

Proposal for C2x
WG14 N2121

Title: TS 18661-5 optimization control pragmas
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Proposal category: New features
Target audience: Floating-point predictability-performance balancing

Abstract: This proposal incorporates pragmas for optimization control into C2x, as prescribed in ISO/IEC TS 18661-5. These pragmas provide attributes recommended by the current IEC 60559 floating-point standard (2011) to allow or disallow specific value-changing optimizations, individually or collectively. The program can use the pragmas to control optimization for a specific block of code, in order to gain extra performance or preserve predictability as needed. The pragmas have the same form and scope as the standard floating-point pragmas in current C. Other proposals cover the other features in TS 18661-5.

Prior art: Controls (in the form of compile-line options or compiler directives) for floating-point optimization are commonplace, though implementation specific.