

IEEE Standards Interpretation for IEEE Std 1003.1™-1990 IEEE Standard for Information Technology--Portable Operating System Interfaces (POSIX®)

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Interpretation Request #89

Topic: timer_settime **Relevant Sections:** Page 315, clause 14.2.4 PASC

The timer_settime() specification states: "If any of the following errors occur..." [EINVAL] A value structure specified a nanosecond value less than zero or greater than or equal to 1000 million." The spec also states: "If the it_value member of value is zero, the timer is disarmed. The effect of disarming or resetting a timer on pending expiration notifications is unspecified. " If I call timer_settime() with value->it_interval less than zero and greater than or equal to 100 million, and the it_value set to zero - is it conforming for an implementation of timer_settime() to succeed without an EINVAL error?

The intent should be: disarm the timer and ignore the bogus interval value. However, the standard is clear in this respect. Section 2.4, only allows errors to be omitted if they are of the "if detected" variety. The EINVAL return in 14.2.4.4, line 297 SHALL be returned. The description in 14.2.4.2, lines 225-226, states "If the it_value member of value is zero, the timer SHALL be disarmed". A proposed disposition is as follows: The standard states that the function needs to disarm the timer, AND return -1 and set errno to EINVAL, however concerns are being forwarded to the sponsor. Proposed note to project editor (not part of the interpretation): It is recommended that a future revision consider making the the EINVAL return an "if detected" or otherwise reword it so that the function can succeed even with a garbage value of it_interval, so long as it_value is zero.

Interpretation Response

The standard states that the function needs to disarm the timer, AND return -1 and set errno to EINVAL, however concerns are being forwarded to the sponsor.

Rationale for Interpretation

None.

Note to Project Editor (not part of the interpretation)

It is recommended that a future revision consider making the the EINVAL return an “if detected” or otherwise reword it so that the function can succeed even with a garbage value of it_interval, so long as it_value is zero. Forwarded to Interpretations group: 3 May 1998 Proposed interpretation: 17 Jul 1998 Finalized: February 17 1999