

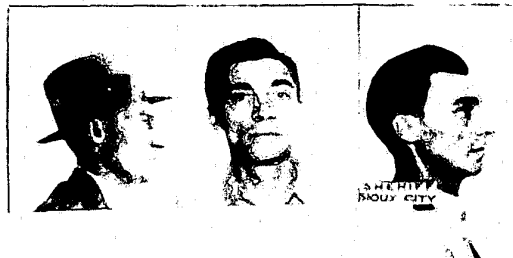


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Computerized Business Records As Evidence

Required Predicates to Admission

"Courts . . . demand a greater factual showing of genuineness before computerized documents may be admitted as evidence."

As the number of white-collar and financial crime investigations increases and the computerization of business records becomes pervasive, the need to use data stored in computers as evidence in criminal trials is likewise growing. Courts traditionally have favored hearing evidence from witnesses who have firsthand knowledge of the matter in question.¹ Such spoken evidence has been preferred in part because it provides the trier of fact an opportunity to observe the demeanor of witnesses and see their credibility tested through cross-examination.² However, where it is impractical or impossible for a witness to relate needed information, courts will admit documents subject to certain rules of evidence that are intended to serve as substitutes for the usual tests of credibility through observation of demeanor and cross-examination.³ These tests of credibility are: (1) The requirement of authentication, (2) the "best evidence rule," and (3) the rule against hearsay evidence. These rules demand that certain facts regarding the origin and keeping of documents be presented prior to their admission as evidence.

Recently, courts have employed these rules of evidence to test the admissibility of documents that have been created using electronic computing equipment. These rules, modified through the evolutionary process of common law and by the legislative enactment of evidence codes such as the Federal Rules of Evidence, work to ensure the fidelity of computer-related evidence. Using these rules as a basis, courts have required new factual predicates for the admission of documents created and stored through the use of electronic computing machines.

If computerized documents are to be used as evidence in criminal prosecutions, investigators must collect the necessary facts to satisfy both the regular requirements for admission of documents and the special rules for computerized evidence. This article discusses the predicate facts that must be presented to offer successfully into evidence business records that have been stored by computer processes. It begins with a preliminary discussion of the three basic evidentiary requirements for admission of documents. Next, cases decided under the common law and various evidence codes involving computerized documents are examined. Finally,

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Law enforcement officers of other than Federal jurisdiction who are interested in any legal issue discussed in this article should consult their legal adviser. Some police procedures ruled permissible under Federal constitutional law are of questionable legality under State law or are not permitted at all.



Special Agent Sauls

some recommendations are offered to assist investigators gathering computerized records.

Authentication

Proper authentication requires the establishment, with facts, of the genuineness of a document.⁴ Facts that are helpful in establishing authentication include those that reveal by whom and how a document was created and where and how it has been kept since its creation.⁵ In short, authentication is a showing that a document is actually what it is claimed to be. Showing how the document was created and stored is fairly simple when documents are created using pen and paper. However, establishing how a document written by use of a computer has been created and stored is a more complex task because the recording process involves electronic activity that is not readily observable. Courts have expressed suspicion about invisible computer processes and demand a greater factual showing of genuineness before computerized documents may be admitted as evidence.⁶

Best Evidence Rule

The best evidence rule requires that the original document, whenever possible, be presented in court.⁷ This requirement is satisfied by establishing that the document presented is the genuine original or that an exception to the best evidence rule should be invoked. One exception to the best evidence rule permits a true copy to be used when it is impractical or impossible to present the original.⁸ Also,

under certain circumstances, the law allows the introduction of a summary of the original document where that document is so large that its introduction would be unduly burdensome.⁹ Documents created using a computer that are offered into evidence must be either original or meet the requirements of one of the exceptions to the best evidence rule.

