



Microsoft OOXML / ECMA376

Get The Facts

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Author: Anand Vaidya

Goals of this document

- To prove that one .ISO standard is adequate and in fact desirable (ODF / ISO26300)
- To demonstrate the substantial technical deficiencies of MS-OOXML / ECMA376
- To debunk some of the fallacies being circulated
- To provide our inputs to the Singapore's council which will vote in the .ISO JTC1 regarding ECMA376's fate



Unacceptable Technical Flaws in ECMA376 / MS-OOXML

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What are the objections?

- ECMA376 / MS-OOXML has been shown to contain many flaws, including:
- Poor XML, Hex number handling
- Propogating bugs in MS-Office into the standard
- Proprietary units
- References to proprietary, confidential tags
- Internal Inconsistencies
- Unclear IP, Patent rights
- These slides list only a few, there are just too many flaws

Flaws: Invalid Date calculations

- Treats 1900 as leap year – an old bug in Excel (as per MS: Inherited from Lotus 1-2-3)
- This contradicts the Gregorian calendar, ISO 8601 and the civil calendar adopted by most nations of the world.
- Gregorian Calendar says: Years divisible by 100 are leap years only if they are also divisible by 400, which 1900 is not, clearly.
- Unacceptable to propagate ancient bugs into a forward looking proposed standard.

Flaws: Invalid Date calc

- Please read <http://www.robweir.com/blog/2006/10/chernobyl-design-pattern.html> for more details
- MS claims that this is no problem.
- Well, this bug derails Malysia's history (calculation of dates). Please refer to the following webpage for an indepth analysis:
http://www.openmalaysiablog.com/2007/06/malaysias_histo.html

Formula for failure

- let's take the trigonometric functions, SIN (Part 4, Section 3.17.7.287), COS (Part 4, Section 3.17.7.50) and TAN (Part 4, Section 3.17.7.313). OOXML - fails to state whether their arguments are angle expressed as radians or degrees
- Same problem for the return value of the inverse functions, ASIN (Part 4, Section 3.17.7.12), ACOS (Part 4, Section 3.17.7.4), ATAN (Part 4, Section 3.17.7.14), and ATAN2 (Part 4, Section 3.17.7.15).
- It is hard to have interoperable versions of these functions if the units are not specified.

Formula for failure

- The AVEDEV function (Part 4, Section 3.17.7.17) should return the average deviation of a list of values.
- However, the formula given for this function is actually for calculating the number of combinations of n things taken k at a time.
- But anyone using an OOXML spreadsheet application that follows this standard will be perplexed at the values returned by their AVEDEV function.

<http://www.robweir.com/blog/2007/07/formula-for-failure.html>

Formula for failure

- The CONVERT function (Part 4, Section 3.17.7.48) converts from one unit to another. Some conversions explicitly allowed include liquid measure conversions such as from liters to cups or tablespoons. But whose cup and whose tablespoon? Traditional liquid measures vary from country to country.
- In the US, a cup is 8oz, except for FDA labeling purposes when a cup is 240ml. But in Australia a cup is 250ml and in the UK it is 285ml. Similarly a tablespoon has various definitions. OOXML is silent on what assumptions an application should make. Certainly do not calculate medical doses!

OOXML contradicts ISO639

- ISO 639 is the set of ISO standards that lists short codes for language names
- OOXML uses its own fixed list of numbers (ECMA 376 section 2.18.52 page 2530, ST_LangCode)
- Data interchange is affected when communicating with non-MS software which are written to adhere to standards

<http://itre.cis.upenn.edu/~myl/languagelog/archives/004065.html>

Conflicts ISO8632

- ISO/IEC 8632 is the ISO standard for computer graphics metafiles: "2D graphical (pictorial) information" consisting of "vector graphics", "raster graphics", and "text" (NIST, 1998).
- OOXML recommends Windows Metafiles or Enhanced Metafiles instead of using ISO/IEC 8632 or W3C SVG.
- WMF are Windows-only proprietary formats. They are not approved .ISO standard
- Why use a proprietary standard when an International standard exists?

