

## 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 #15

**Topic:** Defect in XSH strtold/wcstold () **Relevant Sections:** exponent parts

XSH6's description of the strtod(), strtof(), and strtold() functions on P1441 and of the wcstod(), wcstof(), and wcstold() functions on P1611 are taken directly from the C standard subclauses 7.20.1.3 and 7.24.4.1.1, respectively. When these descriptions were incorporated into XSH6, however, the explanation that the terms "optional exponent part" and "optional binary exponent part" were defined in C standard subclause 6.4.4.2 was dropped. (Since interstandard subclause references should be avoided, dropping the subclause reference was correct.) Unfortunately, however, IEEE Std 1003.1-2001 does not define these terms at all in this context. The strings to be recognized by these functions are similar to, but not identical to the 1999 C standard's definitions of floating constants. (Exceptions are noted on P1441-1442, L44631-44644 and P1611-1612, L49629-49642.) Note that the references to "If the subject sequence has the expected form for a floating-point number" on P1441, L44631 and on P1611, L49629 are not referring to subclause 6.4.4.2 in the 1999 C Standard; they are referring to the forms described on P1441, L44615-44630 and on P1611, L49612-49628. For the XSH specification of these functions to be complete, the terms "exponent part" and "binary exponent part" need to be defined.

Change: character, then an optional exponent part on P1441, L44617-44618 to: character; then an optional exponent part consisting of the character 'e' or the character 'E', optionally followed by a '+' or '-' character, and then followed by one or more decimal digits Change P1441, L44620 from: character, then an optional binary exponent part to: character; then an optional binary exponent part consisting of the character 'p' or the character 'P', optionally followed by a '+' or '-' character, and then followed by one or more decimal digits Change: character, then an optional exponent part on P1611, L49614-49615 to: character; then an optional exponent part consisting of the wide char-

acter L'e' or the wide character L'E', optionally followed by a L'+ ' or L'- ' wide character, and then one or more decimal digits Change P1611, L49617 from: character, then an optional binary exponent part to: character; then an optional binary exponent part consisting of the wide character L'p' or the wide character L'P', optionally followed by a L'+ ' or L'- ' wide character, and then followed by one or more decimal digits

**Interpretation Response**

The standard states that the current requirements and conforming implementations must conform to this. However, concerns have been raised about this which are being referred to the sponsor.

**Rationale for Interpretation**

None.