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:

```
#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

```
#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.