Conflicts W3C SVG

- W3C SVG is the W3C standard "for describing two-dimensional vector and mixed vector/raster graphics in XML".
- Ecma 376 section 14 page 132, "DrawingML" defines a vector drawing XML format in conflict with the industry standard W3C SVG.
- Ecma 376 section 8.6.2 page 24, "VML", requires support for another drawing XML format in conflict with W3C SVG. Note that VML was proposed by Microsoft as a W3C standard in 1998, but was rejected in favour of SVG.

Conflicts W3C MathML

- MathML is the W3C standard for "describing mathematical notation and capturing both its structure and content".
- Ecma 376 section 7.1 "Math" (page 747) covers mathematical expressions, and defines a format in conflict and incompatible with the W3C Recommendation MathML.
- Note: MathML is included in the ISO/IEC 26300 standard (OpenDocument Format) in section 12.5 "Mathematical Content". As a result, Ecma 376 conflicts with an ISO specification for mathematical notation.

Hash and Encryption

- OOXML ignores ISO/IEC 10118-3, W3C XML-ENC, and other cryptographic hash standards
- Ecma 376 ignores accepted standards for cryptographic hashes and defies expert standards for cryptography, by proposing its own hash algorithms which are almost certainly flawed.
- Cryptography is a hard subject, algorithms & implementations need to go through expert- and peer-review to be considered safe for use.
- See what Bruce Schneier, well known security expert has to say: <http://www.schneier.com/crypto-gram-9904.html>

Hash, Encryption contd...

- ISO has chosen the "Whirlpool" algorithm as standard ISO 10118-3.
- The W3C, in its XML-ENC standard, includes a list of algorithms: SHA1, SHA256, SHA512, RIPEMD-160.
- The European NESSIE project recommends: ISO 10118-3 ("Whirlpool"), SHA-256, SHA-384 and SHA-512.
- In the USA, NIST recommends SHA1, SHA224, SHA256, SHA384, and SHA512.
- Japan: CRYPTREC recommends: MD5, RIPEMD-160, SHA1, SHA256, SHA384, and SHA512.

OOXML and Encryption

- Ecma 376 section 2.15.1.28 (page 1941) does not follow the advice of any of these organizations. Instead, it defines new hashing algorithms that have not undergone scrutiny by the cryptographic community.
- Section 2.15.1.28 (page 1941) defines one; Sections 3.3.1.69 (page 2786) "protectedRange" and 3.2.29 (page 2698) define another very similar algorithm. Nowhere is there clear notification that these algorithms are likely to be extremely flawed and thus should not be used in new applications.

Conflicts W3C SMIL

- Synchronized Multimedia Integration Language, SMIL is the W3C standard for "synchronized multimedia presentation". As the Recommendation states, with SMIL an author can:
 - Describe the temporal behavior of the presentation.
 - Describe the layout of the presentation on a screen.
 - Associate hyperlinks with media objects.
- Ecma 376 section 4.4 "Animation" (page 565) covers presentation animations (slide transitions), in conflict with the W3C Recommendation SMIL.

Proprietary UoM

- ECMA376 Fabricates units of measurement
- Many attributes throughout the ECMA 376 spec take values in "English Metric Units" (EMU). For example, attributes of type ST_PositiveCoordinate (5.1.12.42, page 4505) are measured in EMUs. This is not a known unit in existing literature. It is only defined inside a paragraph in section 5.9.2.1 page 655, so that "91440 EMUs/U.S. inch, 36000 EMUs/cm".
- Similarly, (2.18.105, page 1836) specifies "twips"—twentieths of a point (1/1440th of an inch).

Internal inconsistencies

- The w:sz element is an example of major internal inconsistencies in the specifications measurements:
- For fonts, the w:sz element specifies the size in half points (2.3.2.36, page 1013).
- For frameset, the w:sz element has a string value that could be a relative value, a percentage, or a number of pixels (2.15.2.39, page 2136). The examples on page 2138 do not refer to w:sz at all.
- However, as the child of rPr (3.4.11, page 2846), its value is in points.

Internal inconsistencies and omissions: ST Border

- Section 2.18.4 page 2414 lists numerous styles such as apples, scaredCat, heebieJeebies, etc. However, the specification does not fully define these styles (e.g missing height, width, color-depth, orientation).
- The style basicThinLine describes behavior for horizontal, vertical and corner scenarios but many styles (e.g babyRattle, balloonsHotair, etc) provide no such details. The problem with this is that a single style can be interpreted differently by different vendors/implementors. Also, these styles provide no generality.

