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BY ELECTRONIC MAIL AND OVERNIGHT DELIVERY

Secretary Eric Kriss
Executive Office for Administration & Finance
State House, Room 373
Boston MA 02133

Mr. Peter Quinn
Chief Information Officer/Director
Information Technology Division
200 Arlington Street
Chelsea, MA 02150

Re: Proposed Revisions to Information Domain-Enterprise Technical Reference Model

Dear Secretary Kriss and Director Quinn:

Microsoft respectfully invites you to consider its responses to the proposed revisions to the Enterprise Technical Reference Model-Information Domain published on August 29, 2005 (ETRM) which, as currently framed, mandates exclusive use of a designated office document format within all executive agencies of the Commonwealth of Massachusetts by January, 2007.

Microsoft strongly supports the efforts of the Information Technology Division (ITD) of the Executive Office for Administration & Finance (ANF) to bring the benefits of XML to executive agencies of the Commonwealth of Massachusetts. We recognize that governments are challenged to be fully accountable for archived public records well into the future, and for ensuring that government agencies can efficiently handle data and documents across all technical and organizational boundaries. We share the opinion that XML is the ideal format for data interoperability and storage, management, and archiving of public records and endorse the direction to support open and agreed-upon specifications for data interoperability within government via XML standards. We share the proposal's goals for data interoperability across government agencies and for assuring proper storage and maintenance of all public records. Consistent with this viewpoint, Microsoft has been deeply committed to supporting XML within Microsoft Office for a number of years and continues to work with many governments around the world toward these goals.

We have substantial concerns, however, with the definition of "open formats" in the current proposal. This definition mandates adoption of a single, immature format for office documents throughout the Commonwealth's executive agencies and effectively requires deployment of a single office application technology within those executive agencies. As such, this unprecedented approach not only prevents impacted state agencies of the Commonwealth from using many critical and well-established technologies, but also runs afoul of well-established procurement norms without due

consideration for the enormous costs and technical challenges that stem from the proposal. We simply do not believe that the proposed mandate for this exclusive document format is the best solution for achieving the Commonwealth's laudable goals.

Microsoft's key concerns are as follows:

- (i) ANF did not provide sufficient time for review and comment on the proposed policy, nor a robust process for addressing comments. Due process requires much more, particularly given the unprecedented nature of the proposal and the potentially adverse consequences it could provoke,
- (ii) the proposed policy would create significant costs and problems for state agencies, for the private sector, and for its citizens,
- (iii) the document format designated in the proposed policy is new to the marketplace, still subject to potential revision, and not widely deployed or tested in a wide variety of product or usage scenarios,
- (iv) there are substantial technical challenges associated with implementation of the proposed policy. For example, there are issues associated with converting documents saved in the well-established, existing document formats which apparently have not been considered, including the possibility that the new policy will lock out citizens and organizations which use software applications supporting these existing formats from Commonwealth systems or services, or significantly change countless legacy documents that are not fully supported by the newly designated format,
- (v) the policy would prohibit impacted agencies of the Commonwealth from taking advantage of innovations and solutions from a multitude of technology vendors, including vendors whose technologies are now widely deployed throughout the Commonwealth, thereby denying these agencies the benefits of future technological innovations,
- (vi) the proposal appears both inconsistent and discriminatory in that it approves use of one "proprietary" document format as an alternative to the OpenDocument format, while excluding others, and
- (vii) there are less costly, less limiting, non-preferential policy options to achieve the proposed policy's stated goals. Of particular note, only months ago, the CIO's office publicly supported Microsoft's open and royalty free licensing approach with regard to its Office XML formats by agreeing to include these formats within the Commonwealth's policy. Now, with the imminent departure of Secretary Kriss at hand, the Commonwealth is proposing a policy that is at odds with its previous affirmation of Microsoft's approach. Such a sudden reversal by the CIO's office is questionable in its timing, process, motivation, and commitment.

In short, the proposed policy is costly and unnecessary and would limit the Commonwealth of Massachusetts to a desktop software policy that is less functional, less open, and less flexible than the Commonwealth's current policy.

For these reasons, as discussed in greater detail below, we believe the current proposal should be

reconsidered and that the ETRM section addressing data formats be revised in a manner consistent with the recommendations contained in this letter. In particular, we respectfully recommend that the ANF:

- 1) reinstitute its prior definition of “open format” that properly allowed for agency purchase of products based on openly licensed and widely deployed de facto standards as an equally effective means of fostering data interoperability,
- 2) reinstitute its prior conclusion that Microsoft’s Office XML Reference Schemas qualify as open formats under the Commonwealth’s policy (under this approach, the OpenDocument and PDF formats could also remain as viable alternatives), and
- 3) incorporate a process into the ETRM that makes clear how additional formats or standards may be added to the Commonwealth’s “accepted” list as developments and innovations arise in the future.

