

OPEN DOCUMENT FORMAT
ODF ALLIANCE

July 20, 2007

Ms. Bethann Pepoli
Acting CIO
Information Technology Division
Commonwealth of Massachusetts
One Ashburton Place, Room 801
Boston, MA 02108

RE: ODF Alliance Comments on Draft ETRM v4.0

Dear Ms. Pepoli,

On behalf of the OpenDocument Format Allianceⁱ (ODFA), I appreciate the opportunity to comment on the Enterprise Technical Reference Model (ETRM) v4.0 – Public Review Draft.

The Alliance includes more than 400 member organizations in 52 countries dedicated to educating policy makers, IT administrators and the public on the benefits and opportunities of the OpenDocument Format (ODF). ODF helps ensure that government information, records and documents are accessible across platforms and applications, even as technologies change.

Introduction

The ODFA commends the Commonwealth of Massachusetts' leadership in 2004 to adopt an open standards policyⁱⁱ requiring that all future IT procurement be based on open standards whenever possible. Further, we commend the Commonwealth's leadership with ETRM v3.5 in 2005 to identify ODF as the standard for all official documents the Commonwealth creates and saves. The decision to move to an open format was based on a fundamental public policy interest – that government documents belong to the people and should not be locked up in a proprietary format that restricts access to users of a particular technology or vendor, or prevents public access to those documents in the future because the software in which the document was created is obsolete, or the vendor goes out of business.

With this critical decision, the Commonwealth brought worldwide attention to the problem of ensuring that our digital history is not lost to future generations, and it proposed a solution – ODF – that has been emulated worldwide. To date, eight national governments, three other regional/state governments, and more than 50 government agencies worldwideⁱⁱⁱ have since recognized the benefits of open standards, like ODF, in terms of public access to information, ensuring technology neutrality and promoting choice.

Indeed, the ODFA strongly agrees with the ETRM framework to identify standards that support the Commonwealth's goal of building a service-oriented architecture which would both enable its IT components to interoperate seamlessly, and, importantly, encourage citizen-centric, user-friendly electronic interaction with the public. However, the ODFA strongly opposes the recent draft ETRM v.4.0 proposal to recognize Ecma-376 Office Open XML File Formats (OOXML) as an acceptable open format at this time. This proposal breaks with the core objectives of the 2004 open standards policy and the ETRM to ensure interoperability and foster better IT governance, while also improving the quality and accessibility of information and services. Please find below the following detailed comments and recommendations on behalf of the ODF Alliance:

1. Acceptance of OOXML is a contradiction to the Commonwealth's open standards policy
2. Acceptance of OOXML raises serious questions for people with disabilities, and
3. Detailed recommendations to improve ETRM v.4.0

1. The acceptance of OOXML is a contradiction to the Commonwealth's open standards policy and ETRM.

The Commonwealth's open standards policy requires open standards to allow multiple vendors to compete directly based on the features and performance of their products, and to provide for an existing technology solution that is portable and that can be removed and replaced with that of another vendor with minimal effort and without major interruption.

OOXML is in direct contradiction with these laudable objectives, and public access to vital records and information would be seriously compromised by the inclusion of OOXML under the ETRM. Until such time as OOXML has full, demonstrable multi-vendor support across multiple platforms, the Commonwealth should refrain from recommending its use by executive agencies. Following are the critical factors that currently prevent OOXML from being considered an “open standard.”

- **OOXML Is A Single-Vendor Format** – To date, OOXML has been implemented in a single, proprietary product, Microsoft's Office 2007, meaning there will be no true choice for the Commonwealth and its citizens should OOXML be recommended under the ETRM. Moreover, OOXML's complexity, extraordinary length, technical omissions and single-vendor dependencies combine to make alternative implementations unattractive as well as legally and practically impossible. While two vendors have announced partial support (text documents only) for OOXML through the ODF- OOXML translator, this tool merely saves to OOXML, and, in its current state of development, would not be suitable in an office environment requiring collaboration on a document. There is still not an implementation for the Mac.
- **OOXML Is Not Interoperable** – OOXML is either dependent upon, or optimized for, a catalog of Microsoft software applications and platforms and does not function fully with non-Microsoft software.^{iv} The practical effect of such dependencies is that the use of OOXML by Executive Agencies will require the purchase of licenses for Microsoft operating systems on both the desktop and the server as well as Microsoft Office 2007

at considerable cost to Commonwealth taxpayers. Platform dependencies of OOXML, which are features that can only be implemented or optimized for Windows and will break or not function the same way in non-Microsoft environments, include DevMode and GUID, among others. Application dependencies include VBA macros contained in OOXML documents that will not run when outside Microsoft applications, and an enumerated list of border art means that every application that wishes to fully comply with the OOXML must somehow license the use of those graphics.^v

