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# **Information technology — Document description and processing languages — Office Open XML File Formats —**

## **Part 1: Fundamentals and Markup Language Reference**

TECHNICAL CORRIGENDUM 1

*Technologies de l'information — Description des documents et langages de traitement — Formats de fichier  
"Office Open XML" —  
Partie 1: ...*

### **RECTIFICATIF TECHNIQUE 1**

Technical Corrigendum 1 to ISO/IEC 29500-1:2012 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 34, *Document description and processing languages*.

It contains corrections that resolve various Defect Reports submitted against ISO/IEC 29500-1:2012.

A correction can involve changes to one or more clauses or subclauses; it can even apply to multiple Parts of ISO/IEC 29500. For changes to ISO/IEC 29500-1:2012, each such change has its own entry below.

Changes are presented in ascending clause, subclause, and page number order.

This is the first Technical Corrigendum for ISO/IEC 29500-1:2012. No amendments to ISO/IEC 29500-1:2012 have been published.

## ISO/IEC 29500-1:2012/Cor.1:2015(E)

### Notational conventions

The title of each change is the complete reference to the clause or subclause being corrected. In all cases, the title begins with the clause or subclause number, the clause or subclause name, and the page number. In those cases containing changes to a particular row of a table, the value in that row's first column is appended to the title. As the lines in each XML schema subclause are numbered, corrections to schemas also contain the numbers of the lines being corrected.

A change can contain any one or more of the following kinds of edits:

1. Addition of text: New text is displayed in blue and is underlined, as demonstrated here.
2. Deletion of text: ~~Deleted text is displayed in red and is struck through, as demonstrated here.~~
3. Change of format of text: Text whose format (but not its content) has changed is displayed in green and is double-underlined, as demonstrated here.

Many changes involve edits to large paragraphs, tables, and/or XML fragments. In such cases, the changes contain only as much unchanged content as is necessary to establish the correct context of each change. Omitted content is identified via the use of ellipses (...).

Within a change, intent that cannot be represented visually as an edit is written as an instruction in italic and delimited by curly brackets; for example: *{In paragraph 2, item 4, and in paragraph 4, make the numbers in the text "17–23" hyperlinked forward references to Clauses 17 and 23.}*

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## Changes

### 1. §1, “Scope”, p. 1

[DR 13-0003]

...

This Part of ISO/IEC 29500 specifies concepts for documents and applications of both strict and transitional conformance.

### 2. §2.1, “Document Conformance”, p. 2

[DR 13-0009]

A document of conformance class Office Open XML Strict shall be a package of conformance class OPC, as specified in ISO/IEC 29500-2, for which all the following shall hold:

- ...
- For each OPC Part of the document of the types listed in §11.3, §12.3, §13.3, §14.2 or §15.2, all the following shall hold:
  - i. ~~The part is of conformance class MCE, as specified in ISO/IEC 29500-3~~[The Part may contain markup in the Markup Compatibility namespace as specified in ISO/IEC 29500-3](#)
  - ii. After the removal of any extensions ~~using the mechanisms~~[by an MCE processor as specified in ISO/IEC 29500-3](#), the part is valid against the strict W3C XML Schema (Appendix A)

### 3. §3, “Normative References”, p. 7

[DR 18-0018]

...

ISO/IEC 9075-1, *Information technology — Database languages — SQL — Framework (SQL/Framework)*

[ISO/IEC 9075-3, Information technology — Database languages — SQL — Part 3: Call-Level Interface \(SQL/CLI\)](#)

ISO/IEC 10118-3:2004, *Information technology — Security techniques — Hash-functions — Part 3: Dedicated hash-functions.*

...

### 4. §4, “Terms and Definitions”, pp. 11–12

[DR 10-0018, DR 12-0017, DR 13-0007]

...

**comment** — A note ~~that an author or reviewer~~ attached<sup>s</sup> to content in a document. Although a consumer might choose to display comments, they are not considered part of the body of the document. A comment might include the text of the note, the comment author's name and initials, and date of creation, among other things.

...

~~**MDX** — A multi-dimensional expression language, passed to an OLAP provider. The method of interpreting of this is defined by the server-side OLAP provider implementation.~~

**ODBC** — An implementation of ISO/IEC 9075-3:2008 “Information technology -- Database languages -- SQL – Part 3: Call-Level Interface (SQL/CLI)” or SQL/CLI-based database connectivity API. An example of a broadly used SQL/CLI-based database connectivity API is the Open Database Connectivity (ODBC) API.

**Office Open XML document** — A rendition of a data stream formatted using the wordprocessing, spreadsheet, or presentation ML and its related MLs as described in ECMA-376-1 and ECMA-376-4. Such a document is represented as a package as described in ECMA-376-2.

~~**OLAP** — A type of online analytical processing database which uses a multi-dimensional data model.~~

...

## 5. §10, “Markup Compatibility and Extensibility”, p. 28

[DR 13-0009]

Office Open XML documents are designed to allow for innovation by extending their capabilities, by using (where allowed) the Application-Defined Extension Element extLst specified by this Part of ISO/IEC 29500 or by using the Markup Compatibility and Extensibility features specified by ISO/IEC 29500-3:20xx ~~via a scheme defined by Part 3.~~ All the features of ISO/IEC 29500-3:20xx are supported by this Part of ISO/IEC 29500.

## 6. §10.1, “Constraints on Office Open XML's Use of Markup Compatibility and Extensibility”, p. 28

[DR 13-0009]

*{Delete whole subclause.}*

## 7. §10.1.1, “PreserveElements and PreserveAttributes”, p. 28

[DR 13-0009]

*{Delete whole subclause.}*

## 8. §10.1.2, “Office Open XML Native Extensibility Constructs”, p. 28

[DR 13-0009, which supersedes DR 13-0004]

*{Delete whole subclause.}*

## 9. §11.3.3, “Document Settings Part”, p. 37

[DR 13-0003]

The zip item name is incorrect.

[*Example:* The following Main Document part-relationship item contains a relationship to a Document Settings part, which is stored in the ZIP item ~~documentProperties1~~[settings.xml](#):

```
<Relationships xmlns="...">
  <Relationship Id="rId4"
    Type="http://.../settings" Target="settings.xml"/>
</Relationships>
```

*end example]*

## 10. §12.1, “Glossary of SpreadsheetML-Specific Terms”, p. 65

[DR 12-0017]

The following terms are used in the context of a SpreadsheetML document:

**AutoFilter** – A SpreadsheetML document state in which only certain rows are displayed, determined via filter criteria applied to the columns.

**cell** — ...

...

**MDX** — A multi-dimensional expression language, passed to an OLAP provider. The method of interpreting of this is defined by the server-side OLAP provider implementation.

**ODBC** — An implementation of ISO/IEC 9075-3:2008 “Information technology -- Database languages -- SQL – Part 3: Call-Level Interface (SQL/CLI)” or SQL/CLI-based database connectivity API. An example of a broadly used SQL/CLI-based database connectivity API is the Open Database Connectivity (ODBC) API.

**Office Open XML document** — A rendition of a data stream formatted using the wordprocessing, spreadsheet, or presentation ML and its related MLs as described in ECMA-376-1 and ECMA-376-4. Such a document is represented as a package as described in ECMA-376-2.

**OLAP** — A type of online analytical processing database which uses a multi-dimensional data model.

...

**11. §16.4, “DrawingML Summary”, p. 167**

[DR 13-0001]

Part	Root Element	Ref.
..	...	...
Theme	<del>officeStyleSheet</del> theme	...
...	...	...

**12. §17.3.1.14, “keepLines (Keep All Lines On One Page), p. 227**

[DR 12-0008, DR 12-0009]

This element specifies that ~~when rendering this document in a page view,~~ all lines of this paragraph ~~are~~should be maintained on a single page ~~whenever possible.~~

[Note: This means that if the contents of the current paragraph would normally span across two pages due to the placement of the paragraph's text, all lines in this paragraph ~~shall~~should be moved onto the next page to ensure they are displayed together. If this is not possible because all lines in the paragraph would exceed a single page in any case, then lines in this paragraph ~~shall~~should start on a new page, with page breaks as needed afterwards.

If this element is omitted on a given paragraph, its value is determined by the setting previously set at any level of the style hierarchy (i.e., that previous setting remains unchanged). If this setting is never specified in the style hierarchy, then this property shall not be applied. end note]

...

**13. §17.3.1.15, “keepNext (Keep Paragraph With Next Paragraph)”, pp. 228–229**

[DR 12-0009]

This element specifies that ~~when rendering this document in a paginated view,~~ the contents of this paragraph are at least partly rendered on the same page as the following paragraph whenever possible.

...

**14. §17.3.1.23, “pageBreakBefore (Start Paragraph on Next Page)”, p. 239**

[DR 12-0009]

This element specifies that ~~when rendering this document in a paginated view,~~ the contents of this paragraph are rendered on the start of a new page ~~in the document.~~

...

## 15. §17.3.1.33, “spacing (Spacing Between Lines and Above/Below Paragraph)”, attributes line and lineRule, pp. 252–254

[DR 12-0007]

Attributes	Description
line (Spacing Between Lines in Paragraph)	<p>...</p> <p>If the value of the lineRule attribute is either atLeast or exact<del>ly</del>, then the value of this attribute shall be interpreted as twentieths of a point. When the value of the lineRule attribute is either <u>atLeast or</u> exact<del>ly</del>, the text shall be positioned as follows within that line height:</p> <ul style="list-style-type: none"> <li>• When the line height is too small, the text shall be positioned at the bottom of the line (i.e. clipped from the top down)</li> <li>• When the line height is too large, the text shall be centered in the available space.</li> </ul> <p>...</p>
lineRule (Spacing Between Lines)	<p>...</p> <p>If the value of this attribute is either atLeast or exact<del>ly</del>, then the value of the line attribute shall be interpreted as twentieths of a point, in the manner described by the simple type's values.</p> <p>...</p>

## 16. §17.3.2.6 “color (Run Content Color)”, attribute themeShade, p, 271

[DR 13-0003]

Attributes	Description
themeShade (Run Content Theme Color Shade)	<p>...</p> <p><u>T</u>he resulting themeShade value in the file format would be 66. <i>end example</i></p> <p>Given a <u>n</u> input red, green, or blue color value C (from 0-255), an output color value of C' (from 0-255), and a shade value S (from 0-100), the shade is applied as follows:</p> <p>...</p>

## 17. §17.3.2.6 “color (Run Content Color)”, attribute themeTint, pp. 271–272

[DR 13-0003]

Attributes	Description
themeTint (Run Content Theme Color Tint)	<p>...</p> <p>Given a <u>n</u> input red, green, or blue color value C (from 0-255), an output color value of C' (from 0-255), and a tint value T (from 0-100), the tint is applied as follows:</p> <p>...</p>

## 18. §17.3.2.12, “em (Emphasis Mark)”, p. 281

[DR 11-0033]

This element specifies the emphasis mark that shall be applied to each non-space character in this run. An *emphasis mark* is an additional character whose display position relative to the character to which it is applied is language- and writing-direction-dependent. The emphasis mark is specified by the contents of the val attribute.

~~This element specifies the emphasis mark which shall be displayed for each non-space character in this run. An *emphasis mark* is an additional character that is rendered above or below the main character glyph as specified by the contents of the val attribute.~~

If this element is not present, the default value is to leave the formatting applied at the previous level in the *style hierarchy*. If this element is never applied in the style hierarchy, then no emphasis mark shall be ~~added~~ applied to ~~each~~ any character in ~~this~~ the contents of this run.

[Example: Consider a run of text that is to have a dot emphasis mark applied to it. This is specified using the following WordprocessingML:

```
<w:rPr>  
  <w:em w:val="dot"/>  
</w:rPr>
```

end example]

~~[Example: Consider a run of text which must have a dot underneath each character as an emphasis mark. This constraint is specified using the following WordprocessingML:~~

```
<w:rPr>  
  <w:em w:val="dot"/>  
</w:rPr>
```

~~This run explicitly declares that the emphasis mark type is dot, so the contents of this run has a dot emphasis mark above each character. end example]~~

Attributes	Description
------------	-------------



Attributes	Description
val (Emphasis Mark Type)	<p>Specifies the emphasis mark <u>applied to</u> <del>type used for</del> each <u>non-space</u> character in this run.</p> <p><del>[Example: Consider a run of text which must have a dot underneath each character as an emphasis mark. This constraint is specified using the following WordprocessingML:</del></p> <pre><del>&lt;w:rPr&gt;   &lt;w:em w:val="dot"/&gt; &lt;/w:rPr&gt;</del></pre> <p><del>This run explicitly declares that the em type is dot, so the contents of this run have a dot emphasis mark beneath each character. end example]</del></p> <p>The possible values for this attribute are defined by the ST_Em simple type (§17.18.24).</p>

[Note: The W3C XML Schema definition of this element's content model (CT\_Em) is located in §A.1. *end note*]

## 19. §17.3.2.26, “rFonts (Run Fonts)”, pp. 294–300

[DR 09-0040]

This element specifies the fonts which shall be used to display the text contents of this run. Within a single run, there can be up to four types of ~~content present~~font slot, which shall each be allowed to use a unique font:

- ASCII (i.e., the first 128 Unicode code points)
- High ANSI
- Complex Script
- East Asian

~~The use of each of these fonts shall be determined by the Unicode character values of the run content, unless manually overridden via use of the cs element (§Error! Reference source not found.).~~

If this element is not present, the default value is to leave the formatting applied at previous level in the *style hierarchy*. If this element is never applied in the style hierarchy, then the text shall be displayed in any default font which supports that set of characters.

[Example: Consider a single text run with both Arabic and English text, which can be expressed as follows:

```
<w:r>
  <w:rPr>
    <w:rFonts w:ascii="Courier New" w:cs="Times New Roman" />
  </w:rPr>
  <w:t>English العربية</w:t>
</w:r>
```

In this run, both “English” and “العربية” should be in ASCII font slot, according to the two-step algorithm. Therefore, both of them should be in the Courier New font face.

The same content can also be expressed as follows:

```
<w:r>
  <w:rPr>
    <w:rFonts w:ascii="Courier New" w:cs="Times New Roman" />
    <w:rtl/>
  </w:rPr>
  <w:t>English العربية</w:t>
</w:r>
```

In this run, both “English” and “العربية” should be in Complex Script font slot, according to the two-step algorithm. Therefore, both of them should be in the Times New Roman font face. *end example*

~~[Example: Consider a single text run with both Arabic and English text, as follows:~~

~~Englishالعربية~~

~~This content can be expressed in a single WordprocessingML run:~~

```
<w:r>
  <w:t>Englishالعربية</w:t>
</w:r>
```

~~Although it is in the same run, the contents are in different font faces by specifying a different font for ASCII and CS characters in the run:~~

```
<w:r>
  <w:rPr>
    <w:rFonts w:ascii="Courier New" w:cs="Times New Roman" />
  </w:rPr>
  <w:t>Englishالعربية</w:t>
</w:r>
```

~~This text run must therefore use the Courier New font for all characters in the range U+0000 to U+007F, and must use the Times New Roman font for all characters in the Complex Script range. *end example*~~For each Unicode character in a run, the font slot can be determined using the following two-step methodology:

1. Use the table below to decide the classification of the content, based on its Unicode code point.

<u>Unicode Block</u>	<u>Range</u>	<u>Classification</u>
<u>Basic Latin</u>	<u>U+0000–U+007F</u>	<u>ASCII font</u>

<u>Unicode Block</u>	<u>Range</u>	<u>Classification</u>
<u>Latin-1 Supplement</u>	<u>U+00A0–U+00FF</u>	<p><u>High ANSI font</u>, with the following exceptions:</p> <ul style="list-style-type: none"> <li><u>If the value of the hint attribute is eastAsia</u>, the following characters use <u>East Asian font</u> (or <u>eastAsiaTheme</u> if defined): A1, A4, A7 – A8, AA, AD, AF, B0 – B4, B6 – BA, BC – BF, D7, F7</li> </ul> <p><u>If the value of the hint attribute is eastAsia</u> and the language component of the language specified in the eastAsia attribute on the lang element is “zh”, the following characters use <u>East Asian font</u> (or <u>eastAsiaTheme</u> if defined): E0 – E1, E8 – EA, EC – ED, F2 – F3, F9 – FA, FC</p>
<u>Latin Extended-A</u>	<u>U+0100–U+017F</u>	<p><u>High ANSI font</u>, with the following exception:</p> <p><u>If the value of the hint attribute is eastAsia</u>, and the language component of the language specified in the eastAsia attribute on the lang element is “zh”, or the character set of the <u>East Asian font</u> (or <u>eastAsiaTheme</u> if defined) font is Big5 or GB2312, then <u>East Asian font</u> is used.</p>
<u>Latin Extended-B</u>	<u>U+0180–U+024F</u>	<p><u>High ANSI font</u>, with the following exception:</p> <p><u>If the value of the hint attribute is eastAsia</u>, and the language component of the language specified in the eastAsia attribute on the lang element is “zh”, or the character set of the <u>East Asian font</u> (or <u>eastAsiaTheme</u> if defined) font is Big5 or GB2312, then <u>East Asian font</u> is used.</p>
<u>IPA Extensions</u>	<u>U+0250–U+02AF</u>	<p><u>High ANSI font</u>, with the following exception:</p> <p><u>If the value of the hint attribute is eastAsia</u>, and the language component of the language specified in the eastAsia attribute on the lang element is “zh”, or the character set of the <u>East Asian font</u> (or <u>eastAsiaTheme</u> if defined) font is Big5 or GB2312, then <u>East Asian font</u> is used.</p>
<u>Spacing Modifier Letters</u>	<u>U+02B0–U+02FF</u>	<u>If the value of the hint attribute is eastAsia</u> then <u>East Asian font</u> is used, otherwise <u>High ANSI font</u> is used.
<u>Combining Diacritical Marks</u>	<u>U+0300–U+036F</u>	<u>If the value of the hint attribute is eastAsia</u> then <u>East Asian font</u> is used, otherwise <u>High ANSI font</u> is used.
<u>Greek</u>	<u>U+0370–U+03CF</u>	<u>If the value of the hint attribute is eastAsia</u> then <u>East Asian font</u> is used, otherwise <u>High ANSI font</u> is used.
<u>Cyrillic</u>	<u>U+0400–U+04FF</u>	<u>If the value of the hint attribute is eastAsia</u> then <u>East Asian font</u> is used, otherwise <u>High ANSI font</u> is used.
<u>Hebrew</u>	<u>U+0590–U+05FF</u>	<u>ASCII font</u>
<u>Arabic</u>	<u>U+0600–U+06FF</u>	<u>ASCII font</u>
<u>Syriac</u>	<u>U+0700–U+074F</u>	<u>ASCII font</u>
<u>Arabic Supplement</u>	<u>U+0750–U+077F</u>	<u>ASCII font</u>
<u>Thaana</u>	<u>U+0780–U+07BF</u>	<u>ASCII font</u>

<u>Unicode Block</u>	<u>Range</u>	<u>Classification</u>
<u>Hangul Jamo</u>	<u>U+1100–U+11FF</u>	<u>East Asian font</u>
<u>Latin Extended Additional</u>	<u>U+1E00–U+1EFF</u>	<u>High ANSI font</u> , with the following exception: <u>If the value of the hint attribute is eastAsia and the language component of the language specified in the eastAsia attribute on the lang element is “zh”, then East Asian is used.</u>
<u>Greek Extended</u>	<u>U+1F00–U+1FFF</u>	<u>High ANSI font</u>
<u>General Punctuation</u>	<u>U+2000–U+206F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Superscripts and Subscripts</u>	<u>U+2070–U+209F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Currency Symbols</u>	<u>U+20A0–U+20CF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Combining Diacritical Marks for Symbols</u>	<u>U+20D0–U+20FF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Letter-like Symbols</u>	<u>U+2100–U+214F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Number Forms</u>	<u>U+2150–U+218F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Arrows</u>	<u>U+2190–U+21FF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Mathematical Operators</u>	<u>U+2200–U+22FF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Miscellaneous Technical</u>	<u>U+2300–U+23FF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Control Pictures</u>	<u>U+2400–U+243F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Optical Character Recognition</u>	<u>U+2440–U+245F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Enclosed Alphanumerics</u>	<u>U+2460–U+24FF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Box Drawing</u>	<u>U+2500–U+257F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Block Elements</u>	<u>U+2580–U+259F</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Geometric Shapes</u>	<u>U+25A0–U+25FF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>
<u>Miscellaneous Symbols</u>	<u>U+2600–U+26FF</u>	<u>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</u>

