Proposed Resolution for DR 13-0005,

"SML: Clarify descriptions of header and footer usage"

Rex Jaeschke (rex@RexJaeschke.com)

2013-05-11

In IS 29500-1, WordprocessingML's elements are grouped by functionality and then alphabetically, allowing general information to be introduced at the start of each group. However, SpreadsheetML's elements are all together in one long alphabetic list without any grouping. Rather than introducing another subclause level for functional grouping (which would cause a lot of existing subclause numbers to change, including references from Part 4), I've pushed the general information into the definition of the headerFooter element, the parent of the related elements. (Previously, much of it was in evenHeader.)

The proposed changes are in ascending order by subclause number. However, to understand them fully, start by reading §18.3.1.46, "headerFooter (Header Footer Settings)".

Part 1, §18.3.1.37, "drawingHF (Drawing Reference in Header Footer)", pp. 1620–1625

This element specifies the usage of drawing objects to be rendered in the headers and~~/~~ footers of the sheet. It specifies an explicit relationship to the part containing the DrawingML shapes used in the headers and~~/~~ footers. It also indicates where in the headers and~~/~~ footers 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]

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Attributes	Description
cfe (Center Footer for Even Pages)	Specifies the DrawingML shape to be used for the center section of the footer on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. …
cff (Center Footer for First Page)	Specifies the DrawingML shape to be used for the center section 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 section 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 section 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 section 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 section 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 section 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 section 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 sectionside of the footer on even pages if the differentOddEven attribute of the corresponding headerFooter element (§18.3.1.46) is true. …

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Attributes	Description
lff (Left Footer for First Page)	Specifies the DrawingML shape to be used for the left section~~side~~ of the footer on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. …
lfo (Left Footer for Odd Pages)	Specifies the DrawingML shape to be used for the left section~~side~~ 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 section~~side~~ 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 section~~side~~ 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 section~~side~~ 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 section~~side~~ 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 section~~side~~ 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 section~~side~~ 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 section~~side~~ of the footer on the first page if the differentFirst attribute of the corresponding headerFooter element (§18.3.1.46) is true. …

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Attributes	Description
rfo (Right Footer for Odd Pages)	Specifies the DrawingML shape to be used for the right section~~side~~ 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 section~~side~~ of the footer on both odd and even pages. …
rhe (Right Header for Even Pages)	Specifies the DrawingML shape to be used for the right section~~side~~ 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 section~~side~~ 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 section~~side~~ 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 section~~side~~ of the header on both odd and even pages. …

…

Part 1, §18.3.1.38, "evenFooter (Even Page Footer)", pp. 1625–1626

Specifies the contents of the page footer used on even-numbered pages. ~~Even page footer value. Corresponds to even printed pages.~~ [*~~Example~~Note*: 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 note~~example~~*]

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).

…

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Part 1, §18.3.1.39, "evenHeader (Even Page Header)", pp. 1626–1628

Specifies the contents of the page header used on even-numbered pages. Even page header value. Corresponds to even printed pages. [*Example**Note*: 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 note**example*]

If no even header is specified, then the odd header'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>&amp;CCenter &amp;"-,Bold"Bold
    &amp;"-,Regular"Header_x000A_&amp;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"

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

&*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"

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

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

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

Part 1, §18.3.1.41, "firstFooter (First Page Footer)", p. 1632

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).

…

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Part 1, §18.3.1.42, "firstHeader (First Page Header)", pp. 1632–1633

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.~~ [~~Example~~Note: 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 note~~example~~*]

~~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).

…

Part 1, §18.3.1.46, "headerFooter (Header Footer Settings)", pp. 1634–1635

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-specifier*s, one or more *center-section specifier*s, and one or more *right-section specifier*s. 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)

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

- 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>&amp;R&amp;P</oddHeader>
  <oddFooter>&amp;C&amp;F</oddFooter>
  <evenHeader>&amp;L&amp;P</oddHeader>
  <evenFooter>&amp;L&amp;D&amp;R&amp;T</oddFooter>
  <firstHeader>&amp;CCenter &amp;"-,Bold"Bold
&amp;"-,Regular"HeaderU+000A&amp;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>&amp;LA&amp;CD&amp;RG&amp;LB&amp;CE&amp;RH</oddHeader>
```

treating it as though it was defined instead as follows:

```
<oddHeader>&amp;LAB&amp;CDE&amp;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):

