

Legality of Electronically Stored Images

Optical disks, CDs and DVDs are now in wide use for the storage and retrieval of document images. The legal review work, *Legality of Optical Storage*, by Cohasset Associates, Inc., explains the importance of sound systems design and operational procedures when using imaging to manage documents. Acordex's imaging system design and customer procedures are important in supporting admissibility of document images as evidence.

I. INTRODUCTION

The enactment of the Federal Rules of Evidence (FRE) in 1975 specifically recognized the advent of computerized business records and the need to govern their admissibility at the federal level. Most states have adopted rules based on the FRE as recommended by the National Conference of Commissioners on Uniform State Laws.

This paper starts with a general exposure to the FRE and several important legal issues. Next the application of the laws to microfilm, magnetic media and optical media are presented. Lastly, implementation guidelines identify how Acordex addresses the issues that must be accounted for in a well designed imaging system intended for a legal archive. The majority of the information included here is based on the definitive legal review work, *Legality of Optical Storage*, available from Cohasset Associates, Inc.¹

¹Williams, Robert F., *Legality of Optical Storage (1997)*, Cohasset Assoc., 3806 Lake Point Tower, 505 No. Lake Shore Dr., Chicago, Ill 60611.

II. RULES OF EVIDENCE

Hearsay is defined as "a statement other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of matter asserted."² To protect against the dangers of hearsay, common law historically required that any business entry or transaction presented as evidence in court be authenticated by a witness with personal knowledge of the specific transaction presented. Obviously, this is a very difficult requirement to meet in a business environment where people change jobs and may not be available on demand. The person who performed the transaction may no longer be present. Several acts address this issue.

In 1935, the requirements for admissibility of business records as evidence at the federal level were defined in the Federal Business Records Act (FBRA). At the state level, the Uniform Business Records as Evidence Act (UBREA) were enacted in 1936 by the Commissioners on Uniform State Laws. In 1949, the National Conference of

²ibid., p5-49. Fed. R. Evid. 801(C).

Commissioners on Uniform Laws recommended that the states enact the Uniform Photographic Copies of Business and Public Records as Evidence Act (UPA).

In 1974 and 1975, the federal government and the National Conference of Commissioners on Uniform Laws adopted essentially identical rules. These are called the Federal Rules of Evidence (FRE) and the state level Uniform Rules of Evidence (URE). Section 803(6) of both of these acts defines what constitutes an admissible business record:

A memorandum, report, record or *data compilation, in any form* of acts, events, conditions, opinions or diagnosis, made at or near the time by, or from information transmitted by, a person with knowledge, if kept in the course of a regularly conducted business activity, and if it was the regular practice of that business activity to make the memorandum, report, record or data compilation, all as shown by the testimony of the custodian or other qualified witness, unless the source of the information or the method or circumstances of preparation indicate lack of trustworthiness. The term “business” used in this paragraph includes business, institution, association, profession, occupation and calling of every kind, whether or not conducted for profit.³ [emphasis added]

Note that a “data compilation, in any form” is explicitly identified as a legitimate business record, even in the 1970’s. The image of a paper document (scanned or computer generated) is stored in imaging systems as a compilation of data on internal as well as removable disks.

Even in the older UPA, which was enacted when photographic processes like microfilm were a new technology, allows for the advancement of

technology and thus still provides guidance on record keeping requirements:

If any business, institution member of a profession or calling, or any department or agency of government, in the regular course of business or activity has kept or recorded any memorandum, writing, entry, print, representation or combination thereof, of any act, transaction, occurrence, or event, and in the regular course of business has caused any or all of the same to be recorded, copied, or reproduced by any photographic, photostatic, microfilm microcard, miniature photographic, or other process which accurately reproduces or forms a durable medium for so reproducing the original, the original may be destroyed in the regular course of business unless its preservation is required by law. Such reproduction, when satisfactorily identified, is admissible in evidence as the original itself in any judicial or administrative proceeding whether the original is in existence or not and an enlargement or facsimile of such reproduction is likewise admissible in evidence if the original reproduction is in existence and available for inspection under direction of court. The introduction of a reproduced record, enlargement, or facsimile does not preclude admission of the original. This subsection shall not be construed to exclude from evidence any document or copy thereof which is otherwise admissible under the rules of evidence.⁴ [emphasis added]

By 1995, 46 of the 50 states adopted either the URE or the UPA or both. The exceptions at that time were Illinois, Mississippi, Missouri and Louisiana.