In the alternative, if the Commonwealth is not prepared at this time to adopt the specific substantive recommendations set forth above, we ask that you extend the current eleven (11) day period for public comments for an additional period of time sufficient to afford all interested parties an adequate opportunity to meaningfully review the proposal and provide thoughtful comments. During such time, we would also ask that the ITD commission an analysis of the costs and benefits associated with adopting the proposal as currently framed.

Following are the specific reasons why the proposed policy should be reconsidered, or, in the alternative, why the period for public comment on the proposed policy should be extended.

1. ***The Executive Office for Administration & Finance did not provide sufficient time for review and comment on the proposed policy, nor did it provide a robust process for addressing comments.***

The Commonwealth of Massachusetts has laws, regulations, and policies in place to assure that due process is followed on important matters with relevance for the Commonwealth and its citizens. It is unclear whether laws, regulations, and policies relevant to the current proposed policy were followed in this instance and we urge you to review this issue prior to final approval of the new policy.

The Massachusetts Administrative Procedures Act sets forth specific requirements for notice and comment processes before an agency promulgates any “rule, regulation, standard or other requirement of general application and future effect.” Given the mandate of the proposed policy, it appears that the APA may well apply to the proposed policy, and proceeding without a clear determination of whether it does would put the validity of the policy in doubt if adopted. Even if the APA does not apply, the due process protections it requires are appropriate, as matters of fairness and good policy making, for a shift as significant as the one ANF is contemplating here.

Indeed, the haste with which the current process is proceeding is inconsistent with the ANF’s own prior pronouncements concerning the diligence to be accorded technology procurement matters. Specifically, the ANF’s Enterprise Information Technology Acquisition Policy (Policy #: ITD-APP-

02) - Effective Date January 13, 2004 applicable to agencies within the Executive Department provides, in relevant part:

The Commonwealth has a responsibility to ensure that information technology solutions are selected based on best value after careful consideration of all possible alternatives including proprietary, public sector code sharing and open source solutions. ...For IT investments, a best value evaluation should, at a minimum, consider total cost of ownership over the entire period the IT solution is required, fit with identified business requirements, reliability, performance, scalability, security, maintenance requirements, legal risks, ease of customization, and ease of migration. ...IT investments should reduce the total cost of ownership to the Commonwealth while maximizing flexibility and reuse.

Regardless of whether the Acquisition Policy applies to the policy under consideration, it certainly informs the level of due consideration that the Commonwealth and ITD believe is appropriate with respect to matters impacting technology acquisitions.

The proposed revisions to the ETRM were first published for public comment by the ITD on August 29, 2005. The announcement accompanying the publication of the proposed policy indicated that the public comment period would end on September 9, 2005, just eleven days later. Moreover, the public comment period spanned a three day holiday weekend further compromising the ability of impacted citizens, organizations, and government officials to offer input on the proposed revisions. By contrast, the APA requires twenty-one days' notice.

As described below, the proposed policy represents a substantial departure from existing practice within the Commonwealth as it mandates deployment of a single, untested document format and, as a consequence, necessitates that executive agencies throughout the Commonwealth migrate away from software technologies that are widely deployed across these agencies in favor of different technologies. The enormity of the costs associated with this departure from existing practice cannot be discounted. It is almost unheard of for a government entity the size of Massachusetts to make such potentially far-reaching decisions about its IT infrastructure with so little time for public comment and discussion.

In light of the impact the proposed policy would have if put in place, it hardly seems appropriate to limit the public comment period to eleven days. Because the ANF failed to follow required procedures for engaging in this type of rule-making, any attempt to finalize the proposed policy would be invalid. Proposing a single standard technology to the exclusion of all others with an 11-day comment period hardly seems consistent with this overlying goal. Accordingly, if the Commonwealth is not prepared at this time to adopt the specific substantive recommendations set forth in this letter, we ask that, at the very least the Commonwealth extend the comment period for an additional period of time sufficient to afford all interested parties an adequate opportunity to meaningfully review the proposal and provide thoughtful comments and that, during this time, the Commonwealth conduct and publish for comment a thorough evaluation of the costs and benefits associated with the proposed revisions to the ETRM before making any revisions to the current policy. It bears noting that the APA would require ANF to file a five-year estimate of the policy's fiscal effect on both public and private sectors before the policy takes effect. We are unaware of any such estimate having been prepared.

