the solution encrypts data in storage, during transit, or both, as doing one without the other creates periods of vulnerability that can be exploited.
- ✓ **Audit Trails:** Audit trails are exceptionally useful if unauthorized activity is suspected or activity fails to adhere to best practices. These logs contain all interactions with a record over a set period of time, including who accessed the record, when it was accessed, and what changes were made.

4. <https://www.forbes.com/advisor/education/it-and-tech/cybersecurity-statistics/#:~:text=Cybersecurity%20Fast%20Facts&text=Email%20is%20the%20most%20common>

# Record Versioning

Files of various types will likely change throughout their lifecycle, including edits, revisions, and approvals. Tracking these changes and the various versions that result from them is essential for collaboration, recovering from unintended errors, and providing a trail during audits.

## Tracking Changes

Audit trails provide a complete history of changes to a record, including who made the change, what was changed, and when. These trails show auditors that you fully comply with regulatory standards and can even help determine the cause of a breach.

## Version History

A record's version history records any changes to a document over time. This tool is incredibly helpful for examining past contract terms of agreement and restoring previous versions of documents in the event of unintended changes.

## Restoring Previous Versions

By selecting a previous version of a record in its version history and setting it as the default version in the database using version control, previous iterations of a document can be restored as the current one.



# Compliance and Legal Considerations

When it comes to managing information, several legal factors can affect the features you may benefit from in a solution:

- ✓ **Regulatory Compliance:** Retention mandates for documents such as invoices, contracts, and proof of employment require these records to be held for a set amount of time. This period varies by state; you can avoid steep fines and penalties by automating this process to delete documents only after their expiration.
- ✓ **E-Discovery:** Legal disputes are situations every organization tries to avoid, but should the need arise, being able to produce all records necessary for the case will help to bring about a swift resolution. Even documents not typically maintained in your IIM solution, such as email files, can be captured, indexed, and searched for relevant information.
- ✓ **Data Privacy:** With various types of personal information to protect and steep fines and legal repercussions for negligent breaches, account-based access permissions highly limit the possibility of breaches. Meanwhile, security measures such as encryption and cloud-provider certifications such as SOC and HIPAA compliance ensure your host is also doing their part to protect your data.



# Integration with Other Systems

Well-designed IIM solutions can integrate with various platforms, so if your organization uses other solutions to manage information, it's worth considering if the two databases can be tied together. There are several highly common solution types for IIM platforms to integrate with, including:

- ✓ **Customer Relationship Management** or CRM solutions offer key integration points with IIM platforms. Buttons can be created within the CRM solution for quick document referencing or to capture records directly into your CRM and IIM platforms simultaneously.
- ✓ **Enterprise Resource Management** or ERP solutions can receive data from paper documents, PDFs, and other files captured and indexed into your IIM solution. This data can generate payable invoices and code records into your organization's general ledger.
- ✓ **Email Integrations** for IIM solutions offer several compelling use cases. Such as inbox monitoring for specific emails to automatically download, file, and index. Distribution companies, for example, may import delivery confirmation emails this way.





# Backup and Disaster Recovery

Backing up your data is absolutely crucial. It protects against human errors, hardware failures, malware attacks, power failures, natural disasters, and more. Backups can save tremendous amounts of time and money if these events occur. In fact, 90% of businesses fail within 2 years after a disaster, in no small part due to a loss of crucial information.

## Disaster Recovery Planning

Like all solid business plans, a continuity plan should begin with clear and defined objectives.

- Note what scenarios the plan should cover.
- Set measurable goals to ensure your plan is meeting expectations.
- Discuss what level of productivity you wish to maintain after a disaster and what profit margin you believe your company can meet to analyze KPIs during a disaster.
- Discuss what business-critical functions you can support during a disaster.
- Setting these goals helps establish acceptable downtime and will significantly help you decide when and under what conditions your plan should be activated.