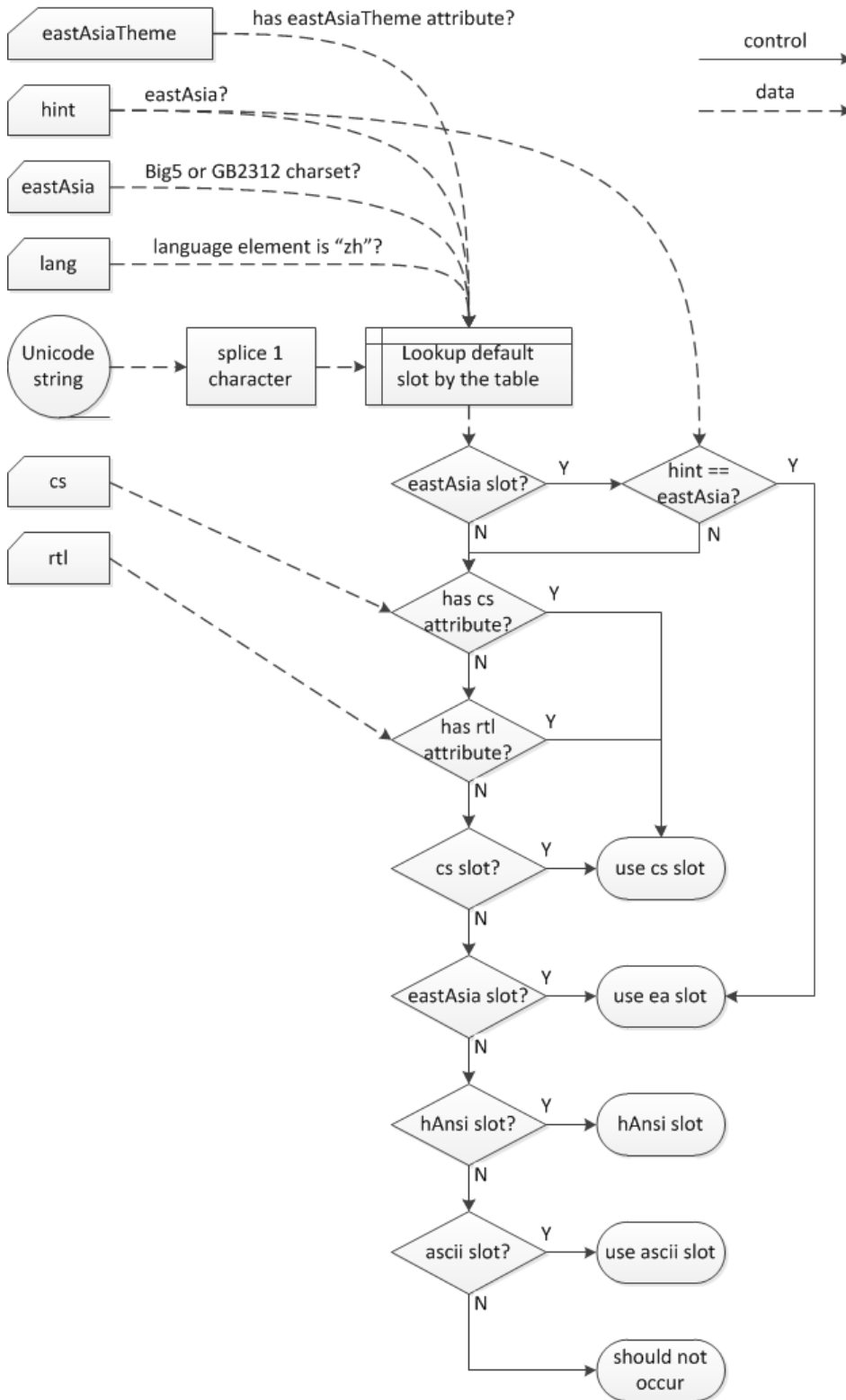
<u>Unicode Block</u>	<u>Range</u>	<u>Classification</u>
<a href="#">Dingbats</a>	<a href="#">U+2700–U+27BF</a>	<i>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</i>
<a href="#">CJK Radicals Supplement</a>	<a href="#">U+2E80–U+2EFF</a>	<i>East Asian font</i>
<a href="#">Kangxi Radicals</a>	<a href="#">U+2F00–U+2FDF</a>	<i>East Asian font</i>
<a href="#">Ideographic Description Characters</a>	<a href="#">U+2FF0–U+2FFF</a>	<i>East Asian font</i>
<a href="#">CJK Symbols and Punctuation</a>	<a href="#">U+3000–U+303F</a>	<i>East Asian font</i>
<a href="#">Hiragana</a>	<a href="#">U+3040–U+309F</a>	<i>East Asian font</i>
<a href="#">Katakana</a>	<a href="#">U+30A0–U+30FF</a>	<i>East Asian font</i>
<a href="#">Bopomofo</a>	<a href="#">U+3100–U+312F</a>	<i>East Asian font</i>
<a href="#">Hangul Compatibility Jamo</a>	<a href="#">U+3130–U+318F</a>	<i>East Asian font</i>
<a href="#">Kanbun</a>	<a href="#">U+3190–U+319F</a>	<i>East Asian font</i>
<a href="#">Enclosed CJK Letters and Months</a>	<a href="#">U+3200–U+32FF</a>	<i>East Asian font</i>
<a href="#">CJK Compatibility</a>	<a href="#">U+3300–U+33FF</a>	<i>East Asian font</i>
<a href="#">CJK Unified Ideographs Extension A</a>	<a href="#">U+3400–U+4DBF</a>	<i>East Asian font</i>
<a href="#">CJK Unified Ideographs</a>	<a href="#">U+4E00–U+9FAF</a>	<i>East Asian font</i>
<a href="#">Yi Syllables</a>	<a href="#">U+A000–U+A48F</a>	<i>East Asian font</i>
<a href="#">Yi Radicals</a>	<a href="#">U+A490–U+A4CF</a>	<i>East Asian font</i>
<a href="#">Hangul Syllables</a>	<a href="#">U+AC00–U+D7AF</a>	<i>East Asian font</i>
<a href="#">High Surrogates</a>	<a href="#">U+D800–U+DB7F</a>	<i>East Asian font</i>
<a href="#">High Private Use Surrogates</a>	<a href="#">U+DB80–U+DBFF</a>	<i>East Asian font</i>
<a href="#">Low Surrogates</a>	<a href="#">U+DC00–U+DFFF</a>	<i>East Asian font</i>
<a href="#">Private Use Area</a>	<a href="#">U+E000–U+F8FF</a>	<i>If the value of the hint attribute is eastAsia then East Asian font is used, otherwise High ANSI font is used.</i>
<a href="#">CJK Compatibility Ideographs</a>	<a href="#">U+F900–U+FAFF</a>	<i>East Asian font</i>
<a href="#">Alphabetic Presentation Forms</a>	<a href="#">U+FB00–U+FB4F</a>	<i>If the value of the hint attribute is eastAsia then East Asian font is used for characters in the range FB00 – FB1C, otherwise High ANSI font is used. For the range FB1D – FB4F, ASCII font is used.</i>
<a href="#">Arabic Presentation Forms-A</a>	<a href="#">U+FB50–U+FDFF</a>	<i>ASCII font</i>

<u>Unicode Block</u>	<u>Range</u>	<u>Classification</u>
<u>CJK Compatibility Forms</u>	<u>U+FE30–U+FE4F</u>	<u>East Asian font</u>
<u>Small Form Variants</u>	<u>U+FE50–U+FE6F</u>	<u>East Asian font</u>
<u>Arabic Presentation Forms-B</u>	<u>U+FE70–U+FEFE</u>	<u>ASCII font</u>
<u>Halfwidth and Fullwidth Forms</u>	<u>U+FF00–U+FFEF</u>	<u>East Asian font</u>

2. If, after the first step, the character falls into East Asian classification and the *value of the hint attribute* is *eastAsia*, then the character should use East Asian font slot
  - a. Otherwise, if there is <w:cs/> or <w:rtl/> in this run, then the character should use Complex Script font slot, regardless of its Unicode code point.
    - i. Otherwise, the character is decided using the font slot that is corresponding to the classification in the table above.

Once the font slot for the run has been determined using the above steps, the appropriate formatting elements (either complex script or non-complex script) will affect the content.

[Note: This process is also represented in the following diagram:



[end note\]](#)

[\[Example: Consider text with both English and East Asian character in this WordprocessingML:](#)

```

<w:rPr>
  <w:rFonts w:hint="eastAsia"/>
  <w:bCs/>
  <w:rtl/>
</w:rPr>
<w:t> English 中文</w:t>

```

In this example, all the characters in the table are first checked. Because 中文 falls into East Asian classification and plus the *value of the hint attribute is eastAsia* in the run, the characters should use East Asian font slot, and in turn <w:bCs/> (§17.3.2.2) should not be able to make it bold. As to *English*, because it does not fall into the East Asian classification and there is <w:rtl/> in this run, it should use Complex Script font slot, regardless of its Unicode code point. And in turn, <w:bCs/> should be able to make it bold. Therefore, in the document, *English* should be bold, while 中文 should be regular, as illustrated below:



end example]

[Example: Consider a single text run with both Arabic and English text, as follows:

Englishالعربية

This content can be expressed in a single WordprocessingML run:

```

<w:r>
  <w:t>English العربية</w:t>
</w:r>

```

Although it is in the same run, the content is in different font faces by specifying a different font for ASCII and CS characters in the run:

```

<w:r>
  <w:rPr>
    <w:rFonts w:ascii="Courier New" w:cs="Times New Roman" />
  </w:rPr>
  <w:t>English العربية</w:t>
</w:r>

```



This text run must therefore use the Courier New font for all characters in the range U+0000 to U+007F, and must use the Times New Roman font for all characters in the Complex Script range. end example]

Attributes	Description
ascii (ASCII Font)	Specifies a font which shall be used to format all characters in the Unicode <a href="#">code point</a> range (U+0000–U+007F) within the parent run. ... The ascii attribute specifies that the run must use the Courier New font for all text in this range. end example] ...
asciiTheme (ASCII Theme Font)	Specifies a theme font which shall be used to format all characters in the Unicode <a href="#">code point</a> range (U+0000–U+007F) within the parent run. ...  [Example: Consider a run of ASCII text which must be displayed using the major <a href="#">Ascii</a> theme font. This requirement would be specified as follows in the resulting WordprocessingML: ...]
cs (Complex Script Font)	Specifies a font which shall be used to format all characters <a href="#">that are determined to be in the Complex Script font slot</a> <del>in a complex script Unicode range</del> within the parent run. ... <pre> &lt;w:rPr&gt;   &lt;w:rFonts w:cs="Arial Unicode MS" /&gt;   &lt;w:cs /&gt; &lt;/w:rPr&gt; </pre> ...]
cstheme (Complex Script Theme Font)	Specifies a theme font which shall be used to format all characters <a href="#">that are determined to be in the Complex Script font slot</a> <del>in a complex script Unicode range</del> within the parent run. ... <pre> &lt;w:rPr&gt;   &lt;w:rFonts w:csTheme="majorBidi" /&gt;   &lt;w:cs /&gt; &lt;/w:rPr&gt; </pre> ...]
eastAsia (East Asian Font)	Specifies a font which shall be used to format all characters in an East Asian Unicode <a href="#">code point</a> range within the parent run. ...
eastAsiaTheme (East Asian Theme Font)	Specifies a theme font which shall be used to format all characters in an East Asian Unicode <a href="#">code point</a> range within the parent run. This theme font is a reference to one of the predefined theme fonts, located in the document's Theme part, which allows for font information to be set centrally in the document. ...

Attributes	Description
hAnsi (High ANSI Font)	Specifies a font which shall be used to format all characters in a Unicode <a href="#">code point</a> range within the parent run which does not fall into one of the three categories defined above, which is called the <i>high ANSI</i> range in WordprocessingML. ...
hAnsiTheme (High ANSI Theme Font)	Specifies a theme font which shall be used to format all characters in a Unicode <a href="#">code point</a> range within the parent run which does not fall into one of the three categories defined above, which is called the <i>high ANSI</i> range in WordprocessingML. ...
hint (Font Content Type)	<p>...</p> <p>If this attribute is omitted, then this ambiguity can be resolved by any means available.</p> <p><a href="#">[Example: Consider two runs, both of which contains an ellipsis in the text but the hint is different. The first run is specified as follows in the WordprocessingML:]</a></p> <pre> &lt;w:r&gt;   &lt;w:rPr&gt;     &lt;w:rFonts/&gt;   &lt;/w:rPr&gt;   &lt;w:t&gt;Ellipsis...&lt;/w:t&gt; &lt;/w:r&gt; </pre> <p><a href="#">This piece of text would be displayed as below in a document:</a></p> <p><u>Ellipsis...</u></p> <p><a href="#">The second run is specified as follows in the WordprocessingML:]</a></p> <pre> &lt;w:r&gt;   &lt;w:rPr&gt;     &lt;w:rFonts w:hint="eastAsia" /&gt;   &lt;/w:rPr&gt;   &lt;w:t&gt;省略...&lt;/w:t&gt; &lt;/w:r&gt; </pre> <p><a href="#">This piece of text would be displayed as below in a document:</a></p> <p><u>省略...</u></p> <p><a href="#">Although the “...” in both runs has the same Unicode code point, the first run uses ASCII font slot, while the second run uses the East Asian font slot, as determined by the hint attribute. Therefore, these two ellipses look different in the document. <i>end example</i>]</a></p> <p><a href="#">[Example: Consider the run representing the paragraph mark glyph, ...</a></p>

## 20. §17.3.2.44, “webHidden (Web Hidden Text)”, pp. 317–318

[DR 12-0009]

This element specifies whether the contents of this run shall be hidden from display at display time in a document when the document is being displayed in a web page view ([§17.18.102](#)). [Note: The setting should affect the normal display of text in a web page view, but an application can have settings to force hidden text to be displayed. *end note*]-~~As well, this setting should not affect a normal paginated view of the document.~~

If this element is not present, the default value is to leave the formatting applied at previous level in the *style hierarchy*-.If this element is never applied in the style hierarchy, ~~then~~-this text shall not be hidden when displayed in a document in a web page view.

[Example: Consider a run of text which must have the hidden text property turned on for the contents of the run. This constraint is specified using the following WordprocessingML:

```
<w:rPr>
  <w:webHidden />
</w:rPr>
```

~~This run declares that the webHidden property is set for the contents of this run, so the contents of this run is hidden when the document contents are displayed in a web page view.~~ *end example*]

This element's content model is defined by the common boolean property definition in §xx.

## 21. §17.3.5, “Shading Properties (CT\_Shd)”, attribute themeFill, p. 361

[DR 13-0015]

..themeFill (Shading Background Theme Color)	... If this element is omitted, then no theme color is applied, and the <del>color</del> <a href="#">fill</a> attribute shall be used to determine the shading background color. ...
--	--

## 22. §17.4.46, “tblDescription (Table Description)”, attribute val, pp. 424–425

[DR 13-0003]

Attributes	Description
val (String Value)	... In this case, the decimal number in the val attribute is the caption of the nearest ancestor <u>structured</u> document tag. In each case, the value is interpreted in the context of the parent element. <i>end example</i> ]

## 23. §17.5.2.2, “bibliography (Bibliography Structured Document Tag)”, p. 495

[DR 13-0003]

This element specifies that the nearest ancestor\_structured document tag shall be of type bibliography.

## 24. §17.5.2.5, “comboBox (Combo Box Structured Document Tag)”, p. 497

[DR 13-0003]

This element specifies that the nearest ancestor\_structured document tag shall be a combo box when displayed in the document.

## 25. §17.5.2.6, “dataBinding (XML Mapping)”, p. 499, p. 501

[DR 13-0003]

This element specifies the information that shall be used to establish a mapping between the nearest ancestor\_structured document tag and an XML element stored within a Custom XML Data part in the current WordprocessingML document.

If this element is omitted, then no XML mapping shall be associated with the current structured document tag. If the nearest ancestor\_structured document tag is of type rich text or document part gallery, then this property shall be ignored.

If this element is present and the nearest ancestor\_structured document tag is not of a rich text type, then the current value of the structured document tag shall be determined by finding the XML element (if any) which is determined by the attributes on this element. ...

...

Attributes	Description
xpath (XPath)	Specifies the XPath expression <del>that</del> <del>which</del> shall be evaluated to find the custom XML node <del>that</del> <del>which</del> is mapped to the nearest ancestor_structured document tag. ...

## 26. §17.5.2.7, “date (Date Structured Document Tag)”, pp. 502–503

[DR 13-0003]

This element specifies that the nearest ancestor\_structured document tag shall be a date picker when displayed in the document.

...

Attributes	Description
------------	-------------

Attributes	Description
fullDate (Last Known Date in XML Schema DateTime Format)	Specifies the full date and time last entered into the nearest ancestor_structured document tag using the standard XML Schema DateTime syntax. ... If this attribute is specified, then the current fullDate attribute shall be used to populate the run content of the nearest ancestor_structured document tag by filtering it through the date display mask specified in the dateFormat element, if one is present.

## 27. §17.5.2.8, “dateFormat (Date Display Mask)”, pp. 503–504

[DR 13-0003]

The element specifies the display format ~~that~~~~which~~ shall be used to format any date entered into the nearest ancestor\_structured document tag in full DateTime format ...

...

Attributes	Description
val (String Value)	... In this case, the decimal number in the val attribute is the caption of the nearest ancestor_structured document tag. In each case, the value is interpreted in the context of the parent element. <i>end example</i> ...

## 28. §17.5.2.9, “docPart (Document Part Reference)”, p. 505

[DR 13-0003]

This element specifies the name of the document part that shall be displayed in the nearest ancestor\_structured document tag when its run contents are empty. If this element is specified, then a document part whose name element (§17.12.12) specifies a name matching the value of this element, and which belongs to the bbPlcHdr style shall be located to be used as the placeholder text for the nearest ancestor\_structured document tag.

...

Attributes	Description
val (String Value)	... In this case, the decimal number in the val attribute is the caption of the nearest ancestor_structured document tag. In each case, the value is interpreted in the context of the parent element. <i>end example</i> ...

## 29. §17.5.2.10, “docPartCategory (Document Part Category Filter)”, p. 506

[DR 13-0003]

This element specifies the category of document parts that shall be used as the filter when determining the possible choices of document parts that are displayed for insertion into the nearest ancestor `_structured` document tag. ...

If this element is omitted, then the nearest ancestor `_structured` document tag shall display all document parts in the specified gallery regardless their specified category. If this element is present, but ...

Attributes	Description
val (String Value)	... In this case, the decimal number in the val attribute is the caption of the nearest ancestor <code>_structured</code> document tag. In each case, the value is interpreted in the context of the parent element. <i>end example</i> ...

## 30. §17.5.2.11, “docPartGallery (Document Part Gallery Filter)”, p. 507

[DR 13-0003]

This element specifies the gallery of document parts that shall be used as the filter when determining the possible choices of document parts that are displayed for insertion into the nearest ancestor `_structured` document tag. ...

If this element is omitted, then the nearest ancestor `_structured` document tag shall display all document parts in its default gallery. If this element is present, but no document parts of the specified gallery are located by the application, then document parts in the default gallery shall be displayed (i.e. the application shall behave as if the value was omitted).

Attributes	Description
val (String Value)	... In this case, the decimal number in the val attribute is the caption of the nearest ancestor <code>_structured</code> document tag. In each case, the value is interpreted in the context of the parent element. <i>end example</i> ...

## 31. §17.5.2.12, “docPartList (Document Part Gallery Structured Document Tag)”, pp. 508–509

[DR 13-0003]

This element specifies that the nearest ancestor `structured` document tag shall be of a document part gallery type.

This setting does not require or imply that the contents of the structured document tag shall contain only the exact contents of a document part of the specified gallery and category which is present on the current machine, it shall only be used to specify that the structured document tag is of this kind, which shall be used by an application to present the possible list of choices for insertion into the nearest ancestor `structured` document tag.

### 32. §17.5.2.23 lock (Locking Setting)", p. 520

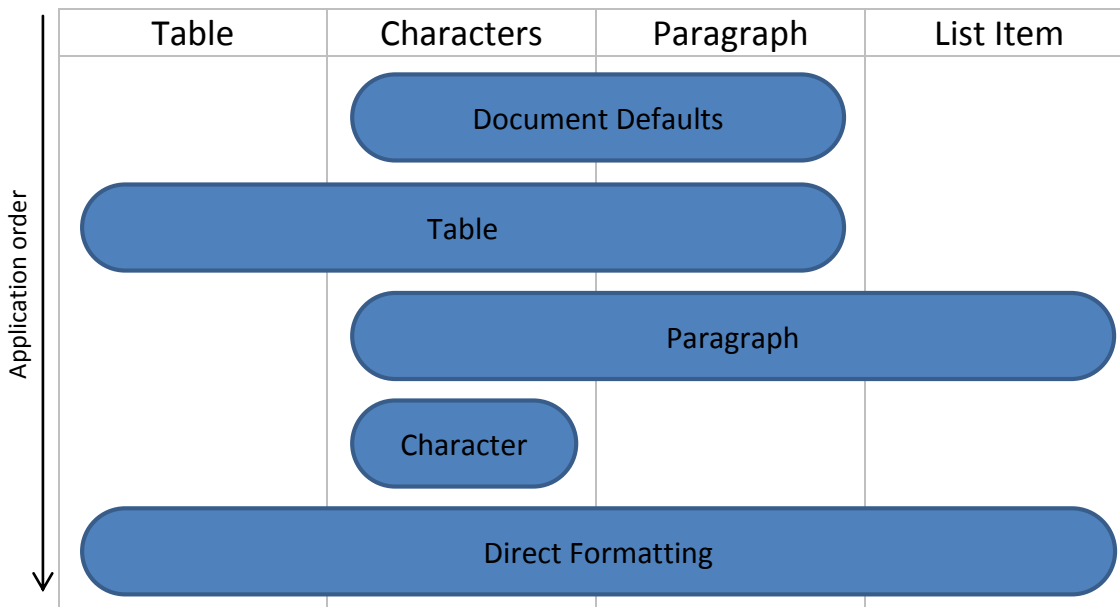
[DR 13-0003]

This element specifies the set of behaviors that shall be applied to the contents of the nearest ancestor `structured` document tag when the contents of this documents are edited by an application (whether through a user interface or directly). The type of locking applied to the structured document tag is specified via the value of the associated `val` attribute.

