— Response Document —

National Body Comments from

30-Day Review of the Fast Track Ballot for

ISO/IEC DIS 29500 (ECMA-376)

"Office Open XML File Formats"

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1. Introduction

On receipt of the National Body comments from the ISO/IEC JTC 1 Secretariat, Ecma International, using the expertise of Ecma TC 45, reviewed those comments in detail. This response document is the result of that review.

A number of NBs submitted comments that appear to be identical, equivalent, or closely related to each other. These issues are discussed in detail in §2, "Responses to Common Issues", and referred to from the subclauses of §3, "Responses to NB Comments", as appropriate.

Ecma found that comments submitted during this period were of various natures, including perceived contradictions, comments of a technical nature (which, as such, are best handled during the 5-month ballot and the subsequent Ballot Resolution Meeting), and general-purpose statements expressing concerns or support. In any event, Ecma gave consideration to all comments, providing a response to each one.

For simplicity, throughout this document, the following abbreviations are used:

- Ecma — Ecma International
- JTC 1 — ISO/IEC JTC 1 or its Secretariat, as appropriate
- NB — National Body
- ODF — ISO/IEC 26300:2006 "Open Document Format for Office Applications (OpenDocument) v1.0"
- OpenXML — ISO/IEC DIS 29500 (ECMA-376) "Office Open XML File Formats"

This document contains many links to other places in the same document. As such, it is most effectively used in electronic form.

2. Responses to Common Issues

A number of NBs submitted comments that appear to be identical, equivalent, or closely related to each other. Those issues are discussed here in detail, and referenced in the subclauses of §3, "Responses to NB Comments", where they were raised by individual NBs. The common issues are:

- Overlap in Scope with ISO/IEC 26300:2006 (ODF) (§2.1), raised by 12 NBs.
- Intellectual Property Rights (IPR) (§2.2), raised by six NBs.
- ISO/IEC JTC 1 Directives – Definition of Contradiction (§2.3.1), raised by four NBs.
- ISO/IEC JTC 1 Directives – Length of Review Period (§2.3.2), raised by eight NBs.
- Missing Annexes (§2.4), raised by three NBs.
- Consistency with ISO 216 (paper sizes) (§2.5.1), raised by two NBs.
- Consistency with ISO 639 (language name codes) (§2.5.2), raised by seven NBs.
- Consistency with ISO 8601 (date/time representation) (§2.5.3), raised by nine NBs.
- Consistency with ISO 8879 (SGML) (§2.5.4), raised by one NB.
- Consistency with ISO/IEC 8632 (picture metafile) (§2.5.5), raised by eight NBs.
- Consistency with ISO/IEC 15445 (HTML) (§2.5.7), raised by two NBs.
- Undocumented Legacy Features (§2.6), raised by three NBs.

2.1 Overlap in Scope with ISO/IEC 26300:2006 (ODF)

Comment source: Australia, Canada, Denmark, France, Germany, Japan, Kenya, New Zealand, Norway, Sweden, Singapore, and the United Kingdom.

The responses to comments raised on this topic are organized as follows:

- Overlap in Scope of ISO/IEC standards is common and can serve a practical purpose (§2.1.1)
- OpenXML addresses distinct user requirements (§2.1.2)
- ODF and OpenXML are Structured to Meet Different User Requirements (§2.1.3)
- OpenXML and ODF can and do coexist (§2.1.4)

Each of these is discussed below.

2.1.1 Overlap of ISO/IEC Standards is Common and Can Serve a Practical Purpose

Based on experience, it is quite common to have ISO/IEC standards whose scopes overlap partially or completely. Below are detailed studies of some cases in areas close to this OpenXML discussion. Overlap is warranted when the standards address distinct user requirements and/or allow for diversity and evolution of the technologies.

1. *Document formats* – ODF (ISO/IEC 26300:2006 [ODF]), HTML (ISO/IEC 15445:2003), PDF/A (ISO 19005-1:2005). All of these standards can represent office documents. For example, a simple report

could be prepared in a typical office editing environment using an XML-based format, published to the web in HTML format, and archived as a business record in PDF/A format. Further, the typical office editing environment might use OpenXML for a document whose functionality is consistent with an existing corpus of documents or might use ODF when there is no requirement for full compatibility. All of the formats noted above can exist in a document store as the user requires, without any conflict between them. Tools exist to manipulate and index all these formats, and many tools can save information in any of the named formats.

2. *Vector graphic formats* – CGM (ISO/IEC 8632:1999), SVG as included in ODF. From the 2003 W3C Graphics Activity Statement, "It became apparent that there were two different markets for vector graphics: In one, technical documentation for industry, there was no desire for restylable graphics or for graduated fills, but precise specification of line and hatch styles and use of Computer Graphics Metafile (CGM) was an important requirement. This market had already standardized on CGM, but lacked a vendor-neutral and interoperable hyperlinking mechanism. To satisfy the needs of this market, which covers the aerospace, defense, automotive and electronics industries, the WebCGM profile was developed in collaboration with CGM Open. CGM is an ISO standard for vector graphics. The WebCGM profile adds additional constraints to improve interoperability, defines how hyperlinking works, and defines mechanisms for use in HTML. The other market, graphic design for advertising, clip art, business presentations and general Web use, needs complex fills, restyling, image clipping and manipulation, and re-usable components. For this market, use of CGM was regarded as less important than good integration with XML and other W3C specifications. W3C therefore developed a new standard format for vector graphics, Scalable Vector Graphics (SVG), written in XML and usable as an XML namespace, that matches the needs of content providers and browser vendors alike. It is designed to be stylable, and to work well across platforms, output resolutions, color spaces, and a range of available bandwidths."

3. *Raster image formats* – JPEG (ISO/IEC 10918-1:1994) and PNG (ISO/IEC 15948:2004). JPEG was developed as a compressed format for continuous-tone natural images, such as photographs. Its lossy compression can achieve high compression ratios with relatively moderate loss of quality on typical photographic content. Its lossless compression mode is less efficient. PNG uses a different, lossless compression method that is well suited for preserving sharp edges in images at a specific resolution, as is typical in raster images of drawings and text, although its applicability is considerably broader. Both JPEG and PNG have features, such as progressive rendering, that were designed for Web use. Both JPEG and PNG are broadly supported in Web browsers. Beyond the context of delivery on the Web, JPEG (ISO/IEC 10918-1:1994), JPEG2000 (ISO 15444:2000), and JPEG-LS (ISO/IEC 14495-1:1999) coexist in the arena of continuous-tone color still images. Similarly, JBIG1 (ISO/IEC 11544:1994) and JBIG2 (ISO/IEC 14492:2000) coexist in the arena for bi-level and multi-tone still images suitable for scanned or computer generated text, drawings, half-tone images and palletized colored images (and the combinations thereof). In other words, all the above standards are "tool box" type of standards, with a large degree of overlapping functionalities. Yet they all exist and users choose the most appropriate format based on the nature of the image content and the relative importance of factors such as efficient compression, decoding performance, and fidelity to an original source.

4. *Schema languages* – RELAX NG (ISO/IEC 19757-2:2003), DTD as included in SGML (ISO 8879:1986). Both of these standards can specify how to define the names, structure, and content of the elements and attributes of an XML document. Both standards are widely used, and provide different options for validating content models. For example, a RELAX NG schema specifies a pattern for the

structure and content of an XML document. RELAX NG provides functionality that goes beyond DTDs. In particular, RELAX NG uses XML syntax to represent schemas, supports data typing, integrates attributes into content models, supports XML namespaces, supports unordered content, and supports context-sensitive content models. On the other hand, RELAX NG does not support features of DTDs that involve changing the infoset of an XML document. In particular, RELAX NG does not allow entities to be specified and does not specify whether whitespace is significant.

5. *Prepress Data Exchange* – TIFF/IT (ISO 12369:2004) and PDF/X (ISO 15929:2002, ISO 15930). Both of these standards specify formats that can be used for the submission of graphic materials to publishers, for example, to transmit advertisements for inclusion in magazines. The standards are both widely used because they provide options suitable for different workflows and application environments for graphic arts professionals and printers.

In itself, functional overlap does not represent a problem, and, certainly, it does not represent a "contradiction". Differing requirements for similar tasks may usefully be reflected by multiple standards having some overlap in functionality.

2.1.2 OpenXML Addresses Distinct User Requirements

The OpenXML format standardization effort represent a very focused effort to write down in a standardized way the sum of information used in the already proven domain of existing binary formats while preparing for future enhancements and evolution.

Although OpenXML and ODF are both intended to describe office documents, each is designed to satisfy different user requirements. OpenXML has been designed to be capable of faithfully representing the majority of existing office documents in form and functionality. It is designed to replace existing binary document formats with easily accessible, open formats to meet a wide variety of user needs, formats which capture identical information yet are extensively documented, and can be implemented on a wide variety of operating systems and devices. Meeting this objective, while also satisfying many other goals, imposes stringent requirements on the overall design and architecture of the format. Among the other goals for OpenXML are:

- Open and XML-conformant independence from proprietary formats and features
- Internationalization capabilities
- Compact file size (compared to the binary formats)
- Modularity
- Integration with business data
- Extensibility mechanisms
- Versioning capabilities that allow for forward compatibility
- Provision of accessibility features

See the Explanatory Report included with the DIS submission for details.

In contrast with OpenXML's design goals, according to http://www.oasis-open.org/committees/office/charter.php, ODF was designed to be "suitable for office documents containing text, spreadsheets, charts, and graphical documents," and while it mandates "compatibility with the W3C XML", and suggests that it "should 'borrow' from similar, existing standards wherever possible and permitted." the charter does not list as a requirement, compatibility with the majority of existing documents.

The OpenXML requirement of faithfully representing most existing office documents is very demanding, and it dictated much of the format design. This is because small errors in translating existing office documents to OpenXML could lead to very serious problems in some cases. To illustrate this further, consider the following three usage scenarios:

1. *National library archives*: Just as computers have facilitated document creation and distribution, they have also contributed to explosive growth in the number of documents created. Many of these documents are encoded in proprietary formats that may have dependencies on the specific set of applications, software libraries, operating system, and hardware on which the document was created. Given the pace of change in the IT sector, the ability to display, search, or otherwise understand and interact with electronic documents is at risk of deteriorating much faster than for centuries-old paper documents. These electronic documents can be "restored" by converting them to a fully described open standard file format, as long as it is possible to do the conversion without loss of information, and as long as that standard is designed to facilitate implementation on any operating system and any computing device. As with any library restoration, every detail of the original needs to be carefully preserved, so that future researchers have full access to the content, including details the significance of which may not yet be appreciated. In this case, it is important that documents be converted to a new document format with minimal loss of information. However, gross layout differences can result from the compounding of any inaccuracies in the model employed for relative versus absolute positioning, margins, margin collapse, wrap modes, column layout, table layout, alignment, tabs, line spacing, baseline shifts, word spacing, character spacing, kerning, ligatures, hyphenation, etc. These differences in layout can change the meaning of a document worthy of archiving, since meaning is often conveyed by spatial relationships between elements of a document. The effect of using a format not specifically designed for conversion of legacy office documents will be to re-write history one small data structure at a time.

2. *Mission-critical enterprise systems*: A number of corporations and government agencies rely on existing office documents to help drive mission-critical systems and processes. While conversion to an open format is highly desirable to ensure future maintainability of their systems and to reduce their reliance on a single vendor, it is essential that this be done in a way that does not disrupt their existing operations. A prerequisite is that no information is lost or changed in the conversion. For example, if a spreadsheet function behaves differently after conversion, mission-critical data can be compromised, at great potential cost.

3. *Cross-platform document exchange*: With the proliferation of mobile and fixed computing devices, operating system variants, and software versions, it becomes more and more difficult to exchange documents without losing information. The solution is to translate to an open, documented format that decouples content representation from the system on which it runs. If too much information is lost in a series of translations, the resulting document will be less useful to the user; hence a completely faithful representation of legacy documents is preferable.

2.1.3 ODF and OpenXML are Structured to Meet Different User Requirements

The previous two subsections illustrate that:

- Functional overlap of ISO/IEC standards is common, and is justified when the overlapping standards address different user requirements; and that

- OpenXML meets user requirements that are distinct from those of ODF and of significant material importance to corporations and government organizations worldwide.

In this subsection, we consider the suggestion of harmonization of the two standards. We also consider another suggestion from some NBs that OpenXML and ODF be "merged" into a single format that addresses the user requirements of both. Ecma believes that such suggestions should be discussed in the light of what options provide better interoperability and value for the users.

A first step seems to be consider the availability of translators that convert between the two formats, and that ensure interoperability. Ecma is aware of efforts currently underway to provide these translators in a way that makes them widely usable in a number of open-source and other environments, maximizing the ability of developers and users to employ them in a way that enables OpenXML and ODF to coexist. Ecma applauds these efforts. In fact, members of Ecma TC 45 have been directly involved in some of them (see, for example, the open-source ODF-OpenXML Translator project (http://odf-converter.sourceforge.net/), which is creating bidirectional translators between OpenXML and ODF).

Ecma also believes that the sheer volume of detail provided in the OpenXML standard (more than 6,000 pages) enables implementations of Open XML by multiple parties on multiple platforms and enables products that implement OpenXML to achieve interoperability at a significantly greater level than before.

By contrast, one must recognize that creating a single "merged" format to address the user requirements of both ODF and OpenXML is a much more difficult goal—one that is hindered by fundamental obstacles comparable to what one might encounter while merging HTML and ODF or HTML and PDF. This is because of sheer difference of scope, feature and architecture. Ecma believes that one format cannot simultaneously meet the requirements that would come from the merge of the two formats and the stringent requirements of backward compatibility that drive the design of OpenXML.

First, while both formats share the high-level goal, to represent documents, presentations, and spreadsheets in XML, their low-level goals differ fundamentally. OpenXML is designed to represent the existing corpus of documents faithfully, even if that means preserving idiosyncrasies that one might not choose given the luxury of starting from a clean slate. In the ODF design, compatibility with and preservation of existing Office documents were not goals. Each set of goals is valuable; sacrificing either at the expense of the other may not be in the best interest of users.