Messes Up Hex numbers

- Confusing and inconsistent definitions of lengths of hexadecimal numbers
- Ecma 376 uses confusing and inconsistent definitions of values with hexadecimal numbers. For example, section 2.18.52 page 2531, ST_LangCode, is defined on the text as a "two digit hexadecimal code". But the values given cannot be represented by only two hexadecimal digits, but needs four.

Flawed: Plain Text

- Unspecified terms exist for “plain text”
- Ecma 376 section 11.3.1 ((page 38) "Alternative Format Import Part", allows content in "plain text". The encoding for "plain text" is not specified (is it 7-bit ASCII? ISO 8859-1? UTF-8?). As specified it will not allow international interoperable use.
- This is serious problem since XML document standards may be used by non-US -English implementations

Poor XML

- Poor names and inconsistent naming conventions for elements and attributes
- Ecma 376 contradicts the goals of XML which are:
 - 6. XML documents should be human-legible and reasonably clear.
 - 10. Terseness in XML markup is of minimal importance.
- Instead, Ecma 376 often uses unclear names and inconsistent naming conventions. These include unnecessary vowel removals, name truncations, and unusual abbreviations. See examples in next slide:

Poor XML: Examples

- in VML (5.1.10.45, page 4413) "outerShdw (Outer Shadow Effect)" has its second word devoid of vowels. And yet its Child Elements and Attributes have different naming conventions, e.g. scrGbClr, algn, blurRad, dir, dist, rotWithShape
- in WordprocessingML (2.15.1.78, page 2020) "settings(Document Settings)" has a large list of Child Elements, and within that it has significant contradictory naming conventions, e.g. ActiveWritingStyle, attachedSchema, documentType, docVars, endnotePr, hdrShapeDefaults.

http://www.openmalaysiablog.com/2007/01/ooxml_has_poor_.html

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OOXML: Non-XML Codes

- In Section 2.16.5.79 page 2355 "XE" (full name not defined) defines 'b', 'i' as bold and italic, which is contrary to XML and CSS.
- Similarly for other sections in 2.16.5, such as 2.16.5.76–2.16.5.78 (p. 2353–2354), which define "* Caps", "* FirstCap", "* Lower", and "* Upper" to format the capitalization of preceding text.

Inflexible numbering format

- Section 2.18.66 page 2554, ST_NumberFormat, Numbering Format for number lists (2.9.18 page 1581), footnotes (2.11.17 page 1645), endnotes (2.11.18 page 1646), captions (2.15.1.16 page 1912) and Page numbers (2.6.12 page 1412).
- Fixed to a few countries. Many regions are not included.
- Contradicts W3C XSLT which ISO 26300 uses.
- Contradicts Unicode ISO 10646.

Problems with %ages

- Inflexible notation for percentages
- Ecma 376 uses four inconsistent notations for percentage units, at least one of which is particularly inflexible:
- Section 2.18.85 (p. 2583) uses predefined symbols (like "pct15" for 15%) in 5 or 2.5 percent increments (which is inflexible and difficult to process with standard XML tools, compared to a generic number-valued field)
- Section 2.15.1.95 (p. 2053) uses a decimal number giving the percentage

Problems with %ages

- (Section 2.18.97 (p. 2608) uses a number in 50ths of a percent
- Section 5.1.12.41 (p. 4505) uses a number in 1000ths of a percent
- In contrast, for example, the W3C SVG and W3C CSS standards both consistently use a single notation—decimal percentages followed by the "%" symbol—s described in section 7.10 of the W3C SVG 1.1 specification and section 4.3.3 of the CSS 2.1 specification.

More Vendor specific stuff..

- Uses a Microsoft-specific namespace
- Section 6.2.3.23 page 5197 Attribute "href" (Hyperlink Target) uses a Namespace "urn:schemas.microsoft.com:office:office".
- An Ecma standard must not reference company-specific namespaces. This should be replaced by an Ecma namespace.

