

A Strategy for Openness

Enhancing E-Records Access in New York State Part III-D: Results of Request for Public Comments

Submitted to:

*The Honorable David A. Paterson, Governor
The Honorable Joseph L. Bruno, Temporary President of the Senate
The Honorable Sheldon Silver, Speaker of the Assembly*



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Part I – Executive Summary

(Separate Document)

Part II – Supporting Documentation

(Separate Document)

Part III - Results of Request for Public Comments

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Part III-D

Public Comments Received: Non-Profit Responses (11 comments received)

With the exception of formatting and correction of obvious and minor spelling errors, the substantive comments are printed verbatim with any errors or omissions intact. Salutations and individually identifying information have been REDACTED. Dates and times of comment receipt refer to when the comment arrived in the CIO/OFT e-mailbox created for this study. For any RFPC comments received slightly late, none were so late that they could not be considered for this report.

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1. Public Employees Federation: Thursday12/20/2007 3:31 PM

The Public Employees Federation represents 58,000 New York State employees, including many information technology professionals. We have not taken any position regarding the current study of electronic data storage and recordkeeping. There is however, a related issue that we would like to raise for your consideration.

Over the past few years, we have conducted studies of many State agency contracts for consulting services, including those for information technology. Our research has shown that in many cases the State is paying very high fees to consultants to perform MIS services that could have been done by State civil service employees at far lower cost. Two case studies are attached.

Our research also leads us to believe that in many cases, vendors structure their technology and deliverables in a way that virtually guarantees that their services will be extended beyond the date of the original contract. In many cases consultants are continued for several years at very high costs.

The way to avoid this is to look carefully at the costs and benefits of all options, and to avoid contracts that commit the State to only one vendor's technology. Also, the contract terms should be structured to require that the State be provided with access to technical data and training so that State employees can take over the work and maintain the system after the contractor completes its work.

Sincerely, [CONTACT INFORMATION REDACTED]

Private IT Consultants At DOT Cost State 49% More Than State Employees

Add to the \$180 million a year that the New York State Department of Transportation wastes on independent consultants to do engineering design and construction work still more millions in tax dollars wasted.

A PEF study of 71 DOT information technology consultants showed that the state **wasted \$5.4 million** in SFY 2005-06 ALONE on private IT consultants, hired because the state hiring freeze forced the DOT Information Services Bureau to lose half its staff over three years. (Click [here](#) for Chart 1)

A DOT list -- obtained by a Freedom of Information Law request -- showed that 71 current IT consulting positions were paid at an average annual rate of \$136,037, or an average hourly rate of \$69.76. This compares to an average annual rate of \$91,042.14, including benefits, for comparable DOT IT titles. Private IT consultants are being paid nearly \$50,000 a year more than their public employee colleagues who do the same jobs. (Click [here](#) for Chart 2 and [here](#) for the DOT Comparison of Bidders Costs Statement Memo)

After taking an overall average for the 71 individuals, and the 31 titles that they hold, it became clear that the private Information Technology consultants at DOT cost the state an average of 49% more than state employees in comparable titles. (Click [here](#) for Chart 3)

DOT cannot be blamed entirely for this waste. They were forced to operate within the confines of a hiring freeze enforced by Gov. George Pataki and his appointees at DOT.

In the Intent to Purchase Technology Notification Form, obtained by PEF, DOT officials acknowledge that the agency “currently obtains the contractual equivalent of approximately 80 staff members at a cost approximating \$11 million to augment its existing IT staff.”

“This is a result of the State hiring freeze,” the notification form continues, “Which resulted in the Information Services Bureau (ISB) being halved as a result of losing 76 state employees over the last three years.” (Click [here](#) for copy of Intent to Purchase Technology Notification Form)

In perhaps the most egregious example of waste, PEF found that one of the titles of “Business Analyst” paid the private IT consultant \$153,660 a year, or \$78.80 an hour, which compares to the public employee salary of less than half that or \$60,713.37 and \$31.14 an hour. (Click [here](#) for Chart 4)

DOT private IT Business Analysts are 153 percent MORE expensive than DOT public employees in a similar title of Information Technology Specialist I (SG14).

Again, this includes the cost of not only the public employee’s salary, but also his benefits. The most current Professional, Scientific and Technical hourly/annual rates and benefits multiplier (1.46) was used throughout the PEF analysis.

OMRDD
Information Technology Services
Currier/McCabe Associates

*A Tale of How Worshiping at the Altar of Privatization While Practicing Phony Fiscal Discipline
Costs The Taxpayer And Rewards Politically Connected Campaign Contributors*

While our elected officials feign fiscal responsibility by repeatedly referring to a “leaner” State government achieved through a workforce reduction of almost 19,800 (see 2005-06 Executive Budget document [here](#)) the reality and fiscal consequences are quite different.

It may be true that the size of New York State government has been reduced if one looks only at State employees. However, the **true size** of New York State government is hidden from the public and the taxpayer as are the **true costs** as the State routinely contracts out for services that could be provided by State employees. Typically these contract employees cost significantly more than State employees, even when taking benefits into account. Click [here](#) to see the pre-approved not-to-exceed hourly rates for various IT titles. Note that an entry level Programmer Analyst can be billed out at up to at rates ranging from \$69 to \$270 per hour (minimum qualifications found [here](#).) On an annual basis, this equates to between \$136,000 and \$526,000 for a consultant with *less than two years experience*.

Here is an interesting example of routine and regular contracting by New York State and the hidden cost to the public. The New York State Office of Mental Retardation and Developmental Disabilities found it necessary to hire outside consultant staff to, “...supplement State staff working on mission critical development projects.” The rationale for hiring consultants is explained as follows, “...OMRDD has not been able to hire State staff to work on this project”.

Unfortunately, it is not unusual for State agencies to use the hiring freeze as the rationale to justify privatizing public service.

In this case, OMRDD selected Currier McCabe Associates; also know as CMA, a politically connected technology consulting firm to provide two staff to work full-time on a project. According to news reports, since 1997, CMA has received payments in excess of \$55 million for its contracts with New York State.

In this case, the staff provided by CMA was billed out at rates of \$110 and \$152 per hour or \$214,500 and \$296,400 annually. Hourly rates here.

It is interesting to note that the supplemental staff provided by CMA were “managed by, and report to, State staff who are responsible for directing and reviewing their work”. State employees that have supervisory responsibility in the IT field are employed in about five titles with salary grades that typically range from SG-23 to M-4. In 2002 the **maximum annual cost (including benefits)** for these titles ranged from \$88,928 to \$150,016. The average annual cost (including benefits) of the five titles was \$116,276.

Let’s review: OMRDD is “unable to hire state staff to work on the project”, yet *is able* to hire consultants that cost **43% to 97% more** than the **highest paid** State IT professional. Bear in mind, this is a conservative comparison. Comparing the *average maximum* cost of the four state titles to the consultants shows that the consultants were paid **85% to 156% more**.

Naturally, the project was not completed on time due to scope changes, etc, so it was necessary to extend the contract. In the twisted logic used for privatization of public services, this extension was portrayed as cost-effective because the it “leveraged” the knowledge and experience gained on the project with no increase in the consultant’s hourly rates. Rationale found here. In essence, OMRDD paid **almost \$1 million dollars** to hire two consultants to work as supplemental help for an 18 month period and believe they received a bargain to boot. Is there any wonder why New York State faces chronic debt and deficit?

Yes, the size of State government is shrinking, but at what cost? If the State was required to track the number of contract employees and their costs, then the true size and cost of government will become clear.

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2. Columbia University Law School: Friday 12/28/2007 4:08 PM**Question 1 (Contact Information):** [INDIVIDUALLY IDENTIFYING INFORMATION REDACTED]**Background Information**

For the past year I have been the lead programmer on AltLaw.org, a project to promote public access to federal court opinions by creating a free, full-text database of those opinions with an easy-to-use search interface. In the process of developing this web site, we have encountered many obstacles because of the way the federal courts store and publish their records. The problems we have encountered using electronic government records illustrate issues that New York State should consider in developing its electronic records policy. I will provide more details in my answers to the questions below.

Question 2

To encourage public access to State electronic records, it is important that the electronic record be the official State record rather than a draft or proxy for the "official" paper document. The greatest weakness of AltLaw.org as a legal reference is that the opinions we download from the federal courts' web sites are not the final, official versions; those are published by and only available from the West corporation, at considerable cost.

Since the federal courts rely on West to copy-edit and correct their opinions, they are careless with respect to dates, names, and other important data. For example, we have downloaded several opinions that were decided in the year "2992"!

Furthermore, opinions published on federal court web sites lack any citation information -- which is also assigned by West based on the pagination of their print volumes -- making them useless for legal scholarship or court preparation.

As most professions (including the law) come increasingly to rely exclusively on electronic sources of information, it is critical that those sources become 100% reliable. To this end, electronic State records must be 1) complete, 2) accurate, 3) easily cited, and 4) acceptable for use in all official State business.

Question 3

To encourage interoperability and data sharing with citizens, business partners, and other jurisdictions, it is important that State electronic records be machine-readable. This is a more demanding requirement than simply having records in electronic form. A PDF document, for example, is electronic, but it is difficult or impossible to extract discrete data from a PDF document. This is because the PDF format is optimized toward preserving the visual appearance of a document rather than its structure.

There are two issues to consider when creating machine-readable documents. The first is "metadata." Metadata is information about a document that may or may not be contained within the text of the document itself. For example, the metadata for a court opinion would include the name of the court, the date the opinion was released, the name of the judge writing the opinion,

and the names of the parties in the case, among other data. Since most federal courts publish their opinions on their web sites in PDF format, with no metadata, AltLaw.org must rely on custom software to extract essential metadata such as titles and dates. The process is slow, difficult, and inaccurate.

It is worth noting that ODF supports metadata using the Resource Description Framework (RDF), an international standard which already forms the foundation of powerful data-analysis software. OOXML does not provide comparable metadata support. See: http://blogs.sun.com/GullFOSS/entry/new_extensible_metadata_support_with

The second requirement for creating machine-readable documents is information about document structure. Document structure includes elements such as sections, headings, paragraphs, lists, and tables.

These structures must be identifiable in the document independent of the visual formatting used to display those structures. For example, a human reader can recognize bold-face type as a section heading, but a computer program cannot. Structural information is important for automated document analysis, information retrieval (search), accessibility to physically-impaired users, and conversion to alternate formats (such as HTML). ODF provides more structural information than does OOXML.

In addition to including metadata and structural information in electronic documents, the State should implement rigorous standards to ensure that information is produced consistently. Metadata is only useful when it is stored in a known, consistent format. For example, simple information such as a date can be recorded in a dozen different ways. A date written as "02/03/04" could be February 3, 2004 or it could be March 4, 2002. Work on AltLaw.org has shown us that there are as many ways of writing dates as there are courts to write them, and dates are by far the simplest piece of metadata to store. For New York State, if different State agencies (or, worse, individual State employees) were to record metadata in different ways, it would be almost as useless as having no metadata at all. After selecting a format for electronic records, the State must then establish formal procedures for using the metadata capabilities of that format. These procedures should be made freely available to the public for the purposes of encouraging interoperability and data sharing.

Question 4

To encourage appropriate government control of its electronic records, the State should rely wherever possible on public-key encryption technology. I am not an expert on this subject, but I urge the State to consult with computer security and encryption experts when choosing the protocols to implement. When properly used, public-key encryption can provide communications that are secure and verifiably authentic to a degree exceeding that of physical documents.

Question 5

To encourage choice and vendor neutrality when creating, maintaining, exchanging, and preserving electronic records, the State should consider the vested interests of parties promoting a particular data format. A format developed by a single corporate entity, such as Microsoft in the case of OOXML, gives that entity strong incentives to design the format to make interoperability difficult to achieve in practice, either through incomplete specification or proprietary extensions. OOXML has been criticized by others as being difficult to implement because of both of these

factors. In contrast, ODF was developed by the independent, international OASIS group, with input from a variety of sources. To ensure the success of ODF, its creators have a vested interest in making interoperability as easy as possible.

Thus, in the future, ODF is likely to be supported by a wider range of vendors and products than OOXML, and its adoption will promote greater competition in the marketplace.

Question 7

Regarding public access to long-term archives, the State should ensure that its archived records are available in bulk. "In bulk" means that a computer program should be able to obtain large quantities of archived records in an automated fashion, without human intervention.

While developing AltLaw.org, we were often forced to write computer programs that simulate the behavior of a human user clicking through a court web site, as that was the only way to download opinions from those sites. In contrast, some court web sites make all their opinions available for download via FTP, a very simple Internet protocol designed for bulk file transfer. The latter made our job easier, and better promotes public access to archived records.

In general, State agencies should not take responsibility for providing the public with the tools to search and retrieve electronic records. Those tasks are better handled by corporate entities (such as Google) and non-profit institutions (such as AltLaw.org) that have technical expertise in those areas. The State should take responsibility for making consistent, accurate, complete data available in bulk at little or no cost to users of that data.

Question 10

Regarding the management of highly specialized data formats such as CAD, digital imaging, Geographic Information Systems, and multimedia, the State should use open, published, freely-available standards whenever possible. When open standards are not available for a particular type of data, the State should attempt to make that data available in as many competing formats as possible. For example, many database and statistical applications which use proprietary data formats can "dump" their data into simple, standardized formats such as comma-separated values (CSV). Imaging software which uses proprietary formats can usually convert files to non-proprietary standard formats as well. Wherever possible, these conversions should be "lossless," that is, they should not lose any information in the conversion. Ideally, it should be possible to completely reconstruct the specialized data from the information contained in the simpler data formats. These practices provide insurance against future loss or corruption of data in highly-specialized formats.

Conclusion

I strongly urge the State to prefer ODF to OOXML. As one engaged in extracting data from large quantities of government records (over half a million documents, at last count), I would find ODF much more conducive to enabling my work than OOXML. I have looked at examples of the internal XML schemas used by both formats, and I find ODF much easier to read, understand, and manipulate than OOXML.

3. **May First/People Link:** *Monday 12/31/2007 11:45 AM*

Question 2. What mechanisms and processes should the State of New York establish for accessing and reading its electronic records in order to encourage public access to those records?

It is critically important that the State of New York require open formats for all data records. By open formats, I mean "a published specification for storing digital data, usually maintained by a non-proprietary standards organization, and free of legal restrictions on use" (from http://en.wikipedia.org/wiki/Open_format).