### 33. §17.7.2, "Style Hierarchy", p. 609

[DR 12-0005, DR 12-00025]

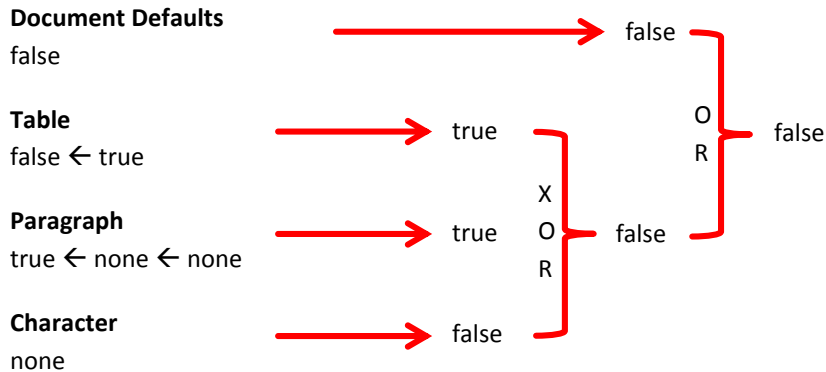
*{Replace the existing diagram(s) with the following one(s).}*



### 34. §17.7.3, "Toggle Properties", p. 611

[DR 12-0005, DR 12-00025]

{Replace the existing diagram(s) with the following one(s).}



← symbolizes the traversal of a basedOn reference

### 35. §17.14.10, “dataType (Data Source Type)”, p. 934

[DR 10-0018]

...

[Example: Consider the following WordprocessingML fragment for a mail merge source or merged document:

```
<w:dataType w:val="odbc" />
```

The dataType element's val attribute is equal to odbc, specifying that the given merged WordprocessingML document has been connected to an external data source via ~~the Open Database Connectivity~~ [ODBC interface](#).  
end example]

...

### 36. §17.15.1.26 displayBackgroundShape (Display Background Objects When Displaying Document), pp. 1004–1005

[DR 12-0009]

This element specifies whether the images and colors defined in the document's background using the background element (§17.2.1) shall be displayed when the document is displayed in print layout view ([§17.18.102](#)) as specified in the view element (§17.15.1.92).

If this element is omitted, then background shapes shall not be displayed when the document is displayed in print layout view.

...



### 37. §17.15.1.35, “doNotDisplayPageBoundaries (Do Not Display Visual Boundary For Header/Footer or Between Pages)”, pp. 1016–1018

[DR 12-0009]

This element specifies whether applications displaying this document should display the contents of the header and footer when displaying the document in print layout view ([§17.18.102](#))~~(50)~~ or should collapse those areas as well as the whitespace on all displayed pages so that the text extents are directly following one another.

[*Rationale*: Collapsing the ends of pages makes it easier to read the contents of the document, since the text flows between pages without whitespace, while maintaining the WYSIWYG functionality of print layout view for the document's main content. *end rationale*]

If this element is omitted, then all pages should be shown at their full size (including whitespace and headers/footers) when they are displayed in print layout view.

...

### 38. §17.15.1.76, “saveThroughXslt (Custom XSL Transform To Use When Saving As XML File)”, pp. 1056–1057

[DR 12-0022]

This element specifies the location of a custom XSL transform ~~which~~~~that~~ shall be used when this document is saved as a single XML file (in an [application-defined](#) format ~~not defined by ISO/IEC 29500~~). [*Guidance*: Because this setting specifies behavior when saving to an alternative file format not defined by ISO/IEC 29500, this behavior is optional. *end guidance*]

...

Attributes	...
solutionID (Local Identifier for XSL Transform)	Specifies a string identifier <del>which</del> <del>that</del> can be used to locate the XSL transform to be applied. The semantics of this attribute are <del>not defined by ISO/IEC 29500</del> <a href="#">application-defined</a> - applications can use this information in any application-defined manner to resolve the location of the XSL transform to apply.
	...

...

### 39. §17.15.1.91, “useXSLTWhenSaving (Save Document as XML File through Custom XSL Transform)”, p. 1071

[DR 12-0022]

...

If the saveXmlDataOnly element (§17.15.1.77) is specified, then the single XML file to be transformed is the custom XML markup of the document, otherwise, it [is in an implementation-defined](#) format ~~outside the scope of ISO/IEC 29500~~. If the XSL transform specified by the saveThroughXslt element is not present, then this setting should be ignored.

...

#### 40. §17.15.1.92, “view (Document View Setting)”, pp. 1071–1072

[DR 12-0009]

This element specifies the manner in which the contents of this document should be displayed when opened by an application. [\[Note: Although this Standard is for a file format, occasionally, guidance is given regarding intent in dealing with things outside that file format, such as the rendering of documents to a screen or printer. end note\]](#)

If this element is omitted, then an application can view the document in any desired default state.

~~[Example: Consider a WordprocessingML document that must be displayed on the screen in the same form as that document would be printed. This requirement would be specified using the following WordprocessingML in the document settings part:~~

~~<w:view w:val="print" />~~

~~The view element's val attribute is equal to print specifying that the given WordprocessingML document must be rendered as it is printed. end example]~~

Attributes	Description
------------	-------------

Attributes	Description
val (Document View Setting Value)	<p>Specifies the view <del>that</del><b>which</b> shall be used to render the contents of a WordprocessingML document.</p> <p>Applications can omit support for one or more of the views defined by the ST_View simple type (referenced below). If a WordprocessingML document containing an unsupported view is loaded by an application, it shall fall back to its default view (<del>§17.18.102 equivalent to use of the enumeration value none</del>).</p> <p>[Example: Consider a WordprocessingML document that <b>is</b> to <del>must</del> be rendered in a view meant to mimic how the document would look in a web browser (i.e. without a fixed page width). This <del>requirement intent is</del><b>would be</b> specified using the following WordprocessingML in the document settings:</p> <pre>&lt;w:view w:val="web" /&gt;</pre> <p><del>The val attribute is equal to web specifying that the given WordprocessingML document must be rendered in a view mimicking web page display. end example]</del></p> <p>The possible values for this attribute are defined by the ST_View simple type (§17.18.102).</p>

...

#### 41. §17.15.2.5 “color (Frameset Splitter Color)”, attribute themeShade, p. 1083

[DR 13-0003]

Attributes	Description
themeShade (Run Content Theme Color Shade)	<p>...</p> <p><del>The</del><b>he</b> resulting themeShade value in the file format would be 66. <i>end example]</i></p> <p>Given <del>an</del><b>a</b> input red, green, or blue color value C (from 0-255), an output color value of C' (from 0-255), and a shade value S (from 0-100), the shade is applied as follows:</p> <p>...</p>

#### §17.15.2.5 “color (Frameset Splitter Color)”, p. 1084, attribute themeTint

[DR 13-0003]

Attributes	Description
------------	-------------

Attributes	Description
themeTint (Run Content Theme Color Tint)	... Given an input red, green, or blue color value C (from 0-255), an output color value of C' (from 0-255), and a tint value T (from 0-100), the tint is applied as follows: ...

## 42. §17.16.5.68, “TOC”, pp. 1247–1249

[DR 12-0009]

...

**Switches:** Zero or more of the following *field-specific-switches*.

\a <i>field-argument</i>	...
...	...
\z	Hides tab leader and page numbers in <a href="#">web page view</a> <del>Web layout view</del> ( <a href="#">§17.18.102</a> ).

...

## 43. §17.17.3, “Roundtripping Alternate Content”, p. 1297–1298

[DR 13-0009]

~~Office Open XML defines a mechanism for the storage of content which is not defined by ISO/IEC 29500, for example extensions developed by future software applications which leverage the Office Open XML formats. This mechanism allows for the storage of a series of alternative representations of content, of which the consuming application should use the first alternative whose requirements are met.~~

~~[Example: Consider an application which creates a new paragraph property intended to make the colors of its text change colors randomly when it is displayed. This functionality is not defined in ISO/IEC 29500, and so the application might choose to create an alternative representation setting a different manual color on each character for clients which do not understand this extension using an AlternateContent block as follows:~~

```
<ve:AlternateContent xmlns:ve="...">
  <ve:Choice Requires="colors" xmlns:colors="urn:randomTextColors">
    <w:p>
      <w:pPr>
        <colors:random colors:val="true" />
      </w:pPr>
      <w:r>
        <w:t>Random colors!</w:t>
      </w:r>
    </w:p>
  </ve:Choice>
```

```

<ve:Fallback>
<w:p>
<w:r>
<w:rPr>
<w:color w:val="FF0000" />
</w:rPr>
<w:t>R</w:t>
</w:r>
<w:r>
<w:rPr>
<w:color w:val="00FF00" />
</w:rPr>
<w:t>a</w:t>
</w:r>
...
</w:p>
</ve:Fallback>
</ve:AlternateContent>

```

The Choice element that requires the new color extensions uses the random element in its namespace, and the Fallback element allows clients that do not support this namespace to see an appropriate alternative representation. *end example*

These alternate content blocks can occur at any location within a WordprocessingML document, and applications shall handle and process them appropriately (taking the appropriate choice).

However, WordprocessingML does not explicitly define a set of locations where applications ~~shall~~ should, whenever possible, attempt to store and roundtrip all non-taken choices in alternate content blocks ~~whenever possible~~. This behavior is therefore application-defined. For further discussion of alternate content blocks see §L.1.18.4.

[Example: If an application does not understand the colors extension, the resulting file (if alternate choices are to be preserved) would appear as follows:

```

<ve:AlternateContent xmlns:ve="...">
<ve:Choice Requires="colors" xmlns:colors="urn:randomTextColors">
...
</ve:Choice>
<ve:Fallback>
...
</ve:Fallback>
</ve:AlternateContent>

```

The file would then appear as follows after the choice is processed:

```

<w:p>
— <w:r>
— <w:nPr>
— <w:color w:val="FF0000" />
— </w:nPr>
— <w:t>R</w:t>
— </w:r>
— <w:r>
— <w:nPr>
— <w:color w:val="00FF00" />
— </w:nPr>
— <w:t>a</w:t>
— </w:r>
— ...
</w:p>

```

The state of the alternate choices (preserved or not) is dependent on the application hosting the file. Preserving the content involves storing each non-taken choice while the file is being edited, and writing out the file with an AlternateContent block when it is resaved. *end example*

#### 44. §17.18.4, “ST\_BrType (Break Types)”, pp. 1355–1356

[DR 12-0009, DR 13-0003]

...

Attributes	Description
page (Page Break)	... Page breaks shall be ignored when present in frames unless the showBreaksInFrames element (Part 4, §9.14.7.3.36) is present in the document's compatibility settings.

...

This simple type is restricted to the values listed in the following table:

Enumeration Value	Description
column (Column Break)	Specifies that the current break shall restart itself on the next column available on the current page <del>when the document is displayed in page view.</del>
	...

Enumeration Value	Description
page (Page Break)	<p>Specifies that the current break shall restart itself on the next page of the document <del>when the document is displayed in page view.</del></p> <p>Page breaks shall be ignored when present in frames <del>unless the showBreaksInFrames element (Part 4, §9.7.3.36) is present in the document's compatibility settings.</del></p>
textWrapping (Line Break)	<p>Specifies that the current break shall restart itself on the next line in the document <del>when the document is displayed in page view.</del></p> <p>The determination<sup>ation</sup> of the next line shall be done subject to the value of the clear attribute on the specified break character.</p>

...

## 45. §17.18.24, “ST\_Em (Emphasis Mark Type)”, pp. 1376–1376

[DR 11-0033]

This simple type specifies an enumerated list of emphasis marks, any one of which may be selected to be applied to each non-space character in a run. When displayed, the position of the emphasis mark relative to the character to which it is applied is language- and writing-direction-dependent. When displayed, the glyph used for the emphasis mark is implementation-dependent.

[Example: Consider a run of text that is to have a dot emphasis mark applied to it. This is specified using the following WordprocessingML:

```
<w:rPr>
  <w:em w:val="dot"/>
</w:rPr>
end example]
```

~~This simple type specifies possible types of emphasis marks which can be displayed for each non-space character in a run. This character is rendered above or below the character glyph as specified by enumeration values.~~

~~[Example: Consider a run of text which must have a dot underneath each character as an emphasis mark. This constraint is specified using the following WordprocessingML:~~

```
<w:rPr>
  —<w:em w:val="dot"/>
</w:rPr>
```

~~This run explicitly declares that the emphasis mark type is dot, so the contents of this run has a dot emphasis mark above each character. end example]~~

This simple type's contents are a restriction of the W3C XML Schema string datatype.

This simple type is restricted to the values listed in the following table:

Enumeration Value	Description
<a href="#">circle (Circle Emphasis Mark)</a>	<p><a href="#">Specifies that the emphasis mark is a circle. [Note: The intent is to have an emphasis mark similar to the following:</a></p> <p><a href="#">(written horizontally in Japanese)</a></p> <p><a href="#">中</a></p> <p><a href="#">(written vertically in Japanese)</a></p> <p><a href="#">中。</a></p> <p><a href="#">end note]</a></p>
<a href="#">circle (Circle Emphasis Mark Above Characters)</a>	<p><a href="#">Specifies that the emphasis mark is a circle character which shall be rendered above each character in this run using Unicode character 0x02DA when the language of the text is not Traditional Chinese.</a></p> <p><a href="#">For that language Unicode character 0x3002 shall be used instead, positioned beneath the characters.</a></p>
<a href="#">comma (Comma Emphasis Mark)</a>	<p><a href="#">Specifies that the emphasis mark is a comma. [Note: The intent is to have an emphasis mark similar to the following:</a></p> <p><a href="#">(written horizontally in Japanese)</a></p> <p><a href="#">ぎ</a></p> <p><a href="#">(written vertically in Japanese)</a></p> <p><a href="#">ぎ、</a></p> <p><a href="#">end note]</a></p>
<del><a href="#">comma (Comma Emphasis Mark Above Characters)</a></del>	<p><del><a href="#">Specifies that the emphasis mark is a comma character which shall be rendered above each character in this run, using Unicode character 0x3001.</a></del></p>
<a href="#">dot (Dot Emphasis Mark)</a>	<p><a href="#">Specifies that the emphasis mark is a dot. [Note: The intent is to have an emphasis mark similar to the following:</a></p> <p><a href="#">(written horizontally in Simplified or Traditional Chinese)</a></p> <p><a href="#">千</a></p> <p><a href="#">(written vertically in Simplified or Traditional Chinese)</a></p> <p><a href="#">千</a></p> <p><a href="#">(written horizontally in Japanese)</a></p> <p><a href="#">ぎ</a></p> <p><a href="#">(written vertically in Japanese)</a></p> <p><a href="#">ぎ・</a></p> <p><a href="#">end note]</a></p>



Enumeration Value	Description
<del>dot (Dot Emphasis Mark Above Characters)</del>	<p><del>Specifies that the emphasis mark is a dot character which shall be rendered above each character in this run using Unicode character 0x02D9 whenever the language of the text is not Japanese, Simplified Chinese, or Traditional Chinese.</del></p> <p><del>For those three languages, the emphasis mark shall be rendered as follows:</del></p> <ul style="list-style-type: none"> <li><del>• Japanese = Unicode character 0xFF0E (dot beneath characters)</del></li> <li><del>• Simplified Chinese = Unicode character 0xFF0E (dot beneath characters)</del></li> <li><del>• Traditional Chinese = Unicode character 0x2027</del></li> </ul>
<u>none (No Emphasis Mark)</u>	<u>Specifies that no emphasis marks shall be applied to any characters in the run.</u>
<del>none (No Emphasis Mark)</del>	<del>Specifies that there shall be no emphasis mark for any character in this run.</del>
<u>underDot (Dot Emphasis Mark Below Characters)</u>	<p><u>Specifies that the emphasis mark is a dot that shall be rendered below each character in horizontal writing and on the left in vertical writing. [Note: The intent is to have an emphasis mark similar to the following:</u></p> <p><u>..(written horizontally in Japanese)</u></p> <p style="text-align: center;">き ・</p> <p><u>..(written vertically in Japanese)</u></p> <p style="text-align: center;">き ・</p> <p><u>end note]</u></p> <p><u>[Note: Ordinarily, the position of the emphasis mark relative to the character to which it is applied is determined automatically by the language- and writing-direction. As such, the position need not be specified explicitly, and the use of this value is discouraged. end note]</u></p>
<del>underDot (Dot Emphasis Mark Below Characters)</del>	<del>Specifies that the emphasis mark is a dot character which shall be rendered below each character in this run using Unicode character 0xFF0E.</del>

[Note: The W3C XML Schema definition of this simple type's content model (ST\_Em) is located in §A.1. *end note*]

#### 46. §17.18.41, “ST\_Hint (Font Type Hint)”, p. 1394

[DR 09-0040]

...

This simple type is restricted to the values listed in the following table:

Enumeration Value	Description
<del>cs (Complex Script Font)</del>	<del>Specifies that the font hint for this text run shall be to use the Complex Script font defined on the run via the style hierarchy.</del>
default ( <del>High ANSI</del> <del>no Font</del> <a href="#">font hint</a> )	Specifies that <del>the font</del> <del>no</del> hint <a href="#">shall apply for to</a> this text run <del>shall be to use the High ANSI font defined on the run via the style hierarchy.</del>

#### 47. §17.18.52, “ST\_MailMergeDataType (Mail Merge Data Source Type Values)”, p. 1404

[DR 10-0018]

...

Value	Description
native (Office Data Source Object Data Source)	...
odbc (Open Database Connectivity Data Source)	Specifies that a given merged WordprocessingML document has been connected to an external data source via <del>the Open Database Connectivity interface</del> <a href="#">ODBC</a> .

...

#### 48. §17.18.102, “ST\_View (Document View Values)”, pp. 1514–1515

[DR 12-0009]

~~This simple type defines the possible views which can be used to determine how WordprocessingML documents can be rendered when displayed by an application.~~ [This simple type defines the kinds of view available to an application when rendering a WordprocessingML document. Those view kinds are, as follows: default view, draft view, outline view, print layout view, and web page view.](#)

[*Example:* Consider a WordprocessingML document that ~~is to~~~~must~~ be displayed on ~~a~~~~the~~ screen in the same form as ~~that document would be~~~~it is~~ printed. This ~~requirement intent is~~~~would be~~ specified using the following WordprocessingML in the document settings part:

```
<w:view w:val="print" />
```

~~The view element's val attribute is equal to print specifying that the given WordprocessingML document must be rendered as it is printed. end example]~~

This simple type's contents are a restriction of the W3C XML Schema string datatype.

This simple type is restricted to the values listed in the following table:

Enumeration Value	Description
-------------------	-------------

Enumeration Value	Description
masterPages (Master Document View)	Specifies that a given WordprocessingML document <del>shall</del> <u>should</u> be rendered in a <del>view-optimized for outlining or creating long documents. manner that allows a (possibly) long document to be viewed, navigated, or edited in an outline form, possibly based on the headings in that document, showing the relationships among master documents and subdocuments (see §17.17.1).</del>  [Note: This setting can be interpreted as functionally equivalent to the outline setting, as it only remains separate to support legacy applications. end note]
none (Default View)	Specifies that a given WordprocessingML document <u>should</u> <del>shall</del> be rendered in the default view of the application.
normal (Draft View)	Specifies that a given WordprocessingML document <u>should</u> <del>shall</del> be rendered in a <del>view-optimized for outlining or creating long documents. manner that allows a (possibly) long document to be viewed, navigated, or edited.</del>
outline (Outline View)	Specifies that a given WordprocessingML document <u>should</u> <del>shall</del> be rendered in a <del>view-optimized for outlining or creating long documents. manner that allows a (possibly) long document to be viewed, navigated, or edited in an outline form, possibly based on the headings in that document.</del>
print (Print Layout View)	Specifies that <del>this a given WordprocessingML document</del> <u>should</u> <del>shall</del> be <del>opened in a view that displays the document as it prints</del> <u>rendered in a view mimicking the way that document would be printed.</u>
web (Web Page View)	Specifies that a given WordprocessingML document <u>should</u> <del>shall</del> be rendered in a view mimicking the way <del>this that</del> document would be displayed <u>as</u> <del>in</del> a web page.

...

## 49. §18.2.5, “definedName (Defined Name)”, pp. 1,550–1,551

[DR 12-0020]

This element defines ~~the~~a defined names~~s that are defined~~ within this workbook. Defined names are descriptive text that is used to represent~~s~~ a cell, range of cells, formula, or constant value.

[Example: A defined name can make it easier to refer to ranges. Use easy-to-understand names, such as The name Products, to refer to hard-to-understand ranges, such as Sales!C20:C30. end example]

[Example: A defined name in a formula can make it easier to understand the purpose of the formula. For example, the formula =SUM(FirstQuarterSales) might be easier to identify than =SUM(C20:C30). end example]

[Example: Names are available to any sheet. For example, if the name ProjectedSales refers to the range A20:A30 on the first worksheet in a workbook, you can use the name ProjectedSales on any other sheet in the same workbook to refer to range A20:A30 on the first worksheet. end example]

[Example: Names can also be used to represent formulas or values that do not change (constants). For example, the name SalesTax can be used to represent the sales tax amount (such as 6.2 percent) applied to sales transactions. end example]

[Example: You can also link to a defined name in another workbook, or a defined name that may refer to cells in another workbook. For example, the formula =SUM(Sales.xls!ProjectedSales) may refer to the named range ProjectedSales in the workbook named Sales. end example]

...

## 50. §18.2.7, “ext (Extension)”, p. 1555

[DR 13-0009]

Each extension within an extension list shall be contained within an ext element. Extensions shall be versioned by namespace, using the uri attribute, and shall be allowed to appear in any order within the extension list. Any number of extensions shall be allowed within an extension list.