In proceeding unilaterally to mandate use of a single document format, ANF's proposal is also

inconsistent with Section 390 of Chapter 149 of the Act of 2004, which is legislation passed just last year to create an information technology advisory board to guide the development of IT policy throughout state government. As you know, the advisory board consists of representatives from all three branches of government and is charged with developing annually an inter-branch memorandum of understanding that sets forth “information technology standards and a strategic plan for the signatories’ acquisition and use of information policy.” The statute also provides that Mr. Quinn is to be advised by the board on information technology issues, including the development of policies, project selection criteria, information technology architecture, infrastructure, and investments. By proceeding entirely outside the advisory board process, as we understand to be the case, ANF is acting in apparent conflict with the provisions of Chapter 149, Section 390 and thus casting further doubt on the ultimate validity of the regulations.

2. *The proposed policy would impose enormous costs on the Commonwealth of Massachusetts and on its citizens and the private sector.*

If the proposed policy were put in place, the fiscal impact on the Commonwealth, its citizenry, and the private sector would be substantial.

First, there would be significant, and entirely unnecessary, costs incurred by all state agencies, departments, cities, counties, and school districts to procure new software applications that support the OpenDocument format for their individual users. Many state agencies already have licenses for Microsoft Office and other software products that do not support the OpenDocument format, and the expense already borne by these state agencies for Microsoft Office and such other products’ licenses would be wasted by disallowing use of these products after Jan. 2007.^{1 2} As a result, costs to taxpayers would rise as executive agencies would be forced to toss out software they have already paid for, that they already know how to use, and that they can already use for archiving in open standard XML formats.

Second, every state agency, department, city, county, and school district would face enormous document and/or application conversion costs and would need to invest in training and support activity in order to make this conversion, with potential risks arising from conversion errors in these public documents.

Third, extensive work would have to be done deep within the IT infrastructure of the Commonwealth

¹ The impact of this proposal extends far beyond Microsoft. For example, agencies that have chosen to make use of Corel software, such as the Massachusetts court system, will face similar challenges, and it is unknown how the proposed policy will adversely impact existing guidelines in place for such agencies, such as the Massachusetts court system’s electronic submission guidelines.

² Some may argue that lower licensing costs associated with software technologies supporting the OpenDocument format counters the cost associated with the migration. Recent Gartner analyst reports, however, have documented examples where organizations who have closely evaluated the issues conclude that a move to alternative software has no defensible ROI; in fact, those organizations have concluded that the preferred approach was to maintain and continue deployment of Microsoft’s most recent software technologies. See: [A Financial Institution Sees No ROI on Desktop Linux](#) In many cases, companies license technologies for “free” or at very low sales price in the hopes of making money on other related products and services including sales of complementary proprietary software and hardware and service contracts. There are a number of examples of government entities that migrated away from some of the software that will be supporting the OpenDocument format due to total cost of ownership (including testing and installing, and training costs) among other factors.

to manage conversions of “non-compliant” documents and mapping of processes that work well today to new, untested systems. On a daily basis, state agencies would need to work with private sector organizations and citizens to devise ways to convert documents back and forth and to troubleshoot problems. One could also assume that other branches of the Commonwealth’s government would incur substantial expenses in order to adapt IT systems to be able to interface with the overhauled systems of the executive branch.

Fourth, new costs and problems will also be imposed on those doing business with the state, including organizations, businesses, and citizens, as the proposal could take away their choice of the software they may want to use to interact with the government to, for example, bid on a government project, submit filings, or correspond with government officials. Further, Massachusetts companies who currently sell products that do not comply with the proposed policy to Massachusetts agencies will be cut off from a major customer base.

Indeed, the proposal itself acknowledges the current pervasive deployment throughout impacted agencies of technologies not compliant with the proposed policy and the magnitude of the resulting costs that would be associated with the migration effort:

Given the majority of Executive Department agencies currently use office applications such as MS Office, Lotus Notes and WordPerfect that produce documents in proprietary formats, the magnitude of the migration effort to this new open standard is considerable.

There is simply no principled basis for causing the foregoing costs to be borne by the Commonwealth, its citizens, and the private sector, particularly given a) the significant flaws with the OpenDocument format, and b) the availability of more cost effective alternative ways to achieve the Commonwealth’s principal data interoperability objectives. These issues are discussed in turn in the following two sections.

3. *The OpenDocument format is immature and not widely accepted in the industry or public sector, and mandating the adoption of this format would present affected state agencies with significant technical obstacles.*

The new policy commits affected agencies to a relatively new and therefore not widely adopted or deployed technology.³ No other government entity in the U.S. has made similar policy moves. And for good reason: the technical specifications for the OpenDocument format were just recently finalized by a working group of the OASIS standards group on May 1, 2005, and have not been widely adopted, particularly across a range of organizations with varying infrastructure, skills, requirements and needs as is the case here. Furthermore, the open document committee of the OASIS umbrella organization did not include any government representatives and was comprised of a very narrow set of companies, primarily Sun and IBM, which are promoting their own technologies. The specifications were recently submitted to the ISO standards group and could be further modified

³ See J. Wilcox at <http://www.microsoftmonitor.com/archives/010242.html> (“Considering the OpenDocument format is only truly supported by OpenOffice 2.0, which isn't even available yet, I'm at a loss to see how the XML-based format meets the Commonwealth's goals for openness or backward compatibility. Nobody's *really* using the format yet, right? How, uh, open is that?") In point of fact, Microsoft is unaware of any released and supported software products that currently write to the OpenDocument format.

there.⁴

Beyond the immature and parochial status of the OpenDocument format, the format also promises to expose affected state agencies to significant technical obstacles, thereby potentially compromising the ability of affected state agencies to satisfy their technology-related obligations.