By requiring open formats, the state of New York will achieve two important goals:

- * Helping to ensure that the data will be viewable in the future without regard to the viability of any single company or software
- * Demonstrate that the state of NY is a leader in the movement to make government information transparently and freely available to everyone.

4. Business Software Alliance: *Wednesday 1/9/08 11:42 PM*

The Business Software Alliance (BSA) appreciates the opportunity to submit comments regarding the creation, maintenance, exchange, and preservation of electronic data, documents, and records. In the ICT sector, the ability of products and services to exchange and use such data is generally captured under the umbrella term “interoperability.” BSA represents many of the world’s leading developers of software, hardware, and Internet technologies. While each company has its own approach to developing interoperability technologies to meet user demand, there is one area in which they are in complete agreement: software solutions should be procured based on their merits, rather than on a particular method of development.

More specifically with respect to interoperability, governments have two distinct interests -- as customers of ICT systems and as policymakers.

As ICT customers, governments should define their desired level of interoperability and then allow government users to choose the solutions that best meet their specific needs. Governments should avoid a one-size-fits-all approach to interoperability that could prevent procurement of the best product at the best price. The focus should be on interoperability results, not on preferences for specific standards, processes or technologies. Procurement rules should leave room for competing interoperability solutions to develop and for agencies to shift to new solutions as technologies advance and needs change.

As policymakers, governments should promote innovation in interoperability technologies and competing products in order to foster greater user choice and competition. Governments should allow market forces to select the best interoperability solutions in individual cases and not mandate a specific approach (such as a standard), except when the industry as a whole has backed a single approach (e.g., HTTP or TCP/IP) or in situations of substantial and specific public interest. Governments even should create incentives for innovation in interoperability technologies, including by ensuring respect for intellectual property rights in such technologies.

Below, we flesh out these two points. In the end, we believe governments should promote competition among interoperability solutions by allowing the market to lead and by refraining from seeking to direct this market development or picking technology winners and losers – both of which will deter innovation, competition, and user choice.

Government Users Should be Allowed to Choose the Interoperability Solutions that Best Meet Their Specific Needs

ICT markets are characterized by rapid innovation and short product life-cycles. In the last 10 years, ICT systems have become more diverse than ever. ICT customers, including government procurement officers, have taken advantage of this situation by pursuing the best technological solutions available to meet their needs, even if that has meant acquiring hardware and software products from multiple vendors. Fortunately, the ICT industry also has risen to the challenge of this increasingly heterogeneous environment by regularly improving interoperability.

Given the heterogeneity of the environment, it is not surprising that there is no single path to interoperability. One vendor may use a tool or set of tools that are different than the approach taken by another vendor. Many software and hardware companies increasingly design their products to be interoperable with other products and service right “out of the box.” Other firms

specialize in offering solutions (such as translators, converters, and gateways) that facilitate interoperability between systems from multiple vendors. Just as ICT products and services rapidly evolve through innovation, so too must the approaches to interoperability between these products and services evolve.

It should go without saying, then, that these interoperability issues are complex and market-sensitive, and therefore users require freedom and flexibility to select the best solution for the specific purpose. Put another way, the goal of interoperability is not to achieve homogeneity of ICT products or services or to speed their commoditization—quite the contrary. A successful approach to interoperability at the firm or agency level is one that promotes the exchange and use of data between products and services while allowing maximum room for vendors to innovate and differentiate their offerings from those of other vendors. The specifics of a particular interoperability solution will depend on the characteristics of that technological environment and may evolve and change over time as the technology evolves and changes.

We understand that government leaders may want to define what product features are needed across the government space, such as security, accessibility, interoperability, reliability, and value. But then such leaders should allow individual government customers to choose the solutions that best meet their specific objectives. To reiterate, governments should avoid a one-size-fits-all approach that could prevent procurement of the best product at the best price. The focus should be on how well the product meets the desired features, not on preferences for specific standards, processes or technologies. Procurement rules should leave room for competing solutions to develop and for agencies to shift to new solutions as technologies advance and needs change. Governments should allow market forces to select the best solutions in individual cases and not mandate a specific approach (such as a standard), except when the industry as a whole has backed a single approach.

Such a procurement policy -- that is based on merit -- enables the government customer to consider all possible software solutions — regardless of which method or standard is being employed — and to make optimal choices from among these solutions.

Governments Should Promote Innovation in Interoperability Technologies and Competing Products in Order to Foster Even Greater User Choice and Competition

Allowing multiple software development and licensing models to compete on their merits is the best way to ensure that customers, both private and public, have a range of choices in their software procurement decisions for the long term. In contrast, blanket preferences for one model over another restrict customers' ability to choose among the full range of software products available in the market. By skewing the market, preference policies reduce competition and innovation in the software sector, ultimately resulting in less user choice and less economic and technological progress.

This market-oriented approach, for some, may beg the question of when to employ a standardized technology and when to not. A policy that respects the market and a policy that can exploit the value of standards are reconcilable. The critical element in achieving this goal is through appropriate standards policies. BSA members are engaged in a wide variety of standards-related initiatives worldwide, and we have significant experience in the area of standards policy.

Standards, including open standards, can play a key role in achieving important technology goals such as interoperability. Standards can provide a stable technical solution to a common problem. That solution can be produced by a single vendor, a number of vendors through a collaborative effort, an industry consortium, or a formal international standards body, to name a few.

The form a standard takes may vary over the lifetime of the relevant technology. For instance, early in its lifecycle, a technology might appear as a proprietary standard offered by single vendor or a small group of vendors. Later, once the standard has achieved a measure of success and stability in the marketplace, it might be submitted to a standards body such as ITU, ISO, IEEE, Ecma, or ETSI, for formal adoption as an open standard. It is worth noting that voluntary industry led efforts have proven to be the most effective means of developing successful standards. Indeed, most of the widely adopted standards in existence today were developed through voluntary, supplier-led efforts -- FireWire, WiFi, PDF, QFX, Flash, and Java are just a few well-known examples. On the other hand, when technologies are relatively immature and experience periods of rapid innovation, with new solutions quickly supplanting older ones in the marketplace, formal standardization processes might simply be too slow to keep up with the pace of innovation. An appropriate standards policy takes all of these factors into account.

Although views on what constitutes an open standard do vary, there is fairly broad consensus that a standard which satisfies the following criteria qualifies as “open”:

1. It is developed through an open, voluntary, consensus-based process.
2. The specification is publicly available without cost or for a reasonable fee to any interested party;
3. Any patent rights necessary to implement the standard are available to all implementers on reasonable and non-discriminatory (RAND) terms, either with or without payment of a reasonable royalty or fee; and
4. The specification should be in sufficient detail to enable a complete understanding of its scope and purpose and to enable competing implementations by multiple vendors.

Customers are focused primarily on whether any given interoperability solution works and is available to meet their needs. They are generally less concerned with the manner in which it was developed including how a standards component of that solution was developed. Under the market-led system in place today, consumers often have a choice of multiple standards solutions from multiple sources that have been developed using a variety of methods. This is innovation at work, and it is critically important that such innovation is allowed to proceed in order to promote interoperability.

Governments play a key role here, too, by ensuring that their standards policies leave government agencies free to procure the fullest range of technologies, encourage a broad cross-section of technology providers to participate, and promote competition, innovation and interoperability. Because it is often impossible to know in advance whether users will find a given interoperability solution attractive, such solutions should be voluntary and driven by industry responding to customer needs.

Ultimately, we believe that standards policies should be built on a solid, pragmatic foundation promoting—rather than excluding—voluntary industry-led open standards, reflecting current

technical and market realities, as well as the practices of both major international standards bodies and of industry. It is our experience that in this way, governments can best foster their goals of enhancing innovation, interoperability and competition.

The test of any standard is whether it achieves the desired level of interoperability in a simple, efficient manner while leaving maximum opportunities for companies to expand and develop new technologies. Because it is impossible to predict how any specific solution will fare in the marketplace, policies should encourage competition between standards through voluntary, market-driven processes.

Recommended Principles:

To guide government action in the area of interoperability solutions, BSA members respectfully urge governments to adhere to the following principles:

1. Approaches to achieving interoperability should be driven by user demand and market forces and take place through a range of methods.
2. Governments should not pick winners in the marketplace under the guise of promoting interoperability.
3. Governments should promote innovation in the area of interoperability.
4. Governments should refrain from legislating or regulating technology in the name of interoperability.
5. Governments, in their role as ICT customers, have an interest in ensuring interoperability, but these objectives should be pursued within the context of specific procurements and the functional goals the government seeks to meet, not as a blanket policy, and should leave room for emerging solutions to develop.
6. Governments should not establish preferences for standards based on whether the standard has been developed within or adopted by an established standards setting body.

We welcome the opportunity to work further with you on this important initiative, time permitting.

5. Pace University Law School: Thursday 1/17/08 1:31 PM

I am submitting this message in response to the Legislature's call for public comment regarding mechanisms and processes for obtaining access to and reading electronic data, so that such mechanisms encourage appropriate government control, access, choice, interoperability, and vendor neutrality. Although I have reviewed the General and Detailed questions set forth in the call for Public Comments, I find that I do not have sufficient technical knowledge to properly respond to the questions. Nevertheless, this is a topic of great importance to all users of electronic records, and I would like to submit some general comments.

I am a law and government documents librarian, and thus have been very much aware of both the federal and New York State governments' transition from print and microfiche documents to documents in electronic format. Even without technical expertise, I have been aware of some of the difficulties of gathering documents from disparate government entities and making them accessible, and particularly of making them permanently available, even as technology and computer formats change. There have been a number of instances where government documents have been briefly available on an official website, then taken down as the website is modified and updated, and older pages that were not assigned a permanent URL or included in the relevant catalog of government publications are lost. The Internet has made research much less tedious, and has made finding government information on both the federal and state levels far easier than it has ever been. However, in a democracy it is essential that federal and state government be particularly careful, and take all possible steps to ensure, that the technical means of delivering information be open and free for the public to use. All citizens have an equal right to find government information relevant to their needs, particularly when they may be held legally responsible for having notice of information published by government that can directly affect their lives.

For this reason, I urge the State of New York to adopt non-commercial and non-proprietary mechanisms and processes for the creation, maintenance, preservation and means of access to New York State government information. Thank you.

6. Open Document Foundation: Thursday 1/17/2008 4:51 PM

I regret to inform you that I will not be able to submit my report by the deadline later today. A motherboard meltdown and the delay inherent in recovery was a major contributing factor, along with receiving only early this morning the response by Ecma International to national standardization body comments on DIS-29500 Office Open XML, some 2,000 pages long.

However, I intend to complete the report and send it along in a few days. I assume that since this is not a formal rulemaking or adjudication, your clients will still be able to consider the report if they wish to do so.

The report comprises primarily of a hopefully neutral:

- technical evaluation of the interoperability strengths and weaknesses of the ISO/IEC:26300(2006) OpenDocument standard, the DIS-29500 Office Open XML format draft standard, and W3C Compound Document Formats;
- discussion of international and federal law potentially superceding New York State law in certain aspects;
- Ramifications of the facts and applicable law in defining and interpreting relevant terms discussed in the RFPC such as "best value," "open standard," and "interoperability;"
- Discussion of common myths regarding file formats that are likely to be raised by others; and
- Suggested options for New York State and suggested topics for further study.

I attach the table of contents from my working draft to give you a better idea of the issues addressed in the report. The report is referenced extensively, with hyperlinks to nearly all citations.

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7. Association for Competitive Technology: Friday 1/18/08 3:43 PM

Attached is ACT's response to the RFPC. In the spirit of the questions, I am sending it in .doc, OOXML and PDF. The answers were created on a Macintosh using Microsoft Office 2004, Office 2008 and Pages from Apple. Thank you for all your considerable work on this issue.

On behalf of the more than 3,000 software developers, systems integrators, IT consulting and training firms, and e-businesses who make up the Association for Competitive Technology (ACT), I write in response to your "Request for Public Comment" (RFPC) regarding the creation, archiving and management of electronic documents for the State of New York.

ACT is an international education and advocacy group for the technology industry. Focusing on the interests of small and mid-size entrepreneurial technology companies, ACT advocates for a "Healthy Tech Environment" that promotes innovation, competition and investment. ACT has been active on issues such as cyber security, intellectual property, e-commerce and privacy.

We appreciate the opportunity to comment, and recognize the amount of work you and your staff did to create the lengthy questionnaire. We endeavored to answer the questions we felt might benefit from the insight of the diverse membership of ACT, but came to the conclusion that the tenor and direction of the questionnaire may have missed the true state of technology today, and overlooked an important change in the IT world regarding the capture and use of data.

While there is certainly significant press attention surrounding document formats, at present 95% of all users, both governmental and non governmental use application software that reads the .doc or the .docx file format. These formats are widely available, documented and supported by other applications including OpenOffice.org, Pages from Apple, and StarOffice. At present, productivity document compatibility is a reality, not a concern.

Looking to the future, technology is likely to make document formats even less of an issue. In definition F. of Part II, you state "electronic documents are becoming increasingly dynamic and blended with other formats", yet nearly every other line of questioning focuses on OOXML and ODF alone. Over the course of a document's life, it will exist in many different formats. A worker may begin in Word (.docx), pull content from the web (html), clip it into email for review (plain text, html, or RTF), send it department wide as a .pdf, and then to the printers as an IND or XPS file. The technology industry has created tools that make this all possible regardless of the "openness" of the various file formats used.

Moreover, the supposition that documents are the defining work product of the State is incorrect. As a recent report from the Burton Group entitled "*What's Up .doc? ODF, OOXML and the Revolutionary Implications of XML in Productivity Applications*" notes, "In many cases, the productivity application file is ephemeral, used only to present and capture user actions for business transactions that are ultimately captured in enterprise systems rather than stand alone productivity applications files".

Simply put, the vast majority of government data will end up not as a document, but as data in a database.

By contrast the state faces myriad challenges accessing information stored by legacy and custom built applications and databases on both mainframes and PCs. These issues are further

compounded by the media on which this information is stored and archived including tapes, punch cards, multiple types of magnetic media. When building a plan to maintain the states records, departments must consider the costs of updating and transferring data to new media. Basically, if the State doesn't have a device to read the disk, it doesn't matter what file format is used. Additionally, the platforms that some State agencies rely on are the technological equivalent of hulking dinosaurs, built to run operating systems and languages that are no longer taught or used in the majority of the computing world. In order to assure New York's electronic records are properly archived, taking care of the legacy media and platform issues far outweighs questions of document formatting.