When extension lists are processed, a consumer might understand some extensions, and might not understand other extensions. The preservation model for extensions is that unprocessed extensions shall always be preserved (when consuming) and written out (when producing) in whole, as long as the underlying schema extended by the extension list remains as long as there is not some ancestor element of the extension list that is discarded as a result of MCE processing. [Example: If, when consumed by a SpreadsheetML editor, a sheet contains several extensions within an extension list, but the sheet no longer exists after editing, the extensions associated with that sheet are not written out in the resulting edited SpreadsheetML document. If a spreadsheetML sheet contains several extensions within an extension list, and through runtime processing that sheet is removed from the workbook, then the extensions associated with that sheet must not be written out when producing the resulting markup document. end example]

Markup namespaces within extensions shall not be required to be listed in the Ignorable Compatibility-Rule attribute, nor shall these namespaces be required to be listed in the PreserveElements and PreserveAttributes Compatibility-Rule attributes. [Note: See Part 3 §10 for additional discussion on Application-Defined Extension Elements and processing rules. end note]

...

Upon encountering extensions, a processing consumer shall determine whether it knows how to process extensions using the value of the uri. If the consumer knows how to process such an extension, the markup contained within that extension is processed. Otherwise, the extension content shall be preserved so long as the ~~underlying structure being extended by~~ that contains the extLst has not been removed.

...

## 51. §18.2.10, “extLst (Future Feature Data Storage Area)”, pp. 1557–1558

[DR 13-0003, DR 13-0009]

This element provides a convention for extending spreadsheetML in predefined locations. ~~within the markup specification.~~ The locations shall be denoted with the extLst element, and are called extension lists. Extension list locations within the markup document are specified in the markup specification and can be used to store extensions to the markup specification, whether those are future version extensions of the markup specification or are private extensions implemented independently from the markup specification. Markup within an extension might not be understood by a ~~markup~~ consumer.

...

[Note: Allowing markup specification extensions and private markup extensions within an extension list does not violate interoperability because the rules articulated within §10, §18.2.7 and Part 3, ~~§12~~ describe how ~~markup~~ producers and consumers must generate and consume markup documents containing application-defined extension elements, ~~including how to avoid and when to generate error conditions.~~ end note]

...

## 52. §18.3.1.3, “brk (Break)”, p. 1589

[DR 12-0009]

~~Individual~~ A row or column breaks to use when paginating a worksheet. [Note: See §18.18.69 for more information on worksheet views. end note]

...

## 53. §18.3.1.14, “colBreaks (Vertical Page Breaks)”, p. 1599

[DR 12-0009]

~~Vertical page break information used for print layout view, page layout view, drawing print breaks in normal view, and for printing the worksheet.~~ A collection of column breaks (§18.3.1.3).

...

**54. §18.3.1.25, “customSheetView (Custom Sheet View)”, p. 1612**

[DR 12-0009]

Attributes	Description
showRuler (Show Ruler)	Flag indicating whether to show the ruler in this custom view. Only applicable if this Custom View is in <del>Page-Layout-View</del> <a href="#">page layout view (§18.18.69)</a> . ...

...

**55. §18.3.1.37, "drawingHF (Drawing Reference in Header Footer)", pp. 1620–1625**

[DR 13-0005]

This element specifies the usage of drawing objects [to be](#) rendered in the headers [s and](#) footers [s](#) of the sheet. It specifies an explicit relationship to the part containing the DrawingML shapes used in the headers [s and](#) footers [s](#). It also indicates where in the headers [s and](#) footers [s](#) each shape belongs. One drawing object can appear in each of the left [section](#)~~side~~, center [section](#) and right [section](#)~~side~~ of ~~a~~[the](#) header and [a](#) footer.

[*Example*: This example shows a worksheet with graphics in the header. The DrawingML part referred to by rId2 contains at least two objects. The object with ID 6 is shown in the left [section](#)~~side~~ of the header on the first page only. The object with ID 7 is shown in the left [section](#)~~side~~ of the header for the other pages.

```
<worksheet ... >
...
<headerFooter differentFirst="1" ... >
...
</headerFooter>
<drawingHF r:id="rId2" lho="7" lhf="6"/>
</worksheet>
```

*end example]*

Attributes	Description
cfe (Center Footer for Even Pages)	Specifies the DrawingML shape to be used for the center <a href="#">section</a> of the footer on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...

Attributes	Description
cff (Center Footer for First Page)	Specifies the DrawingML shape to be used for the center <a href="#">section</a> of the footer on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
cfo (Center Footer for Odd Pages)	Specifies the DrawingML shape to be used for the center <a href="#">section</a> of the footer on odd pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. If the differentOddEven attribute is false, this attribute specifies the DrawingML shape to be used for the center <a href="#">section</a> of the footer on both odd and even pages. ...
che (Center Header for Even Pages)	Specifies the DrawingML shape to be used for the center <a href="#">section</a> of the header on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
chf (Center Header for First Page)	Specifies the DrawingML shape to be used for the center <a href="#">section</a> of the header on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
cho (Center Header for Odd Pages)	Specifies the DrawingML shape to be used for the center <a href="#">section</a> of the header on odd pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. If the differentOddEven attribute is false, this attribute specifies the DrawingML shape to be used for the center <a href="#">section</a> of the header on both odd and even pages. ...
...	...
lfe (Left Footer for Even Pages)	Specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the footer on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
lff (Left Footer for First Page)	Specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the footer on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...

Attributes	Description
lfo (Left Footer for Odd Pages)	Specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the footer on odd pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. If the differentOddEven attribute is false, this attribute specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the footer on both odd and even pages. ...
lhe (Left Header for Even Pages)	Specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the header on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
lhf (Left Header for First Page)	Specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the header on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
lho (Left Header for Odd Pages)	Specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the header on odd pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. If the differentOddEven attribute is false, this attribute specifies the DrawingML shape to be used for the left <a href="#">section</a> <a href="#">side</a> of the header on both odd and even pages. ...
rfe (Right Footer for Even Pages)	Specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the footer on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
rff (Right Footer for First Page)	Specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the footer on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
rfo (Right Footer for Odd Pages)	Specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the footer on odd pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. If the differentOddEven attribute is false, this attribute specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the footer on both odd and even pages. ...



Attributes	Description
rhe (Right Header for Even Pages)	Specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the header on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
rhf (Right Header for First Page)	Specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the header on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. ...
rho (Right Header for Odd Pages)	Specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the header on odd pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. If the differentOddEven attribute is false, this attribute specifies the DrawingML shape to be used for the right <a href="#">section</a> <a href="#">side</a> of the header on both odd and even pages. ...

...

## 56. §18.3.1.38, "evenFooter (Even Page Footer)", pp. 1625–1626

[DR 13-0005]

[Specifies the contents of the page footer used on even-numbered pages.](#)~~Even-page footer value. Corresponds to even-printed pages.~~ [*ExampleNote*: Even page(s) in the sheet can-not be printed if the print area is specified to be a range such that it falls outside an even page's scope. end *noteexample*]

If no even footer is specified, then the odd footer's value is assumed for even page footers.~~See the evenHeader element (§18.3.1.39) description for full discussion of value content.~~

[The format of a footer is defined in §18.3.1.46.](#)

The possible values for this element are defined by the ST\_Xstring simple type (§22.9.2.19).

...

## 57. §18.3.1.39, "evenHeader (Even Page Header)", pp. 1626–1628

[DR 13-0005]

[Specifies the contents of the page header used on even-numbered pages.](#)~~Even-page header value. Corresponds to even-printed pages.~~ [*ExampleNote*: Even page(s) in the sheet can-not be printed if the print area is specified to be a range such that it falls outside an even page's scope. end *noteexample*]

If no even header is specified, then [the](#) odd header's [s](#) value is assumed for even page headers.

The format of a header is defined in §18.3.1.46.

#### Header/Footer Formatting Syntax

There are a number of formatting codes that can be written inline with the actual header / footer text, which affect the formatting in the header or footer.

*{Example:*

This example shows the text "Center **Bold** Header" on the first line (center section), and the date on the second line (center section).

```
<headerFooter>
—<oddHeader>&CCenter &B,Bold"Bold
—&D,Regular"Header_x000A_&D</oddHeader>
</headerFooter>
end example}
```

#### General Rules:

There is no required order in which these codes need to appear.

The first occurrence of the following codes turns the formatting ON, the second occurrence turns it OFF again:

- strikethrough
- superscript
- subscript

Superscript and subscript cannot both be ON at same time. Whichever comes first wins and the other is ignored, while the first is ON.

&L—code for "left section" (there are three header / footer locations, "left", "center", and "right"). When two or more occurrences of this section marker exist, the contents from all markers are concatenated, in the order of appearance, and placed into the left section.

&P—code for "current page #"

&N—code for "total pages"

&font size—code for "text font size", where *font size* is a font size in points.

&K—code for "text font color"

———RGB Color is specified as RRGGBB

———Theme Color is specified as TTSNN where TT is the theme color Id, S is either "+" or "-" of the tint/shade value, NN is the tint/shade value.

&S—code for "text strikethrough" on / off

~~&X—code for "text super script" on / off~~

~~&Y—code for "text subscript" on / off~~

~~&C—code for "center section". When two or more occurrences of this section marker exist, the contents from all markers are concatenated, in the order of appearance, and placed into the center section.~~

~~&D—code for "date"~~

~~&T—code for "time"~~

~~&G—code for "picture as background"~~

~~&U—code for "text single underline"~~

~~&E—code for "double underline"~~

~~&R—code for "right section". When two or more occurrences of this section marker exist, the contents from all markers are concatenated, in the order of appearance, and placed into the right section.~~

~~&Z—code for "this workbook's file path"~~

~~&F—code for "this workbook's file name"~~

~~&A—code for "sheet tab name"~~

~~&+—code for add to page #.~~

~~&—code for subtract from page #.~~

~~&"font name,font type"—code for "text font name" and "text font type", where *font name* and *font type* are strings specifying the name and type of the font, separated by a comma. When a hyphen appears in *font name*, it means "none specified". Both of *font name* and *font type* can be localized values. Although ISO/IEC 14496-22 permits commas in font family/subfamily/full names, name and font type, the lexically first comma in the string is the one recognized as the separating comma.~~

~~&" ,Bold"—code for "bold font style"~~

~~&B—also means "bold font style".~~

~~&" ,Regular"—code for "regular font style"~~

~~&" ,Italic"—code for "italic font style"~~

~~&I—also means "italic font style"~~

~~&" ,Bold Italic"—code for "bold italic font style"~~

~~&O—code for "outline style"~~

~~&H code for "shadow style"~~

The possible values for this element are defined by the ST\_Xstring simple type (§22.9.2.19).

Attributes	Description
<a href="#">xml:space (Content Contains Significant Whitespace)</a>  <a href="#">Namespace: http://www.w3.org/XML/1998/namespace</a>	<a href="#">Specifies how white space should be handled for the contents of this element using the W3C space preservation rules.</a>  <a href="#">The possible values for this attribute are defined by §2.10 of the XML 1.0 specification.</a>

[Note: The W3C XML Schema definition of this element's content model (ST\_Xstring) is located in §A.6.9. *end note*]

## 58. §18.3.1.41, "firstFooter (First Page Footer)", p. 1632

[DR 13-0005]

[Specifies the contents of the footer used on the first page.](#) ~~First page footer content.~~ Only used when headerFooter@differentFirst is '1'. ~~Corresponds to first printed page.~~ [*ExampleNote*: The first-logical page in the sheet can-not be printed if the print area is specified to be a range such that it falls outside the first page's scope. *end noteexample*]

~~See evenHeader (§18.3.1.39) description for full discussion of value content.~~

[The format of a footer is defined in §18.3.1.46.](#)

The possible values for this element are defined by the ST\_Xstring simple type (§22.9.2.19).

...

## 59. §18.3.1.42, "firstHeader (First Page Header)", pp. 1632–1633

[DR 13-0005]

[Specifies the contents of the header used on the first page.](#) ~~First page header content.~~ Only used when headerFooter@differentFirst is 1. ~~Corresponds to first printed page.~~ [*ExampleNote*: The first logical page in the sheet can-not be printed if the print area is specified to be a range such that it falls outside the first page's scope. *end noteexample*]

~~See evenHeader (§18.3.1.39) description for full discussion of value content.~~

[The format of a header is defined in §18.3.1.46.](#)

The possible values for this element are defined by the ST\_Xstring simple type (§22.9.2.19).

...

## 60. §18.3.1.46, "headerFooter (Header Footer Settings)", pp. 1634–1635

[DR 13-0005]

Header and footer settings.

[When printed or viewed in page layout view \(§18.18.69\), each page of a worksheet can have a \*page header\*, a \*page footer\*, or both. The headers and footers on odd-numbered pages can differ from those on even-numbered pages, and the headers and footers on the first page can differ from those on odd- and even-numbered pages. In the latter case, the first page is not considered an odd page.](#)

[Each header and footer is divided into three areas: a \*left section\*, a \*center section\*, and a \*right section\*, which are specified, respectively, by one or more \*left-section-specifiers\*, one or more \*center-section specifiers\*, and one or more \*right-section specifiers\*. All sections are optional. Each section specifier shall begin with a \*formatting code\* that indicates whether it is a left-, center-, or right-section specifier. The section specifiers for a header or footer can appear in any order. If a header or footer has multiple section specifiers for the same section, an implementation can concatenate them in the lexical order of their occurrence, into a single, equivalent section specifier. After any such concatenation, the resulting section specifier can contain one or more pieces of text, one or more \*formatting codes\*, one drawing reference, or a combination thereof. Once specified within a section specifier, a formatting code remains in effect until the end of that section specifier unless toggled or overridden by a subsequent formatting code in that same section specifier.](#)

[The values resulting from formatting codes can be localized. An implementation can decide which locales are supported. Even when a locale is not supported, the header and footer text shall be used with only the unsupported formatting being discarded.](#)

[Headers and footers are specified using the following elements:](#)

- [firstFooter \(First Page Footer\) \(§18.3.1.41\)](#)
- [firstHeader \(First Page Header\) \(§18.3.1.42\)](#)
- [oddFooter \(Odd Page Footer\) \(§18.3.1.57\)](#)
- [oddHeader \(Odd Header\) \(§18.3.1.58\)](#)
- [evenFooter \(Even Page Footer\) \(§18.3.1.38\)](#)
- [evenHeader \(Even Page Header\) \(§18.3.1.39\)](#)
- [drawingHF \(Drawing Reference in Header Footer\) \(§18.3.1.37\)](#)

[Example:

```
<headerFooter differentFirst="1" differentOddEven="1"> >
  <oddHeader>&R&P</oddHeader>
  <oddFooter>&C&F</oddFooter>
  <evenHeader>&L&P</oddHeader>
  <evenFooter>&L&D&R&T</oddFooter>
  <firstHeader>&CCenter &" - ,Bold"Bold
&" - , Regular"HeaderU+000A&D</oddHeader>
</headerFooter>
```

This example shows

- The first page has its own header and footer
- Odd- and even-numbered pages have different headers and footers
- Current page number in the right section of odd-page headers
- Current workbook's file name in the center section of odd-page footers
- Current page number in the left section of even-page headers
- Current date in the left section and the current time in the right section of even-page footers
- The text "Center **Bold** Header" on the first line of the center section of the first page, and the date on the second line of the center section of that same page
- No footer on the first page

end example]

[Example:

An implementation is permitted to concatenate the multiple-like section specifiers in the following:

```
<oddHeader>&LA&CD&RG&LB&CE&RH</oddHeader>
```

treating it as though it was defined instead as follows:

```
<oddHeader>&LAB&CDE&RGH</oddHeader>
```

end example]

The formatting codes are, as follows (for ease of reading, the "amp;" suffix has been omitted from each & in the entries in the **Formatting Code** column):

<u>Formatting Code</u>	<u>Meaning</u>
<u>&amp;&amp;</u>	<u>The character "&amp;". [Example: "Smith &amp;&amp; Sons" results in "Smith &amp; Sons" end example]</u>

Formatting Code	Meaning
<u>&amp;font-size</u>	Size of the text font, where <i>font-size</i> is a decimal font size in points. [Example:  “&18A&36B” results in “AB” end example]
<u>&amp;"font name,font type"</u>	A text font-name string, <i>font name</i> , and a text font-type string, <i>font type</i> . A <i>font-name</i> of “-” (U+002D) means “no font name is specified”. Both <i>font-name</i> and <i>font-type</i> can be localized values. Although ISO/IEC 14496-22 permits commas in font family/subfamily/full names, name, and font type, the lexically-first comma in the string is the one recognized as the separating comma. [Example: “&”Arial,Regular”...”, “&”Lucida Sans Typewriter,Regular”...”, and “mp;”-,Bold Italic”...” end example]
<u>&amp;"-,Regular"</u>	Regular text format. Toggles bold and italic modes to off.
<u>&amp;A</u>	Current worksheet’s tab name
<u>&amp;B</u> or <u>&amp;"-,Bold"</u>	Bold text format. The next occurrence in a section specifier toggles bold mode, either from off to on, or vice versa. The default mode is off. [Example: “ab&Bcd&Bef&Bgh” results in “abc <b>defgh</b> ” end example]
<u>&amp;C</u>	Center section
<u>&amp;D</u>	Current date
<u>&amp;E</u>	Double-underline text format. The next occurrence in a section specifier toggles double-underline mode, from off to on, or vice versa. The default mode is off. [Example: “ab&Ecd&Eef&Egh” results in “ab <u>cd</u> efgh” end example]
<u>&amp;F</u>	Current workbook's file name
<u>&amp;G</u>	Drawing object as background. [Example: “&L--&G--&R--&G--” results in a drawing with text before and after, in both the left and right sections. end example]
<u>&amp;H</u>	Shadow text format. The next occurrence in a section specifier toggles shadow mode, either from off to on, or vice versa. The default mode is off.
<u>&amp;I</u> or <u>&amp;"-,Italic"</u>	Italic text format. The next occurrence in a section specifier toggles italic mode, either from off to on, or vice versa. The default mode is off. [Example: “ab&Icd&Ief&Igh” results in “ab <i>cd</i> efgh” end example]
<u>&amp;K</u>	Text font color <ul style="list-style-type: none"> <li>• An RGB Color is specified as <i>RRGGBB</i></li> <li>• A Theme Color is specified as <i>TTSNNN</i> where <i>TT</i> is the theme color Id, <i>S</i> is either “+” or “-” of the tint/shade value, and <i>NNN</i> is the tint/shade value.</li> </ul> [Example: “A&KFF0000B&K0070C0C&K01+000D&K07+037E” might result in something like “A <b>B</b> <i>C</i> <u>D</u> <i>E</i> ” end example]
<u>&amp;L</u>	Left section

Formatting Code	Meaning
<u>&amp;N</u>	Total number of pages. <i>[Example: “Page &amp;P of &amp;N” might result in something like “Page 1 of 3” end example]</i>
<u>&amp;O</u>	Outline text format. The next occurrence in a section specifier toggles outline mode, either from off to on, or vice versa. The default mode is off.
<u>&amp;P[+  -]n</u>	Without the optional suffix, the current page number in decimal. <i>[Example: See formatting code &amp;N. end example]</i> With the optional suffix, the current page number in decimal +/- the decimal number <i>n</i> . <i>[Example: On Page 1, &amp;P is 1, &amp;P+100 is 101, and &amp;P-5 is -4. end example]</i>
<u>&amp;R</u>	Right section
<u>&amp;S</u>	Strikethrough text format. The next occurrence in a section specifier toggles strikethrough mode, either from off to on, or vice versa. The default mode is off. <i>[Example: “aa&amp;Sbb&amp;Scc”, results in “aabbcc”. end example]</i>
<u>&amp;T</u>	Current time
<u>&amp;U</u>	Single-underline text format. If double-underline mode is on, the next occurrence in a section specifier toggles double-underline mode to off; otherwise, it toggles single-underline mode, from off to on, or vice versa. The default mode is off. <i>[Example: “&amp;Ucd&amp;Uef&amp;Ugh” results in “cdefgh” while &amp;Uaa&amp;Uebb&amp;Ucc” results in “aabbcc”. end example]</i>
<u>&amp;X</u>	Superscript text format. The next occurrence in a section specifier toggles superscript mode, either from off to on, or vice versa. The default mode is off. However, superscript and subscript mode cannot be on at the same time. If superscript mode is on, a subsequent subscript format code sets superscript mode off and subscript mode on. <i>[Example: “aa&amp;Xbb&amp;Xcc&amp;Ydd&amp;Yee&amp;Xff&amp;Ygg” results in “aa<sup>bb</sup>cc<sub>dd</sub>ee<sup>ff</sup>gg”. end example]</i>
<u>&amp;Y</u>	Subscript text format. The next occurrence in a section specifier toggles subscript mode, either from off to on, or vice versa. The default mode is off. However, superscript and subscript mode cannot be on at the same time. If subscript mode is on, a subsequent superscript format code sets subscript mode off and superscript mode on. <i>[Example: See formatting code &amp;X. end example]</i>
<u>&amp;Z</u>	Current workbook's file path

Attributes	Description
...	...
differentFirst (Different First Page)	Different first_page header and footer <u>indicator</u> . When true then firstHeader and firstFooter specify <u>the</u> first page header and footer values, <u>respectively</u> . If false and firstHeader-/firstFooter are present, they are ignored.  ...



Attributes	Description
differentOddEven (Different Odd Even Header Footer)	Different odd and even page headers and footers <a href="#">indicator</a> . When true then oddHeader-/oddFooter and evenHeader-/evenFooter specify <a href="#">the</a> page header and footer values for odd and even pages, <a href="#">respectively</a> . If false then oddHeader-/oddFooter is used, even when evenHeader-/evenFooter are present.
...	...
...	...

...

## 61. §18.3.1.57, “oddFooter (Odd Page Footer)”, p. 1645

[DR 13-0005]

[Specifies the contents of the page footer used on odd-numbered pages.](#) ~~Odd page footer value. Corresponds to odd-printed pages.~~ [*ExampleNote*: Odd page(s) in the sheet can-not be printed if the print area is specified to be a range such that it falls outside an odd page's scope. end [noteexample](#)]

~~See evenHeader (§57) description for full discussion of value content.~~

[The format of a footer is defined in §18.3.1.46.](#)

The possible values for this element are defined by the ST\_Xstring simple type (§22.9.2.19).

