Abstract

Establishing and managing a comprehensive electronic records management program, with its all-important retention and disposition policies, typically leads most organizations to consider converting many of their active paper records to electronic records – by scanning the paper into electronic files and creating “digital image copies.”

This white paper addresses key legal questions associated with the conversion process, including:

- Are digital image copies legally as acceptable as “writings” and “original” paper records?
- What evidentiary hurdles must be overcome so that digital image copies are admissible in court?
- Can original paper records that have been digitally copied be destroyed?
- How does a company integrate the rules of evidence and case law into the management of records in a way that increases the admissibility and credibility of digital image copies?

In exploring the associated legal, technical and operational issues, this white paper seeks to help organizations make informed and favorable decisions to convert their paper records into digital image copies.

For those seeking an “Executive Summary,” see “Conclusions” on pages 42-43.
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Guiding the way to successful records management
1. Introduction

This section sets the context for this white paper. It details a) the “life blood” importance of records in the functioning of all organizations, b) the evolving rationale for converting paper records to an alternative media, c) the goals of this white paper and d) this white paper’s scope and structure.

1.1 The Importance of Records

Records are an indispensable and critically important asset. As the “life blood” of every organization’s operations, they facilitate all aspects of commerce and government. It is through their records that organizations review, analyze and document the specifics of their past actions and decisions – as well as define their plans for the future. With their respected accuracy, detail and completeness, records are recognized as the most trustworthy evidence of an organization’s voluminous transactions, processes and decisions. Always important in determining the outcome of disputes, records also are essential in achieving regulatory compliance with the intrinsic, ongoing regulatory requirement for organizations to “prove the negative.”

1.2 Evolving Need to Convert Paper Records to Alternative Media

Historically, the information comprising records was written on paper. Because of their bulk, these paper records typically were retained centrally.

- **Converting records from one media to another began in the 1930’s** with banks capturing on microfilm processed checks that were then returned to the customers.

- **Following World War II**, ever-increasing volumes and types of paper records were converted to microfilm in order to protect vital records, reduce needed records storage space, or facilitate the distribution of information.
Introduction

In the 1980’s, what previously had been converted to microfilm was increasingly converted to digital image copies on optical media in order to process and access the “original” records faster.

Throughout the 1990’s and into the new millennium, large volumes of paper records were converted to digital image copies as the need to rapidly communicate and share “time critical” records became essential to business operations.

These conversions of paper to alternative media were founded in three technological revolutions which, collectively, have changed records from media-centric to risk-centric – resulting in a “sea change” in the way records are created, distributed, retained and stored. Additional information about the “sea change” is provided in Section 5.3.

Although more than 95% of all commercial and public entities in the United States now employ image scanning and capturing technologies in some context,2 most organizations still possess vast volumes of paper records. Many of those paper records are actively accessed and, as such, are prime candidates for conversion to digital image copies – as part of every organization’s ongoing commitment to reduce costs as well as improve their productivity and service levels.

Converting those paper records to digital image copies can achieve compelling cost savings and productivity benefits. Additionally, digital image copies of paper records can mitigate compliance and legal risks3 by significantly improving both file integrity and records security.

Today, digital image copies are extensively used in business and government – where many billions of digital images containing copies of paper records are routinely used by a broad spectrum of organizations. Digital image copies are one of the most voluminous types4 of electronically stored information (“ESI”) and have an extensive “track record” of being admitted into evidence in legal proceedings (as detailed in Sections 2, 3 and 4 of this white paper).

Manifesting this widespread use of digitized image copies, the United States Federal Courts have an extensive electronic records management system (centered on the utilization of PDF and PDF image copies) for managing court records in all types of cases. The system, called Case Management/Electronic Case Files (CM/ECF), enables the electronic filing, storage, and retrieval of court papers. When a document has been filed electronically with the court, it then is the official record of the court.
CM/ECF is now in use in 99% of the federal courts: 94 District Courts, 93 Bankruptcy Courts, the Court of International Trade, the Court of Federal Claims, the 9 Courts of Appeals and 4 Bankruptcy Appellate Panels. Millions of electronic documents have been submitted in federal courts – all without a single publicly researchable instance of a challenge to the integrity or legal admissibility of these court records. This widespread use of digital image copies in the administration of the federal courts has resulted in those electronic records containing filings and pleadings as having the same legal standing as filings and pleadings submitted in paper.

1.3 White Paper Goals and Reason for Being

This white paper seeks to provide:

- **Awareness** – To better understand organizations’ risks and opportunities regarding utilization of digital image copies,
- **Information** – To allay concerns about a) the legal admissibility of digital image copies and b) the legality of destroying original paper records converted to digital image copies, and
- **Motivation** – To expedite prompt consideration of the business options and benefits of converting paper records to digital image copies.

Realizing the need for independent, authoritative expertise to address the legal issues associated with converting paper records to digital image copies, IBM Corporation ([www.ibm.com](http://www.ibm.com)) engaged Cohasset Associates, Inc. ([www.cohasset.com](http://www.cohasset.com)), a highly respected management-consulting firm with extensive expertise and more than thirty-five years of experience regarding the legal, technical and operational issues associated with the legal admissibility of alternative media and the disposition of records. Cohasset’s assignment was to:

- **Provide up-to-date research,**
- **Include the insightful participation of a former United States Magistrate Judge,**
  and
- **Prepare this white paper documenting its findings and conclusions.**
The intended audience for this white paper is organizations seeking to:

- Reduce current operating costs (including legal discovery),
- Increase the knowledge of having digital image copies of paper records admitted into evidence in any type of legal or regulatory proceeding,
- Reduce legal risk, and
- Improve operational productivity.

This white paper strives to lessen the “weight of paper.” It also seeks to provide organizations with assistance to a) improve the management of their records, b) mitigate their compliance and legal risks, and thereby c) achieve better governance over their information assets.

The contents of this white paper should benefit management personnel representing legal, compliance, records management and information technology in organizations where business operations are still burdened by the “weight of paper.”

1.4 White Paper Scope and Structure

The scope of this white paper is limited to the United States of America and, for two reasons, the focus is primarily on federal rules, statutes and case law:

- State evidentiary laws are typically modeled to be in accordance with their Federal counterparts and
- With so many variations among the states, detailed consideration of all 50 states would require a large compendium. Accordingly, this white paper addresses state issues in the context of summary observations, commentaries and conclusions.

This white paper has nine sections. Following this Introduction, Sections 2 - 7 address key questions from the dual perspectives of a) the conversion of paper to digital image copies and b) the ongoing lifecycle management of those images. At the end of each of these six sections, former United States Magistrate Judge Ronald J. Hedges presents “a view from the bench” on the key issues addressed in that section. The goal of including a judicial perspective is to provide helpful insights that will both further the reader’s understanding of the legal issues as well as facilitate the ability of organizations, with the
advice of their counsel, to successfully deal with those legal issues. Section 8 details IBM’s capabilities to create and manage digital image copies and thereby assist organizations in meeting their evidentiary needs. Section 9 summarizes Cohasset’s conclusions. The Appendix details good image capture practices.

The information and perspectives contained in this white paper, with the exception of commentary associated with Judge Hedges, represent the views of Cohasset Associates. None of this white paper’s contents should be viewed or interpreted as legal advice. Advice of counsel should be sought for interpretation of all information viewed by readers having legal implications in any context.

Each IBM customer is responsible for ensuring its own compliance with legal requirements. It is the customer’s sole responsibility to obtain advice of competent legal counsel as to the identification and interpretation of any relevant laws and regulatory requirements that may affect the customer’s business and any actions the customer may need to take to comply with such laws. IBM does not provide legal advice or represent or warrant that its services or products will ensure that the customer is in compliance with any law.

IBM Corporation
2. Digital Image Copies Are Legally Acceptable

This section addresses the “legality” of digital image copies, detailing the legal foundation for digital image copies to be as legally acceptable as original paper records.

2.1 Legality of Digital Image Copies: A 30,000-Foot Perspective

Cohasset’s definition of a “legal” digital image copy is broader than a digital copy that is suitable merely for litigation. In this white paper, “legal” can mean a) proper or sufficient to be recognized by the law, b) recognized by the courts, or c) competent or adequate to fulfill the requirements of the law.

A legal document is one that is:

- Recognized by statute,
- Recognized by government agencies,
- Recognized by state governments, or
- Admissible in litigation, meaning that the digital image copy is the type of record that courts have admitted into evidence as trial exhibits. The specifics of how the copy clears long-standing evidentiary hurdles for being admitted are addressed in Section 3.