There is general agreement that optical disks “form a durable medium for reproducing the original.”

³28 U.S.C.S., Federal Rules of Evidence, Rule 803(6).

⁴28 U.S.C.S. § 1732 (1977), Uniform Photographic Copies of Business and Public Records as Evidence Act [Federal UPA]

CD-R have an estimate 30 year life⁵ and DVD-RAM discs have an industry estimated 50 years life.⁶

III. ADMISSIBILITY IN EVIDENCE⁷

Admissibility of Microfilmed Records

By 1949, the microfilming process had attained such a high degree of reliability that the National Conference of Commissioners on Uniform Laws proposed the Uniform Photographic Copies of Business and Public Records Act (UPA), in large part, to allow for admissibility of microfilmed records without the need to satisfy the best evidence rule. In adopting the UPA, which allows microfilm copies to be admitted equally with original records, the National Conference of Commissioners considered expert opinion that microfilm was a medium that could accurately reproduce written material and that the microfilm process would not facilitate altering the contents of the original documents.⁸ The difficulty of altering microfilm copies, together with the presumption of reliability accorded to the records made in the regular course of business, led to the widespread acceptability of microfilm by legislatures and courts.⁹

In *Resnick v. State Bar of California*,¹⁰ the California Supreme Court considered the effect of dust particles on the accuracy of the microfilming process, and the possibility of altering the microfilmed image by blocking off portions of the original document during the microfilming process.

⁵ Sony CD-R product description

⁶Discovery Storage Systems, Inc., <http://discovery-uk.com/PRODUCTS/dvdram.htm>, January 2001.

⁷Williams, Robert F., *op. cit.*, the text in this entire section is directly quoted from section five.

⁸Brereton, *The Admissibility in Evidence of Microfilm Records*, 59 A.B.A.J. 500, 503 (May, 1973).

⁹*ibid*, 503 (May, 1973). Also Donbroff, *A Few Simple Steps Ensure Admissibility of Microfilm*, Legal Times, at 19 (Feb. 24, 1984).

¹⁰1C.3d 198, 460 P.2d 969, 81 Cal. Rptr. 769 (1969) (en banc).

In *State v. Fingert*,¹¹ the Iowa Supreme Court held that microfilm copies of bank records were inadmissible under section 622.28 of the Iowa Code because the witness identifying records provided no testimony as to how the microfilming process was accomplished, the timing of recordation, sources of information from which the records were made, or the method and circumstances of their preparation.

Admissibility of Computer Records on Magnetic Storage Media

In contrast to microfilm, which is analog and uses photographic technology, both magnetic and optical storage are digital and, each in their own unique way, utilize electronic technology. The intrinsic accuracy reliability and trustworthiness that is derived from the photographic attributes of microfilm do not exist with magnetic storage. Whereas microfilm is very difficult to alter, magnetically stored records can be easily altered. In spite of this intrinsic problem with magnetic storage, the courts *generally* have admitted magnetically stored, computerized records kept in the regular course of business. . . . However, as will be discussed further, the foundational requirements have varied significantly depending on the jurisdiction in which the trial is held.

Rule 803(6) of the FRE and URE provides that the business record is admissible “unless the source of information, or the method or circumstances of preparation indicate a lack of trustworthiness.”¹² . . . The issue of trustworthiness could provide a fertile area for objections by parties seeking to keep out computerized records kept on magnetic storage.

¹¹298 N.W.2d 249 (Iowa S. Ct. 1980).

¹²Fed. R. Evid. 803(6); Unif. R. Evid. 803(6); see *United States v. Weatherspoon* 581 F.2d 595 (7th Cir. 1978).; *United States v. Liebert*, 519, F.2d 542, 547 (3rd Cir. 1975).

Admissibility of Computer Records on Optical Storage Media

From a technological perspective, the case for the legal acceptance of optically stored records is significantly stronger than for magnetics. This is because WORM optical storage technology creates a record that is unalterable, whereas magnetic records can be altered with relative ease and, more importantly, without detection. Thus, the intrinsic unalterable quality of optical storage is very similar to the key characteristic of microfilm that has made that media so widely accepted by courts and regulatory agencies....

