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The Models of eRecording

A Continuum of Electronic Recording
Updated

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The Models of eRecording – A Continuum of Electronic Recording – Updated

PRIA Technology Committee
Business Requirements Workgroup

Abstract

This paper examines the evolving nature and definition of the characteristics of land record documents submitted for electronic recording (eRecording) which were initially defined and characterized by Carl Ernst in 2000. [1] First characterized as "levels," the term "models" has become predominant as eRecording has matured. The topic of eRecording models can be confusing - which model is best, how to deploy systems that utilize the various models, and the technological advancement of each model. In fact, restricting discussion of eRecording to three distinct models quickly yielded to a continuum of models to accommodate emerging processes, solutions, and system enhancements. This paper analyzes and explains how the continuum of eRecording makes the models relevant to the adoption of eRecording today and how the future of eRecording may be evolving into a natively paper versus a natively electronic environment.[2] It is not the intention of this paper to recommend one model of eRecording over another.

In the United States, land document recording may take place at the State, City, Town, County, Borough, or Parish level. Depending on the jurisdiction, the Office of the Recorder may also be known as Recorder of Deeds, Registrar-General, Register of Deeds, Registrar of Deeds, Registrar of Titles, Deeds Registry, Auditor, or Deeds Office. In some states, the recording function is part of the county clerk's responsibilities. Throughout this paper, the term utilized for this role will simply be "Recorder." The term utilized for the role of the person or entity sending and receiving documents to and from the Recorder will be "Submitter."

Introduction

In December 2000, Carl Ernst published an article entitled "The Three (or more) Models of E-Recording."[3] The article sought to clarify and categorize the various implementations of eRecording which were in use at that time. This seminal article quickly became the accepted delineation for eRecording implementations and has been used as reference material for discussions, rules, and implementations of eRecording since being published.

As time passed, technology related to eRecording advanced and more Submitters and Recorders adopted this technology. Through this evolution, it became apparent that not all implementations and discussions around eRecording easily fit easily into one of the originally defined models.

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[1] Mr. Ernst was a founding member of PRIA whose contributions were significant. His vision was to bring government and business together to develop best practices and implement eRecording of property records.

[2] By "natively," we mean a document that is executed in the identified "native" format.

[3] Since the publication of Mr. Ernst's article, "E-Recording" has evolved in the industry to "eRecording," which is the term used in this paper.

The purpose of this paper is to re-visit Mr. Ernst's original models and, in so doing, to help clarify the various implementations available in the marketplace. This paper will attempt to demonstrate that the variations of eRecording are best understood as a progression that should be approached methodically along a technology continuum rather than a "one and done" selection.

Summary of Original Premise – Three Models of eRecording

It is instructive to note that the first sentence of Mr. Ernst's article states "four counties accept some form of eRecording." By June 2010, 500 jurisdictions were eRecording and in June 2013, nearly 1,000 jurisdictions were eRecording, representing over 58% of the US population. This significant growth of eRecording evidences widespread adoption indicating eRecording has been accepted as a mainstream technology. While some growth and variation was envisioned in the original article, this paper traces the evolution of and variation from the original three models of eRecording.

First, we must re-visit the original definitions to see if they still apply.

- Model 1 – digitized document (scanned paper or a digital image rendered).
    - This model consists of paper documents with wet ink signatures that are scanned by the Submitter creating an electronic image of the paper documents. The Submitter then sends the scanned image of the paper documents to the Recorder for recordation rather than the paper documents.
    - Model 1 documents are static images and do not include any indexing data in any electronic format (other than what is viewable in the image file). All data entry at the Recorder's office is manually created, just as it is for documents submitted on paper.
    - Model 1 documents do not include any data for automated indexing.
- Model 2 – digitized document with XML[4] or electronic document with XML. However, in Model 2 documents there is no interactive relationship between the image of the document and the XML data that accompanies it.
    - This model can include both digitized and natively electronic documents. It also allows for wet ink signatures and electronic signatures. The core of this model is that in addition to the image of the document, Model 2 documents also include some indexing data in an XML format.
    - A key feature of Model 2 documents is that the indexing data does not interact with the image file, i.e., the indexing data is contained in a separate XML file that is associated with the image file, but the XML file does not control the view of the image. Thus the data in the XML file and the information in the image file may differ.

[4] eXtensible Markup Language. See PRIA Glossary for more information.

  - Model 2 documents allow for indexing data entry to be automated. Due to the possibility for variance between the image and the indexing data file, a careful human review is a recommended best practice.