We hope you find the answers to your questions helpful as the CIO and OFT decide what moves should, or should not be taken to aid the State in maintaining records accessible to citizens and State employees.

8. OpenDocument Format Alliance: Friday 1/18/08 4:22 PM**PART I**

Question 1. Contact Information: Please provide name, organizational affiliation if any, and means for contacting you (e.g. e-mail address, street address, phone number): [REDACTED]

Question 2. What mechanisms and processes should the State of New York establish for accessing and reading its electronic records in order to encourage public access to those records?

Consideration of this important issue could not be more timely, as the exponential growth of electronic records has created many challenges in terms of preserving public access. Many electronic records created by State entities are in a closed format. That is, they are owned by a software company for which the State must purchase costly licenses. This means that the State government may not be able to access archived documents in the future; it may not be able to receive, open and exchange vital documents in times of emergencies; it may be forcing citizens to use a particular brand of software in order to interact with the government electronically; and it may be creating information stovepipes that restrict the sharing of information and collaboration on office documents between and among State agencies.

To address these problems, the State should move to adopt an open standard for document formats. Moving to an open standard for document format would promote public access by ensuring that no citizen would be required to purchase a particular brand of software to interact electronically with State agencies. A fully open standard would ensure that documents are usable in the future by anyone, at any time. The OpenDocument Format (ODF) is an open standard that meets these requirements. ODF is the only open, vendor-neutral standard for office applications. Developed and maintained in a transparent, multi-stakeholder process at OASIS (Organization for the Advancement of Structured Information Standards), ODF is an open, XML-based document file format for displaying, storing and editing office documents, such as spreadsheets, charts, and presentations. It is available for implementation and use free from any licensing, royalty payments, or other restrictions. ODF was approved unanimously as an international standard (ISO 26300:2006) in May 2006.

Question 3. What mechanisms and processes should the State of New York establish for accessing and reading its electronic records to encourage interoperability and data sharing with citizens, business partners and other jurisdictions?

Open standards are the glue that holds together a heterogeneous ICT architecture, driving interoperability by allowing disparate devices, applications and networks to communicate. The Internet itself is built on open standards, and the industries and applications that have evolved to support it are a vivid illustration the benefits of open standards. Open standards ensure that information is accessible as platforms and technologies change.

As a policy matter, the State of New York should therefore treat open standards as the norm and require their use whenever possible. Selection of an open standard for document formats could then be pursued via New York's Enterprise Architecture.

Question 4. What mechanisms and processes should the State of New York implement to encourage appropriate government control of its electronic records?

There are a variety of ways to approach the issue of appropriate government “control” of its electronic records, which is not defined in the law requiring the study.

If “control” refers to the privacy and confidentiality of electronic records, we would simply note that there is nothing inherent about document formats in general or ODF specifically that would prevent New York from ensuring the privacy and confidentiality of electronic records in a manner it sees fit.

If “control” refers to the integration of electronic records into workflows via Document Management Systems (DMS) and Content Management Systems (CMS), then the State should be encouraged to use systems that are open-standards based and do not lock the State into a particular vendor or platform.

If “control” refers to the ability to access, read, and use documents in any fashion, now and in the future, then we refer to the response in the previous question that open standards are needed.

Question 5. What mechanisms and processes should the State of New York consider for encouraging choice and vendor neutrality when creating, maintaining, exchanging and preserving its electronic records?

An open standards based policy will encourage choice and vendor neutrality. Any such standard should be evaluated based upon how well it is supported across systems, platforms and applications. For example, an open standard for document formats like ODF helps separate the document (information) from the application that created it. This document can then be processed by other applications seamlessly and with fidelity, without interference of any proprietary code or any other restrictions. Documents in effect are “freed” by using open standards like ODF which allow multiple applications to create and access documents interchangeably. The rapid growth in software implementing support for ODF (there are now over 40 ODF-supporting applications)¹ provides genuine choice for consumers, especially for governments seeking to gain greater control over and direct management of their own information, and reflects growing market demand. Support for ODF includes proprietary, open source, and web-based applications, and a growing number of content management systems. Identifying standards like ODF will support the State’s goal of building a service-oriented architecture that would both enable its IT components to interoperate seamlessly, and, importantly, encourage citizen-centric, user-friendly electronic interaction with the public.

Question 6. Are there mechanisms and processes the State of New York should establish that are specific to the management of its electronic records in its various life cycle stages (creation, maintenance, exchange, preservation and disposal)?

To effectively manage electronic records in their life cycle stages, the State should ask several critical questions before any agency, department, or employee actually begins to create and save documents in a particular format. If any of these questions are answered affirmatively regarding a particular format, the state should avoid its use. (a) Is the document format

¹ <http://www.odfalliance.org/resources/AppSupport20Dec2007.pdf>

dependent on any particular software or hardware? The state should use a format that is supported on multiple, competing applications and platforms. (b) Is the document format susceptible to hardware or software obsolescence? The state should seek to avoid having to retain or rebuild old computer systems to recreate documents, whether pursuant to FOIL or discovery requests, or to preserve accessibility for historical or research value. Public access to documents in the future would not be inhibited because the software in which the document was created is obsolete, or the vendor goes out of business. (c) Is there uncertainty whether format will remain "open"? The state should ensure that any format is offered under irrevocable, reciprocal, royalty-free licensing terms, ensuring that it will remain open in the future.

ODF's independence from any particular hardware or software, its protection against hardware and software obsolescence, and its open licensing terms make it both suitable as an archival format in its own right, and as a "transfer format" to which documents could be converted for long-term preservation.

Question 7. How should the State address the long term preservation of its electronic records? What should the State consider regarding public access to such archived content?

As a general rule, to ensure long-term preservation, the state should prefer open standards that are supported across systems, platforms and applications. This will help protect the State in situations where software in which the document was created is obsolete, or the vendor goes out of business.

A move to an XML-based format will also support the objective of long-term preservation. A key benefit of XML is, after all, the ability to search and manipulate parts of a document. In this regard, the State should consider its specific objective regarding "long-term preservation." If the goal is to simply preserve the total look (i.e., a snapshot) of a document, then PDF/A would be a suitable format. Indeed, many governments around the world have adopted PDF/A as an "archival" format for this very purpose.

A government or academic archivist may have altogether different objectives going well beyond what the document looked like at a given point in time. Key questions that a government or academic archivist might ask include who collaborated on the electronic record, who made revisions, and how did the record look from revision-to-revision? Such questions would appear to implicate the accessibility of records during their active business use for ancillary purposes (e.g., pursuant to Freedom of Information Law (FOIL) requests, or pursuant to discovery requests in litigation ("e-discovery")) and accessibility for their historical and research value after having been preserved as official State agency records.

Against this backdrop, to maximize the effectiveness of the State's long-term preservation strategy, we recommend all new electronic records be created by the State and saved in an open, platform and application neutral standard like ODF to avoid vendor lock-in and software obsolescence.

Question 8. What changes, if any, should be made to the government records management provisions in New York Statutes? (Please reference those laws which are cited here: http://www.archives.nysed.gov/a/records/mr_laws.shtml).

The ODF Alliance is not aware of any statutory changes that would be required to implement the recommendations we make in this survey.

Question 9. What constraints and benefits should the State of New York consider regarding the costs of implementing a comprehensive plan for managing its electronic records?

The factors frequently cited by governments when considering a migration from a proprietary technology to an open platform involve mainly licensing, training, and conversion. Open platforms offer significant savings in terms of licensing alone – indeed, free-of-charge solutions are readily available. It is often argued, however, that a substantial investment has already been made by many governments in proprietary technologies that, together with the training and conversion costs associated with an open platform, negate the savings in licensing and pose a significant barrier to exit.

There are several points to consider regarding this argument:

- a) Migration to an open solution need not be undertaken overnight; rather, it should be executed during the normal upgrade cycle. This will provide a more accurate basis for comparing costs.
- b) Training costs associated with upgrading the existing proprietary solution may exceed the training costs for the new open solution.
- c) Conversion costs (e.g., from .doc to .odt) are minimal, as many free-of-charge plug-ins and converters are already being used effectively by governments.

Question 10. What should the State of New York consider regarding the management of highly specialized data formats such as CAD, digital imaging, Geographic Information Systems and multimedia?

The ODF Alliance recognizes that different policy considerations arise from highly-specialized data formats like CAD and "electronic documents" (text, spreadsheet and presentation documents; i.e., what are generally understood as the output of office productivity suites). Our comments are restricted to the latter.

Question 11. What constraints and benefits should the State of New York consider regarding potential savings or additional costs associated with the management of defined electronic record formats?

See answer to Question #9 above. Governments that have moved to open solutions have demonstrated savings in the range of 60-90% in software expenses.²

Question 12. What existing policies and procedures in the private or public sector for the management of electronic records would be appropriate for the State of New York to examine? Please cite specific examples.

We recommend that the state examine the policies and procedures enacted by 18 other governments.³ The document contains links to official government sources.

² <http://www.odfalliance.org/resources/PrelimCostAssess20070312.pdf>

³ <http://www.odfalliance.org/resources/Adoptions20Dec2007.pdf>

Question 13. Are New York State's existing standards, regulations and guidelines regarding records management adequate to meet the challenges of electronic records retention? How should these standards, regulations and guidelines be changed?

The ODF Alliance is not aware of any statutory changes that would be required to implement the recommendations we make in this survey.

Question 14. What else should the State of New York consider about this subject?

The impact of information technology decisions and standards on the lives of people with disabilities is an important concern for the State. ODF v1.1, approved by OASIS in February 2007, established a high water mark for document formats that should not be allowed to recede with the acceptance of anything less from any other office document format.⁴

- In evaluating ODF against Web Content Accessibility Guidelines (WCAG) v.1.0, several accessibility checkpoints representing significant accessibility issues were discovered by the OASIS ODF Accessibility subcommittee in its public, peer-review of ODF v1.0 and subsequently fixed in ODF v1.1.
- The OASIS ODF Accessibility subcommittee looked at the suitability of ODF 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 Open Document Format v1.1 Accessibility Guidelines Version 1.0 were created by the Accessibility Subcommittee have been approved by the OpenDocument TC. The guidelines describe what an ODF 1.1 implementation must do so that users with disabilities are equally able to read, create, and edit documents.
- Involving disability experts and people with disabilities in standards development is a principle articulated by the European Union and other governments. Individuals with disabilities provided input and peer-reviewed ODF v1.1.

PART II

A. Definitions – “Electronic data, documents, and records”

Questions

Question 1. Are the distinctions described in Part I of this RFPC between the definitions of electronic data, documents, and records useful? Are there any specific elements or distinctions in those terms which CIO/OFT should be taking into account?

⁴ For a full exploration of the accessibility issues associated with document formats, please see http://atrc.utoronto.ca/index.php?option=com_content§ionid=14&task=view&hidemainmenu=1&id=371

The distinctions are helpful.

B. Definitions – “Access”

Questions

Question 2. Is the description in Part I of this RFPC of three types of access needed for electronic records – day-to-day utility access; ancillary active record access; and historical access – a realistic and useful conceptualization of the main uses of electronic records? If not, please describe with specificity recommendations for alternative methods for conceptualizing the study's issues.

This conceptualization is useful in terms of highlighting the issues involved in the effective management of electronic records during all stages of their life-cycle. Open standards are the common ingredient for all three types of access.

C. Definitions – “Government Control”

The statute requiring this electronic records study asks CIO/OFT to consider appropriate “government control.” CIO/OFT understands this as referring to the security and privacy of electronic records. The State has increasing obligations to ensure that electronic records remain private and secure. Relevant statutes include, but are not limited to, the Personal Privacy Protection Law, the Information Security Breach and Notification Act of 2005, the federal Health Insurance Portability and Accountability Act, and others. At the same time the State has a long-standing responsibility to ensure widespread public access to State records pursuant to the NYS Freedom of Information Law (FOIL), which was recently updated to require more rapid responses to FOIL requests.

Questions

Question 3. Does the use of particular office suite formats such as the Open Document Format (ODF) or Office Open XML (OOXML) raise any security or privacy implications and, if so, what are they?

There is nothing inherent about ODF that would prevent the State from ensuring the privacy and confidentiality of electronic records in a manner it sees fit. Unlike OOXML, the distinguishing feature of ODF is its multi-platform, multi-application support. Thus, if any security-related concerns arise with regard to a particular office suite or operating system, the State would be free to leave it and choose another. Support for ODF includes both proprietary and open-source applications and platforms.

Question 4. Will accessibility to electronic records through the FOIL process be affected by adoption of either format, and if so, how? Will the rapidity of response required by recent updates to the FOIL law be affected?

The accessibility to electronic records will be impacted by the depth and variety of implementations. The wide range of applications – both proprietary and open source – on multiple platforms offering full native support for ODF provides users with much greater choice as to the means with which they will access the information.

Question 5. In terms of appropriate "government control" of electronic records, what factors or concerns should the State be addressing?

See Part I, Question 4.

D. Definitions - "Interoperability"

The statute requires CIO/OFT to make recommendations concerning interoperability. One definition of "interoperable" is "products and systems from multiple vendors that can be used together without modification or development of custom interfaces and tools." Many State agencies maintain large-scale information systems designed for specific purposes (e.g., maintenance of birth and death records, processing of Medicaid claims), and it may not be possible to specify a single interoperability standard for such diverse systems. However, all agencies use an office suite to create some electronic records (e.g. word processing documents; spreadsheets; presentation documents), and CIO/OFT can recommend that agencies use an office suite compatible with the Open Document Format (ODF), Microsoft's Office Open XML, or other interoperable formats. Many governments are exploring adoption of these formats. Gartner predicts with 0.7 probability that "[b]y 2010, ODF document exchange will be required by 50 percent of government and 20 percent of commercial organizations."

E. Definitions - "Open Standards"

Various definitions have been suggested for "open standards" and "open formats."³ In its recent adoption of ODF "as a government standard for exchanging documents between government agencies and the general public," the South African Department of Technology stated that it would consider a standard to be "open" if it is: maintained by a non-commercial organization; participation in the ongoing development work is based on decision-making processes that are open to all interested parties; anyone may access committee documents, drafts and completed standards free of cost or for a negligible fee; anyone may copy, distribute and use the standard free of cost; the intellectual rights required to implement the standard (e.g. essential patent claims) are irrevocably available, without any royalties attached; there are no reservations regarding reuse of the standard; and there are multiple implementations of the standard. For purposes of this RFPC and for this study, CIO/OFT proposes using the same definition of "openness."