...

## 62. §18.3.1.58, “oddHeader (Odd Header)”, pp. 1645–1646

[DR 13-0005]

[Specifies the contents of the page header used on odd-numbered pages.](#) ~~Odd page header value. Corresponds to odd-printed pages.~~ [*ExampleNote*: Odd page(s) in the sheet can-not be printed if the print area is specified to be a range such that it falls outside an odd page's scope. end [noteexample](#)]

~~See evenHeader (§57) description for full discussion of value content.~~

[The format of a header is defined in §18.3.1.46.](#)

The possible values for this element are defined by the ST\_Xstring simple type (§22.9.2.19).

...

## 63. §18.3.1.74, “rowBreaks (Horizontal Page Breaks (Row))”, p. 1675

[DR 12-0009]

Horizontal page break information used for print layout view, page layout view, drawing print breaks in normal view, and for printing the worksheet. [A collection of row breaks \(§18.3.1.3\).](#)

...

#### 64. §18.3.1.87, “sheetView (Worksheet View), pp. 1692–1695

[DR 12-0009]

...

Attributes	Description
showRuler (Show Ruler)	Show the ruler in <del>Page-Layout View</del> <a href="#">page layout view (§18.18.69)</a> . The possible values for this attribute are defined by the W3C XML Schema boolean datatype.
showWhiteSpace (Show White Space)	Flag indicating whether page layout view <a href="#"> (§18.18.69)</a> shall display margins. False means do not display left, right, top (header), and bottom (footer) margins (even when there is data in the header or footer). ...
...	...
view (View Type)	Indicates the view type. <a href="#">[Note: Although this Standard is for a file format, occasionally, guidance is given regarding intent in dealing with things outside that file format, such as the rendering of documents to a screen or printer. end note]</a> The possible values for this attribute are defined by the ST_SheetViewType simple type (§18.18.69).
...	...
zoomScale (Zoom Scale)	... <del>The c</del> Current view can be <del>Normal, Page-Layout, or Page-Break Preview</del> <a href="#">normal view, page break preview, or page layout view (§18.18.69)</a> . ...
zoomScaleNormal (Zoom Scale Normal View)	Zoom magnification to use when in normal view <a href="#"> (§18.18.69)</a> , representing percent values. This attribute is restricted to values ranging from 10 to 400. Horizontal & Vertical scale together. ...
zoomScalePageLayoutView (Zoom Scale Page Layout View)	Zoom magnification to use when in page layout view <a href="#"> (§18.18.69)</a> , representing percent values. This attribute is restricted to values ranging from 10 to 400. Horizontal & Vertical scale together. ...
zoomScaleSheetLayoutView (Zoom Scale Page Break Preview)	Zoom magnification to use when in page break preview <a href="#"> (§18.18.69)</a> , representing percent values. This attribute is restricted to values ranging from 10 to 400. Horizontal & Vertical scale together. ...

...

## 65. §18.3.2.7, “filterColumn (AutoFilter Column)”, attribute showButton, p. 1,709

[DR 12-0018]

Attributes	Description
...	...
showButton (Show Filter Button)	<p>Flag indicating whether <del>the filter button is visible</del><a href="#">an application intended for editing Office Open XML documents should show filtering interface elements on this cell.</a></p> <p>[Example: When <del>the</del><a href="#">a</a> cell containing <del>the</del><a href="#">a</a> filter button is merged with another cell, the filter button can be hidden, and not drawn. <i>end example</i>]</p> <p>The possible values for this attribute are defined by the W3C XML Schema boolean datatype.</p>

## 66. §18.4, “Shared String Table”, p. 1711

[DR 14-0005]

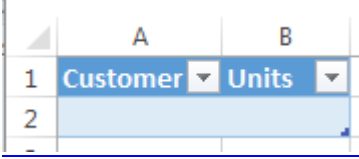
~~A workbook can contain thousands of cells containing string (non-numeric) data. Furthermore this data is very likely to be repeated across many rows or columns. The goal of implementing a single string table that is shared across the workbook is to improve performance in opening and saving the file by only reading and writing the repetitive information once.~~

[String values may be stored directly inside spreadsheet cell elements \(§18.3.1.4\); however, storing the same value inside multiple cell elements can result in very large worksheet Parts, possibly resulting in performance degradation. The Shared String Table is an indexed list of string values, shared across the workbook, which allows implementations to store values only once.](#)

## 67. §18.5.1.2, “table (Table)”, attribute insertRow, p. 1724

[DR 12-0014]

Attributes	Description
------------	-------------

Attributes	Description
insertRow (Insert Row Showing)	<p>A Boolean value indicating whether the insert row <del>is showing</del><u>should be shown</u>. <del>True when the insert row is showing, false otherwise.</del></p> <p><u>An insert row indicates to a consuming application that a table has a new row that has no data in it, allowing the application to indicate to the user how to enter data and extend the table.</u></p> <p><u>[Example: Microsoft Excel formats the insert row using table styling, as shown here:</u></p>  <p><u>Although the table contains only headers and covers only row 1, Excel formats row 2 using table styling to indicate that typing in those cells will extend the table to cover them. When the user types into row 2, the insert row is removed. end example]</u></p> <p>The insert row should only be shown if the table has no data.</p> <p><del>When a user clicks the insert row in the UI, it provides them an easy way to enter data into a table.</del></p> <p>The possible values for this attribute are defined by the W3C XML Schema boolean datatype.</p>

## 68. §18.5.1.2, “table (Table)”, attribute insertRowShift, pp. 1724–1725

[DR 12-0014]

Attributes	Description
insertRowShift (Insert Row Shift)	<p>A Boolean that indicates whether cells in the sheet had to be inserted when the insert row was shown for this table <u>(see insertRow for details)</u>. True if the cells were shifted, false otherwise.</p> <p><u>[Note: This happens when there are values in cells immediately below the table when the table is created and the insert row is shown. In this case blank cells for the insert row are inserted, and the existing values in the sheet are shifted down by one row to make room. end note]</u></p> <p>The possible values for this attribute are defined by the W3C XML Schema boolean datatype.</p>

**69. §18.5.1.3, “tableColumn (Table Column)”, attribute dataDxfId, p. 1727**

[DR 12-0014]

Attributes	Description
dataDxfId (Data & Insert Row Format Id)	<p>A zero based integer index into the differential formatting records &lt;dxfs&gt; in the styleSheet indicating which format to apply to the data area of this column. This formatting shall also apply to cells on the insert row for this column. <a href="#">See description of attribute insertRow in table (§18.5.1.2) for further information.</a></p> <p>The spreadsheet should fail to load if this index is out of bounds.</p> <p>...</p>

**70. §18.7.5, “commentPr (Comment Properties)”, attribute textVAlign, p. 1745:**

[DR 13-0003]

Attributes	Description
textVAlign ( <a href="#">Text Vertical Alignment</a> )	...

**71. §18.8.22, “font (Font)”, p. 1761**

[DR 14-0004]

*{In the following note, fix the broken CT\_Font link to the schema.}*

[Note: The W3C XML Schema definition of this element’s content model (CT\_Font) is located in §A.2. *end note*]

**72. §18.8.40 “tableStyle (Table Style)”, p. 1787**

[DR 13-0003]

All of the built-in, named table styles defined in Annex [B.2](#) shall be supported by applications that implement table styles.

**73. §18.8.41 “tableStyleElement (Table Style)”, p. 1789**

[DR 13-0003]

- Last Total Cell

~~1.~~ For instance, row stripe formatting 'wins' over column stripe formatting, and both 'win' over whole table formatting.

~~1~~~~1~~ PivotTable Style Element Order

- Whole Table

**74. §18.8.45, “xf (Format)”, attribute pivotButton, p. 1,794**

[DR 12-0016]

Attributes	Description
...	...
pivotButton (Pivot Button)	<p><del>A boolean value indicating whether the cell rendering includes a pivot table dropdown button.</del> <u>A boolean value indicating whether the cell should include pivot table sorting and filtering interface elements, in applications intended for editing Office Open XML documents.</u></p> <p>The possible values for this attribute are defined by the W3C XML Schema boolean datatype.</p>
...	...

**75. §18.10.1.3, “cacheField (PivotCache Field)”, attribute sqlType, pp. 1816–1818**

[DR 10-0018]

...

Attributes	Description
------------	-------------

Attributes	Description
sqlType (SQL Data Type)	<p>Specifies the SQL data type of the field. This attribute <del>stores an</del> <del>ODBC data type and</del> applies to ODBC data sources only. A value is supplied for this attribute only if it is provided to the application.</p> <p><u>For more information, including supported data types, see ISO 9075-3:2008, Table 33 - Codes used for concise data types.</u> <del>The following are data types supported by ODBC. For a more information, see the ODBC specification.</del></p> <ul style="list-style-type: none"> <li><del>• 0 SQL_UNKNOWN_TYPE</del></li> <li><del>• 1 SQL_CHAR</del></li> <li><del>• 2 SQL_VARCHAR</del></li> <li><del>• 1 SQL_LONGVARCHAR</del></li> <li><del>• 8 SQL_WCHAR</del></li> <li><del>• 9 SQL_WVARCHAR</del></li> <li><del>• 10 SQL_WLONGVARCHAR</del></li> <li><del>• 3 SQL_DECIMAL</del></li> <li><del>• 2 SQL_NUMERIC</del></li> <li><del>• 5 SQL_SMALLINT</del></li> <li><del>• 4 SQL_INTEGER</del></li> <li><del>• 7 SQL_REAL</del></li> <li><del>• 6 SQL_FLOAT</del></li> <li><del>• 8 SQL_DOUBLE</del></li> <li><del>• 7 SQL_BIT</del></li> <li><del>• 6 SQL_TINYINT</del></li> <li><del>• 5 SQL_BIGINT</del></li> <li><del>• 2 SQL_BINARY</del></li> <li><del>• 3 SQL_VARBINARY</del></li> <li><del>• 4 SQL_LONGVARBINARY</del></li> <li><del>• 9 SQL_TYPE_DATE or SQL_DATE</del></li> <li><del>• 10 SQL_TYPE_TIME or SQL_TIME</del></li> <li><del>• 11 SQL_TYPE_TIMESTAMP or SQL_TIMESTAMP</del></li> <li><del>• 102 SQL_INTERVAL_MONTH</del></li> <li><del>• 101 SQL_INTERVAL_YEAR</del></li> <li><del>• 107 SQL_INTERVAL_YEAR_TO_MONTH</del></li> <li><del>• 103 SQL_INTERVAL_DAY</del></li> <li><del>• 104 SQL_INTERVAL_HOUR</del></li> <li><del>• 105 SQL_INTERVAL_MINUTE</del></li> <li><del>• 106 SQL_INTERVAL_SECOND</del></li> <li><del>• 108 SQL_INTERVAL_DAY_TO_HOUR</del></li> <li><del>• 109 SQL_INTERVAL_DAY_TO_MINUTE</del></li> <li><del>• 110 SQL_INTERVAL_DAY_TO_SECOND</del></li> <li><del>• 111 SQL_INTERVAL_HOUR_TO_MINUTE</del></li> <li><del>• 112 SQL_INTERVAL_HOUR_TO_SECOND</del></li> <li><del>• 113 SQL_INTERVAL_MINUTE_TO_SECOND</del></li> <li><del>• 11 SQL_GUID</del></li> <li><del>• 20 SQL_SIGNED_OFFSET</del></li> <li><del>• 22 SQL_UNSIGNED_OFFSET</del></li> </ul> <p>The possible values for this attribute are defined by the W3C XML Schema int datatype.</p>

...

**76. §18.10.1.73, “pivotTableDefinition (PivotTable Definition)”, p. 1920**

[DR 10-0018]

...

Attributes	Description
...	...
enableWizard (Enable PivotTable Editing Mechanism Wizard)	<p><u>An implementation might choose to provide a mechanism for users to edit PivotTables. This attribute specifies a boolean value that indicates whether such a mechanism should be displayed.</u><del>Specifies a boolean value that indicates whether the user is prevented from displaying the PivotTable wizard.</del></p> <p><del>A value of 1 or true indicates the user can display the PivotTable wizard.</del></p> <p><del>A value of 0 or false indicates the user can not display the PivotTable wizard. This attribute depends on whether the application exposes a wizard or similar mechanism for creating and working with PivotTables in the user interface.</del></p> <p>The possible values for this attribute are defined by the W3C XML Schema boolean datatype.</p>
...	...

**77. §18.11.1.18, “ris (Revision Insert Sheet)”, attribute sheetPosition, p. 1,975**

[DR 12-0013]

Attributes	Description
...	...
sheetPosition (Sheet Position)	<p>An integer representing the zero based <del>position</del><u>index</u> of the new sheet in the <del>sheet tab bar</del><u>sheets collection (§18.2.20)</u>.</p> <p>The possible values for this attribute are defined by the W3C XML Schema unsignedInt datatype.</p>
...	...

**78. §18.13.1, “connection (Connection)”, attribute type, pp. 1994–1995**

[DR 12-0021]

Attributes	Description
...	...



type (Database Source Type)	<p>Specifies the data source type.</p> <p>Values are as follows:</p> <ol style="list-style-type: none"> <li>1. ODBC-based source</li> <li>2. <a href="#">Custom data connection source</a><del>DAO-based source</del></li> <li>3. <a href="#">Custom data connection source</a><del>File-based database source</del></li> <li>4. Web query</li> <li>5. Custom data connection source</li> <li>6. Text-based source</li> <li>7. <a href="#">Custom data connection source</a><del>ADO record set</del></li> <li>8. <a href="#">Custom data connection source</a><del>DSP</del></li> </ol> <p>Custom data connection source represents an application-defined connection technology. [Note: For example, Microsoft Office uses <del>this value</del> <a href="#">these values</a> to represent <a href="#">DAO (2)</a>, <a href="#">application-defined connection file (3)</a>, <a href="#">OLE DB (5)</a>, <a href="#">ADO (7)</a>, and <a href="#">DSP (8)</a> connections. <i>end note</i>]</p> <p>...</p>
-----------------------------	--

## 79. §18.13.3, “dbPr (Database Properties)”, attributes command and connection, pp. 1995–1997

[DR 12-0012]

Attributes	Description
...	...
command (Command Text)	<p>The string containing the database <a href="#">command</a> to pass to the data provider <del>API</del> that will interact with the external source in order to retrieve data. <del>These strings can be constructed in a variety of ways (from simple UIs built into the spreadsheet application for browsing and choosing tables and fields, to external applications providing user interface to build up complex queries, to advanced users editing text queries).</del> [Note: The <del>s</del>SpreadsheetML application need not understand the <a href="#">command</a> syntax; <del>it can simply pass the command string to the data provider API in order to retrieve the latest external data.</del> <a href="#">end note</a>]</p> <p>...</p>
...	...
connection (Connection String)	<p>The <del>connection</del> string <del>is</del> used to <del>make contact</del> <a href="#">initiate a session</a> with an <del>ODBC or custom</del> data source. <del>These can be constructed in a variety of ways (from UI wizards built into the data provider code, to external query applications, to advanced users editing text files).</del> [Note: The <del>s</del>SpreadsheetML application need not understand the <a href="#">connection</a> syntax <del>at all</del>; <del>it can simply pass the command string to the data provider API in order to re-establish a connection with the external data source.</del> <a href="#">end note</a>]</p> <p>...</p>
...	...

**80. §18.13.6, “parameter (Parameter Properties)”, attribute sqlType,  
pp. 2003–2004**

[DR 10-0018]

...

Attributes	Description
------------	-------------

Attributes	Description																																																																		
sqlType (SQL Data Type)	<p>SQL data type of the parameter. <del>Only</del><a href="#">This attribute is only</a> supported for ODBC <a href="#">data</a> sources.</p> <p>For more information, including supported data types, see ISO 9075-3:2008, Table 33 - Codes used for concise data types.<del>Supported values include:</del></p> <table border="1"> <thead> <tr> <th><del>-22</del></th><th><del>SQL_UNSIGNED_OFFSET</del></th></tr> </thead> <tbody> <tr><td><del>-20</del></td><td><del>SQL_SIGNED_OFFSET</del></td></tr> <tr><td><del>-11</del></td><td><del>SQL_GUID</del></td></tr> <tr><td><del>-10</del></td><td><del>SQL_WLONGVARCHAR</del></td></tr> <tr><td><del>-9</del></td><td><del>SQL_WVARCHAR</del></td></tr> <tr><td><del>-8</del></td><td><del>SQL_WCHAR</del></td></tr> <tr><td><del>-7</del></td><td><del>SQL_BIT</del></td></tr> <tr><td><del>-6</del></td><td><del>SQL_TINYINT</del></td></tr> <tr><td><del>-5</del></td><td><del>SQL_BIGINT</del></td></tr> <tr><td><del>-4</del></td><td><del>SQL_LONGVARBINARY</del></td></tr> <tr><td><del>-3</del></td><td><del>SQL_VARBINARY</del></td></tr> <tr><td><del>-2</del></td><td><del>SQL_BINARY</del></td></tr> <tr><td><del>-1</del></td><td><del>SQL_LONGVARCHAR</del></td></tr> <tr><td><del>0</del></td><td><del>SQL_UNKNOWN_TYPE</del></td></tr> <tr><td><del>1</del></td><td><del>SQL_CHAR</del></td></tr> <tr><td><del>2</del></td><td><del>SQL_NUMERIC</del></td></tr> <tr><td><del>3</del></td><td><del>SQL_DECIMAL</del></td></tr> <tr><td><del>4</del></td><td><del>SQL_INTEGER</del></td></tr> <tr><td><del>5</del></td><td><del>SQL_SMALLINT</del></td></tr> <tr><td><del>6</del></td><td><del>SQL_FLOAT</del></td></tr> <tr><td><del>7</del></td><td><del>SQL_REAL</del></td></tr> <tr><td><del>8</del></td><td><del>SQL_DOUBLE</del></td></tr> <tr><td><del>9</del></td><td><del>SQL_TYPE_DATE or SQL_DATE</del></td></tr> <tr><td><del>10</del></td><td><del>SQL_TYPE_TIME or SQL_TIME</del></td></tr> <tr><td><del>11</del></td><td><del>SQL_TYPE_TIMESTAMP or SQL_TIMESTAMP</del></td></tr> <tr><td><del>12</del></td><td><del>SQL_VARCHAR</del></td></tr> <tr><td><del>101</del></td><td><del>SQL_INTERVAL_YEAR</del></td></tr> <tr><td><del>102</del></td><td><del>SQL_INTERVAL_MONTH</del></td></tr> <tr><td><del>103</del></td><td><del>SQL_INTERVAL_DAY</del></td></tr> <tr><td><del>104</del></td><td><del>SQL_INTERVAL_HOUR</del></td></tr> <tr><td><del>105</del></td><td><del>SQL_INTERVAL_MINUTE</del></td></tr> <tr><td><del>106</del></td><td><del>SQL_INTERVAL_SECOND</del></td></tr> <tr><td><del>107</del></td><td><del>SQL_INTERVAL_YEAR_TO_MONTH</del></td></tr> </tbody> </table>	<del>-22</del>	<del>SQL_UNSIGNED_OFFSET</del>	<del>-20</del>	<del>SQL_SIGNED_OFFSET</del>	<del>-11</del>	<del>SQL_GUID</del>	<del>-10</del>	<del>SQL_WLONGVARCHAR</del>	<del>-9</del>	<del>SQL_WVARCHAR</del>	<del>-8</del>	<del>SQL_WCHAR</del>	<del>-7</del>	<del>SQL_BIT</del>	<del>-6</del>	<del>SQL_TINYINT</del>	<del>-5</del>	<del>SQL_BIGINT</del>	<del>-4</del>	<del>SQL_LONGVARBINARY</del>	<del>-3</del>	<del>SQL_VARBINARY</del>	<del>-2</del>	<del>SQL_BINARY</del>	<del>-1</del>	<del>SQL_LONGVARCHAR</del>	<del>0</del>	<del>SQL_UNKNOWN_TYPE</del>	<del>1</del>	<del>SQL_CHAR</del>	<del>2</del>	<del>SQL_NUMERIC</del>	<del>3</del>	<del>SQL_DECIMAL</del>	<del>4</del>	<del>SQL_INTEGER</del>	<del>5</del>	<del>SQL_SMALLINT</del>	<del>6</del>	<del>SQL_FLOAT</del>	<del>7</del>	<del>SQL_REAL</del>	<del>8</del>	<del>SQL_DOUBLE</del>	<del>9</del>	<del>SQL_TYPE_DATE or SQL_DATE</del>	<del>10</del>	<del>SQL_TYPE_TIME or SQL_TIME</del>	<del>11</del>	<del>SQL_TYPE_TIMESTAMP or SQL_TIMESTAMP</del>	<del>12</del>	<del>SQL_VARCHAR</del>	<del>101</del>	<del>SQL_INTERVAL_YEAR</del>	<del>102</del>	<del>SQL_INTERVAL_MONTH</del>	<del>103</del>	<del>SQL_INTERVAL_DAY</del>	<del>104</del>	<del>SQL_INTERVAL_HOUR</del>	<del>105</del>	<del>SQL_INTERVAL_MINUTE</del>	<del>106</del>	<del>SQL_INTERVAL_SECOND</del>	<del>107</del>	<del>SQL_INTERVAL_YEAR_TO_MONTH</del>
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...

## 81. §18.17.4, “Dates and Times”, p. 2058

[DR 12-0004]

...