It is Cohasset’s conclusion that digital image copies should be legally acceptable as records in a broad spectrum of legal forums because, at both the federal and state levels, digital image copies are recognized by statute and government agencies.
2.2 Electronic Transactional Records Explicitly Deemed Valid By Certain Statutes

Recent federal and uniform laws (model state laws intended for state-by-state adoption) that address the enforceability of electronic business, commercial and governmental transactions clearly manifest that ESI created in the making of contracts (born-digital) shall not be held to be invalid merely because these are electronic as opposed to hard copy “paper” in nature. These laws demonstrate that the legal system validates ESI in the electronic commerce arena. For example:

- *The Federal Electronic Signatures in Global and National Commerce Act (“E-SIGN”)* gives electronic signatures and contracts in interstate commerce the same legal standing as paper-based.  

- *The Uniform Electronic Transactions Act (“UETA”),* a model law approved in 1999 for adoption by individual states, is intended to validate the use of e-records and e-signatures that relate to online transactions. UETA provides that existing state laws requiring a “writing” for such transactions are satisfied by e-records; similarly, laws requiring signatures are satisfied by e-signatures.

These laws establish a series of tests to ensure that transactional records born digital are legally equivalent to paper records. They therefore also can be instructive as to how e-records (including digital image copies) should be kept and managed.

2.3 Digital Image Records Allowed by Federal Regulatory Agencies

Organizations today are guided by a plethora of regulations promulgated by federal and state agencies. In the course of the last twenty-five years, regulatory records requirements have evolved to manifest that the content and format of electronic image copies is an official and acceptable record.

Agencies set forth their requirements:

- *Directly by statute or regulation,*

- *Informally in “pocket regulations,”* which are exchanges of correspondence such as no action letters or

- *Via enforcement cases.*
In these three ways an agency may determine that electronic records, when kept appropriately, are legally acceptable at the agency level.

If a regulatory entity does not specify the form by which records related to their jurisdiction should be retained, organizations can presumably maintain their records in any form for compliance purposes. This includes records required for meeting filing requirements or being accepted as evidence in an administrative proceeding.11

Digital image copies are actively used by many regulatory agencies in their operational activities. This, in turn, has contributed inferentially to the widespread regulatory acceptance of digital image copies by agencies – that entities under an agency’s regulatory jurisdiction may use digital image copies in their compliance activities.

2.4 Digital Image Copies Are a “Writing” Under the Federal Rules of Evidence

Given the increasingly litigious way our nation’s business is conducted, it is important to consider the legality of digital image copies in court. The threshold question (in considering whether a digital image copy will be admitted into evidence in court) is whether the copy is a “writing.” It is clear that digital image copies are writings under the Federal Rules of Evidence (“FRE”)12 because those rules acknowledge a writing includes information:

- Created or stored in any electronic medium and
- Retrieved in perceivable (human readable) form.

A digital image copy, however, is not automatically admitted into evidence simply because it is a writing. Like all potential evidence, digital or hard copy, it must first successfully pass several, long-established evidentiary hurdles (detailed in Section 3). Only then will a judge allow the digital image copy to be admitted into evidence.

2.5 Digital Image Copies Are Specifically Addressed in the FRCP

The process of admitting digital image copies begins well before a trial – usually in discovery, which, for federal civil litigation, is guided by the Federal Rules of Civil Procedure (“FRCP”). To address the massive volume of ESI, (including digital image copies) produced by parties in the pretrial phase of litigation known as discovery, the
2006 amendments to the FRCP compel litigants and courts to focus on ESI\textsuperscript{11} to reduce the frequently significant cost and legal problems associated with ESI discovery.

Various provisions of the FRCP now incorporate all ESI (born digital and digital image copies) into the discovery phase of federal civil litigation. These include:

- \textit{Rule 26 (a)(1)(B)} requires mandatory initial disclosure of categories and locations of ESI.
- \textit{Rule 26 (b)(2)(B)} requires parties to be prepared to assess the accessibility of their ESI for undue cost or burden.
- \textit{Rule 26 (f)} imposes on the parties to meet and confer early on to address preservation, form of production and protection of privilege for ESI.\textsuperscript{14}
- \textit{Rule 34 (b)} provides, among other things, that ESI production may be in a form chosen by the requestor, or, as a default, “as kept in the ordinary course of business.”

Many believe that the 2006 FRCP amendments foreshadow a time when the norm will be to produce ESI (inclusive of born digital and digital image copies) rather than “original” paper. Even relatively old decisions recognize that in discovery decisions courts are often opting for ESI (inclusive of born digital and digital image copies) over the unwieldy and hard-to-search paper copy.\textsuperscript{15}

### 2.6 Judge Hedges’s Comments

Courts and agencies are no strangers to digital image copies. Indeed, electronic records appear to be generally acceptable as “originals” under various state and federal laws and regulations rather than what might be deemed by some to be archaic and cumbersome “paper.” Turning specifically to federal courts, the recent amendments to the FRCP provide direction and guidance to jurists, attorneys, and parties into the “world” of electronic records and how these should be addressed in litigation, as the FRE do for admissibility of those records.

It should be borne in mind, however, there must be compliance with these laws and regulations. Failure to do so may make problematic the validity or admissibility of digital image copies. Also, as described in this white paper, “compliance” and thoughtful, demonstrable processes should be the \textit{sine qua non} of any technology.
3. Entering Digital Image Copies into Evidence: The Rules, the Case Law and the Operational Implications

This section addresses how organizations, in seeking to admit digital image copies into evidence, go about following the rules of evidence and case law in dispositive hearings or at trials.

3.1 The Concept of Evidence and the Rules of Evidence

Evidence itself is a simple concept: Evidence includes testimony, writings, material objects or other things presented to the finder of fact (judge or jury) to prove or disprove the existence or nonexistence of a fact.

It is in the legal rules (the Federal Rules of Evidence (“FRE”) and the states’ adoptions of the Uniform Rules of Evidence (“URE”)) where evidentiary concepts become complicated. What evidence will be allowed by a judge to be considered by the finder of fact? Familiarity with the rules of evidence enables organizations to manage their ESI in a manner that better positions their ESI for admissibility in court.

3.2 The Big Difference: Admissible as Evidence vs. Admitted into Evidence

Whenever a Court rules on the merits of a case, be it at trial or, as likely, in a summary judgment motion, the Court may only consider evidence that would be admissible at trial; i.e., stringent standards for evidence must be applied to all evidence presented before a court on dispositive motions and at trial. Thus,

- All (100%) of the evidence considered by courts in dispositive motions and at trial should be admissible in accordance with the standards set forth in the FRE.
- Only a minimal amount of all admissible evidence is in fact admitted into evidence at a trial because over 90% of all federal civil litigation never goes to trial; i.e., ending with a verdict (decided by a judge or jury).
Accordingly, when creating and managing digital image copies, the processes employed need to consistently achieve a standard of quality that satisfies the admissibility tests a court would apply to all records even though:

- Only a very small percentage of an organization’s total volume of records (including digital image copies) typically would be considered by a court for admissibility purposes and
- Only a small percentage of those admissible records ultimately would be admitted into evidence by a court.

### 3.3 Evidence 101: Hurdles to Admissibility

All evidence, ESI or not, must meet basic evidentiary hurdles to be considered admissible at both the summary judgment phase or at trial:

1. **Relevance** – Under FRE 401, evidence must be relevant; i.e., it must have a tendency to make some fact that is of potential value to the case more or less probable than it otherwise would be. Under FRE 402, relevant evidence is admissible unless rendered inadmissible by some other rule or principle.

2. **Authenticity** – Under FRE Sections 901 and 902, evidence must be authenticated; i.e., it must be shown by the party introducing the evidence that it is what it purports to be. Authenticity can be established in a number of ways, including statements by a person knowledgeable about a type of record certifying that a) a record is as it should be and b) the person certifying is qualified to make such a certification. The metadata associated with digital image copies, like all ESI, can be helpful in the authenticity and admissibility processes.

3. **Hearsay** – Evidence offered for its substantive truth must either not be hearsay or must be admissible through an applicable exception. Hearsay is a statement (such as a document) other than the one made by a witness testifying at trial, offered to prove in evidence the truth of the matter stated. It is frequently considered in the context of the inability to conduct cross-examination; i.e., test the truthfulness of the information to be admitted into evidence.
4. **Overcoming Hearsay** – If the evidence is hearsay, then the profferor must demonstrate that the evidence falls under a hearsay exception (such as those set forth in FRE 803, 804 and 807) to have the evidence admitted. Such exceptions include the business records exception to the hearsay rule set forth in FRE 803(6) where, if it is demonstrated that this type of record is used and relied on in the regular course of business, there is a circumstantial probability that it is authentic and its contents are accurate.

5. **Original Writing Rule** – Under FRE 1001-1008, evidence must be either an original or duplicate under the “original writing rule” or, if not, the content of the evidence must be proven by admissible secondary evidence. These rules attempt to provide a guarantee against inaccuracy and fraud.\(^19\)

6. **Unfair Prejudice** – The probative value of the evidence must outweigh the danger of unfair prejudice or other factors. In short, under FRE 403, even if the evidence meets all other hurdles to be deemed admissible, a judge may still exclude the evidence if it unduly confuses the issues or misleads the trier of fact.