- Model 3 – XML embedded into completely electronic documents that never existed in paper form.
  - This model represents truly electronic documents with interactive view and data sections. (Mr. Ernst referred to them as "layers"; today we label them "sections" or "folders.")
  - The data in the data section is used to populate the view section of the document assuring that any changes in the data are automatically reflected in an updated view.
  - The use of tagged XML data allows for data entry to be automated.
  - The coupling of the data and view sections in Model 3 documents allows business-rule-processing technology to be used to assist with the review of recording requirements that previously required human evaluation.
  - While human review is still a necessary part of the overall process, this review can now be focused on exception processing and quality control.

Some confusion naturally emerged based largely on what role a party played in the eRecording process, and where that party (and the document to be recorded) entered that process. For example, a Submitter may have utilized a completely electronic process to create, complete, and sign a document. In that case, the Submitter considered its document to be a Model 3 document. However, due to innovative vendor solutions, these documents were being submitted to Recorders that could only accept Model 2 submissions. In other words, a document would start life as a Model 3 document only to become a Model 2 document at the receiving end. The following chart illustrates various eRecording features and the models of eRecording that might utilize them.

Feature/Function	Model 1	Model 2	Model 3
Paper documents / static images	X	X	
Wet-ink signatures	X	X	
Automated index population		X	X
Electronic signatures		X	X
Tagged data (XML)		X	X
Interactive data & view sections			X
Rules-based processing			X

Persistent Confusion Surrounding the Models

While the intent of Mr. Ernst's 2000 article was to add clarity to conversations about eRecording, some confusion still remains. Some individuals thought the models were distinguished by use of digital certificates for legal signatures. Others felt that the models were distinguished based on how much XML was used and what fields were included. Some argued that a determination could be made based on whether the Recorder utilized fully

automated "lights out" processing or whether the process was only partially automated. Additionally, as mentioned above, technology vendors took Model 3 documents from Submitters and converted them into Model 2 documents for submission to Recorders; or took Model 2 documents and converted them into Model 1 documents.

Feature-Focused Progressive View

In his article Mr. Ernst stated, "It may be said that the goal of an eRecording system is not necessarily 100% automated acceptance, but reliably swifter acceptance of documents." Building on that idea, this paper suggests that eRecording be viewed as a process and system improvement. The goal of eRecording was not and is not to make a complete paradigm shift in a short time. Rather, the goal of eRecording is to enhance the recording process through the use of electronic or automated systems.

Anything that helps to create "reliably swifter acceptance" in the recording process is a step along a continuum of process improvement. The digitized document of Models 1 and 2 reduce processing time at the Recorder's office. Non-embedded XML in Model 2 reduces keystrokes and enables database population as well as quality assurance review to occur simultaneously. Lastly, embedded XML can eliminate the possibility of discrepancies between data and view. An eRecording implementation based on the PRIA XML Schema allows business rules logic to assist with "recordability"[5] review and final recording.

What about Model 4?

In his article, Mr. Ernst discussed a possible Model 4. This model would allow the submission of only data and signature information that would then be associated with a previously recorded "master form." To date there has been very little interest in this type of submission. Even in the paper paradigm where existing legislation allows for the recording of "master forms," few Submitters or Recorders rely upon "master forms" to any extent.

The Continuum of eRecording

As eRecording has been adopted by Recorders and Submitters, there have been varied implementation methods. Some methods readily map to the models as they were originally defined. Other methods prove the need for additional clarification of the models of eRecording. In examining the different eRecording implementations across the United States, it is evident that both Recorders and Submitters like to take a measured approach by easing into the practice of eRecording. It is for this reason that this paper attempts to

