

The Role of Evidentiary Contract Documents in an eContracts Standard

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Introduction

Peter Meyer and John McClure had this exchange on the eContracts mailing list on 24 October 2003 in a thread entitled "Requirements – XML and the Contract".

Peter: Do we agree that the XML document used to generate the contract document will rarely, if ever be the evidentiary contract document? [I envisage the exception may be in some automated electronic transactions.]

John: In the immediate run, yes. With digital signatures, with the ongoing adoption of paperless workflows, the answer is no. ...

Peter: Are the parties to contracts free to use any kind of presentation document as the evidentiary form of the contract or is it necessary for the standard to mandate particular presentation formats?

John: Parties are legally free to use any kind of presentation dialect for their contracts.

[and later in the context of a particular example]

Peter: Do you agree that the contract may have been generated from an XML source and then printed or rendered in PDF or some other electronic form chosen by the parties to provide their evidentiary contract document?

John: Sure, as a matter of contract law. ...

Peter: If the contract is in HTML or similar form on someone's web site, is this HTML version just a rendering of the contract terms for information purposes or do you expect it to be "the evidentiary contract document"?

John: That's up to the parties. I have no expectations about this.

So a likely result of the TC's deliberations is a statement like:

In this document, the term "*Evidentiary Contract Document*" means the document (or documents) which a court might find the parties intend as the authoritative statement of the terms of their contract.¹

¹ In parts of this document, it is envisaged that the Evidentiary Contract Document is a single

The standard does not seek to constrain the parties to the contract from choosing their preferred evidentiary form of contract from amongst the various mediums and formats which the technology of the day and applicable legal framework makes available. For example, the Evidentiary Contract Document may be a paper document, or a PDF document (subject to relevant laws). In particular, the standard does not mandate that the Evidentiary Contract Document must be an XML document.

The statement may be prefaced with:

The standard recommends, amongst other things, a grammar for an XML document from which a formatted contract document can be generated.

although that is not essential for present purposes.

The problem is that John later says:

The VALUE ADD that our standard provides is a method to link to content internal to the contract. .. The contract itself can be coded using any **XML dialect** [emphasis added] -- yours, mine, anyone's. We don't care about the hyperlinking mechanism the users have, we only care that they can specify a URI to content internal to a contract.

.. we should unambiguously state in our specification how citations to any content within contract documents must be formed, that is, if hyperlinks to markup in our dialect are to work.

Assuming that one accepts that a method to link to content internal to the contract is important, a question arises:

1. Must the link be to the Evidentiary Contract Document, or might it suffice that it be to some other representation of the contract?
 - (a) If it must be to the Evidentiary Contract Document, how do we deal with the case that the Evidentiary Contract Document might be a paper document, a PDF document, or some other non-XML format?
 - (b) If some other representation of the contract is sufficient, to what extent ought the TC specify that representation?

There is a further issue which is worth raising in the context of Evidentiary Contract Documents and other representations of the contract. This issue is what are the desirable characteristics of a representation of the contract, if that representation is to be used in a court room.

The answer to that is probably that the representation of the contract to be used in a court room ought to be the Evidentiary Contract Document, at least where the content of the document – as distinct from its meaning - is in dispute. In the world of paper contracts, it is not common that the content of the document is disputed at trial, and in this case, "conformed" formats can be convenient. What is new with electronic documents is that "highly complex instruments are now needed" for viewing the

document similar in appearance to that traditionally produced by law firms, which is likely to purport to be the entire agreement. However, it need not be so.

document, so that what you see may not always be what you sign.²

So, for the sake of completeness, this paper will also explore a third question:

2. If the TC is to recommend an electronic form of Evidentiary Contract Document, or voluntary guidelines or best practices for same, what characteristics are desirable for use in a court room, and what technologies deliver on these characteristics?

This paper starts by identifying and exploring relevant business scenarios.

Scenarios involving particular types of Evidentiary Contract Documents

In these scenarios, I seek to identify the Evidentiary Contract Document. The reader is invited to consider its characteristics, and how those characteristics differ from scenario to scenario.