Second, the resulting differences are not merely variances in scope that could be resolved by adding capabilities to one or the other. They are structural and architectural in nature. Where functionality overlaps, the corresponding elements nonetheless differ in precise meaning, usage, capabilities, options, and interaction with other elements. Even more importantly, the corresponding elements do not exist in isolation, but are components of whole document models, with different rules and constraints for such things as page/slide layout, flow, style inheritance, event processing, relative positioning, calculation order, formula dependencies, chart construction, graphic templates, animations, and so on. The resulting variations are not merely cosmetic. They compound to create qualitative disparities that, although perfectly acceptable for much of the user base, can be significant for organizations that require high fidelity in layout, content, or editability. Differences between the implicit page style model of ODF and the explicit page style model of OpenXML, differences in the models for splitting table cells, differences in the style information associated to spreadsheet cells, and differences in the full formula specification used also in spreadsheets are only small examples of the hundreds of explicit design

1 decisions that were taken to ensure that the information included in the existing formats are represented

2 faithfully in the OpenXML format.

3 In practice, a single format capable of expressing both document models would look very much like the union of

4 OpenXML and ODF, with the provision that mixing document models is not allowed in instance documents.

5 This is effectively the same as having two separate standards; a disjoint union of the two would serve no

6 additional purpose. Further, any attempt to create a minimal intersection of the functionalities of both document

7 formats would most definitely not meet the user requirements addressed in OpenXML, and likely not meet the

8 needs addressed in ODF.

9 Differences between OpenXML and ODF are somewhat analogous to natural language differences, in the sense

10 that it is possible to translate from one to the other, but differences exist in context and manner of expression.

11 Just as natural language dictionaries can come in any size and level of detail, depending on how fully they

12 capture unique subtleties and detail of meaning, file format specifications can also vary tremendously in size.

13 The very detailed descriptions for OpenXML were included to ensure that stringent real-world requirements on

14 capturing legacy content could be met consistently by many vendors on many platforms.

15 Ecma believes that interoperability is best achieved practically in this particular case by organizing the co-

16 existence of the OpenXML and ODF formats, by using translators, and by providing extensive detailed

17 documentation in the OpenXML standard to enable different products to implement OpenXML. As detailed

18 below, Ecma is already aware that a number of vendors are implementing OpenXML and ODF support in their

19 products.

20 **2.1.4 OpenXML and ODF Can and Do Coexist**

21 As mentioned, Ecma is already aware of many products that will support both ODF and OpenXML: OpenOffice

22 supports both ODF and OpenXML (due to Novell, which integrated the OpenXML support[1]), Sun is working on

23 a new spreadsheet import filter for the Calc project,[2] Corel announced support for both ODF and OpenXML in

24 Wordperfect, the open-source Gnumeric project is implementing both ODF and OpenXML, and Microsoft

25 implemented OpenXML in Microsoft Office 2007, provided free OpenXML updates for older versions of Office

26 such as Office 2000, Office XP and Office 2003 and sponsored an ODF Translator (and finalized a Word add-in

27 January 2007) that enables all those versions of Office to read and write ODF files.

28 This shows that today, both formats can co-exist, that it is possible to install applications that implement the

29 OpenXML and ODF specifications on the same computer system and to install software that translates in a

30 bidirectional, useful way between the two in a way that meets users' needs. This way, the issue of formats is of

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[1] http://www.novell.com/news/press/item.jsp?id=1248&locale=en_US states: "Novell today announced that the Novell(r) edition of the OpenOffice.org office productivity suite will now support the Office Open XML format, increasing interoperability between OpenOffice.org and the next generation of Microsoft Office ..."
[2] http://blogs.sun.com/GullFOSS/entry/office_open_xml_import_filter, titled "OpenOffice.org Engineering at Sun" states: "The development of a new spreadsheet import filter has been started in the Calc project. This filter will be able to read the Office Open XML file format for spreadsheets introduced in Microsoft Office 2007."

less concern to most users, as translators provide for effective interoperability between them. Translators exist between OpenXML and ODF, as well as between other formats.

As discussed above, OpenXML and ODF were designed to meet different user requirements, and therefore support different functionality. Additionally, users often translate documents in a way that stores only the information needed for the new purpose. For example, one might convert ODF or HTML to PDF to lock in a particular view of a document, suitable for printing or read-only distribution. This conversion intentionally loses the information needed for further editing of the document, or for the application of different style sheets. The co-existence of these formats allows users to capture information in a manner ideally suited for each of a number of different purposes. Translators designed for different purposes allow for re-purposing of content through translation and storage of just the information of relevance to each purpose.

2.2   Intellectual Property Rights (IPR)

Comment source: Denmark, Finland, Japan, Kenya, Norway, and the United Kingdom.

All IPR matters should be referred to ITTF, as prescribed in the JTC 1 Directives for the Fast-Track process. Ecma has the following comments:

- Contributions to Ecma were made under the Ecma Code of Conduct in Patent Matters, which we believe to be in line with ISO/IEC IPR policy.
- As a member of Ecma, Microsoft has made information available to Ecma regarding any essential patent claims Microsoft may have in connection with ECMA-376, and this declaration was provided to JTC 1 together with the Fast-Track document.
- Ecma has been informed by ISO that Microsoft has also submitted to the ISO Central Secretariat a Patent Declaration Form related to licensing of any of its essential patent claims that are necessary to implement DIS 29500.
- Pursuant to such Patent Declaration Form, Microsoft has provided assurances to ITTF that any such essential claims vis-à-vis DIS 29500 will be available for full or partial implementations under three different approaches (from which an implementer can select). These options include Microsoft's Open Specification Promise (see http://www.microsoft.com/interop/osp/default.mspx), Microsoft's Covenant http://office.microsoft.com/en-us/products/HA102134631033.aspx) and a royalty-free Reasonable And Non-Discriminatory (RAND) license.

The OSP enables both open source and commercial software to implement DIS 29500. See http://www.microsoft.com/interop/osp/default.mspx#EZCAC for statements from the open source community.

2.3   ISO/IEC JTC 1 Directives

[Note: The version of these directives in force at the time the OpenXML Fast Track began is specified in ISO/IEC JTC 1 N8239, "Proposed New Clause 13 to the ISO/IEC JTC 1 Directives". The 90-day Letter Ballot that resulted in the adoption of this version ended 2006-10-30.]

2.3.1 Definition of Contradiction

Comment source: Australia, France, Italy, and the United Kingdom.

Ecma appreciates the difficulty of interpreting the term *contradiction* in the absence of a formal definition, and notes that several NBs have raised this point. Ecma agrees with the distinction offered by Australia between *significant contradictions* and *anomalies and inconsistencies*, as well as its request for "clarification of how widely the doctrine of inconsistency is to be applied." Ecma is grateful to France for the thorough consideration of the possible meanings of *contradiction*. Ecma itself has been faced with this discussion as well in the context of the revision of the JTC 1 Directives, and submitted examples of possible contradictions at that time. (See document JTC 1 N8206.)

The meaning of the term *contradiction* is JTC 1's to resolve, and Ecma will bring its contribution to that discussion when, as an A-liaison to JTC 1, its comments are sought as part of the JTC 1 process. However, Ecma would like to point that contradiction seems a strong word for the current situation regarding file formats: At the moment, several document file formats already coexist in the standards arena (e.g., ODF, HTML, and PDF/A)—with others possibly yet to come (e.g., UOF, PDF, and OpenXML)—and translators are either available or in development that enable the peaceful and even productive coexistence and interoperability of these formats. In particular, Ecma is aware of translators between ODF and OpenXML. Ecma also notes that some of its members are implementing both ODF and OpenXML in their products, thereby demonstrating such interoperability is indeed a reality that meets customers' needs.

2.3.2 Length of Review Period

Comment source: Australia, Czech Republic, Finland, India, Kenya, Norway, Sweden and the United Kingdom.

A number of NBs expressed concern that the 30 days allocated to the "perceived contradictions" period was too short, considering the large page count of the standard. Ecma points out that the length of this period is fixed by the JTC 1 Procedures. In any event, Ecma offers the following considerations:

1. Although the term *contradiction* is not defined in the JTC 1 or ISO/IEC procedures (as noted by several NBs), it may be that the 30-day review period was intended to express "perceived contradictions" at the level of the scope of the standard, while more detailed and in-depth comments are intended to be submitted during the subsequent 5-month ballot.
2. Ecma made interim drafts of its standard public (i.e., to non-Ecma members as well as to JTC 1/SC 34, which distributed these drafts as well) on the Ecma web site, starting in May 2006, and provided a channel for public comments and questions.
3. Ecma established a liaison with JTC 1/SC 34 early in the standards process—Ecma delegates participated in the ISO/IEC JTC 1/SC 34 Plenary and WG Meetings from 2006-05-29 to 2006-06-01 in Seoul, Republic of Korea—and has kept SC 34 informed of the availability of draft documents so that NBs could be informed of this effort as early as possible. SC 34 provided several comments. Several SC 34 participants and invited experts, Rick Jelliffe and Murata Makoto (Relax NG and NVDL experts), made significant contributions to OpenXML with respect to the representation of the OpenXML schema in Relax NG (ISO/IEC 19757-2) and in expressing the extensibility functionality of Part 5 of the OpenXML DIS using NVDL (ISO/IEC 19757-4).
4. The document "Office Open XML Overview", distributed as part of the Fast Track submission as an Explanatory report, provides a high-level, but detailed enough (14 page) description of the proposed standard. This document was intended to facilitate the review and to alleviate the length-related concern, since it summarizes the standard, allowing readers to:

- Understand the purposes of OpenXML, and the structure of its specification,
- Know its properties: how it addresses backward compatibility, preservation, extensibility, custom schemas, subsetting, multiple platforms, internationalization, and accessibility, and
- Learn how to follow the high-level structure of any OpenXML file, and navigate quickly to any portion of the specification from which further detail is required.

2.4 Missing Annexes

Comment source: Denmark, Kenya, and Norway.

ECMA-376 has six annexes, all of which exist in electronic format only. Due to an oversight by Ecma staff, these annexes were not included in the set of files provided to JTC 1 for the Fast Track process. However, once JTC 1 brought this to the attention of Ecma, these annexes were made available to JTC 1.

The annexes are text files that contain XML source or XML schemas, and are intended for consumption by tools and not by human readers. As such, Ecma believes that a review of them is best left to the 5-month ballot.

2.5 Consistency with Existing ISO and ISO/IEC Standards

2.5.1 ISO 216 (paper sizes)

Comment source: Kenya and Singapore

The paper size enumerations in OpenXML are not in contradiction with ISO 216 as the enumerations include values for common use ISO 216 paper sizes as well as paper, envelope, fanfold, and specialty dimension media in common use and applicable within the specifications' scope and context. The paper size enumerations are documented within, and maintained as part of OpenXML. Any other aspects of the perceived contradictions related to paper size are matters for the 5-month ballot.

2.5.2 ISO 639 (language name codes)

Comment source: Australia, Canada, Denmark, France, Malaysia, Singapore, and the United Kingdom.

Comments suggesting a contradiction with ISO 639 appear to be based on a misunderstanding of the specification. OpenXML actually makes full use of the ISO 639-1 standard. The part of the specification in question, where the **ST_LangCode** simple type is defined (§2.18.52), lists approximately 225 values for different languages; however, that list is *not* used directly by any element or attribute within the specification. Instead, it is used by a separate simple type, **ST_Lang**, as defined in §2.18.51. The **ST_Lang** simple type is defined as being *either* a string that is an ISO 639-1 letter code plus a dash plus an ISO 3166-1 alpha-2 letter code, *or* the **ST_LangCode**. The use of the ISO 639-1 letter code style is the primary use, and the **ST_LangCode** model is a fallback alternative if the producer would rather use the hexadecimal values as defined in §2.18.52. As such, Ecma sees no contradiction with ISO 639-1.

2.5.3 ISO 8601 (date/time representation)

Comment source: Australia, Canada, Denmark, France, Kenya, Malaysia, Norway, Singapore, and the United Kingdom.

OpenXML provides a file format that allows numbers to be formatted as dates, including ISO 8601 date

formats, as well as allowing those numbers to be used in both date and other numeric formulas as is normal for

spreadsheets.

OpenXML supports two systems for converting numbers to their date format representations:

1. The *1900 date base system* represents the technical decisions, including technical errors, of a prominent early spreadsheet implementation, namely, Lotus 1-2-3™. This representation provides legacy compatibility.
2. The *1904 date base system* that correctly reflects Gregorian calendar dates.

thus OpenXML does not contradict ISO 8601 or the Gregorian calendar.

Although OpenXML 's SpreadsheetML might support dates in a range smaller than that permitted by ISO 8601, Ecma does not see that this is a contradiction of that standard.

2.5.4 ISO 8879 (SGML)

Comment source: Kenya

Concern was expressed that OpenXML is not humanly readable, citing terse names of XML tags and attributes and suggesting a contradiction with SGML, a precursor to XML.

Numerous popular SGML and XML languages employ terse tag and attribute names. For example:

- HTML 4 and XHTML 1.1 contains tag names such as **\<a\>**, **\<b\>**, **\<bdo\>**, **\<br\>**, **\<dd\>**, **\<dl\>**, **\<dt\>**, **\<em\>**, **\<h1\>**, **\<h2\>**, **\<h3\>**, **\<h4\>**, **\<h5\>**, **\<h6\>**, **\<hr\>**, **\<i\>**, **\<kbd\>**, **\<li\>**, **\<ol\>**, **\<p\>**, **\<q\>**, **\<s\>**, **\<td\>**, **\<th\>**, **\<tr\>**, **\<tt\>**, **\<u\>**, and **\<ul\>**.
- In SGML languages, start or end tags can be optional, and even tag names can be optional when they can be deduced by the parser with the help of the DTD.

Like any other XML language, OpenXML addresses the need to clearly distinguish content from markup, and OpenXML files are frequently edited by human authors. Ecma does not see a contradiction here. OpenXML is a technical markup standard. Many of the elements and attributes defined by it have precise technical definitions. The XML basis enables human authors to read and manipulate these elements, but understanding them may require reference to the specification.

2.5.5 ISO/IEC 8632 (picture metafile)

Comment source: Australia, Canada, Denmark, France, Malaysia, Norway, Singapore, and the United Kingdom.

To clarify, OpenXML documents can contain embedded graphics files in any format, including Computer Graphics Metafiles (ISO/IEC 8632).

In the specific comments about ISO/IEC 8632, two sections in the specification, §6.2.3.17, "Embedded Object Alternate Image Request Types" and §6.4.3.1, "Clipboard Format types" were mentioned as making reference to Windows Metafiles and Enhanced Metafiles. These clauses name Windows Metafiles and Enhanced Metafiles as possible values in enumerated lists; the specification does not require that they be used.