Rule Against Hearsay

The rule against hearsay requires that before a document can be accepted into evidence to prove the truth of the information it sets forth, some characteristic of truthfulness must be present to serve as a substitute for the usual tests of observation of demeanor and cross-examination.¹⁰ If a live witness states that he saw a certain person take money from a victim, the truthfulness of this witness can be tested in court. However, if that same person creates a document that relates the taking of the money and the document is presented in evidence, the statement's truthfulness cannot be challenged by the same methods. In that case, the truthfulness of the statement must be suggested by circumstances surrounding the creation of the document before a court will allow it to be considered by the trier of fact.

Exceptions to the rule against hearsay have evolved to allow for the admission of statements made under special circumstances that suggest reliability.¹¹ The most commonly employed exception involving computerized documents relates to records prepared in the regular course of a business' operation.¹² A business generally attempts to keep accurate records of its activities because such records are necessary for its successful operation. Because of this motiva-

"One exception to the best evidence rule permits a true copy to be used when it is impractical or impossible to present the original."

tion for accuracy, these records are considered sufficiently reliable to be admitted as an exception to the rule against hearsay.¹³ Computerized business records prepared in the regular course of business may also qualify for admission under this exception to the rule against hearsay. Again, due to the invisible nature of computer processes, courts will require more facts regarding the methods of preparation and storage than is demanded for noncomputerized business records.¹⁴

Computerized Documents and the Common Law

One of the first appellate courts in the United States to consider the admissibility of computerized documents was the Supreme Court of Mississippi. In *King v. State ex rel Murdock Acceptance Corporation*,¹⁵ a notary (King) was sued to collect the balance of a note that had been secured by properly pursuant to a deed of trust which King had notarized. The notarized signatures were proved to be forged in a foreclosure action, which made the deed of trust worthless, and the holder of the note (Murdock) was seeking to collect the balance due from King. Computerized records of Murdock were introduced at trial to prove what payments had been made on the note and establish the balance due. The Mississippi court noted that *King* was the first case requiring it to rule on the admissibility of computerized records and applied the common law rule as follows:

"The rules of evidence governing the admission of business records are of common law origin and have evolved case by case, and the Court should apply these rules

consistent with the realities of current business methods. The law always seeks the best evidence and adjusts its rules to accommodate itself to the advancements of the age it serves."¹⁶

The question of authentication was apparently not raised by the litigants in *King*. This is probably because the court had an abundant factual basis for finding that the computer printouts were genuine. The printouts were records of the Murdock Acceptance Corporation. The corporation's assistant treasurer testified that he was in charge of the data processing department at Murdock's home office and that the computerized accounting records were maintained under his supervision. He also gave a very detailed explanation of how the records were created, maintained, and reproduced.

King did address the issue of whether the computer printouts were original records for purposes of the best evidence rule. The court first considered whether the computerized records stored on magnetic tape were original business records. Based on testimony, the court found that a record of payments on a Murdock account was originally made on "receipt blocks" at branch offices. These receipt blocks were then forwarded to the home office where they were verified. The information was then fed into the computer as it would have been entered into standard ledger books in a comparable manual accounting system. The receipt blocks were kept for a period of time, micro-filmed, and then destroyed. The computerized information recorded on magnetic tape was regarded by Murdock as its permanent record of the transaction and was the place where the series of recorded transactions

was first united into a single record. Comparing the computerized system to a manual ledger book system, the court held the computerized record rather than the receipt blocks constituted the original record.¹⁷

Having determined that the computerized record was the original, the court next addressed whether the printout presented in court was in fact a duplicate of the record stored by computer on magnetic tape, and therefore, inadmissible under the best evidence rule. In that regard, the court ruled as follows:

"Records stored on magnetic tape by data processing machines are unavailable and useless except by means of the print-out sheets such as those admitted in evidence in this case. In admitting the print-out sheets reflecting the record stored on the tape, the Court is actually following the best evidence rule. We are not departing from the . . . rule, but only extending its application to electronic record keeping."¹⁸

Therefore, for purposes of the best evidence rule, the court held that the printout of the computerized record was the original document.