Figure 1 on the next page graphically presents these rules, showing in a flowchart both the sequence in which the rules are typically encountered and also the “route” of legal “hurdles” that may be necessary for an organization to have its born digital and digital image records successfully admitted into evidence.

Once the evidence has met these evidentiary hurdles and has been introduced into evidence, it is up to the fact finder (the judge in summary judgment motions, and either a judge or jury in a trial) to weigh the evidence. Every organization, in addition to ensuring that it meets the admission foundation, should seek to have its ESI manifest optimum credibility and trustworthiness such that it will be given great weight by the trier of fact; i.e., be persuasive to those making the decisions.
Figure 1 shows both the sequence in which the rules are typically encountered and also the “route” of legal “hurdles” that may be necessary for an organization to have its born digital and digital image records successfully admitted into evidence.
3.4 Electronic Evidence Admissibility: What the Courts Say

Courts have acknowledged that “there is a wide disparity between the most lenient positions courts have taken in accepting electronic records as authentic and the most demanding requirements that have been imposed.”20 This disparity should not be viewed as a reason for “taking our chances.” Rather, courts have cautioned that “unless counsel knows what level of scrutiny will be required, it would be prudent to analyze electronic business records that are essential to his or her case by the most demanding standard.”21

Cohasset believes that to manifest good faith in seeking to achieve “the most demanding standard,” all organizations need to proactively demonstrate:

- A commitment to “best practices” in the management of their records and
- A commitment to continuously improve the records management processes used throughout the lifecycle of their records.

This should be done well before litigation occurs or is contemplated.

Over time and many different legal forums, digital image copies have been routinely admitted into evidence. Federal courts have admitted data compilations (which include digital image copies) for more than thirty-five years. An often cited case is United States vs. Russo22 where the court accepted data compilations as admissible evidence and set for the following six-point foundation for their admissibility:

- Show that “an established business relies on the computerized records in the ordinary course of carrying on its activities,”
- Identify and demonstrate “the input procedures used” in the creation of the computer records,
- Identify and demonstrate the tests used to ensure the “accuracy and reliability” of the computer records,
- Identify and demonstrate “the accuracy of the computer as a memory bank. . . of information,”
- Identify and demonstrate “the accuracy of the computer as a . . . retriever of information,” and
- Satisfy the court “with all reasonable certainty that both the machine and those who supply the information have performed their functions with utmost accuracy.”
Recent federal decisions expand on this earlier standard of admissibility for electronic records. Two cases provide more specific guidance on how ESI can meet the evidentiary hurdles detailed in this section and Figure 1. In two of the most significant cases, the primary issue was the adequacy of the process by which the documentary evidence was authenticated:

- In *Lorraine*, the documentary evidence was not even authenticated by affidavit or otherwise; e-mail was simply attached to the parties’ motions as exhibits. The court held this non-authenticated evidence inadmissible.
- In *Vee Vinhnee*, the records custodian’s testimony at trial regarding computer equipment was vague, conclusory and unpersuasive. For example, he asserted computers could not change numbers. The court concluded the custodian’s testimony manifested a lack of software knowledge and therefore the ESI in question was inadmissible.

These two decisions show vividly the substantial legal risks and pitfalls of:

- **Making no foundational showing** by failing to establish authenticity, resolve potential hearsay issues or comply with the original writing rule or
- **Making an inadequate foundational showing** when seeking to enter ESI into evidence.

Even though there is very limited relevant case law, there is guidance regarding properly establishing an ESI foundation. For example, in *Lorraine*, the court accepted Professor Edward J. Imwinkelried’s eleven-part foundation for computer records (digital image copies are a type/subset of computer records).

Specifically, the Imwinkelried test requires a showing that:

1. *The business uses a computer,*
2. *The computer is reliable (this involves a showing that the computer is secure and trustworthy),*
3. *The business has developed a procedure for inserting data into the computer,*
4. *The procedure has built-in safeguards to ensure accuracy and identify errors,*
5. *The business keeps the computer in a good state of repair,*

6. *The witness had the computer read out certain data,*

7. *The witness used proper procedures to obtain the readout,*

8. *The computer was in working order at the time the witness obtained the readout,*

9. *The witness recognizes exhibit as the readout,*

10. *The witness explains how he/she recognizes the readout,* and

11. *If the readout contains strange symbols or terms, the witness explains the meaning of the symbols or terms to the trier of fact.*

### 3.5 Cohasset Associates’ Additions to the Imwinkelried Requirements

Cohasset believes that organizations also should satisfy three additional requisites to establish a legal foundation for admitting all types ESI in a legal proceeding. These Cohasset requirements are:

- *The business has established policies and procedures* – guiding the execution of specific activities and serving to enhance the quality with which those activities are performed. (This is significantly broader in scope than the #3 Imwinkelried requirement, which is focused on “inserting data into the computer.”)

- *The business demonstrates it has created and retained “management evidence” detailing (for future quality verification) who did what, where and when in the execution of the specific activities in the regular course of business* – showing that degree to which the policies and procedures were followed.

- *The business manifests that its “management evidence” was regularly audited for quality* – and, as part of an ongoing continuous improvement process, deficiencies were addressed and improvements were made to achieve high quality.
Cohasset believes these three additional requisites should be applied to digital image copies (and all other types of ESI) seeking to be admitted into a legal proceeding pursuant to the Imwinkelreid test. The importance of including these additions is manifested in the long standing litigator’s adage: “When the facts are weak, attack the process that manages the facts.”

If such an attack was successful on a records management process (i.e., records were deemed inadmissible because of a shortfall in the way they were managed over time) the consequences would be exponentially greater than if the inadmissibility was simply due to a limited scope issue associated with just one or only a few records. Inadmissibility due to a “process problem” would be more consequential because it would:

- **Apply to a much larger number of records** and
- **Extend over time**; i.e., in all future litigation involving the admissibility of any records managed by a “flawed management process”, the records would be subject to similar admissibility challenges – and, likely, also would be deemed “inadmissible.”

Given the much larger potential impact that a records management “process failure” could have on the admissibility of an organization’s records in compliance and court proceedings, Cohasset believes its three additions to the Imwinkelreid test should be viewed as “necessities,” not merely “niceties.” Cohasset therefore recommends that organizations proactively embed the use of management evidence (policies, procedures, operational information, and audits) into their efforts to continuously improve their records management processes.

For digital image copies, there is an allied rationale for also applying the three Cohasset requisites: Because the information contained in the images is converted (moved) from paper which is subsequently destroyed, there is no ability to recover the information if the images later are shown to have quality deficiencies incurred in either the conversion or the subsequent management process.

Collectively, the fourteen Imwinkelried/Cohasset requisites provide a “roadmap” to getting ESI introduced into evidence.
3.6 The Sedona Conference Commentary on ESI Evidence and Its Admissibility

Following the *Lorraine* decision, the highly respected “think tank,” The Sedona Conference® (www.thesedonaconference.org) published a commentary on the issue of ESI evidence and its admissibility. This commentary provides valuable insights on the admissibility issue and specifically references a spectrum of different types of ESI (i.e., e-mail, website postings, text messaging and chat room content, computer stored records and databases).

Interestingly, the Sedona Conference Commentary does not include any focused discussion of one type of ESI: digital image copies. This Cohasset white paper, with its singular ESI focus on the legal issues associated with the admissibility of digital image copies, ideally complements the Sedona Conference Commentary.

Metaphorically, the Sedona Conference Commentary can be viewed as a “donut” pastry as it addresses a spectrum of ESI types. In turn, this white paper then can be viewed as a “donut hole” pastry as it addresses a specific type of ESI that is not specifically referenced in the Sedona Conference Commentary. Together, The Sedona Conference Commentary and this Cohasset white paper provide a comprehensive focus on the legal admissibility issues of all the prevalent types of ESI currently in active use.

The Federal Rules of Evidence clearly manifest that the same rules of evidence apply to both ESI and hard copy. The Sedona Conference Commentary advises that, because of the nature of ESI media, organizations need to evolve the way they manage their ESI to a “best practice” standard that better conforms their ESI management practices to the challenges ESI likely will likely face in court. This should include:

- Identifying the creator/author of the ESI,
- Proving the ESI has been retained and stored in a secure system with a chain of control,
- Demonstrating that the ESI has not been tampered with or manipulated, and
- Showing that the networks on which storage occurs are secure.
3.7 Judge Hedges’s Comments

In a sense, it seems ironic that an organization’s total volume of records should be measured under a set of legal standards that bear no logical relationship to those records. This sense is, however, misdirected. It is true that only a small percentage of the total volume may ever be relevant to litigation, but the consequence of a ruling that some or all of that small percentage is inadmissible could prove very costly. Thus, an organization’s “process” should take into consideration what is needed to make digital image copies admissible. The admissibility standard is not a “high” one in many ways, but it must be met. Lorraine and the Imwinkelried/Cohasset tests point the way.