Values with only a time-of-day component shall be expressed using the Complete, Extended Format Time Of Day representation, as defined in ISO 8601, §B.1.2 and §B2.2. The decimal separator shall be a full stop (period), and fractional seconds ~~shall~~should be expressed with no more than three decimal places.

[Rationale: There are significant differences among standards’ and systems’ support for fractional seconds in time values. Allowing implementations to choose a level of precision support that is most appropriate to each implementation provides the most flexibility for different usage scenarios. A recommended baseline precision sets a goal for support with the intention of improving interoperability. end rationale]

[Guidance: Implementations are encouraged to document their time precision support to enhance interoperability. end guidance]

[Example: The time-of-day 08:30 can be expressed in the following ways within SpreadsheetML:

08:30

08:30:00

08:30:00.000

*end example]*

Values with both date and time-of-day components shall be expressed using the Complete, Extended Format Calendar Date and Time Of Day representation, as defined in ISO 8601, §B.1.3 and §B2.3. For the time component, only seconds may use a decimal separator, the decimal separator shall be a full stop (period) and fractional seconds ~~shall~~should be expressed with no more than three decimal places.

...

## 82. §18.17.7.13, “ASINH”, p. 2086

[DR 13-0015]

...

**Description:** Computes the inverse hyperbolic ~~e~~sine of  $x$ .

...

**Return Type and Value:** number – The inverse hyperbolic ~~e~~sine of  $x$ .

...

**83. §18.17.7.28, “ BETAINV”, p. 2099**

[DR 14-0003]

...

**Return Type and Value:** number – The inverse of the cumulative distribution function for a specified beta distribution.

However, if

- *alpha* or *beta*  $\leq 0$ , #NUM! is returned.
- *probability*  $\leq 0$  or *probability*  $\geq 1$ , #NUM! is returned.
- *A*  $\geq$  *B*, #NUM! is returned.
- The search has not converged after some implementation-defined number of iterations, #N/A is returned.

...

**84. §18.17.7.29, “BIN2DEC”, p. 2099**

[DR 14-0003]

...

**Arguments:**

Name	Type	Description
<i>number</i>	number	A 10-digit binary number that is to be converted to a decimal <del>string</del> <u>number</u> . ...

...

**85. §18.17.7.78, “DAY”, p. 2165**

[DR 13-0010]

[Example:

DAY(DATE(2006,1,2)) results in 2

DAY(DATE(2006,0,2)) results in ~~31~~2

DAY(DATE(2013,9,0)) results in 31

DAY("2006/1/2 10:45 AM") results in 2

DAY(30000) results in 18 for the 1900 date system, or 19 for the 1904 date system

end example]

**86. §18.17.7.83, “DDB”, p. 2171**

[DR 14-0003]

...

**Return Type and Value:** number – The depreciation of an asset for a specified period.

However, if

- salvage < 0 #NUM! is returned.
- cost life  $\leq 0$ , #NUM! is returned.
- life  $\leq 0$  #NUM! is returned.
- period  $\leq 0$ , #NUM! is returned.
- factor  $\leq 0$ , #NUM! is returned.

...

**87. §18.17.7.119, “FIND”, p. 2202**

[DR 14-0003]

...

**Arguments:**

Name	Type	Description
<i>string-1</i>	...	...
<i>string-2</i>	...	
<i>start-pos</i>	number	The number of the start position within <i>string-2</i> for which <i>string-1</i> is to be searched. The start position of the first character is 1. If omitted, a position of 1 shall be assumed. <i>start-pos</i> shall be at least 0 <u>1</u> .

...

**88. §18.17.7.154, “IMDIV”, p. 2233**

[DR 14-0003]

...

**Return Type and Value:** text – A string containing the quotient from *number-1* / *number-2*, in *x+yi* or *x+yj* text format.

However, if

- *complex-number-2* is zero, #NUM! is returned.
- *-complex-number-1* or *complex-number-2* is ill-formed, #NUM! is returned.

...

## 89. §18.17.7.156, “IMLN”, p. 2234

[DR 14-0003]

...

**Return Type and Value:** text – The natural logarithm of *complex-number*, in  $x+yi$  or  $x+yj$  text format.

However, if *complex-number* is ill-formed or zero, #NUM! is returned.

...

## 90. §18.17.7.157, “IMLOG10”, p. 2235

[DR 14-0003]

...

**Return Type and Value:** text – The base-10 logarithm of *complex-number*, in  $x+yi$  or  $x+yj$  text format.

However, if *complex-number* is ill-formed or zero, #NUM! is returned.

...

## 91. §18.17.7.158, “IMLOG2”, p. 2236

[DR 14-0003]

...

**Return Type and Value:** text – The base-2 logarithm of *complex-number*, in  $x+yi$  or  $x+yj$  text format.

However, if *complex-number* is ill-formed or zero, #NUM! is returned.

...

## 92. §18.17.7.159, “IMPOWER”, p. 2237

[DR 14-0003]

...

**Return Type and Value:** text – A string containing *complex-number<sup>y</sup>*, in  $x+yi$  or  $x+yj$  text format.

However, if *complex-number* is ill-formed [or zero](#), #NUM! is returned.

...

### 93. §18.17.7.170, “INTERCEPT”, p. 2248

[DR 14-0003]

...

**Return Type and Value:** number – The point at which a line intersects the y-axis by using existing x-values and y-values.

However, if

- *known-ys* and *known-xs* contain a different number of data points, the return value is unspecified.
- *known-ys* or *known-xs* contain no data points, the return value is unspecified.
- [The line does not intersect the y-axis, #DIV/0! Is returned.](#)

...

### 94. §18.17.7.171, “INTRATE”, p. 2248

[DR 13-0015]

...

**Arguments:**

Name	Type	Description
...		
<i>redemption</i>	number	The amount to be received at maturity. <del>he security's annual yield.</del>
...		

...

### 95. §18.17.7.197, “LOG”, p. 2268

[DR 14-0003]

...

**Return Type and Value:** number – The logarithm of *x*.

However, if

- *x* is zero or negative, #NUM! is returned.



- *base* is zero or negative, #NUM! is returned.
- *base* is 1, #DIV/0! is returned.

...

## 96. §18.17.7.200, “LOGINV”, p. 2271

[DR 14-0003]

...

**Return Type and Value:** number – The inverse of the lognormal cumulative distribution function of *x*.

However, if

- *probability*  $\leq 0$  or *probability*  $\geq 1$ , #NUM! is returned.
- *standard-dev*  $\leq 0$ , #NUM! is returned.

...

## 97. §18.17.7.210, “MID”, p. 2282

[DR 14-0003]

...

**Return Type and Value:** text – A string containing *number-chars* characters from *string*, starting at character position *start-pos*.

However, if

- *start-pos*  $< 1$ , #VALUE! is returned.
- *number-chars*  $< 0$ , #VALUE! is returned.

...

## 98. §18.17.7.212, “MIN”, p. 2284

[DR 13-0015]

...

**Arguments:**

Name	Type	Description
<i>argument-list</i>	...	The <i>arguments</i> in <i>argument-list</i> designate the values for which the <del>largest</del> <u>smallest</u> value is to be computed. ...

...

**99. §18.17.7.213, “MINA”, p. 2284**

[DR 13-0015]

...

**Arguments:**

Name	Type	Description
<i>argument-list</i>	...	The <i>arguments</i> in <i>argument-list</i> designate the values for which the <del>largest</del> <u>smallest</u> value is to be computed. ...

...

**100. §18.17.7.225, “NEGBINOMDIST”, p. 2294**

[DR 14-0003]

...

**Return Type and Value:** number – The negative binomial distribution.

However, if

- *number-failures* < 0 or *number-successes* < 1, #NUM! is returned.
- *success-probability*  $\leq$  0 or *success-probability*  $\geq$  1, #NUM! is returned.

...

**101. §18.17.7.230, “NORMINV”, p. 2299**

[DR 14-0003]

...

**Return Type and Value:** number – The inverse of the normal distribution for the specified mean and standard deviation.

However, if

- *probability*  $\leq$  0 or if *probability*  $\geq$  1, #NUM! is returned.
- *standard-deviation*  $\leq$  0, #NUM! is returned.
- the implementation determines that a return value cannot be computed, #N/A is returned.

...

**102. §18.17.7.232, “NORMSINV”, p. 2300**

[DR 14-0003]

...

**Return Type and Value:** number – The inverse of the standard normal distribution.

However, if

- *probability*  $\leq 0$  or if *probability*  $\geq 1$ , #NUM! is returned.
- the implementation determines that a return value cannot be computed, #N/A is returned.

...

**103. §18.17.7.238, “OCT2DEC”, p. 2305**

[DR 14-0003]

...

**Arguments:**

Name	Type	Description
<i>number</i>	<del>number</del> text	A 10-digit octal number in a string that is to be converted to a decimal number. If <i>number</i> has less than 10 digits, leading zero digits are implied until it has exactly 10 digits. The 10 digits use twos-complement representation with the left-most bit (30th bit from the right) representing the sign bit.

...

**104. §18.17.7.241, “ODDFPRICE”, pp. 2307–2311**

[DR 13-0012, DR 14-0003]

...

**Description:** Computes the price per ~~\$100~~100 currency units face value of a security having an odd (short or long) first period.

...

**Arguments:**

Name	Type	Description
...		

Name	Type	Description
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> 100 currency units face value.
...		

...

**Return Type and Value:** number – The price per ~~\$100~~100 currency units face value of a security having an odd (short or long) first period.

However, if

- *settlement*, *maturity*, *issue*, or *first-coupon* is out of range for the current date system, #NUM! is returned.
- The following is not true: *maturity* is later than *first-coupon*, which is later than *settlement*, which is later than *issue*, so #NUM! is returned.
- *rate* or *yld* < 0, #NUM! is returned.
- *redemption* ≤ 0, #NUM! is returned.
- *frequency* is any number other than 1, 2, or 4, #NUM! is returned.
- *basis* < 0 or *basis* > 4, #NUM! is returned.

...

## 105. §18.17.7.242, “ODDFYIELD”, p. 2311

[DR 13-0012]

...

**Arguments:**

Name	Type	Description
...		
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> 100 currency units face value.
...		

...

## 106. §18.17.7.243, “ODDLPRICE”, pp. 2314–2316

[DR 13-0012, DR 14-0003]

...

**Description:** Computes the price per ~~\$100~~100 currency units face value of a security having an odd (short or long) last coupon period.

**Arguments:**

Name	Type	Description
...		
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> 100 currency units face value.
...		

...

**Return Type and Value:** number – The price per ~~\$100~~100 currency units face value of a security having an odd (short or long) last coupon period.

However, if

- *settlement*, *maturity*, or *last-interest* is out of range for the current date system, #NUM! is returned.
- The following is not true: *maturity* is later than *settlement*, which is later than *last-interest*, so #NUM! is returned.
- *rate* or *yld* < 0, #NUM! is returned.
- *redemption* ≤ 0, #NUM! is returned.
- *frequency* is any number other than 1, 2, or 4, #NUM! is returned.
- *basis* < 0 or *basis* > 4, #NUM! is returned.

...

## 107. §18.17.7.244, “ODDLYIELD”, p. 2317–2320

[DR 13-0012, DR 14-0003]

...

**Arguments:**

Name	Type	Description
...		
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> 100 currency units face value.
...		

...

**Return Type and Value:** number – The yield of a security that has an odd (short or long) last period.

However, if

- *settlement*, *maturity*, or *last-interest* is out of range for the current date system, #NUM! is returned.

- The following is not true: *maturity* is later than *settlement*, which is later than *last-interest*, so #NUM! is returned.
- *rate* ~~*or pr*~~ < 0, #NUM! is returned.
- *pr* ≤ 0, #NUM! is returned.
- *frequency* is any number other than 1, 2, or 4, #NUM! is returned.
- *basis* < 0 or *basis* > 4, #NUM! is returned.

...

## 108. §18.17.7.257, “PRICE”, pp. 2329–2332

[DR 13-0012]

...

**Description:** Computes the price per ~~\$100~~100 currency units face value of a security that pays periodic interest.

...

**Arguments:**

Name	Type	Description
...		
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> <u>100 currency units</u> face value.
...		

...

**Return Type and Value:** number – The price per ~~\$100~~100 currency units face value of a security that pays periodic interest.

...

## 109. §18.17.7.258, “PRICEDISC”, pp. 2333–2335

[DR 13-0012]

...

**Description:** Computes the price per ~~\$100~~100 currency units face value of a discounted security.

...

**Arguments:**

Name	Type	Description
------	------	-------------

Name	Type	Description
...		
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> 100 currency units face value.
...		

...

**Return Type and Value:** number – The price per ~~\$100~~100 currency units face value of a discounted security.

...

## 110. §18.17.7.259, “PRICEMAT”, pp. 2335–2338

[DR 13-0012]

...

**Description:** Computes the price per ~~\$100~~100 currency units face value of a security that pays interest at maturity.

...

**Return Type and Value:** number – The price per ~~\$100~~100 currency units face value of a security that pays interest at maturity.

## 111. §18.17.7.260, “PROB”, p. 2339

[DR 14-0003]

...

**Return Type and Value:** number – The probability that values in a range are between two limits.

However, if

- Any value in *probability-range* is  $\leq 0$  ~~or any value in probability-range  $> 1$~~ , #NUM! is returned.
- The sum of the values in *probability-range*  $\leq 1$ , #NUM! is returned.
- x-range* and *probability-range* contain a different number of data points, the return value is unspecified.

...

## 112. §18.17.7.269, “RANK”, p. 2345

[DR 14-0003]

...

**Return Type and Value:** number – The rank of a number in a list of numbers.

However, if *number* does not exist in *number-list*, #N/A is returned.

[DR 14-0003]

...

### 113. §18.17.7.272, “REPLACE”, p. 2349

**Arguments:**

Name	Type	Description
<i>string-1</i>	...	...
<i>start-pos</i>	number	The number of the start position within <i>string-1</i> from which characters in <i>string-1</i> are to be replaced. The start position of the first character is 1. <i>start-pos</i> shall be at least 01. ...
...	...	...

...

### 114. §18.17.7.285, “SEARCH”, p. 2360

[DR 14-0003]

...

**Arguments:**

Name	Type	Description
<i>string-1</i>	...	...
<i>string-2</i>	...	
<i>start-pos</i>	number	The number of the start position within <i>string-2</i> for which <i>string-1</i> is to be searched. The start position of the first character is 1. If omitted, a position of 1 shall be assumed. <i>start-pos</i> shall be at least 01.

...

### 115. §18.17.7.299, “STDEV”, p. 2371

[DR 14-0003]

...

**Return Type and Value:** number – An estimate of the standard deviation based on a sample.



[However, if the sample size  \$\leq 1\$ , #DIV/0! is returned.](#)

...

## 116. §18.17.7.300, “STDEVA”, p. 2372

[DR 14-0003]

...

**Return Type and Value:** number – An estimate of the standard deviation based on a sample.

[However, if the sample size  \$\leq 1\$ , #DIV/0! is returned.](#)

...

## 117. §18.17.7.301, “STDEVP”, p. 2373

[DR 14-0003]

...

**Return Type and Value:** number – The standard deviation of an entire population.

[However, if the sample size is zero, #DIV/0! is returned.](#)

...

## 118. §18.17.7.302, “STDEVPA”, p. 2374

[DR 14-0003]

...

**Return Type and Value:** number – The standard deviation of an entire population.

Arguments can be numbers; .... Empty cells and text values in the array or reference are ignored.

[However, if the sample size is zero, #DIV/0! is returned.](#)

...

## 119. §18.17.7.304, “SUBSTITUTE”, p. 2376

[DR 14-0003]

...

**Return Type and Value:** text – A string that is *string* with one or all occurrences of *old-string* replaced by *new-string*.

However, if *occurrence*  $\leq 0$ , #VALUE! is returned.

...

## 120. §18.17.7.319, “TBILLPRICE”, p. 2388

[DR 14-0003]

...

**Return Type and Value:** number – The price per \$100 face value for a U.S. Treasury bill.

However, if

- *settlement* or *maturity* is out of range for the current date system, #NUM! is returned.
- *settlement*  $\geq$  *maturity*, #NUM! is returned.
- *maturity* is more than one year after *settlement*, #NUM! is returned.
- *discount*  $\leq 0$ , #NUM! is returned.

...

## 121. §18.17.7.320, “TBILLYIELD”, p. 2389

[DR 14-0003]

...

**Return Type and Value:** number – The yield for a U.S. Treasury bill.

However, if

- *settlement* or *maturity* is out of range for the current date system, #NUM! is returned.
- *settlement*  $\geq$  *maturity*, #NUM! is returned.
- *maturity* is more than one year after *settlement*, #NUM! is returned.
- *pr*  $\leq 0$ , #NUM! is returned.

...

## 122. §18.17.7.330, “TRIMMEAN”, pp. 2395–2396

[DR 14-0003]

...

**Return Type and Value:** number – The mean of the interior of a data set.

However, if *percent*  $< 0$  or *percent*  $\geq 1$ , #NUM! is returned.

...

### 123. §18.17.7.333, “TTEST”, p. 2397

[DR 14-0003]

...

**Return Type and Value:** number – The probability associated with a Student's t-Test.

However, if

- *array-1* and *array-2* have a different number of data points, and *test-type* is 1, the return value is unspecified.
- *distribution-tails* is any value other than 1 or 2, #NUM! is returned.
- *test-type* is any value other than 1, 2 or 3, #NUM! is returned.

...

### 124. §18.17.7.338, “VAR”, p. 2401

[DR 14-0003]

...

**Return Type and Value:** number – An estimate of the variance based on a sample.

However, if the sample size  $\leq 1$ , #DIV/0! is returned.

...

### 125. §18.17.7.339, “VARA”, p. 2402

[DR 14-0003]

...

**Return Type and Value:** number – An estimate of the variance based on a sample.

However, if the sample size  $\leq 1$ , #DIV/0! is returned.

...

### 126. §18.17.7.340, “VARP”, p. 2403

[DR 14-0003]

...

**Return Type and Value:** number – The variance of an entire population.

However, if the sample size is zero, #DIV/0! is returned.

...

## 127. §18.17.7.341, “VARPA”, p. 2404

[DR 14-0003]

...

**Return Type and Value:** number – The variance of an entire population.

Arguments can be numbers; ... Empty cells and text values in the array or reference are ignored.

However, if the sample size is zero, #DIV/0! is returned.

...

## 128. §18.17.7.342, “VDB”, p. 2405

[DR 14-0003]

...

**Return Type and Value:** number – The depreciation of an asset for the period specified.

However, if

- any numerical argument value is non-positive, #NUM! is returned.
- cost is greater than salvage, zero is returned.
- start-period is greater than end-period, #NUM! is returned.
- end-period is greater than life, #NUM! is returned.

~~any numerical argument value is non-positive, #NUM! is returned.~~

...

## 129. §18.17.7.346, “WEIBULL”, p. 2410

[DR 13-0015]

...

**Arguments:**

Name	Type	Description
...		
<i>cumulative-flag</i>	logical	Determines the form of the function. If TRUE, <del>WEIBULL</del> <del>GAMMADIST</del> returns the cumulative distribution function; if FALSE, it returns the probability density function.

...

### 130. §18.17.7.349, “XIRR”, p. 2415

[DR 14-0003]

...

**Return Type and Value:** number – The internal rate of return for a schedule of cash flows that is not necessarily periodic.

However, if

- Any date in *dates* is out of range for the current date system, #NUM! is returned.
- *values* does not contain at least one positive and one negative value, #NUM! is returned.
- Any date in *dates* precedes the starting date, #NUM! is returned.
- *values* and *dates* contain different numbers of values, #NUM! is returned.
- The calculation has not converged after an implementation-defined number of tries, #NUM! is returned.

...

### 131. §18.17.7.350, “XNPV”, p. 2416

[DR 14-0003]

...

**Return Type and Value:** number – The net present value for a schedule of cash flows that is not necessarily periodic.

However, if

- *rate* ≤ 0, #NUM! is returned.
- Any date in *dates* is out of range for the current date system, #NUM! is returned.
- Any date in *dates* precedes the starting date, #NUM! is returned.
- *values* and *dates* contain different numbers of values, #NUM! is returned.

...

**132. §18.17.7.352, “YEARFRAC”, pp. 2417–2418**

[DR 14-0003]

...

**Arguments:**

Name	Type	Description												
start-date	number	...												
end-date	number	...												
basis	number	<div>The truncated integer type of day count basis to use, as follows:<table><tr><th>Value</th><th>Day Count Basis</th></tr><tr><td>0 or omitted</td><td>...</td></tr><tr><td>1</td><td>Actual/actual. The actual number of days between the two dates are counted. If the date range includes the date 29 February, the year is 366 days; otherwise it is 365 days. <a href="#">Year length used is the average length of the years that the range crosses (regardless of where the start and end dates fall in their respective years).</a></td></tr><tr><td>2</td><td>...</td></tr><tr><td>3</td><td>...</td></tr><tr><td>4</td><td>...</td></tr></table></div>	Value	Day Count Basis	0 or omitted	...	1	Actual/actual. The actual number of days between the two dates are counted. If the date range includes the date 29 February, the year is 366 days; otherwise it is 365 days. <a href="#">Year length used is the average length of the years that the range crosses (regardless of where the start and end dates fall in their respective years).</a>	2	...	3	...	4	...
Value	Day Count Basis													
0 or omitted	...													
1	Actual/actual. The actual number of days between the two dates are counted. If the date range includes the date 29 February, the year is 366 days; otherwise it is 365 days. <a href="#">Year length used is the average length of the years that the range crosses (regardless of where the start and end dates fall in their respective years).</a>													
2	...													
3	...													
4	...													

...

**133. §18.17.7.353, “YIELD”, p. 2420**

[DR 13-0012, DR 14-0003]

...