Questions

Question 6. Is this the correct definition of interoperability which the study should be using? If not, please provide a better, alternative definition.

The definition would appear to be adequate for purposes of the study.

Question 7. Is this the correct definition of "openness" and "open standards" which the study should be using? If not, please provide a better, alternative definition.

The definition used by the South African government is generally consistent with the definition supported by the ODF Alliance:

- (1) interoperable among diverse internal and external platforms and applications;
- (2) fully published and available royalty-free;
- (3) fully and independently implemented by multiple software providers on multiple platforms without any intellectual property restrictions for necessary technology; and
- (4) developed and maintained by an open industry organization with a well-defined inclusive process for evolution of the standard.

We support the definition the CIO/OFT proposes to use, with the following suggested changes:

- (1) that there be full and independent implementations on multiple platforms – a partial implementation on a single platform will not allow the necessary degree of interoperability among users or choice of platforms if features and functionality of a standard are tied to a particular platform.

Question 8. For State agency respondents in particular: What percentages of your electronic records (using the term generally) consist of office suite records? What other types of electronic records, such as those in online information systems, GIS systems, etcetera does your agency create? What percentages do those other records consist of? How did you determine this?

Not applicable.

Question 9. Is Gartner's prediction correct? What predictions have been made about other formats?

By the end of 2007, 12 national governments and 7 regional governments had adopted ODF⁵ suggesting that ODF is well on the way toward achieving a "critical mass" in terms of support from governments. Consider also the rapid rise in applications support for ODF, which now numbers over 40,⁶ and the increasing unacceptability of proprietary formats within the public sector, where information has to be provided to the public without requiring them to use a particular software product.

Question 10. Will the usage of ODF among those individuals and entities with whom the State interacts be so great that failing to provide the NYS workforce with the capability of using ODF will cause NYS interoperability problems? If so, if the State did not adopt the ODF format, what would be the best method to ensure interoperability with ODF documents received by the State from others?

There is nothing in particular about ODF that makes it technically challenging to implement. This can be accomplished by a wide range of ODF-supporting applications that include proprietary, open source, web-based and mobile solutions. For existing Microsoft Office users a number of plug-ins have been developed. To avoid any risk of potential interoperability problems, the State should simply implement support for ODF in its current desktop environment.

⁵ <http://www.odfalliance.org/resources/Adoptions20Dec2007.pdf>

⁶ <http://www.odfalliance.org/resources/AppSupport20Dec2007.pdf>

Question 11. For office suite formats, which governments have adopted ODF exclusively? Which governments have adopted OOXML exclusively? Which governments have adopted both formats? What other formats for office suite software besides ODF and OOXML have other governments adopted?

Of the 12 national and 7 regional governments, all with the exception of Massachusetts (recognizes both ODF and OOXML in its ETRM v4.0) have adopted ODF exclusively. Several, including the Netherlands, Belgium, and South Africa, leave open the possibility that OOXML could at some point meet their respective tests of “openness,” but OOXML does not at present.

Question 12. Other than in the office suite context, in what other ways does the State need to be concerned about electronic records interoperability?

It should be pointed out that ODF is not an exclusively “office suite” format. Support for ODF includes a number of web-based applications – both proprietary and open source. ODF is a portable format that accommodates the needs of both a desktop and web-based computing environment. The State should factor this into its selection of a format.

F. Focus of the Study

The statute uses broad terminology which clearly sets forth certain features favorable to publicly accessible electronic records. Drawing from the terms used in the statute, electronic records should be:

- creatable;
- maintainable;
- exchangeable;
- interoperable;
- accessible;
- readable;
- preservable;
- storable;
- appropriately controllable;
- end-user technology choice capable;
- vendor neutral; and
- cost effectively implementable

The boundaries of that which are considered “documents” are blurring, and electronic documents are becoming increasingly dynamic and blended with other formats (envision, for example, a word processing document embedded with a slide show which is itself embedded with audio, video, and photographic files). There are several active efforts to categorize all existing technological formats, for example, in the United States, the U.S. Library of Congress National Digital Information Infrastructure Preservation Program (<http://www.digitalpreservation.gov/formats/>), and the National Archives in the United Kingdom PRONOM program (<http://www.nationalarchives.gov.uk/PRONOM/>). There have been estimates of over fifteen thousand (15,000) file name extensions in existence. The debate concerning more open versus less open formats exists in many other realms besides office suite formats (for example, the .jpeg versus .png photo formats, or the .mp3 versus .ogg audio formats). Nevertheless, it is clear to CIO/OFT that the majority of State records,

readable and accessible to its citizens, are created within office suite software applications. There has been significant debate and discussion during the past two years concerning appropriate office suite formats, particularly since Massachusetts first published its Enterprise Technical Reference Model version 3.5 in September 2005 initially mandating usage of Open Document Format within Massachusetts State agencies' office suite software. (Subsequently, the ETRM was amended in 2007 to also permit usage of the OOXML format). Therefore, it makes sense to CIO/OFT as it performs this "critical first step" to focus this study on office suite document formats as an illustrative example of electronic format debates in general, and encompassing the most compelling use case for the State. What is clear is that standardized XML document formats are of increasing importance. As one commentator noted, "It will enable new applications to be written to process content from many different sources, and to support integration with applications that aren't specifically focused on document creation (such as computer-aided design programs)."

Questions

Question 13. Given the existence of tens of thousands of e-data formats, the increasingly dynamic nature of electronic documents, and a preference toward more open formats in other realms besides office suite formats, what type of an approach or mechanism should be used within the State to further the existence of openness in all relevant formats? Please describe with specificity.

As we pointed out in Part I, open standards are the glue that holds together a heterogeneous ICT architecture, driving interoperability by allowing disparate devices, applications and networks to communicate. Open standards ensure that information is accessible as platforms and technologies change. As a policy matter, the State should therefore treat open standards as the norm and require their use whenever possible. The open standards policy should be buttressed by identifying open standards where they exist and are widely supported, and require their use under New York's Enterprise Architecture absent a compelling reason otherwise. Open standards should then be preferred in procurement policies and RFP language whenever possible.

We would note that government is the largest consumer of ICT products and can exert a powerful influence. Its interest goes well beyond the smooth functioning of the marketplace and includes, among others, ensuring access to public information and records. Enough governments have now put in place open standards policies requiring the use of an open format to force the dominant vendor to submit its format to a standards body and at least promise to open it up. We believe with more government actions requiring openness, especially the State of New York, vendors would move more quickly and responsibly to true open standards.

Question 14. Is CIO/OFT's proposed focus for this study appropriate? (That is, conceptualizing three types of "access," and focusing on office suite formats as an illustrative example). If not, please describe with specificity the approach which you recommend CIO/OFT should take.

We commend the State and the Office for Technology (OFT) for what is undoubtedly the most comprehensive survey of its kind on digital records. It is obvious from the depth and substance of the questions that a great deal of thought has gone into the survey. We feel that the focus is appropriate. The survey will trigger a global response and serve to stimulate further insight into the proper conceptualization of the issue. We would only caution to not focus solely on "office suites," as there are web-based on other ways to create electronic documents.

Question 15. What is the “problem” that this study should be addressing? Please define with specificity exactly what the State should be trying to solve.

The exponential growth of electronic records has created many challenges in terms of preserving public access. The overwhelming majority of electronic documents created by the State within office suite applications are in a closed format. That is, they are owned by a software company for which the State must purchase costly licenses. This means that the State may not be able to access archived documents in the future; it may not be able to receive, open and exchange vital documents in times of emergencies; it may be forcing citizens to use a particular brand of software in order to interact with the government electronically; and it may be creating information stovepipes that restrict the sharing of information and collaboration on office documents between and among State agencies. Moving to an open document format would promote public access by ensuring that no citizen would be required to purchase a particular brand of software to interact electronically with State agencies.

Question 16. If determinable, what percentages of current formats do you have in your systems, e.g. what percentage of your digital data is in the common office suite formats, e.g. .doc format? .xls format? .ppt format? .rtf? .pdf? .html? .txt? .wpd? etcetera. To what degree have you already migrated to XML-based formats such as .docx, .xlsx, .pptx, .odt, .ods, or .odp, or what are your plans to do so? What tools do you use to determine the mix of formats being used within your systems? Anyone can respond, but we are particularly interested in learning the experience and current situation of governmental responders, and particularly from state and local governments.

N/A.

G. Functionality

It has been observed that "it is very important that customers have the freedom to choose from a range of technologies to meet their diverse needs. [OOXML] and ODF were designed to meet very different customer requirements" (emphasis added) The State has multiple e-record "customer" requirements, including immediate utility versus utility for long-term preservation and access, ease of accessibility for State government versus ease of accessibility for members of the public, and immediate utility versus ease of access for electronic discovery purposes.

Questions

Question 17. Assuming this observation is correct, please provide a numbered list, with the greatest specificity and in the simplest terms possible without marketing verbiage or usage of ambiguous phrases, of exactly which customer requirements are best met by OOXML.

In Ecma International's overview document to OOXML, it is stated that "OpenXML was designed from the start to be capable of faithfully representing the pre-existing corpus of word-processing documents, presentations, and spreadsheets that are encoded in binary formats defined by Microsoft Corporation." Since the explicit goal of OOXML is to ensure compatibility with one particular application; i.e., Microsoft Office, OOXML can be expected to suit those customers that are not interested in choice from among competing applications and platforms.

Question 18. Assuming this observation is correct, please provide a numbered list, with the greatest specificity and in the simplest terms possible without marketing verbiage or usage of ambiguous phrases, exactly which customer requirements are best met by ODF.

ODF was explicitly designed to be a vendor-neutral format. As such, it can be expected to suit the needs of those customers that value choice from among competing applications and platforms.

Question 19. As a customer of office suite software, the State has a requirement that software support the State's day-to-day operational functions. Which office suite format would be best for this day-to-day utility: OOXML, ODF, or another format? Why? What specific features for this purpose does one format have that the other(s) are missing?

With the addition of extensible metadata, spreadsheet formula and digital-signature support in ODF v1.2, ODF represents the best choice to support the States's day-to-day operational functions. ODF is an already existing ISO-approved standard whose features and functionality are not tied to a particular vendor or platform, whereas OOXML's features and functionality are closely tied to the Microsoft Office suite and platform for which it was created. For a direct comparison of the two, with reference to specific features and functionality, see "Achieving Openness: A closer look at ODF & OOXML."⁷

It is important to keep in mind that most users are estimated to utilize a relatively small percentage of features of an office productivity application, so that any claims regarding the number of features are not necessarily key to understanding which format is most suitable for the State's day-to-day operational needs.

Question 20. As a customer of office suite software, the State has a requirement for that software to support the State's need in office suite software for long-term preservation and production of electronic records. Which format would be best for this function, OOXML, ODF, or another format? Why? What specific features, for this purpose, does one format have that the other(s) are missing?

ODF's independence from any particular hardware or software, its protection against hardware and software obsolescence, and its open licensing terms make it the most suitable format for long-term preservation of newly-created documents. OOXML, on the other hand, is both hardware and software dependent and as such is ill-suited for this purpose. Regarding the preservation of so-called "legacy" documents in older, proprietary Microsoft formats, the State will either have to maintain the Microsoft applications that were used to create them in order to achieve "backwards compatibility," or continue on a perpetual upgrade path involving Microsoft proprietary software. Many governments have overcome this problem by requiring ODF for newly-created documents and using conversion tools for existing documents.

If the goal is simply to preserve the "look and feel" of a document (so-called non-revisable documents), many governments have found PDF/A adequate for this purpose.

Question 21. As a customer of office suite software, the State has a requirement for that software to support the State's need in office suite software for the identification, production, and examination of electronic records for electronic discovery purposes in litigation, or in

⁷ <http://www.onlamp.com/pub/a/onlamp/2007/06/14/achieving-openness-a-closer-look-at-odf-and-ooxml.html>

response to FOIL or investigatory or audit requests. Which format would be best for this function, OOXML, ODF, or another format? Why? What specific features, for this purpose, does one format have that the other(s) are missing?

As both ODF and OOXML are essentially XML content in a ZIP archive, both ODF and OOXML are adequate for “the identification, production, and examination of electronic records for electronic discovery purposes.”

H. Integrated software applications

Some commentators have observed that many entities have written custom software applications using certain technologies (e.g. ActiveX; scripting; Microsoft Access) which may need to be re-written during any migration to ODF because those software programs that use ODF do not support these particular technologies.

Questions

Question 22. How valid is this concern? Is re-writing of custom in-house software also needed (and has it been needed in the past) for migration between different versions of office suite software?

There are two essential points to consider regarding the fact that custom in-house software may have to be rewritten for migration between different versions of office suite software: first; any migration to OOXML from the existing binary formats will likely entail rewriting of custom in-house software; second, over the longer term, the exit costs of a proprietary solution will have been surpassed by the savings associated with the migration to the open solution.

Question 23. For State agency respondents, please quantify if possible the types and amount of custom applications which would need to be re-written in your agency, and the cost.

N/A.

I. Standardization

Recent media reports suggest that the process for standardizing formats is corruptible. Concerns have also been raised about the value of using "de jure" standards (i.e., approved by an officially recognized formal standards body such as the American National Standards Institute (ANSI) or the International Standards Organization (ISO)) versus "de facto" standards (i.e. those which gain greater ubiquity in the marketplace). By law and regulation, different State agencies have differing responsibilities concerning electronic records. For example, while CIO/OFT has statutory authority to establish statewide technology and electronic record policy and standards, the NYS Archives is primarily responsible for setting standards for the disposition, but not the creation, of records. And, the NYS Archives lacks effective enforcement authority over other agencies.

Questions

Question 24. What weight, if any, should the State give to the fact that a particular format has been accepted by a standards body? In affording that weight, what elements should the State consider?

There are literally thousands of standards bodies and processes. The State should afford greater weight to those specifications developed and maintained in an open, multi-vendor, multi-stakeholder process that protects against control by a single organization. The issue here is single-vendor dominance; i.e., despite being submitted to a formal standards body, control of the standard ultimately rests with one organization. Key questions for the State include whether the development and maintenance process is open to public participation, where meetings are held in the open, where meeting artifacts (notes, minutes, e-mail correspondences, and documentation) are published, and where all participants – individuals as well as companies and representatives of the public sector – have a voice in consensus decision-making on the standard's technical make-up. The analysis should not stop there, however. If there are not at least two full implementations providing native support for a format that would allow for effective collaboration on a document, the State should assume single-vendor control and dominance.