Cohasset has itself added the three requirements described above. These additional requirements, which focus on policies and procedures (“processes”), management evidence, and auditing, serve as logical extensions to Lorraine and the Imwinkelreid test, complement the Sedona Conference Commentary, and enhance the admissibility and “weight” to be given admitted digital image copies by finders of fact.
4. States Accept Digital Image Copies as Legal Records

This section addresses state laws, the rules of evidence and statutes which have provided an extensive legal baseline for the admissibility of digital image copies into evidence.

4.1 The Fifty States: Bonds of Commonality

Sections 2 and 3 primarily address digital image copies and the relevant federal law relating to legality and admissibility into evidence of digital image copies. At the state level, this legality and admissibility are treated similarly since state laws are typically modeled after their federal counterparts.

In order for a business document to be admitted into evidence in state courts, it should at least:

- Be deemed a writing,
- Be authenticated,
- Be shown to be relevant, and
- Be able to overcome any hearsay and best evidence challenges.

Among the fifty states, the evidence law of individual states takes many forms. It is beyond the purview of this white paper to define all these forms on a state-by-state basis. Although states differ in the ways and extent to which they adopt the language of these uniform rules and laws, Cohasset’s research found there is a widespread consensus: digital image copies are deemed to be writings that can overcome hearsay and best evidence challenges.\(^3\) The mechanism by which this occurs is most often an adoption (in whole or in part) of:

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Cohasset’s research found there is a widespread consensus: digital image copies are deemed to be writings that can overcome hearsay and best evidence challenges.
States Accept Digital Image Copies as Legal Records


- The Uniform Rules of Evidence ("URE") and
- The Uniform Photographic Copies of Business and Public Records as Evidence Act ("UPA").

4.2 The Uniform Rules of Evidence

Under the URE, copies, which can be established to be a business record, are admissible into evidence “to the same extent as an original.” Additionally, the URE define a duplicate as a counterpart produced by any technique “which accurately reproduces the original.”\(^{34}\) The URE substantially conform to the FRE.

States conforming to the FRE and the URE allow digital image copies to be admitted into evidence based on the best evidence rule and its permutations. For example, Florida provides that “data stored in a computer or similar device are originals, as are printouts or other outputs readable by sight and shown to reflect the data accurately.”\(^{35}\)

Similarly, state evidentiary rules employ hearsay exceptions such as the business records exception discussed in Section 3. Again, as an example, Florida will admit into evidence: “a memorandum, report, record or data compilation, in any form, if kept in the course of a regularly conducted business activity and if it was the regular practice of that business activity.”\(^{36}\)

4.3 The Uniform Photographic Copies of Business and Public Records as Evidence Act

The basis for states admitting digital image copies also can be found in the UPA,\(^{37}\) which establishes the admissibility of duplicate records as the original – as long as the duplicate was prepared by a “process which accurately reproduces the original.” UPA specifically states that a “reproduction” (such as a digital image copy) “. . .when satisfactorily identified, is as admissible in evidence as the original itself in any judicial or administrative proceeding whether the original is in existence or not. . .” Using language that is very similar to the language of the UPA, many states include the key elements of UPA in their versions of the rules of court.

State agencies generally allow digital image copies a) when there is a compliance requirement for filing purposes or b) in administrative trial-type hearings. Absent a specific state statute prohibiting the disposition of paper copies, an organization can presumably rely exclusively on digital image copies.
As set forth in the case law related to the more than forty-year acceptance of micrographic copies, the legal acceptance of all types of record copies is greatly enhanced when certain provisos are manifested in the copies seeking to be admitted. Those provisos are:

- *The copies were created in accordance with an organization’s documented policy,*
- *The copies were created in the regular course of business,*
- *The copies where created at or near the time of the event,*
- *The copies were created by experienced professionals,*
- *The copying process was subject to regular quality checking,*
- *There is evidence to demonstrate the quality of the copying work (who did what, when and where), and *
- *The copies were relied upon in the regular course of business.*

Where these provisos can be demonstrated, copies intrinsically possess a certain “circumstantial probability of trustworthiness” that can greatly facilitate their legal acceptance by a trier of fact; i.e., the copies are accurate, reliable and trustworthy and therefore should be accepted as the legal equivalent to the original record. These provisos are readily achievable and collectively manifest a level of professionalism that imbues the legal acceptance of copies is warranted.

Bottom line: if an organization can establish a proper foundation, digital image copies should be admissible into evidence given that most states have adopted the UPA or the URE.

4.4 Judge Hedges’s Comments

Perhaps, given the awareness of the FRCP amendments and “big” decisions rendered by federal courts, state law may be thought to be neglected or minimized. However, it must be remembered that most litigation takes place in the states and, in the context of such litigation, both state and not federal law must be adhered to. This should not prove problematic for organizations and may indeed be a subtlety. Nevertheless, the interests of the states must be taken into consideration.
5. Technical and Conceptual Issues Relating to Digital Image Copies

This section addresses three technical issues associated with digital image copies and concludes that digital image copies are as acceptable as the original paper records in any legal proceeding.

5.1 The Role of Digital Image Formats

The conversion of paper and micrographic records to digital image copies is accomplished using a digital scanner. The scanner divides every page into a very detailed grid of literally millions of picture elements (“pixels”). The reflectivity value of these pixels then is automatically measured by the scanner resulting in “dots” that then are converted to a stream of bits (zeros and ones) which collectively represent a “bit map,” an image manifesting the original paper record. There are instances where color scanning is desirable. Users, however, should recognize that color creates exponentially larger bit map files – an unnecessary added operational cost for black-and-white business records. Black-and-white scanning therefore is overwhelmingly used to convert paper records to digital image copies.

Digital scanners convert paper or micrographic records to one of three widely recognized image formats: TIFF, PDF and JPEG. All of these formats use compression algorithms (such as ITU Group 3 or 4)\(^8\) to reduce the size of the stored image.

- **TIFF (Tagged Image File Format)** – TIFF is the most flexible of the current public domain raster file formats. It is the de facto direct output format for most paper and micrographic scanners. The majority of stored scanned image records are in TIFF format that has been compressed using ITU Group 3 or 4 compressions.
• **PDF Image (Portable Document Format from Adobe)** – Acrobat Capture 3.0 offers four different variants of Adobe PDF for use with paper-based documents:
  - **PDF Image Only,**
  - **PDF Searchable Image Exact,**
  - **PDF Searchable Image Compact,** and
  - **PDF Formatted Text and Graphics.**

Because they offer lossless compression and do not provide alterable text, PDF Image Only and PDF Searchable Image Exact are the two formats recommended by Adobe for use with digital image records.

PDF/A provides a file format for long-term preservation of electronic documents, and organizations should consider it to maintain records that may be required as evidence at some point over their life. The PDF/A file format provides a mechanism for representing electronic documents in a manner that preserves their visual appearance over time, independent of the tools and systems used for creating, storing, or tending the files. See ISO 19005-1.

• **JPEG (Joint Photographic Expert Group)** – The JPEG format is typically used for storing photographic images, such as from digital cameras. It supports 8-bit-per-color (red, green, and blue, for 24-bit total) and produces relatively small file sizes. The compression, when not too severe, does not detract noticeably from the image. However, JPEG files can suffer generational degradation when repeatedly edited and saved.

TIFF and PDF image formats are the most frequently utilized output formats, both historically and currently, for digital image copies of scanned paper or micrographic business records.
5.2 The Revolution of Three Conversions

Converting paper to digital image copies is the culmination of the following three paper-to-alternative-media conversions:

- **Microfilming** significantly reduced three of paper’s most significant limitations (bulky volume, propensity to deteriorate and difficulty to distribute) by introducing an alternative media that could a) rapidly copy paper, b) cost-effectively duplicate images, c) efficiently store information and d) more effectively preserve and protect information originally recorded on paper.

- **Xerography and fax technologies** then fundamentally changed the long-standing, burdensome geographic limitations of paper by introducing the capability to easily and rapidly copy and distribute paper records.

- **Computers and the Web** then eliminated all of paper’s intrinsic media-based limitations by radically reducing the time required to create, capture, process, communicate and access information as well as redefining the media on which information is stored. The resulting unprecedented productivity gains of this “ultimate revolution” mandated large-scale conversion of paper to digital image copies.

5.3 The Paradigm Sea Change

Converting paper to digital image copies has resulted in major paradigm shifts. For centuries, (paper) records have been managed on a media-centric basis in accordance with the operational model now called “materials management,” which is applied to all types of other business assets. Because these paper records were, in essence, a physical commodity, their management was driven largely by need and space. The time period for retaining them was based on need, and the location for storing them was determined by the availability of space.

Accordingly, records were kept where they were readily accessible for as long as space permitted. Over time, they typically were transferred to another location where there was more (and usually less costly) space – where their continued accessibility could be ensured for as long as they were needed. This methodology provided the necessary controls to ensure both the authenticity and availability of the records within its domain.
For as long as records have been created, media-centric records management practices successfully served the needs of government and business.