First, the proposal works against the practical considerations of storage and management of public records and ignores the many benefits that the state can derive from more innovative software than the choice designated in the proposal. There are likely to be millions of documents held by state agencies that are not in the OpenDocument format, but will nonetheless need to be converted for the future without jeopardizing their integrity. Unlike Microsoft Office formats, the OpenDocument format was not developed to provide backward compatibility in full fidelity from old Microsoft file formats. The current proposal would thus leave affected Commonwealth agencies with very limited capability for converting existing documents, relegating them to conversion into a less functional document standard. By contrast, the Microsoft Office formats pay special attention to compatibility with older document versions so that our customers can not only take advantage of the power of XML, but also transition their billions of existing documents to a format that ensures that their data and all the features, attributes, functions, and data types of these documents are preserved in the new format.

Second, unlike the support for data integration offered by Microsoft Office, the OpenDocument format does not have a universal means to incorporate external XML data sources in their native format into all types of documents. Therefore, much of the work the state will do to standardize their data via XML formats will not be easily accessible within most documents. Data may be lost as it is entered into documents, and documents may not be able to be generated automatically with data from other systems. The proposed policy sets up two isolated approaches to interoperability, one for data and one for documents, without a bridge between them. By contrast, Microsoft Office supports such universal *integration* of customers' "native" XML schema, and therefore could potentially better serve the stated data interoperability requirements.

Third, the OpenDocument format lacks a number of capabilities that are increasingly important in modern computing environments. Modern documents need to be able to handle embedded pictures, audio, video, maps, voice, data, database schema, web pages, and other data types. The ETRM proposal acknowledges that these needs are not yet addressed. Similarly, the proposal does not address the integration of documents with communication, collaboration, messaging, document management systems or other applications. In short, by limiting state agencies to the use of specific technology, the proposal will simply penalize agencies by prohibiting new useful technology advancements, whether from Microsoft or other sources.

4. *A preference for the OpenDocument format commits the Commonwealth to a single specific technology choice, which contravenes well-established public sector procurement practice, as well as various Commonwealth statutes and regulations.*

The draft policy identifies four products that support the OpenDocument format: Sun's StarOffice,

⁴ Note that the need for additional testing of Linux and OpenOffice.org recently caused Munich to delay its migration to these products for a year. See http://news.com.com/Munichs+Linux+migration+slips+to+2006/2100-7344_3-5850633.html.

OpenOffice.org, KOffice, and IBM Workplace. In reality, these products are slight variations of the same StarOffice code base, which Sun acquired from a German company in 1999. The different names are little more than unique brands applied by the vendors to the various flavors of the code base that they have developed. In essence, a commitment to the OpenDocument format is a commitment to a single product or technology. This approach to product selection by policy violates well-accepted public procurement norms.

Forcing a procurement preference for a single file format on government agencies will neither improve interoperability for public records, nor result in lower costs to taxpayers. Commonwealth agencies should be allowed to choose the technologies that best suit their needs, particularly in a context where, as here, multiple open and competing technologies/formats are available and supported in the marketplace, with many document conversion utilities already available and with no licensing barriers to future conversion software.

It is also possible that the proposed policy violates applicable Commonwealth statutes. The statute which empowers the ANF Secretary to conduct and oversee procurement for the Commonwealth requires that the ANF Secretary create rules for “the stimulation of competition.” The proposed policy can be read to require deployment of a single technology, to the categorical exclusion of vendors of alternative technologies. For example, the policy clearly calls for Corel and Microsoft products to be phased out without putting in place a process for updating the policy to accommodate additional technologies or standards. Because the proposal would thereby *reduce* competition, it is arguably invalid as beyond the ANF Secretary’s statutory authority.