The first clause in question (§6.2.3.17) allows for any graphic format, including a Computer Graphics Metafiles file.

The other clause in question (§6.4.3.1) is not used for the actual display or rendering of the object, but instead, suggests an application behavior. The suggested behavior is whether there is a specific format to be used if the item is placed on the clipboard. The types of formats to be specified allow for any graphic format, including a Computer Graphics Metafiles file.

Some NBs indicated that perceived contradictions with ISO/IEC 8632 had been reported but did not elaborate further.

Issues related to perceived contradictions with the Computer Graphics Metafile standard are appropriate for discussion during the 5-month ballot.

2.5.6 ISO/IEC 10118-3 (security hash-functions)

Comment source: Denmark

OpenXML does *not* use hash functions for security purposes. Instead, they are used as an obfuscation mechanism for preventing passwords from being reverse engineered based on the hash. This approach in no way contradicts with ISO/IEC 10118-3:2005 as it does not prevent that standard's use on the same system and it enables compatibility with legacy documents. If there is any disagreement on the technical approach used in the password hash, however, that should be addressed during the 5-month ballot.

2.5.7 ISO/IEC 15445 (HTML)

2.5.7.1 Color Names

Comment source: Kenya and Malaysia

The perceived contradiction here is between the color names used in two particular sections of OpenXML and those used in HTML and SVG (as defined at http://www.w3.org/TR/SVG/types.html#ColorKeywords).The enumerated list of values for **ST_PresetColorVal** in §5.1.12.48 of OpenXML use abbreviated forms of SVG color names as follows:

- **dark** is abbreviated **dk**
- **light** is abbreviated **lt**
- **medium** is abbreviated **med**

The use of these abbreviations is not a contradiction of SVG, but an equivalent technical convention.

The enumerated list of values for **ST_HighlightColor** in §2.18.46 specifies the RGB values intended for use as text highlighting colors that are compatible with legacy documents. The associated color names in this context do deliberately vary from the SVG color names for the equivalent RGB values. This choice was made to convey more meaningful highlighting color names—one name for a normal highlight color, and a related name for its dark highlight color.

As used in OpenXML, the highlight color names are:

- **red** and **darkRed**
- **green** and **darkGreen**
- **blue** and **darkBlue**
- **yellow** and **darkYellow**
- **cyan** and **darkCyan**
- **magenta** and **darkMagenta**
- **lightGray** and **darkGray**
- **white** and **black**

If these same pairings were to use SVG color names matching the RGB values stated in the specification for backwards compatibility, the highlight color names would instead be:

- **red** and maroon
- **lime** and **green**
- **blue** and **navy**
- **yellow** and **olive**
- **cyan** and **teal**
- **magenta** and **purple**
- **silver** and **gray**
- **white** and **black**

The former was favored not as a contradiction of SVG color names, but as a technical preference to the latter, less meaningful highlight color naming.

Both of these perceived contradictions are matters for the 5-month ballot.

2.5.7.2   Percentage

Comment source: Kenya and Malaysia

The perceived contradiction here is between the treatment of percentages used in certain sections of the OpenXML specification and those used in HTML.

In §2.15.1.95, "zoom (Magnification Setting)", §2.18.97, "ST_TblWidth (Table Width Units)", and §5.1.12.41, "ST_Percentage (Percentage)", the percentage values allowed have been limited to integers to permit efficient parsing and processing. (Use of the % symbol and allowing non-integer decimal values would introduce parsing complexity.)

In §2.18.85, "ST_Shd (Shading Patterns)", the enumerated set of shading patterns includes patterns other than shading densities. The names for the patterns that do represent shading densities are considered names rather than percentage values intended for calculation.

These perceived contradictions are matters for the 5-month ballot.

2.6   Undocumented Legacy Features

Comment source: Kenya, Singapore, and United Kingdom.

Several NBs claimed that a number of legacy tags are undocumented. These include autoSpaceLikeWord95, footnoteLayoutLikeWW8, mwSmallCaps, shapeLayoutLikeWW8, suppressTopSpacingWP, truncateFontHeightsLikeWP6, uiCompat97To2003, Word2002TableStyleRules, useWord97LineBreakRules, wpJustification, and wpSpaceWidth.

The settings in question are indeed in use in real world documents, which is why the committee chose to include them in the standard. The presence of these elements in a file indicate that the application to last save the file was using the behavior specified.. The consuming application has the ability to choose to also use that same behavior or to instead choose to ignore it (potentially notifying the end user). The benefit of defining the syntax and basic description of the element in the OpenXML standard is that it gives applications a well-defined syntax for specifying these settings.

The vast majority of document settings (of which there are close to 200 for WordprocessingML alone) are fully defined in the OpenXML specification. There were a small subset of settings that specified layout behaviors that shouldn't be fully documented in the specification, and those are the elements in question. Other features, such as paragraph justification are also present in the standard, but the algorithms for creating the "ideal" paragraph justification are not. This is common practice because applications can innovate to create more optimum justification algorithms, and it would not be appropriate for the standard to limit such innovation. Instead, the goal of paragraph justification is described, and the algorithms are then left to the implementer to create. This is the same approach taken in other ISO standards such as ODF. As one would expect, Ecma decided that it was still worthwhile to include this subset of document settings in the standard. Not including them would have lowered the level of interoperability of the standard.

ODF contains support for the exact same facility, although defined in a way that is less interoperable than OpenXML. ODF defines an element called "config-item" that enables applications to extend the format in application specific ways for storing certain settings. For example, OpenOffice stores in an ODF document the following information:

```
<config:config-item config:name="UseFormerLineSpacing"
  config:type="boolean">false</config:config-item>
```

This indicates that the OpenOffice application that created the ODF document was using a line-spacing behavior that was used in older versions of OpenOffice. The only difference between OpenXML and ODF is that OpenXML attempts to completely define the list of behaviors allowed (e.g., "useWord97LineBreakRules") while still allowing for extensibility. ODF instead forces each application to create its own proprietary string (e.g., "UseFormerLineSpacing"). The ODF committee chose to exclude the list of settings (many of which are commonly used in a variety of applications) from the ODF standard, which has resulted in a large number of separately defined application specific settings which is an actual barrier to interoperability. For example, the following are a small selection of properties that OpenOffice saves into ODF using application specific settings (all of which affect the display of the document):

- ChartAutoUpdate - specifies if charts in text documents are updated automatically.
- AddParaTableSpacing - specifies if spacing between paragraphs and tables is to be added.

- AddParaTableSpacingAtStart - specifies if top paragraph spacing is applied to paragraphs on the first page of text documents.
- AlignTabStopPosition - specifies the alignment of tab stops in text documents.
- SaveGlobalDocumentLinks - specifies if the contents of links in the global document are saved or not.
- IsLabelDocument - specifies if the document has been created as a label document.
- UseFormerLineSpacing - specifies if the former (till OpenOffice.org 1.1) or the new line spacing formatting is applied.
- AddParaSpacingToTableCells - specifies if paragraph and table spacing is added at the bottom of table cells
- UseFormerObjectPositioning - specifies if the former (till OpenOffice.org 1.1) or the new object positioning is applied.
- ConsiderTextWrapOnObjPos - specifies if the text wrap of floating screen objects are considered in a specified way in the positioning algorithm.

The above settings all affect how the document is rendered, and not a single one of them is defined in the ODF specification. They are unique to OpenOffice, and someone would need to go look at the OpenOffice documentation if they wanted to display the document in exactly the same way.

As already discussed, the OpenXML committee chose to take a different route in defining document settings. If, however, it is decided that more documentation should be provided on the elements in question, or if the elements should be removed from the standard, that is a more appropriate matter for the 5-month ballot, and is not, in fact, a contradiction.

Regarding the lack of description of "OLE, macros/scripts, encryption, and DRM", while the level of documentation is not an issue of contradiction, it is important to point out that implementing OpenXML places no requirements on support for proprietary technologies. Macros, encryption, and DRM are not used in the OpenXML specification, and therefore no further documentation is necessary for full compliance. OLE is referenced within the OpenXML specification, but as an example method for embedding objects from external applications. There is no requirement that OLE be used as the technology for such embedding. This is similar to the ODF standard (§9.3.3) where the <draw:object-ole> element is defined.

3. Responses to NB Comments

A detailed extract of the text of each NB's submission is contained in §5, "Extracts from the Original NB Comments", where each separate comment was assigned a sequential NB-specific name (i.e., AU01, AU02, and AU03 are the first three comments from Australia). For unique comments, Ecma's response addresses that comment. For similar or related comments submitted by multiple NBs, Ecma's response refers to the relevant clause in §2, "Responses to Common Issues", and, in some cases, also includes other text, as appropriate.

3.1 Australia

Issue AU01 (§5.1.1): Ecma concurs with Australia's acknowledgements and is grateful to Australia for its level of interest in the DIS' subject matter.

Issue AU02 (§5.1.2): For a detailed discussion of this issue, see §2.1 and its subclauses.

Issue AU03 (§5.1.3): For a detailed discussion of the document size/review period length issue, see §2.3.2.

Issue AU04 (§5.1.4): Ecma is grateful to Australia for its level of interest in the DIS' subject matter.

Issue AU05 (§5.1.5): For a detailed discussion of this issue, see §2.1 and its subclauses, §2.5.3, §2.5.5, and §2.5.2.

Issue AU06 (§5.1.6): For a detailed discussion of this issue, see §2.3.1.

Issue AU07 (§5.1.7): It is Ecma's understanding that the 5-month ballot provides the right framework for the "many technical questions raised by this document".

Issue AU08 (§5.1.8): Regarding SC 34 involvement, Ecma established a liaison with SC 34 in June 2006, so SC 34 may have already had the opportunity to starting such discussions.

3.2 Canada

Issue CA01 (§5.2.1): For a detailed discussion of this issue, see §2.1 and its subclauses, §2.5.3, §2.5.2, and §2.5.5.

Issue CA02 (§5.2.2): Ecma has carefully considered the questions raised by NBs, and provided detailed answers to all of them. Ecma hopes that these answers are satisfactory, and is ready to provide further information should it be required.

3.3 Czech Republic

Issue CZ01 (§5.3.1): For a detailed discussion of the document size/review period length issue, see §2.3.2.

Issue CZ02 (§5.3.2): Ecma has carefully considered the questions raised by NBs, and provided detailed answers to all of them. Ecma hopes that these answers are satisfactory, and is ready to provide further information should it be required.

Issue CZ03 (§5.3.3): Ecma is an open body and welcomes direct participation from all interested parties. Ecma has also put in place mechanisms to allow participation from non-Ecma members during development of its standards (§2.3.2), including making drafts available to non-members, opening a comments channel and liaising with JTC 1/SC 34 early in the process. Maintenance and evolution of the standard will be done jointly between JTC 1 and Ecma. Ecma believes that these measures allow all interested parties to participate to the discussion.

The Fast-Track and PAS processes are recognized by JTC 1 as being very beneficial to the end-user community, as they speed up the adoption process for standards; Specifications developed outside of JTC 1 and brought into JTC 1 through a very precise and controlled process are of great value to JTC 1 and to its broad user audience. Many specifications, including ODF and PDF/A, have been brought into JTC 1 in this manner.

3.4   Denmark

Issue DK01 (§5.4.1): For a detailed discussion of this issue, see §2.1 and its subclauses.

Issue DK02 (§5.4.2): For a detailed discussion of this issue, see §2.5.5, §2.5.2, §2.5.3, and §2.5.6.

Issue DK03 (§5.4.3): For a detailed discussion of this issue, see §2.4.

Issue DK04 (§5.4.4): For a detailed discussion of this issue, see §2.2.

Issue DK05 (§5.4.5): Ecma fully agrees that the 5-month ballot will allow for "a clearer view" of the proposal; indeed this 5-month ballot will allow for an in-depth review of any technical question that may arise.

3.5   Finland

Issue FI01 (§5.5.1): For a detailed discussion of the document size/review period length issue, see §2.3.2.

Ecma acknowledges the concern regarding the complexity of the topics covered by these specifications. However, we believe that the 5-month ballot will give enough time to all interested parties to perform the level of review that each NB considers appropriate.

The standardization of OpenXML in Ecma was performed by a very motivated team of experts in TC 45, which included representatives from Apple, Barclays Capital, BP, The British Library, Essilor, Intel, Microsoft, NextPage, Novell, Statoil, Toshiba and the Unites States Library of Congress. The standardization work was intensive and was conducted along a strict process ensuring high quality of the deliverables. When the Ecma General Assembly approved the outcome of this effort in December 2006, the near-unanimous vote acknowledged the quality and efficiency of the work done in TC 45, and commended Ecma TC 45 members for their extraordinary achievement.

Regarding public visibility, Ecma has also put in place mechanisms to allow participation from non-Ecma members during development of its standards (§2.3.2), including making drafts available to non-members, opening a comments channel and liaising with JTC 1/SC 34 early in the process.

Issue FI02 (§5.5.2): For a detailed discussion of the IPR issue, see §2.2.

Issue FI03 (§5.5.3): For a detailed discussion of the harmonization issue, see §2.1.3; for a detailed discussion of the size issue, see §2.3.2.

3.6   France

Issue FR01 (§5.6.1): For a detailed discussion of the definition of "contradiction", see §2.3.

Ecma is grateful to France for the thorough consideration of the possible meanings of *contradiction*, and believes that this piece of work could be of great interest for JTC 1.

Ecma concurs with France and "agrees that coexistence is possible" between OpenXML and ODF; see §2.1.4.

Issue FR02 (§5.6.2): For a detailed discussion of this issue, see §2.1 and its subclauses.

Issue FR03 (§5.6.3): For a detailed discussion on these "potential lack of consistency" issues, see §2.5.3, §2.5.5, and §2.5.2.

3.7   Germany

Issue DE01 (§5.7.1): For a detailed discussion of this issue, see §2.1 and its subclauses.

Issue DE02 (§5.7.2): For a detailed discussion of the document size/review period length issue, see §2.3.2.

Issue DE03 (§5.7.3): Ecma acknowledges the concerns expressed regarding the user requirements that are satisfied by OpenXML (and ODF, respectively).

With respect to "having two Standards serving basically the same user requirements", Ecma respectfully points out that the user requirements underlying ODF, OpenXML, PDF/A, PDF, and HTML, seem to be significantly different.

For a detailed discussion of harmonized standards, see §2.1.3.