Lawyer/human negotiated contracting today/2004

Today lawyers, contract managers and other humans draft contracts in a wordprocessor (typically Microsoft Word) using the word processor's native document format (eg .doc or .rtf).

One or (many) more drafts are created and exchanged via email, or a deal room.

When a draft which both parties find acceptable has been produced, it will be printed out and signed.

The printed copy is the Evidentiary Contract Document. The wordprocessor file from which it was produced is just a convenience, for searching, making further (non-evidentiary) printed copies etc.

With the promulgation of an eContracts standard, we can expect some people to use XML based tools to create one or more of the drafts of the contracts. Since it will be a while before there is a critical mass of people using the standard, such that you can expect the other party to be using eContracts XML tools (see "Lawyer/human negotiated contracting 2005" below), the draft provided to the other side is likely to be PDF or RTF/DOC. Again, when a draft which both parties find acceptable has been produced, it will be printed out and signed, and it is this printed copy which is the Evidentiary Contract Document.

Click-through contracts today/2004

Currently, the user is likely to receive a click through contract in plain text, as HTML, as HTML/CSS, as XHTML/CSS, or less often, as PDF.

What is agreed? If the user accepts the contract (ie by clicking "I accept" or "I agree"), they think they are agreeing to what they see on their screen.

If that happens to be what the web site intends them to agree to, then all is well and that is what is agreed. This is the usual case, and usually there will be no dispute as to what the actual words of the contract are (although there will be a burden of proof, and possibly a dispute as to whether the contract is binding).

²Josang, Povey and Ho, "[What You See is Not Always What You Sign](http://security.dstc.edu.au/papers/JPH2002-AUUG.pdf)"
<http://security.dstc.edu.au/papers/JPH2002-AUUG.pdf>

If however the user sees something else (eg some of the clauses are missing or invisible), the user attempts to agree to what they see, and legally, there is a mistake³. In this case, the wording of the contract is in dispute, and the user would seek to prove the mistake by demonstrating what it was they thought they agreed to. The best evidence of this is the document as displayed in the user's web browser on their computer (although the same or a similar version of the web browser running on the same or some other operating system may suffice). By "document" I mean the web page that causes the words of the contract to appear on the screen, together with any related resources (eg a CSS file). This is admittedly messy stuff...

If the user receives a contract in some XML dialect, together with a style sheet for displaying it, exactly the same principles apply.

Here, the Evidentiary Contract Document is the XML file together with its stylesheet. And again, to see what the user was agreeing to, you need to look at it using their web browser running on their computer (or something which is similar enough for the purpose at hand).

Negotiation and agreement via Electronic Agents

For "contracts" to be negotiated and agreed by electronic agents, there needs to be some sort of pre-existing framework which has been put in place by their human masters.

The "contracts" can be thought of as orders placed and accepted pursuant so some trading partner agreement (ie the pre-existing framework).

It is the trading partner agreement which is the main Evidentiary Contract Document. The messages which represent an order, its confirmation etc, are supplementary evidentiary documents.

This sort of characterisation is probably valid for EDI, ebXML and similar.

Lawyer/human negotiated contracting 2005

This scenario follows on from "Lawyer/human negotiated contracting today/2004" above.

By 2005, it is hoped that more people are using tools which support the eContracts standard, to draft contracts. It is not realistic to expect there to be a critical mass at that time, but it is realistic to think that certain organisations committed to the standard will be in a position to dictate to their customers or suppliers that they to use it.

So at this point, some drafts may be exchanged in eContracts XML, rather than a native wordprocessor file format.

We can still expect that a paper version will be printed and signed (old habits die hard). The paper version will be the Evidentiary Contract Document.

That paper version will be produced by some process which takes the XML, and generates a human-readable printed copy of a quality acceptable to the parties for this purpose.

What the parties regard as accept quality for the purposes of signing a printed copy is likely to be higher than what they require on-screen for XML editing.