Since the computerized document was offered in evidence to prove the truth of its contents, a showing had to be made that the record was sufficiently trustworthy to allow for its admission under an exception to the rule against hearsay. The court held that the records in question fell within the bounds of the hearsay exception for records kept in the regular course of business. The court noted that it had previously ap-

"While the Federal Rules of Evidence allow for the introduction into evidence of computerized business records . . . courts require a greater factual foundation than is required for noncomputerized records."

proved the admission of manually prepared business records without requiring the persons preparing those records to testify.¹⁹ In ruling that the person making the computer entries need not testify, the court set forth some special requirements for the admission of business records maintained using electronic computing machines. The court held that the offeror of such evidence must show:

" . . . (1) that the electronic computing equipment involved is recognized as standard equipment, (2) the entries are made in the regular course of business at or reasonably near the time of the happening of the event recorded, and (3) the foundation testimony satisfies the court that the sources of information, method and time of preparation were such as to indicate its trustworthiness and justify its admission."²⁰

While the admissibility of computer printouts in *King* was based on common law precepts, the court required a more-detailed foundation than is necessary for noncomputerized records.

The requirements set forth in *King* for the admission of computerized business records are equally applicable in criminal prosecutions. In *Brandon v. State*,²¹ the Supreme Court of Indiana approved the admission of computerized telephone records in a prosecution for bank robbery. The court stated the justification for the business records exception to the hearsay rule as follows:

"The theory behind this rule is that regularly maintained business records are admissible in evidence

as an exception to the hearsay rule because the fact that they are regularly maintained records upon which the company relies in conducting its business assures their trustworthiness. The rules of evidence governing the admission of business records are of common law origin and have evolved on a case-by-case basis to keep pace with the technology of current business methods of record keeping . . . Even though the scrivener's quill pens in original entry books have been replaced by magnetic tapes, microfiche files and computer print-outs, the theory behind the reliability of regularly kept business records remains the same and computer-generated evidence is no less reliable than original entry books provided a proper foundation is laid."²²

In *Brandon*, foundation requirements for computerized business records were stated as follows:

"[I]t must be shown that the electronic computing equipment is standard, that the entries are made in the regular course of business at or reasonably near the time of the happening of the event recorded, and that the testimony satisfies the court that the sources of information and method and time of preparation were such as to indicate its authenticity and accuracy and justify its acceptance as trustworthy."²³

Computerized Documents and the Federal Rules of Evidence

The Federal Rules of Evidence, adopted for use in all Federal courts and which have served as a model for a number of State evidence codes, address the issues of authentication, the best evidence rule, and the rule

against hearsay. While the Federal Rules of Evidence are based on the previously discussed common law precepts, they merit separate discussion because in some ways they modify the common law rules.

Authentication is dealt with in rule 901. The rule states that the " . . . requirement of authentication or identification as a condition precedent to admissibility is satisfied by evidence sufficient to support a finding that the matter in question is what its proponent claims."²⁴ Thus, authentication under the Federal Rules of Evidence is based on the common law requirement that before evidence is admitted, there must be a showing that it is genuine.

The common law best evidence rule survives in rule 1002 of the Federal Rules of Evidence. This rule states that "to prove the content of a writing, recording, or photograph, the original writing, recording, or photograph is required . . ."²⁵ The Federal Rules of Evidence clearly envision the use of computerized evidence, since the definition of "writings" for purposes of rule 1002 includes "letters, words, or numbers, or their equivalent, set down by . . . magnetic impulse, mechanical or electronic recording, or other form of data compilation."²⁶ Rule 1002's demand for original documents is subject to a number of exceptions, and courts generally admit a duplicate of the original except where "a genuine question is raised as to the authenticity of the original,"²⁷ or where it would be "unfair to admit the duplicate in lieu of the original."²⁸ Because of the overwhelming volume of documents likely to be encountered with computerized evidence, the Federal Rules of

Evidence also allow summaries of documents to be introduced where "[t]he contents of voluminous writings, recordings or photographs . . . cannot conveniently be examined in court . . ."²⁹ However, where summaries are used, the original must be made available to opposing parties for examination.³⁰

The admissibility of hearsay is governed by rules 801 through 806 of the Federal 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 the matter asserted."³¹ The Federal Rules of Evidence include an expanded version of the common law business record exception which allows for the admission of:

"[a] memorandum, report, or data compilation, in any form, of acts, events, conditions, opinions, or diagnoses, 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. . . ."³²

For purposes of this exception, business is broadly defined and "includes business, institution, association, profession, occupation, and calling of every kind, whether or not conducted for profit."³³

While the Federal Rules of Evidence allow for the introduction into evidence of computerized business records in a fashion that is somewhat broader than the traditional common law rule, courts require a greater fac-

tual foundation than is required for noncomputerized records. For example, *United States v. Scholle*³⁴ involved a Federal narcotics conspiracy prosecution that took place after adoption of the Federal Rules of Evidence. The Government introduced into evidence computer printouts from a Drug Enforcement Administration (DEA) computer retrieval system called System to Retrieve Information from Drug Evidence (STRIDE). This system stored data reflecting the physical characteristics of drugs seized and tested in DEA's eight regional laboratories across the country. Characteristics recorded included the types of drugs, their potency, components, dilutants, location collected, date analyzed, packaging information, and price. The printouts presented in *Scholle* were offered as evidence that cocaine seized in two separate instances during the investigation was the product of a single drug organization and conspiracy.

Authentication of the printouts presented little difficulty. Donald Johnson, Section Chief of the Investigative Service Section of DEA and the founder of STRIDE, identified the printouts as a product of the system and described how the system functioned. This was sufficient to demonstrate that "the matter in question [was] what its proponent claim[ed]."³⁵

The admissibility of the printouts was also challenged on hearsay grounds. While holding the printout qualified as an admissible business record, the court expressed concern regarding the use of computerized business records. Cautioning that the " . . . complex nature of computer storage calls for a more comprehensive foundation,"³⁶ the court added to the requirements of the "regularly

kept records" exception by holding that "the original source of the computer program must be delineated, and the procedures for input control including tests used to assure accuracy and reliability must be presented."³⁷ This suggests a strong preference for expert testimony regarding the computer and records system whenever computerized business records are offered into evidence.³⁸

Computerized Documents and State Evidence Codes

A case decided by the Connecticut Supreme Court, *American Oil Co. v. Valenti*,³⁹ illustrates how State evidentiary statutes based on common law precepts achieve results similar to those reached in *King* and *Scholle*. American Oil Company sought to collect money from a surety after the principal debtor (Valenti) refused to make payments. American Oil sought to prove the amount it was owed through the introduction of computer printouts summarizing the state of the principal debtor's accounts. The issues of authentication and best evidence were not raised. Instead, the court was asked to determine whether American Oil had satisfied the requirements of the business records exception to the hearsay rule. That exception, as then codified in the Connecticut General Statutes, provided as follows:

"Any writing or record, whether in the form of an entry in a book or otherwise, made as a memorandum or record of any act, transaction, occurrence or event, shall be admissible as evidence of such act, transaction, occurrence or event, if

"Courts must be able to determine from the evidence presented that computerized documents are genuine, trustworthy, and probative."

the trial judge finds that it was made in the regular course of any business, and that it was the regular course of such business to make such writing or record at the time of such act, transaction, occurrence or event or within a reasonable time thereafter."⁴⁰

The court held that computer printouts qualified as a "record" under this statute, noting that such a holding "reflects the revolution in data processing that is part of modern reality."⁴¹ The court stated that inclusion of computer business records within this exception to the hearsay rule was appropriate "because computer records are part of ordinary business activities, created for business rather than for litigation purposes, [and] they carry with them the assurance of regularity that is a large element in establishing their trustworthiness."⁴² The court was not willing, however, to embrace computer records without some reservation. Accordingly, the court suggested in the following quotation the desirability of having expert testimony regarding the creation and processing of computerized business records. The court said:

"Business records that are generated by computers present structural questions of reliability that transcend the reliability of the underlying information that is entered into the computer. Computer machinery may make errors because of malfunctioning of the 'hardware,' the computer's mechanical apparatus. Computers may also, and more frequently, make errors that arise out of defects in 'software,' the input procedures, the data base, and the

processing program. In view of the complex nature of the operation of computers and general lay unfamiliarity with their operation, courts have been cautioned to take special care 'to be certain that the foundation is sufficient to warrant a finding of trustworthiness and that the opposing party has full opportunity to inquire into the process by which information is fed into the computer.'"⁴³

A New Jersey appellate court in *Monarch Federal Savings and Loan Association v. Genser*⁴⁴ also addressed the reliability of computerized business records. The court set strict rules regarding what facts must be presented before computer printouts will be accepted in evidence under New Jersey's evidence code. The court held that in addition to the facts required for the admission of noncomputerized business records, the proponent of computerized records must show (1) the methods and circumstances of the computer record's preparation, (2) the type of computer employed, (3) the permanent nature of the record storage, (4) how daily processing of information to be fed into the computer was conducted resulting in permanent records, (5) that the sources of information from which the printout was made have been specified, the original source of the computer program delineated, and the reliability and trustworthiness of the information fed into the computer established, and (6) that the methods and circumstances of preparing the computer printout are set out, including the competency of the computer operators, the acceptance of the computer used as standard and efficient equipment, the procedure for the input and output of information, including controls, tests, and checks for accuracy

and reliability, the mechanical operations of the machine, and the meaning and identity of the records themselves. The court noted in addition:

"... factors listed regarding the methods of preparation are not intended to be exhaustive. A trial court may require further proof as is necessary to justify the admission of a computer record."⁴⁵

The court also required that a computer printout must have been made in the regular course of business rather than specifically for purposes of trial.⁴⁶

Nonbusiness Computerized Documents

Since the computerized business records have been accepted in many courts,⁴⁷ investigators may attempt to introduce nonbusiness computer records in a similar fashion.⁴⁸ While this article does not purport to address the topic of nonbusiness computerized documents, several general principles can be discussed. Authentication and best evidence requirements for nonbusiness records would be similar to those for computerized business records, though there is support for the position that authentication requirements are reduced where evidence is taken from the possession of a criminal defendant.⁴⁹ However, since the business records exception is unavailable, either a substitute exception to the rule against hearsay must be found or it must be established that the offered evidence is not hearsay. In that regard, an out-of-court statement by a defendant or one of his co-conspirators is by defini-

tion not hearsay.⁵⁰ Thus, computerized records created by a criminal defendant or his co-conspirators would also be nonhearsay and admissible,⁵¹ if the requirements of proper authentication and the best evidence rule are met. Information offered as the basis of expert opinion, including computerized data, is also outside the realm of excludable hearsay.⁵² A document offered to prove something other than the truth of its contents, such as knowledge, intent, or absence of mistake, is also considered nonhearsay.⁵³ Therefore, investigators confronted with nonbusiness computerized records should make inquiry to see if they are admissible under any of these principles or other recognized exceptions to the rule against hearsay.

Conclusion

It is essential that a proper factual foundation be laid so that a court may find that the process of creating and maintaining computerized business records is as reliable as it would be had the record been made by pen and paper. The process of writing with a pen on paper is known to us all. For computerized documents to be accepted, the process of computerized creation must also become familiar to courts. In meeting the evidentiary requirements of their jurisdictions for the admission of computerized documents, investigators must discover detailed facts about the involved computer equipment, programs, methods of operation, and the identity of expert witnesses who may assist in familiarizing a court with these facts. The prosecution must be prepared to show that the computer used is recognized

as standard equipment and that the sources of information and method of preparation satisfy the requirements for trustworthiness. Courts must be able to determine from the evidence presented that computerized documents are genuine, trustworthy, and probative. The importance of computerized evidence necessitates that investigators carefully gather the required predicate facts for its admission.

