

Western New England Law Review

Volume 24 24 (2002)

Issue 2 Symposium - *Choosing the Digital Future: The
Use and Recording of Electronic Real Estate
Instruments*

Article 2

1-1-2002

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Recommended Citation

Dale A. Whitman, *ARE WE THERE YET? THE CASE FOR A UNIFORM ELECTRONIC RECORDING ACT*, 24 W. New Eng. L. Rev. 245 (2002), <http://digitalcommons.law.wne.edu/lawreview/vol24/iss2/2>

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ARE WE THERE YET? THE CASE FOR A UNIFORM ELECTRONIC RECORDING ACT

DALE A. WHITMAN*

I. INTRODUCTION

More than three years ago I suggested¹ that our nation was faced with an unprecedented opportunity to use digital technology to make the public real estate recording system functional once again.² Electronic recording has the potential to produce huge gains. Recording could become vastly quicker and more convenient; document preparation time and expense could be reduced significantly; errors in recorded documents would be much more likely to be caught and corrected; successful forgeries would be far less likely to occur; examination of the public records could be much more efficient; and the need for title insurance companies to maintain private records duplicating the information in the public records could be eliminated.

Since my previous article was published, two extremely significant statutes have been enacted.³ Yet progress toward digitization of public land title records has seemed glacially slow. I propose to

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1. Dale A. Whitman, *Digital Recording of Real Estate Conveyances*, 32 J. MARSHALL L. REV. 227 (1999).

2. I use the phrase "once again" to reflect the fact that, while direct search in the public records was once common, in most urban recording offices today few title searches occur. Rather, title insurance companies use those offices only as a point of "daily takeoff" of the recorded documents, which are then placed in privately-owned "title plants" where the actual searches are performed. See *First Am. Title Ins. Co. v. State Dept. of Revenue*, 991 P.2d 120 (Wash. App. 2000), *aff'd*, 27 P.3d 604 (Wash. 2001), and Dale A. Whitman, *Optimizing Land Title Assurance Systems*, 42 GEO. WASH. L. REV. 40, 58-61 (1973), for a description of "title plants." There are many reasons why direct searching in the public records is not feasible in most urban areas, but one of the most obvious is that these records systems, in most jurisdictions, are indexed only by the names of the parties to each instrument and not by the tract or parcel of land they affect. Searches in name indexes, particularly in highly populous counties, are extremely cumbersome and error-prone.

3. Electronic Signatures in Global and National Commerce Act, 15 U.S.C. § 7001 (2002) [hereinafter E-SIGN], (effective for most purposes on Oct. 1, 2000); UNIF. ELEC. TRANSACTIONS ACT (Nat'l Conf. of Comm'rs on Unif. State Laws 1999) [hereinafter UETA].

analyze these two acts, to examine the efforts being made to implement electronic recording, and to discuss the additional legislation that is needed to get the process of reform moving at a more rapid rate.

A digital recording system has many elements, and the discussion later in this article will mention a number of them. In essence, however, three legal elements are required. First, as a matter of substantive law, it must be permissible for the parties to real estate transactions to create and convey interests in property by electronic, as distinguished from paper, documents. Second, public recorders must be authorized by law to accept such documents for recordation. Third, they must be authorized to store such documents and maintain the required indexes in electronic form, hopefully in a manner that will take advantage of the electronic format to provide broad public and title industry access.

To implement digital recording, a confluence of several factors is necessary: political will on the part of the public officials involved (recorders and their political masters, usually county commissioners or supervisors), legal authority, and budgets adequate to the task. Without all of these factors, little progress is likely.

II. POLITICAL WILL TO REFORM

It is likely that many, perhaps most real estate recorders,⁴ have little interest in converting their records to electronic form or in accepting electronic documents. Many of them work in small counties, with perhaps only a few hundred or a few thousand recordings each year.⁵ They may have little technical expertise, either on staff

4. I have used the term "recorder" throughout this article, although in some jurisdictions the official responsible for real estate recordings is called the "clerk," the "auditor," or some other title. Recorders may belong to either or both of two national organizations: the National Association of County Recorders, Election Officials and Clerks ("NACRC," usually pronounced "nack-rack"), an affiliate of the National Association of County Officers (NACO); and the International Association of Clerks, Recorders, Election Officials, and Treasurers (IACREOT), formed by individuals who broke away from NACO in 1971. Both organizations serve other types of local officials (e.g., county clerks, court clerks, election officials, and treasurers) in addition to recorders.

5. There are more than 3600 recorders' offices in the United States. By one estimate, the populations served by recorders break down as follows: greater than 500,000—104 offices; 250,000 to 499,000—100 offices; 100,000 to 249,000—304 offices; 50,000 to 99,999—286 offices; 25,000 to 49,000—630 offices; less than 25,000—1,618 offices; New England towns—482 offices. Ernst Publ'g Co., *Land/Property Records Interest Group: Basic Recording Facts*, Ernst Publishing Co. at <http://www.nacrc.org/interestgroups/LandPropRecordsAdmin/reports/numRecordingoffices.htm> (last visited

or available to them from the county or town government. Indeed, they may be only marginally able to keep up with their current workloads with existing resources. In the absence of a major infusion of funds or some other unlikely incentive, it is not realistic to expect such recorders to be early endorsers or implementers of digital recording.

However, there are a few important exceptions; recorders who have had the time, creativity, and resources to bring digital recording to reality. Several of them have become well known among their peers for implementing some aspects of digital recording.⁶ Their jurisdictions include Salt Lake County, Utah;⁷ Orange County, California;⁸ Maricopa County, Arizona;⁹ Boone County, Missouri;¹⁰ and Broward¹¹ and Palm Beach Counties, Florida.¹² Most of these counties have engaged in partnerships with private technology firms to create their systems.¹³ Although these recorders have done impressive and creative work, their systems still fall

Nov. 14, 2002). Thus, of the county-based offices, 53 percent are located in counties with populations of less than 25,000. Most of the New England towns with recorders offices also have small populations.

6. Of course, many recorders have been using technology for years, but in ways falling far short of electronic recording. In one survey, with responses from about 35% of U.S. recording jurisdictions, 33% of the respondents indicated that they used optical imaging to store documents, 3.7% used microfiche, 9.5% used paper only, and the remainder presumably used microfilm. Carmelo D. Bramante, *National Technology Survey Results of County Recorders*, Presentation Given to Property Records Industry Joint Task Force (July 15, 1999), at <http://www.prijtf.org/prijtf99/rsld001.htm>.

7. See Salt Lake County Recorder, at <http://rec.co.slc.ut.us/polaris/default.cfm> (last visited Nov. 14, 2002).

8. See Orange County Clerk Recorder, at <http://www.oc.ca.gov/recorder/index.htm> (last visited Nov. 14, 2002).

9. See Maricopa County Recorder, at <http://recorder.maricopa.gov/recorder.htm> (last visited Nov. 14, 2002).

10. See Boone County Recorder, at <http://www.showmeboone.com/recorder/> (last visited Nov. 14, 2002).

11. See Broward County Records Division, at <http://www.broward.org/records> (last visited Nov. 14, 2002). Broward was the site of what was widely hailed as the first completely electronic home purchase and financing in the country. It occurred in July 2000. Robyn Friedman, *Paperless Trail: Pioneering Home Buyers Work Entirely Online*, S. FLA. SUN-SENTINEL, Jan. 12, 2001; Scott Wyman, *Broward Home Buyers Can Now Seal Their Deals on the Internet*, S. FLA. SUN-SENTINEL, Jul. 26, 2000; *A Technological First*, NACRC BULLETIN (Aug. 2000), at 10, <http://www.nacrc.org/newsletters/aug2000.pdf>.