Now consider the sea change at hand: the transformation of records management – from the paradigm of media-centric records, where management was based on observable physical location controlled by humans, to the age of digital information, content-centric records management and ESI, where the management process is based on invisible logical locations controlled by computers.

This sea change is grounded in the radically different nature of electronic records and has resulted in exponentially greater complexity in the process of managing records and information through their lifecycle. It also has created extraordinary new capabilities for improving that process, achieving unprecedented levels of control, effectiveness and automation.

Content-centric records management is a revolution in more than just a conceptual context. It is revolutionary in every aspect of how records are managed: from identifying and understanding new types of records... to where records are located and how they are accessed... to dependence on technology... to higher performance standards... to new skill sets required for records and IS/IT managers... to the need for a cross-functional records management team... and so much more.39

5.4 Judge Hedges’s Comments

The real-world implementation of the benefits conferred by this revolution in records management capabilities must still be guided by the same basic concepts that governed media-centric paper record keeping: authenticity and accessibility. An effective records management system is one that can utilize the technological improvements addressed in this white paper to create and maintain a streamlined and cost-effective system for storing data in a manner that preserves all important data, while organizing that data according to its usefulness.

While the specifications of an organization’s records management system must be tailored to meet the needs of the particular business, the need to develop new management skills and cross-functional records management personnel is essential to every business that creates electronic records.

Capable and knowledgeable records management personnel must have a thorough
understanding of the data system’s organization, the format of the various types of
records being stored, the “destination” on the system of particular types of records,
how those records arrive at that destination, and how to retrieve those records when
necessary. In the context of litigation or a regulatory investigation, the importance of
records management personnel is magnified as the process of preserving and retrieving
records becomes almost as important as the records themselves. Having a streamlined
records maintenance system and a knowledgeable employee to designate as a 30(b)(6)\textsuperscript{40}
witness when data retention and production becomes an issue can save a business from
engaging in costly discovery disputes.

This section addresses the disposition of “original” paper records that have been converted to digital image copies. Can they be destroyed or must they be retained in addition to the digital image copy?

6.1 The Right to Destroy

There is jurisprudence (case law) acknowledging records shredding to be a valid component of robust records management practices. In United States v. Arthur Andersen, the United States Supreme Court ruled that an organization which shreds without an illegal intent has not committed a crime under a particular statute:

> A “knowingly. . . corrupt persuader” cannot be someone who persuades others to shred documents under a document retention policy when he does not have in contemplation any particular official proceeding in which those documents might be material.

Additionally, the UPA (see Section 4.3) clearly authorizes the destruction of original paper records that have been copied. It states the “original may be destroyed in the regular course of business unless its preservation is required by law.”

The Internal Revenue Service’s (IRS) regulations, reflecting the clarity of both statutory and case law, permit the destruction of the original hardcopy books and records and the deletion of the original computerized records.

There are a few types of paper records that should never be destroyed. Examples include:

- **Negotiability** – If the document is to be ultimately paid, like a promissory note, currency, or cash equivalent instrument such as bonds, then the document must be presented in the original to be paid.
• **Wills** – A presumption exists that if the original cannot be found, then the testator destroyed it intentionally.

• **Copyrights and certificates of naturalization.**

The biggest problem with shredding policies is abuse, such as when a company inconsistently applies its destruction policies – be it hard copy or digital image copies.

When ESI content is either beyond its retention period, or is subject to an expungement order, there is a three part “best practice” for destroying such content. First, delete the metadata pointers to the content designated for destruction; second, copy the content that is not to be destroyed to another non-erasable or non-rewritable unit of ESI storage media, and third, physically destroy the unit(s) of non-erasable or non-rewritable media containing the content to be deleted or expunged. All such destruction should be performed in accordance with specific policies and procedures that create management evidence of the actions performed. The destruction of all ESI content should reflect diligent implementation of an organization’s approved records retention policies.

### 6.2 The Obligation to Preserve

Once an organization has notice or learns of potential litigation, it has a legal duty to preserve all relevant information. This includes paper records to be destroyed as part of an ongoing conversion to digital electronic images. In such a situation, the destruction of the converted original paper must be suspended if the records in question are relevant to a filed or reasonably foreseeable lawsuit, government investigation or external audit. Additionally, relevant digital electronic images (produced from paper records) scheduled to be destroyed as part of an organization’s established retention policies should not be destroyed.

There is absolutely no authority that would allow for the intentional destruction of records (both “original” paper and digital image copies) that are responsive to litigation or threatened litigation. Robust records management practices therefore must manifest policies emphasizing that any destruction of records, relevant to a lawsuit either filed or reasonably anticipated, is forbidden.

Legal record hold prohibitions on shredding must be followed diligently by all organizations for all types of media manifesting a) a key component of robust electronic information management practices and b) an organizational culture that values ethics.
and compliance. Certain information management software products automate and therefore facilitate managing legal holds correctly.

### 6.3 Judge Hedges’s Comments

A violation of the duty to preserve information and ESI, triggered when litigation is “reasonably anticipated,” that results in the destruction of potentially relevant documents and ESI may have significant legal ramifications. Courts have considerable discretion in imposing sanctions upon an organization or any responsible employees. Court-imposed sanctions range from criminal and civil penalties to unfavorable evidentiary presumptions at trial and discovery-specific sanctions.

In light of the consequences for destroying relevant information in anticipation of litigation, the need to establish detailed procedures governing the destruction of paper records and ESI cannot be overstated. Adherence to a thorough information management policy may protect against the imposition of severe sanctions for the innocent destruction of potentially relevant evidence. This is true only if the procedures set forth in the information management policy of a business are geared to the specific needs of that business, implemented in good faith, properly supervised, and all duties therein are performed in a timely manner. The information management procedures must also be flexible, as they may need to be halted at any time with respect to some, or possibly all, of the paper records and ESI being retained.

The improvements in information management technology, particularly the ability to create and store imaged records, can assist a business in avoiding costly sanctions and litigation expenses if properly organized and supervised. The characteristics of an effective information management system discussed in the previous section and the previous paragraph provide a business with a convenient and cost-effective means of high volume data storage, ensure that there are knowledgeable personnel in charge of implementing and supervising proper data retention practices, and results in the production of policies and guidelines that can be used as documentary evidence to prove good faith compliance with the duty to preserve documents.
7. Operational Implications

This section provides guidance regarding incorporating the legal requirements discussed in Sections 2 through 6 into an organization’s ongoing operations – specifically, the creation and lifecycle management of digital image copies. This guidance is based on the requirements set forth in the law. As such, this guidance seeks to assist organizations in meeting the standards that triers of fact will use in their decision-making regarding a) the admissibility of digital image copies, b) the destruction of paper records that have been converted to digital image copies and c) the management of digital image copies – from their creation to their ultimate disposition.

Cohasset believes that for organizations to have their digital image copies admitted into evidence, the records/images must manifest certain admissibility requirements in five operational contexts:

1. Authentication Processes,
2. Secure and Reliable Systems,
3. Network of Professional Support Resources,
4. Prove the Negative with Management Evidence and
5. Establish Evidentiary Foundations.

7.1 Authentication Processes for All Types of ESI

A best-practice records management program should include determining the optimal technology for electronic copying and preservation of records (scanning from paper copies). This determination should be guided by efficiency and ease of access, together with discovery and evidentiary requirements. The Sedona Conference Commentary provides an extensive discussion of the various types of ESI and the different authentication approaches associated with each type. For example, because there is
more than one FRE authentication method, the authentication of e-mail needs attention at multiple stages in its life span: collection, retention, preservation, and production. Different challenges are posed when authenticating website postings, text messaging and chat room content.

Computer-stored records and databases, which would include scanned digital image copies, would be subject to the 14 Imwinkelried/Cohasset requirements for establishing a foundation for the admissibility of computer records – especially those with robust policies and procedures for using and accessing equipment, databases and programs. Organizations using digital image copies should consider the circumstances when, where and how the scanning is performed.

Of the many different types of electronic records, digital image copies are one of the most difficult to alter or manipulate. Accordingly, their use has expanded, from being created only from scanning paper records, to also including digital “snapshots” because they will more likely be able to overcome evidentiary challenges.

7.2 Secure and Reliable Systems

To meet evidentiary challenges, organizations should ensure the stability and reliability of its computing environments. In pursuit of that goal:

- *Enterprise content management solutions and electronic records management systems can facilitate managing complex documents as well as control and access content forms in a secure environment.*

- *A variety of technologies are available for electronic copying and preserving records (scanning from hard copies). They should be deployed to improve efficiency and ease of access as well as meet discovery and evidentiary requirements.*

7.3 Network of Support Resources

To integrate the evidentiary rules addressed in this white paper into a records management program that reflects and embraces an organization’s operations and its culture, both in-house resources and consultants may be needed. As part of a robust records management program, records managers not only need C-level support and a new level of financial resources, they also need to be given an edict to integrate the
organization’s evidentiary foundational needs (and pretrial discovery needs) into its records management system. No less important, records managers and the entire ethics and compliance department need to be empowered to set forth these priorities to all employees, business units and information technology colleagues.