³ Or there may have been fraud, for example, by manipulating fonts, using HTML known to render differently in different browsers (eg <tfoot>), or "signature stripping": Ibid.

The printed copy is likely to have some or all of the following:

- cover page
- table of contents
- headers and footers
- page numbers
- clause numbers and cross references
- page breaks at particular locations
- particular margins
- precise paragraph formatting including indentation, spacing, widow/orphan control, keep with next

For on-screen editing, the formatting merely needs to be "good enough" for the author to understand what they are doing. In other words, they would probably expect the clauses to be laid out on the screen so that they look similar to how they would look on paper, but would not be worried so much about page numbers and the like.

I have said that we can still expect that a paper version will be printed and signed. However, some early adopters may identify business reasons to digitally sign an eContracts XML document (or a PDF or some other electronic document for that matter). In this case, what they digitally sign is the Evidentiary Contract Document. Some of the desirable characteristics of that digitally signed document are explored further below.

Scenarios involving Litigation

Relevant scenarios may include the following:

- Barrister/attorney seeking to prove the terms of the contract – at issue here is a dispute about what constitutes the Evidentiary Contract Document.
- Terms not in dispute – barrister refers to particular clause
- Terms not in dispute – barrister refers to line Y of the Nth paragraph of a particular clause
- Terms not in dispute – barrister refers to particular page of contract
- Court document quotes from contract, citing by clause number
- Court document quotes from contract, citing by clause number and paragraph and/or line number within that clause
- Court document quotes from contract, by page number

In any case where reference is made to a page number, a clause number, or the Nth paragraph and/or line within a clause, that reference ought to be according to the pagination and line wrapping which is found in the Evidentiary Contract Document.

If only clause references are used, other representations of the contract document (eg "conformed"

copies, or an RTF representation in a litigation support system) might be convenient. However, as soon as reference is made to a particular page, or a particular line in some clause, exact correspondence to the Evidentiary Contract Document is highly desirable.

Scenario Implications so far..

Layout languages versus Presentation languages

Where everyone in the court is referring to a photocopy or bitmap image scan of the Evidentiary Contract Document, there is no problem with references to particular pages or lines.

Where however the Evidentiary Contract Document is in some electronic file format, references by page or line can present problems.

To explore this problem, it is helpful to differentiate between file formats using a *presentation language*, and those using a *layout language*.

A *layout language* specifies the objects to be displayed, but not where to place such objects. Examples include XHTML with CSS, XSL-FO, and RTF⁴.

In contrast, a *presentation language* provides predictable display. It places each glyph in a chosen location, thus providing reproducible output. Examples include PDF, PCL, and potentially SVG.

As Danilo and Fujisawa put it⁵,

XSL-FO and the XHTML/CSS combination are languages whose purpose is communication of content, not presentation. They are powerful and provide maximal flexibility in placement of objects. These languages are ideally suited to an authoring environment and resizable viewing environment. The use of such languages in a printer device is dubious at best. One of the prime requirements of a printer device is knowing where everything will be placed. This is especially important in the pre-press industry. If a word is placed too far to the right edge of a printed page, it should be clipped, not wrapped. This distinction is important as it allows the target print data file to be interchanged with other devices with known results. [emphasis added]

Thus, the use of SVG in a print environment is ideal as the final presentation target.

A typical workflow for an XML based magazine production could have an XSL-FO renderer with built in scripting running a WYSIWYG typesetting application that flows text and graphics. On completion of a document, the selection of export to print uses the XSL-FO engine to send the placed objects out through a filter which writes SVG containing exact positioning of all the objects which make up the page. In this scenario, XSL-FO is the layout engine, SVG is the output representation which is totally device independent much like PDF is today.