12. See Clerk of the Circuit Court, Palm Beach County, at <http://www.pbcountyclerk.com> (last visited Nov. 14, 2002).

13. Among the private firms developing technology for recorders are E-cloz, at <http://www.e-cloz.com/ecloz/index.htm> (last visited Nov. 14, 2002), NewVision Systems Corp., at <http://www.newvisionsystems.com/> (last modified Aug. 10, 2001), and Ingeo Systems, Inc., at <http://www.ingeo.com> (last visited Nov. 19, 2002). Electronic docu-

short of what is possible for digital recording. To be specific, although they are storing documents in digital form, and are making electronic indexes available to the public and the title industry on the Internet, none of them¹⁴ are as yet accepting documents in the form of digital text with digital signatures. Instead, they are receiving only paper documents, which are then scanned into computers in the recorders' offices, leaving them with scanned versions of paper documents.¹⁵ Thus, what is stored is simply a graphical representation of the paper document with its handwritten signatures. This is an intermediate and perhaps necessary step between traditional recording and true digital recording.

A. *The Property Industry Records Joint Task Force*

In 1998, a group of progressive recorders, working with several private companies that provide services to recorders, formed the Property Industry Records Joint Task Force.¹⁶ The Task Force quickly became the leading United States organization working toward implementation of digital recording systems. Its primary object has been "[t]o identify problems, recognize opportunities and develop solutions that will make property records systems more efficient, effective and responsive to the public."¹⁷ While it has spent some time and energy on non-electronic issues,¹⁸ clearly digital recording has been its highest priority.

The Task Force has created several committees to advance its work on digital recording. Perhaps the most critical, the Technol-

ment technology is provided by such firms as eOriginal, at <http://www.eoriginal.com/> (last visited Nov. 14, 2002).

14. An exception is the Broward County, Florida system mentioned *supra* note 11, but it is not being used to record digital documents on a widespread basis.

15. See, e.g., Press Release, Broward County, Florida, Broward County Records to Implement New Recording Software, <http://www.co.broward.fl.us//cri02600.htm> (last revised Apr. 2, 2002). In describing the new system, the press release states that "[r]ecording will be done from images, which will be captured as the first step in the recording process." *Id.*

16. The Task Force is cosponsored by NACRC and IACREOT. See *supra* note 4. A great deal of information about the Task Force, including copies of all of its newsletters, is found on its Web site, <http://faxxon.cifnet.com/taskforce> (last modified Sept. 6, 2002). It recently renamed itself the Property Records Industry Association (PRIA), a more pronounceable acronym, but the Web site address remains valid.

17. FOR THE RECORD, (Prop. Indus. Records Joint Task Force), Mar./Apr. 1999, at 3, <http://faxxon.cifnet.com/taskforce/newsletters/1999MarApr.pdf>.

18. Notably, the Task Force was concerned with the implementation of the 1999 revision of Uniform Commercial Code Article 9 and with the establishment of standards for the submission of paper documents for recording. See *supra* note 16 for the newsletters available through the Task Force Web site.

ogy Committee has met on numerous occasions since 2000. It has developed a set of standards for the use of Extensible Markup Language (XML) in the recording of digital documents.¹⁹ XML is a language that involves the use of “tags” surrounding each data item to identify the nature and relevance of that item. The “tags” are enclosed in angle brackets. For example, a grantor’s signature on a document might be represented as <grantor’s signature>John W. Jones<grantor’s signature>. The concept seems simple, but it gives the system vast flexibility, since by careful design every possible form of necessary data can be accepted by the system, and all data elements are clearly identified by their accompanying tags.²⁰ The Technology Committee has developed the concept that every electronic document submitted for recordation would be attached to an XML “wrapper” that would contain the data necessary to index it: parties’ names, type of document, legal description, date, and so on. By this means, documents would become “self-indexing.” If the XML wrapper were properly prepared, it would be read directly by the recorder’s computer, and no human intervention would be needed in the recorder’s office to index the document.²¹ Significantly, the Task Force’s XML standards can work equally well with digitized (scanned) paper documents or with documents in original digital form, including digital signatures.

The work of the Task Force indicates that the political will to reform the recording process is indeed present, at least in sufficient supply to allow the creation of a number of meaningful projects. Many recorders will, of course, prefer not to be part of the “first wave” of electronic recording, but there are many who are willing to take the risks and bear the costs involved in making digital recording work.

III. LEGAL AUTHORITY FOR REFORM

It is clear nearly everywhere in the United States that recorders cannot accept digital documents without first gaining new legal

19. Marc Monacelli, *Property Records Industry Joint Task Force*, NACRC BULLETIN, Fall 2001, at 13, <http://www.nacrc.org/newsletters/fall2001.pdf> (last visited Nov. 14, 2002).

20. For a tutorial on XML, see <http://msdn.microsoft.com/library/default.asp?url=/library/en-us/xmlsdk30/html/xmtutxmiltutorial.asp> (last visited Nov. 14, 2002).

21. This is an updated electronic version of the concept of the “cover page” — a document accompanying a recorded instrument that contains all of the data needed to record and index the instrument. I first advocated this concept nearly 30 years ago, although it has achieved acceptance only in the past decade or so. See Whitman, *supra* note 2, at 53-54.

authority. The reason is, traditional statutes authorizing recording of real estate instruments speak only in terms of paper documents. The Massachusetts statute is typical; it provides that the register of deeds:

Shall record all instruments upon the pages of the record books in fair and legible handwriting or in print, and in continuous successive lines, and shall note on the record, before attesting the same, all erasures and interlineations and the value of any stamp affixed thereto pursuant to federal law, and the cancellation thereof, and he shall make duplicate microphotographic process copies of all books in his registry in which deeds, certificates of title and other instruments have been recorded or entered.²²

This focus on paper documents is not surprising, since the Statute of Frauds in nearly every jurisdiction has traditionally required a writing for all conveyances of interests in land. Again, the Massachusetts statute is typical:

An estate or interest in land created without an instrument in writing signed by the grantor or by his attorney shall have the force and effect of an estate at will only, and no estate or interest in land shall be assigned, granted or surrendered unless by such writing or by operation of law.²³

Plainly the words “instrument” and “writing” were traditionally understood to require inscription on paper or some other tangible medium.

The recorders who have developed the limited forms of electronic recording mentioned in the previous section of this article have, for the most part, operated under recently enacted state legislation authorizing their path-breaking work. There may be a dozen of these statutes, usually passed as amendments to the existing legislation applicable to recorders. There is a great deal of variation between statutes. Some of them, for example, authorize only the recordation of digitally-scanned paper documents.²⁴ Others are not

22. MASS. GEN. LAWS ch. 36, § 15 (2001).

23. ch. 183, § 3.

24. E.g., ARIZ. REV. STAT. § 11-461(C) (2002) (“The recorder may accept a digitized image of a recordable instrument for recording if . . . the instrument from which the *digitized image* is taken conforms to all applicable laws relating to the recording of paper instruments.” (emphasis added)); VA. CODE ANN. § 17.1-240 (Michie 2001) (“A procedural microphotographic process, digital reproduction, or any other micrographic process which stores *images of documents* in reduced size or in electronic format, may be used to accomplish the recording of writings otherwise required by any provision of law” (emphasis added)); WASH. REV. CODE § 36.22.160 (2002).

limited in this fashion and, in principle, would appear to allow rec-
ordation of digital text documents.²⁵ Some of the statutes leave un-
certain whether digital text documents are acceptable or appear to
delegate that decision to some administrative body.²⁶ As one
would expect at such an early stage of development, there is little
consistency among these statutes. Perhaps the single thread uniting
them is the notion that use of electronic technology is optional
within the individual recorder's office, and no recorder is required
to adopt it.

