

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

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Interpretation Request #81

Topic: getgrnam_r return value **Relevant Sections:** XSH getgrnam_r

For both getgrnam and getgrnam_r the specification is a bit unclear in terms what is returned, when no entry has been found.

getgrnam()

SUSv3: "The getgrnam() function shall return a null pointer if either the requested entry was not found, or an error occurred. On error, errno shall be set to indicate the error."

Ok, I'd expect that getgrnam("noExist") == NULL, but it is not clearly stated whether the errno may be changed or not. I read this as: errno stays that value and is not touched.

Others regard this as undefined by the spec. (GNU Libc maintainer: "The code always did signal a missing entry with a NULL pointer and ENOENT. There is nothing in POSIX which prohibits this. The POSIX spec just said what has to happen for the error condition")

getgrnam_r()

Description: "A NULL pointer is returned at the location pointed to by result on error or if the requested entry is not found."

Returned value: "If successful, the getgrnam_r() function shall return zero; otherwise, an error number shall be returned to indicate the error."

It is a bit unclear whether the error number is zero or not if entry has been found.

Action:

- a) Clarify whether `errno` (`getgrnam`) is modified when no entry has been found
- b) Clarify whether not found is "successful", i.e. whether zero is returned or not.

Interpretation Response

The standard is unclear on this issue and concerns have been raised about this which are being referred to the sponsor.

Rationale for Interpretation

The working group developers felt that the intent is that if no error occurs but an entry is not found, `getgrnam()` returns a null pointer and `getgrnam_r()` returns zero and set the pointer pointed to by `result` to a null pointer and neither `getgrnam()` nor `getgrnam_r()` should change `errno` in this case. If an error occurs, the return value is the same as stated except that the error indicate will also be set to indicate which error was detected.