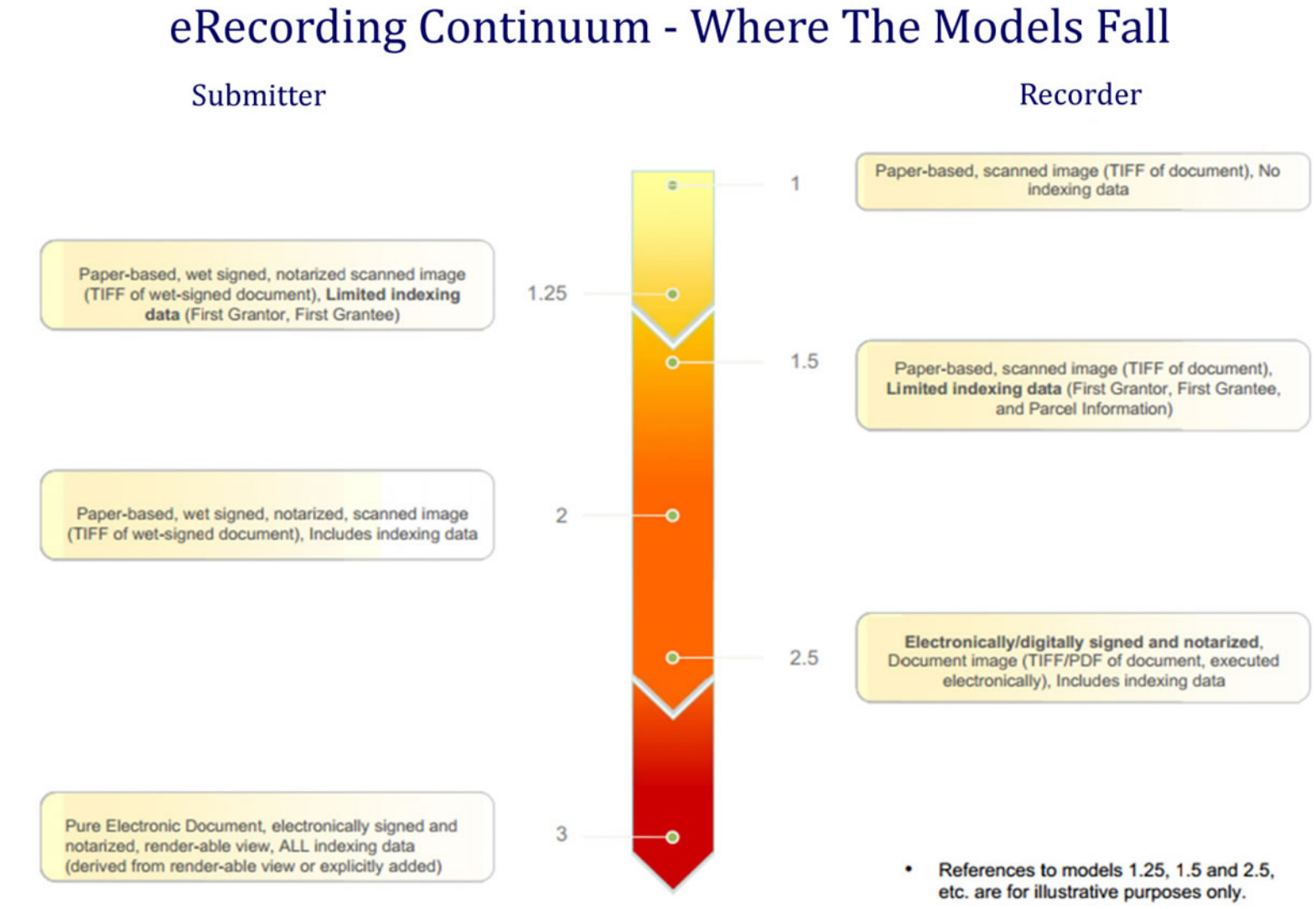
[5] "Recordability" means the ability of the Recorder, under the laws of the recording jurisdiction, to accept (or reject) the proffered document for inclusion in the public records maintained by the Recorder.

more clearly illustrate the models of eRecording and add clarity to what has, in the past, had the potential to be confusing.

Figure 1 illustrates that there are distinct levels of eRecording. Submitters and Recorders use different models of eRecording. Delivery vendors, receiving vendors and land records management system software vendors ensure that the documents submitted for eRecording arrive at the Recorder in the format that the Recorder's system can accept. The Figure also illustrates that a Recorder and a Submitter may use completely different models of eRecording, or that they may use elements of multiple eRecording models thereby creating mid-way points or a "Model Ratio."

An example of this would be XYZ Title Company submitting a scanned image of a deed along with the first grantor and first grantee XML information to ABC Recorder. This type of recording may be seen as having a Model Ratio of Model 1.25 since it is basically a Model 1 scanned image that contains a few, but not all, XML data elements of a Model 2 document. Thus, the eRecording continuum can be viewed as being based on a separation of model elements. In other words, each model has different elements that define that model, and a document that combines elements of two models could be classified as a "new" model between the two models whose elements have been incorporated.

Figure 1


eRecording Continuum - Where The Models Fall
Submitter
Recorder
Paper-based, wet signed, notarized scanned image (TIFF of wet-signed document), Limited indexing data (First Grantor, First Grantee)
1.25
Paper-based, wet signed, notarized, scanned image (TIFF of wet-signed document), Includes indexing data
2
Pure Electronic Document, electronically signed and notarized, render-able view, ALL indexing data (derived from render-able view or explicitly added)
3
1
Paper-based, scanned image (TIFF of document), No indexing data
1.5
Paper-based, scanned image (TIFF of document), Limited indexing data (First Grantor, First Grantee, and Parcel Information)
2.5
Electronically/digitally signed and notarized, Document image (TIFF/PDF of document, executed electronically), Includes indexing data
• References to models 1.25, 1.5 and 2.5, etc. are for illustrative purposes only.

As can be seen in Figure 1, the parties involved can generally be grouped into one of two categories: Recorder parties or Submitter parties. The parties' view of the eRecording process is based upon their role in the process.