Question 25. For office suite software, would standardization by the State on the usage of a single format promote or stifle competition in the IT marketplace?

Settling on a single format for office documents – text, spreadsheets, and presentation (i.e., the output of office productivity suites) – would promote competition in software products. By standardizing on a format, many vendors can compete on features and price. The State should distinguish between competing standards for document formats, which will only add to complexity and costs for State IT managers, and competing applications supporting a single open format. It is only the latter that will lead to competition, choice, cost savings and innovation.

Question 26. If standards were developed regarding the creation of electronic records in State government, how would they be enforced and who would be responsible for enforcing them? Should NYS Archives be given enhanced enforcement authority?

To date, governments have unconsciously adopted a de facto proprietary standard that has locked them into a single vendor. As a first step, the State should establish by date certain the chosen format as the default-save format for newly-created documents. This is less a matter of “enforcement” and more a matter of establishing a policy that provides a strong basis for the State's effective management of its own electronic records.

J. Vendor implementation - costs from using multiple standards

Some commentators have cited the costs which vendors would incur for implementing multiple standards, and pointed to this as a reason for the lack of OOXML implementations thus far in the marketplace. See for example: [http://www.odfalliance.org/resources/Google%20XML%20Q%20%20A%20\(2\).pdf](http://www.odfalliance.org/resources/Google%20XML%20Q%20%20A%20(2).pdf) . If true then presumably if the State accepted multiple standards not only could vendors to the State incur increased costs but the State itself might as well.

Questions

Question 27. What would be the costs and benefits to the State and to its citizens and other stakeholders (e.g. vendors) if the State were to mandate a single document format for State agency use?

If the State chose a truly open standard like ODF that is fully supported by multiple vendors and not linked to a particular application or platform, the benefits would be greater: access to government information, now and in the future; choice for the State and its citizens alike with regard to applications; and competition among vendors, leading to cost savings and innovation.

Question 28. What would be the costs and benefits to the State and to its citizens and other stakeholders (e.g. vendors) if the State were to allow agencies to employ multiple document formats?

It is important to reiterate that when discussing ODF and OOXML, we are dealing with basic office text documents, presentations, and spreadsheets (what are commonly regarded as the the output of office productivity suites), and not highly specialized formats such as CADs. Should the State move to a single format, agencies will still be able to employ these specialized formats.

Multiple formats will add to the complexity and costs for State IT managers, who will be required to deploy translators or converters to support interoperability between formats.

As the Pan-European eGovernment Services Committee pointed out in its Conclusions and Recommendations on Open Document Formats, 6 December 2006⁸: *“The potential arrival of a second international standard for revisable documents may mean that administrations will be required to support multiple formats leading to more complexity and increased costs. Although filters, translators and plug-ins may theoretically enable interoperability, experience shows that multiple transformations of formats may lead to problems, especially as there is no complete mapping between all features of each of the different standards.”* For this reason they recommended that industry *“work together towards one international open document standard, acceptable to all, for revisable and non-revisable documents respectively.”*

Question 29. Which option is the most cost-effective? Why?

Agreeing on one format that is supported on multiple applications and platforms is the most cost-effective solution, as it will generate competition around software products, not around formats. A single format not requiring any user intervention in the form of converter downloads would save time and money, not to mention the time and resources it would take to recover any lost data or formatting.

K. Vendor implementation - difficulty of adopting multiple standards

The State's procurement policy has long favored ensuring fair competition amongst vendors. Some commentators have noted that several aspects of OOXML prevent its implementation by most vendors. See for example:

[http://www.odfalliance.org/resources/Google%20XML%20Q%20%20A%20\(2\).pdf](http://www.odfalliance.org/resources/Google%20XML%20Q%20%20A%20(2).pdf)

For this question, CIO/OFT would particularly be interested in hearing from stakeholders who have formally supported adoption of OOXML as an ECMA and/or an ISO standard.

Questions

⁸ See <http://ec.europa.eu/idabc/servlets/Doc?id=26971>.

Question 30. Is the observation correct, or not? Please support your conclusion with specificity.

In addition to the aforementioned document, see also “Achieving Openness: a closer look at ODF and OOXML”⁹ which enumerates the specific aspects of OOXML that prevents its implementation by other vendors.

Question 31. If you or the entity with which you are affiliated as part of the ECMA or ISO standardization process submitted formal comments requesting changes to the OOXML standard, please list those changes which you requested.

N/A.

Question 32. If you or the entity with which you are affiliated as part of the ISO standardization process submitted formal comments requesting changes to the ODF standard, please list those changes which you requested.

N/A.

Question 33. What are the specific reasons why a vendor can not or will not directly support the OOXML format? What impediments are there to doing so? What, specifically, prevents a vendor from fully adopting the OOXML format natively, and what would need to occur for a vendor to be able to do so?

OOXML is designed to operate fully within the Microsoft environment only. OOXML's complexity, extraordinary length, technical omissions and single-vendor dependencies combine to make alternative implementation unattractive as well as legally and practically impossible.

OOXML contains numerous undocumented elements. For example, OOXML preserves certain file data in binary form based upon legacy formats which are not and have never been disclosed to outside developers. This means it is impossible for any entity besides Microsoft to create effective alternative implementations of the formats.

A second example is the implementation of OOXML for spreadsheets in Office 2007 (Excel 2007), which also makes use of data in binary form. As these binary formats have not yet been shared openly, it is presently impossible for other vendors or developers to create working alternative implementations of the OOXML binary spreadsheet format.

Numerous elements designed into but undefined by the OOXML specification require actions and behaviors upon document files that are particular only to legacy Microsoft Office and WordPerfect applications. Examples from the OOXML specification include:

| Function Name |
|--|
| Description |
| lineWrapLikeWord6 |
| Emulate Word 6.0 Line Wrapping for East Asian Text |
| mwSmallCaps |

⁹ <http://www.onlamp.com/pub/a/onlamp/2007/06/14/achieving-openness-a-closer-look-at-odf-and-ooxml.html?page=1>

Emulate Word 5.x for Macintosh Small Caps Formatting
shapeLayoutLikeWW8
Emulate Word 97 Text Wrapping Around Floating Objects
truncateFontHeightsLikeWP6
Emulate WordPerfect 6.x Font Height Calculation
useWord2002TableStyleRules
Emulate Word 2002 Table Style Rules
useWord97LineBreakRules
Emulate Word 97 East Asian Line Breaking
wpJustification
Emulate WordPerfect 6.x Paragraph Justification
shapeLayoutLikeWW8
Emulate Word 97 Text Wrapping Around Floating Objects

The practical effect is that the data associated with these features, once it is contained in OOXML files, will not be readable, editable or render-able by software applications which cannot perfectly emulate Microsoft Office or WordPerfect. While the stated purpose of OOXML is to ensure the backwards compatibility with old files, such deprecated legacy data creates a dependency upon Microsoft's Windows operating system and office suite applications.

Such dependencies fail openness criteria of availability. The Microsoft OOXML format includes interactions with its earlier unspecified formats. The result is that other vendors, developers or users cannot access data in Microsoft formats to the same degree as Microsoft software nor to the degree expected of standard XML.

These unspecified format characteristics and application behaviors are not explicit in the OOXML technical specification nor are they legally allowed to be duplicated by developers. Microsoft's license for OOXML, the Open Specification Promise, prohibits such application behavior emulation and, therefore, blocks access by non-Microsoft entities to the data in OOXML form -- in effect, this makes the specification unavailable while it also defeats the purpose of having an XML document format.

For a more detailed exploration of these issues, see "Achieving Openness: A closer look at ODF & OOXML."¹⁰

Question 34. What are the specific reasons why a vendor will not directly support the ODF format? What impediments are there to doing so? What, specifically, prevents a vendor from fully adopting the ODF format natively, and what would need to occur for a vendor to be able to do so?

Nothing prevents a vendor from fully implementing support for ODF in its software products. Multi-vendor support is a primary objective of ODF that is made explicit in OASIS' ODF charter and is best illustrated by the number of applications that have done so already.¹¹

L. Costs/Burdens of Migration

¹⁰ <http://www.onlamp.com/pub/a/onlamp/2007/06/14/achieving-openness-a-closer-look-at-odf-and-ooxml.html?page=1>

¹¹ <http://www.odfalliance.org/resources/AppSupport20Dec2007.pdf>

One of the recommendations raised by some commentators concerning the usage of ODF is that a sufficient analysis be performed as to the cost of such a requirement. For instance, the Massachusetts Senate's Post Audit and Oversight Committee performed a detailed audit into the factors which would need to be addressed before presuming that cost savings could be realized from adopting the ODF format. Some research suggests that ancillary costs (such as the costs of system integration, maintenance and training) rather than software licensing costs make up the "lion share" of IT costs, and raises the concern that mandating use of the ODF office suite format could cost many millions of dollars. However, many studies now appear to have been completed finding on the contrary significant cost savings after actual conversion to ODF by various governmental bodies, even taking into account such items as conversion costs, system integration, hardware costs, and user costs such as training. (See e.g. the various studies linked to from:

<http://odfalliance.org/resources/PrelimCostAssess20070312.pdf>). One historical example of a large-scale "rip and replace" transition in office suite applications and document formats is the migration of many entities worldwide in the 1990s and 2000s from the WordPerfect Office Suite to the Microsoft Office Suite.

Questions:

Question 35. To what extent does the WordPerfect to Microsoft Office transition serve as a viable migration model? Describe the elements of that transition, and how they relate to current needs. On this question we would be particularly interested in hearing from or being directed to the studies of subject matter experts capable of providing a comprehensive historical analysis and a comparison to current scenarios.

The WordPerfect to Microsoft Office transition demonstrates that the dominant format of today may quickly give way, requiring the public sector to both anticipate change and shape its eventual outcome. At the time of the transition, it was not anticipated that the dominant format that emerged and remains to this day would lock in customers to a particular application and platform. Governments have interests and responsibilities going well beyond the needs of markets, including securing public access to information, and can help prevent this lock-in from occurring during the expected transition to XML by demanding that a truly open format supported by multiple applications be required for document exchange by government agencies.

Question 36. If New York State agencies were to migrate to ODF-based office suite software, what specific measures going forward would constitute an optimum migration strategy for those State agencies?

Having decided on ODF for electronic document exchange internally and in their interaction with the public, most governments have settled on a strategy involving a natural progression of objectives by date certain (e.g., all state agencies must be able to read/accept documents in ODF by April 2008). Other capabilities (e.g., editing, exchanging) can then be introduced gradually and in natural progression.

Weaving this timeline into the State's normal upgrade cycle will eventually require the State to deploy an ODF-supporting application, whether proprietary or open source¹², depending on its

¹² <http://www.odfalliance.org/resources/AppSupport20Dec2007.pdf>

needs. By definition, support for an open standard like ODF can be freely implemented in the products of any vendor if it so chooses, so no vendor would be excluded from State procurement. Some old so-called "legacy" documents in proprietary formats may have to be preserved in an editable format, in which case the the State should consider deploying one of the many freely-available conversion tools. In cases where only the "look and feel" needs to be preserved ("read-only"), many governments have decided to use PDF/A. Regarding templates, governments have found that redesigning them using an ODF-supporting application is preferable to conversion.¹³

Question 37. Are those studies finding actual cost savings after converting to ODF valid, or are they faulty? If faulty, in what manner are they deficient? What counter-examples of studies exist that considered not just licensing costs but also ancillary costs and demonstrated actual increased costs after migration to the ODF format?

The aforementioned case studies paint a convincing picture of the emerging business value of ODF that will come into greater focus as more and more of the governments complete their migration and provide more supporting information regarding costs. Regarding costs, the State should always consider the long-term (minimum of 5-10 years) cost implications and potential savings.

Question 38. What studies have found actual lower costs after migrating to OOXML? What studies have found actual higher costs after migrating to OOXML? For these various questions about studies, CIO/OFT is less interested in studies which predict certain cost effects. Instead, we wish to learn about studies quantifying cost savings or increases actually incurred after adoption of either respective office suite format.

We are not aware of any such studies.

M. Assistive technologies

In the transition to XML-based formats, there has been much discussion about the perceived shortcomings of various software accessibility application programming interfaces such as Microsoft Active Accessibility, or iAccessible2. There has also been discussion of the accessibility options natively offered within various office suites, as well as a concern about the degree to which assistive technology vendors have ported their assistive software to all relevant environments. In August 2006, Massachusetts' IT Division (ITD) reportedly signed a memorandum of understanding with the Massachusetts Office on Disability and Massachusetts Department of Health and Human Service "to design, procure, certify and develop training for software that is accessible to people with disabilities," and to "establish a unit devoted to accessible technology."

Questions

Question 39. What are the key issues which CIO/OFT's study should be addressing concerning electronic records and assistive technologies?

Availability and ongoing support for assistive technologies at an affordable price are the key issues. For State employees with disabilities, the efficiency and productivity of those employees

¹³ See <http://www.odfworkshop.org/8.pdf>.

with the software used in their work environments is in large measure due to the quality and thoroughness with which assistive technologies provide support and customization for that software. For State citizens with disabilities interacting with their government electronically, access to assistive technologies (and therefore their affordability) is of critical importance.

Question 40. Which format currently will better facilitate access to electronic records through the use of assistive technologies? Which is best positioned to provide such access in the long term?

ODF v1.1, approved by OASIS in February 2007, established a high water mark for document formats, especially with regard to assistive technologies, that should not be allowed to recede with the acceptance of anything less from any other office document format.¹⁴

- In evaluating ODF against Web Content Accessibility Guidelines (WCAG) v.1.0, several accessibility checkpoints representing significant accessibility issues were discovered by the OASIS ODF Accessibility subcommittee in its public, peer-review of ODF v1.0 and subsequently fixed in ODF v1.1.
- The OASIS ODF Accessibility subcommittee looked at the suitability of ODF 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 Open Document Format v1.1 Accessibility Guidelines Version 1.0 that were created by the Accessibility Subcommittee have been approved by the OpenDocument TC. The guidelines describe what an ODF 1.1 implementation must do so that users with disabilities are equally able to read, create, and edit documents.
- Involving disability experts and people with disabilities in standards development is a principle articulated by the European Union and other governments. Individuals with disabilities provided input and peer-reviewed ODF v1.1.