No Chinese Characters in URLs

- Another standard that Microsoft does not support, is the RFC 3987 specification, which defines UTF-8 capable Internet addresses. Consequently, OOXML does not support the use of Chinese characters within a Web address.
- Will have a major impact for Singapore with Chinese majority population

Problems for Muslim Countries

- Considerations for users in Israel and many Muslim countries were excluded in the specification of OOXML.
- For any locale, the function 'Networkdays()' will always return Saturday and Sunday as the weekend (fine for USA).
- However, this is wrong for Iraq, Algeria, Sudan, Bahrain, Qatar, Bangladesh, Israel, Jordan, Libya, Pakistan, Syria and the United Arab Emirates.
- ODF handles this correctly.

Proprietary Advantage

- Ecma 376 relies on undisclosed information
- Undisclosed proprietary specifications
- Section 6.2.3.17 "Embedded Object Alternate Image Requests Types" (page 5679) requires implementors to support the proprietary Windows Metafiles.

Proprietary Stuff...

- Cloning the behaviour of proprietary applications
- Several sections require the implementor to clone the behaviour of a proprietary product, where the behaviour to clone is not specified. For example:
 - Section 2.15.3.6 page 2161, autoSpaceLikeWord95.
 - Section 2.15.3.26 page 2199, footnoteLayoutLikeWW8.
 - Section 2.15.3.31 page 2209, lineWrapLikeWord6.
 - Section 2.15.3.32 page 2210, mwSmallCaps.
 - Section 2.15.3.41 page 2225, shapeLayoutLikeWW8.
 - Section 2.15.3.51 page 2245, suppressTopSpacingWP.

Redefines Colours

- Emca 376 redefines standard color values
- Ecma 376 section 2.18.46 (page 2521) contradicts the standard SVG Color Keyword Names's hexadecimal RGB values for given color names.

Color Name	SVG	Ecma 376
Dark blue	00008B	000080
Dark cyan	008B8B	008080
Dark gray	A9A9A9	808080
Dark green	006400	008000
Dark red	8B0000	800000
Light gray	D3D3D3	C0C0C0

Many Many Flaws

- Nonstandard, inflexible paper-size naming
- Ecma 376 uses bitmasks, inhibiting extensibility and use of standard XML tools, cause validation problems, conflicts with ECMA TC45 charter



ECMA376 / MS-OOXML

Procedural and Real World Problems

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Don't Reinvent Wheels

- **ISO/IEC 26300:2006 (OpenDocument Format for Office Applications)**
- ISO/IEC 26300 OpenDocument is the ISO/IEC standard for office productivity applications. It covers the functionality needed for text documents, spreadsheets, drawings and presentations for office applications.

OOXML vs ODF

- ODF is already an approved standard. MS, (if it needs and willing) can enhance and contribute to ODF instead of inventing another format
- How about having twenty HTTP standards? How about having 10-different colour schemes for traffic signals? Will the web and driving be the same again?
- ODF is 600+ pages, since it reuses existing .ISO standards
- OOXML is 6000+ pages, primarily due to duplication of ISO/IEC standards with MS proprietary formats

These Flaws are not serious

- OOXML supporters claim: Oh come-on, these are meant for XML doc only, they will not cause much harm...
- Similar thinking led to Y2K crisis with billions of dollars lost and endless trouble for organizations

No Duplication

- I use the analogy of power supply. Having a single standardized voltage and socket makes it easy for designers, mfrs, users and PSB. What if SG had 3 different (one of them ambiguously defined) voltage standards? Will there be chaos? Sure!
- MS counters that USA has 110V. So it is acceptable to have multiple voltages
- My argument: MS argument is a strawman. Does that fact make it easy or difficult for travellers? Device manufacturers? Standards bodies?

No Duplication

- OOXML supporters can quote countless duplication efforts and duplicate “standards” in existence.
- But we are discussing about formats and standards for the next 20-50 years, not propogating today's and yesterday's problems into tomorrow. We are working on cleaning up mess created by unmanaged growth in the past

OOXML: Immature and Inconsistent

- Even in the limited time available for public review of more than 6,000 pages, a large number of inconsistencies and flaws have become apparent in the ECMA 376 specification, in addition to the major omissions and disregard for existing standards described elsewhere in this document.
- Although any one of these flaws, taken individually, is easily corrected, together they demonstrate the undue haste and lack of care that went into the rapid drafting of this proposed standard.