A. *Uniform Electronic Transactions Act*

The adoption of the Uniform Electronic Transactions Act,
("UETA") by the National Conference of Commissioners on Uni-
form Laws in 1999 gave new hope to the advocates of electronic
recording. This hope was heightened by the Act's rapid adoption
by a large majority of the states.²⁷ Of course, recording of real es-
tate documents was not a primary thrust of UETA. As the official
"Summary" of UETA states:

The basic rules are in Section 7 of UETA. The most fundamental
rule in Section 7 provides that a "record²⁸ or signature may not
be denied legal effect or enforceability solely because it is in elec-
tronic form." The second most fundamental rule says that "a con-
tract may not be denied legal effect or enforceability solely

Each county auditor is hereby authorized to provide for the installation and
thereafter for the maintenance of an improved system for copying, preserving,
and indexing documents recorded in the county. Such a system may utilize the
latest technology including, but not limited to, photomicrographic and com-
puterized electronic digital storage methodology.

Id.

25. *E.g.*, MO. REV. STAT. § 59.563 (2002) ("The recorder of deeds in any munici-
pality or county of this state may establish an electronic format for the recording or
filing of documents which such recorder has a constitutional or statutory duty to
maintain.").

26. *E.g.*, TEX. LOC. GOV'T CODE ANN. § 191.009 (Vernon 2002) ("A county clerk
may accept instruments by electronic filing and record the instruments electronically if
the filing or recording complies with the rules adopted by the Texas State Library and
Archives Commission under Chapter 195.").

27. At least 37 states have adopted UETA at this writing. *See E-Transaction Law
Resources Legislation, Regulations and Policy—By U.S. State* (Baker & McKenzie) at
<http://www.bmck.com/legis-t.htm> (last visited Nov. 14, 2002) (tracking UETA
adoptions).

28. The term "record" is defined by UETA to mean "information that is inscribed
on a tangible medium or that is stored in an electronic or other medium and is retrieva-
ble in perceivable form." In effect, "record" encompasses both paper and electronic
documents. UETA. § 2 (proposed draft 1999).

because an electronic record was used in its formation.”²⁹ The third most fundamental rule states that any law that requires a writing will be satisfied by an electronic record. And the fourth basic rule provides that any signature requirement in the law will be met if there is an electronic signature.³⁰

Thus, UETA’s principal purpose is to eliminate barriers, such as the traditional Statute of Frauds, to the effectiveness and enforceability of electronic documents and signatures. That is not a trivial accomplishment from the viewpoint of electronic recording, for there is little point even in thinking about recording electronic real estate documents in the absence of assurance that they will be enforceable. But validity and enforceability are not enough, since the administrative provisions of most state laws governing the recording process remain in place, and these are nearly always based on the assumption that paper documents will be recorded.

Three “optional” sections of UETA have more direct potential impact on electronic recording, for they deal not with private enforcement but with the administrative machinery of the state and its agencies. Again, the official “Summary” of UETA explains:

Section 17 allows a state to designate one agency or officer as the authority on creation and retention of governmental records. Section 18 allows a state to designate which agency or officer regulates the communication of electronic records and use of electronic signatures between agencies and other persons. Section 19 allows a state to designate an agency or officer to set standards that promote consistency and interoperability between state agencies with respect to the use of electronic records and signatures. . . . These are very important provisions, however, because they provide a state with some root law for organizing the electronic business of the state.³¹

These provisions were challenging ones for the UETA drafting committee. They reflect a compromise that was designed to be acceptable to all states, in the face of varying political interests and administrative structures. Balancing authority between individual

29. Perhaps UETA is not necessary for this purpose. See Nikoletta Banushi, *Can E-mail Seal a Sales Deal? Judge Says Yes, Refuses to Dismiss Lawsuit Claiming Breach of Contract*, BOSTON GLOBE, Mar. 16, 2002, http://realestate.boston.com/news/2002/03/can_email_seal_sales_deal.html (last visited Nov. 14, 2002). Massachusetts has not yet adopted UETA.

30. Summary of UETA, at http://www.nccusl.org/nccusl/uniformact_summaries/uniformacts-s-ueta.asp (last visited Nov. 14, 2002).

31. Summary of UETA, *supra* note 30.

agencies and a designated state officer (the “computer czar,” to resort to colloquial terminology) proved difficult to achieve. Ultimately, the drafters and the Conference decided to leave that balance to the individual jurisdictions.

A closer look at these three sections from the viewpoint of local recorders may be helpful. Section 17 deals with ‘internal’ records of government agencies. It provides that “[Each governmental agency] The [designated state officer]] of this State shall determine whether, and the extent to which, [it] [a governmental agency] will create and retain electronic records and convert written records to electronic records.”³²

Despite the “internal” nature of the records mentioned here, the section is highly relevant to recorders. Once a document is recorded, it becomes an “internal” record, perhaps to be “converted” to electronic form, and in any event to be “retained” by the recorder’s office. Thus Section 17 gives enacting states the choice whether to have decisions about electronic record conversion and retention made by “each governmental agency” or by the “designated state officer.” Since each county or town recorder is an individual “agency,” the former choice would mean that every individual recorder—dozens or even hundreds of them in a given state—would be empowered to make her or his own decisions about electronic document conversion and retention. Of course, in most states there is no statewide official with any supervisory authority over recorders.³³ Consequently, unless such a central authority is created or some existing statewide agency is granted additional authority, there would be no plausible alternative to letting each recorder decide.

UETA Section 18 deals with “external” records—that is, those submitted to government agencies from outside sources. Once again, the decision as to whether electronic records will be accepted is to be made either by “each governmental agency” or by the “designated state officer”:

[each governmental agency] [the [designated state officer]] of this State shall determine whether, and the extent to which, [it] [a governmental agency] will send and accept electronic records and electronic signatures to and from other persons and otherwise

32. UETA § 17 (1999).

33. Massachusetts represents an unusual case, since registers of deeds in Massachusetts are directly supervised by the Secretary of State. MASS. GEN. LAWS ch. 34B, § 10 (2002).

create, generate, communicate, store, process, use, and rely upon electronic records and electronic signatures.³⁴

Section 18 goes on to provide very extensive authority to the individual agency or the state officer, as the case may be, with regard to formatting of records, types of electronic signatures that will be acceptable, standards that must be met by certification authorities issuing such signatures, and matters of storage, backup, and auditability of the records.³⁵ I will return to these powers later. Finally, Section 19 authorizes the party or parties with the authority mentioned above to “promote consistency and interoperability with similar requirements adopted by other governmental agencies.”³⁶

B. *The Advent of E-SIGN*

Shortly after UETA was approved by the Commissioners on Uniform State Laws, the U.S. Congress stepped into the arena of electronic records by adopting the Electronic Signatures in Global and National Commerce Act (“E-SIGN”).³⁷ E-SIGN’s core holding is essentially identical to UETA’s—that documents and signatures cannot be denied validity or enforceability because they are in electronic form.³⁸ In light of that fact, it is questionable whether E-SIGN needed to be enacted at all. It was promoted heavily by industry groups out of concern that UETA would take a long time to achieve nationwide enactment, and that it might be weakened by non-uniform amendments or omissions in the process.³⁹

There are a number of differences between UETA and E-SIGN; the most obvious being that E-SIGN is federal law and hence immediately effective in every state.⁴⁰ UETA on the other hand must be enacted state-by-state. Other differences are of less consequence for our purposes.⁴¹ The difference of most relevant to

34. UETA § 18(a).

35. See Whitman, *supra* note 1, at 248-50, for a discussion of the role of certification authorities in issuing digital signatures.

