Revised suggested TC for CFP DR 16
N2212

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Source: WG14
Reference Document: TS 18661-1
Subject: tgmath cbrt macro

Summary

CFP DR 16 (N2178) explains a problem with the _Generic-based sample implementation of the cbrt macro that TS 18661-1 specifies for adding to 7.25, and suggests a TC to fix it.

Clark Nelson pointed out that this sample implementation places (X), where X is the cbrt macro parameter, in each of the assignment expressions in the generic selection, whereas the basic sample implementation in 6.5.1.1 intentionally places the (X) after the generic selection. We don’t know why this change was made. Below is a revised suggested TC for DR 16 that treats the macro parameter X in 7.25 the same as in 6.5.1.1.

Both TS 18661-2 and TS 18661-3 also add an example of a cbrt macro, to account for new types. These examples will be removed, as editorial changes.

Suggested Technical Corrigendum

In TS 18661-1, clause 16, replace:

```c
#define cbrt(X) _Generic((X),
   long double: cbrtl(X),
   default: _Roundwise_cbrt(X),
   float: cbrtf(X)
)
```

where _Roundwise_cbrt() is equivalent to cbrt() invoked without macro-replacement suppression.

with

```c
#define cbrt(X) _Generic((X),
   long double: _Roundwise_cbrtl,
   default: _Roundwise_cbrt,
   float: _Roundwise_cbrtf
) (X)
```

where _Roundwise_cbrtl(), _Roundwise_cbrt(), and _Roundwise_cbrtf() are equivalent to cbrtl(), cbrt(), and cbrtf(), respectively, invoked without macro-replacement suppression.