A feat in speed...

- 6000 pages reviewed in 30 days @200pages /day?
- Amazing
- No thorough analysis exists except this:
http://www.grokdoc.net/index.php/EOOXML_objections
- ECMA 376 was prepared hastily, with a calculated page review/edit/approve rate approximately 20 times faster than other markup standards.
- Insufficient time was available for review of the enormous specification; it was finalized by ECMA on December 7 and submitted to JTC-1 less than 30 days later

MS Proprietary

- The work plan of the ECMA technical committee that developed ECMA 376 specifically required compatibility with pre-existing proprietary file formats of a single vendor (Microsoft) that are incorporated by reference but whose specifications are not available.
- This restriction, the unavailability of the specifications for those (*older*) formats, and the lack of suitable reference applications blocks review and evaluation of ECMA 376's success in achieving its core goal of compatibility with those legacy binary file formats.

Fails Stability Test

- ISO/IEC JTC 1 Directives, Edition 5, Version 2.0 states that in relation to PAS submissions: "The specification shall have had sufficient review over an extended time period to characterise it as being stable." (JTC1 Directives, Annex M The Transposition of Publicly Available Specifications into International Standards - A Management Guide, M.7.4.1.3)
- Since the specification was submitted for fast-track resolution almost immediately after its development, and its development was behind closed doors, this requirement has not been met.

More Objections

- Ecma 376 cannot be reasonably implemented by other vendors
- Ecma 376 requires implementation of undisclosed specifications
- The "compatibility with legacy formats" can only be implemented by Microsoft
- Patent rights to implement the Ecma 376 specification have not been granted
- The Microsoft covenants not to sue grant no rights
- Microsoft licensing terms are ambiguous

Objections...(contd)

- End-User License Agreements (EULAs) may forbid full implementation
- The Microsoft Open Specification Promise is ambiguous
- many Microsoft legacy file formats are also required by the specification to be implemented and are "merely referenced." Rob Weir of IBM has collected and referenced several such instances and discussed them in the context of conflicting provisions of the specification that both require and forbid their implementation.

<http://www.robweir.com/blog/2007/01/calling-captain-kirk.html>

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- The Microsoft Covenant Not to Sue is irrelevant and ambiguous in any event : No one should ever be even threatened with a lawsuit for implementing .ISO standard
- Ecma 376 is a vendor lock-in specification: Adoption of Ecma 376 in its current state would frustrate the ISO goal [PDF] of "one standard, one test, and one conformity assessment procedure accepted everywhere." Yet Microsoft's Alan Yates has freely admitted that the primarily goal of Ecma 376's sponsor is to have two standards instead of one

<http://www.groklaw.net/articlebasic.php?story=20051215014700305>

The Spanish Story

- Spain and OOXML: where the government of Andalusia has now sent an official letter of protest [PDF, Spanish] to the president of the technical committee deciding whether or not to accept OOXML as an ISO standard, denouncing what it called an attempt by Microsoft to manipulate the process by selectively quoting from a letter from the Andalusian government back in January as if it were an endorsement of OOXML as an ISO standard today. That January letter, Andalusia says, was not intended to indicate that it felt there should be an acceptance of OOXML by the technical committee.

No more chairs for you!

- From Portugal: We've seen now reports from Italy and Portugal of what some are describing as a kind of ballot-stuffing on the part of Microsoft and supporters to get Ecma-376 approved as an ISO standard.
- Both Sun and IBM were told there was no room for them to join the committee in Portugal and so they were not allowed to attend the July 16th meeting.
- Because there were no more chairs !
- As reported on groklaw.net

Portugal

- the meeting in Portugal to decide the fate of OOXML as an ISO standard and Portuguese National Standard was presided over by a representative from Microsoft, was attended by Microsoft business partners and the decision reached in the meeting was to adopt consensus for any proposal even if there is a strong opposition!

While In India....

- From India: where the technical committee there is still considering Ecma-376 issues.
- Read the enlightening Issue Sheet:
<http://www.odfalliance.in/files/Issues%20sheet%20June%2030-with-replies%20from%20Nagarjuna.pdf>

MS OOXML fails in USA

- On Friday July 13th, INCITS V1 met via teleconference for 3 hours but failed to reach a 2/3 consensus necessary to recommend an "Approval, with comments" position on Microsoft "Office Open XML" (OOXML) document specification.