36. UETA § 19.

37. 15 U.S.C. § 7001 (2000).

38. § 7001(a).

39. Robert A. Wittie & Jane K. Winn, *Electronic Records and Signatures Under the Federal E-Sign Legislation and the UETA*, 56 BUS. LAW. 293, 296-97 (2000).

40. E-SIGN was signed by President George W. Bush on June 30, 2000, and took effect, for most purposes, on October 1, 2000.

41. E-SIGN contains elaborate consent requirements for consumer transactions. 15 U.S.C. § 7001(c). E-SIGN exempts wills, codicils, testamentary trusts, documents affecting adoption, divorce, or other matters of family law, and the Uniform Commercial Code, other than sections 1-107 and 1-206 and Articles 2 and 2A. § 7003(a). UETA’s exemptions are similar but do not include adoption, divorce, or family law.

our present purposes is the fact that E-SIGN, unlike UETA, contains no language expressly requiring state or local governmental agencies to accept electronic documents for filing or recording.⁴²

Despite the lack of express language, an argument can be made that E-SIGN does require acceptance by recorders and other agencies of electronic documents. E-SIGN's construction is cumbersome and hard to parse.⁴³ The Act states that it does not "require any person to agree to use or accept electronic records or electronic signatures, other than a governmental agency with respect to a record other than a contract to which it is a party."⁴⁴ This convoluted sentence seems to indicate that government agencies are indeed required to accept electronic records.

However, the Act also provides that it does not supersede the requirement of any governmental regulatory agency "that records be filed with such agency or organization in accordance with specified standards or formats."⁴⁵ This sentence might be read to permit agencies to demand paper documents and reject electronic filings altogether. On the other hand, it might mean merely that when agencies accept electronic filings, as they are arguably required to do under the language quoted in the previous paragraph, they can establish formatting standards for those electronic documents. The latter interpretation seems more plausible, but would give no comfort to agencies asserting that they are not yet ready to accept electronic filings.

A different provision of E-SIGN has been read by Professors Wittie and Winn to support the view that governmental agencies are not automatically required to accept electronic filings.⁴⁶ E-SIGN states that it does not relieve any "federal regulatory agency of its obligations under the Government Paperwork Elimination Act." The Paperwork Elimination Act, in turn, establishes a five-year time frame for federal agencies to adopt procedures allowing

UETA § 3(b). UETA adds, as an exemption, matters covered by the Uniform Computer Information Transactions Act (UCITA).

In addition, E-SIGN exempts "default, acceleration, repossession, foreclosure, or eviction, or the right to cure, under a credit agreement secured by, or a rental agreement for, a primary residence of and individual. 15 U.S.C. § 7003(b)(2)(B). UETA does not contain any similar exemptions.

42. 15 U.S.C. § 7001; UETA (Nat'l Conf. on Unif. State Laws 1999).

43. See Wittie & Winn, *supra* note 39, at 314-16.

44. 15 U.S.C. § 7001(b)(2).

45. § 7004(a).

46. Wittie & Winn, *supra* note 39, at 315-16.

them to accept electronic documents and signatures.⁴⁷ This time frame would make little sense if E-SIGN were meant to require the agencies to accept such filings immediately.

Finally, several statements by members of Congress during the enactment process take the view that government agencies are not necessarily required to begin accepting electronic filings by E-SIGN's effective date. For example, Representative John Dingell of Michigan noted:

In some circumstances, the bill gives agencies authority to set standards or formats; in doing so, they may decide in some cases not to adopt an electronic process at all for filings if they determine (consistent with the Government Paperwork Elimination Act), after careful consideration, that this alternative is not practicable.⁴⁸

In light of these conflicting signals, it is not easy to determine whether real estate recorders were required by E-SIGN to accept electronic documents by the Act's effective date, October 1, 2000. Based on the reasoning and legislative history mentioned above, several commentators concluded that recorders were not obligated to do so.⁴⁹ As a practical matter, the proper interpretation of the

47. Government Paperwork Elimination Act, Pub. L. No. 105-277, § 1704, 112 Stat. 2681-749 to 2681-751 (1998) (allowing the Director of the Office of Management and Budget a five-year period from the effective date, Oct. 21, 1998, to ensure that executive agencies are accepting electronic records and electronic signatures).

48. 146 CONG. REC. E1071-01 (daily ed. June 21, 2000). The explanatory statement that accompanied the introduction of the Electronic Signatures in Global and National Commerce Act stated:

Section 104(a) provides that subject to section 104(a)(2), a Federal regulatory agency, a self-regulatory organization, or State regulatory agency may specify standards or formats for the filing of records with that agency or organization, *including requiring paper filings or records*. While the conference report preserves such authority to such agencies or organizations, it is intended that use of such authority is rarely exercised.

146 CONG. REC. S5281, S5286 (daily ed. June 16, 2000) (emphasis added) (explanatory statement of S.761).

Senator Patrick J. Leahy of Vermont, during the debate on the Conference Report of the Electronic Signatures in Global and National Commerce Act, stated:

Federal agencies are already working toward full acceptance of electronic filings, pursuant to the schedule established by the Government Paperwork Elimination Act. I am confident that State agencies will follow our lead. Until they are technologically equipped to do so, however, they have an unqualified right under section 104(a) to continue to require records to be filed in a *tangible printed or paper form*.

146 CONG. REC. S5215, S5222 (daily ed. June 15, 2000) (emphasis added).

49. Wittie & Winn, *supra* note 39, at 316; Memorandum from Goodwin, Proctor & Hoar, to Am. Land Title Ass'n, Consumer Mortgage Coalition, and Elec. Fin. Servs.

statute was largely irrelevant, for the vast majority of county recorders were simply incapable of accepting electronic documents by the relevant date. For them to have attempted to do so would have been disastrous. As the Attorney General of New York put it:

If E-SIGN obligates county recording officers to presently accept filings for recordation that contain electronic signatures, the recording system for real property transactions will suffer grave inefficiencies until such time as recording officers are fully prepared to handle such filings. In the interim, persons affected by an area of the law in which the need for certainty is paramount may be compromised irreparably.⁵⁰

Whatever the ultimate “truth” about E-SIGN’s requirements for government agencies, it is clear that E-SIGN provides no administrative framework for county recorders to rely upon. Unlike UETA, E-SIGN says nothing about who (the individual agency or some statewide officer) will establish standards for electronic documents, the types of electronic signatures that will be acceptable, the standards that must be met by certification authorities issuing such signatures, or issues of storage, backup, or auditability of the records. While UETA is quite general in its coverage of these matters, E-SIGN is utterly silent with respect to them.

C. *What UETA Authorizes*

E-SIGN contributes little to our understanding of the powers and authority of recorders with respect to electronic documents. Hence, except in the few states that have adopted statutes dealing with the topic,⁵¹ we are left to consider what recorders can do under UETA. In short, the answer is a great deal, but probably not enough for successful and creative implementation of a strong electronic recording system.