- **OOXML Is Not Fully Published** – In order to be implemented by other software vendors and developers, an open format needs to be fully published, yet OOXML contains numerous undocumented and unspecified features. To the extent that a format feature is only partially specified or not specified at all, other vendors' products will not be interoperable with it. Examples of partially or unspecified features include embedded macros and scripts. There is missing information from the specification document, for example, on how to do a autoSpaceLikeWord95 or useWord97LineBreakRules. Indeed, many elements designed into the OOXML formats but left undefined in the OOXML specification require behaviors upon document files that only Microsoft Office applications can provide. This makes data inaccessible and breaks work group productivity whenever alternative software is used.
- **OOXML Is Not Free of Patenting or Licensing Restrictions** – The patent-protection pledge in Microsoft's *Open Specification Promise* only protects what is explicitly specified in the standard. There are numerous implied, referenced and undocumented facets and behaviors of the OOXML formats (see above) which, if implemented by another entity, would risk "intellectual property" (patent) violations against Microsoft software.
- **OOXML Is Not a Faithful Implementation of XML** – The ETRM states that one of the most critical SOA decisions for the Commonwealth is the adoption of XML as the primary standard for data interoperability. It describes XML as “the lingua franca of application integration, facilitating application interoperability, regardless of platform or programming language,” and a cornerstone of the Commonwealth’s Service Oriented Architecture. Yet OOXML disregards sensible XML practices which serve to prevent accessing data across disparate systems. More than 10% of the examples mentioned in the proposed standard do not validate as XML.^{vi}
- **OOXML Is Not Developed and Maintained In An Open Process** – Despite being submitted to a formal standards body, control of OOXML ultimately rests with one organization. There is no guarantee that new OOXML features developed by Microsoft will be provided to Ecma, and experience has shown that the development of proprietary extensions will weaken a standard and make alternative implementations unattractive or impossible.

2. Acceptance of OOXML raises serious questions for people with disabilities

The release of ETRM v3.5 and the subsequent important accessibility concerns raised by the disability community with respect to office documents have raised worldwide consciousness of the impact of information technology decisions and standards on the lives of people with

disabilities. The high water mark set by ODF v1.1 should not be allowed to recede with the acceptance of anything less from OOXML in ETRM v4.0. However, the acceptance of OOXML raises a number of important accessibility questions that should be addressed by the Commonwealth before it recognizes OOXML as an acceptable format, regardless of its openness. Particularly, the following points:

- **OOXML Fails to adequately support Web Content Accessibility Guidelines v.1.0** – According to a white paper authored by Microsoft (http://openxmldeveloper.org/archive/2007/07/02/Accessibility_of_Open_XML.aspx) evaluating OOXML against the Web Content Accessibility Guidelines (WCAG) v.1.0, there are seven WCAG accessibility checkpoints that OOXML failed to support, and another four accessibility checkpoints that OOXML only partially supports. Some of these checkpoints represent significant accessibility issues - including several issues that OASIS ODF Accessibility subcommittee discovered in its public, peer-review of ODF v1.0 and which were fixed in ODF v1.1. OOXML should be held to the same accessibility standards as ODF - the Commonwealth should not take a step backward in its IT support of employees with disabilities.
- **OOXML raises additional accessibility concerns that apply to office documents** – Separate from the accessibility failings that Microsoft itself has noted in OOXML, there are a number of important accessibility concerns that apply to office documents not covered in an evaluation based on WCAG 1.0. These include the suitability of the document format for the creation of DAISY format digital talking books for people with print impairments, and the creation of Braille documents for the blind. The OASIS ODF Accessibility subcommittee explicitly addressed these questions in their review of ODF v1.0, and OASIS adopted additions to ODF v1.1 expressly to support DAISY. Subsequent support of ODF v1.1 in the leading Braille transcription application and review by their transcription engineers have validated ODF v1.1 as an excellent basis for Braille production. The Commonwealth should be certain of the suitability of OOXML for DAISY and Braille document creation before accepting it as an acceptable open format in the ETRM
- **OOXML fails to meet the critical principle of involving the accessibility community in the development of standards** – We have seen no information about whether the Ecma 376 standardization process involved disability experts and people with disabilities in its development - and especially whether this process was undertaken by a peer-review body of such individuals. Standards developed and deployed without a thoughtful accessibility review by accessibility experts and by people with disabilities too often has resulted in the erection of significant barriers to people with disabilities. The principle of involving people with disabilities was clearly articulated by the European Council eAccessibility Resolution of February 2003 (http://ec.europa.eu/employment_social/news/2003/oct/eAccessibility_en.pdf) that people with disabilities should be empowered “to take more control over the development of the mechanisms for delivering eAccessibility”, and “by support for their increased participation in standardisation bodies and technical committees.” ETRM v3.5 accepted ODF v1.1 in part because of the input and peer review of experts in the disability community, and the input and peer review of individuals with disabilities who sat on the open ODF Accessibility subcommittee. ETRM v4.0 should

continue to uphold this core principle and insist that all standards accepted under the ETRM that impact people with disabilities must include people with disabilities in the development of those standards.

- **The cost of the expensive assistive technologies that are needed in order to work with the sole program that supports OOXML presents an unfair cost burden -** While the Information Technology Division ETRM only has jurisdiction over internal Executive Branch documents, ITD should recognize the dimension of affordability in the choice of document formats, not only for the cost burden on government users, but also the burden placed on citizens and individuals who exchange documents with government. That burden is greatly magnified by the cost of the expensive assistive technologies that are needed in order to work with the sole program that supports OOXML - Microsoft Office - on the sole platform where such tools work - Microsoft Windows. The Commonwealth's acceptance of OOXML as an acceptable document format could lead to a \$1,500 expense - and the sole use of Microsoft Windows (at additional expense) - for blind inclusion to access this format. This is in sharp contrast with the ITD's policy in support of ODF, which can be fully utilized by blind citizens using a powerful and free screen reader that is well supported by the flagship open source ODF application on a free UNIX desktop. In fact, several free UNIX distributions available today already include this combination, and are presently in use by blind citizens in the Commonwealth.

3. Recommendations for Technical Improvements to ETRM v4.0

As articulated above, the ODFA strongly disagrees with the proposal to recognize OOXML as an acceptable open format at this time. Short of this change, following are recommendations for technical improvements that could be made to the draft ETRM v4.0 to ensure that it meets the interests of employees and citizens of the Commonwealth alike.

(1) Expand definition of open formats to include the commonly accepted criteria that open formats must be “implemented by multiple interoperable applications on multiple, independent operating systems.” This change would ensure that the benefits of openness, including choice and interoperability, are achieved, consistent with the explicit requirements in the Commonwealth's policy on open standards. Further, such a change would be consistent with definitions of many ODFA members, recent government policy documents, such as the final Interoperability Frameworks in Japan which prefers open standards and recognizes ODF as one) and many others (e.g., <http://perens.com/OpenStandards/Definition.html> and <http://www.cyber.law.harvard.edu/epolicy>)

(2) Remove statement in the description of OOXML that “This XML-based document format was developed to ensure the highest levels of fidelity with legacy documents created in proprietary Microsoft Office binary document formats such as .doc, .xls, and .ppt.” This statement implies that a transition from proprietary Microsoft Office binary document formats – those currently in use by the Commonwealth – to OOXML would be the most seamless and logical. However, this assertion is completely without merit as it has not been verified by any standards organization or credible third party evaluation of conversion between OOXML and

binary formats. Further, OOXML does not fulfill its objective to provide for backward compatibility with previous binary formats of Office documents because the necessary mapping has not been provided for implementors to be able to develop applications to achieve backward compatibility.

