

## IEEE Standards Interpretations for IEEE Std 1003.1b™-1993 IEEE Standard for Information Technology - Portable Operating System Interfaces (POSIX®) - Part 1: System Application Program Interface (API) - Amendment 1: Realtime Extension [C language]

Copyright © 1996 by the Institute of Electrical and Electronics Engineers, Inc. 3 Park Avenue New York, New York 10016-5997 USA All Rights Reserved.

Interpretations are issued to explain and clarify the intent of a standard and **do not** constitute an alteration to the original standard. In addition, interpretations are not intended to supply consulting information. Permission is hereby granted to download and print one copy of this document. Individuals seeking permission to reproduce and/or distribute this document in its entirety or portions of this document must contact the IEEE Standards Department for the appropriate license. Use of the information contained in this document is at your own risk.

IEEE Standards Department Copyrights and Permissions 445 Hoes Lane, Piscataway, New Jersey 08855-1331, USA

### Interpretation Request #9

**Topic:** `_POSIX_PRIORITIZED_IO` part 1 **Relevant Sections:** 6.7.1.1, Page 152-153, Lines 729-732 **Classification:** (to be assigned)

Regarding the option identified by `{_POSIX_PRIORITIZED_IO}`, the statement says "When prioritized asynchronous I/O requests to the same file are blocked waiting for a resource required for that I/O operation, the higher-priority I/O requests shall be granted the resource before lower-priority I/O requests are granted the resource." The statement is ambiguous with regard to the word "resource". Are the resources (to be considered) ONLY the resources managed by the OS implementation? Once an output request, for example, has been passed from the OS to a smart controller or device, is that output considered completed as far as async I/O concerned? Is the smart controller then permitted to re-order actual writes to a physical device without the knowledge of the OS (which claims to support the Prioritized I/O option)? Assuming that the interpretation answers "yes" to the above questions (which are all logically equivalent questions), I suggest that the semantics of the Prioritized I/O option be clarified to indicate that the "resource" referenced by this sentence is a resource for which contention is managed by the OS implementation, and not resources invisible to the OS implementation.

### Interpretation Response

The standard is clear. On page 152 lines 723-727 it states that for character special files the requests are processed in FIFO order by the underlying device and for any other type, the order of processing is unspecified.

### Rationale for Interpretation

None.