## Offsite Storage

Backing up your database to an offsite storage drive ensures that if a disaster occurs at one location, your data will be safe at another. With cloud IIM solutions, these backups are handled for you, allowing you to focus on more business-centric tasks and ensuring these backups adhere to best practices.

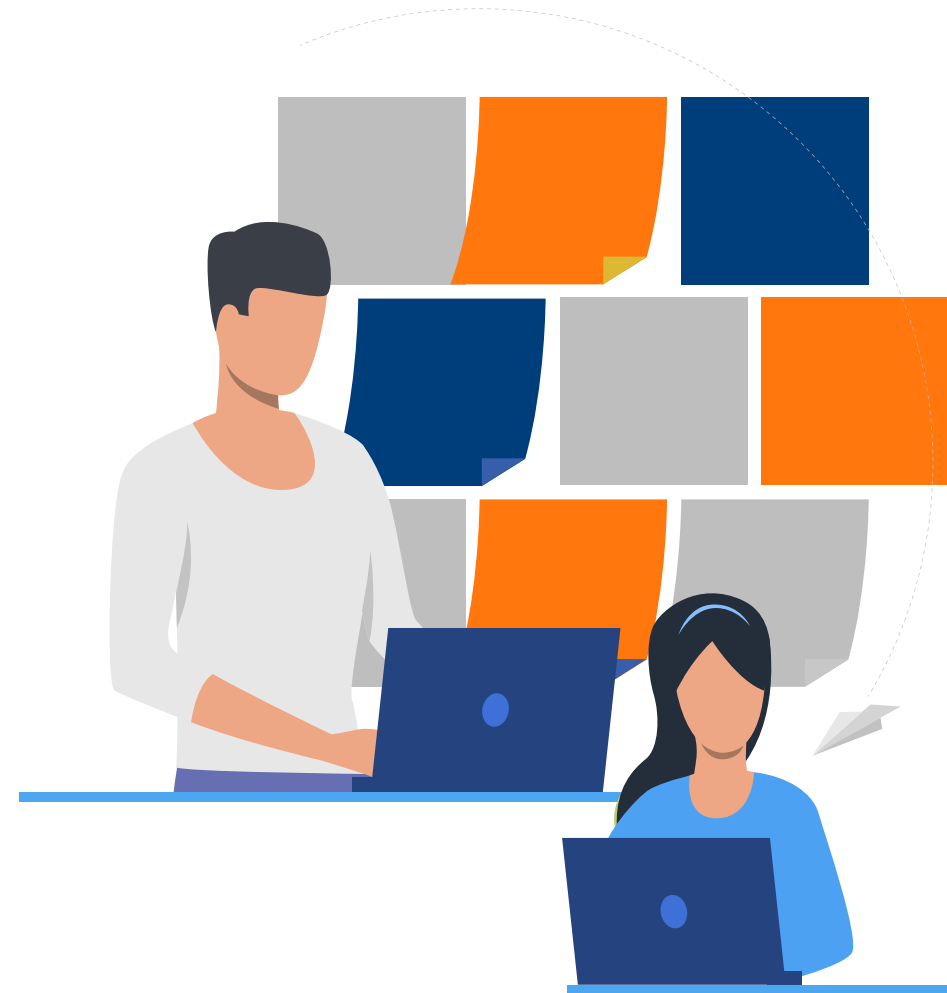




# Training and User Adoption

No one likes change, and it can be difficult for employees who have worked the same way for 20 years to see that better options are now available. Despite this, there are a few key ways to help your organization embrace its new solution.

- ✓ **Help End Users Feel Vested** by involving them in the solution selection process. Hear their concerns and input and explain the factors that made the final decision. This will help ease concerns about the suddenness of the change and show them that you are working with their best interests in mind.
- ✓ **Assign Someone to Manage The Transition:** A primary point of contact for any questions or concerns can help ensure a smooth transition and act as a liaison between your staff and your solution provider for additional assistance.
- ✓ **Provide Tools for Success:** Solution education, customer support, and self-help resources such as a knowledge base all ensure your solution kicks off without a hitch and your staff hits the ground running.