Likewise, the proposed policy likely conflicts with current Commonwealth procurement regulations. The ANF Secretary’s existing procurement regulations are based on the ANF Secretary’s so-called “Procurement Principles,” which generally seek to obtain “Best Value” through competitive bidding, proactive planning, and needs assessments, and flexible bidding structures. In mandating categorical use of a particular technology/format, the proposed policy thus also conflicts with these existing regulations (which require consideration of, at a minimum, total cost of ownership over the entire period the IT solution is required, fit with identified business requirements, reliability, performance, scalability, security, maintenance requirements, legal risks, ease of customization, and ease of migration), and would therefore be invalid on this basis as well.⁵

While one might casually suggest that other companies simply provide “native” support for the OpenDocument format, the reality of the situation is that incorporating native conformance for the OpenDocument format, as required by the proposed policy, would be enormous and time consuming and, perhaps more importantly, cause these companies to limit themselves to the OpenDocument format vs. other more capable or more useful XML-based formats.⁶ For example, Microsoft has spent

⁵ See *Enterprise IT Acquisition Policy*. January 13, 2004 (available at http://www.mass.gov/portal/index.jsp?pageID=itdterminal&L=3&L0=Home&L1=Policies%2c+Standards+%26+Legal&L2=Open+Standards&sid=Aitd&b=terminalcontent&f=_policies_standards_it_acquisition_policy1&csid=Aitd). For example, suppose that under such an objective analysis, Microsoft’s Office product, including its XML-based file format, was the superior product under the Commonwealth’s Enterprise IT Acquisition Policy. It would seem that the mandatory and exclusive nature of the revised ETRM directing agencies to purchase *only* applications that provide native conformance for OpenDocument would undermine this well-established Commonwealth policy.

⁶ This is particularly true since the proposed policy requires use of OpenDocument as the *default* file format, which will only exacerbate the significant confusion and compatibility concerns Microsoft describes above in

over five years building its XML capabilities into its current generation products. These capabilities are designed to support a broad range of interoperability, in addition to support past formats now in use by millions of customers.

At bottom, while the draft policy speaks in fairly arcane terms about document formats, its implications from a product standpoint are clear: there is really only one product that only partially satisfies the Commonwealth's draft policy and other companies that have invested years of work and millions of dollars in developing alternatives are left out in the cold.

5. ***The current proposal constitutes a significant and unjustified departure from the Commonwealth's prior policy, adopted earlier this year, under which de facto format standards, such as Microsoft's Office XML Reference Schemas, could also qualify as "open formats."***

The principal rationale for the proposed revisions to the ETRM relating to data formats is ensuring access to public records into the future. To that end, the proposed revisions to the ETRM provide:

Open formats for data files ensure that government records remain independent of underlying systems and applications thereby preserving their accessibility over very long periods of time...Electronic records are stored by agencies most often in proprietary formats that jeopardize the long-term accessibility of those records.

While we strongly support the stated goal of ensuring continued access to public records, we take issue with the notion that this goal is capable of being met solely by a single document format. Notably, "de facto standards" - *i.e.*, technical specifications developed and maintained by a single entity or by a private, small group of cooperating entities - that are available through publication and licensed under commercially reasonable terms (*e.g.*, Adobe's PDF Format, Microsoft Office XML File Formats, Java, and Win 32 APIs), can also achieve this goal, as well as the broader objective of fostering interoperability among heterogeneous applications or systems.

Until very recently, the Commonwealth's policy was predicated on precisely this view. In fact, the definition of "open formats" included within the proposed revisions to the ETRM represent a significant departure from the state's current policy on "open formats" which was put in place just earlier this year. Specifically, only eight months ago, at a January 15, 2005 Massachusetts Software Council event, Secretary Kriss posited an open formats definition that expanded the concept of open formats to encompass certain "proprietary" formats, including Microsoft's Office XML Reference Schemas, that bore characteristics that made them likely to ensure continued accessibility to public records:

Open Formats are specifications for data file formats based on an underlying open standard, developed by an open community, and affirmed by a standards body; or de facto format standards controlled by other entities that are fully documented and available for public use under perpetual, royalty-free, and nondiscriminatory terms. (emphasis added)

light of the inability of the OpenDocument format to fully and faithfully implement all the features in countless existing legacy documents.

At that same meeting, ANF Secretary Kriss noted that Microsoft's Office XML Reference Schemas would likely qualify as open formats and be included in the next open format standard issued by the Commonwealth to the extent Microsoft made certain clarifications to its license agreement for the Microsoft Office XML Reference Schemas which clarifications were part of an ongoing dialogue between Microsoft and the Commonwealth:

We have been in a conversation with Microsoft for several months with regard to the patent that they have on, and the license surrounding their use of, XML to define the schema of DOC files in Microsoft Office 2003. They have made representations to us recently they are planning to modify that license, and we believe, if they do so in the way that we understand that they have spoken about (we will leave it obviously to them to describe exactly what they are going to do), it is our expectation that the next iteration of the Open Format standard will include some Microsoft proprietary formats. These formats, like DOC files, will be deemed to be Open Formats because they will no longer have restrictions on their use. That would potentially include (again, we need to wait for the final designation of this by Microsoft) Word Processing ML, which is the wrapper around DOC files, Spreadsheet ML, which is the wrapper around XLS files, and the form template schemas.

