GESMER UPDEGROVE LLP
Attorneys at Law

Consortium Standards Bulletin

*A **ConsortiumInfo.org** publication*

JANUARY 2007
Vol VI, No. 1

FROM THE STANDARDS BLOG

THE CONTRADICTORY NATURE OF OOXML

Andrew Updegrove

Wednesday, January 17, 2007 @ 2:57 PM EST

Regular readers will be aware that OOXML, the Microsoft Office XML-based formats adopted by Ecma in early December of last year, are now in the adoption queue at in the ISO/IEC Joint Technical Committee 1 (JTC1). Ecma is a "Class A Liaison" partner of the ISO/IEC, which enables Ecma to use the same Fast Track process that national standards bodies use. That process takes six months - the same amount of time that the Publicly Available Standard, or PAS, process takes (the route used by OASIS to submit ODF to ISO/IEC) – but has two steps rather than one. The practical result is nevertheless much the same.

During the first one-month step, any of the c. 60 current Principal (P) and Observer (O) level members of ISO/IEC may submit "contradictions," a term which is unfortunately (as we will see) not defined, but which means aspects in which a proposed standard conflicts with (at least) already adopted ISO/IEC standards – the ambiguity then passing to what "conflicts" means, and whether only standards are of concern (as compared to, for example, ISO/IEC Directives). Those contradictions must then be "resolved" (which does not necessarily mean eliminated), and these resolutions are then presented back to the members during the second stage to consider as part of the voting package.

During this second, five-month step, other objections, questions and comments can be offered by not only by P and O Level members, but also by the 157 nations entitled to be heard under the rules of the World TradeOrganization. (For one interpretation of the rules relating to contradictions and what can be raised during this phase, see the write-up posted at the OpenDocument Fellowship site.)

While the unprecedented size of OOXML (6,039 pages, to be precise) has made performing a detailed review a daunting task, more and more issues are being found by those that are slogging their way through on this very tight timeframe. Here is a sampling of the types of problems that people have brought to my attention:

Starting with the somewhat silly, OOXML does not conform to ISO 8601:2004 "Representation of Dates and Times." Instead, OOXML section 3.17.4.1, "Date Representation," on page 3305, requires that implementations replicate a Microsoft bug that dictates that 1900 is a leap year, which in fact it isn't. Similarly, in order to comply with OOXML, a product would be required to use the WEEKDAY() spreadsheet function, and therefore assign incorrect dates to some days of the week, as well as miscalculate the number of days between certain dates.

More substantively, OOXML does not follow ISO 639 "Codes for the Representation of Names and Languages." That standard defines a list of codes that are maintained by a Registration Authority charged with keeping the list current as ethno-linguistic changes evolve. Instead, section 2.18.52, "ST_LangCode (Two Digit Hexadecimal Language Code)" (page 2531) says that you must use a fixed list of numeric language codes rather than the already existing set that provide for interoperability among other standards-compliant products – a not unimportant factor in a text standard.

Similarly, 6.2.3.17 "Embedded Object Alternate Image Requests Types (page 5679) and section 6.4.3.1 "Clipboard Format Types" (page 5738) refer back to Windows Metafiles or Enhanced Metafiles – each of

which are proprietary formats that have hard-coded dependencies on the Windows operating system itself. OOXML should instead have referenced ISO/IEC 8632 "Computer Graphics Metafile" – a platform neutral standard.

Taking the external reference issue further, I'm told that parts of OOXML can't be implemented by your typical programmer at all without technical assistance from Microsoft, as these sections refer not only to proprietary Microsoft products, but to undocumented parts of them as well – which violates the General Principles of ISO/IEC Directives, Part 2. Consider the following, from section 2.15.3.26 (page 2199):

> ***2.15.3.26 footnoteLayoutLikeWW8 (Emulate Word 6.x/95/97 Footnote Placement)***
>
> *This element specifies that applications shall emulate the behavior of a previously existing word processing application (Microsoft Word 6.x/95/97) when determining the placement of the contents of footnotes relative to the page on which the footnote reference occurs. This emulation typically involves some and/or all of the footnote being inappropriately placed on the page following the footnote reference.*
>
> *[Guidance: To faithfully replicate this behavior, applications must imitate the behavior of that application, which involves many possible behaviors and cannot be faithfully placed into narrative for this Office Open XML Standard. If applications wish to match this behavior, they must utilize and duplicate the output of those applications. It is recommended that applications not intentionally replicate this behavior as it was deprecated due to issues with its output, and is maintained only for compatibility with existing documents from that application. end guidance]*
>
> *Typically, applications shall not perform this compatibility. This element, when present with a val attribute value of true (or equivalent), specifies that applications shall attempt to mimic that existing word processing application in this regard.*
>
> *[Example: Consider a WordprocessingML document with a series of footnotes.*
>
> *If this compatibility setting is turned on:*
>
> *Then applications should mimic the behavior of Mcrosoft Word 6.x/95/97 when determining the placement of those footnotes on the displayed page, as needed. end example]*