**Arguments:**

Name	Type	Description
...		
<i>pr</i>	number	The security's price <u>per 100 currency unit face value</u> .
....	...	...
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> <u>100 currency units</u> face value.
...		

...

### 134. §18.17.7.354, “YELDDISC”, pp. 2422–2423

[DR 13-0012, DR 14-0003]

...

#### Arguments:

Name	Type	Description
...		
<i>pr</i>	number	The security's price <u>per 100 currency unit face value</u> .
...	...	...
<i>redemption</i>	number	The security's redemption value per <del>\$100</del> <u>100 currency units</u> face value.
...		

...

### 135. §18.17.7.355, “YELDMAT”, pp. 2426–2428

[DR 14-0003]

...

#### Arguments:

Name	Type	Description
...	...	...
<i>pr</i>	number	The security's price per <u>100 currency unit face value</u> .
...	...	...

...

**Return Type and Value:** number – The annual yield of a security that pays interest at maturity.

However, if

- *settlement, maturity, or issue* is out of range for the current date system, #NUM! is returned.
- *issue* ≥ *settlement*, #NUM! is returned.
- *settlement* ≥ *maturity*, #NUM! is returned.
- *rate* < 0, #NUM! is returned.
- ~~*rate*~~ *or pr* ≤ 0, #NUM! is returned.
- *basis* < 0 or *basis* > 4, #NUM! is returned.

...

### 136. §18.17.7.356, “ZTEST”, p. 2429

[DR 14-0003]

...

**Return Type and Value:** number – The one-tailed probability-value of a z-test.

However, if: ~~*array is empty, the return value is unspecified*~~

- *array is empty, the return value is unspecified.*
- *sigma* is ≤ 0, #NUM! is returned.

...

### 137. §18.18.77 “ST\_TableStyleType (Table Style Type)”, pp. 2480–2497

[DR 13-0003]

{Set the paragraph for each caption to “keep with next” paragraph. In Word: Paragraph dialog > Line and Page Breaks tab > check “Keep with next”.}

### 138. §18.18.69, “ST\_SheetViewType (Sheet View Type)”, pp. 2476–2477

[DR 12-0009]

~~Defines the view setting of the sheet.~~ This simple type defines the kinds of view available to an application when rendering a SpreadsheetML document. Those view kinds are, as follows: *normal view*, *page break preview*, and *page layout view*.

This simple type's contents are a restriction of the W3C XML Schema string datatype.



This simple type is restricted to the values listed in the following table:

Enumeration Value	Description
normal (Normal View)	<del>Normal view</del> Specifies that the worksheet should be displayed without regard to pagination. [Note: The worksheet might be displayed as a continuous grid of cells, for example. <i>end note</i> ]
pageBreakPreview (Page Break Preview)	<del>Page break preview</del> Specifies that the worksheet should be displayed showing where pages would break if it were printed. [Note: The worksheet might be displayed as a continuous grid of cells with lines overlaid, indicating page breaks, for example. <i>end note</i> ]
pageLayout (Page Layout View)	<del>Page Layout View</del> Specifies that the worksheet should be displayed mimicking how it would look if printed. [Note: The worksheet might be displayed as a set of printed pages, showing a discontinuous grid of cells with page borders and margins, for example. <i>end note</i> ]

...

### 139. §18.18.89, “ST\_Visibility (Visibility Types)”, p. 2507

[DR 13-0015]

This simple type defines the possible states for ~~sheet~~-workbook window visibility.

This simple type's contents are a restriction of the W3C XML Schema string datatype.

This simple type is restricted to the values listed in the following table:

Enumeration Value	Description
hidden (Hidden)	Indicates the workbook window is hidden, but can be shown by the user via the user interface.
veryHidden (Very Hidden)	Indicates the <del>sheet</del> -workbook window is hidden and cannot be shown in the user interface (UI). This state is only available programmatically.
visible (Visible)	Indicates the workbook window is visible.

...

### 140. §19.2.2.6, “normalViewPr (Normal View Properties)”, pp. 2546–2547

[DR 12-0009]

This element specifies the view properties associated with the normal ~~slide~~ view (§19.7.55) mode. The normal ~~slide~~ view consists of three content regions: the slide itself, a side content region, and a bottom content region.

...

Attributes	Description
horzBarState (State of the Horizontal Splitter Bar)	Specifies the state that the horizontal splitter bar should be in when in normal <a href="#">slide</a> view mode ( <a href="#">§19.7.55</a> ). The region to be maximized or minimized is the side content region. ...
preferSingleView (Prefer Single View)	Specifies whether the user prefers to see a full-window single-content region over the <del>standard</del> -normal <a href="#">slide</a> view ( <a href="#">§19.7.55</a> ) with three content regions. If enabled, the application can choose to display one of the content regions in the entire window. ...
showOutlineIcons (Show Outline Icons in Normal View)	Specifies whether the application should show icons if displaying outline content in any of the content regions of normal <a href="#">slide</a> view mode ( <a href="#">§19.7.55</a> ). ...
...	...
vertBarState (State of the Vertical Splitter Bar)	Specifies the state that the vertical splitter bar should be in when in normal <a href="#">slide</a> view mode ( <a href="#">§19.7.55</a> ). The region to be maximized or minimized is the <a href="#">primary</a> <a href="#">slide</a> <a href="#">content</a> region.

...

#### 141. §19.2.2.10, “outlineViewPr (Outline View Properties), p. 2548

[DR 12-0009]

This element functions as a parent element within which all view properties associated with the outline view ([§19.7.55](#)) mode are contained. All properties are defined within the child elements.

...

#### 142. §19.2.2.11, “restoredLeft (Normal View Restored Left Properties)”, pp. 2548–2549

[DR 12-0009]

This element specifies the sizing of the side content region of the normal [slide](#) view ([§19.7.55](#)), when the region is of a variable restored size (neither minimized nor maximized).

...

#### 143. §19.2.2.12, “restoredTop (Normal View Restored Top Properties)”, p. 2549

[DR 12-0009]

This element specifies the sizing of the top slide region of the normal [slide](#) view ([§19.7.55](#)), when the region is of a variable restored size (neither minimized nor maximized).

...

#### **144. §19.2.2.14, “sld (Presentation Slide)”, pp. 2549–2550**

[DR 12-0009]

This element specifies a presentation slide and properties specific to the slide's appearance in outline view ([§19.7.55](#)).

...

#### **145. §19.2.2.17, “sorterViewPr (Slide Sorter View Properties), p. 2551**

[DR 12-0009]

This element functions as a parent element within which all view properties associated with the slide sorter view ([§19.7.55](#)) mode are contained. All properties are defined within the child elements.

...

#### **146. §19.3.1.27, “notesMaster (Notes Master)”, p. 2573**

[DR 13-0015]

This element specifies an instance of a [handoutnotes](#) master slide. Within a [handoutnotes](#) master slide are contained all elements that describe the objects and their corresponding formatting for within a [handoutnotes](#) slide. Within a [handoutnotes](#) master slide the cSld element specifies the common slide elements such as shapes and their attached text bodies. There are other properties within a [handoutnotes](#) master slide but cSld encompasses the majority of the intended purpose for a [handoutnotes](#) Master slide.

...

#### **147. §19.3.1.38, “sld (Presentation Slide)”, pp. 2577–2578**

[DR 13-0011]

*{Replace the text of the whole subclause with the following:}*

This element is the root element of a Slide part (§13.3.8) and specifies an instance of a slide. Within a slide are contained all elements that describe the objects and their corresponding formatting within a presentation slide. Child elements describe the common slide elements such as shapes and their attached text bodies, transition and timing specific to this slide and color information specific to this slide.

*[Example: Consider the following basic slide.*

```

<p:sld>
  <p:cSld>
    <p:spTree>
      ...
    </p:spTree>
  </p:cSld>
  <p:clrMapOver>
    ...
  </p:clrMapOver>
  <p:transition>
    ...
  </p:transition>
  <p:timing>
    ...
  </p:timing>
</p:sld>

```

This example shows a slide with its content in the shape tree, a local color mapping override and a slide transition with associated timing information. *end example*

#### 148. §19.4.3, “cmAuthorLst (List of Comment Authors)”, p. 2592

[DR 13-0008]

This element specifies a list of authors with comments in the current document. Each comment in a document shall refer to an author in this list. ~~To determine if a new author is in this list, the author's name and initials shall both match; otherwise, the new author is considered unique and a separate cmAuthor element is added.~~ No cmAuthor element in a cmAuthorLst shall have both the same name attribute value and the same initials attribute value as any other cmAuthor element in the same cmAuthorLst.

#### 149. §19.4.5, “pos (Comment Position)”, attribute y, p. 2594

[DR 13-0015]

Attributes	Description
y (Y-Axis Coordinate)	Specifies a coordinate on the <del>x</del> y-axis. The origin point for this coordinate shall be specified by the parent XML element.
...	...

#### 150. §19.5.79, “tav (Time Animate Value)”, attribute fmla, p. 2667

[DR 12-0003]

...

Variables:

Name	Description
\$	Formula input
ppt_x	Pre-animation x position of the object on the slide <u>Position on the slide is represented using an abstract coordinate space where 0 represents the left side of the slide and 1 represents the right side of the slide.</u>
ppt_y	Pre-animation y position of the object on the slide <u>Position on the slide is represented using an abstract coordinate space where 0 represents the top of the slide and 1 represents the bottom of the slide.</u>
ppt_w	Pre-animation width of the object <u>Width is represented using an abstract coordinate space relative to the size of the slide, where 1 represents the width of the slide.</u>
ppt_h	Pre-animation height of the object <u>Height is represented using an abstract coordinate space relative to the size of the slide, where 1 represents the height of the slide.</u>

## 151. §19.7.55, “ST\_ViewType (List of View Types)”, p. 2710

[DR 12-0009]

~~This simple type specifies the kind of view that should be used when displaying the presentation document to the user.~~ This simple type defines the kinds of view available to an application when rendering a PresentationML document. Those view kinds are, as follows: *handout view*, *normal slide view*, *notes master view*, *notes view*, *outline view*, *slide master view*, *slide sorter view*, and *slide thumbnail view*. [Note: Although this Standard is for a file format, occasionally, guidance is given regarding intent in dealing with things outside that file format, such as the rendering of documents to a screen or printer. *end note*]

This simple type's contents are a restriction of the W3C XML Schema token datatype.

This simple type is restricted to the values listed in the following table:

Enumeration Value	Description
handoutView (Handout <u>Master</u> View)	<del>Handout View mode should be used.</del> <u>Specifies that a given PresentationML document should be rendered using some sort of template that is intended to facilitate the changing of the design and layout of printed handouts.</u>
notesMasterView (Notes Master View)	<del>Notes Master View mode should be used.</del> <u>Specifies that a given PresentationML document should be rendered using some sort of template that is intended to facilitate the changing of the design and layout of notes slides.</u>

Enumeration Value	Description
notesView (Notes View)	<del>Notes View mode should be used.</del> Specifies that a given PresentationML document should be rendered using some sort of template that is intended to facilitate the viewing or editing of notes.
outlineView (Outline View)	<del>Outline View mode should be used.</del> Specifies that a given PresentationML document should be rendered in a view that is intended to facilitate the viewing of slides in some outline form.
sldMasterView (Slide Master View)	<del>Slide Master View mode should be used.</del> Specifies that a given PresentationML document should be rendered using some sort of template that is intended to facilitate the changing of the design and layout of master slides.
sldSorterView (Slide Sorter View)	<del>Slide Sorter View mode should be used.</del> Specifies that a given PresentationML document should be rendered in a view that is intended to facilitate the rearrangement of slides.
sldThumbnailView (Slide Thumbnail View)	<del>Slide Thumbnail View mode should be used.</del> Specifies that a given PresentationML document should be rendered in a view that shows slides in some thumbnail form.
sldView (Normal Slide View)	<del>Normal Slide View mode should be used.</del> Specifies that a given PresentationML document should be rendered in a view that allows slides to be viewed or edited.

...

## 152. §20.1.2.3.2 “alphaMod (Alpha Modulation)”, p. 2748

[DR 13-0003]

This element specifies a more or less opaque version of its input color. An alpha modulate never increases the alpha beyond 100%. A 200% alpha modulate makes an input color twice as opaque as before. A 50% alpha modulate makes an input color half as opaque as before.

...

## 153. §20.1.2.3.13 “hslClr (Hue, Saturation, Luminance Color Model)”, hue attribute, p. 2754

[DR 13-0003]

Attributes	Description
------------	-------------

Attributes	Description
hue (Hue)	Specifies the angular value describing the wavelength. <del>Expressed in 1/6000ths of a degree.</del> ...

#### 154. §20.1.2.3.15 “hueMod (Hue Modulate)”, attribute val, p. 2755

[DR 13-0003]

Attributes	Description
val (Value)	<p>Specifies the <del>opacity</del><u>hue</u> as expressed by a percentage relative to the input color.</p> <p>[Example: The following <del>represents a green solid fill which is 50% opaque</del><u>manipulates the fill color from having RGB value RRGGBB = (00, FF, 00) to value RRGGBB = (FF, FF, 00)</u></p> <pre> &lt;a:solidFill&gt;   &lt;a:srgbClr val="00FF00"&gt;     &lt;a:<del>alpha</del><u>hue</u>Mod val="50%"/&gt;   &lt;/a:srgbClr&gt; &lt;/a:solidFill&gt; </pre> <p><i>end example]</i></p> <p>The possible values for this attribute are defined by the ST_PositivePercentage simple type (§20.1.10.45).</p>

#### 155. §20.1.3.3, “end (Audio End Time)”, Attributes time and track, p. 2769

[DR 13-0015]

Attributes	Description
time (Time)	Specifies the time in seconds that the CD Audio should be <del>started</del> <u>stopped</u> at. If this attribute is omitted, then a value of 0 is assumed. ...
track (Track)	Specifies which track of the CD this Audio <del>begins</del> <u>stops</u> playing <del>on</del> <u>at</u> . This attribute is required and cannot be omitted. ...

#### 156. §20.1.4.2.2, “band1V (Band 1 Vertical)”, p. 2793

[DR 13-0015]

This element describes the formatting for the first row in vertical banding. Two different ~~row~~column formattingss are applied to the table alternating in order to create a banding effect on the table.

...

**157. §20.1.10.55, “ST\_ShapeType (Preset Shape Types)”, pp. 2980–2981**

[DR 12-0002]

This simple type specifies the preset shape geometry that is to be used for a shape. An enumeration of this simple type is used so that a custom geometry does not have to be specified but instead can be constructed automatically by the generating application. For each enumeration listed there is also the corresponding DrawingML code that would be used to construct this shape were it a custom geometry. Within the construction code for each of these preset shapes there are predefined guides that the generating application shall maintain for calculation purposes at all times. The necessary guides should have the following values. [Formula syntax components are defined in the fmla attribute of the gd element \(§20.1.9.11\).](#)

...

**1/2 of Shape Height ('hd2') - Calculated value of  $"/ h 1.0 2.0$ "**

This is 1/2 the shape height.

**[1/3 of Shape Height \('hd3'\) - Calculated value of  \$"/ h 1.0 3.0\$ "](#)**

[This is 1/3 the shape height.](#)

**1/4 of Shape Height ('hd4') - Calculated value of  $"/ h 1.0 4.0$ "**

This is 1/4 the shape height.

...

**1/8 Shortest Side of Shape ('ssd8') - Calculated value of  $"/ ss 1.0 8.0$ "**

This is 1/8 the shortest side of the shape.

**[1/16 Shortest Side of Shape \('ssd16'\) - Calculated value of  \$"/ ss 1.0 16.0\$ "](#)**

[This is 1/16 the shortest side of the shape.](#)

**[1/32 Shortest Side of Shape \('ssd32'\) - Calculated value of  \$"/ ss 1.0 32.0\$ "](#)**

[This is 1/32 the shortest side of the shape.](#)

**Shape Top Edge ('t') - Constant value of "0"**

This is the top edge of the shape and the top edge of the shape is considered the vertical 0 point.

...

**1/2 of Shape Width ('wd2') - Calculated value of  $"/ w 1.0 2.0$ "**



This is 1/2 the shape width.

**1/3 of Shape Width ('wd3') - Calculated value of "\*" / w 1.0 3.0"**

This is 1/3 the shape width.

**1/4 of Shape Width ('wd4') - Calculated value of "\*" / w 1.0 4.0"**

This is 1/4 the shape width.

...

## **158. §20.1.10.75, “ST\_TextShapeType (Preset Text Shape Types)”, pp. 3058–3060**

[DR 09-0061]

This simple type specifies the preset text shape geometry that is to be used for a shape. An enumeration of this simple type is used so that a custom geometry does not have to be specified but instead can be constructed automatically by the generating application. For each enumeration listed there is also the corresponding DrawingML code that would be used to construct this shape were it a custom geometry. Within the construction code for each of these preset text shapes there are predefined guides that the generating application shall maintain for calculation purposes at all times. The necessary guides should have the following values. [Formula syntax components are defined in the fmla attribute of the gd element \(§20.1.9.11\).](#)

...

**1/2 of Shape Height ('hd2') - Calculated value of "\*" / h 1.0 2.0"**

This is 1/2 the shape height.

**1/3 of Shape Height ('hd3') - Calculated value of "\*" / h 1.0 3.0"**

This is 1/3 the shape height.

**1/4 of Shape Height ('hd4') - Calculated value of "\*" / h 1.0 4.0"**

This is 1/4 the shape height.

...

**1/8 Shortest Side of Shape ('ssd8') - Calculated value of "\*" / ss 1.0 8.0"**

This is 1/8 the shortest side of the shape.

**1/16 Shortest Side of Shape ('ssd16') - Calculated value of "\*" / ss 1.0 16.0"**

This is 1/16 the shortest side of the shape.

**1/32 Shortest Side of Shape ('ssd32') - Calculated value of "\*" / ss 1.0 32.0"**

[This is 1/32 the shortest side of the shape.](#)

#### Shape Top Edge ('t') - Constant value of "0"

This is the top edge of the shape and the top edge of the shape is considered the vertical 0 point.

...

#### 1/2 of Shape Width ('wd2') - Calculated value of "\*" / w 1.0 2.0"

This is 1/2 the shape width.

#### [1/3 of Shape Width \('wd3'\) - Calculated value of "\\*" / w 1.0 3.0"](#)

[This is 1/3 the shape width.](#)

#### 1/4 of Shape Width ('wd4') - Calculated value of "\*" / w 1.0 4.0"

This is 1/4 the shape width.

...

## 159. §21.1.2.3 Run Formatting, p. 3218

[DR 09-0040]

...

[*Example*: Consider the case where have multiple runs within a paragraph and you wish to apply bold to only one of them without having to split up the text into higher level XML groups. ... *end example*]

[For each Unicode character in DrawingML text, the font face can be any of four font “slots”: latin \(§21.1.2.3.7\), cs \(§21.1.2.3.1\), ea \(§21.1.2.3.3\), or sym \(§21.1.2.3.10\), as specified in the following table. For all ranges not explicitly called out below, the \*ea\* font shall be used.](#)

<a href="#">Unicode Code Point Range</a>	<a href="#">Classification</a>
<a href="#">U+0000–U+007F</a>	<a href="#">Use latin font</a>
<a href="#">U+0080–U+00A6</a>	<a href="#">Use latin font</a>
<a href="#">U+00A9–U+00AF</a>	<a href="#">Use latin font</a>
<a href="#">U+00B2–U+00B3</a>	<a href="#">Use latin font</a>
<a href="#">U+00B5–U+00D6</a>	<a href="#">Use latin font</a>
<a href="#">U+00D8–U+00F6</a>	<a href="#">Use latin font</a>
<a href="#">U+00F8–U+058F</a>	<a href="#">Use latin font</a>
<a href="#">U+0590–U+074F</a>	<a href="#">Use cs font</a>
<a href="#">U+0780–U+07BF</a>	<a href="#">Use cs font</a>

<u>Unicode Code Point Range</u>	<u>Classification</u>
<a href="#">U+0900–U+109F</a>	<a href="#">Use cs font</a>
<a href="#">U+10A0–U+10FF</a>	<a href="#">Use latin font</a>
<a href="#">U+1200–U+137F</a>	<a href="#">Use latin font</a>
<a href="#">U+13A0–U+177F</a>	<a href="#">Use latin font</a>
<a href="#">U+1D00–U+1D7F</a>	<a href="#">Use latin font</a>
<a href="#">U+1E00–U+1FFF</a>	<a href="#">Use latin font</a>
<a href="#">U+1780–U+18AF</a>	<a href="#">Use cs font</a>
<a href="#">U+2000–U+200B</a>	<a href="#">Use latin font</a>
<a href="#">U+200C–U+200F</a>	<a href="#">Use cs font</a>
<a href="#">U+2010–U+2029</a>	<a href="#">Use latin font</a> <i>Except, for the quote characters in the range 2018 – 201F, use ea font if the text has one of the following language identifiers: <a href="#">ii-CN</a>, <a href="#">ja-JP</a>, <a href="#">ko-KR</a>, <a href="#">zh-CN</a>, <a href="#">zh-HK</a>, <a href="#">zh-MO</a>, <a href="#">zh-SG</a>, <a href="#">zh-TW</a>.</i>
<a href="#">U+202A–U+202F</a>	<a href="#">Use cs font</a>
<a href="#">U+2030–U+2046</a>	<a href="#">Use latin font</a>
<a href="#">U+204A–U+245F</a>	<a href="#">Use latin font</a>
<a href="#">U+2670–U+2671</a>	<a href="#">Use cs font</a>
<a href="#">U+27C0–U+2BFF</a>	<a href="#">Use latin font</a>
<a href="#">U+3099–U+309A</a>	<a href="#">Use ea font</a>
<a href="#">U+D835</a>	<a href="#">Use latin font</a> <i>[Note: This is the leading character for UTF-16 expression of Mathematical Alphanumeric characters (U+1D400 – U+1D7FF) and should be formatted using a latin font. end note]</i>
<a href="#">U+F000–U+F0FF</a>	<a href="#">Symbol, use sym font</a>
<a href="#">U+FB00–U+FB17</a>	<a href="#">Use latin font</a>
<a href="#">U+FB1D–U+FB4F</a>	<a href="#">Use cs font</a>
<a href="#">U+FE50–U+FE6F</a>	<a href="#">Use latin font</a>
<a href="#">Otherwise</a>	<a href="#">Use ea font</a>

## 160. §21.1.2.3.1, “cs (Complex Script Font)”, p. 3218

[DR 09-0040]

...