See http://www.mass.gov/eoaf/open_formats_comments.html.

Following this statement, and as a result of the ongoing discussions between ANF and Microsoft, Microsoft clarified the language of the license to the Commonwealth's satisfaction. As a result, the existing policy of the Commonwealth of Massachusetts, which the policy under consideration would replace, endorses Microsoft Office XML Reference Schemas as a qualifying "open format." The current policy of accepting openly documented, royalty-free licensed formats for use by state government accomplishes a high level of interoperability immediately, without forcing a costly "rip and replace" effort throughout the state; it also enables room for future innovations while allowing for continued improvement in state government standard practices. Accordingly, any revisions made to the ETRM regarding data formats should be consistent with the current non-exclusionary policy regarding data formats.⁷

In this regard, it is worth highlighting that the proposed revision to the ETRM also approves Adobe PDF as an "other acceptable format" for certain purposes even though it is a commercial/proprietary format that was not affirmed by a standards body. Approving some formats such as PDF that do not meet the revised ETRM's primary "openness" definitional criteria while eliminating other such "de facto" open formats like Microsoft's Office XML Reference Schemas (or its upcoming Office 12 Open XML Format) is entirely arbitrary and cannot be reasonably justified. At the same time, Microsoft submits that this treatment of PDF confirms the Commonwealth's continued recognition

⁷ This current policy is also consistent with the conclusions set forth in the Commonwealth's June 9, 2005 "Open Formats Summit Notes" that 1) there is no one definition of the term "open" and rather there is a "continuum of openness," and 2) "among the issues to be considered in defining criteria for openness are licensing, functionality, interoperability, and open process (including peer review) for creating and maintaining the standard on which the format is based. Practical issues for the Commonwealth to consider in choosing the degree of openness to adopt are migration, backward and forward compatibility, and the marketplace."). Under this reasonable approach, particularly the criteria regarding licensing, functionality, interoperability, migration, backward and forward compatibility, and the marketplace, the Microsoft Office XML-based file formats clearly constitute an open format, as the Commonwealth rightly concluded.

that even under the revised ETRM, de facto formats *can* be acceptable vehicles for achieving the policy's central goal of ensuring continued access to public records. Although Microsoft does not object to the identification of PDF as an acceptable format, it strongly objects to having its Office XML formats precluded from the proposed revision to the current policy. This is particularly so because the Microsoft Office XML formats (both the current Office 2003 XML Reference Schemas and the Office 12 Open Format) are equally if not more "open" than the PDF format, as well as the OpenDocument format. Below are the key criteria clearly demonstrating the openness and interoperability of Microsoft's Office file formats:

- Microsoft has taken unprecedented steps to fully describe through a completely W3C-compliant XML structure the way the current editions of Microsoft Office docs are represented when saved as XML. The first time Microsoft worked with XML was in Office 2000 (development started in 1997), and the upcoming Office 12 file format will see the first time XML is used as a *default* file format in Office products (as opposed to the "binary" formats, *i.e.*, .doc for Word, .xls for Excel, and .ppt for PowerPoint).⁸ This approach enables full integration by any technology provider and full use by any customer to read and write using the Office XML schema. Indeed, by Microsoft moving to an XML-based format for Office, its competitors are able to transform the Office XML into any other format they want. Moreover, the main products out in the marketplace -- WordPerfect, Lotus, OpenOffice, etc. -- should all be able to use our licenses and documentation to build in support for the Office XML formats. Our primary goal at Microsoft was to create an open format that fully represented all of the features that our customers have used in their existing documents, documents that have been created using the existing Office products over the past couple decades. Office has over 400 million customers, and we have a responsibility to continue to support all existing documents and all the existing functionality. There are billions of documents that we are going to help move into our new XML formats, and so a key constraint on all of our efforts was that these new formats had to support *all* those existing files and features with absolutely no loss.⁹ To frame the magnitude of the undertaking, we have more than 1600 XML elements and attributes that reflect the features in Word alone in Office 2003. This is why we had to design a new format instead of shoehorning our features in another existing format. (By contrast, as noted, the proposed revision to the ETRM policy *ignores* the practical reality that there are billions of existing documents already in Microsoft Office and other well-established formats that must have a natural way to evolve to an open format in full fidelity.)

⁸ See Press Release on Microsoft Office 12 XML Formats (*available at* <http://www.microsoft.com/presspass/press/2005/jun05/06-01OfficeXMLFormatPR.msp>); FAQ on Microsoft Office Open XML Formats (*available at* <http://www.microsoft.com/office/preview/filefaq.msp>). For more background on the Microsoft Office 12 Open XML-based file formats and a comparison to the OpenDocument format, see Brian Jones's blog at http://blogs.msdn.com/brian_jones/default.aspx.