7.4 Prove the Negative with Management Evidence

Historically, records have been a definitive resource for recollecting the facts in the resolution of disputes (see Section 1.1). Over time, regulatory agencies, with their use of compliance as their primary governance tool, have led to an extraordinary expansion in both the use and importance of records. This has been manifested in five contexts:

- *Expansion of the number of forums where records are used to resolve disputes* – from just courts, to also agency hearings and onsite inspections, to the media,

- *Creation of exponentially larger volumes of records* – with the advent of electronic records,

- *Retrieval of much larger volumes of records* – resulting from the requirements of regulations and the capabilities of computers,

- *Compression of time to retrieve and profer records* – from months (courts), to days (inspections) to hours (news media), and

- *Expansion of the role of records in the resolution of disputes* – from just “proving the positive” (example: you signed the contract, you owe the money) to also “proving the negative” (example: the aircraft were regularly and properly inspected; i.e., the information in the records shows no circumstantial probability that an allegation of wrongdoing could have occurred).

This profound expansion in both the function and utilization of records has resulted in an unprecedented new level of importance in the process by which records are created, retained, managed and disposed. In turn, this has provided added impetus for the utilization of digital image copies to enhance the quality of managing records through their lifecycles.
7.5 Establish Evidentiary Foundations

Should an organization’s records need to be introduced in court (or as they are produced in discovery), legal counsel will benefit from good strategic ESI generation and retention decisions, quality software and hardware, and top-flight professional support both within and without the company in laying a strong evidentiary legal foundation. As seen in the jurisprudence in *Lorraine* and *Vee Vinhnee* as well as in other high-profile cases such as *Morgan Stanley,* attorneys who ignore discovery obligations or foundational evidence rules shall not prevail, no matter how robust the ESI or the records management.

Readers are directed to the Appendix, which identifies guidance on best practice requirements and standards for electronic imaging and records management programs, much of which is founded in IRS regulations, ISO standards and AIIM/ANSI technical reports.

7.6 Judge Hedges’s Comments

Section 7 is, in effect, a mirror image of Sections 2 through 6, looking as it does to the operational implications of the law. The goal of any process should be, reduced to its essentials, reliability and reasonableness. The five operational contexts described above appear likely to further that goal, “enhance” admissibility, and increase the weight to be given to admitted digital image copies by a finder of fact.
8. IBM’s Capabilities to Create and Manage Digital Image Copies

This section is a high-level description of IBM’s offerings of content and records management products/services that collectively provide a full range of capabilities to support the capture, storage and management of digital image copies. Advice of counsel should be sought for interpretation of all information viewed by readers having legal implications in any context.

This section was prepared by Cohasset Associates and should not be interpreted in any context as an endorsement by Cohasset of the products/services described nor an endorsement by the legal contributors to this white paper: Judge Ronald J. Hedges, Nixon Peabody LLP, Compliance & Ethics Solutions LLC and Buckley Kolar LLP.

IBM offers content and records management products/services that collectively provide a full range of capabilities to support the capture, storage and management of digital image copies. The copies produced by these products/services are designed to support the technical attributes to meet legal admissibility and acceptance tests. The copies therefore can be retained as the “official record” – in lieu of the original paper records from which the images were created.

8.1 Accurate and Complete Image Capture

To accurately capture the contents of paper records being converted to images, IBM offers a family of products/services that include, but are not limited to:

- IBM FileNet Capture Professional,
- IBM FileNet Capture Desktop,
- IBM FileNet Remote Capture Services,
- IBM ImagePlus for z/OS,
- IBM FileNet Image Manager Active Edition, and
- IBM FileNet Image Services.
These products/services have features and functions required to capture accurate digital images of paper records. This includes: a) image scanning, b) image indexing (both attribute fields and full text), c) automated work flow to perform quality control and quality assurance, and d) image transfer to protected repositories and storage media. Collectively, IBM’s capabilities, when properly installed, configured and maintained, are designed to help the legal admissibility and acceptance tests of courts and regulators for digital image copies.

8.2 Legal and Regulatory Compliance

IBM’s comprehensive compliance offering is an integration of products and services known as the IBM Compliance Warehouse for Legal Control. It is a unique “family” of IBM products and services expressly brought together to help organizations:

- Meet the records management requirements of certain statutes, regulations and admissibility tests and
- Manage a spectrum of different types of electronic records (including digital image copies) in a way to achieve the operational requirements of laws and regulations.

The IBM strategy for Compliant Information Management (see Figure 2) is based on a well established Enterprise Content Management (ECM) platform that, through an integrated information infrastructure, enables compliance. The information infrastructure is designed to help build the foundation that companies need to deliver improved service levels, reduce their business risks, and manage the information explosion. IBM’s offerings for Compliant Information Management should help IBM’s customers address the “sea change” for records management referenced in section 5.2. Some of these offerings include:
IBM’s Capabilities to Create and Manage Digital Image Copies

Guiding the way to successful records management

• **Content Collection and Archiving** – A family of IBM Content Collection and Archiving offerings and partner solutions based on a modular, extensible architecture that enables organizations to take back control and unlock added business value of content. Additionally, they enforce compliance and operational policies – all with a low total cost of ownership.

IBM’s offerings for Content Collection and Archiving are powerful solutions for managing today’s rapid growth of valuable, casually created, contributed and consumed content such as emails, files, and SharePoint.

IBM’s offerings also can be extended paper capture, SAP, and application and structured data archiving using IBM’s CommonStore for SAP ECM products for SAP data and document archiving (that are integrated either via the traditional SAP ArchiveLink or SAP’s WebDAV Storage Interface). Collectively, they can be used to help enable retention periods on archived SAP data.

IBM’s Optim family of data privacy and archiving offerings for PeopleSoft, J.D. Edwards and other specialized enterprise application environments also are included in Content Collection and Archiving. Accordingly, they can be used to manage the retention of structured data.

• **Advanced Classification** – IBM’s Classification Module filters out irrelevant material and prioritizes content based on business relevance – categorizing it into an enterprise taxonomy and assigning retention values. The classification module provides a sophisticated content-based tool that automatically classifies content by leveraging the context of the document and its metadata.

• **Records Management** – The IBM records management software products proactively manage retention, thereby reducing the volume of data that a) must be maintained and b) is subject to discovery – and accordingly the related costs of discovery.

Retention management can help organizations meet requirements such that only the right information is maintained, and that expired content is destroyed, or preserved to meet discovery requirements.
Integration with process management capabilities provide advanced “ZeroClick” capture and back-end records management can lead to further reductions in costs and risks.

IBM’s records management software offerings are certified against the requirements specified in DoD 5015.2.

- **eDiscovery Search & Analytics** – These tools help IT professionals respond to discovery requests with key functions such as:
  - Creating cases,
  - Providing user access,
  - Searching for and culling relevant case materials, and
  - Locking down result sets automatically.

To assist in authenticating content, auditing and reporting are supported and a chain-of-custody is maintained. Relevant content then can be exported to facilitate attorney review.

The ECM platform also has additional capabilities that are relevant to Compliant Information Management. They include:

- **Image Management** – IBM Imaging solutions can help in the management of document images – making them far more secure than storing paper records in boxes, on open shelves or in areas where an employee can access, change or remove them. Organizations also can apply standard, enterprise-wide methods for document image control – who is allowed to see and/or forward what images or sections of images. Accordingly, the “right” people can be given access to information wherever they are, and the “wrong” people can be prevented from accessing information they are not authorized to view.

An additional feature of IBM Imaging solutions is the ability to track who viewed what information, when and for how long. Specifically, it can maintain accurate records of a) the time when document images are archived, b) the time(s) when they were accessed, c) who accessed the information and d) how long was each access. Collectively, these
capabilities provide a robust chain-of-custody and an automated audit trail that typically is not available with paper-based records.

IBM Imaging Solutions also can assist organizations in ensuring that their important vital records are backed up and made recoverable in the event of catastrophic hardware or network failure. This is a major benefit of digital vs. paper records— which clearly are more vulnerable to loss or damage due to natural or man-made disasters. The ease with which organizations can back-up their digital information also can facilitate the production of required records for legal or regulatory matters.

- **Security and Access Control** – The IBM ECM platform is a secure environment for managing enterprise content and processes. The platform works within an organization’s existing security infrastructure and supports existing security standards including: LDAP, JAAS, Kerberos, SSL and Web Services security as well as commonly used directory services and single sign-on.

The IBM ECM platform also supports security technologies such as firewalls. To provide data privacy, proxy servers can be used to control access to your network and Secure Sockets Layer (SSL).

Before resources can be accessed in the IBM ECM platform, authentication must occur. This is done by the system administrator defining users and groups with tools provided by the directory service product being employed.