3.8   Hungary

Hungary abstained (§5.8); no comments were submitted.

3.9   India

Issue IN01 (§5.9.1): The review period is fixed at 30 days by the JTC 1 Directives. For a detailed discussion of the document size/review period length issue, see §2.3.2.

3.10 Italy

Issue IT01 (§5.10.1): Italy has been unable to assess the existence of contradictions of ISO/IEC DIS 29500 to JTC1, ISO or IEC standards. For a detailed discussion of the definition of "contradiction", see §2.3.1.

3.11 Japan

Issue JP01 (§5.11.1): Ecma notes Japan's "expectation that the DIS will obtain the broad international support".

Issue JP02 (§5.11.2): Ecma acknowledges the concern behind this comment, and agrees that OpenXML and ODF might be seen as "competing". For a detailed discussion of this issue, see §2.1 and its subclauses. Ecma believes that, in the future, JTC 1 should play a leading role in the future of these standards. Ecma confirms its

1 collaborative stance with JTC 1 for the maintenance and the future evolution of OpenXML upon approval under
2 the JTC 1 process.

3 Issue JP03 (§5.11.3): Microsoft's offer concerning its essential patent claims under the OSP (and the other two
4 options identified in Microsoft's Patent Declaration Form) satisfies the requirements of the ISO/IEC patent
5 policy. The OSP and the Covenant (at the option of the implementer) apply in case of a full or partial
6 implementation; the promise is irrevocable in both cases. The promise enables both open source and commercial
7 software to implement DIS 29500.

8 Starting with the OpenXML schemas, a user can create a derivative schema and rely on the OSP or the
9 Covenant to cover the implementation of the part of DIS 29500 that is being used in the derivative schema. The
10 user creating a derivative schema owns the intellectual property in the actual extensions that they are adding on
11 top of the standard; they are allowed to assert their own rights regarding that added intellectual property, and can
12 distribute as needed.

3.12 Kenya

14 Issue KE01 (§5.12.1): Ecma notes the difficulties faced by Kenya. In addition to the comments regarding the
15 length of the review period (see §2.3.2), Ecma points out that the specifications are freely available on the
16 ISO/IEC and Ecma web sites, if this facilitates access.

17 Regarding "not leveraging on any other well known specification in ISO", Ecma would like to point to
18 Chapter 4.1, "Interoperability", of the Explanatory Report.

19 The standardization of OpenXML in Ecma was performed by a very motivated team of experts in TC 45, which
20 included representatives from Apple, Barclays Capital, BP, The British Library, Essilor, Intel, Microsoft,
21 NextPage, Novell, Statoil, Toshiba and the Unites States Library of Congress. The standardization work was
22 intensive and was conducted along a strict process ensuring high quality of the deliverables. When the Ecma
23 General Assembly approved the outcome of this effort in December 2006, the near-unanimous vote
24 acknowledged the quality and efficiency of the work done in TC 45, and commended Ecma TC 45 members for
25 their extraordinary achievement.

26 Issue KE02 (§5.12.2): For a detailed discussion of this issue, see §2.5.3.

27 Issue KE03 (§5.12.3): For a detailed discussion of this issue, see §2.1 and its subclauses.

28 Issue KE04 (§5.12.4): For a detailed discussion of this issue, see §2.5.7.2.

29 Issue KE05 (§5.12.5): For a detailed discussion of this issue, see §2.5.7.1.

30 Issue KE06 (§5.12.6): For a detailed discussion of this issue, see §2.5.4.

31 Issue KE07 (§5.12.7): For a detailed discussion of this issue, see §2.5.1.

32 Issue KE08 (§5.12.8): Regarding the quality of the proposed standard, Ecma is very much aware of the
33 requirements placed by ISO and IEC on the quality of standards. In fact, Ecma has fast-tracked more than 200
34 standards, and has more than 25 years of close collaboration with JTC 1. Although submitted Fast-Track
35 documents are *not* required by JTC 1 Directives to be in ISO/IEC format (only subsequent revisions need to be,

see JTC 1 Directives Clause 13.14, "Subsequent revisions shall be in the format prescribed by the ISO/IEC Directives Part 2."), Ecma takes the utmost care in preparing its standards for JTC 1Fast Track. If precise examples of "inconsistent use of terminology" are presented, Ecma will do what it can to resolve such inconsistencies during the 5-month ballot.

Issue KE09 (§5.12.9): For a detailed discussion of this issue, see §2.4.

Issue KE10 (§5.12.10): The settings in question are indeed in use in real-world documents. For a detailed discussion of this issue, see §2.6.

Issue KE11 (§5.12.11): Ecma is not in a position to comment on any legal issue, including possible antitrust actions considered by the European Commission, and Ecma considers that these issues are not relevant in the standardization context as long as the Ecma code of conduct is adhered to (which we believe it is).

Issue KE12 (§5.12.12): For a detailed discussion of this issue, see §2.1.3 and §2.1.4. Regarding the "precedence with Chinese UOF (Unified Office Format), which is currently undergoing harmonization with ISO 26300", Ecma would be very interested in getting more information on this "harmonization" process between UOF and ODF, as it apparently is not happening within any ISO/IEC JTC 1 activity. From external sources (see the blog from Rob Weir, IBM, at http://www.robweir.com/blog/labels/UOF.html), Ecma notes this discussion of harmonization:

"On the technical side there is some important progress on harmonization, some preparatory work done in a joint research program between Peking University and IBM. The results of this year-long effort are now available:

- A 150-page report (in English and Chinese) called "A Comparison Between ODF and UOF". This document compares the two standards feature-by-feature and explains how to map data between the two.
- A UOF-ODF Translator, an open source Java-based tool, licensed under the LGPL, which provides bi-directional conversions of the three office document types (word processor, spreadsheet and presentation)."

The OASIS Open Document TC does not list any current specific activity regarding harmonization with UOF although it appears that a draft charter was offered for it in Sept 2006.

Ecma notes from these external sources that translators are being developed between UOF and ODF; in a similar way, translators are also being developed between ODF and OpenXML. For a detailed discussion of a harmonization process, see §2.1.3.

While Microsoft made a significant contribution to the development of ECMA-376, it is important to note that the initial draft received considerable contributions through the work of Ecma TC 45 and as a result grew from approximately 2,000 to 6,000 pages, which constitutes the current Ecma standard. Additionally, the standard is available for implementation on all platforms; indeed both Corel and Novell have announced support for Open XML in their Wordperfect and OpenOffice products, respectively. Several other implementations of OpenXML are available today.

Issue KE13 (§5.12.13): Annex N of the JTC 1 Directives applies to International Standards developed by JTC 1 subcommittee, using the five-stage process, and not to documents submitted through Fast Track. As such, this comment is not relevant to the OpenXML submission.

3.13 Malaysia

Issue MY01 (§5.13.1): For a detailed discussion of this issue, see §2.5.3.

Issue MY02 (§5.13.2): For a detailed discussion of this issue, see §2.5.2.

Issue MY03 (§5.13.3): For a detailed discussion of this issue, see §2.5.5.

Issue MY04 (§5.13.4): For a detailed discussion of this issue, see §2.5.7.2.

Issue MY05 (§5.13.5): For a detailed discussion of this issue, see §2.5.7.1.

3.14 Netherlands

The Netherlands abstained (§5.14); no comments were submitted.

3.15 New Zealand

Issue NZ01 (§5.15.1): For a detailed discussion of this issue, see §2.1 and its subclauses. Ecma notes the concern regarding confusion for users, and lack of interoperability. Ecma is aware that there are already several format standards that may overlap partially in scope yet which address different user requirements, and this can also be seen as a benefit to the user. Regarding the lack of interoperability, translators allowing for the coexistence and interoperability between formats are either already available or under development. Some Ecma members are developing products that implement both ODF and OpenXML, and which offer interoperability between these two formats.

3.16 Norway

Issue NO01 (§5.16.1): Ecma acknowledges the difficulties expressed by Norway. For a detailed discussion of the document size/review period length issue, see §2.3.2.

Issue NO02 (§5.16.2): It is Ecma's understanding that this will be achieved by the 5-month ballot.

Issue NO03 (§5.16.3): For a detailed discussion of this issue, see §2.1 and its subclauses, §2.5.3 and §2.5.5.

Issue NO04 (§5.16.4): For a detailed discussion of this issue, see §2.4.

Issue NO05 (§5.16.5): Norway suggests there may be patent issues, but does not identify such issues. For a detailed discussion of IPR issues, see §2.2.

Issue NO06 (§5.16.6): Ecma concurs that OpenXML covers areas that ODF does not, and that these areas are very important for many users with considerable legacy in office documents.

Issue NO07 (§5.16.7): According to the directives, during the 5-month ballot, each NB will produce its own set of technical comments. At the end of that time, the complete set of comments will be circulated to all NBs. This set of comments should provide the same information that Norway requests here in table form. Those comments

will then be addressed at the Ballot Resolution Meeting. By the time NBs cast their vote on the DIS, all reported comments will have been presented.

3.17 Romania

Romania agreed with the project as it is (§5.17). Ecma notes the support of Romania.

3.18 Singapore

Issue SG01 (§5.18.1): For a detailed discussion of this issue, see §2.1 and its subclauses.

Issue SG02 (§5.18.2): For a detailed discussion of this issue, see §2.5.3.

Issue SG03 (§5.18.3): For a detailed discussion of this issue, see §2.5.2.

Issue SG04 (§5.18.4): For a detailed discussion of this issue, see §2.5.5.

Issue SG05 (§5.18.5): For a detailed discussion of this issue, see §2.6.

Issue SG06 (§5.18.6): For a detailed discussion of this issue, see §2.5.1.

Issue SG07 (§5.18.7): Ecma understands the concern expressed. As explained in the Explanatory Report, the structure of the standard was actually designed to alleviate this concern (in particular, see §3, "Structure of the standard" and §4.3, "Low barrier to developer adoption"). The multipart structure of the standard may indeed be similar to the break-up that Singapore suggests.

3.19 Sweden

Issue SE01 (§5.19.1): For a detailed discussion of this issue, see §2.1 and its subclauses.

Issue SE02 (§5.19.2): Ecma notes this suggestion. It is worth noting that some Ecma TC 45 members had good knowledge of both the OpenXML and ODF format space. For a detailed discussion of the document size/review period length issue, see §2.3.2.

3.20 UK

Issue UK01 (§5.20.1): For a detailed discussion of this issue, see §2.1 and its subclauses.

Issue UK02 (§5.20.2): Ecma notes the concern expressed here. As stated in the Explanatory Report, the structure of the standard was designed to alleviate this concern. For a detailed discussion of the document size/review period length issue, see §2.3.2.

Issue UK03 (§5.20.3): For a detailed discussion of this issue, see §2.2.

Issue UK04 (§5.20.4): OpenXML has been submitted by Ecma to JTC 1 as a Fast Track. The 30-day review addresses perceived contradictions only. The comment from the UK pertains to an altogether different process.

Issue UK05 (§5.20.5): For a detailed discussion of this issue, see §2.5.3.

Issue UK06 (§5.20.6): For a detailed discussion of this issue, see §2.5.2.

1   Issue UK07 (§5.20.7): For a detailed discussion of this issue, see §2.5.5.

2   Issue UK08 (§5.20.8): For a detailed discussion of this issue, see §2.6.

4. Conclusion

Ecma wishes to thank the NBs for their efforts during this 30-day review period, and looks forward to working further with them in an effort to resolve any technical concerns that may arise from the 5-month ballot of the Fast Track.

5. Extracts from the Original NB Comments

This clause contains detailed extracts from the original submissions. These extracts contain only that text that pertains directly to issues raised; any preamble, detailed citations from JTC 1 directives, screen displays, and footnotes have been excluded. Each separate comment was assigned a sequential NB-specific name such that each response could easily be matched with its corresponding comment.

5.1 Australia

5.1.1 Issue AU01

Australia acknowledges:

- The status of Ecma as a Publicly Available Specification (PAS) submitter to ISO/IEC JTC 1 and its standards development process;
- The competing priorities and demand in the office application file format market; and
- Potential widespread interest in having international recognition of an open standard for XML-based file interchange that could be used in collaboration with the installed base of Microsoft Office products without significant loss of capability.

5.1.2 Issue AU02

Australia perceives:

- Significant potential overlap in the perceived scope of ECMA-376 (JCT1 DIS 29500) with that of the existing ISO/IEC 26300 standard, at least sufficient to require further clarification and discussion at JTC1 SC34 level.

5.1.3 Issue AU03

Australia notes:

- Difficulties in conduction a full and proper appraisal of a document of over 6000 pages in one month over the summer holiday period.

5.1.4 Issue AU04

Australia notes:

- The level of interest from Australian contributors, and the conflicting viewpoints and concerns that they have expressed.

5.1.5 Issue AU05

Australia notes:

- A number of perceived technical inconsistencies between ECMA-376 and other existing ISO and ISO/IEC standards that have been raised by Australian contributors. At this time it is difficult to judge whether the perceived technical inconsistencies between ECMA-376 and other existing ISO and ISO/IEC standards are significant "contradictions" or whether they are anomalies and inconsistencies that may be raised and resolved as part of resolution of a DIS ballot under the fast-track rules. These issues include inconsistencies between ECMA-376 and:

  - ISO/IEC JTC1 26300:2006 Information technology – Open Document Format for Office Applications (OpenDocument) v1.0
  - ISO 8601:2004 Data elements and interchange formats – Information interchange – Representation of dates and times
  - ISO/IEC 8632 Information technology - Computer Graphics – Metafile for the storage and transfer of picture description information
  - ISO 639 Codes for the representation of names of languages

5.1.6 Issue AU06

Resolution of these issues is made more difficult by the lack of a formal definition of "contradiction" in section 13 of the JTC 1 Directives and clarification of how widely the doctrine of inconsistency is to be applied in determining the appropriateness of a "fast-track" process.

5.1.7 Issue AU07

Australia suggests:

- Intelligent compromise should be sought at Sub-Committee level on many of the technical questions raised by this document and on the scope of standards for open formats for office applications, if there are to be two, prior to national bodies being asked to resolve between standards that involve significant commercial and political interests.

5.1.8 Issue AU08

Australia proposes:

- That this ballot be referred back to discussion within SC 34 before it goes to DIS ballot, given the many significant issues that need to be clarified.