Of what does such a system consist? The answers given here are based in large part on the more detailed analysis in my earlier work.⁵² The most important element, the validity and enforceability of electronic real estate conveyances with electronic signatures,

Council, (Sept. 14, 2000), *available at* <http://www.efscouncil.com/frames/Library/>; Op. of New York Att’y Gen., Op. 2001-3 (June 8, 2000), *available at* http://www.oag.state.ny.us/lawyers/opinions/2001_3.html. The Attorney General of California reached the same conclusion, albeit with less reasoning, Op. Att’y Gen. No. 02-112 (Sept. 4, 2002).

50. Op. Att’y Gen. No. 02-112 (Sept 4, 2002).

51. *See supra* notes 24-26 and accompanying text.

52. *See Whitman, supra* note 1.

is established by both UETA and E-SIGN.⁵³ In addition, UETA authorizes the establishment of standards, either by individual recorders or by a designated state official, for the following:

1. Acceptance of such electronic documents for recording.⁵⁴
2. Formatting electronic documents to be recorded, whether as digital text, as scanned graphics, or both.⁵⁵
3. Use of Extensible Markup Language or other digital “wrappers” on electronic documents, supplying the necessary information to index them.⁵⁶
4. Automated error-checking of electronic documents submitted for recordation.⁵⁷
5. Backup and archiving of the recorder’s database.⁵⁸
6. Auditing of the database to determine whether adequate procedures are in place.⁵⁹
7. Use and format of digital signatures.⁶⁰

53. UETA § 7 (1999); E-SIGN, 15 U.S.C. § 7001(a). Note the exceptions in UETA for wills and testamentary trusts, UETA § 3(b), and in E-SIGN for wills, testamentary trusts, and documents affecting adoption, divorce, or other matters of family law, 15 U.S.C. § 7003(a).

54. UETA § 18(a).

55. § 18(b)(1).

56. These matters are readily encompassed within UETA section 8(b)(1), which refers to “the manner and format in which the electronic records must be created, generated, sent, [and] communicated.” In the past few years a number of states, and many individual recorders in other states, have begun requiring document submitters to provide, with each document, a “cover sheet” or data block containing in summary form the information necessary to index the document. *See, e.g.*, MO. REV. STAT. § 59.310(1) (2001); WASH. REV. CODE §§ 65.04.045(c)-(f) & 65.04.047 (2002). Virginia has a less comprehensive version, VA. CODE ANN. § 17.1-223 (Michie 1999). *See also Land Records Cover Sheet and Barcode Seminar*, Fairfax County, Virginia, <http://www.co.fairfax.va.us/courts/circuit/pdf/mastercovsheet.pdf> (last visited Nov. 14, 2002). These “cover sheet” requirements can be seen as a precursor to the sort of electronic “wrapper” mentioned in the text, which serves much the same purpose but can be read by computer without human assistance.

57. UETA § 18(b)(4) (referring to any “other required attributes for electronic records which are specified for corresponding nonelectronic records or reasonably necessary under the circumstances”).

58. § 18(b)(3) (referring to “adequate preservation, disposition, integrity, [and] security . . . of electronic records”).

59. *Id.* “Auditability” refers to the notion that a subsequent third party (an “auditor”) can examine the record of a transaction, reconstruct the transaction from that record, and identify cases in which the record has been modified or falsified so as not to reflect the actual transaction accurately. Jon M. Peha, *Electronic Commerce with Verifiable Audit Trails*, at http://www.isoc.org/inet99/proceedings/1h/1h_1.htm (last visited Dec. 18, 2002).

60. UETA § 18(b)(2). For a detailed discussion of digital signatures, see Benjamin Wright, *Eggs in Baskets: Distributing the Risks of Electronic Signatures*, 32 UWLA L. REV. 215 (2001); David L. Gripman, Note, *Electronic Document Certification: A Pri-*

8. Qualification of certification authorities⁶¹ issuing digital certificates, including the proof an applicant must show to obtain a digital ID,⁶² the security of the certification authority's database, the type or types of storage media that are acceptable for digital ID's, and any desired requirements for biometric augmentation of digital signatures.⁶³

This list goes a long distance toward creating the legal environment that recorders need to record electronic documents, but it does not go far enough, for there are a number of other features, discussed in the next section of this article, that are needed or desirable but are not included. However, this is not a criticism of UETA or its drafters. Of necessity, they were concerned with the entire panoply of electronic records and state agencies. It would have been impractical for them to draft provisions specifically directed toward real estate recording.

IV. THE ELEMENTS OF A NEW UNIFORM ELECTRONIC RECORDING ACT

What is needed is a new uniform act to fill the gaps remaining after passage of UETA. In August 2002, the National Conference of Commissioners on Uniform State Laws appointed a drafting committee to prepare such an act, with Dean Arthur Gaudio of the Western New England College School of Law as Reporter. What should be the nature of such an act? Like UETA, it should be an "overlay" statute, designed to work compatibly with existing state

mer on the Technology Behind Digital Signatures, 17 J. MARSHALL J. COMPUTER & INFO. L. 769 (1999); W. Everett Lupton, Comment, *The Digital Signature: Your Identity by the Numbers*, 6 RICH. J.L. & TECH. 10 (1999).

61. A "certification authority" is a trusted third party issuing digital certificates that can be used to sign electronic documents. Using public key infrastructure (PKI), the certification authority serves to verify that a particular digital signature attached to a document is authentic. See Lupton, *supra* note 60, at 779-82.

62. There is a significant risk that a certification authority might issue a digital certificate to an imposter. See, e.g., Jaikumar Vijayan, *Microsoft Warns of Fraudulent Digital Certificates*, COMPUTERWORLD, Mar. 22, 2001, <http://www.computerworld.com/securitytopics/security/story/0,10801,58857,00.html> (describing how VeriSign, one of the largest certification authorities, was "spoofed" into issuing two digital certificates to imposters who represented themselves as Microsoft employees).

63. An individual might steal or otherwise improperly acquire the "token" (disk, smart card, or other media) containing a properly issued digital certificate, and might then use the token to impersonate the true owner's signature. To prevent this, biometric identification of the person exercising the token can be used. A variety of biometric identification schemes are available, including those based on handwriting, fingerprints or palmprints, voiceprints, the pattern of blood vessels in the retina of the eye, and even DNA. See generally Wright, *supra* note 60.

recording statutes rather than to replace them wholesale. The following discussion should provide a useful starting point with respect to the topics, not already covered by UETA, that would be useful components of a Uniform Electronic Recording Act.

A. *Standard Document Forms*

Much repetition occurs in the recording of real estate conveyances. The vast majority of transactions involve the use of identical forms, with only a small amount of variable information: the names and signatures of the parties, the date, the description of the real estate, and the notary's signature, date, and seal. Perhaps the worst offender is the standard one-to-four-family Fannie Mae-Freddie Mac mortgage form which, depending on the state and version, may run upwards of twenty pages. It makes no sense to record this "boilerplate" repeatedly. Whether in a paper or an electronic regime, standardized documents should be recorded only once, and then simply incorporated by reference into each individual transaction. Some states authorize this practice now to a limited extent,⁶⁴ but it should be available universally. Even though digital storage is relatively cheap, it should not be squandered. Most documents could be reduced to less than one page or its electronic equivalent by this method.⁶⁵ Of course, hand-tailored documents would still need to be recorded in full.