⁹ The Microsoft Office 12 Open XML Formats will work for all those billions of Office documents that already exist today. Microsoft is going to provide bulk upgrade converters that allow you to easily convert from the binary formats into the XML formats. Everything that you could represent in the existing binary formats you will be able to represent in XML. This means all features and functionality that people have come to expect from their office products will be stored in XML. This was a huge undertaking as the Office applications are very large, and while most people only use certain features, each person uses a different set, and in the end all features are used.

- Microsoft explored many different licensing approaches when we designed our XML file format licensing program. Our guiding principle was that we wanted to make our program mirror approaches commonly used in the standards community to achieve the degree of openness requested by customers and the industry. The following elements of our program are the pillars of this approach:
 - The technical documentation is available on the Internet for anyone to copy and read
 - The license for all current and future essential patent claims is royalty-free
 - The license is perpetual -- Notably, Microsoft has committed to continue this licensing effort with respect to *future* XML schema, so any claims that the Microsoft Office formats may lead to “lock-in” are baseless
 - The license is very brief and available to anyone (*see* <http://www.microsoft.com/mscorp/ip/format/xmlpatentlicense.asp>)

- We believe the above characteristics led Valoris to state the following: *“The MS license provides access to the schemas and full documentation to interested parties and is designed for ease of use and adoption. In this regard the MS XML Reference schemas satisfy the requirements [of openness]”* This view was further confirmed recently by an independent third-party analysis of our license program. Erik Stasik, the former director of patents and licensing for Ericsson, reviewed the Office XML licensing program in his recent publication entitled “Strategic Patent Planning for Software Companies.” He concluded “[t]he [Microsoft Office XML Schema] license is relatively straightforward, royalty free, and even less demanding than the license offered under the W3C’s patent policy.” He further observed that the Microsoft licensing approach “*make[s] it more attractive for a small company to develop applications based on the Office Schemas*” than the open source Apache license. We believe the broad acceptance of our program to date and the strong signs of further adoption of the Office XML schemas within the industry demonstrate the effectiveness of this approach.

- Microsoft’s open approach with regard to its Office XML Reference Schemas, which enables any vendor to establish interoperability with Microsoft Office documents, has also been reviewed and endorsed by the European Union’s Interchange of Data between Administrations (IDA), a key technology committee from the EU, as a way to ensure the public has easy access to public-sector information and services. More information is available at this site: <http://www.microsoft.com/office/xml/default.mspx>.

- While it is true that OpenDocument has been adopted by OASIS, it is also worth noting that the OASIS committee that pushed the latest OpenDocument format as a standard has vested, proprietary interests in promoting OpenOffice 2.0. Two employees of Sun, which develops OpenOffice, serve as the chairman and secretary of the committee, and two employees of IBM, which sells versions of OpenOffice, occupy seats on the small committee. Seen in this light, it is tenuous at best to suggest that the mere adoption of the OpenDocument standard by this small and highly parochial committee within OASIS renders this standard format more “open” than the Microsoft Office XML-based formats.¹⁰ .

¹⁰ Thus, those who claim that OASIS welcomes every entity to participate and that Microsoft could have simply worked with OASIS’s OpenDocument committee to ensure that its extensive feature set was represented in this new standard and that its substantive concerns (such as backward compatibility with legacy formats) were addressed are ignoring the plain realities of the situation. The OpenDocument format is essentially a commercial

- It is equally disingenuous for parties to claim that the fact that the Microsoft Office format may be covered by a patent renders it non-open. First, as noted, all current and future necessary patent claims are licensed on a perpetual, royalty-free basis.¹¹ Second, the terms of Microsoft's license are consistent with the approach to licensing set out in the W3C, OASIS, and countless other open standards IPR policies. Third, as well-respected organizations such as ANSI and ITU-T have recently explained, the fact that a standard is covered by a patent does not mean the standard is not open, so long as the patent is licensed to all implementers of the standard on reasonable and non-discriminatory terms. (See ANSI at http://www.ansi.org/about_ansi/introduction/introduction.aspx?menuid=1; ITU-T at <http://www.itu.int/ITU-T/othergroups/ipr-adhoc/openstandards.html>). Finally, we note that the OpenDocument format *itself* is covered by essential patent claims owned by Sun for the OpenOffice.org XML File Format Specification, and that Sun licenses these essential claims under a royalty-free license that is quite similar to the Microsoft royalty-free license. (see Sun license at <http://www.oasis-open.org/committees/office/ipr.php>; also see comparison of Microsoft and Sun licenses at <http://nfocentrale.net/orcmid/blog/2005/06/microsoft-ox-vs-oasis-od-is-it-really.asp>).