<http://www.robweir.com/blog/2007/07/ooxml-fails-to-gain-approval-in-us.html>

High Pressure on TCs

- More troubling than the technical problems of OOXML is the extent to which the standardization process is being subverted to the favor of Microsoft. Rob Weir states in his blog post that:
- An important factor in the V1 vote was the large number of members who joined very late in the process. At the start of the year, V1 had only 7 voting members. But by Friday's meeting V1 had 26 voting members. There was a clear pattern in the voting where the long-time V1 members voted for the "Disapproval, with comments" position as well as "Abstention, with comments" while the newer members voted overwhelmingly "Yes, with comments" and against "Abstention with comments." This is not surprising since the new members were largely Microsoft business partners.

In Italy...

- The voting in Italy was scheduled to end the 13 of July, for members enrolled on or before 8th July.
- Strange things started to happen, not unlike other member bodies' situations abroad. Up and until mid-may the members of the relevant Uninfo committee (JTC1) were five: IBM, Microsoft, CEDEO (Leonardo Chiariglione), the PLIO organization (Openoffice.org in Italy) and HP. Then new members started flocking. At the last count, voters were 83 [0].

In Italy

- Actually it is quite impressing seeing how the voting panel was formed. Particularly noteworthy is the fact that among those favouring the adoption of the standard without reservation a large majority is made of business partners of the proposing entity, a law firm retained by the latter, the official certified business partners association of the proposing entity ...
- Ref:
http://www.piana.eu/cms/index.php?option=com_content&task=view&id=52&Itemid=1



So, How About ODF / ISO26300?

Gartner: 50 percent of governments and 20 percent of commercial organizations will require ODF by 2010 (0.7 probability)

Ref:

http://www.gartner.com/resources/140100/140101/iso_approval_of_oasis_opendo_140101.pdf

Rumours, False “facts”

- Many rumours, false “facts” are being spread against ODF.
- Some of them are:
 - Accessibility (Handicapped people)
 - Minority Market share
 - ODF is immature
- We will debunk all of these in the next few slides

ODF Accepted

- JAPAN: Japan Interoperability Framework recognized ODF

<http://www.odfalliance.org/press/Release20070710.pdf>

- NORWAY: recommends mandatory use of ODF, PDF
<http://www.consortiuminfo.org/standardsblog/article.php?story=20070513180219689>

Handicapped Users

- The Adaptive Resource Technology Centre in Toronto, Canada has published a Paper thoroughly documenting the accessibility problems with OOXML, while demolishing myths that OOXML automatically facilitates Accessibility by handicapped users:

http://atrc.utoronto.ca/index.php?option=com_content§ionid=14&task=view&hidemainmenu=1&id=371

- The summary from ATRC follows:

Handicapped Users (contd...)

- There are grave issues with respect to the accessibility of Office Open XML as a format and potential standard that should preclude its adoption at present. It may be the case that OOXML can be improved to ameliorate some of the more specific technical concerns, but it is most likely too late for the higher-level issues, especially those inherent in the process by which OOXML was developed.
- We suggest that energy would be better spent in the ongoing effort to improve the existing ISO ODF standard (with which OOXML would overlap and compete if it is adopted). In any event, decisions with respect to standardized document formats should be made in consultation with members of disability communities, disabilities experts and developers of assistive technologies, with universal accessibility as a core requirement as opposed to an ad hoc afterthought.

Handicapped Users

- Microsoft's acceptance of ODF will mean device manufacturers and software writers will port or write assistive technologies for ODF and MS-Office.
- ODF will immediately gain superior assistive technologies.
- Refusing to work with ISO26300 makes everyone's work more complex.