B. *The Role of the Notary*

Nearly every state presently requires that the signatures on real estate conveyances be acknowledged before a notary or other officer before recording. It is at least arguable that notarial acknowledgment should no longer be required if documents are in electronic form,⁶⁶ with digital signatures confirmed by a secure and well-managed certification authority. The certification authority might well employ, and be required by law to employ, identification methods far more secure than those typically used by notaries.⁶⁷

64. See CAL. CIV. CODE § 2952 (1993) (recording of fictitious mortgage or deed of trust); NEV. REV. STAT. § 111.353 (1998) (recording of master mortgage or deed of trust); VA. CODE ANN. § 17.1-259 (Michie 2001) (recording of master deed of trust).

65. At the same time, care must be taken not to stifle the creativity of real estate lawyers. If a document does not coincide with the standard forms or categories recognized by the recorder, it must be recordable in any event without distorting its meaning by "pushing" it into a category it does not fit.

66. See ARIZ. REV. STAT. § 41-356 (2001) (authorizing electronic notarization without the signer's personal appearance before the notary).

67. Indeed, the certification authority has been referred to as a "super notary."

Of course, that is not the end of the story. As mentioned above, the token containing an owner's digital ID might be stolen and used by an imposter even though the ID itself was issued properly and with the utmost care. In principle, a notary might serve as an impediment to at least some cases of this sort of forgery.⁶⁸ In addition, the appearance of the signer before the notary serves to some extent as protection against the signer's having acted out of fraud, duress, or undue influence. Finally, it is arguable that the presence of the notary when real estate is bought and sold serves an important ceremonial purpose, reinforcing in the minds of the parties that they are engaged in a serious act with important legal consequences.⁶⁹ It is debatable whether the issuance of a digital ID, especially if divorced from any particular real estate transaction, would serve the same goal.

Therefore, the states will be left with a policy choice as to whether notaries should continue to have a role in electronic real estate transactions, and what that role should be. UETA addresses this issue in only the most general terms. In essence, it provides that in any case in which existing law requires a notary's certificate, the notary may now affix the certificate electronically to an electronic document.⁷⁰ Thus, UETA does not attempt to change the

Bill Zoellick, *Electronic Signatures: Commentary on the Electronic Signatures in Global and National Commerce Act*, at <http://www.e-think.com/Library/B2BEconomy/Digital-Sigs/DigSig-Commentary-fr.php3> (last updated Oct. 26, 2001).

68. Despite present notarization requirements, cases of forged real estate conveyances seem quite common, although their incidence is impossible to quantify for the obvious reason that some of them are never litigated or brought to light. *See, e.g.*, *Brant v. Hargrove*, 632 P.2d 978 (Ariz. Ct. App. 1981) (forged deed of trust); *Garrett v. Fleet Fin. Inc.*, 556 S.E.2d 140 (Ga. Ct. App. 2001) (forged modification of deed to secured debt); *Burk v. Demaray*, 646 N.W.2d 635 (Neb. 2002) (forged deed); *In re Curlin*, 562 S.E.2d 652 (S.C. 2002) (forged deed); *State v. Hendrickson*, No. 48738-8-I, 2002 WL 1832903, at *1 (Wash. App. Aug. 12, 2002) (forged deed of trust). The foregoing list is only the tip of a large iceberg; there are dozens of cases each year, most of them unreported.

69. "There has to be a signing ceremony that shows what is happening, and then that ceremony must be transcribed as an electronic record, much like notarization." David S. Thun, *The Law of Electronic Signatures: Finding a Balance*, 8 THE SCRIVENER no. 3, Sept. 1999, <http://www.notaries.bc.ca/article.php3?36> (last visited Nov. 14, 2002) (quoting Benjamin Wright).

70. UETA § 11 (1999).

If a law requires a signature or record to be notarized, acknowledged, verified, or made under oath, the requirement is satisfied if the electronic signature of the person authorized law to perform those acts, together with all other information required to be included by other applicable law, is attached to or logically associated with the signature or record.

Id. E-SIGN contains virtually identical language. 15 U.S.C. § 7001(g) (2000).

situations in which notarization is necessary, but only the form of the notary's certificate. Notaries and their organizations usually maintain stoutly that, while electronic rather than paper notarial certificates may well be acceptable, it is essential to preserve the current acknowledgment process, in which the signer appears personally before the notary after signing the document.⁷¹ The merits of this debate must be decided, and the drafting of a Uniform Electronic Recording Act is a good forum for doing so.

C. *Requirement for Grantees' Signatures on Documents*

I have previously suggested that if digital signatures become widespread, it would make considerable sense to require (or at least to allow and encourage) grantees to sign real estate conveyances.⁷² The reason is simple: If the digital signature of the grantee of the previous deed in the chain of title is compared with the digital signature of the grantor of the present deed, and the two signatures are identical, we have strong proof that the present grantor is indeed the same person as the previous grantee. The possibility of forgery would thus be greatly reduced. This system would work only if the recorder made the prior grantee's digital signature available for comparison. The concept should be seriously considered as part of a Uniform Electronic Recording Act.

D. *Consolidation of Recorders' Functions*

If recorded documents are indexed and stored digitally, the question arises whether this activity should continue to be carried on at the local (usually county) level, or should be aggregated in regional or statewide offices. This is a topic that a Uniform Electronic Recording Act should address.

I would suggest that there is no single answer to this question,

71. Notary Public Sub-Committee of the Property Records Joint Task Force Standards Committee, *Essential Notary Standards and Principles in the Recording Process* (2001), at <http://www.prijtf.org/Papers/notaryessentials2.doc> (last visited Nov. 19, 2002); Deborah M. Thaw, *The Notary Office and Its Impact in the 21st Century*, Presentation at the NACO/NACRC Annual Conference (July 15, 2000), at <http://www.nationalnotary.org/news/notaryofficeandimpact.pdf> (last visited Nov. 19, 2002); National Notary Association, *A Position on Digital Signature Laws and Notarization* (2000), at <http://www.nationalnotary.org/Digitalsignature.pdf> (last visited Nov. 19, 2002) ("Any process—paper-based or electronic—that is called notarization must involve the personal physical appearance of a signer before a commissioned Notary Public."). See also Glen-Peter Ahlers, Sr., *The Impact of Technology on the Notary Process*, 31 J. MARSHALL L. REV. 911 (1998).

72. Whitman, *supra* note 1, at 258-59.

but rather multiple answers for the multiple functions of recorders. Clearly, the archiving of recorded documents, and the accompanying backup and security arrangements, should be handled at the statewide or regional level. These activities require a level of sophistication beyond the capacity of many local recorders. Moreover, there is an obvious economy of scale in aggregating them and no countervailing need to have them performed locally. In an electronic recording world, most searches of recorded documents will presumably take place by means of the Internet, but it would be a simple matter to provide a few work stations in local recorders' offices for searches by members of the public who have no other Internet access, even if the actual records are archived in a statewide data base.

On the other hand, there may be a good argument for keeping the document submission and initial error-checking functions at the local level. At a minimum, there must be some intake process for paper documents, which are likely to persist in use to some extent for many years, perhaps indefinitely. As a matter of convenience, it is sensible to continue maintenance of local offices for this purpose. That function cannot be purely mechanical, since it will continue to be necessary to identify errors and non-conformities with applicable document standards. If this is to be done on the local level with paper documents, perhaps it may be just as well to continue to check electronic documents for errors at the local level, and to expect the local recorders' personnel to communicate with submitters about the correction of the errors thus identified.