4 In RTF, whether a paragraph appears at the bottom of one page or the top of the next page may depend on what printer driver is currently deployed on the computer running the RTF viewer (eg Microsoft Word)

5 Danilo and Fujisawa, "SVG as a Page Description Language"
http://www.svgopen.org/papers/2002/danilo_fujisawa__svg_as_page_description_language/

Implications from Litigation Scenario - references to page numbers and particular lines

If the eContracts TC were to provide guidance as to what constitutes an ideal electronic format for an electronic contract document, the characteristics the format might have include:

- it is XML (note that supporting arguments for this proposition have not been articulated above)
- the format is a presentation language, not a layout language.

Were the TC to provide this sort of guidance, it suggests the TC look closely at SVG as a possible format. In the author's experience, currently shipping SVG viewers generally do a dismally poor job of rendering multi-page text documents (such as contracts).

It should be emphasised however, that nothing in the litigation scenario implies that the eContracts TC needs to specify a standard for Evidentiary Contract Documents. It merely says that in the small proportion of contracts where litigation ensues, reference ought to be to the Evidentiary Contract Document, whatever its form.

Unlike the Court Document sub-committee, the eContracts TC does not need to get too hung up on the format of the Evidentiary Contract Document. The overall context for the work of the eContracts TC is quite different from that of the Court Document sub-committee, since:

1. the court context is central and absolutely core to the work of that sub-committee; and
2. courts are in a position to mandate their own acceptance criteria for documents filed with them, and to mandate standards for documents they issue. In contrast, as is made clear in the Introduction of this document, the parties to a contract are free to choose whatever form of Evidentiary Contract Document they like (subject to applicable laws).

Implications from Lawyer/human negotiated contracting today/2004, 2005

People doing on-screen editing of a contract draft using an XML editor need to see a representation of the contract which is "good enough" for them to understand what they are doing.

For this, it is sufficient for the XML editor to use a layout language, rather than a presentation language. This is borne out by an examination of existing commercial off the shelf XML editors, many of which use CSS to style the document on-screen for editing purposes.

Digital signatures

The XML-Signature Syntax and Processing W3C Recommendation anticipates that an XLST transformation might be involved/required, and allows those transformations to be specified.

It has this to say:

8.1.1 Only What is Signed is Secure

First, obviously, signatures over a transformed document do not secure any information discarded by transforms: only what is signed is secure.

.. users concerned with the integrity of the element type definitions associated with the XML instance being signed may wish to sign those definitions as well (i.e., the schema, DTD, or natural language description associated with the namespace/identifier).

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8.1.2 Only What is "Seen" Should be Signed

Additionally, the signature secures any information introduced by the transform: only what is "seen" (that which is represented to the user via visual, auditory or other media) should be signed. If signing is intended to convey the judgment or consent of a user (an automated mechanism or person), then it is normally necessary to secure as exactly as practical the information that was presented to that user. Note that this can be accomplished by literally signing what was presented, such as the screen images shown a user. However, this may result in data which is difficult for subsequent software to manipulate. Instead, one can sign the data along with whatever filters, style sheets, client profile or other information that affects its presentation.

8.1.3 "See" What is Signed

Just as a user should only sign what he or she "sees," persons and automated mechanism that trust the validity of a transformed document on the basis of a valid signature should operate over the data that was transformed (including canonicalization) and signed, not the original pre-transformed data. This recommendation applies to transforms specified within the signature as well as those included as part of the document itself. For instance, if an XML document includes an [embedded style sheet \[XSLT\]](#) it is the transformed document that should be represented to the user and signed. To meet this recommendation where a document references an external style sheet, the content of that external resource should also be signed as via a signature **Reference** otherwise the content of that external content might change which alters the resulting document without invalidating the signature.