ODF Alliance

- ODF Alliance is a vendor independent body established to promote the adoption of ISO26300.
- 350+ members as of Dec2006 and growing
- Has published a guide to voting councils:
<http://www.odfalliance.org/resources/JTC1%20Voting%20Guide%20for%20National%20Bodies.pdf>

Market Share

- MS claims OOXML has 95% market share: Not true .
- There are millions of Office95, Office 97 users who cannot use MS-OOXML/ECMA376
- So the real market share of OOXML today are really users of latest Office package – which could be <5% of the total installed base!
- The 90+% market share is for ancient MSoffice software, which may never be upgraded (esp. since OpenOffice is free and can read/write Office95/97 formats quite well)

Market Share

- Linux has a very healthy market share among server OS and growing faster than all competitors including MS (well known fact) – This fact considers only paid copies of Linux.
- When free Linux (eg: Fedora , Debian , Ubuntu , openSuse, CentOS) are added, the market share picture will change rather drastically.
- Linux users can and do install many copies from the same CD . (eg: I have installed over 500 servers with CentOS) – None of them are counted in any market share data. There are 10's of millions of such machines.

Linux On Desktop is accelerating

- Extremadura-Spain 80000+, Munich (14000), French Parliament
- Oracle, Novell, IBM, HP, Sun etc internal desktop use (combined >100K desktops)
- OLPC (One laptop per child) – runs linux expected deployment in 100s of millions – All will use ODF!
- Many large org standardizing on Linux eg: LIC India , U of Delhi (5000), Elcot (TN, India) -40000
- Fedora reached download count of 1m in 74 days
- Ubuntu downloaded 8m+ (very conservative estimate), ignoring mirrors and redistributions

Market Share

- All these desktops will run OpenOffice & ODF
- ODF/OpenOffice is available on all MinDef, Singapore desktops alongside MSOffice
- About 100m downloads of OpenOffice

http://wiki.services.openoffice.org/wiki/Market_Share_Analysis

- From the above page, we can conclude ODF market share is very large, approaching 100m, probably more, and can only increase (OLPC)
- Being license-free software, exact counts are hard to get, unlike MSOffice where each license is counted and tracked

Market Share: ODF leads OOXML

- <http://www.odf-eag.eu/odf-metrics>
- Developers & Interested Parties at Aug 07 working with:
 - OOXML = 600 (Source: Microsoft July 31st [Brian Jones])
 - ODF = 2.4mil (Source: Elance + SourceForge (Also includes some OOXML Interop projects))
- Aug2007: Binary Files handled by ODF Found On The Web:
 - .doc, .xls, .ppt: 39m, 15m, 15m
 - .xlsx, .pptx, .docs: 175, 732 and 964
 - .odt, .ods, .odp: 92700, 21300 and 50500

Wide Support

- ODF is supported by IT industry giants:
 - Sun, Google, IBM, Oracle, Redhat, Novell, UNDP-APDIP OSN
 - Just too many ! (Dec2006 : 350+)
- ODF Implemented by: KDE/KOffice, Google Inc, OpenOffice, Staroffice, IBM Lotus workplace, Zohowriter etc
- Converters exists for MS Office (sun, novell)

Summary and Conclusions

- I hope the previous slides and references provide enough proof that ECMA376 / MS-OOXML does not deserve to be accepted as a duplicate .ISO standard and must be rejected

Resources

- **ODF Alliance:** <http://www.odfalliance.org>
- **Wikipedia:** http://en.wikipedia.org/wiki/OpenDocument_software
- **GrokLaw:** http://www.grokdoc.net/index.php/EOOXML_objections
- **Language Log:**
<http://itre.cis.upenn.edu/~myl/languagelog/archives/004065.html>
- **OpenOffice:** <http://www.openoffice.org>
- **Standards News Portal:** <http://www.consortiuminfo.org/news/>
- **Open Malaysia:** <http://www.openmalaysiablog.com/>
- **Rob Weir:** <http://www.robweir.com/blog/>
- **Bob Sutor:** <http://www.sutor.com/newsite/blog-open/>

Resources

- Jason Matusow's blog: <http://blogs.msdn.com/jasonmatusow/>
- Jonathan (MS) blog: <http://technologypolicyblog.com/default.aspx>
- ODF/OpenOffice Marketshare Analysis: http://wiki.services.openoffice.org/wiki/Market_Share_Analysis
- ODF Metrics: <http://www.odf-eag.eu/odf-metrics>
- Standards Blog: <http://www.consortiuminfo.org/>

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The End

- Thanks for your time. If you have any feedback, corrections or questions please contact me: Anand Vaidya, vaidya.anand@gmail.com
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