The present difficulty is that there is no legal authority in most states for recorders to consolidate *any* of their functions at the regional or statewide level. While there is no doubt that recorders tend to react with doubt or hostility to any sort of proposal for consolidation,⁷³ it is likely that they will, over time, accept a plan that leaves them with some significant role in the recording process, even if it is an attenuated role in comparison with present practice.

E. *Public Access Via the Internet*

Most state recording statutes require recorders to make their records available to the public.⁷⁴ The question arises whether avail-

73. When I mentioned the possibility of consolidation to a group of recorders at the IACREOT meeting in Scottsdale, Arizona, in July 1999, one of them denounced me and stormed out of the meeting, while another labeled the idea "communistic."

74. See, e.g., FLA. STAT. § 28.222(6) (2002) ("All instruments recorded in the Of-

ability on the Internet is permissible and satisfies this requirement.⁷⁵ In some of the states that now authorize electronic indexing and storage, the relevant legislation expressly states that a “hard copy” of the indexes must continue to be available to the public,⁷⁶ while others excuse the duty to provide “hard copy” if an electronic index is created.⁷⁷ A uniform act should clarify both that provision of Internet access is within the authority of the recorder, and that it satisfies the public availability requirement with respect to both the indexes and the content of the recorded documents themselves. It should also make clear that paper or other hard copy indexes and documents need no longer be maintained after the electronic access system is established and has proven reliable.

A related issue arises with respect to the liability of recorders for errors in the posting of on-line documents and indexes. A number of the recorders engaged in Internet posting thus far have included disclaimers on their web sites, noting that the posted documents are not “official” or “certified” copies and asserting that the recorder will incur no liability for errors in them.⁷⁸ Perhaps

ficial Records shall always be open to the public, under the supervision of the clerk, for the purpose of inspection thereof and of making extracts therefrom”); 55 ILL. COMP. STAT. 5/3-5036 (1993) (“All records . . . kept in the office of any recorder . . . shall, during the office hours, be open for public inspection”); MINN. STAT. § 386.17 (1997) (“The county recorder shall exhibit free of charge . . . any of the records or papers in the recorder’s official custody to the inspection of any person demanding the same”).

75. One recent listing shows twenty-two counties nationwide providing Internet access to recorded documents. Land/Property Records Interest Group: Internet Access to Real Estate Records, at <http://www.nacrc.org/interestgroups/LandPropRecordsAdmin/reports/realEstateRecords.htm> (last visited Nov. 19, 2002). In some cases, only the indexing data or a summary of each document is available; in other cases, a graphical representation of the entire text of the document can be viewed or printed.

76. GA. CODE ANN. § 15-6-61(b) (Supp. 2002) (“Regardless of the automated or computerized system elected, each clerk shall maintain and make readily available to the public, complete, printed copies of the real estate grantor and grantee indices updated regularly”).

77. 55 ILL. COMP. STAT. 5/3-5025 (Supp. 2002).

If such a computerized system has been in use in his or her office for at least 6 months and the recorder determines that it provides accurate and reliable indices that may be stored as permanent records, more quickly and efficiently than the system previously used, the recorder may thereafter discontinue the use of the manual system and use only the computerized system for such indices.

Id.

78. See, e.g., Broward County, Florida Disclaimer, at <http://205.166.161.12/oncorev2/> (last visited Nov. 24, 2002) (“We have tried to ensure that the information contained in this electronic search system is accurate. Broward County Records Division makes no warranty or guarantee concerning the accuracy or reliability of the con-

these disclaimers have been inserted out of an abundance of caution or a concern that there is little or no legal authority for the recorder in question to provide Internet-based information. A uniform act could and should clarify the liability issue. Liability should depend on a thoughtful consideration of the policy issues involved and not on the uncertain legal effectiveness of such disclaimers.

Can recorders legally charge fees for Internet-based services? Traditionally, access to the paper or film indexes and document copies in the recorder's office was free of charge to searchers except for photocopying fees. The revenue earned by recorders' offices was derived from recording fees, not from charges to searchers. As they have moved their data to Internet servers, some recorders have developed systems for charging user fees,⁷⁹ while others have followed the free model applicable to manual records.⁸⁰ Charging user fees is an understandable way to recoup some of the quite substantial cost a recorder must expend to implement electronic recording, and the fees may well be acceptable, even attractive, to title companies, lawyers, and other real estate professionals who use the data on a regular basis. Nonetheless, the charging of search fees flies in the face of a long-established pattern. A uniform act could and should clarify whether such fees are permissible, and whether there are limits on them.

County governments often maintain data bases containing a wide variety of non-title information concerning land parcels. The possibilities are almost endless, and include information about land use regulations, school and other special districts, proximity to police and fire services, soil type, property tax valuation and assessment, tax maps, characteristics of buildings, subdivision plats, flood plains, and even hazardous waste.⁸¹ This sort of information can be integrated with land title data and made available on the Internet,

tent at this site or at other sites to which we link."); Palm Beach County, Florida Disclaimer, at http://www.pbcountyclerk.com/records_disclaim.html (last visited Nov. 19, 2002) ("We make no warranty or guarantee regarding the accuracy or reliability of the content on this site or at other sites to which we are linked.").

79. See, e.g., Salt Lake County Web site, at <http://rec.co.sl.c.ut.us/polaris/poscribe/defscribe.cfm?thepage=pricing> (last visited Nov. 19, 2002) (indexes and documents).

80. See, e.g., Orange County Web site, at <http://cr.ocgov.com/grantorgrantee/index.asp> (last visited Nov. 19, 2002) (indexes only); Maricopa County Web site, at <http://recorder.maricopa.gov/recdocdata/> (last visited Nov. 19, 2002) (indexes and documents); Boone County Web site, at <http://www.showmeboone.com/RECORDER/> (last visited Nov. 19, 2002) (indexes and documents).

81. For excellent examples, available on-line, see Greene County Web site, at <http://www.co.greene.oh.us/recorder.htm> (last visited Nov. 19, 2002); Utah County Web site, at <http://www.utahcountyonline.com/Dept/Record/LandRecordsandMaps/Web>

providing an extremely useful data source for real estate brokers, lenders, and others in industries related to real estate. The result is often termed a geographic information system ("GIS"),⁸² or a "cadastral"⁸³ system. But legal questions may remain. Is the recorder authorized by law to provide (or to work with other county offices in providing) such an integrated service? By extension of the discussion in the previous paragraph, can a charge legally be made? A uniform act should address these questions.

F. *Improvement of Parcel Descriptions and Maps*

In most areas of the nation, legal descriptions of land take one of three forms: the government survey system, references to recorded plats, and so-called "metes and bounds" descriptions, in which each course and distance of the property's boundary is stated.⁸⁴ The last form of description mentioned is the most problematic, since descriptions using it tend to be lengthy, hard to follow, and easy to mistranscribe.

The advent of satellite mapping and computerization has provided an opportunity for local governments to create accurate maps of their land parcels and to assign parcel identifiers to each. This has been accomplished in a number of counties. For the most part, counties have used these parcel identifier numbers, or PINs, to improve their property tax collection process and, in some cases, as the basis for a computerized geographic information system.

In principle, such PINs could also serve as land descriptors in real estate conveyances. To use PINs for this purpose, each PIN must be logically associated with a detailed description of the relevant parcel's boundaries in a data base; merely relating the PIN to some arbitrary point on the parcel (e.g., roughly its center) may be sufficient for most GIS purposes, but is insufficient for purposes of parcel description.⁸⁵ The county (or some contractor, presumably

Access.asp (last visited Nov. 19, 2002); and Wise County Web site, at <http://arcims2.webgis.net/wise/default.asp> (last visited Nov. 19, 2002).

