

IEEE Standards Interpretations for IEEE Std 1003.1™-2001 IEEE Standard for Information Technology - Portable Operating System Interface (POSIX®)

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Interpretation Request #41

Topic: strptime leading zeroes **Relevant Sections:** XSH strptime

The standard states in several places “leading zeros are permitted but not required.” It also provides patterns, such as: “The hour (24-hour clock) [00,23];” Are the number of leading zeroes restricted to the width suggested by the pattern? For example, is 0012 a valid month? glibc developers consider it appropriate behavior to forbid excess leading zeroes. When trying to parse a given input against several format strings, forbidding excess leading zeroes could be helpful. For example, if one matches 0011-12-26 against %m-%d-%Y and then against %Y-%m-%d, it seems useful for the first match to fail, as it would be perverse to parse that date as November 12, year 26.

The second pattern parses it as December 26, year 11. The LSB explicitly allows implementations to have either behavior. Future versions of that standard may require implementations to forbid excess leading zeroes.

This is an interpretation request. “The standard is unclear on this issue, and no conformance distinction can be made between alternative implementations based on this. This is being referred to the sponsor.” Note to sponsor for a future revision: Limit the number of leading zeroes to the maximum field width for the conversion specified. Add the following sentence at line 45496, after “... between any two conversion specifications.” “In the following list, where numeric ranges of values are given (represented by the pattern [x,y]), the value shall fall within the range given, and the value shall have at most the same number of characters as the pattern.”

Interpretation Response

The standard is unclear and no conformance distinction can be made between different implementations because of this.

Rationale for Interpretation

None.