IBM has other products and services that serve to complete IBM’s Compliance Warehouse for Legal Control. They include:

- IBM FileNet Content Services,
- IBM FileNet Image Manager repositories,
- IBM Content Manager repositories,
- Records in other repositories can also be managed through Content Federated Services and II CE connectors to other non-IBM ECM offerings – to assist in finding information located in other repositories, and
IBM’s Compliance Warehouse for Legal Control can help to meet the authenticity requirement by:

- **Providing support for storage capabilities** via the P8 Image Manager Active Edition repository that can be configured as non-erasable and non-rewriteable.\(^{50}\)
- **Limiting potential deletion and alteration actions** through tight, role-based security for administrative, business process and casual users via the P8 Image Manager security controls.
- **Applying retention period and lifecycle event controls** (including legal hold and deletion control) by declaring and classifying the imaged records to the IBM FileNet Records Manager.
• Automating the declaration and classification of imaged records using the IBM Classification Module to ensure that the proper retention period is applied. Automated classification also substantially reduces burden on the user and eliminates manual errors.

• Collecting audit trail information related to the capture, storage and management of imaged records, by the IBM FileNet P8 Image Manager Active Edition repository and IBM FileNet Records Manager, thereby documenting the “chain of custody” over the record lifecycle.

8.4 Relevance

IBM’s offerings also facilitate determining the relevance of specific digital image copies to the matters at issue in a legal proceeding by:

• Producing sufficient search or index information to effectively and accurately retrieve only the relevant information, and

• Facilitating the searching process by placing the context of specific image records relative to other relevant information.

This is done by IBM FileNet capture offerings providing multiple methods to capture the index metadata associated with each imaged record. The index metadata can consist of manually or automatically captured individual attributes. Additionally, full text conversion of image data can be employed to allow for expanded relevance searches, which, in turn, can be conducted for all imaged records via the IBM FileNet P8 Image Manager Active Edition desktop and Web user interfaces.
9. Conclusions

This white paper addresses the extent to which digital image copies, a subset of ESI, a) are legal as records, b) can substitute for paper originals and c) can be admitted into evidence in a court of law as credible records – imbuing accuracy, reliability and trustworthiness.

Additionally, this white paper gave focus on the need to have ongoing resources that will ensure ESI is managed and monitored “from cradle to grave” in a way that positions an organization for success in compliance and litigation.

The purpose of this white paper is to provide authoritative answers to four all-important questions regarding the utilization of digital image copies:

- Are digital image copies legally as acceptable as “writings” and “original” paper records?
  
  Yes, digital image copies of information converted from paper (and microfilm) are the legal equivalent of their paper counterparts and may be considered as admissible in evidence as the original paper record in any legal or administrative proceeding – subject to certain legal admissibility provisos that apply to all types of records.

- What evidentiary hurdles must be overcome so that digital image copies are admissible in court?
  
  The law, through rules of evidence and recent case law, sets forth authenticity standards for the admission of digital image copies into evidence in legal proceedings. The rules and case law collectively manifest these standards in certain operational tenets that organizations should adhere to – in both their conversion of paper records to digital images as well as the ensuing management of those digital image copies over time.
• **Can original paper records that have been digitally copied then be destroyed?**

Yes, original paper records, for which there are accurate digital image copies, can be destroyed (as documented in Section 6). This is because digital image copies, like all other types of copies, are acceptable in any legal or administrative proceeding regardless of whether the original is in existence or not – so long as a) the records to be destroyed are not relevant to a lawsuit either filed or anticipated, b) the destruction is not contrary to any law or regulation and c) the paper records are not of the type that should never be destroyed (wills, etc.).

• **How does a company integrate the rules of evidence and case law into the management of records in a way that increases the admissibility of digital image copies?**

An organization should establish a lifecycle records management system (that is part of a corporate culture of compliance) to ensure that digital image copies a) are kept reliably with an adequate chain of control and b) can be authenticated by records management professionals and legal counsel.
Appendix: Good Image Capture Practices

Policy, Process and Procedures

These primary sources detail the requirements for documenting policies, processes, and procedures related to the implementation and operation of an electronic imaging and/or records management:

- Federal case law (see Section 3.4),
- Internal Revenue Service Revenue Procedures 97-22, and
- International Standards Organization (ISO) – 15489 and 15801.

Documentation of good practices for electronic imaging projects are presented in AIIM TR15-1997, Planning Considerations Addressing the Preparation of Documents for Image Capture.

Document Preparation

Good document preparation practices, such as those identified in AIIM/ANSI TR15-1977 (6.2), are paramount for achieving completeness and accuracy when imaging hard copy records. Adequate document preparation is a key component for properly identifying documents and ensuring that the input quality of the source document will allow rendering of the resulting images in human readable form.

Image Scanning

A very specific procedural regulation that defines the requirements for image scanning is Internal Revenue Service (IRS) Revenue Procedure 97-22. Among the requirements specified in 97-22 are:

- Accuracy means that the scanning process captures all of the significant information so that the resulting image represents an accurate facsimile of the original document, and that the resulting digital image subsequently can be rendered accurately and completely on a display device or via a printer.
- **Reliability of the scanning process that ensures consistent scanning** of all documents within the established parameters.

- **Utilization of controls to ensure the integrity, accuracy, and reliability of electronically scanned images.**

**Indexing**

Indexing relates to defining certain attributes that sufficiently describe imaged documents (and other electronic documents) so that they may be searched and retrieved for processing or viewing.

Sufficient indexing attributes must be associated with imaged documents to meet legal and regulatory requirements. Most regulations and industry guidelines as well as good practices for electronic recordkeeping require that records be “readily” accessible for the required retention period, including any extensions to the retention period resulting from a legal or regulatory hold order. Again, *IRS Revenue Procedure 97-22* clearly states certain indexing requirements, such as:

- A retrieval system that includes an indexing system (Section 4.01(2)(d)),

- The requirement to maintain an indexing system will be satisfied if the indexing system is functionally comparable to a reasonable hardcopy filing system (Section 4.02(1)), and

- Reasonable controls must be undertaken to protect the indexing system against the unauthorized creation of, addition to, alteration of, deletion of, or deterioration of any entries (Section 4.02(2)).

Information retained in digital image copies usually is much easier to find than when it is retained on paper. This is due to the metadata created when the information is converted from paper to a digital image copy. The metadata enables the creation an index which, in turn, makes finding needed information in digital image copies much easier than if it had to be found in the files of paper. The metadata automatically generated in the creation of digital image copies makes all digital image copies clearly advantageous over paper records – in both finding needed records and also enhancing their admissibility in any legal proceeding.
Born digital information automatically generates even more metadata than digital image copies. This additional metadata facilitates linking born digital information to a transaction or the relevant actions that are the basis for creating the born digital information. This additional metadata can also greatly facilitate establishing a record’s chain-of-custody – something that is very important to legal admissibility of all ESI.

**Quality Assurance**

Quality assurance is a “final” quality check to determine that the overall imaging process is being performed in an accurate, complete and reliable manner. Quality assurance differs from quality control: whereas quality control is conducted as an integral part of each imaging process step, quality assurance addresses the quality and accuracy of the imaging process as a whole. Quality assurance is conducted using a representative sample of the imaged records and their associated index data. The quality assurance process typically entails searching for selected imaged records using various index data attributes, retrieving and displaying the imaged records and complete index data, and verifying their accuracy (legibility) and completeness.

**Accessibility**

Access to stored electronic records and the ability to retrieve and present them in a human readable form (such as a visual display screen or a printed rendition) is a fundamental requirement for meeting regulatory and legal requirements as well as for business purposes.

Most regulations require that records of all types, including electronic records, be accessible and reproducible or presentable in human legible and readable form. *IRS Revenue Procedure 97-22* specifies accessibility requirements that include:

- **The ability to reproduce legible and readable “hardcopies” of electronically imaged books and records** when displayed on a video display terminal (Rev. Proc. 97-22, Section 4.01(2)(e)) and

- **All books and records reproduced by the electronic storage system must exhibit a high degree of legibility and readability** when displayed on a video display terminal when reproduced in hardcopy (Rev. Proc. 97-22, Section 4.01(3)).
Record Integrity

Protecting the integrity of records is a fundamental requirement of all regulations independent of the industry and/or the documentation being converted to digital images. Integrity protection also is a threshold requirement in all electronic records management standards and good records management practices.

Internal Revenue Procedure 97-22 stipulates two requirements for protecting the integrity of records:

- Reasonable controls to prevent and detect the unauthorized alteration of, deletion of, and deterioration of electronically stored books and records and associated indexing system (4.01(2)(b)) and
- Regular inspection and quality assurance that includes periodic checks of electronically stored books and records (4.01(2)(c)).