Question 41. Would adoption of ODF be acceptable if conversion to other formats was available which allowed usage of assistive technologies existing on that platform?

Through the use of the Sun ODF plug-in to Microsoft Office, existing assistive technology users of Microsoft Office are able to read/write ODF directly, with no diminishment in the quality of access. The best solution is requiring full, native support for ODF in the relevant application, which should not pose a significant challenge for vendors interested in doing business with the State.

¹⁴ See "Accessibility Issues with OOXML" by Jutta Treviranus, Director of the Adaptive Technology Resource Centre and Dr. Stephen A. Hockema, faculty member of Information Studies at the University of Toronto for the specific issues encountered in Microsoft's Office Open XML (OOXML) – http://atrc.utoronto.ca/index.php?option=com_content§ionid=14&task=view&hidemainmenu=1&id=371.

Question 42. Should the State be engaging in an initiative similar to that described in the Massachusetts MOU? If so, please provide a description with particularity.

See #40. Involving disability experts and people with disabilities in standards development is a principle articulated in the Massachusetts MoU and by the European Union and other governments. Individuals with disabilities provided input and peer-reviewed ODF v1.1.

Question 43. Who are the relevant stakeholders most conversant with issues related to document formats and assistive technologies?

We recommend that the State consult with Jutta Treviranus, Director of the Adaptive Technology Resource Centre at the University of Toronto who co-authored a paper on accessibility and document formats in general, and the specific issues encountered in Microsoft's Office Open XML (OOXML). We would be happy to provide the names of others who are also very conversant on these issues.

N. Obsolescence

Some observers have predicted that given the fast-paced changes in information technology and the expectation that office suites as currently known will migrate to more interactive platforms (such as TCP/IPbased), the current debate concerning ODF versus OOXML will soon be mooted. On the other hand, the current migration to XML-based formats is unmistakable, perhaps most graphically illustrated by the efforts of the National Archives of Australia to even encode images in XML-based formats. Technical issues raised during the September 2007 ISO voting process concerning OOXML are scheduled to be addressed before the next ISO ballot resolution meeting in late February, 2008. The ODF format is apparently also undergoing revisions to a new version (version 1.2).

Questions

Question 44. Is it true that setting an office suite software format standard would be premature because other more interactive platforms will soon be surpassing in usage ODF- and OOXML-using software? Please explain.

Other platforms may indeed evolve, which is all the more reason to select a platform, vendor and application neutral standard for document formats like ODF. Indeed, ODF is already supported by both web-based and desktop applications. Note that ODF reuses many W3C standards, so that if the predicted migration of office computing to the web does indeed occur, ODF is well-placed to evolve to provide more web-centric solutions.

Question 45. Is it true that setting an office suite software format standard would be premature because (a) ISO standardization has yet to fully play out for the OOXML format, or (b) ODF format is undergoing revisions? Please explain.

No, it is not premature to require open standards for file formats and identify ODF as the ISO approved and appropriate standard for electronic documents. As standards can and indeed should evolve to meet the changing needs of its users, requiring interoperability through open standards is critical for governments. For ODF, the multi-vendor, multi-stakeholder development process at OASIS has proven itself capable of meeting evolving needs. This was best illustrated by the changes made in ODF v1.1, which allowed ODF to meet or exceed the accessibility

features of any other document format. With the expected adoption of ODF v1.2, which includes support for metadata, ODF is expected to reach a high level of maturity. Regarding OOXML, the Ballot Resolution Meeting (BRM) is expected to result in significant changes demanded by national standards bodies. It remains to be seen whether these changes will be agreed, or whether and when Microsoft intends to incorporate them in Office.

Question 46. What factors would define the appropriate timeframe within which CIO/OFT should recommend a particular electronic record format or formats? When could this optimally be done?

Regarding the actual choice of a format, Microsoft is changing the default format in Office to OOXML which would entail substantial costs in terms of licensing, migration and training, so the State should make a decision as soon as possible. Regarding actual deployment, many governments (e.g., Belgium, Netherlands, South Africa) are proceeding in phases, introducing reading functionality early on, and document exchange at a later date. For more information recommendations from governments regarding migrations to ODF, please see the documentation that emerged from the 1st International ODF User Workshop in Berlin,¹⁵ Germany, which brought together officials from 20 governments around the world to discuss their experiences with migrating to ODF.

Question 47. If CIO/OFT were to recommend the adoption of a particular office suite format standard or grouping of standards, how much advance notice would be sufficient to enable vendors and the State to adopt the new standard? Please explain.

By definition, an open standard can be supported by any vendor, so any decision by a particular vendor not to implement support for an open standard is of its own doing. Vendors large and small have implemented support for ODF with relative ease, in large part because ODF reuses existing standards and was specifically designed as a multiapplication, multivendor format. For this reason, the time period should be short in the case of ODF.

O. Intellectual Property

Some commentators¹⁴ have expressed concern that certain vendor promises not to sue software providers implementing certain electronic record formats do not extend as comprehensively and assuringly as the similar promises of those providing other formats within their office suite software. There may be legal uncertainty around the scope of such promises.

Questions

Question 48. Is this a legitimate concern? Are there other IP promises which CIO/OFT should be evaluating besides the Open Specification Promise and the OpenDocument Patent Statement?

These concerns are serious and should be considered by the State. The originator of ODF, Sun Microsystems, provides a simple covenant-not-to-sue which covers any of potential Sun patents used in the development of ODF implementations (although none have been asserted yet). The

¹⁵ <http://www.odfworkshop.org/docs.html>

ODF specification is allowed to be fully implemented in both commercial and open source software without legal impediment, and is fully documented. Additionally, ODF has been certified by the Software Freedom Law Center as free of legal encumbrances that would prevent its use in any free or open source software.¹⁶

The Microsoft OOXML format includes interactions with its earlier unspecified formats. The result is that other vendors, developers or users cannot access data in Microsoft formats to the same degree as Microsoft software nor to the degree expected of standard XML. These unspecified format characteristics and application behaviors are not explicit in the OOXML technical specification nor are they legally allowed to be duplicated by other developers. Microsoft's license for OOXML, the Open Specification Promise, prohibits such application behavior emulation and, therefore, blocks access by non-Microsoft entities to the data in OOXML form -- in effect, this makes the specification unavailable while it also defeats the purpose of having an XML document format.

Question 49. Are there other intellectual property issues which software providers or users should be concerned with in relation to either or both the OOXML and the ODF formats, and if so, what are they? Is there any possibility that the State, as an end user of software, could face litigation over format-related intellectual property issues?

Please see answer to Question #48

Question 50. If such concerns do exist, how can the State as an end-user best protect itself from liability for using one or the other of the formats? What methods should the State adopt to ensure that intellectual property matters do not limit the State's ability to preserve and provide access to State information of enduring value.

While the ODF Alliance is not in a position to provide legal advice on how the State can protect itself, the fact that ODF is developed and maintained by a community of vendors would offer the State greater assurance against any such claims.

Question 51. How can and should the State, as a governing body, best protect its citizens, individual, governmental and corporate, from intellectual property liabilities in relation to electronic records?

Please see response above.

P. Electronic Discovery

Discovery is the gathering in a lawsuit of relevant information, of any kind, from any source, to support or defend a party's position. Court rules concerning electronically stored information were revised significantly in December 2006. When a lawsuit is initiated or can be reasonably predicted, those rules require the parties to immediately preserve, be able to describe, and be able to produce electronic information in its myriad forms, including metadata, embedded data, system data, or digital attachments that are associated with the primary electronic documents. Those rules also speak directly to formats. Parties may request e-records in their original formats. In the absence of such a request, the producing

¹⁶ <http://www.softwarefreedom.org/resources/2006/OpenDocument.html>

party must produce the e-records either in the format in which it "ordinarily maintains" the information, or in a "reasonably usable" format (electronic or paper, so long as it is indexed or readily searchable). Commentators have noted that spreadsheets are one problematic type of document, the preservation of which in a presentation format (such as after conversion to a .pdf document) will not capture the mathematical formulas associated with that spreadsheet. Commentators have further noted that the most acceptable format for record production is usually (but not always) the way in which the data was managed in the normal course of business. Litigation support software applications help render the parsing of huge volumes of electronic data easier during lawsuits, and the State uses some of that software. Examples include, but are not limited to, applications by Concordance (<http://www.concordancesoftware.co.uk/>) and Summation (<http://www.summation.com/>). The National Archives and Records Administration (US) and the Swedish National Archives have reportedly announced that they will accept archived records in PDF/A format, which is an ISO standard. CIO/OFT understands that there are differences in thought amongst archivists concerning PDF/A. Some of its perceived advantages include that it is self-contained and carries all metadata within the document itself without the need for extraneous applications or sources of data. But CIO/OFT also understands that amongst archivists there are also perceived disadvantages to the PDF/A format, which include PDF/A containing a degree of manipulability which is inherent in all electronic formats, as well as PDF/A being a more static format than the formats in which electronic documents are originally created, which can inhibit the ability to mine and manipulate data for informational purposes. One school of thought is that two archived copies of official records should be maintained, one set kept as a control original not released to the public, with a copy released to the public in PDF/A format or some otherwise non-manipulable format.

Questions

Question 52. Are there implications for record production in electronic discovery arising from having chosen particular document formats? If so, what are they?

Record production in the context of electronic discovery brings to the fore issues concerning longer-term preservation and archiving. To preserve access, the State should ensure the document format: is not dependent on any particular software or hardware; is not susceptible to hardware or software obsolescence (in this context, at least one open source implementation would be important as the State would always have access to the source code); and that it will remain "open."

Question 53. For archived electronic records, is PDF/A an acceptable format in which to preserve such documents? If not, please describe its deficiencies? Also, please recommend alternatives.

The ODF Alliance would observe that PDF/A would meet our definition of "open" and many governments have selected PDF/A in tandem with ODF, the former for long-term preservation of non-revisable documents where the "look and feel" needs to be preserved, and the latter for editable documents. Also noteworthy is that with respect to ODF, the National Archives of Australia have developed a Digital Preservation Software that converts documents to ODF for longer-term preservation.¹⁷

¹⁷ <http://xena.sourceforge.net/>

Question 54. Are there any compatibility issues with litigation support software which could arise if the State were to choose particular document formats? If so, please describe in detail.

With both adoption of, and applications support for ODF growing rapidly, we expect third party ISV support to increase, thereby diminishing any compatibility issues that arise.

Q. Specific, technical format concerns

Technical criticisms have been made concerning OOXML, including: that "areas of OOXML are undefined such that no other implementation will be successful in reproducing equivalent features;" that OOXML "is a literal porting of the features of a single vendor's binary document formats [which avoids] re-using relevant existing international standards;" that OOXML is "designed to work exclusively with the technologies supported by Microsoft Office;" and that OOXML "fails to consider or achieve cultural and linguistic adaptability." There have been many comments from those involved in ISO standardization requesting changes to the OOXML format and/or requesting that a second office suite format not be approved as an ISO standard at all. Some commentators have noted that "The ODF was approved by the ISO in May 2006 with virtually no comments" criticizing the format. Technical criticisms which have been made concerning ODF include that it "is not optimized for representing the content in existing documents," nor does it have the "unique capability of hosting custom-defined data languages within the document format." Another criticism of ODF has been that many vendors of assistive technology software have not ported their software to ODF-based applications.

Questions

Question 55. Should other formats be considered besides ODF or OOXML? If so, which formats, and why?

To avoid confusion in the growing public debate on open formats, it is important to remember that there are two, and only two, XML-based standards for text documents, presentations, and spreadsheets; i.e., what are understood to be the output of office productivity suites. They comprise the overwhelming majority of documents produced by the State government. Other formats exist for other purposes, such as HTML for displaying information on the web, audiovisual formats, and other highly specialized formats. For example, Norway's Ministry of Government Administration and Reform announced that all new information on governmental web sites must be available in the open formats HTML, PDF or ODF from January 1 2009 onwards.¹⁸ Specifically: HTML must be the primary format for publication of public information on the Internet; PDF (1.4 or newer, or PDF/A - ISO 19005-1) will be required if the objective is to preserve the original layout of a document; and ODF (ISO/IEC 26300) must be used when publishing documents that are meant to be changed after downloading; e.g., forms that are to be filled in by the user. Older documents must be converted into these formats by 2014. In making the announcement, Minister Heidi Grande Roys said: "Everybody should have equal access to public information. From 2009 citizens will be able to choose which software to use in order to gain access to public information. The government's decision will also improve competition between suppliers of office applications."

¹⁸ <http://www.regjeringen.no/en/dep/fad/pressesenter/pressemeldinger/2007/Open-document-standards-to-be-obligatory.html?id=494810>

Question 56. How valid are the criticisms of OOXML? What are its most significant strengths and weaknesses?

The main criticism of OOXML is that it is not an open standard. Specifically: i) OOXML is less open in its development and maintenance, despite being submitted to a formal standards body, because control of the standard ultimately wrests with one organization; ii) OOXML is designed to operate fully within the Microsoft environment only. Its complexity, extraordinary length, technical omissions and single-vendor dependencies combine to make alternative implementation unattractive as well as legally and practically impossible; iii) 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.

The strength of OOXML is that is designed to work elegantly across the many products in the Microsoft catalog. As such, it is suited for customers who are not interested in choice from among competing applications and platforms, and those for whom the costs in licensing, migration and training associated with migrating to Office 2007 is not an issue.

Though “backwards compatibility” is frequently cited by Microsoft as the major justification for OOXML, as we pointed out in our response to the Burton Group report:¹⁹

“Surely, OOXML cannot faithfully recreate the look of anything. It is a file format, not an application. Microsoft Office is the application that interprets OOXML, and it can also render legacy binary file formats, except when Microsoft decides to remove support for them, as Microsoft recently did with Office 2003 SP3. There can be further problems when Microsoft decides not to support legacy features, such as when they removed support for Visual Basic scripting in Office 2008 for the Macintosh.....[N]o other application supporting OOXML has been able to faithfully or fully recreate the look of Microsoft’s legacy binary documents. So the statement that OOXML – a file format – is the solution for rendering legacy documents is simply false.”

Question 57. How valid are the criticisms of ODF? What are its most significant strengths and weaknesses?