82. Jeremy Speich, *The Legal Implications of Geographical Information Systems*, 11 ALB. L.J. OF SCI. & TECH. 359, 360 (2001).

83. U.S. Dept. of the Interior Bureau of Land Mgmt., and the Fed. Geographic Data Comm, Cadastral Subcommittee, *County Recorders and the Cadastral Data Content Standard*, available at <http://www.fairview-industries.com/recordermodule/cr-intro.htm> (last visited Nov. 19, 2002); Robert N. Cook, *Land Law Reform: A Modern Computerized System of Land Records*, 38 U. CIN. L. REV. 385, 386 & n.3 (1969).

84. See generally CURTIS M. BROWN ET AL., BROWN'S BOUNDARY CONTROL AND LEGAL PRINCIPLES (4th ed. 1995).

85. Allison Dunham, *Land Parcel Identifiers and the Uniform Land Transactions*

hired by the county) must go through the process of reconciling the county's maps (which may already contain tax map numbers) with the legal descriptions used in recorded real estate conveyances. This is a tedious task and is likely to be accomplished only gradually over a long period. In cases in which the descriptions in recorded documents contain overlaps or gaps, it may be impossible to establish a relationship between the map and PIN and the legal description until some affected owner brings a suit and obtains a judgment reconciling the discrepancy. Moreover, parcels are not static. They are frequently subdivided or combined. Someone must be assigned the ongoing responsibility of keeping the maps up to date and assigning or withdrawing PINs to accommodate changes in boundaries.

All of this is possible, but it is a tall and potentially costly order for a local government to fill. It seems likely that the investment would pay large dividends over time in terms of fewer description errors, less litigation (once existing discrepancies are resolved), and much simpler records and indexes, whether paper or electronic. In an electronic recording system, the PIN could be shown on the "cover sheet" or electronic "wrapper," allowing the document to be tract-indexed automatically without the necessity of any of the recorder's personnel picking through the detailed legal description and checking it for errors.

Obviously, an electronic recording system can function without using PINs as parcel descriptors, but they are such a useful adjunct to this type of recording system that recorders should be authorized by state law to participate in their development. Such authority should be granted in a uniform electronic recording statute.

G. *Fee Collection*

In many states, recorders must finance their office operations from the fee revenue they collect. As such, recorders are extremely sensitive to fluctuations in their costs and revenues. This fact was demonstrated by the controversy and protest generated among recorders when the new UCC Article 9 was released for adoption in 1999. It provides for filing of financing statements in the state where the debtor is located, rather than in the location of the collat-

Act, 43 U. CIN. L. REV. 469, 475-86 (1974); John L. McCormack, *Torrens and Recording: Land Title Assurance in the Computer Age*, 18 WM. MITCHELL L. REV. 61, 117-18 (1992). See also FLA. STAT. § 689.02 (2002) (providing for the inclusion of PINs on statutory forms of warranty deeds).

eral.⁸⁶ As a result, county recorders in states that previously used county-wide filing anticipated a sharp reduction in revenues as filing fees for financing statements disappeared. Some used their political power to object to the adoption of Article 9, while others sought alternate revenue sources. As one group of recorders put it:

Each recording office should compute the amount, if any of what we have called “lost net revenue.” This is defined as lost revenue from personalty filings that no longer are handled by recording offices, less reduction in recording office costs from not having to maintain a U.C.C. index. The task force urges each state to maintain revenue neutrality for recording offices by increasing, where necessary, local recording fees or by sharing with recording offices increased central office U.C.C. filing fees.⁸⁷

This sensitivity to costs and revenues is natural and understandable, but it has important implications for the implementation of electronic recording. The probability of increasing short term costs is obvious; the vendors who are currently marketing their software and services to recorders expect to be paid. Whether existing fee structures will be sufficient to pay these costs is uncertain. Raising fees, and perhaps operating different fee schedules for electronic and paper recordings, may be necessary.

Attention must also be given to methods of collecting fees for instruments that are recorded electronically. To require payment by cash or conventional paper check would largely defeat an important objective of electronic recording—to make the recording of documents possible without the necessity of visiting or mailing anything to the recorder’s office. Two methods have been used thus far by recorders accepting documents electronically. The first is to accept credit or debit cards via the Internet. The second is to permit parties who routinely submit significant numbers of documents (e.g., attorneys and title insurance companies) to create escrow accounts in the recorder’s office, fund them with substantial balances, and then allow them to “spend down” those balances over time.

However, the legal authority of recorders to use either of these techniques is uncertain. A uniform act could and should clarify the right of recorders to collect fees in these ways, and perhaps by other methods as well.

86. U.C.C. § 9-301.

87. Standards Committee, Property Records Industry Joint Task Force, *Recorders Guide to New Article 9-5 of the Uniform Commercial Code*, at <http://faxxon.cifnet.com/taskforce> (last visited Nov. 19, 2002).

V. CONCLUDING THOUGHTS: STATEWIDE OR LOCAL CONTROL?

Even in states that have enacted UETA, supplementation is necessary in order to provide legal authority for the aspects of an electronic recording system that are not provided for by UETA. This article has highlighted a number of issues that such supplementation should cover. In addition, the Uniform Electronic Recording Act might well provide more specific guidance, from the viewpoint of real estate recording, on some of the matters UETA touches upon.

Perhaps the most difficult issue is the allocation of control between statewide and local authorities. A number of factors argue strongly for at least a considerable measure of statewide control. First, a statewide agency could assure “interoperability” among the electronic systems installed by recorders throughout the state. It could thus avoid the need for title officers, lawyers, and others to learn the idiosyncrasies of multiple recorders’ systems—a serious source of inefficiency in the present recording system, and one that can be greatly reduced if not eliminated. Second, it could prevent a recorder with more enthusiasm than skill from seriously impairing his or her own records through an incompetent or ill-thought-out conversion to electronic recording. Third, it could provide significant cost savings through the statewide sharing of technology, avoiding the need to reinvent systems in each recording jurisdiction throughout the state. Fourth, a statewide agency could participate, perhaps more effectively than individual recorders, in the ongoing national dialogue on advances in the art of electronic recording and could bring those advances to bear on the state’s distinctive problems.

At the same time, however, important cautions must be heeded. There is the risk that a statewide agency could become rigid or moribund, freezing the development of the technology and impeding individual recorders who wish to advance it further. At the other extreme, there is the risk that a statewide agency might envision and approve only systems so advanced that the majority of recorders in the state could not understand them or afford to implement them. Indeed, because of the wide variation in the populations served by county recorders, it seems essential that a statewide agency approve a wide range of model systems, from less to more in terms of cost and sophistication.

Perhaps most important, individual recorders must have substantial input, perhaps even control, of any statewide regulatory

body. Otherwise, the risk is too great that the state agency will operate on the basis of theory rather than practical reality, and will approve only systems that are unacceptable to those who must actually install and operate them. The agency should also receive the continuing feedback of those who will pay for and use the systems: title companies, lawyers, and local governing bodies and administrators. This might be accomplished by means of an advisory commission with broadly based membership from the groups mentioned.

The proper balance between the protections that a statewide regulatory agency can provide and the creativity that individual recorders can offer will not be easy to achieve. There is, so far as I know, no successful existing model to which to look for guidance. But achieving the right balance may well mean the difference between success and frustration. Of all of the tasks of the drafting committee for the Uniform Electronic Recording Act, this may be the most critical.