
P1003.1

Type of Project: Revision to IEEE Standard 1003.1-2017

Project Request Type: Initiation / Revision

PAR Request Date: 21 Jun 2019

PAR Approval Date: 05 Sep 2019

PAR Expiration Date: 31 Dec 2024

PAR Status: Active

Root Project: 1003.1-2017

1.1 Project Number: P1003.1

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Information Technology--Portable Operating System Interface (POSIX(R)) Base Specifications, Issue 8

Change to Title: ~~IEEE~~ Standard for Information Technology--Portable Operating System Interface (POSIX(~~TM~~ R)) Base Specifications, Issue ~~7~~ 8

3.1 Working Group: Austin Joint Working Group(C/MSC/POSIX)

3.1.1 Contact Information for Working Group Chair:

Name: Andrew Josey

Email Address: ajosey@opengroup.org

3.1.2 Contact Information for Working Group Vice Chair:

None

3.2 Society and Committee: IEEE Computer Society/Microprocessor Standards Committee(C/MSC)

3.2.1 Contact Information for Standards Committee Chair:

Name: Ralph Kearfott

Email Address: rbk@lusfiber.net

3.2.2 Contact Information for Standards Committee Vice Chair:

None

3.2.3 Contact Information for Standards Representative:

None

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Sep 2020

4.3 Projected Completion Date for Submittal to RevCom: Oct 2022

5.1 Approximate number of people expected to be actively involved in the development of this project: 50

5.2 Scope of proposed standard: IEEE Std 1003.1-202x defines a standard operating system interface and environment, including a command interpreter (or "shell"), and common utility programs to support applications portability at the source code level. It is intended to be used by both applications developers and system implementors.

IEEE Std 1003.1-202x comprises four major components (each in an associated volume):

1. General terms, concepts, and interfaces common to all volumes of IEEE Std 1003.1-202x, including utility conventions and C-language header definitions, are included in the Base Definitions volume of IEEE Std 1003.1-202x.
2. Definitions for system service functions and subroutines, language-specific system services for the C programming language, function issues, including portability, error handling, and error recovery, are included in the System Interfaces volume of IEEE Std 1003.1-202x.
3. Definitions for a standard source code-level interface to

command interpretation services (a "shell") and common utility programs for application programs are included in the Shell and Utilities volume of IEEE Std 1003.1-202x.

4. Extended rationale that did not fit well into the rest of the document structure, containing historical information concerning the contents of IEEE Std 1003.1-202x and why features were included or discarded by the standard developers, is included in the Rationale (Informative) volume of IEEE Std 1003.1-202x.

The following areas are outside of the scope of IEEE Std 1003.1-202x:

- * Graphics interfaces
- * Database management system interfaces
- * Record I/O considerations
- * Object or binary code portability
- * System configuration and resource availability

IEEE Std 1003.1-202x describes the external characteristics and facilities that are of importance to applications developers, rather than the internal construction techniques employed to achieve these capabilities. Special emphasis is placed on those functions and facilities that are needed in a wide variety of commercial applications.

Change to scope of proposed standard: IEEE Std 1003.1-~~201x~~ 202x defines a standard operating system interface and environment, including a command interpreter (or "shell"), and common utility programs to support applications portability at the source code level. It is intended to be used by both applications developers and system implementors. IEEE Std 1003.1-~~201x~~ 202x comprises four major components (each in an associated volume):

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The following areas are outside of the scope of IEEE Std 1003.1-~~200x~~ 202x:

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- * Object or binary code portability
- * System configuration and resource availability

IEEE Std 1003.1-~~200x~~ 202x describes the external characteristics and facilities that are of importance to applications developers, ~~rather~~ rather than the internal construction techniques employed to achieve these capabilities. Special emphasis is placed on those functions and facilities that are needed in a wide variety of commercial applications.

5.3 Is the completion of this standard contingent upon the completion of another standard? No

5.4 Purpose: Several principles guided the development of POSIX.1-202x:

* Application-Oriented - The basic goal was to promote portability of application programs across UNIX system environments by developing a clear, consistent, and unambiguous standard for the interface specification of a portable operating system based on the UNIX system documentation. POSIX.1-202x codifies the common, existing definition of the UNIX system.

* Interface, Not Implementation - POSIX.1-202x defines an interface, not an implementation. No distinction is made between library functions and system calls; both are referred to as functions. No details of the implementation of any function are given (although historical practice is sometimes indicated in the RATIONALE section). Symbolic names are given for constants (such as signals and error numbers) rather than numbers.

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5.5 Need for the Project: This document is supported widely in the industry.

5.6 Stakeholders for the Standard: The stakeholders are the IT industry at large, as these are foundation standards for many operating systems.

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project?

Yes

Explanation: This is a joint copyright document with IEEE and The Open Group (as per all editions since 2001)

6.1.2 Is the Standards Committee aware of possible registration activity related to this project?

No

7.1 Are there other standards or projects with a similar scope? No

7.2 Is it the intent to develop this document jointly with another organization? No

8.1 Additional Explanatory Notes: The 1003.1 standard is an important standard in use throughout the world, and this revision will ensure that a standard continues to evolve into the 2020s. This is an essential market requirement. Millions of dollars of applications are built upon this standard.

#6.1 The 1003.1 standard is a document with copyright shared jointly by IEEE and The Open Group. This revision will be as per the joint copyright agreement between the two organizations.