5.2 Canada

5.2.1 Issue CA01

Canada perceives that there are contradictions between ISO/IEC DIS 29500 and other ISO/IEC standards, principally ISO/IEC 26300, but also potentially ISO 8601, ISO 639 and ISO 8632.

5.2.2 Issue CA02

Canada does not suggest any particular way in which the contradictions should be resolved, but believes that all options need to be considered, up to and including cancellation of the Fast Track ballot.

Canada does believe that the perceived contradictions should be resolved before the Fast Track Ballot does proceed.

5.3   Czech Republic

5.3.1 Issue CZ01

The 30 Day review is too short for the preparation of comments to this document.

5.3.2 Issue CZ02

Due to the different positions to this document we are not convinced that there do not exist contradictory provisions with other ISO and ISO/IEC standards.

5.3.3 Issue CZ03

This document requires discussion with all interested parties.

Open documents, generally open standards, are very important for global information exchange and therefore they need very broad discussion of all interested parties. For this reason the Czech Republic suggests using the standard procedure for the development of ISO/IEC standard from the document ECMA-376.

5.4   Denmark

5.4.1 Issue DK01

We have received communications of perceived contradictions in-between ISO/IEC DIS 29500 and ISO/IEC 26300.

5.4.2 Issue DK02

Further, perceived contradiction has been reported in regard to the following standards: ISO/IEC 8632, ISO 639, ISO 8601:2004 and ISO/IEC 10118-3.

5.4.3 Issue DK03

Finally, uncertainty has been reported regarding consistency in technical specifications in ISO/IEC DIS 29500 (due to references to a non-available Appendix D) …

5.4.4 Issue DK04

 [Denmark] doubts if a full implementation of the standard may violate existing patents (IPRs), which would be in contradiction of General Principles of ISO/IEC Directives, Part 2.

5.4.5 Issue DK05

The mentioned communications received by members in the Danish subcommittee, should be made subject to technical examinations and eventual processing before ISO/IEC DIS 29500 can become an international standard.

However, this does not prevent JTC 1 to use the fast track 5-month DIS ballot. The ballot could result in a clearer view upon the matter before further processing the proposal.

5.5 Finland

5.5.1 Issue FI01

When considering the size, complexity and scope of the Ecma submission we must raise some concerns about further procedure.

Considering the speed of the Ecma process, the rapidity of the Fast-Track process and the length (over 6,000 pages) and complexity of the submitted specification, we have serious doubts whether this or any other NSB can fulfill its obligations successfully to review this specification and maintain the integrity of the process and the reputation of JTC1.

The specification contains within it complete specifications of two different vector graphics languages (VML and DrawingML), a complete specification for the representation of mathematical equations (OOMML), a complete specification for a schema evolution language (Markup Compatability ML) and a complete bibliographic citation language, in addition to others. We know from analogous standards produced by the W3C, such as SVG and MathML, that the development and review of even a single one of these sub-specifications would require an expert group 2-3 years. But Ecma, in a process that did not receive much public visibility, produced a specification that includes all of these, and their review and approval cycle took less than one year.

5.5.2 Issue FI02

… the 'Licensing conditions that Microsoft offers for Office Open XML' (seeJTC001-N-8455-3) explicitly exclude all items merely referenced from the licensing commitment.

*To clarify, *Microsoft Necessary Claims* are those claims of Microsoft-owned or Microsoft controlled patents that are necessary to implement only the required portions of the Covered Specification that are described in detail and not merely referenced in such Specification.*

5.5.3 Issue FI03

… we believe the best way forward is for Office Open XML to be removed from the JTC1 Fast Track ballot process at this time, and either be submitted to a WG for more through review, submitted in reasonably-sized subsections, e.g., 500 pages, for normal approval, or (preferably) that Office Open XML be harmonized with the existing ISO/IEC 26300 *Open Document Format*.

5.6　France

5.6.1 Issue FR01

According to the JTC1 Directives, par. 13.4, the 30 days review is to identify any perceived contradiction with other JTC 1, ISO or IEC standards by NBs. Nevertheless, the Directives do not give any specific definition of what should be understood by the concept of "perceived contradiction".

AFNOR members are of the opinion that fundamentally, a contradiction occurs when either:

1. the implementation of one standard prevents the coexistence with another standard in the same product or system, or

2. both standards address a same set of user requirements (as an instantiation of this, when new standards are introduced to handle functionalities already handled with International standards)

AFNOR members identified these two definitions as mutually exclusive. Referring to one or the other in the assessment of JTC 1 N 8455 gave very different results, making the identification of a common view impossible. AFNOR agrees that coexistence is possible between JTC 1 N 8455 and ISO/IEC 26300, as all XML formats can coexist.

Considering element 1 of the definition no contradiction was identified by AFNOR.

5.6.2 Issue FR02

Considering element 2 of the definition above, AFNOR noted the following perceived contradictions:

- in relation to overlap with an existing JTC1, ISO or IEC standard: the scope of document JTC1 N8455 partially overlaps with the scope of ISO/IEC 26300

5.6.3 Issue FR03

Considering element 2 of the definition above, AFNOR noted the following perceived contradictions:

- in relation to consistency with other JTC1, ISO or IEC standards, in particular for interoperability, cultural and linguistic adaptability and user interface: there is a potential lack of consistency with ISO 8601, ISO/IEC 8632 and ISO 639 standards.

5.7　Germany

5.7.1 Issue DE01

After thorough consideration the German NB of JTC 1 perceives contradiction of ECMA-376 notably with ISO/IEC IS 26300.

In 2001, the 30 days review period was introduced into the Fast Track Procedure with Resolution 19 – "Fast Track Procedure: Detection of Potential Contradiction With Other ISO/IEC Standards" in order to avoid, within the Fast Track Procedure, approval of standards duplicate and/ or inconsistent to other, already existing International Standards.

Part I, section 1.1 of ECMA-376 says "This part is one piece of a Standard that describes a family of XML schemas, collectively called Office Open XML, which define the XML vocabularies for word processing, spreadsheet, and presentation documents, as well as the packaging of documents that conform to these schemas".

For comparison, ISO/IEC JTC 26300 states in section 1.1: "This document defines an XML schema for office applications and its semantics. The schema is suitable for office documents, including text documents, spreadsheets, charts and graphical documents like drawings or presentations, but is not restricted to these kinds of documents."

From this, it becomes obvious that ECMA-376 basically duplicates the scope of ISO/IEC 26300.

5.7.2 Issue DE02

Given the size of ECMA-376, a detailed comparison was however not possible within the 30 days review period.

5.7.3 Issue DE03

The German NB prefers to have a harmonized Standards over having two Standards serving basically the same user requirements.

The German NB therefore requests that JTC1 should, before commencing the five-month ballot period,

- Request a list of functionalities potentially missing in ISO/IEC 26300 to ensure backward compatibility with Microsoft's previous binary office formats.
- Let OASIS as developer of ISO/IEC 26300 analyse if this standard can reasonably be enhanced such that backward compatibility requirements will be met.

Only if such analysis comes to a negative result, processing of DIS 29500 should be continued.

5.8   Hungary

MSZT abstains as a result of differing views in the National Committee about the necessity of the Fast Track handling of the subject.

5.9   India

5.9.1 Issue IN01

It is requested to extend the contradictory period by one month for the above mentioned document.

5.10 Italy

5.10.1   Issue IT01

Italy has been unable to assess the existence of contradictions of ECMA-376/ISO/IEC DIS 29500 to JTC1, ISO or IEC standards.

The term "contradictions" does not appear to be defined, not even at the level of examples.

5.11 Japan

5.11.1   Issue JP01

Japan submits the following as 30 day contradiction review period comments on "ECMA-376 ISO/IEC DIS 29500 Office Open XML File Formats" in the expectation that the DIS will obtain the broad international support.

5.11.2   Issue JP02

DIS29500 seems to be competing and incompatible with OASIS sourced ISO/IEC 26300 "Open Document Format for Office Applications".

Therefore in order to secure interoperability between the International Standards, Japan believes that JTC 1 should play a leading role in the future in collaboration with Ecma and OASIS. Thus Japan would like to confirm Ecma and its core members' collaborative stance with JTC 1 for the maintenance and the future evolution of DIS29500 upon its approval under the JTC 1 process.

5.11.3   Issue JP03

Japan needs clarification on IPR on schemas derived from the schemas of OpenXML. Are users allowed to create derivative schemas dedicated to particular applications without infringement of intellectual property rights? Are they allowed to claim their own rights on such derivative schemas?

5.12 Kenya

5.12.1   Issue KE01

First of all the specification is extremely large. Secondly, we have been unable to share it with everyone we wanted to because the networks will not support it. At 6039 pages long, it is a monumental task to review. However, it must be emphasized, this list is still not complete because the 30 days allocated for this contradiction period is not long enough to do a thorough review. The reason why its so large is mainly because it does not leverage on any other well known specification in ISO. As such there are large contradictions with the pre-existing international standards which are already mature, well tested with wide and independent implementations. What is worrying about the specification is that it is not a very consistent document because the ECMA TC had very little time to verify this technical document thoroughly. Historically, on average, it takes 1 page a day to review, edit and approve a thorough standard. OpenXML achieved an unprecedented 18 pages a day. Due to its size, it should be reason enough why this document should not be allowed to be "Fast Tracked".

5.12.2   Issue KE02

ECMA-376 contradicts The Gregorian Calendar and ISO 8601

The Gregorian calendar is the most widely used calendar in the world. A modification of the Julian calendar, it was decreed by Pope Gregory XIII on 24 February 1582. The Gregorian calendar forms the basis of many international standards such as ISO 8601.

ECMA-376 section 3.17.4.1 page 3305, "Date Representation", conflicts with the Gregorian calendar in the calculation of dates. Specifically, it requires spreadsheet implementations to incorrectly treat the year 1900 as a leap year. This contradicts the Gregorian calendar, ISO 8601 and the civil calendar adopted by most nations of the world.

<Embedded picture omitted>

The specification also limits the range of dates as the date 31st of December 1899 will have a serial value of '0' which is 'outside the range' of the lower limit defined, and therefore will be 'ill-formed'. Unlike ISO 8601, ECMA-376 does not support dates before 1st January 1900.

5.12.3   Issue KE03

ECMA-376 contradicts ISO/IEC 26300

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

ECMA-376 duplicates the functionality of the existing OpenDocument standard as its core purpose is to support "text documents, spreadsheets, drawings and presentations for office applications."

5.12.4   Issue KE04

ECMA-376 contradicts ISO/IEC 15445:2000 (HTML) and itself as it has inconsistent use of Percentage as a measurement unit

ISO 15445 (HTML)1 corresponds to the W3C HTML4 standards. HTML has excellent definition of Percentages and its use is widely known and accepted. Percentages however, are defined and used inconsistently throughout the ECMA-376 specification. This will cause significant confusion and does not leverage on the widely known and accepted HTML type definition of a percent.

Percentage Defined as a decimal number

The most logical use of a percentage unit is defined in Section 2.15.1.95 page 2053, "zoom" has a "percent" attribute, defined as a "ST_DecimalNumber" which has the usage:

<w:zoom w:percent="71" />

However we can easily improve this to remove ambiguities and promote better readability in accordance to HTML.

<w:zoom w:factor="71%" />

Unfortunately this "correct" usage of percentage used only once in the entire 6039 page specification, and the others are far more confusing, as described below.

Percentage Defined inconsistently as a enumerated type

There is a strange definition of shadings in section 2.18.85 page 2583, "ST_Shd" (Shading Patterns). This section has an example where a horizontal or diagonal or vertical shading pattern has a 10% coverage is defined as:

<w:shd w:val="pct10" .../>

This is predefined and not adjustable as the shading density is fixed as an enumerated type.

pct5, pct10, pct12, pct15, pct20, pct25, pct30, pct35, pct37 (actually 37.5% coverage), pct40, pct45, pct50, pct55, pct60, pct62 (actually 62.5%), pct65, pct70, pct75, pct80, pct85, pct87 (actually 87.5%) pct90, pct95

In todays modern computer, where the optimum density and patterns can be created on-the-fly, a better and more generalised design of the specification could be

<w:shd w:type="diagonalPattern" w:coverage="63.5%" />

Percentage Defined as an arbitrary unit

Here is where things get weird. Section 2.18.97 page 2608, "ST_TblWidth" (Table Width Units) define "pct" as fiftieth of a percent, e.g. 4975 = 99.5%.

This is extremely cryptic and not consistent with the rest of the specifications. For example, if we wanted to define the bottom width of a table as a percentage, the current ECMA-376 specifications demand that we use this:

<w:bottom w:w="525" w:type="pct" />

When a more logical and readable specification should read:

<w:bottom w:width="10.5%">

Percentage Defined as a thousandth of a percent.

As if modern computers now do not have Floating Point processors, section 5.1.12.41 page 4505, "ST_Percentage" specifies that we denote 1 unit as a 1000ths of a percent. e.g., a value of 54678 represents 54.678%. This is used almost all the other percentage data types in PresentationML and VML. For example in page 4207

<a:rPr baseline="30230"/>

A more intuitive usage would be:

<a:rPr baselineWidth="30.23%"/>

It becomes quite evident that the usage of Percentage units within ECMA-376 is inconsistent, immature, hard to read and contradictory within itself and with well established ISO standards.

5.12.5   Issue KE05

ECMA-376 contradicts ISO/IEC 15445:2000 (HTML) Colour definitions

1   ISO 15445 HTML corresponds to the W3C HTML4 standards which directly reference styles and colour

2   definitions from the W3C SVG colour names and values. With the huge adoption of ISO and W3C standards

3   like HTML, XML and SVG, we would assume that ECMA-376 would conform to the well used standards.

4   However ECMA-376 colour values contradict these specifications.

5   In section 2.18.46 (page 2521) the specification lists Red-Green-Blue (RGB) values for common colour names

6   which correlate with the standard W3C SVG Color Keyword Names . However, the hexadecimal RGB values

7   differ with the same colour names:

8   "Light Gray", "Dark Gray" and "Dark Green" show the most visible differences and this will cause significant

9   confusion and frustration for documents which need to represent colours with high fidelity.

10 In contrast, section 5.1.12.48 (p. 4531) "ST_PresetColorVal" (Preset Color Value) matches W3C SVG colors

11 well, in that the RGB values are exactly the same. Unfortunately, it renames "darkGray" to "dkGray" and

12 "lightGray" to "ltGray" to avoid self-contradiction at the cost of preventing harmonization with the W3C SVG

13 standard.

