

## Template for comments and secretariat observations

Date: November 6, 2014

Document: **WG 14 N1889**

Project: PDTS 18661-3

MB/N C <sup>1</sup>	Line number (e.g. 17)	Clause/ Subclause (e.g. 3.1)	Paragraph/ Figure/ Table/ (e.g. Table 1)	Type of comment <sup>2</sup>	Comments	Proposed change	WG 14 response
GB 1	Page 4 line 40 to page 5 line 3	5.3		ed	The lists of conditional definitions for pairs of types should include the FP_FAST_* identifiers (currently listed only for the decimal types, not the binary types).	Add the lists of FP_FAST_F* macros from pages 25-26 (not the FP_FAST_D* macros, which are already present) to the lists on pages 4 and 5.	Agreed.
GB 2	Page 9 line 1	6		te	The table of decimal interchange format parameters uses the label “w, exponent field width in bits” for a row that in IEC 60559 is identified as “w+5, combination field width in bits”, so the numbers don’t add up correctly.	Change “w, exponent field width in bits” to “w+5, combination field width in bits”.	Agreed.
GB 3	Page 9 lines 11- 26 and page 10 lines 3- 10.	6		te	The sets of types and formats supported (where not required to be supported) should be explicitly implementation-defined so that the implementation is required to document what types and formats are supported.	At the end of the last sentence on page 9 line 17, insert “; the set of such types supported is implementation-defined”. At the end of the last sentence on line 20, insert “; the set of such types supported is implementation-defined”. At the end of the last sentence on line 25, instead “; the set of non-arithmetic interchange formats supported is implementation-defined”. On page 10, at end of line 10, insert “Which if any of the optional extended floating types are provided is implementation-defined.”.	The C standard does not specify “implementation-defined” for the similar situation for extended integers. No change.
GB 4	Page 22 lines 35- 39	12		te	There are two references to “the type whose format is the evaluation format”, but multiple types may have the same format, so this definition does not distinguish between them. For compatibility with C11 it is desirable that values 0, 1 and 2 keep the same types as before rather than a different type with the same format (and that the definition in the TS should be sufficiently precise as to require this, rather than leaving other possibilities open).	Change, in both places, “whose format is the evaluation format for” to “whose range and precision are specified by 5.2.4.2.2a to be used for evaluating”.	Agreed.
GB 5	Pages 38-39	12		te	The functions for conversions between encodings provide the convertFormat operation for non-arithmetic formats, as required by IEC 60559.	On page 39, at the end of clause 12, insert: 'In F.3, add “fMencFN, dMencdecN, dMencbindN and combinations of strfrom and strtO functions” to	Agreed in principle. Suggest to add after F.3 #3: [3a] C operations provide

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					<p>However, this is not mentioned in the table in F.3 (added in TS 18661-1) that lists the binding for that operation. Furthermore, as conversions are required for all pairs of formats, including converting between binary and decimal formats, and conversions involving extended formats, in some cases the binding is actually a combination of strfrom / strfromenc and strt0 / strt0enc functions.</p>	<p>the table entry for convertFormat'.</p>	<p>the convertFormat operations for the different kinds of IEC 60559 formats as follows:</p> <ul style="list-style-type: none"> <li>— For conversions between arithmetic formats supported by floating types - casts and implicit conversions.</li> <li>— For same-radix conversions between non-arithmetic interchange formats - encoding-to-encoding conversion functions (7.12.11.7c).</li> <li>— For conversions between non-arithmetic interchange formats (same or different radix) - compositions of string-from-encoding functions (7.22.1.3c) (converting exactly) and string-to-encoding functions (7.22.1.3b).</li> </ul>

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							<ul style="list-style-type: none"> <li>— For same-radix conversions from interchange formats supported by interchange floating types to non-arithmetic interchange formats – compositions of encode functions (7.12.11.7a, 7.12.11b.1, 7.12.11b.3) and encoding-to-encoding (7.12.11.7c) functions.</li> <li>— For same radix conversions from non-arithmetic interchange formats to interchange formats supported by interchange floating types – compositions of encoding-to-encoding conversion functions (7.12.11.7c) and decode functions (7.12.11.7b,</li> </ul>

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							<p>7.12.11b.2, 7.12.11b.4).</p> <ul style="list-style-type: none"> <li>— For conversions from non-arithmetic interchange formats to arithmetic formats supported by floating types (same or different radix) – compositions of string-from-encoding functions (7.22.1.3c) (converting exactly) and strt functions (7.22.1.3, 7.22.1.3a).</li> <li>— For conversions from arithmetic formats supported by floating types to non-arithmetic interchange formats (same or different radix) – compositions of strfrom functions (7.22.1.2a) (converting exactly) and string-to-encoding functions</li> </ul>

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							(7.22.1.3b). Also change the entries in the convertFormat row of the binding table in F.3 to: cast, implicit conversions, conversion functions (details below)   6.3.1.5, 6.5.4, 7.12.11, 7.22.11b, 7.22.1 (details below)
GB 6	Page 41 line 45 and page 42 line 13	13		ed	“dobule” is a typo.	Change “dobule” to “double” in both places.	Agreed.
GB 7	Page 46 lines 39-49	14		ed	The cabs and carg functions should have real return types, not complex.	Remove “complex” from the return type in each of the four places.	Agreed.
GB 8	Page 46 lines 42-43	14		ed	For consistency with C11, the first argument of the cpow functions should be called x not z.	Change “z” to “x” on both lines.	Agreed.

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