In short, regardless of how one analyzes the issue, the conclusion is clear: The Microsoft XML-based formats are open formats that should be incorporated as accepted formats under the Commonwealth's policy.

Recommendations

1. Proposed Definition of "Open Formats"

Microsoft respectfully urges ANF to endorse the following definition of "open formats," one that would avoid the shortcomings in the ANF's definition of "open formats" contained in the proposed policy:

Open Formats are specifications for data file formats based on an underlying open standard, developed by an open community, and affirmed by a standards body; or de facto format standards controlled by other entities that are fully documented and available for public use under perpetual, royalty-free, and nondiscriminatory terms. (emphasis added)

In contrast to the proposed definition in the revised ETRM, this definition of open format is consistent with public pronouncements of ANF made just earlier this year.

product backed by Sun and IBM masquerading as an open standard, and that there was no realistic possibility that this committee was interested in revising its specifications to address the features, backwards compatibility, and other serious issues that are at the heart of Microsoft's concerns regarding its existing customers.

¹¹ The Microsoft FAQ on this royalty-free license makes perfectly clear that any patent rights that Microsoft may have now or in the future that may cover its XML-based file formats will not give rise to lock-in concerns. See <http://www.microsoft.com/Office/xml/faq.msp>.

2. Proposed Treatment of Microsoft Office XML File Formats

ANF should also reinstitute its prior conclusion that Microsoft's Office XML Reference Schemas qualify as open formats under the Commonwealth's policy. This conclusion is fully justified by the marketplace facts and the perpetual, royalty-free license that Microsoft has adopted for these formats, all of which demonstrates their true and enduring openness. To be perfectly clear, Microsoft is not endorsing adoption of its format as the sole or exclusive format in the ETRM. Rather, we encourage having OpenDocument and PDF as other accepted open formats. This approach is good for competition, and good for the Commonwealth and its citizens.

3. Incorporate a Dynamic Process in ETRM to Accommodate Future Developments

Given the vibrant nature of competition in the IT industry and the fast pace under which developments and innovations occur, it is imperative that the ETRM incorporate a process that makes clear how additional formats or standards may be added to the Commonwealth's "accepted" list as such developments and innovations arise. Otherwise, the ETRM and the process itself will become an inadvertent road block to such positive developments.

If the Commonwealth is not prepared at this time to adopt the specific substantive recommendations set forth above, we ask that, at the very least the Commonwealth extend the comment period for an additional period of time sufficient to afford all interested parties an adequate opportunity to meaningfully review the proposal and provide thoughtful comments and that during this time it conduct and publish for comment a thorough evaluation of the costs and benefits associated with the proposed revisions to the ETRM before making any revisions to the current policy. Given the significant due process, cost, competing standards, and other considerations raised above, this is the minimal course the Commonwealth must take to properly and meaningfully study the potential impact of the unprecedented proposals it is contemplating.

Conclusion

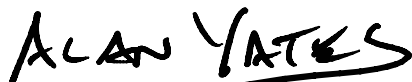
Microsoft has serious concerns about the proposed revisions in the ETRM ver 3.5 regarding open formats. Most critically, if the revised ETRM's proposed definition of "open format" were adopted, numerous technologies that have been widely deployed throughout the Commonwealth of Massachusetts and elsewhere across the globe would no longer be available for use by state executive agencies. This would have significant negative implications for the Commonwealth and would undermine the ANF's goal of controlling costs and fostering competition.

Moreover, there is no principled basis for the Commonwealth to adopt these unprecedented revisions -- which would abruptly reverse course from the reasonable one charted by the Commonwealth earlier this year, and prescribe an immature and untested open format as a complete replacement for well-established open formats, such as Microsoft Office's XML-based formats. Were this proposal to be adopted, the significant costs incurred by the Commonwealth, its citizens, and the private sector would be matched only by the levels of confusion and incompatibility that would result from the fact that the OpenDocument format is such a nascent and immature format.

Microsoft appreciates your consideration of these comments and the specific recommendations set out above and commends the Executive Office for Administration and Finance for its efforts to extend the use of XML throughout Massachusetts executive agencies. Microsoft stands ready to work with the ANF to further contribute to revising the ETRM to respond to the comments set forth above, and to

engage fully and collaboratively with the ANF and other entities of the Commonwealth of Massachusetts to promote the goals of interoperability and continued access to public records in the digital age.

Respectfully,

A handwritten signature in black ink that reads "ALAN YATES". The signature is written in a cursive, slightly slanted style. Below the signature is a long, horizontal, slightly curved line that underlines the name.

Alan Yates
General Manager
Microsoft Corporation

Cc: Governor Mitt Romney
John O'Keefe