14 We need to find out why a mature specification like ECMA-376 would need to redefine a well known and well

15 used colour definition (SVG) and also redefine it twice (2.18.46 and 5.1.12.48) within its own specification.

16 ## 5.12.6   Issue KE06

17 ECMA-376 contradicts ISO 8879 as it is not human-legible

18 ISO 8879 (SGML) where XML is based on, is a mark up language designed to be humanly readable, in that if a

19 developer had to look at an XML document, the document in itself would be self descriptive and easily

20 understandable without much need to refer to the specification. Human readability is also a measure of good

21 interoperability as the easier to understand a document, the easier it is to write translators for it. A poorly

22 defined XML specification is a specification which would define tags which are non-descriptive, confusing,

23 have inconsistent naming conventions and this contradicts the spirit and purpose of XML.

24 The specific goals of XML which ECMA-376 contradicts are:

25 6. XML documents should be human-legible and reasonably clear.

26 10. Terseness in XML markup is of minimal importance.

27 [http://www.w3.org/TR/REC-xml/#sec-origin-goals]

28 An example of where this is a problem with ECMA-376 is the treatment of SGML Element and Attribute

29 names. In the element "5.1.10.45 outerShdw (Outer Shadow Effect)" (page 4413) in the VML section, the

30 naming convention is devoid of vowels in the second word (e.g. where Shadow becomes Shdw).

31 This is a common programming naming convention where the programmer trades off readability for the

32 economical use of keystrokes. However this naming convention should not apply on the XML level, as it will

33 cause confusion and hinder future understanding of a document. Here is the ECMA-376 specification itself

34 displaying the many Attributes of this Element 'outerShdw':

35 Take for example, the Child Elements and Attributes associated:

scrgbClr, algn, blurRad, dir, dist, rotWithShape.

We need to query why these Attributes need to be so cryptic within the specification? As a recommendation, it would help the readability, clarity and consistency if these Attributes were renamed as such:

ScreenRGBColor, ShadowAlignment, BlurRadius, Direction, Distance, RotateWithShape

The 3 bytes saved in defining 'blurRad' versus 'BlurRadius' is not justifiable for the trade off for readability. It is even more so unnecessary with the 1 byte savings from 'align' to 'algn'.

Additionally, why is there a contradictory Element naming convention and Attribute naming conventions? The Element 'outerShdw' has its second word de-vowelled while Attributes like 'blurRad' and 'rotWithShape' do not exhibit de-voweling but instead a truncation of either first or seconds words. This selection seems arbitrary and inconsistent.

In addition, the naming convention itself is not consistent throughout the ECMA-376 specification. In WordprocessingML, the attributes do not have the vowels removed. For example, the Element "2.15.1.78 settings(Document Settings)" (page 2020) has a whole list of Child Elements have different naming conventions from the VML section.

<Embedded picture with caption "Even within the same Element, there are serious inconsistent naming conventions" is omitted>

The ones of interests are:

ActiveWritingStyle, attachedSchema, documentType, docVars, endnotePr, hdrShapeDefaults

'endnotePr' is similar to the VML convention except that Pr denotes 'Preference' when actually convention should dictate the name to be 'endnotePrfrnce'.

Note that even within the Child Elements of 'settings', there are inconsistencies. 'documentType' which is verbose and easy to read is contrasted with its sibling 'docVars' where the words 'document' and 'Variables' are both truncated. These two Child Elements should have their naming conventions harmonized to prevent significant confusion.

'hdrShapeDefaults' is another example of vowel removal, except that it is from the first word, which is another contradiction in naming conventions.

Naming conventions in source code should be as descriptive as possible, and should avoid unnecessary abbreviations. Taking from Microsoft's own Best Practices Manual "Code Complete" by Steve McConnell, [http://www.cc2e.com/Page.aspx?hid=225], which has pertinent questions regarding naming decisions:

● Does the code avoid abbreviations that save only one character?

● Are all words abbreviated consistently?

● Are the names pronounceable?

● Are short names documented in translation tables? ... and more.

1   <Embedded picture omitted>

2   The argument to save bytes in modern computers is moot nowadays as RAM memory is abundant in addition,
3   the file will efficiently compress repetitive elements. Therefore there should be no justifiable reason for the
4   readability trade off as of yesteryear.

5   This issue betrays the source of the specification in that it is derived directly from a single implementation by
6   Microsoft. This is why we can see the inconsistent and programmer centric naming conventions which really
7   should not be in a modern and progressive and descriptive international standard. The naming conventions used
8   in OpenXML contradict Microsoft's internal Best Practices.

9   Readability is an issue in ISO standards as the audience is in essence international, where English would not be
10   the native language. Abbreviating or obscuring the meanings of certain words which English speakers would
11   take for granted, would be hard for a non English speaking programmer of a different background and culture to
12   deduce and translate. This additional barrier is unnecessary and should be resolved if this specification is meant
13   for the international audience.

14   The inconsistent and contradictory naming conventions within the different sections (WordprocessorML,
15   SpreadsheetML, VML) and even within Attributes, Parent and Child Elements will cause considerable
16   confusion, frustration and impede technical usage of this draft specification.

17   Until there is a consistent naming convention of the XML Elements and Attributes throughout the OpenXML
18   specification, this specification remains a reference document at best and is far from a usable international
19   standard.

20   The effect of this is that it contradicts the spirit of XML and SGML which is to promote readable structured
21   document interchange. It also means that ECMA-376 is not up to par with ISO Directives, Part 2 in terms of
22   homogeneity in terminology and abbreviations.

23   ## 5.12.7   Issue KE07

24   ECMA-376 contradicts ISO 216 with non-standard and inflexible paper-size naming. OpenXML or ECMA-376
25   never seems to have high regard for other work of other standards bodies worldwide, in that this "standard"
26   always seems to redefine a limited subset of what is actually being used internationally.

27   Take for example, Sections 3.3.1.61 (page 2770) and 3.3.1.62 (page 2774), both of which involve duplicate
28   printer settings, define a "paperSize" attribute. This value represents a integer value which in turn is referenced
29   to an internal lookup table which lists 68 fixed paper sizes.

30   <Embedded picture omitted>

31   These paper-size codes are apparently based on corresponding paper-size registry codes in a Microsoft
32   Windows, rather than using the standard paper-size names as defined in ISO 216, ANSI Y14.1, and similar
33   standards .

34   <Embedded picture with caption "Microsoft dependent PaperSize Registry" omitted>

35   <Embedded picture with caption "The ISO 216 paper definition for 'A' size paper" omitted>

To illustrate, a Page Setup usage in ECMA-376 may look like:

<w:pageSetup ... w:paperSize="9" />

Without the 6000 page documentation, we would not know what "9" meant. Only with the documentation by
cross referencing the lookup table above, "9" corresponds to "A4 paper (210mm by 297mm)"

This is unreadable for someone who is unaware of this Operating System specific "PaperSize Registry Value
Table" maintained by Microsoft. It is not clear on how or if possible other Paper Sizes, e.g. "Imperial"
(30"x22") or "Foolscap" (13"x8"), can be added or removed depending on the changing requirements of
standard and non-standard paper sizes around the world. Maintaining this additional lookup table will be
burdensome to ECMA and ISO as ISO, ANSI, DIN, SIS, JIS and all the other respective standards bodies whom
presently maintain their own paper sizes.

This erroneous use of XML should be corrected, and the correction is relatively simple: it would be more usable
for future interoperability if the XML was something like:

<w:pageSetup ... w:paperSize="ISO:A4" />

This unnecessary restriction is contrary to the eXtensibility aspect of XML, and a blatant disregard to the well
defined and maintained international paper size standards.

5.12.8   Issue KE08

ECMA-376 is not drafted to the quality of International Standards

It is interesting to read the ISO Directives, Part 2 "Rules for the Structure and Drafting of International
Standards"2, section 4.3 and 4.4, where it sets out the requirement for avoiding this type of inconsistent use of
terminology:

ISO Directives, Part 2: "Rules for the Structure and Drafting of International Standards":

"4.3 Homogeneity

Uniformity of structure, of style and of terminology shall be maintained not only within each document, but also
within a series of associated documents. The structure of associated documents and the numbering of their
clauses shall, as far as possible, be identical ... These requirements are particularly important not only to ensure
comprehension of the document, or of the series of associated documents, but also to derive the maximum
benefit available through automated text processing techniques and computer-aided translation.

4.4 Consistency of documents

In order to achieve the aim of consistency within the complete corpus of documents published by ISO and IEC,
the text of every document shall be in accordance with the relevant provisions of existing basic documents
published by ISO and IEC. This relates particularly to

a) standardized terminology,

b) principles and methods of terminology,

c) quantities, units and their symbols,

d) abbreviated terms,

e) bibliographic references,

f) technical drawings and diagrams,

g) technical documentation, and

h) graphical symbols."

The inconsistencies currently identified above indicates that ECMA-376 does not meet the editorial and technical qualities of an international standard.

• principles of terminology is non standard – docVars vs documentType element names

• quantities and units do not conform to any ISO standard – Percentage usage

• abbreviated terms are inconsistent in naming conventions – e.g. 'align' and 'algn' or 'scrgbClr'

5.12.9   Issue KE09

ECMA-376 was not properly submitted to ISO

ECMA-376 improperly incorporates by reference sections that were not included in ECMA's submission to JTC1, and were only available electronically on the ECMA web site in a format not permissible for JTC1 review.

In particular, pages 191 and 263 list an "Annex D" which contains "normative definitions" of XML schema "distributed in electronic form only" and which are the "definitive version" if "discrepancies exist between the electronic version of a schema and its corresponding representation as published in this part".

These schema can be found only in the file "OpenPackagingConventions-XMLSchema.zip" on the ECMA-376 web page, which was not a part of the ECMA's official JTC1 submission, and is in a format (a zip-compressed DrawingML XML file) that is not one of the allowable formats3 for JTC1 review.

The "normative" definitions of Annex D are referenced by ECMA-376 in sections 3.8.7 (p. 2101, "Cell Style"), 3.8.40 (p. 2931, "Table Style"), and 5.1.12.56 (p. 4557, "Preset Shape Types"), 5.1.12.76 (p. 4645, "Preset Text Shape Types"). A more detailed description is available in Appendix B.

<From the separately submitted document "Kenya Annex N Objection.pdf">

Further, we note the following on page 2931 (3.8.40) "tableStyle" of the Ecma Office Open XML submission:

"This element represents a single table style definition. The built-in table styles are written in the tableStyle element by name, but the corresponding tableStyleElement elements are assumed rather than explicitly written. Following is a listing of each of the built-in table style definitions, whose normative definition is in Annex D."

No Annex D is found in the PDF with such a definition.

1 Further page 5990 provides an additional hint:

2 "This Office Open XML specification includes an example definition for all predefined DrawingML shape
3 geometries that are referenced by the following elements:

4 prstGeom@prst (§5.1.11.18)

5 prstTxWarp@prst (§5.1.11.19)

6 The informative sample DrawingML markup defining these shape and text geometries resides in an
7 accompanying file named OfficeOpenXML-DrawingMLGeometries.zip, which is distributed in electronic form
8 only."

9 Further, on page 263:

10 "This Open Packaging Conventions specification includes a family of schemas defined using the XML Schema
11 1.0 syntax. The normative definitions of these schemas reside in an accompanying file named
12 OpenPackagingConventions-XMLSchema.zip, which is distributed in electronic form only. If discrepancies
13 exist between the electronic version of a schema and its corresponding representation as published in this part,
14 Part 2, the electronic version is the definitive version."

15 Other references to Annex D include sections 3.8.7 (p. 2101, "Cell Style"), 3.8.40 (p. 2931, "Table Style"),
16 5.1.12.56 (p. 4557, "Preset Shape Types"), 5.1.12.76 (p. 4645, "Preset Text Shape Types").

17 These annexes are clearly referred to as normative references, and in the case of the schema – the most critical
18 part of an XML specification – the electronic version is stated to be definitive. However, these annexes are not
19 part of the submission received by JTC NBs.

20 It is unclear whether this is because they were not submitted to JTC1 by Ecma, or whether there was a
21 processing error within JTC1, But since normative content necessary to the understanding and review of the
22 standard is missing, we must raise an immediate and serious objection, and request an investigation as to the
23 facts:

24 1. Was Annex D and the other Annexes formally submitted to JTC1?

25 2. Was Annex D and the other Annexes formally approved by ECMA?

26 3. Are the electronic Annexes in an acceptable format, according to JTC1 Directives Annex H "JTC1 Policy on
27 Electronic Document Distribution Using the World Wide Web"?

28 If the answer to any of the above question is "No", then we must consider the submission defective and send it
29 back to ECMA for further processing and resubmission.

5.12.10   Issue KE10

31 ECMA-376 does NOT provide Backward Compatibility as claimed

32 We often hear this from the Microsoft marketing folk:

1 "... all the features and functions of Office can be represented in XML and all your older Office documents can
2 be moved from their binary formats into XML with 100 percent compatibility. We see our investment in XML
3 support as the best way for us to meet customers' interoperability needs while at the same time being compatible
4 with the billions of documents that customers create every year."

5 [http://www.microsoft.com/interop/letters/new_world_of_docs.mspx]

6 This highlights OpenXML's main "selling point" in that it is not contradictory to ISO 26300 (OpenDocument
7 Format) because serves a different purpose by providing "backward compatibility with billions of documents" in
8 existence.

9 This is an interesting claim. However if we were to inspect this claim, these special 'legacy' tags are found
10 wanting. The tags are declared in the specification in detail, but the actual behaviour, or technical
11 implementation details are left out!

12 For example, the XML element in Section 2.15.3.31 (page 2209) "lineWrapLikeWord6" which was intended to
13 emulate a legacy Microsoft Word 6.0 document states:

14 <Embedded picture with caption "No information is specified in ECMA-376 for backward compatibility"
15 omitted>

16 So, if we require full fidelity with the legacy documents, we will need to "utilize and duplicate the output of
17 those applications." Additionally, ECMA-376 fully admits that this is outside the scope of this specification in
18 that the possible behaviours of legacy documents "cannot be faithfully placed into narrative for this Office open
19 XML Standard." It goes to show that the large 6000+ page document will not contain all the information we
20 need for the legacy documents, and this means we should look elsewhere for this interoperable information.

21 Here are additional legacy tags found so far, which have the same "Guidance" and leaves the technical details
22 undefined in ECMA-376:

23 • Section 2.15.3.6 page 2161, autoSpaceLikeWord95.