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Footnotes

- ¹ See generally McCormick, *Handbook on the Law of Evidence*, secs. 244-247 (2d ed. 1972).
- ² *Id.* sec. 245.
- ³ See generally *id.* sec. 245.
- ⁴ *Id.* sec. 218.
- ⁵ See generally *id.* secs. 219-224.
- ⁶ See *United States v. Russo*, 480 F.2d 1228 (6th Cir. 1973), *cert. denied*, 414 U.S. 1157 (1973).
- ⁷ McCormick, *supra*, sec. 230.
- ⁸ See generally *id.* secs. 237-240.
- ⁹ *State v. Kane*, 594 P.2d 1357 (Wash. Ct. App. 1979), see also FED. R. EVID. 1006.
- ¹⁰ See generally McCormick, *supra*, sec. 245.
- ¹¹ *Id.*
- ¹² See Bender, David, *Computer Law Litigation*, sec. 6.02[1] (1984).
- ¹³ *Id.* sec. 6.01[3].
- ¹⁴ *Id.* sec. 6.02[6].
- ¹⁵ 222 So.2d 393 (1969).
- ¹⁶ *Id.* at 397.
- ¹⁷ *Id.*
- ¹⁸ *Id.* at 398.
- ¹⁹ *Id.* at 397, 398.
- ²⁰ *Id.* at 398.
- ²¹ 396 N.E.2d 365 (1979).
- ²² *Id.* at 370.
- ²³ *Id.*
- ²⁴ FED. R. EVID. 901(a).
- ²⁵ FED. R. EVID. 1002.
- ²⁶ FED. R. EVID. 1001(1).
- ²⁷ FED. R. EVID. 1003.
- ²⁸ *Id.*
- ²⁹ FED. R. EVID. 1006.
- ³⁰ *Id.*
- ³¹ FED. R. EVID. 801(c).
- ³² FED. R. EVID. 803(6).
- ³³ *Id.*
- ³⁴ 553 F.2d 1109 (8th Cir. 1977), *cert. denied*, 434 U.S. 940 (1977).
- ³⁵ FED. R. EVID. 901.
- ³⁶ *United States v. Scholle*, *supra* note 34, at 1125.
- ³⁷ *Id.*
- ³⁸ See *United States v. Russo*, *supra* note 6, (noting that foundation witnesses were qualified as experts by education, training, and experience).
- ³⁹ 426 A.2d 305 (1979).
- ⁴⁰ *Id.* at 308.
- ⁴¹ *Id.* at 309.
- ⁴² *Id.*
- ⁴³ *Id.* at 310 (quoting McCormick, *Handbook of the Law of Evidence*).

- ⁴⁴ 383 A.2d 475 (N.J. Super. St. Ct. Ch. Div. 1977).
- ⁴⁵ *Id.* at 488.
- ⁴⁶ *Id.* at 486. There is considerable dispute on this point. For a contrary holding, see *Commonwealth v. Hogan*, 387 N.E.2d 158 (Mass. 1979).
- ⁴⁷ *Monarch*, *supra* note 44, at 482 (citing numerous cases).
- ⁴⁸ A logical analysis might follow the reasoning that the fact a computer was used to create a document instead of pen and paper is irrelevant provided a proper foundation is laid for admission and the opposing party is given an opportunity to challenge the evidence. *Cf. United States v. De Georgia*, 420 F.2d 889 (9th Cir. 1969). See also *Palmer v. A. H. Robbins Co., Inc.*, 684 P.2d 187 (Colo. 1984 *en banc*).
- ⁴⁹ Wharton, *Criminal Evidence* sec. 521 (13th ed. 1972). But see *United States v. King*, 472 F.2d 1 (9th Cir. 1973), *cert. denied sub nom. Anas v. United States*, 414 U.S. 864 (1973).
- ⁵⁰ FED. R. EVID. 801(d)(2)(A) and 801(d)(2)(C).
- ⁵¹ *Cf. United States v. Bruner*, 657 F.2d 1278 (D.C. Cir. 1981).
- ⁵² FED. R. EVID. 703, *cf. United States v. Bastenipour*, 697 F.2d 170 (7th Cir. 1982), *cert. denied*, 460 U.S. 1091 (1983).
- ⁵³ See *United States v. Bruner*, *supra* note 51.

END