

## 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 #25

**Topic:** mask for file creation **Relevant Sections:** fopen

This relates to POSIX.1-1990 section 8.2, Lines 193-197: "All functions specified in the C Standard as creating a file shall do so as if they called the creat() function with ... a value of S\_IRUSR|S\_IWUSR|S\_IRGRP|S\_IWGRP|S\_IROTH|S\_IWOTH for the mode argument." We do not have the requirement in the 2001/2003 edition. We need another interpretation request, since the requirement is no longer in the standard. We need to consider what is the best behavior for applications. Looked for C language functions affected and came up with fopen/freopen/fdopen/ tmpfile. freopen/fdopen and tmpfile reference fopen explicitly so adding wording for fopen, would handle freopen/fdopen, tmpfile would need further text.

If standard developers agree produce an interpretation that states "The standard does not speak to this issue, and as such no conformance distinction can be made between alternative implementations based on this. This is being referred to the sponsor." In a future revision make the following changes: Add to the existing CX shaded block in fopen() which states: "If mode is w, wb, a, ab, w+, wb+, w+b, a+, ab+, or a+b, and the file did not previously exist, upon successful completion, the fopen() function shall mark for update the st\_atime, st\_ctime, and st\_mtime fields of the file and the st\_ctime and st\_mtime fields of the parent directory." Add (also CX shaded): "If mode is w, wb, a, ab, w+, wb+, w+b, a+, ab+, or a+b, and the file did not previously exist, the fopen() function shall create a file as if it called the creat() function with a value appropriate for the /path/ argument interpreted from /filename/ and a value of S\_IRUSR|S\_IWUSR|S\_IRGRP|S\_IWGRP|S\_IROTH|S\_IWOTH for the mode argument" A corresponding change is then also needed to tmpfile() to change from: "The file is opened as in fopen() for update (w+)" to: "The file is opened as in fopen() for update (w+), except implementations may restrict the permissions, either by clearing the file mode bits or setting them

to the value S\_IRUSR|S\_IWUSR”

**Interpretation Response**

The standard does not speak to this issue, and as such no conformance distinction can be made between alternative implementations based on this. This is being referred to the sponsor.

**Rationale for Interpretation**

None.