24 • Section 2.15.3.26 page 2199, footnoteLayoutLikeWW8.

25 • Section 2.15.3.32 page 2210, mwSmallCaps.

26 • Section 2.15.3.41 page 2225, shapeLayoutLikeWW8.

27 • Section 2.15.3.51 page 2245, suppressTopSpacingWP.

28 • Section 2.15.3.53 page 2250, truncateFontHeightsLikeWP6.

29 • Section 2.15.3.54 page 2252, uiCompat97To2003.

30 • Section 2.15.3.63 page 2264, useWord2002TableStyleRules.

31 • Section 2.15.3.64 page 2265, useWord97LineBreakRules.

32 • Section 2.15.3.65 page 2266, wpJustification.

1 • Section 2.15.3.66 page 2268, wpSpaceWidth.

2 ECMA-376 does not include the specifications for the Macro language nor its features, as such the claim of
3 supporting billions of documents is in question as the main issue of backward compatibility in the real world is
4 the problem of incompatible Macro functions. Additionally since the "covenant not to sue" does not cover
5 features outside the current specifications, as such, efforts to reverse engineer Macro features may put
6 independently developed implementations at legal risk.

7 So is the alleged claim of supporting and upgrading the billions of legacy documents is not justifiable as the
8 exact features in ECMA-376 which provide this backward compatibility is not specified even in the large
9 document.

5.12.11   Issue KE11

11 ECMA-376 contradicts ISO JTC 1 Directives

12 The contents of the ECMA-376 draft may be detrimental to the reputation of IEC or ISO if processed by JTC 1
13 on the fast track. The European Commission's DG Competition is considering whether to initiate an antitrust
14 proceeding into Microsoft's alleged wielding of the ECMA-376 file formats as an anti-competitive weapon[4].

15 The principal justification offered by ECMA International for standardization of ECMA-376 in direct
16 contradiction of ISO 26300, is to accommodate any tags needed for Microsoft Office's legacy binary file format.
17 This specification for the binary file formats are not included in the ECMA-376 specification. Microsoft's
18 alleged refusal to disclose the specifications[5] for its binary file formats is also the subject of a complaint being
19 considered by DG Competition, and is at least arguably a violation of the 2004 DG Competition order[6].

20 Were ECMA-376 allowed to continue on the fast track there is grave danger that ECMA-376 will become
21 publicly embroiled in antitrust charges and proceedings before the vote is taken on its adoption as an ISO
22 standard. ISO would also be left in the embarrassing position of having fast tracked ECMA-376 through the JTC
23 1 process without a public record that potential anti-competitive aspects of the draft were carefully considered.

24 <Embedded picture with caption "JTC 1 Directives are contradicted in this particular Fast Track item" omitted>

25 Moreover, adopting ECMA-376 as an ISO standard without those specifications would put ISO in the incredible
26 position of having granted Microsoft a monopoly on the migration of documents stored in its Office legacy
27 binary formats to ECMA-376 formats. That is directly at odds with ISO's mission of ensuring that its standards
28 do not "create unnecessary obstacles to international trade."

29 Therefore, ECMA-376 should be diverted from the fast-track process so that risk of damage to ISO's reputation
30 can be avoided. It is time to go slow and await resolution of the DG Competition investigation.

5.12.12   Issue KE12

32 It must be recommended that ECMA-376 to be reviewed thoroughly with a realistic time period, and not via a
33 "Fast Track" process. Suggestions and recommendations discovered by this contradiction process and from JTC
34 1 deliberation must be considered seriously and reimplemented in ECMA.

A strong recommendation is a harmonization process, between ECMA-376's additional features (if any) with the current international standard ISO 26300 to reduce standards proliferation. There is precedence with the Chinese UOF (Unified Office Format) which is currently undergoing harmonization with ISO 26300.

This will limit a proliferation of international standards for office documents, and it will help create a truly modern and progressive standard for many years to come.

5.12.13   Issue KE13

<From the separately submitted document "Kenya Annex N Objection.pdf">

The JTC1 Directives in Annex N describes the process and the requirements for normative references to other specifications than International Standards. Although the process described in Annex N applies specifically to a five stage process, it is also clearly stated that all International Standards need to comply in the same way:

JTC1 Directives, Annex N1: "JTC 1 re-emphasises its preference for transposition into international standards as the approach to include material from outside JTC 1. However, if the referencing approach is chosen, it is necessary to establish such references in international standards in a consistent way which ensures the quality of international standards established by JTC 1 as well as the proper treatment of IPR issues. Therefore, a process has to be defined by JTC 1 for the establishment of references to documents other than from ISO, IEC or ITU."

The JTC1 Directives require that

● a Reference Specification (RS) is developed by an Approved RS Originator Organization (ARO)

● or that a Referencing Explanatory Report (RER) is provided for each RS. Such an RER (details what is contained in an RER can be found in Annex N4.4) needs to be sent together with the RS (or at least a URL, where the document can be downloaded) to all National Bodies for their evaluation and approval as part of the ballot process (see Annex N4.5),

● all normative references need to be explicit (date and version of the RS) (Annex N4.6)

● the document containing normative references needs to fulfil certain documentation requirements (Annex N5.7)

● the RS needs to fulfil certain criteria regarding availability (Annex N6.1.3), IPR (Annex N6.2) The intent is that an implementer of the International Standard can also get access to the normatively referenced specifications and to the IPR necessary for implementation in a way similar to International Standards from ISO, IEC and ITU.

The Ecma Office Open XML specification makes normative references to several technologies which are not described by existing International Standards, nor have they been developed by an Approved RS Originator Organization (ARO) as defined in Appendix N7 of the JTC1 Directives. Examples include:

● RTF -- a proprietary document format from Microsoft

● MHTML -- a proposed standard, but not yet approved in IETF

● "earlier versions of WordProcessingML" -- a proprietary format of Microsoft used in Office 2003

● Bitmap, EMF, and WMF -- proprietary image formats of Microsoft

○ Requirements to emulate the behavior of legacy word processor applications, such as Word 95, or WordPerfect 5.

For none of the above specifications RER's and access to the actual RSs have been provided together with the ISO/IEC DIS 29500. In addition the 'Licensing conditions that Microsoft offers for Office Open XML' (see JTC001-N-8455-3) explicitly exclude all items merely referenced from the licensing commitment.

 "To clarify, "Microsoft Necessary Claims" are those claims of Microsoft-owned or Microsoft controlled atents that are necessary to implement only the required portions of the Covered Specification that are described in detail and not merely referenced in such Specification."

Normative references to an application's behavior, absent any fixed, written expression of that behavior in the form of a publicly available specification cannot be permissible.

In other cases, references are made to specifications without indicating versions or publication dates. For example, for the "sqlType" attribute in Section 3.10.1.3 of the SpreadsheetML reference, the specification merely says, "The following are data types supported by ODBC. For a more information, see the ODBC specification." Without more information it is impossible to identify the exact specification referenced or what IP terms are available with it.

As can be seen from the above proposed ISO/IEC DIS 29500 violates in many ways the current JTC1 Directives and therefore need to be withdrawn from the Fast-Track process.

5.13 Malaysia

5.13.1   Issue MY01

ECMA-376 contradicts The Gregorian calendar and ISO 8601

ECMA-376 section 3.17.4.1 page 3305, "Date Representation", conflicts with the Gregorian calendar in the calculation of dates. Specifically, it requires spreadsheet implementations to incorrectly treat the year 1900 as a leap year. This contradicts the Gregorian calendar, ISO 8601 and the civil calendar adopted by most nations of the world.

The specification also limits the range of dates as the date 31st of December 1899 will have a serial value of '0' which is 'outside the range' of the lower limit defined, and therefore will be 'ill-formed'. Unlike ISO 8601, ECMA-376 does not support dates before 1st January 1900.

5.13.2   Issue MY02

ECMA-376 is inconsistent with and contradicts ISO 639 "Codes for the representation of names of languages"

The ECMA-376 specification, in Section 2.18.52, "ST_LangCode (Two Digit Hexadecimal Language Code)" (page 2531) mandates the use of a fixed (closed) list of numeric language codes.

The ISO 639 family of standards defines an open list with a Registration Authority which ensures it remains current with the latest ethno-linguistic determinations.

5.13.3   Issue MY03

ECMA-376 is inconsistent with and contradicts ISO/IEC 8632 "Computer Graphics Metafile"

Two sections in the specification, 6.2.3.17 "Embedded Object Alternate Image Request Types" (page 5679) and 6.4.3.1 "Clipboard Format types" (page 5738) make reference to Windows Metafiles or Enhanced Metafiles. These are both Microsoft Windows proprietary formats, with hard-coded dependencies on the Windows operating system. The appropriate standard to use in their place is the CGM format as defined by ISO/IEC 8632.

5.13.4   Issue MY04

ECMA-376 contradicts ISO/IEC 15445:2000 (HTML) and itself as it has inconsistent use of Percentage as a measurement unit

One of the normative references for ISO 15445 (HTML) is W3C HTML4 standards. HTML has excellent definition of Percentages and its use is widely known and accepted. Percentages however, are defined and used inconsistently throughout the ECMA-376 specification. This will cause significant confusion and does not leverage on the widely known and accepted HTML type definition of a percent.

Percentage defined as a decimal number

The most logical use of a percentage unit is defined in Section 2.15.1.95 page 2053, "zoom" has a "percent" attribute, defined as a "ST_DecimalNumber" which has the usage:

<w:zoom w:percent="71" />

However we can easily improve this to remove ambiguities and promote better readability in accordance to HTML.

<w:zoom w:factor="71%" />

Unfortunately this "correct" usage of percentage used only once in the entire 6039 page specification and the others are far more confusing, as described below.

Percentage defined inconsistently as an enumerated type

There is a strange definition of shadings in section 2.18.85 page 2583, "ST_Shd" (Shading Patterns). This section has an example where a horizontal or diagonal or vertical shading pattern has a 10% coverage is defined as:

<w:shd w:val="pct10" .../>

This is predefined and not adjustable as the shading density is fixed as an enumerated type.

pct5, pct10, pct12, pct15, pct20, pct25, pct30, pct35, pct37 (actually 37.5% coverage), pct40, pct45, pct50, pct55, pct60, pct62 (actually 62.5%), pct65, pct70, pct75, pct80, pct85, pct87 (actually 87.5%) pct90, pct95

In today's modern computer, where the optimum density and patterns can be created on-the-fly, a better and more generalised design of the specification could be

1   <w:shd w:type="diagonalPattern" w:coverage="63.5%" />

2   Percentage defined as an abitrary unit

3   Section 2.18.97 page 2608, "ST_TblWidth" (Table Width Units) define "pct" as fiftieths of a percent, e.g. 4975
4   = 99.5%.

5   This is extremely cryptic and not consistent with the rest of the specifications. For example, if we wanted to
6   define the bottom width of a table as a percentage, the current ECMA-376 specifications demand that we use
7   this:

8   <w:bottom w:w="525" w:type="pct" />

9   When a more logical and readable specification should read:

10   <w:bottom w:width="10.5%">

11   Percentage defined as a thousandth of a percent.

12   Section 5.1.12.41 page 4505, "ST_Percentage" specifies that we denote 1 unit as a 1000ths of a percent. e.g., a
13   value of 54678 represents 54.678%. This is used almost all the other percentage data types in PresentationML
14   and VML. For example in page 4207
15   <a:rPr baseline="30230"/>

16   A more intuitive usage would be:

17   <a:rPr baselineWidth="30.23%"/>

18   It becomes quite evident that the usage of Percentage units within ECMA-376 is inconsistent, immature, and
19   hard to read and contradictory within itself and with well established ISO standards.

5.13.5   Issue MY05

21   ECMA-376 contradicts ISO/IEC 15445:2000 (HTML) Colour definitions

22   One of the normative references for ISO 15445 HTML is W3C HTML4 standards which directly reference
23   styles and colour definitions from the W3C SVG colour names and values. With the huge adoption of ISO and
24   W3C standards like HTML, XML and SVG, we would assume that ECMA-376 would conform to the well used
25   standards. However ECMA-376 colour values contradict these specifications.

26   In section 2.18.46 (page 2521) the specification lists Red-Green-Blue (RGB) values for common colour names
27   which correlate with the standard W3C SVG Color Keyword Names. However, the hexadecimal RGB values
28   differ with the same colour names:

29   "Light Gray", "Dark Gray" and "Dark Green" show the most visible differences and this will cause significant
30   confusion and frustration for documents which need to represent colours with high fidelity.

31   <Table contrasting hex values for WC3 vs. ECMA-376 omitted. See original comment.>

In contrast, section 5.1.12.48 (p. 4531) "ST_PresetColorVal" (Preset Color Value) matches W3C SVG colors well, in that the RGB values are exactly the same. Unfortunately, it renames "darkGray" to "dkGray" and "lightGray" to "ltGray" to avoid self-contradiction at the cost of preventing harmonization with the W3C SVG standard.

5.14 Netherlands

The Netherlands Standardization institute votes 'abstain'.

5.15 New Zealand

5.15.1 Issue NZ01

The National Body of New Zealand objects to N8455 proceeding via the JTC1 Fast-Track process because its adoption would be in breach of JTC1 Resolution 27, 2000 "Consistency of JTC1 products."

The introduction to N8455 states "This part is one piece of a standard that describes a family of XML schemas, collectively called Office Open XML, which define the XML vocabularies for wordprocessing, spreadsheet and presentation documents, as well as the packaging of documents that conform to these schemas."

The existing standard, ISO/IEC 26300 states in section 1.1 "This document defines an XML schema for office applications and its semantics. The schema is suitable for office documents, including text documents, spreadsheets, charts and graphical documents like drawings or presentations, but is not restricted to these kinds of documents."

These two statements indicate that N8455 overlaps the existing ODF specifications, and having two overlapping standards addressing the same problem would result in confusion for users and lack of interoperability. The overlap may be seen to be a violation of Resolution 27, 2000, and for this reason N8455 should be withdrawn from the Fast-Track process.

5.16 Norway

5.16.1 Issue NO01

The document is very comprehensive, and responding on whether there are contradictions to JTC 1 and other ISO and IEC standards is difficult within the short timeframe. … - The mere size of the document

5.16.2 Issue NO02

We recommend that before it is sent out for vote, a fast working study group be established to go through the document to identify the problems.