Other parts of OOXML refer to OLE, macros/scripts, encryption and DRM – none of which are fully described. Nor has Microsoft stated whether necessary information will be supplied on a non-discriminatory basis to all (or at all).

And taking that concern a step further, consider the fact that OOXML also apparently violates section 2.14 of the ISO/IEC Directives, Part 1, in that not all of what it takes to implement OOXML appears to be covered by Microsoft's patent pledge, in two respects.

First, the pledge does not explicitly cover material that is referenced, but not included in the specification, and second, the Microsoft patent commitment does not cover optional features. Sections of OOXML that are not fully described include those that require compliant implementations to mimic the behavior of Microsoft products, such as those products and capabilities referred to above (OLE, etc.) Microsoft will need to clarify whether its patent commitment will in fact extend to these requirements. Potentially, these concerns would involve large portions of OOXML, in contradiction of the ISO/IEC requirement that more than a bare-bones implementation must be permitted without fear of infringement.

All in all, as the waitress in the Monty Python vignette would doubtless have observed (if contradictions were rats), "Rather a lot, actually."

As the February 5 deadline for reporting contradictions approaches, I expect that you'll be hearing of many more examples such as these. Eventually, they will all become publicly available, along with the

proposed resolutions. Some, such as the patent pledge ambiguities, are clearly addressable by Microsoft if it wishes to do so.

Other contradictions would seem to be impossible to resolve given the nature of OOXML itself, the stated purpose of which is to describe a single vendor's product – bugs, rats and all.

Epilogue, added January 31, 2007: The American National Standards Institute (ANSI) is the U.S. representative to JTC 1. For document formats, the ANSI member organization that was delegated responsibility for considering what response the US should make regarding OOXML is the International Committee for Information Technology Standards, more commonly referred to simply as "INCITS."

Yesterday, I learned that the Executive Board of INCITS decided earlier in the day *not* to propose to ANSI that any contradictions need be identified between OOXML and any ISO/IEC standards, Directives or other rules. The reason is that Microsoft, which has a member on the committee, has persuaded a sufficient number of members of the Executive Board to adopt a very conservative definition for a "contradiction" – that definition being essentially that a contradiction arises only where a system could not run operate two products, each of which implemented one of the two specifications in question. You can see the same contentions referred to in the blog of Microsoft Office Manager Brian Jones, who describes the purpose of the contradiction period, and the definition of a contradiction as follows:

> [The Contradiction Period]…is where you want to make sure that the approval of this ISO spec won't cause another ISO standard to break. In the case of OpenXML, there really can't be a contradiction because it's always possible to implement OpenXML alongside other technologies. For instance, OpenOffice will soon have support for ODF and OpenXML.
>
> An example of a contradiction would be if there was a standard for wireless technology that required the use of a certain frequency. If by using that frequency you would interfere with folks using another standard that also leverages that frequency, then there may be a contradiction.

Rather a high bar for a standard, and a low one for process quality, I should say.

Happily, it appears that INCITS will forward the many comments that it has received to its full membership . You can view those comments here. Much of this input was produced as a result of a heroic effort by Groklaw's Pamela Jones and her volunteers, who set up two very impressive pages at Groklaw, in Wiki format. The first allows interested parties to find and log in contradictions and objections, while the second tracks the ISO/IEC process. Pamela's own detailed writeup can be found here.

All of which raises the question of whether the effort to limit the number of issues that are formally identified as "contradictions" will prove to be tactically smart or ultimately foolish?

Given that the same input is public, and can be taken into account in the final voting, it strikes me as foolish. When issues exist, I believe that they are better confronted than ignored. People that have strong feelings and take the time to express them would always prefer to be heard. And when those people are also customers, it is a risky business indeed to brush their concerns aside.

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Comments? updegrove@consortiuminfo.org
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