International Standards Organization (ISO) 15489 (Information and Documentation – Records Management, Parts 1 and 2) and ISO 17721 (Open Archival Information System Reference Model) amplify the meaning of integrity and recommends integrity protection procedures:

- The integrity of records refers to their being complete and unaltered, that is the records have been protected against unauthorized alteration (ISO 15489, Part 1.7.2.4).
- Data integrity service ensures that data is not altered or destroyed in an unauthorized manner (ISO 14721, Part 4.1.1).
- Control measures such as access monitoring, user verification, authorized destruction and security should be implemented to prevent unauthorized access, destruction, alteration or removal of records (ISO 15489, Part 1.8.2.3).

Digital Image Copies vs. Born Digital

The majority of paper business records used in business processes and then stored as digital image copies are born digital. Examples include computer generated reports, word processing files, spreadsheets and web pages. Amazingly, a significant number of organizations still believe they must first print many of these records to paper and then
store the paper in the event the records are required for legal admissibility. In most instances, this is not required. In reality, having multiple copies of identical records on different media is not a good practice because it usually significantly increases both the complexity and the cost of responding to legal discovery. The best practice is to store born digital documents in their native, originally-born digital state wherever possible.

In certain circumstances, born digital records may need to be printed to paper, converted to digital image copies and then retained in that electronic format – pursuant to the organization’s retention schedule. Two examples are documents requiring the addition of a signature or the need to include manual annotations of a document’s original information. In such instances, digital image copies are an ideal way to store all the relevant information digitally.
1. Throughout this document, the terms “organization” and “enterprise” are used to refer to companies, businesses, government agencies, institutions, associations and other entities conducting profit and not-for-profit activities.


4. Other types include but are not limited to: e-mail, website postings, text messaging, chat room content, as well as computer stored records and databases.

5. See www.uscourts.gov/cmecf/cmecf_about.htm. All of these millions of electronic documents were submitted in Adobe Portable Document Format (“PDF”).

6. The mechanism by which this occurs is often an adoption in whole or in part by a state of the Uniform Rules of Evidence and the Uniform Photographic Copies of Business and Public Records as Evidence Act.

7. See Biographical Information for Judges Hedges on page 47 of this white paper and at: www.nixonpeabody.com/attorneys_detail1.asp?ID=1324


11. The rules of evidence discussed in Section 3 do not apply to administrative trial-type hearings at an agency. See Administrative Procedure Act, 5 U.S.C.A. Secs. 551-706.


14. A mock “Meet and Confer” meeting before the Hon. Shira Scheindlin is available in a 90 minute DVD. Jointly produced by Cohasset Associates, Inc and The Sedona Conference® the DVD is available at: www.merresource.com/dvd.htm

16. “Writings”, as discussed in Section 2.4, includes ESI and its subset, digital image copies.

17. A summary judgment motion is a motion whereby a party in a civil action asks for a dispositive ruling based on its belief that there is no genuine issue of material fact and that the party is entitled to prevail as a matter of law. FRCP Sec. 56.


19. Today the original writing is most often born digital. Organizations printing large quantities of these born digital records on paper in the regular course of their business should give special focus to FRE 1001-1008.

20. Lorraine at 558.

21. Lorraine at 574.


23. The use of the term “data compilation” followed a change in the FRCP in the 1970s where the “data compilation” was added to the long-standing term “records” – to clarify that records included computer records. In Legality of Optical Storage (see end note 32) and elsewhere, data compilations were defined as a pattern of zeros and ones and therefore would include both ASCII computer code as well as bit-mapped images (digital image copies). The 2006 FRCP revision in turn replaced the term “data compilation” with “electronically stored information (“ESI”)” because it was believed to better manifest inclusion of all the growing number of different types of electronic records, from web content to e-mail, wikis, blogs, instant messaging, etc.


25. Lorraine at 537.

26. Vee Vinhnee at 448.

27. Lorraine at 537.

28. Vee Vinhnee at 448.


31. For several decades, the records of most mortgage loans been managed in the form of digital image copies. Hundreds of thousands of copies (likely paper printouts of relevant digital image copies of key mortgage documents) have been entered into evidence in countless property foreclosure proceedings.
32. Sedona at 4.
33. For such a state-by-state analysis, see R. Williams, *Legality of Optical Storage* (1997).
35. F.S. Sec. 90.951.3.
36. F.S. Sec. 90.803(6)(a).
37. 28 U.S.C. Sec. 1732.
38. ITU Group 3 and 4 is an open, international, lossless compression standard that is used in facsimile communications and as the primary means for reducing the size of TIFF format files for more efficient storage and transmission.
40. Rule 30. Deposition by Oral Examination
   (b) Notice of the Deposition; Other Formal Requirements.
   (6) Notice or Subpoena Directed to an Organization.
   In its notice or subpoena, a party may name as the deponent a public or private corporation, a partnership, an association, a governmental agency, or other entity and must describe with reasonable particularity the matters for examination. The named organization must then designate one or more officers, directors, or managing agents, or designate other persons who consent to testify on its behalf; and it may set out the matters on which each person designated will testify. A subpoena must advise a nonparty organization of its duty to make this designation. The persons designated must testify about information known or reasonably available to the organization. This paragraph (6) does not preclude a deposition by any other procedure allowed by these rules.
42. 28 U.S.C. Sec. 1732.
43. IRS Revenue Procedure 97-22, Sec. 7.
44. For example, In re the Prudential Ins. Co. of Am. Sales Practices Litig., 169 F.R.D. 598, 615 (D.N.J. 1997).
46. Sedona at 4-8.
47. Id. At 4-5.
50. When ESI content is either beyond its retention period, or is subject to an expungement order, there is a three part “best practice” for destroying such content stored on non-erasable, non-rewritable portable media (optical disks and magnetic tapes). First, copy the content that is not to be destroyed to another non-erasable or non-rewritable unit of ESI storage media; second, delete the metadata pointers to the content designated for destruction and third, physically destroy the unit(s) of non-erasable or non-rewritable media containing the content to be deleted or expunged. All such destruction should be performed in accordance with specific policies and procedures that create management evidence of the actions performed. The destruction of all ESI content should reflect diligent implementation of an organization’s approved records retention policies.
About Judge Ronald J. Hedges

Judge Ronald J. Hedges is a member of Nixon Peabody’s Business Litigation practice group. He has extensive experience in e-discovery and in management of complex civil litigation matters.

Mr. Hedges was appointed in 1986 as a United States Magistrate Judge in the United States District Court for the District of New Jersey, where he served as the Compliance Judge for the Court Mediation Program, a member of the Lawyers Advisory Committee, and both a member and reporter for the Civil Justice Reform Act Advisory Committee. From 2001 to 2005 he was a member of the Advisory Group of Magistrate Judges.

Mr. Hedges has been an adjunct professor at Seton Hall University School of Law (1993-2007) and at Georgetown University Law Center since 2006. He is also Co-Chair on the Planning Committee of Georgetown University Law Center’s Advanced E-Discovery Institute since November 2007. He is a member of the adjunct faculty at Georgetown University Law Center, where he teaches on electronic discovery and evidence.
About Cohasset Associates, Inc.

Cohasset Associates (www.cohasset.com) is recognized as one of the foremost consulting firms specializing in document-based information management. Now in its fourth decade of serving clients throughout the United States, Cohasset Associates provides award-winning professional services in three areas: management consulting, education and publishing.

Consulting: The focus of Cohasset Associates’ consulting practice is improving the programs, processes, and systems that manage document-based content. This ranges from establishing effective corporate records management programs to planning state-of-the-art electronic content and records management systems. With its unique combination of records management, legal and technical skills, together with its extensive problem-solving experience, Cohasset works to provide clients with cost-effective solutions that will achieve their business objectives and meet their legal/regulatory responsibilities.

Education: Cohasset Associates is renown for excellence in education. Its focus is organizing and presenting the annual national conference on Managing Electronic Records (MER) – providing special emphasis on legal, technical and operational issues (www.merconference.com).

Publishing: Cohasset Associates authors thought-leadership papers (www.cohasset.com/whitepapers.html) and conducts the definitive survey research on electronic records management (www.merresource.com/whitepapers/survey.htm).

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Other IBM White Papers Prepared by Cohasset Associates, Inc.

- **IBM DB2 Records Manager and Record-Enabled Solutions – Compliance Requirements Assessment – Oct/2004**

  The white paper is an assessment, by Cohasset Associates of several products currently available from IBM as measured against a common set of functional requirements which are derived from U.S. regulations, laws, best practices and records management lifecycle management requirements.


- **Cost Effective Electronic Records Management – IBM FileNet Records Manager – Nov/2007**

  This white paper provides Cohasset Associates’ assessment of FileNet Records Manager software and associated products with regard to the capabilities these products provide for improving the effectiveness and efficiency of managing electronic records.


- **IBM: No Paper Weight – ROI Assessment – May/2008**

  This white paper presents the results of a review by Cohasset Associates of a Return on Investment (“ROI”) analysis titled, *No Paper Weight*. The analysis was originally researched by IBM Corporation in collaboration with one of its customers, a large regional bank.