5.16.3 Issue NO03

Particularly it should be made clear how this standard relates to ISO/IEC 26300, but also to other standards. There are things in this document that is probably in contradiction to for example ISO 8601and ISO/IEC 8632.

5.16.4 Issue NO04

Other possible problems

- …
- And still the content of Annex D is missing

5.16.5   Issue NO05

Other possible problems

- …
- Patents

5.16.6   Issue NO06

On the other side; we recognize that this document covers areas that ISO/IEC 26300 does not, and these areas are very important for many users with considerable legacy in office documents.

5.16.7   Issue NO07

Before having to vote on this document as a DIS, we would therefore like to see a table that identifies and addresses these problems.

5.17 Romania

We agree with the project as it is.

5.18 Singapore

5.18.1   Issue SG01

ECMA-376 is inconsistent with and contradicts ISO/IEC 26300:2006 "Open Document Format for Office Applications"

According to ISO/IEC 26300:2006 "Open Document Format for Office Applications" [ODF], section 1.1: "This document defines an XML schema for office applications and its semantics. The schema is suitable for office documents, including text documents, spreadsheets, charts and graphical documents like drawings or presentations, but is not restricted to these kinds of documents."

Compare this to JTC 1 ECMA "Office Open XML", "Introduction" (page 10), "This part is one piece of a standard that describes a family of XML schemas, collectively called Office Open XML, which define the XML vocabularies for word-processing, spreadsheet, and presentation documents, as well as the packaging of documents that conform to these schemas."

Office Open XML duplicates or at least overlaps with the ISO/IEC 26300:2006 specification, and this will result in potentially having two contradictory and inconsistent standards for the same problem. To determine to all duplications and overlaps will require lots of effort as the ECMA-376 is a large document comprising 6000+ pages. Please see para 7 for more comments.

5.18.2   Issue SG02

ECMA-376 is inconsistent with and contradicts ISO 8601:2004 "Representation of Dates and Times"

47

The ECMA Office Open XML, Section 3.17.4.1 "Date Representation" (page 3305) requires that the spreadsheet file format store dates in a format which incorrectly defines that the year 1900 be treated as a leap year although this contradicts the Gregorian Calendar rule that for years divisible by 100, only those also divisible by 400 are leap years. For example, 1600 and 2000 are leap years and 1700, 1800, 1900 are NOT leap years.

Similar contradictions include a requirement that the WEEKDAY() spreadsheet function return the incorrect day of the week for certain dates, and for date calculations, such as determining the number of days between two dates, yield incorrect values for certain pairs of dates.

ISO 8601 for Date and Time is contradicted because ECMA-376 specifies that 1900 is a Leap Year and that anything earlier than 1900 is ill-formed.

5.18.3   Issue SG03

ECMA-376 is inconsistent with and contradicts ISO 639 "Codes for the representation of names of languages"

The ECMA specification, in Section 2.18.52, "S T_LangCode (Two Digit Hexadecimal Language Code)" (page 2531) mandates the use of a fixed (closed) list of numeric language codes.

The ISO 639 family of standards defines an open list with a Registration Authority which ensures it remains current with the latest ethno-linguistic determinations.

Reference can be made to JTC1 Directives 1.2, "A purpose of IT standardization is to ensure that products available in the marketplace have characteristics of interoperability, portability and cultural and linguistic adaptability." The use of a private set of language codes contradicts ISO 639 as well as JTC1 Directive 1.2.

5.18.4   Issue SG04

ECMA-376 is inconsistent with and contradicts ISO/IEC 8632 "Computer Graphics Metafile"

Two sections in the specification, 6.2.3.17 "Embedded Object Alternate Image Request Types" (page 5679) and 6.4.3.1 "Clipboard Format types" (page 5738) make reference to Windows Metafiles or Enhanced Metafiles. These are both Microsoft Windows proprietary formats, with hard-coded dependencies on the Windows operating system. The appropriate platform neutral standard to use in their place is the CGM format defined by ISO/IEC 8632.

5.18.5   Issue SG05

ECMA-376 conflicts with the General Principles of the ISO/IEC Directives, Part 2.

ECMA 378 cannot be fully understood or implemented by a typical computer programmer without substantial technical assistance from Microsoft. Numerous sections in the specification refer to the undocumented behavior of Microsoft proprietary products.

One specific example of many is in Section 2.15.3.26 (page 2199) of the ECMA-376 specification:

2.15.3.26 footnoteLayoutLikeWW8 (Emulate Word 6.x/95/97 Footnote Placement)

This element specifies that applications shall emulate the behavior of a previously existing word processing

application (Microsoft Word 6.x/95/97) when determining the placement of the contents of footnotes relative to

the page on which the footnote reference occurs. This emulation typically involves some and/or all of the

footnote being inappropriately placed on the page following the footnote reference.

[Guidance: To faithfully replicate this behavior, applications must imitate the behavior of that application,

which involves many possible behaviors and cannot be faithfully placed into narrative for this Office Open XML

Standard. If applications wish to match this behavior, they must utilize and duplicate the output of those

applications. It is recommended that applications not intentionally replicate this behavior as it was deprecated

due to issues with its output, and is maintained only for compatibility with existing documents from that

application. end guidance]

Typically, applications shall not perform this compatibility. This element, when present with a valid attribute

value of true (or equivalent), specifies that applications shall attempt to mimic that existing word processing

application in this regard.

[Example: Consider a WordprocessingML document with a series of footnotes.

If this compatibility setting is turned on:

<w:compat>

<w:footnoteLayoutLikeWW8 />

</w:compat>

Then applications should mimic the behavior of Microsoft Word 6.x/95/97 when determining the placement of

those footnotes on the displayed page, as needed. end example]

Furthermore, full utilization of the specification requires implementation of numerous other Microsoft
proprietary technologies, such as OLE, macros/scripts, encryption, and DRM, none of which are fully described
by Microsoft and Microsoft has not stated a position regarding the availability of the necessary information.
Complying with these requirements and others like them would be practically impossible without further
information from Microsoft.

5.18.6   Issue SG06

ECMA-376 contradicts with ISO 216

Section 3.3.1.61 (page 2770) defines a fixed table of only 68 paper sizes.

5.18.7   Issue SG07

A standard with 6000+ pages is a clear case of slowing down or confusing 3rd-party understanding of the
content. An implementer of ECMA-376l would necessarily need to digest and remember a huge amount of
information and understanding from the 6000+ pages before s/he is able to feel sufficiently confident about
translating the standard's requirements into program codes. As this capability of understanding demands a lot
more from implementers, this indirectly raises the barrier to implementing standard, and directly contradicts
ISO's mission and objectives.

One possibility on working around this objection is to break up the individual sub-standards and allow separate standardization process to take place amongst the independent sub-proposals. With a more specific scope and well-defined terminology within the sub-proposals, it will allow easier understanding and promotes greater utility of the sub-proposals to members of ISO, provided the sub-proposals themselves do not generate other contradictions.

5.19 Sweden

5.19.1   Issue SE01

Today, SIS is not in the position to make a statement on whether this document should be passed on for a Fast Track ballot or not.

There are however, concerns from some of our members, that two ISO/IEC standards for open document formats will be perceived by users as confusing and maybe also as a source of interoperability problems.

5.19.2   Issue SE02

… the document is very comprehensive and it has not been possible to make a deeper study during such a short time as 30 days. The work may have benefitted from input from a study group of experts, supporting the members in their evaluation of Ecma OpenXML in the open document formats space.

5.20 United Kingdom

5.20.1   Issue UK01

In response to ISO/IEC JTC 1 N8455, the UK does not believe that ECMA-376 (ISO/IEC DIS 29500) is an appropriate candidate for the fast-track procedure for the following reasons:

Section 13.1 of the JTC 1 Directives states that *"Any P-member of JTC 1 or organisation in Category A liaison with JTC 1 may propose that an existing standard (or amendment with the approval of the responsible SC) from any source be submitted without modification directly for vote as a DIS (or DAM). The criteria for proposing an existing standard for the fast-track procedure is* [sic] *a matter for each proposer to decide"*.

Nevertheless, Section 13.4 implies that certain criteria must be applied since it states that *"During the 30-day review period, an NB may identify to the JTC 1 Secretariat any perceived contradiction with other JTC 1, ISO or IEC standards. If such a contradiction is alleged, the matter shall be resolved by the ITTF and JTC 1 Secretariat in accordance with Section 13.2 before ballot voting can commence. If no contradiction is alleged, the fast-track ballot voting commences immediately following the 30-day period."*

The UK believes that there is a contradiction between ECMA-376 (DIS 29500) and existing ISO/IEC JTC 1 Standards, in particular, ISO/IEC JTC1 26300 *"Open Document Format for Office Applications"*. In accordance with Section 13.4, the JTC 1 Secretariat and ITTF must resolve these contradictions before the fast-track ballot can start. The UK believes that Section 13.2 (second bullet) cannot be complied with and so the document cannot be submitted for the five-month ballot specified by the fast-track procedure.

N8455 is inconsistent with and contradicts ISO/IEC JTC1 26300 "Open Document Format for Office Applications".

1 According to ISO/IEC JTC1 26300 "Open Document Format for Office Applications", section 1.1: "This
2 document defines an XML schema for office applications and its semantics. The schema is suitable for office
3 documents, including text documents, spreadsheets, charts and graphical documents like drawings or
4 presentations, but is not restricted to these kinds of documents."

5 Compare this to the introduction of N8455: "This part is one piece of a standard that describes a family of XML
6 schemas, collectively called Office Open XML, which define the XML vocabularies for word-processing,
7 spreadsheet, and presentation documents, as well as the packaging of documents that conform to these
8 schemas."

9 OpenXML clearly duplicates or at least significantly overlaps with the ODF specification, and having two
10 contradictory and inconsistent standards for the same problem will only cause user confusion and lack of
11 interoperability.

5.20.2   Issue UK02

13 Due to the size and complexity of the document, the United Kingdom does not believe that it can fulfil its
14 obligation to review this specification and maintain the integrity of the process and the reputation of JTC1
15 within the five-month ballot period although we note that the Directives do not preclude the fast-track process
16 for large or complex documents except that the third bullet point of Section 13.2 acknowledges the difficulties
17 that they may cause in stating that *"the ITTF may demand the necessary number of* [hard] *copies from the*
18 *proposer"*.

5.20.3   Issue UK03

20 Furthermore, the UK believes that the information adduced concerning Intellectual Property Rights is contrary
21 to subclause 2.14.2 of the ISO/IEC Directives, Part 1: 2004.

5.20.4   Issue UK04

23 The UK would support ECMA-376 being submitted as a Committee Draft in conjunction with a New Work
24 Item Proposal so that it follows the normal standards track rather than fast-track.

5.20.5   Issue UK05

26 N8455 is inconsistent with and contradicts ISO 8601:2004 "Representation of Dates and Times".

27 N8455 requires that the spreadsheet file format store dates in a format which incorrectly defines that the year
28 1900 be treated as a leap year although this contradicts the Gregorian Calendar rule that for years divisible by
29 100, only those also divisible by 400 are leap years. Similar contradictions include a requirement that the
30 WEEKDAY() spreadsheet function return the incorrect day of the week for certain dates, and for date
31 calculations, such as determining the number of days between two dates, yield incorrect values for certain pairs
32 of dates.

5.20.6   Issue UK06

34 N8455 is inconsistent with and contradicts ISO 639 "Codes for the representation of names of languages";
35 because of this it also contradicts the JTC1 Directives

JTC1 Directives state: "A purpose of IT standardization is to ensure that products available in the marketplace have characteristics of interoperability, portability and cultural and linguistic adaptability." N8455 Section 2.18.52, "ST_LangCode (Two Digit Hexadecimal Language Code)" mandates the use of a fixed (closed) list of numeric language codes whereas the ISO 639 family of standards defines an open list of with a Registration Authority which ensures it remains current with the latest ethno-linguistic determinations.

The use of a private set of language codes contradicts ISO 639 as well as JTC1 Directive 1.2.

5.20.7   Issue UK07

N8455 is inconsistent with and contradicts ISO/IEC 8632 "Computer Graphics Metafile".

Two sections in the specification, 6.2.3.17 "Embedded Object Alternate Image Request Types" and 6.4.3.1 "Clipboard Format types" make reference to Windows Metafiles or Enhanced Metafiles. These are both Microsoft Windows proprietary formats, with hard-coded dependencies on the Windows operating system. The appropriate platform neutral standard to use in their place is the CGM format defined by ISO/IEC 8632.

5.20.8   Issue UK08

N8455 violates the General Principles of the ISO/IEC Directives, Part 1

N8455 cannot be fully understood or implemented by a typical computer programmer without substantial technical assistance from Microsoft. Numerous sections in the specification refer to the undocumented behavior of Microsoft proprietary products.

One specific example of many is in Section 2.15.3.26 of the N8455 specification:

2.15.3.26 footnoteLayoutLikeWW8 (Emulate Word 6.x/95/97 Footnote Placement)

This element specifies that applications shall emulate the behavior of a previously existing word processing application (Microsoft Word 6.x/95/97) when determining the placement of the contents of footnotes relative to the page on which the footnote reference occurs. This emulation typically involves some and/or all of the footnote being inappropriately placed on the page following the footnote reference.

[Guidance: To faithfully replicate this behavior, applications must imitate the behavior of that application, which involves many possible behaviors and cannot be faithfully placed into narrative for this Office Open XML Standard. If applications wish to match this behavior, they must utilize and duplicate the output of those applications. It is recommended that applications not intentionally replicate this behavior as it was deprecated due to issues with its output, and is maintained only for compatibility with existing documents from that application. end guidance]

Typically, applications shall not perform this compatibility. This element, when present with a val attribute value of true (or equivalent), specifies that applications shall attempt to mimic that existing word processing application in this regard.

[Example: Consider a WordprocessingML document with a series of footnotes.

If this compatibility setting is turned on:

1   *<w:compat>*

2   *<w:footnoteLayoutLikeWW8 />*

3   *</w:compat>*

4   *Then applications should mimic the behavior of Microsoft Word 6.x/95/97 when determining the placement of*
5   *those footnotes on the displayed page, as needed. end example]*

6   Furthermore, full utilization of the specification requires implementation of numerous other Microsoft
7   proprietary technologies, such as OLE, macros/scripts, encryption, and DRM, none of which are fully described
8   by Microsoft and Microsoft has not stated a position regarding the availability of the necessary information.
9   Complying with these requirements and others like them would be practically impossible without further
10 information from Microsoft.