Scenarios involving Linking

Important scenarios may include the following:

- a party drafting a contract
 - wanting to cross reference to another clause
 - wanting to cross reference to multiple other clauses (eg terms which survive termination)
 - wanting to refer to some other document
 - wanting to refer to a party
 - wanting to re-use pre-existing content
- a party corresponding with another party about the terms of the contract
 - each party may have its own copy of the contract, and refer to that
 - each party may have access to a shared deal room, and refer to a shared electronic copy of

the contract

- a party seeking to manage a contract (eg internally within a corporation)
 - use within a contract management system
 - publication on intranet
 - as a single page
 - as a series of linked pages
- a party seeking advice from its lawyers
- a government agency which has a copy of the contract, and is obliged/permitted to do something with it
 - make a written taxation assessment based on its terms
 - seek legal advice
 - make a declaration that some part of the contract is void or unenforceable
 - publish the contract on the web
 - as a single page
 - as a series of linked pages
- a government agency is party to a contract, and because of freedom of information or other laws, that contract is published and available for inspection by the public

Discussion of the Linking Scenarios

There are two types of links which may be relevant. One is a link which takes you to the relevant part (just like a standard hyperlink on a web page) or parts of the contract. The other is a link which extracts part of the target, and embeds it (ie displays it in situ in the document which contains the link).

In none of the linking scenarios does it appear necessary to be able to link to the Evidentiary Contract Document itself. It is sufficient to link to a representation of the contract which shows the wording of the contract, together with clause numbers (headers and footers are unlikely to be necessary; page numbers may or may not be important).

It is also worth noting that all the linking scenarios are done as a matter of routine today, often without the benefit of linking.

Where does linking most add value?

- Where a contract is published on an intranet or the internet, links (particularly internal links such as cross references and definitions) make for ease of use
- Letters referring to clauses in a contract could similarly link to the contract. The letter would either point to a copy of the contract accessible by both parties (eg extranet/dealroom), or physically include a copy of the clause (fetched at authoring time)

- Conceivably, the contract itself could be built out of included clauses

Assessment of Structural Model in Light of the Scenarios

It is submitted that the *structural* model presently before the TC is suitable for linking, since:

- clauses and other items within it can be linked to, using the ID attribute provided, or via an Xpath expression
- at the same time, those clauses can be displayed in a "good enough" fashion, using a layout language such as CSS or XSL-FO.

To be perfectly clear, a schema/DTD along the lines of the Harrop and Meyer proposals is a *structural* model for contract clauses. It is not intended that it can, alone, be "printed out" as a legal document in the traditional style, and signed in ink. Rather, the intent is:

- to get something that you can print out and sign, or refer to reliably in court proceedings, you can use a *presentation language* (or page description language), like SVG or PDF.
- you can get "good enough" display for WYSIWYG XML editing or preview in a web browser, using a *layout language* such as structure + CSS, structure + XSL, or XSL-FO.
- to leave other presentation strategies open to the parties as they see fit

It is not necessary for present purposes to explore in any greater detail the technology that might be employed for linking.⁶

The point is that the structural model, when fully fleshed out, is expected to be sufficient to enable the scenarios envisaged in this document. This paper is silent as to whether it is necessary or desirable for the TC to specify alternatives to the structural model.

Conclusions

The eContracts standard should say something like:

The standard does not seek to constrain the parties to the contract from choosing their preferred evidentiary form of contract from amongst the various mediums and formats which the technology of the day and applicable legal framework makes available. For example, the evidentiary contract document may be a paper document, or a PDF document (subject to relevant laws). In particular, the standard does not mandate that the evidentiary contract document must be an XML document.

To help people to understand the role of the eContracts standard, it could provide guidance as to some of the characteristics which are desirable in an electronic Evidentiary Contract Document, including format, the use of a digital signature, and what is signed.

A structural representation of a contract document, as envisaged by Peter Meyer, myself and others, ought to be an appropriate foundation for all of the scenarios identified in this document and

⁶ Ari Nordstrom's paper "Linking Strategies", from the Extreme Markup Languages 2003 Proceedings, is an interesting exploration of possible approaches to linking.

considered within scope.

In particular, it is not envisaged that links to a representation of the contract need to be to the Evidentiary Contract Document itself (though in some cases this may be possible).

There is no need for the TC to mandate any other representation of a contract document, whether that representation be one using a presentation language, or a layout language. However, the TC, could if it wishes, provide guidance as to the desirable characteristics of such representations, and examples of how such representations could be generated.