Formatting Code	Meaning

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Formatting Code	Meaning
&&	The character "&". [*Example*: "Smith && Sons" results in "Smith & Sons" *end example*]
&*font-size*	Size of the text font, where *font-size* is a decimal font size in points. [*Example*: "&18A&36B" results in "A B" *end example*]
&"*font name*,*font type*"	A text font-name string, *font name*, and a text font-type string, *font type*. A *font-name* of "-" (U+002D) means "no font name is specified". Both *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. [*Example*: "&"Arial,Regular"…", "&"Lucida Sans Typewriter,Regular"…", and "mp;"-,Bold Italic"…" *end example*]
&"-,Regular"	Regular text format. Toggles bold and italic modes to off.
&A	Current worksheet's tab name
&B or &"-,Bold"	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 "ab**cd**ef**gh**" *end example*]
&C	Center section
&D	Current date
&E	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>ef<u>gh</u>" *end example*]
&F	Current workbook's file name
&G	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*]
&H	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.
&I or &"-,Italic"	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*cd*ef*gh*" *end example*]

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Formatting Code	Meaning
&K	Text font color • An RGB Color is specified as *RRGGBB* • A Theme Color is specified as *TTSNNN* where *TT* is the theme color Id, *S* is either "**+**" or "**-**" of the tint/shade value, and *NNN* is the tint/shade value. [*Example*: "A&KFF0000B&K0070C0C&K01+000D&K07+037E" might result in something like "ABCDE" *end example*]
&L	Left section
&N	Total number of pages. [*Example*: "Page &P of &N" might result in something like "Page 1 of 3" *end example*]
&O	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.
&P[[+|-]*n*]	Without the optional suffix, the current page number in decimal. [*Example*: See formatting code &N. *end example*] With the optional suffix, the current page number in decimal +/- the decimal number *n*. [*Example*: On Page 1, &P is 1, &P+100 is 101, and &P-5 is -4. *end example*]
&R	Right section
&S	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. [*Example*: "aa&Sbb&Scc", results in "aabbcc". *end example*]
&T	Current time
&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. [*Example*: "&Ucd&Uef&Ugh" results in "cdefgh" while &Uaa&Ebb&Ucc" results in "aabbcc". *end example*]
&X	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. [*Example*: "aa&Xbb&Xcc&Ydd&Yee&Xff&Ygg" results in "aa^{bb}cc$_{dd}$ee^{ff}$_{gg}$". *end example*]
&Y	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. [*Example*: See formatting code &X. *end example*]
&Z	Current workbook's file path

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

Attributes	Description
…	…
differentFirst (Different First Page)	Different first-page header and footer indicator. When true then firstHeader and firstFooter specify the first page header and footer values, respectively. If false and firstHeader-/-firstFooter are present, they are ignored. …
differentOddEven (Different Odd Even Header Footer)	Different odd and even page headers and footers indicator. When true then oddHeader-/-oddFooter and evenHeader-/-evenFooter specify the page header and footer values for odd and even pages, respectively. If false then oddHeader-/-oddFooter is used, even when evenHeader-/-evenFooter are present. …
…	…

…

Part 1, §18.3.1.57, "oddFooter (Odd Page Footer)", p. 1645

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 (§0) 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).

…

Part 1, §18.3.1.58, "oddHeader (Odd Header)", pp. 1645–1646

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 (§0) 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).

…

The changes to the DML-Chart elements involve pointing to the corresponding SML-worksheet header/footer elements, as follows:

Part 1, §21.2.2.59, "evenFooter (Even Footer)", p. 3378

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 (§**Error! Reference source not found.**).

…

Part 1, §21.2.2.60, "evenHeader (Even Header)", pp. 3378–3379

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 (§**Error! Reference source not found.**).

…

Part 1, §21.2.2.66, "firstFooter (First Footer)", p. 3381

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 (§**Error! Reference source not found.**).

…

Part 1, §21.2.2.67, "firstHeader (First Header)", pp. 3381–3382

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 (§**Error! Reference source not found.**).

…

Part 1, §21.2.2.79, "headerFooter (Header and Footer)", pp. 3385–3386

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
…	…

Proposed Resolution for DR 13-0005, "SML: Clarify descriptions of header and footer usage"

…

Part 1, §21.2.2.124, "oddFooter (Odd Footer)", p. 1645

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 (§**Error! Reference source not found.**).

…

Part 1, §21.2.2.125, "oddHeader (Odd Header)", p. 1645

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 (§**Error! Reference source not found.**).

…