Continuum of eRecording – Recorders

There may be as many different eRecording implementations as there are Recorders accepting electronic documents for recording. Implementations vary from submissions containing no index data to completely automated indexing, from manual processing to fully automated "lights out" processing, and from digitized documents to an image template. There is essentially no limit to the available implementation options.

A Recorder considering implementing an eRecording project would be well served to first review the PRIA paper "How to Get Ready for Electronic Recording – Part 1: The Recorder's Guide." After the Recorder determines the Recorder's business process model, there will be a reference point somewhere on the continuum of eRecording that will match that Recorder's eRecording implementation. This reference point will also provide the Submitters with a clarification of the Recorder's location on the continuum, so the Submitters are better prepared to understand and support the Recorder's needs. As the business needs of a Recorder change over time, so too will that Recorder's location on the continuum.

In the years since Mr. Ernst's article first categorized eRecording models, Recorders have been challenged with the limitations of one particular eRecording model versus another, and have posed questions about the different models. Examples of questions include:

- Is Model 1 an acceptable eRecording model?
- Is my land records system capable of accepting Model 3 documents?
- Is there something in between Model 1 and Model 2 that would better define what I want my office to do?

It is likely that each Recorder asked similar questions as it defined the business processing needs that would make possible its initial entrance into the eRecording world.

The continuum of eRecording provides a Recorder with the methodology to identify itself at a point on the continuum based on the business processing model that it has defined. For the Recorders that have been eRecording for some time, the continuum also provides an ongoing reference for assessment of where that Recorder is in comparison with its original implementation.

Consider also the reality that a Recorder may eRecord at more than one reference point on the continuum on any given day. An example would be the recording of a paper-based, wet-signed, scanned image with First Grantor, First Grantee (similar to Model 1.25), followed by the recordation of a different document type, but with the additional component of Consideration Amount (similar to Model 1.5).

The location of a Recorder's processes on the continuum of eRecording is therefore not necessarily a static position, but a dynamic one.

Continuum of eRecording – Submitters

Submitters have a singular focus when examining why they use eRecording systems. They want to record a document as quickly as possible in an efficient manner. These documents may be executed by a wet-ink signing ceremony or may be signed electronically, depending on the laws of the jurisdiction in which the documents are executed as well as the policies and procedures that the Submitter has established. The Submitter then uses an electronic submission system to send the document to a Recorder's eRecording system for recordation.

While some Submitters may take a very simple and straightforward approach to eRecording, others integrate their electronic submission systems with electronic document generation, electronic signing, electronic notarization and automatic submission into their process. The Submitters may integrate electronic transactions so deeply into their processes that they develop proprietary systems or use customized vendor software in automating the document preparation and submission process. In most cases, this approach is taken to gain efficiencies for the Submitter.

There are many more scenarios and permutations of eRecording and automation processes employed by Submitters than can be addressed in this paper. Suffice it to say that any implementation, whether proprietary or open source, is adopted to achieve some level of overall system efficiency or reliability.

The continuum of eRecording provides a Submitter with a method by which it can identify the model of eRecording that the Submitter has implemented. The continuum provides Submitters with an ongoing reference for assessment of where they are with their current systems. As was the case for Recorders, the location of a Submitter's processes on the eRecording continuum is not a static position, but a dynamic one potentially changing with each submission. A Submitter's point on the continuum is largely controlled by the Recorders to which they submit documents. Submitters of paper-based documents generally only enter the indexing fields required for that submission. Entering more information than required reduces the efficiencies gained by eRecording.

Conclusion

Carl Ernst's original idea regarding multiple methods of eRecording is still valid and useful for today's implementations. Users are best served by carefully analyzing the features of an eRecording system and then placing it on the continuum of eRecording rather than attempting to force local implementation of one of three models—none of which may fit.

As was noted at the outset, the models and implementations must be matched to local business and recording needs. Even though some of the early adopting Recorders pioneered Model 3 systems, Submitters did not have the necessary capabilities to produce these complex documents, submission volumes were limited, and widespread adoption did not take place.

It will also be useful for document preparers, Submitters, and Recorders to be mindful of the eRecording continuum as their systems and technologies are developed. Providing flexibility in the output of these systems will maximize the number of Recorders to whom Submitters can send electronic documents.

As the eRecording continuum has evolved it has become clearer that the distinction between the three original models has blurred. They are separated primarily by the amount of indexing data required and their origination (electronic or paper).

About

The Business Requirements Workgroup is organized under the PRIA Technology Committee. As its name implies, this workgroup focuses on business processes and develops the practical requirements that guide the development of PRIA's technical standards.

Carl Ernst was one of the founding members of PRIA. Mr. Ernst dedicated countless hours to improving the quality and reliability of the public land records system in the United States.

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