The main strength of ODF is its interoperability and support among various applications and platforms, providing governments with choice. Indeed, ODF support either exists or has been announced by all the major vendors in the productivity application market -- Microsoft Office (via a Plugin), Corel WordPerfect Office, Lotus Symphony, Sun StarOffice, Novell OpenOffice, Google Docs, etc.²⁰

The main criticism is ODF lacks formula language, metadata and digital-signature support, but these areas will be addressed by ODF 1.2. Similarly, we are unimpressed by the claim that ODF is less compatible with the earlier Microsoft binary formats (.doc, .xls, .ppt). ODF, using the defined extensibility mechanisms in the ODF standard, can represent everything in Microsoft's legacy binary formats. What in practice makes this difficult is that the proprietary legacy document formats are poorly documented and have been historically withheld from competitors.

¹⁹ <http://www.odfalliance.org/resources/BurtonGroupResponseFinal.pdf>

²⁰ <http://www.odfalliance.org/resources/AppSupport20Dec2007.pdf>

On the other hand, OOXML itself cannot represent all legacy formats without extensions. Extensions are required for features such as scripts, macros, DRM, etc., as the authors point out earlier in the report in reference to .XLSM documents. But if ODF can use extensions, it is just as capable of representing legacy binary formats as OOXML is.

R. Procurement

State Finance Law § 163(1)(j) defines "best value" in government procurement as "the basis for awarding contracts for services to the offerer which optimizes quality, cost and efficiency, among responsive and responsible offerers. Such basis shall reflect, wherever possible, objective and quantifiable analysis." When State government procures software, such purchases typically entail the simultaneous acquisition of services (e.g. software maintenance, or for that matter, software "as a service"), such that best value analyses are applicable. The Auditor of the Commonwealth of Massachusetts recently published the "Office of the State Auditor's Report on the Examination of the Information Technology Division's Policy for Implementing the Open Document Standard" (<http://www.mass.gov/sao/200608844t.pdf>) describing various factors which state government should take into account in selecting document formats. Implicit in the Auditor's report was that costs and benefits of all available document formats should be assessed objectively. Various commentators agree that government procurement of technology should define objective criteria of a number of factors representing "best value" in any given procurement.

Questions

Question 58. What factors or elements determine best "quality" in the formatting of electronic records? Please list all of those which you believe a "best value" determination should take into account, including the "quality" needed at various points in time in an electronic record's lifecycle. What would be the best means to objectively and quantifiably determine best electronic record formatting "quality"?

The State should consider use cases and feature availability in relation to overall price. While it is frequently claimed that OOXML is a "richer" format, the features contained in ODF are more than adequate to accommodate the needs government agencies for creating, editing and saving electronic records. With the arrival of ODF v1.2 and the inclusion of formula and metadata support, we are not aware of any elements lacking in ODF that would prevent it from meeting the needs of the State government. To the extent that specific needs arise, the multi-vendor, multi-stakeholder OASIS development and maintenance process has proven itself nimble in terms of responding to those needs.

Question 59. What factors or elements determine best "cost" in the formatting of electronic records? Please list all of those which you believe a "best value" determination should take into account, including the "cost" applicable at various points in time in an electronic record's lifecycle. What would be the best means to objectively and quantifiably determine best electronic record formatting "cost"?

The main elements to determine "cost" are:

- Price
- Training
- Maintenance & support

- Freedom to exit

Question 60. What factors or elements determine best "efficiency" in the formatting of electronic records? Please list all of those which you believe a "best value" determination should take into account, including the "efficiency" needed at various points in time in an electronic record's lifecycle. What would be the best means to objectively and quantifiably determine best electronic record formatting "efficiency"?

Elements to determine "efficiency" include:

- Storage space (in this regard the ODF document is generally smaller than its OOXML counterpart)
- Processing speed

Question 61. Part of determining the "responsiveness" and "responsibility" of bidders on State technological procurements relates to concerns that maintenance and support for those procurements remains available, robust, and within specific timeframes (e.g. ability to contact and receive assistance 24/7). To what extent should the State be concerned, or reassured, about the availability and reliability of maintenance and support from vendors of OOXML format-using software? To what extent should the State be concerned, or reassured, about the availability and reliability of maintenance and support from vendors of ODF format-using software?

As all of the major ODF supporting vendors including Sun, IBM, Corel, Novell, and Red Hat provide robust maintenance and support, availability should not be an issue of concern.

Question 62. In terms of the procurement of software for the creation and retention of office suite records, please list all of the objective criteria which State government should always consider as part of any office suite software "best value" analysis.

The objective criteria the State should consider include:

- Multiplatform/operating system support
- Feature set
- Support for open standards (e.g., ODF ISO 26300:2006)
- Price
- Avoidance of vendor lock-in

S. Other issues

As described herein, review of specific document formats and the State's long-term production and preservation of electronic records raises a host of issues related to procurement practices, technology standards, interoperability with other jurisdictions, consumer choice, and ultimately the ensuring of open and effective State government.

Question

Question 63. What other issues has this RFPC omitted which the State should be considering as it conducts this electronic records study? Please describe these additional issues with particularity, and any recommended approaches.

This is by far and away the most thorough, comprehensive survey regarding electronic records of its kind. The authors and the New York State Office for Technology should be commended for this effort. As other issues related to electronic records arise, we would appreciate the opportunity to provide more input to OFT.

T. Possible Recommendations

Would adoption of any of the following options render the need for adoption of particular formats for creating electronic records less compelling, and if so, how? How viable are any of the following suggested alternative options? Can you suggest (with specificity) any other possible recommendations which CIO/OFT should be considering? Are there alternative approaches which other jurisdictions have adopted which CIO/OFT should consider?

Question 64. For the purposes of preserving long-term abilities to access and read e-data, when procuring software which creates e-data, should the State require in its procurement contracts that the source code for that software be shared with the State, i.e. through "open source" or "shared source" licensing?

We would only note that ODF, as an open standard (as distinguished from open source software) is supported by both proprietary and open source applications.

Question 65. For the purposes of preserving long-term abilities to access and read e-data, when procuring software which creates e-data should the State require in its procurement contracts that the source code for that software be escrowed so that the State can access the source code when such access is the last reasonable option for the State to be able to access and read its e-data?

Having at least one open-source implementation for a document format is recommended, as the source code will always be available and need not be reproduced or reconstructed by the State in case the software is obsolete or the vendor goes out of business.

Question 66. In the procurement process, should the State place less emphasis on openness of creation software and focus instead on being able to convert or migrate records to an open format at the time of preservation?

Using an open format when the document is originally created and saved would mitigate any risks of data loss during conversion. It should be the preferred solution, with converters/plugins available for so-called legacy document.

Question 67. Should CIO/OFT certify one particular office suite standard provisionally, but with the flexibility to change that recommendation if future iterations (or other standards) provide sufficient or better functionality or easier translation to the new standard?

This question could be interpreted in different ways. If "office suite standard" refers to an actual office suite, the answer is no. If it refers to a standard for document formats (text, spreadsheets, presentations), we recommend the selection of a single open format. Multiple formats for the

same purpose (as opposed to recognizing, as referenced earlier in the Norway example, HTML for web-publishing, ODF for text/editing, and PDF/A for non-editable publishing) will add to the complexity and costs for State IT managers, who will be required to deploy translators or converters to support interoperability between formats.

As the Pan-European eGovernment Services Committee pointed out in its Conclusions and Recommendations on Open Document Formats, 6 December 2006:²¹ *“The potential arrival of a second international standard for revisable documents may mean that administrations will be required to support multiple formats leading to more complexity and increased costs. Although filters, translators and plug-ins may theoretically enable interoperability, experience shows that multiple transformations of formats may lead to problems, especially as there is no complete mapping between all features of each of the different standards.” For this reason they recommended that industry “work together towards one international open document standard, acceptable to all, for revisable and non-revisable documents respectively”.*

We note that the experience of Belgium may be instructive here. Belgium has mandated ODF and required that any other approved standard has to be compatible with it.

Question 68. Should the State provide encouragement for proprietary software vendors to support more open formats? If so, what would be the most effective means for the State to do so (e.g. direct financial incentives; State preferences for the usage of more open formatted software whenever the functionality of the software exceeds the user base's needs; other)? What advantages or what problems would be presented by this approach?

As we noted previously, an open standard is by definition available to any vendor to implement in its software products. By favoring open standards where they exist in procurement, the State will encourage their use, whether in proprietary or open source software.

Question 69. Should the State encourage any software providers who have incorporated the most open formats within their software to improve the software's other functionality so that it becomes more feature-rich and becomes a more viable alternative to software which does not adopt the most open available formats? (e.g. direct financial incentives; funding of research centers; other)? What advantages or what problems would be presented by this approach?

Government is the largest consumer of IT products, with interests going well beyond the functioning of markets. In this regard, they can and should be the agent of change they want to see in the world. The use of proprietary standards for document formats has become increasingly unacceptable mainly because various governments have stepped forward and said that information must be provided to the public without requiring the purchase a particular brand of software.

With regard to encouraging more feature-rich functionality, State IT experts can and should participate in standards-development processes.

Question 70. Some governmental jurisdictions have required that the usage of fully open formats within software must be an element which is evaluated whenever that jurisdiction is

²¹ See <http://ec.europa.eu/idabc/servlets/Doc?id=26971>.

assessing the "best value" available when procuring software. In its procurement laws or regulations, should the State specifically require when purchasing software an evaluation of format openness as part of the "best value" analysis performed by State agencies? If so, should the requirement be to define and compare best value in functional capabilities of the software today versus best value of the software towards long-term preservation?

Absolutely. Openness should be part of the "best value" evaluation. Both functionality and long-term preservation must be considered, with a tilt towards the latter, given the State's responsibility in preserving access to public information.

Question 71. Is recommending no changes to existing State practices a viable option? What would the State risk from recommending no changes to existing practices, and what would the State gain from so refraining?

Making no decision would simply preserve and expand the State's legacy data build-up and single-vendor dependencies. The exponential growth in electronic records is likely to make this inaction far more costly for the State and complicate their effective management.

Question 72. Would a program piloting the usage of ODF office suite software to determine its viability for the State's electronic record needs be a viable recommendation from this study? If not, what are the objections to this? If so, what specific recommendations can you offer for the design of such a pilot program?

Yes. Regarding the elements of a migration strategy, see <http://www.sutor.com/newsite/blog-open/?p=1246>. For recommendations concerning templates in a migration, see <http://www.odfworkshop.org/8.pdf>. For an example of a successful pilot program, see Migrating a Ministry at <http://ec.europa.eu/idabc/servlets/Doc?id=27850>.

Question 73. Is it a viable solution for long-term access to electronic records that rather than migrating electronic data to new technologies and document formats, State government should archive electronic recordcapable hardware and should seek to make various iterations of software available for the long-term as a safeguard against obsolescence and to facilitate access to electronic records.? Why, or why not? If you believe this is viable, then please describe measures to effectuate same.

Given the rapid changes in both hardware and software, this would be a tall order and would not seem to be the best use of limited State resources or the most efficient way of accomplishing the State goal of preserving access.

Question 74. Some commentators have suggested that governments should create or participate in centralized record management systems consolidating the electronic record systems of different agencies. CIO/OFT is aware of the development of certain nascent comprehensive systems using, for example, grid-based technologies. (See, for example, <http://chronopolis.sdsc.edu/>). Would the creation of or participation in centralized record management systems consolidating the electronic record systems of different agencies be appropriate for New York State? If so, please describe recommendations for its design.

N/A.

Question 75. Please provide any other suggested alternative approaches and describe which approach you believe would be best for the State, and why.

The ODF Alliance recommends that the State review the documentation that emerged from the 1st International ODF User Workshop (see <http://www.odfworkshop.org/docs.html>) where governments at all stages of the ODF migration process discussed their experiences and make specific recommendations.

Please consult our recent Burton Report rebuttal (see <http://www.odfalliance.org/resources/BurtonGroupResponseFinal.pdf>) which provides a fact check to some confusing assertions made in that recent evaluation of OOXML and ODF.

9. Initiative for Software Choice: Friday 1/18/08 4:38 PM

As you study electronic record policy for the State of New York, the Initiative for Software Choice (ISC, www.softwarechoice.org) – a coalition of technology providers and associations, all advocating technological-neutrality in government procurements of software – respectfully urges that you craft evolving and open policies which promote the widest possible choice for state-funded technology, and avoid restrictive paths that will reduce competitive options, drive up costs, and diminish the potential benefits of your record policy for State administrators and New York taxpayers.

In its 2007 session, the New York State Legislature directed the NYS Director of the Office for Technology (OFT) to “...study how electronic documents and the mechanisms and processes for obtaining access to and reading electronic data can be created, maintained, exchanged, and preserved by the State in a manner that encourages appropriate government control, access, choice, interoperability, and vendor neutrality...”

The request of the legislature deserves serious study. IT plays an integral and growing role in the delivery of constituent services, with governments such as New York depending ever-more heavily on IT to make the lives of their citizenry better. As time goes on, IT will only insinuate itself further into the daily administration of government. Thus, the State has a legitimate concern in searching for and fostering IT infrastructure that serves its citizens in the most cost-effective and accessible ways.

This search must be inclusive, evolving, and work to co-exist with present infrastructure or *de facto* industry standards and practices. The IT marketplace, with all its richness and diversity, must continue to be relied upon to solve the vexing challenges of today and tomorrow. Thankfully, we have great faith in the heterogeneous marketplace, one built on a multitude of business models and technological disciplines. To date, it has helped billions of the world’s people live safer, healthier, more democratic and enriching lives.

Our industry’s success has resulted primarily from what governments the world over have chosen not to do – that is, they have largely eschewed regulating our offerings.

Legislative or policy preferences for technology or business models disserve this “hands-off” approach. In our view, they often represent unwarranted intrusions into the dynamics of the marketplace, urging the jettison of present IT infrastructure and its underlying business models in favor for theoretic and/or un-proven, “forward-looking” models of IT delivery.

Though the authorizing legislation makes no specific mention of technology or business model preferences, the OFT’s follow-on request for information (RFI) seems instead to traffic largely in the politics of preference. Thus, the balance of the RFI presents a false choice – i.e., aren’t open standards and open document formats (ODF) the only ways in which the State of New York can evolve its present level of IT services to serve administrators and citizens?

The ISC believes that the answer remains an unequivocal – NO – to that premise.

Over the past five years, a small minority of the world’s governments has begun asking how they can “better use” IT “to help” taxpayers. The underlying subtext to many of these queries stands as far less beneficent. Special interests, driven by corporate marketing campaigns, have created

multitudinous, specious technological arguments to limit technological and business model choice for government IT procurements. Consequently, the exceedingly few governments buying into these arguments have sought to replace proprietary technology / business models with preferences for systems based on open source software (OSS) or open standards-based ODF products.