[Example: Consider the DrawingML shown below.

```
<a:r>
  <a:rPr ...>
    <a:cs typeface="Sample-FontTimes New Roman"/>
  </a:rPr>
  <a:t>العربية Sample-Text</a:t>
</a:r>
```

The above run of text is rendered using the complex script font "Sample-FontTimes New Roman". end example]

### 161. §21.1.2.3.3, “ea (East Asian Font)”, p. 3226

[DR 09-0040]

...

[Example: Consider the DrawingML shown below.

```
<a:r>
  <a:rPr ...>
    <a:ea typeface="Sample-FontSimSun"/>
  </a:rPr>
  <a:t>中文Sample-Text</a:t>
</a:r>
```

The above run of text is rendered using the East Asian font "Sample-FontSimSun". end example]

### 162. §21.1.2.3.10, “sym (Symbol Font)”, pp. 3240–3241

[DR 09-0040]

...

[Example: Consider the DrawingML shown below.

```
<a:r>
  <a:rPr ...>
    <a:sym typeface="Sample-FontWingdings 2"/>
  </a:rPr>
  <a:t>Sample-Text☐</a:t>
</a:r>
```

The above run of text, [an example U+F02B \(UTF-16\) symbol from the Unicode Private Use Area](#), is rendered using the symbol font "Sample-FontWingdings 2". end example]

### **163. §21.2.2.59, "evenFooter (Even Footer)", p. 3378**

[DR 13-0005]

This element specifies the footer to use on even numbered pages. ([See §18.3.1.38 for more information.](#))

The possible values for this element are defined by the ST\_Xstring simple type (§A.6.9).

...

### **164. §21.2.2.60, "evenHeader (Even Header)", pp. 3378–3379**

[DR 13-0005]

This element specifies the header to use on even numbered pages. ([See §18.3.1.39 for more information.](#))

The possible values for this element are defined by the ST\_Xstring simple type (§A.6.9).

...

### **165. §21.2.2.65 "f (Formula)", p. 3380**

[DR 13-0003]

This reference is in the form of a book, sheet, and cell reference or a book, optional sheet, and defined name reference. This reference does not include the equals sign. ([Cell references are defined in §18.17. Link and external references are described in detail within §18.17.2.3.](#)) [*Example: ...*]

### **166. §21.2.2.66, "firstFooter (First Footer)", p. 3381**

[DR 13-0005]

This element specifies the footer to use on the first page. ([See §18.3.1.41 for more information.](#))

The possible values for this element are defined by the ST\_Xstring simple type (§A.6.9).

...

### **167. §21.2.2.67, "firstHeader (First Header)", pp. 3381–3382**

[DR 13-0005]

This element specifies the header to use on the first page. ([See §18.3.1.42 for more information.](#))

The possible values for this element are defined by the ST\_Xstring simple type (§A.6.9).

...

**168. §21.2.2.79, "headerFooter (Header and Footer)", pp. 3385–3386**

[DR 13-0005]

This element specifies the headers and footers that shall be used when the chart is printed. ([See §18.3.1.46 for more information.](#))

Attributes	Description
...	...

...

**169. §21.2.2.101, "majorTickMark (Major Tick Mark)", Attribute val, p. 3392**

[DR 13-0015]

Attributes	Description
val (Tick Mark Value)	Specifies the <del>minor</del> -major tick mark position. ...

**170. §21.2.2.124, "oddFooter (Odd Footer)", p. 1645**

[DR 13-0005]

This element specifies the footer to use on odd numbered pages. ([See §18.3.1.57 for more information.](#))

The possible values for this element are defined by the ST\_Xstring simple type (§A.6.9).

...

**171. §21.2.2.125, "oddHeader (Odd Header)", p. 1645**

[DR 13-0005]

This element specifies the header to use on odd numbered pages. ([See §18.3.1.58 for more information.](#))

The possible values for this element are defined by the ST\_Xstring simple type (§A.6.9).

...

**172. §21.2.3.6, "ST\_BuiltInUnit (Built-In Unit)", Enum Value trillions, p. 3434**

[DR 13-0015]

Enumeration Value	Description
...	

Enumeration Value	Description
trillions (Trillions)	Specifies the values on the chart shall be divided by 1,000,000,000,000.

...

### 173. §21.4.6.3, “bulletEnabled (Show Insert ~~Bullet~~Node)”, p. 3,546

[DR 12-0015]

This element is used to indicate ~~when~~whether to enable ~~the ‘Insert Bullet’ button in the~~ user interface components associated with inserting a node in the data model.

[Example: Consider the following example of bulletEnabled in DiagramML:

```
<varLst>
  <bulletEnabled val="true" />
</varLst>
```

In this example, ~~an~~we see that the insert button in the user interface is to be enabled when the focus is within the containing layout node. *end example*]

Attributes	Description
val (Show Insert <del>Bullet</del> Node Value)	<p>This attribute is used to indicate <del>when to enable the ‘Insert Bullet’ button</del><u>whether a user interface for inserting a node should be enabled</u>. A value of true <del>enables the insert bullet button</del><u>indicates that the user interface should be enabled</u>.</p> <p>The possible values for this attribute are defined by the W3C XML Schema Boolean datatype.</p>

...

### 174. §21.4.6.5, “chPref (Preferred Number of Children)”, p. 3,547

[DR 12-0015]

This variable indicates the number of children that the current node prefers to have. ~~This determines what the next action of the ‘Add Shape’ button should be in the user interface.~~ [Note: For example, this could be used to guide how many shapes to add by default to a diagram at various levels in the hierarchy. end note]

[Example: Consider the following example of chPref being used in DiagramML:

```
<varLst>
  <chMax val="3" />
  <chPref val="1" />
  <dir val="norm" />
  <animLvl val="lvl" />
  <resizeHandles val="rel" />
```

&lt;/varLst&gt;

In this example, chPref is set to a single node and the [associated](#) user interface [may](#) disables [insertion of further nodes](#) after a single node has been inserted. *end example*]

Attributes	Description
val (Preferred Number of Children Value)	<p>This attribute indicates the number of children that the current node prefers to have. <del>This determines what the next action of the 'Add Shape' button should be.</del> A value of -1 indicates an infinite number of children. Default value is -1.</p> <p>The possible values for this attribute are defined by the ST_NodeCount simple type (§21.4.7.44).</p>

...

## 175. §22.9.2.8, “ST\_Panose (Panose-1 Number)”, p. 3782

[DR 09-0061]

This simple type specifies a ~~number consisting of 20 hexadecimal digits which defines the~~ Panose-1 font classification. [This value is used as one piece of information to guide selection of a similar alternate font if the desired font is unavailable.](#)

[\[Guidance: ISO/IEC 14496-22 refers to the Panose specification dated 1997, but some implementations of ISO/IEC 29500 may follow an older precursor version of the Panose specification. Some values between the two versions are incompatible and the handling of these differences is implementation-defined.\]](#)

[Panose-1 values designed for the older version should match one of the following 3 regular expressions:](#)

[\s\\*\(00\s\\*\){10}\s\\*](#)  
[\s\\*\(01\s\\*\){10}\s\\*](#)  
[\s\\*\[0-5\]\s\\*\[0-9A-Fa-f\]\s\\*\[0-9ABab\]\s\\*\[0-9\]\s\\*\[0-9\]\s\\*\[0-9Aa\]\s\\*\[0-9ABab\]\s\\*\[0-9A-Fa-f\]\s\\*\[0-9A-Da-d\]\s\\*\[0-7\]\s\\*](#)

[Panose-1 values designed for ISO/IEC 14496-22 should match one of the following 6 regular expressions:](#)

[\s\\*\(00\s\\*\){10}\s\\*](#)  
[\s\\*\(01\s\\*\){10}\s\\*](#)  
[\s\\*02\s\\*\[0-9A-Fa-f\]\s\\*\[0-9ABab\]\s\\*\[0-9\]\s\\*\[0-9\]\s\\*\[0-9Aa\]\s\\*\[0-9ABab\]\s\\*\[0-9A-Fa-f\]\s\\*\[0-9A-Da-d\]\s\\*\[0-7\]\s\\*](#)  
[\s\\*03\s\\*\[0-9\]\s\\*\[0-9ABab\]\s\\*\[0-3\]\s\\*\[0-6\]\s\\*\[0-9\]\s\\*\[0-9Aa\]\s\\*\[0-9A-Da-d\]\s\\*\[0-9A-Da-d\]\s\\*\[0-6\]\s\\*](#)  
[\s\\*04\s\\*\[0-9A-Ca-c\]\s\\*\[0-9ABab\]\s\\*\[0-9\]\s\\*\[0-9A-Da-d\]\s\\*\(0\[0-9A-Fa-f\]{10}\)\s\\*\[0-7\]\s\\*\[0-8\]\s\\*\[0-9A-Fa-f\]\s\\*\[0-5\]\s\\*](#)  
[\s\\*05\s\\*\[0-9A-Ca-c\]\s\\*01\s\\*\[0-3\]\s\\*01\s\\*\[0-9\]\s\\*\[0-9\]\s\\*\[0-9\]\s\\*\[0-9\]\s\\*\[0-9\]\s\\*\[0-9\]\s\\*](#)



[end guidance](#)

[Example: Consider the following information stored for a single font: ...

## 176. §23.2.1, “schema (Custom XML Schema Reference)”, p. 3792

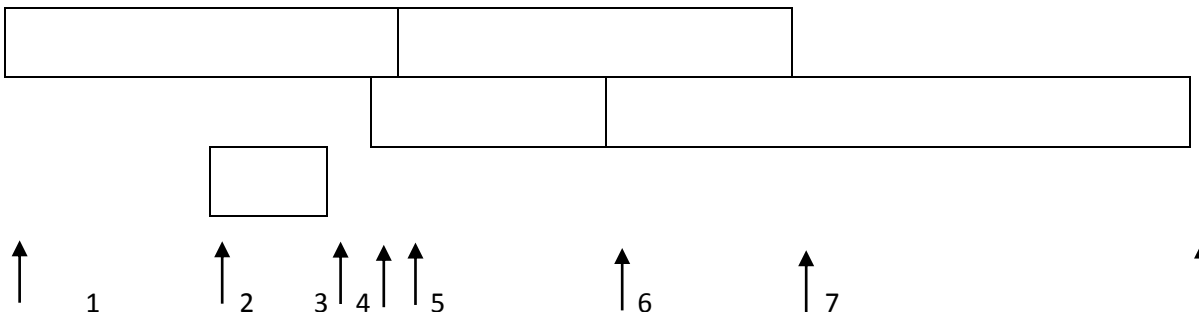
[DR 13-0003]

Attributes	Description
manifestLocation (Supplementary XML File Location)	<p>...</p> <p>[Example: Consider a WordprocessingML document <del>that</del><del>which</del> contains custom XML markup in the http://www.example.com namespace, which is associated with a resource file located at http://www.example.com/resource.xml. The following content would be displayed in the document's schema library data:</p> <pre>&lt;sl:schemaLibrary&gt;   &lt;sl:schema sl:uri="http://www.example.com"     sl:manifestLocation= "http://www.example.com/resource.xml" /&gt; &lt;/sl:schemaLibrary&gt;</pre> <p>The manifestLocation attribute contains http://www.example.com/<del>resource</del><del>manifest</del>.xml which is the location of a resource file that can be downloaded for use when this namespace is used. <i>end example</i>]</p> <p>...</p>

## 177. §L.1.5.8, “Complex Table Example”, p. 4543

[DR 12-0025]

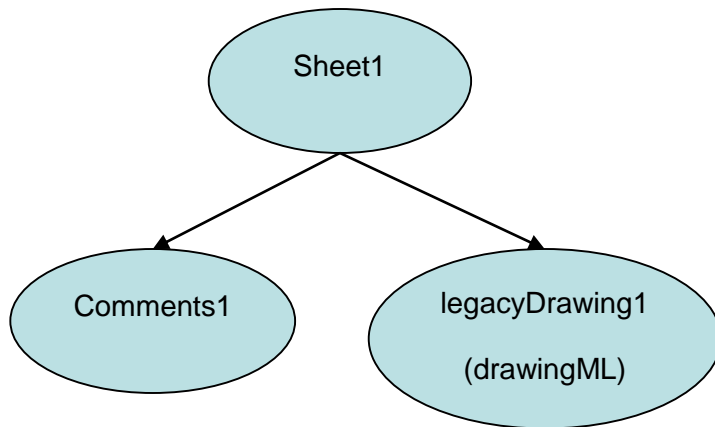
*{Replace the existing diagram(s) with the following one(s).}*



## 178. §L.2.6.3, “File Architecture”, p. 4658

[DR 12-0025]

*{Replace the existing diagram(s) with the following one(s).}*



### 179. §L.3.1.4.4, “View Properties”, p. 4772

[DR 12-0009]

The View Properties part defines the properties on all of the views found in the implementation.

PresentationML ~~currently~~ supports the following views [\(§19.7.55\)](#):

- [handout view](#)
- [normal slide view](#)
- [notes master view](#)
- [notes view](#)
- [outline view](#)
- [slide master view](#)
- [slide sorter view](#)
- [slide thumbnail view](#)
- ~~Slide View~~
- ~~Slide Master View~~
- ~~Notes View~~
- ~~Handout View~~
- ~~Notes Master View~~
- ~~Outline View~~
- ~~Slide Sorter View~~

Additionally, ~~t~~<sup>e</sup> the default view, [normal slide view](#) ~~Normal View~~, is a composite view that pulls from three multiple view property sets. ...

### 180. §L.4.4.3.1, “Setting Up the Text Area”, p. 4814

[DR 12-0025]

*{Replace the existing diagram(s) with the following one(s).}*

- overflow: This allows the text to flow outside the text area.

One  
Two  
Three  
Four  
Five  
Six  
Seven  
Eight  
Nine  
Ten

- ellipsis: This crops the text that overflows and adds "... " to denote that there is hidden text.

One  
Two  
Three  
Four  
...

- clip: This crops the text just as ellipsis but does not insert "...", so the user has no indication that there is hidden text.

One  
Two  
Three  
Four  
Five

- Horizontal overflow works exactly like vertical, but with only two options: overflow and clip, which both operate as described above.

## 181. §L.4.4.3.7, “Adding Bullets”, pp. 4816–4817

[DR 12-0025]

*{Replace the existing diagram(s) with the following one(s).}*

- Character Bullets: ...

g Bullet 1  
g Bullet 2  
g Bullet 3

- Auto-Numbered Bullets: ...

1. Bullet 1
  1. Bullet 2
2. Bullet 3

- Blip Bullets: ...

- ✚ Bullet 1
  - ✚ Bullet 2
- ✚ Bullet 3

## 182. §L.4.5.1 “Introduction”, p. 4820

[DR 13-0003]

~~L.4.5.2~~ This aspect of DrawingML deals with the definition of a table and the associated styling information. The first part describes the table styles aspect, while the second part describes the definition of a table within DrawingML.

[L.4.5.2](#) Table Styles

## 183. §L.4.6.1 “Introduction”, p. 4831

[DR 13-0003]

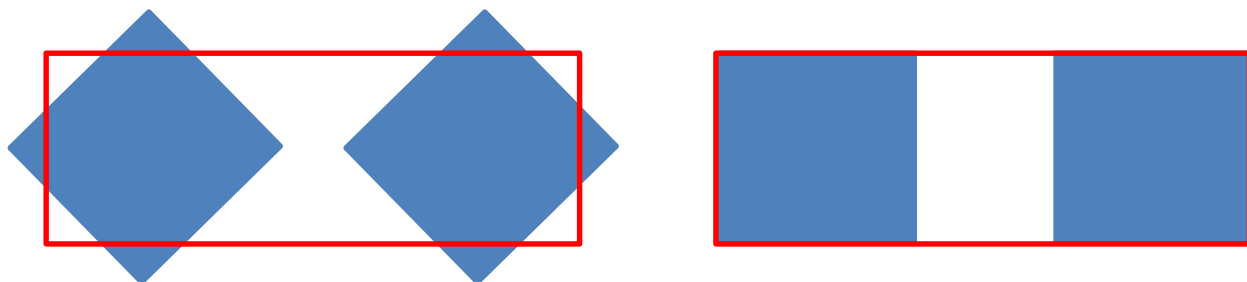
~~L.4.6.2~~ This aspect of DrawingML deals mainly with the 3-D aspects, and can be broken down into two topics: 3-D properties associated with an object, and the styling information associated with an object.

[L.4.6.2](#) 3-D

## 184. §L.4.7.4.1, “Scaling and Translating a Group”, p. 4845

[DR 12-0025]

*{Replace the existing diagram(s) with the following one(s).}*



...

## 185. §L.4.8.3 “Color Transforms”, alphaMod bullet, p. 4858

[DR 13-0003]

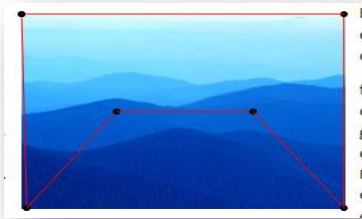
- ...
- alphaMod: Yields a more or less opaque version of its input color. An alpha modulate never increases the alpha beyond 100%. A 200% alpha modulate makes a n input color twice as opaque as before. A 50% alpha modulate makes a n input color half as opaque as before.
- ...

## 186. §L.4.11.2, Text Wrapping”, pp. 4888–4889

[DR 12-0025]

*{Replace the existing diagram(s) with the following one(s).}*

If the wrapping polygon looks like the following:



Tight wrapping would look like this:



While through wrapping would look like this:



## 187. §L.7.3, “Future Extensibility”, p. 5001

[DR 13-0009]

This clause provides a high-level overview of the extensibility model for Office Open XML documents, and a description of packaging conventions in the context of DrawingML and PresentationML. Two main constructs are described: ~~extensibility lists~~application-defined extension elements (extLst/~~ext~~) and alternate content blocks (AlternateContent).

To illustrate certain points, a number of examples refer to versions of a (fictitious) PresentationML consumer/producer called PML. The 2003 version is called PML 2003; the 2007 version is called PML 2007; and so on.

...

## 188. §L.7.3.4.1, “extLst/~~ext~~”, p. 5003

[DR 13-0009]

The extLst construct is used for straight-up extension of existing schemas of a non-visual nature. The term straight<sub>u</sub>p refers to the notion that sometimes extension means refining the semantics of existing constructs. In doing so, an extension sometimes overrides the meaning of previous schemas. extLst ~~and ext were~~was not designed for this scenario. Instead of overriding existing meaning, ~~these two~~this constructs purely augments existing schemas. The nature of the augmentation must be such that it does not overlap any semantics embedded in existing schema constructs.

...

The extLst ~~and ext~~ constructs ~~s are~~is for extensions of a non-visual nature. The main reason ~~its~~their use is limited to this scenario lies in the fact that ~~they do it~~does not offer the capability to create alternative representations of the same data.

## 189. §L.7.3.4.1.1, “extLst/~~ext~~ Syntax”, pp. 5003–5004

[DR 13-0009]

The ~~extLst~~ ~~and ext~~ elements can be placed only at specific locations within the OOXML schemas. Its syntax is as below:

## 190. §L.7.3.4.2, “AlternateContent Blocks”, p. 5005

[DR 13-0009]

*{Delete whole subclause.}*

## 191. §L.7.3.4.2.1, “AlternateContent Syntax”, p. 5006

[DR 13-0009]

*{Delete whole subclause.}*

## 192. §L.7.3.4.2.2, “Example”, pp. 5006–5009

[DR 13-0009]

*{Delete whole subclause.}*

## 193. §L.7.3.4.2.3, “AlternateContent Round-Trip Behavior”, p. 5009

[DR 13-0009]

*{Delete whole subclause.}*

## 194. Bibliography, p. 5018

[DR 12-0021]

The following documents are useful references for implementers and users of this International Standard, in addition to the Normative References:

*ADO*, [http://msdn.microsoft.com/en-us/library/ms675532\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/ms675532(v=vs.85).aspx)

*DAO*, [http://msdn.microsoft.com/en-us/library/aa248396\(v=vs.60\).aspx](http://msdn.microsoft.com/en-us/library/aa248396(v=vs.60).aspx)

*DSP*, [http://msdn.microsoft.com/en-us/library/dd672591\(v=vs.90\).aspx](http://msdn.microsoft.com/en-us/library/dd672591(v=vs.90).aspx)

*OLE DB*, [http://msdn.microsoft.com/en-us/library/ms722784\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/ms722784(v=vs.85).aspx)

...

## 195. Electronic Annex OfficeOpenXML-DrawingMLGeometries.zip, file presetShapeDefinitions.xml

[DR 12-0002]

```
...
<leftArrow>
  <avLst>
    ...
  </avLst>
  <gdLst>
    ...
    <gd name="y1" fmla="+- vc 0 dy1" /> ...
  </gdLst>
  ...
</leftArrow>
```

## 196. §xx, “xxx”, p. xx

[DR xx-xxxx]

Xxx