# Case Studies

## Towne Properties

Towne Properties is one of the largest privately held property management companies in the U.S., managing homeowners associations, condo associations, apartment communities, and commercial properties while owning numerous apartment communities of their own.

As a leading property management firm, Towne Properties' IT department regularly looks for ways to increase the efficiency of the organization's processes. One initiative was to reevaluate tasks involving more than two document touchpoints.

Using Square 9's Intelligent Information Management Platform, Towne Properties has cut process times in its accounting, payroll, and operations departments in half while enabling effortless access to information for investor meetings.



*"I have recommended Square 9 several times, and I always say 'try it' because until you do, you can't appreciate how easy it is. You're going to save money, you're not going to lose a lot of time on implementation, the benefits are going to be great, and it's very cost-effective."*

**- Bill Salyers**

IT Director at Towne Properties



# Future Trends in Intelligent Information Management

## ✓ Public Portals

Public portals effectively promote self-service access to crucial documentation throughout an organization or community. This functionality is most useful in government and human resources fields, where effortless, widespread access to documentation is often necessary. As helpful as this functionality is, it previously was far too resource-intensive for many solution providers to implement. However, with new ways of designing cloud infrastructure, public portals are a viable option that organizations can now leverage.

## ✓ Mobile Access

In an increasingly connected world where information and results are expected at a rapid rate, the ability to access information from any device has become a popular demand. With more lean technological infrastructure, solution providers can optimize their mobile experiences, implementing more advanced functionality and a more intuitive experience.



# Intelligent Information Management Terms

Before we dive in, it's important to note that a unique set of terminology has developed around document management to help describe some of the processes involved more simply. Below are some of the most common terms used in document management.

- ✓ **Optical Character Recognition:** Also abbreviated as OCR, it refers to the use of software to transform characters in image files into computer-legible text.
- ✓ **Capture:** Refers to obtaining data from outside sources, such as paper documents, PDFs, emails, web forms, etc.
- ✓ **Metadata:** Information used to provide information about other data and commonly used to organize and categorize records in an IIM solution.
- ✓ **Structured Content:** Well-defined data structured for use in specific software. A typical example is a database.
- ✓ **Unstructured Content:** Data that needs a well-defined format and may be challenging to integrate into business software.
- ✓ **Archive:** Refers to a location for documents not typically used daily or, as a verb, refers to moving documents to this type of location.
- ✓ **Workflow Automation:** Streamlining and automating a series of manual tasks within business applications, such as document routing or retention scheduling.
- ✓ **Version Control:** Refers to restricting access to specific document versions, usually to enforce the use of the most current version.
- ✓ **Search and Retrieval:** The use of search engine functionality to locate and retrieve records within an IIM solution.
- ✓ **Indexing:** The act of applying metadata to files within an IIM solution for easier searchability.
- ✓ **Audit Trail:** A record of changes to a database or file.
- ✓ **Compliance:** Adherence to applicable regulations such as mandated retention dates for documents, Standard Operating Procedures (SOC), and the Health Insurance Portability and Accountability Act (HIPAA).
- ✓ **Access Controls:** Refers to restricting access to records or information, usually for security or compliance purposes.
- ✓ **Integration:** The sharing of data between software solutions to add further efficiency, automation, or benefit.





**square9**  
Taking the Paper Out of Work

## How Square 9 Can Help

Square 9 is an AI-powered Intelligent Information Management platform that takes the paper out of work and makes it easier to get things done with digital workflows that automate many aspects of how you work today. We make it easy by extracting information from scans or PDFs, storing documents in a searchable archive, and building digital twins of your current processes through graphical workflows.

**Contact Square 9 for a no-obligation discovery session and see how transforming your government agency can lead to a more efficient, secure, and informed agency.**

**E:** [info@square-9.com](mailto:info@square-9.com) | **P:** 203-789-0889 | **W:** [square-9.com](https://square-9.com)