Optical storage is a relatively new method of storing information. Accordingly, when compared to the established legal acceptance of paper, microfilm and even magnetic media, optically stored information is just beginning the process of being accepted by the courts and regulatory authorities....Starting as it has from zero, applicable case law will be minimal for some period of time. Given the fact that the issue must be addressed in a multiplicity of forums (federal and state, courts and regulatory hearings), it will be several years before there is a body of case law regarding the admissibility of optically stored records equal to that which exists for microfilm and magnetics.

...It is the conclusion of this legal research that by considering the intrinsic attributes of micrographic, magnetic and optical media, as well as the history by which microfilm and magnetic storage have been legally accepted, a strong foundation currently exists for the admissibility of optically stored information. Based on this foundation and the expanded use of optical storage in business and government, it is expected that, in time, a substantive body of case law will also develop regarding the admissibility of optically stored information. Concurrent with this process, will be the passage of many specific industry and application statutes in various states as well as

formal regulations by both federal and state regulatory entities.

IV. IMPLEMENTATION GUIDELINES

"This section presents guidelines for improving the legal acceptability of documents that are managed as digital images in an optical disk-based document management system. ... There are many characteristics of optical storage that are analogous to magnetic storage and microfilm. As such, many of the equipment selection and procedural guidelines are based on similar guidelines that have been successfully applied and that have withstood the test of time and the courts for these established storage forms.

Write Quality Assurance

In order to achieve legal admissibility of optically stored information, it is essential that the recording of the originally created or "captured" information be accurate. This means verifying that the writing of the information to optical disk media was successful.

Document Image Capture - Trustworthiness

The capture of documents for storage on optical disk is the most crucial area relative to establishing legal admissibility. The procedures and equipment must support the accurate and trustworthy conversion of documents from their original paper or micrographic form to optical storage."¹³

V. ACORDEX'S SYSTEMS

Acordex's imaging systems are designed with these legal issues and recommendations in mind. Listed below are the system features that Acordex provides to address each legal issue.

¹³Williams, Robert F., op. cit., the text in this section is directly quoted from section ten.

“Write quality assurance” – Every write operation includes checks for disk drive errors. This ensures that the scanned document is digitally correct on disk.

Acordex's on-the-fly QA displays each image to the operator as the image is being saved. This gives the operator the opportunity to easily correct poor exposures while the original paper is still directly on hand. Other systems make QA a second task performed later, after the paper is already packed away. Because it's easier, the likelihood of correcting quality issues is *much higher* when the operator is using the Acordex process.

“Trustworthiness” – Acordex's Safekeep imaging system automatically moves images from the scan station(s) to the server and then to off-line media such as DVD. There are *no tools to modify the original image* after it is accepted by the scan station operator.

More important, Safekeep creates *two sets* of DVDs. One is the Backup DVD set, which is intended for off-site storage and used for disaster recovery only. When properly secured, the Backup DVD set can provide a trustworthy copy of the images as they appeared on the day they were scanned. The second set of images are stored on Primary DVDs, which are kept on-site and available to the system operators. If there is ever a suspicion of tampering with the Primary DVDs, you simply use the Backup DVDs and check the original.

“Accuracy” – Acordex's software clearly displays and prints the original unaltered image as retrieved from the image server. The laser printer offers the clarity required to produce accurate reproductions of the original document. Even if you elect to use the optional mark-up tools after retrieval, the original image is clearly distinct from the mark-up notes. Installations that do not need mark-up capability do not have mark-up tools installed.

“Durable” – The DVD media currently in use has an estimated in-office life of 50 years. It is resilient

in the presence of wide variations in temperature, humidity and magnetic fields. Near the end of the media's life, the media can be duplicated to extend the archive indefinitely. Since the images are digital, there is *literally no degradation* in image quality with time or number of copies or re-copies made.

“Reliable” – Even if the directory of a DVD cartridge is damaged, Acordex's images are stored with enough redundancy that the file names can be recovered. Indexing information associated with each image is also recovered because it is stored with each image file. Since indexing information is placed in the standard TIFF header, third-party products can also access to this data.

Acordex's imaging systems are distinguished from mass marketed imaging systems by our attention to legal requirements. Most of our customers use Acordex systems to manage documents that carry legal and regulatory importance. By designing in these considerations, they do not pose an extra burden on the user. Acordex systems remain highly automated while carefully managing high volume document processing. □

For more information, contact Kenneth Rohr at Acordex Imaging Systems (978 352-5500), a product development and system integration company specializing in high performance document management systems. <http://acordex.com>

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