The ISC believes preference policies such as these reduce choice contrary to the public interest. Their primary design is to shear the working marketplace out of the equation for IT administrators. Or, put more bluntly, those seeking their implementation desire primarily one thing – to hamstring through legislation or policy a single, U.S. market leader; they have little or nothing to do with benefiting average citizens.

Thankfully, most everywhere where such policies have been proposed, they have been resoundingly defeated, dropped or ignored.

The following quotes from government and industry analysts highlight logic we hope will guide New York and its quest to evolve its IT systems for constituents. These agnostic guidelines work to bring the IT industry together instead of inappropriately cleaving it apart as preference policy mainly seeks. Their main theme – think broadly, be flexible to the evolution of technology, and use the guidance of the entire marketplace to find what one needs to serve the IT needs of citizens.

The first example concerns Ronald Bergmann, then Deputy Commissioner of New York City's Department of IT, testifying before the New York City Council on an OSS preference proposal sought (though never brought to a vote) for the City. Though the context of his testimony surrounds an OSS mandate proposal, his reasoning can find equal application to the present inquiry. Noted Bergmann, presciently:

Based on our initial positive experience, we are examining opportunities to leverage the further deployment of open source solutions. As with all such decisions, this must be done carefully, based on a thorough assessment of requirements.

As you know, the software industry is constantly evolving. Often, new developments that promise great change do not always live up to the initial hype. As such, the use of one type of software over another should not be predetermined. While OSS has the potential to make a considerable impact, we are fundamentally opposed to any legislation that would require City agencies to consider using open source software, or any particular software for that matter.

Because of the pace of change and the variety of products at different levels of maturity, software decisions should not be prescribed, but need to be made on a case-by-case basis. Let me explain why.

Our goal is to build technology solutions that meet agency business needs. Agencies must retain accountability for considering all appropriate possibilities and then implement the solution that represents the best fit and best value to the City. This could be an open source solution, a proprietary one, or a mixture of both.

Product evaluation is as relevant to open source software as it is to the purchase of any other product. Software procurement decisions should be merit-based. It was

this same merit-based approach that led us to determine that OSS would be the best fit for the three applications I mentioned earlier.

Fair and open competition based on an assessment of needs, not legislated preferences, should be the hallmark of our product choices. Our approach towards procurement must therefore be as flexible and inclusive as possible. This carries little risk and widens choice...²²

Almost four years after Bergmann's testimony, the State of California considered ODF/open standards preference legislation (which was defeated) similar to OFT's ostensible ODF preference. Though the industry had certainly evolved since Bergmann's admonition against technological preferences, his sentiment, as it pertains to the inflexibility of mandated standards, found expression again in a staff analysis of the ill-fated California ODF preference bill:

...Notwithstanding the archival and interoperability advantages of open-file formats, there is still a concern that mandating a standard, impinges on the need of government to remain flexible when determining the IT that best meets the business needs for which a technological solution is being sought. Statutorily limiting IT procurement to one type of technology, for example, open-file formats, presupposes that the best IT solutions for any given problem will only emerge in applications that use that approach. Experience, however, has shown that innovation spans the gamut of technological approaches, and government should not necessarily preclude itself from being able to take advantage of innovations, whether they are in a proprietary format or not...

...Whenever a standard, of any sort, is codified it means that unless a future change in law occurs, the codified standard is the only approach the state can take to satisfying a technological business need. If, in this case, IT evolved in a manner that presented a yet unanticipated software file format that exceeded the promises of everything on the market today, the state would have to make a statutory change to take advantage of the new technology...²³

Leveraging current infrastructure to support greater interoperability, among other goals, implicitly recognizes the interdependence of the IT ecosystem. In a report designed to provide analysis to the European Commission on its next generation interoperability framework, Gartner posited that "co-existence" of technology and business models must remain integral to any technology chosen and employed by government agencies:

Allow open standards and other recognized standards to coexist

Gartner acknowledges the importance of open standards. IT vendors and system integrators should also recognize that open standards are the way to go. The era where proprietary standards lead to a sure base of loyal customers is fading away. IT is becoming just like any other industry where true added value and competitive pricing determine the winners.

²² Ronald M. Bergmann, testimony before the New York City Council, April 29, 2003.

²³ Excerpted from AB 1668 Analysis (as prepared by Les Spahn for lawmakers concerning the April 17, 2007 hearing on AB 1668).

Yet, Gartner recommends not to focus on the use of open standards per se. Whether open or not, standards are to further the deployment of public services. EIF v2.0 should facilitate the most profitable business model(s) of cost versus public value, under proper recognition of intellectual property rights, if any. The support for multiple standards allows a migration towards open standards when appropriate in the long run.

The use of 'open source' software may further the deployment of public services. However again, whether open source or not, it is the most viable software that should be allowed to survive in the infrastructure. So again, EIF v2.0 should facilitate multiple options to co-exist, and to compete.²⁴

Finally, the Commonwealth of Massachusetts, after nearly three years of mixed signals, eventually settled on enterprise architecture guidelines that take a holistic approach to IT service administration and delivery. Instead of working to create a divisive path, one which once essentially mandated “ODF only” for agency document requirements, the resulting enterprise technical reference model (ETRM v.4) maintains an inclusive framework. The ETRM flexibly looks both to open standards and *de facto* standards, as well business impacts, to ensure that constituents receive the enterprise services they demand. Their examination includes:

The key criteria used for recommending an Enterprise Standard include determining whether:

- There is existing or growing support around the use of the standard*
- The standard interoperates with other relevant Enterprise Standards*
- The standard can be adopted without causing negative business impact.*

The Decision Process

*The Decision Process consists of multiple steps. The first step is to determine whether the standard being considered meets the criteria of an open standard. This determination is made based on definition contained in the Enterprise Open Standards Policy. Consideration of an open standard that lacks industry support is deferred to a later date. Specifications that are neither open standards nor *de facto* standards may be tracked in the Standards Watch List for further consideration. Only open standards that have industry support and *de facto* standards are considered further in the Decision Process.*

Next, the Decision Process includes research into the ability of the standard being considered to interoperate with other relevant Enterprise Standards. Adoption of certain standards – or versions of certain standards – in the ETRM is often deferred pending industry interoperability testing, such as that performed by the WS-I.

The final phase of the Decision Process includes business validation for the inclusion or exclusion of the standard. This is based on compelling business reasons to adopt or consideration of negative business impact, which would lead to deferring adoption.²⁵

²⁴ Preparation for Update European Interoperability Framework 2.0 - FINAL REPORT, April 2007.

²⁵ Massachusetts' ETRM v4.0 (Enterprise Technical Reference Model), August 2007.

As the aforementioned policies implicitly reveal, government IT administrators stand a greater chance of finding benefit with flexible, holistic policies in place. Where such an environment occurs, a variety of competing standards, solutions and business models can more readily emerge, better serving different agency and constituent needs. Moreover, such open policies boost overall IT industry innovation, mitigating the powerful yet potentially distorting effects that hefty government procurements have on the IT development process.

To this end, we respectfully urge the state of New York to follow these broad policy examples. Mandated preference policies – which favor one technological and business model solution arbitrarily over another – represent a myopic, closed approach that will reduce competitive options, drive up costs, fall out of step with the evolution of technology, and ultimately poorly serve constituents.

The ISC believes that all alternatives should be considered based on their merit, consistent with present State policy. This remains the most appropriate, inclusive and proven path toward evolving the State's IT architecture to the benefit of taxpayers.

10. Essential Information: *Friday 1/18/08 4:48 PM*

Essential Information is a nonprofit, tax-exempt organization based in Washington, DC. We are involved in a variety of projects to encourage citizens to become active and engaged in their communities. We provide provocative information to the public on important topics neglected by the mass media and policy makers.

Essential Information publishes a bi-monthly magazine, books and reports, sponsors investigative journalism conferences, provides writers with grants to pursue investigations and operate clearing houses which disseminate information to grassroots organizations in the United States and the Third World.

New York State should be commended for gathering stakeholder input on the processes for obtaining access to and reading electronic data so that such data can be created, maintained, exchanged, and preserved by the state in a manner that encourages appropriate government control, access, choice, interoperability, and vendor neutrality.

Our responses to the General Questions outlined in the Request for Public Comment (RFPC # 122807) follow.

Part I - General Questions**Question 1. Contact Information:**

Essential Information
P.O. Box 19405
Washington, DC 20036
202-387-8034 tel
202-234-5176 fax
info@essential.org

[INDIVIDUALLY IDENTIFYING CONTACT INFORMATION REDACTED]

Question 2. What mechanisms and processes should the State of New York establish for accessing and reading its electronic records in order to encourage public access to those records?

We believe it is of paramount importance that government agencies establish open, non-proprietary standards for storing and providing access to government information. Using open standards such as the Open Document Format (ODF) allows government agencies to share information with other agencies, even if the operating system or applications the agencies use are different from agency to agency or between agencies and public data users.

ODF can be implemented by any software vendor, adopting ODF standards gives governments greater choice in choosing which software to buy, and from whom.

ODF may also save government agencies money. Currently, governments often have to pay significant fees to software companies in order to upgrade software or transform their files to new formats.

Question 3. What mechanisms and processes should the State of New York establish for accessing and reading its electronic records to encourage interoperability and data sharing with citizens, business partners and other jurisdictions?

All future government documents and data should be stored in open, non-proprietary formats. In addition, older data should be converted to open, non-proprietary formats. All documents and data should be made available via the internet.

Question 4. What mechanisms and processes should the State of New York implement to encourage appropriate government control of its electronic records?

New York State should establish a general presumption that the public should have access to all electronic records, exceptions to this general principle should be made to address privacy or public safety considerations.

Question 5. What mechanisms and processes should the State of New York consider for encouraging choice and vendor neutrality when creating, maintaining, exchanging and preserving its electronic records?

New York State should adopt procurement and contracting requirements that give preference to and encourage agencies to select products and service providers that offer open, non-proprietary hardware and software.

Question 6. Are there mechanisms and processes the State of New York should establish that are specific to the management of its electronic records in its various life cycle stages (creation, maintenance, exchange, preservation and disposal)?

New York State should adopt policies that require electronic records be stored in open, non-proprietary formats. This will facilitate management of electronic records in all life cycle states.

Question 7. How should the State address the long term preservation of its electronic records? What should the State consider regarding public access to such archived content?

The presumption should be that the public should have access to all archived content, as long as privacy and public safety concerns are not compromised.

Question 8. What changes, if any, should be made to the government records management provisions in New York Statutes? (Please reference those laws which are cited here: http://www.archives.nysed.gov/a/records/mr_laws.shtml).

No comments.

Question 9. What constraints and benefits should the State of New York consider regarding the costs of implementing a comprehensive plan for managing its electronic records?

New York State should implement a comprehensive plan for managing its electronic records. A comprehensive plan that has at its core a commitment to open, non-proprietary standards will save tax dollars and increase public use of electronic records.

Question 10. What should the State of New York consider regarding the management of highly specialized data formats such as CAD, digital imaging, Geographic Information Systems and multimedia?

New York State should adopt policies that require electronic records be stored in open, non-proprietary formats. In addition, New York State establish a general presumption that the public should have access to all electronic records, exceptions to this general principle should be made to address privacy or public safety considerations.

General comments:

New York State could become a model for the country and the world by establishing open, non-proprietary approaches for managing electronic records. Agencies should also ensure that electronic records are stored in a form that facilitates segregation of data for Freedom of Information requests. The New York State Committee on Open Government has been a model government agency. The New York State Office for Technology should embrace the spirit of openness that The New York State Committee on Open Government has in developing its electronic record policies.

11. International Association of Microsoft Certified Partners: Friday 1/18/08 4:55 PM

IAMCP – United States, a national chapter of the International Association of Microsoft Certified Partners, is an IT trade association that represents over 1000 IT companies in 40 local chapters around the country. One of our largest chapters is IAMCP – New York City.

We, the IAMCP – United States Board of Directors, speak out periodically on issues that are important to our membership. This is one of those times and one of those issues.

Initially, we were writing to voice our strong concern that the feedback called for in the Request for Public Comments notification published on page 81 of the 12 December 2007 NYS Register would not have sufficient opportunity for the deliberation that such an important issue deserves because to its late publication prior to the holiday period and its expiration during it. Your extension of the comment period to a more reasonable duration was appreciated.

Our member companies provide information technology solutions to both the public and private sector in New York State, nationwide, and globally. Rather than getting tied up in what we are sure will be a healthy debate over the merits of one technology or standard over another, we'd rather request you let the consuming marketplace and not policy makers or external political influences decide the technologies to be used for a given application. We are solidly on the side of not artificially limiting choice. Especially in publicly funded projects.

Therefore, we ask that you PLEASE pick recommendation #71. Do NOT change the state's practices with respect to electronic document creation, storage or public access. Existing practices create choice in the marketplace. Agencies employ the e-document tools of their choice to meet their needs. And this customer-driven dynamic creates opportunity. The opportunities are many:

- Opportunities for customers to tailor their e-doc solutions to their needs
- Opportunities for business large and small to compete with each other to meet those needs
- Unique opportunities for small businesses to leverage the investments of some of the largest IT companies in the world, and to make a living
- Future opportunities for new business in meeting government needs in new ways – these flow from all the innovations that keep coming to the market.

Many of us on the IAMCP – United States Board have been in the technology industry for 10 years, some as many as 20 or more. Change is constant. Right now, change in the e-document space is particularly fast. We fully appreciate that the State wants to assure it can access – and the public can access – State documents for the long term. But we have come a long way from the punch-card era, where data ran the risk of being lost because it was stored in a single form on an arcane piece of paper. Right now, the IT industry is responding to customer demand for easy, long-term access more than ever. Yes, new standards are being developed which can cause confusion about “which way to go.” But the IT community of today is not locked into a “big iron” mentality. The community is nimble. And, in the end, it is producing TRANSLATORS that make irrelevant the question of what e-document format is best for the long run.

No one can predict the long run, especially in the IT space. The only thing we know is that leaving the government market open to competitive options always has, and always will, serve the government, the citizenry and the economy the best. As one of the world's icons – representing

the wisdom of relying on free and competitive markets to meet demand with supply – New York should stick with its core principles and preserve IT choice.

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Part III-E

Public Comments Received: Commercial Entity Responses

[See Next Section: ➡](#)