Additionally, for interoperability with legacy .doc, .xls and .ppt documents, it is important to consider not only the end user interactive editors, like MS Office, but also any other systems that read or modify documents in these formats. We note that the journals Science and Nature are rejecting OOXML documents because their publishing system relies on a third party application which does not support OOXML (see <http://education.zdnet.com/?p=1086>). One can not assume that the move to OOXML is transparent and painless merely because Office 2007 supports both formats, particularly given the absence that disallows the development of third party software that can also interoperate seamlessly.

(3) Amend guidelines to specify that “The Open XML format may be used for text documents (.docx) provided that they can be faithfully exchanged, with fidelity, with ODF. The Open XML format may be used for spreadsheets (.xlsx), and presentations (.pptx) once these have been implemented by more than one application and provided that these implementations can provide faithful exchanges with ODF.” This amendment would recognize that OOXML as implemented in .docx (text documents) is the only implementation that has any conversion capabilities with ODF and legacy binary document formats, and even focused on text documents there are still conversion issues and a dearth of choice.

(4) Update the ETRM to report current state of OOXML and ODF implementations. Reword the section to make clear that only for text documents has OOXML been implemented via a translator by another vendor. Language should read: “Based on information publicly available regarding implementations, the OOXML format for text documents (.docx) is currently supported by Microsoft Office 2007, OpenOffice Novell Edition and NeoOffice 2.1. Corel has announced OOXML support for WordPerfect 2007 to be available in its next release.”

As for ODF, the language can be updated to read: “One of the principal objectives as specified in the OASIS ODF Technical Committee charter is to have as many implementations as possible and, indeed, multiple implementations of ODF exist today. Currently OpenOffice.org, StarOffice, KOffice, Lotus Notes, AbiWord, Google Docs and Spreadsheets, Zoho Writer, AjaxWriter and other applications work with ODF documents. In addition, there are a number of translator software solutions that enable other office suites, such as Microsoft Office, to translate documents to and from OpenDocument Format for text documents, spreadsheets and presentations. Among these plug-ins is Sun Microsystem's ODF Plug-in 1.0 for Microsoft Office, which is currently being deployed within the Commonwealth.”

(5) Update the ETRM Information Domain to incorporate a requirement that acceptable formats must be developed with involvement of people with disabilities and disability experts. As articulated above, standards developed and deployed without a thorough accessibility review by accessibility experts and people with

disabilities too often has resulted in the erection of significant barriers to people with disabilities. Therefore, the addition of this requirement would ensure better support for people with disabilities going forward.

(6) In the proposed definition of OOXML, remove statement that the format has been approved by Ecma “as an open standard.” On the contrary, Ecma has approved the specification only as a standard, but not an “open standard” or “open format.” As you know, OOXML is currently being considered by the International Organization for Standardization (ISO) as an internationally recognized standard, but no conclusion has yet been reached.

Conclusion

Competing products is a good thing; competing standards will add costs, uncertainty and confusion to the Commonwealth and its citizens alike. While a software vendor is certainly free to adopt its own document format whose features and functionality are closely linked to its own platform and applications, the Commonwealth should not choose such a format for use by its executive agencies that will compromise the objective of ensuring long-term public access to vital records and information, and the preservation of the Commonwealth's digital history.

Again, thank you for the opportunity to comment on the proposed revisions to the ETRM. If you have any questions regarding these comments, please do not hesitate to contact me at mmarcich@odfalliance.org or 202-789-4450.

Sincerely,

Marino Marcich
Managing Director
ODF Alliance

i <http://www.odfalliance.org>

ii http://www.mass.gov/Aitd/docs/policies_standards/openstandards.pdf

iii <http://www.odfalliance.org/resources/GlobalViewODFPolicy.pdf>

iv http://www.odfalliance.org/resources/Achieving_Openness.pdf; see pps

v Clip-art should not be defined in the file format since clip-art licensing is not uniform or standard on every platform and this creates another operating system and application dependency

http://www.grokdoc.net/index.php/EOOXML_Objections_Clearinghouse#Inappropriate_user-interface_specifications:_Clip_Art) and <http://lnxwalt.wordpress.com/2007/04/06/to-the-members-of-the-california-state-assembly/>

vi

<http://www.odfalliance.org/resources/The%20Technical%20Case%20Against%20OOXML.pdf>