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IEEE P1003.2b Draft 2 – December 1991

STANDARDS PROJECT

Draft Standard for Information Technology — Portable Operating System Interface (POSIX) Part 2: Shell and Utilities — Amendment 2

Sponsor

Technical Committee on Operating Systems and Application Environments
of the
IEEE Computer Society

Work Item Number: JTC 1.22.21.2

Abstract: P1003.2b is part of the POSIX series of standards for applications and user interfaces to open systems. It consists of modifications and clarifications to ISO/IEC 9945-2: 199x (IEEE Std 1003.2-199x and IEEE Std 1003.2a-199x), including support for symbolic links and a new archive/interchange format.

Keywords: API, application portability, data processing, open systems, operating system, portable application, POSIX, shell and utilities, user portability

P1003.2b / D3
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February 1992 *SH XXXXX*

Editor's Notes

This section will not appear in the final document. It is used for editorial comments concerning this draft.

Draft 1 was mostly the new archive/interchange format, based on Donn Terry's
work in P1003.1b. See the Introduction for other input the working group needs
to consider. 2

This first draft contained diff marks (1) to differentiate material from Donn's 2
archive proposal; see 4.48. Diff marks '2'' denote changes from Draft 1 to Draft 2. 3
Diff marks '3'' denote changes from Draft 2 to Draft 1. Editorial changes such as 3
typos, grammatical errors or changes, changes in cross references, and removal of
editorial notes are not diff-marked. Please note that it is not always feasible to
get the diff marks exactly right; they will sometimes start or end a line too soon.

This draft makes assumptions about the organization and content of POSIX.2
Draft 11.2, POSIX.2a Draft 8, and POSIX.1a Draft 5. If you are not in one of these 3
balloting groups, you can purchase either draft by contacting:

IEEE Publications
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Since portions of this standard are meant to be modifications of the base POSIX.2 standard, the draft headings in Sections 1 through 6 have been set up to match the affected clauses and still go into the table of contents. There are therefore gaps in the clause numbers.

For various editorial reasons, there is a page number gap where the Annexes will eventually go.

Please report typographical errors to:

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(Electronic mail is preferred.)

This draft is available in various electronic forms to assist the review process. Our thanks to Andrew Hume of AT&T Bell Laboratories for providing online access facilities. Note that this is a limited experiment in providing online access; future ballots may provide other forms, such as diskettes or a bulletin board arrangement, but the instructions shown here are the only methods currently available. Please also observe the additional copyright restrictions that are described in the online files.

Assuming you have access to the Internet, the scenario is approximately

```
ftp research.att.com # research's IP address is 192.20.225.2
<login as netlib; password is your email address>
cd posix/p1003.2b/d3
get toc index
binary
get p11-20.Z
```

The draft is available in several forms. The table of contents can be found in `toc`, pages containing a particular section are stored under the section number, sets of pages are stored in files with names of the form p*n*−*m*, and the entire draft is stored in `all`. By default, files are ASCII. A `.ps` suffix indicates PostScript. A `.Z` suffix indicates a `compress`'ed file. The file `index` contains a general description of the files available.

These files are also available via electronic mail by sending a message like

```
echo send 4.48 from posix/p1003.2b/d3 |
        mail netlib@research.att.com
```

If you use email, you should *not* ask for the compressed version. For a more complete introduction to this form of *netlib*, send the message

```
send help
```

POSIX.2b Change History

This section is provided to track major changes between drafts.

Draft 3 [February 1992] Miscellaneous minor changes to the `pax` format, 3
provided by Mark Brown. Symbolic link material added, based on 3
initial proposals from Dawn Burnett, as modified by the working 3
group. 3

Draft 2 [December 1991] Miscellaneous minor changes to the `pax` format, 2
provided by Mark Brown. Limited online access provided as part 2
of an IEEE Computer Society experiment. 2

Draft 1 [September 1991] Conversion of `pax` formatting from P1003.1b Draft 5 and `cpio` and `pax` from IEEE Std 1003.1-1990.

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Comments for revision of IEEE Standards are welcome from any interested party, regardless of membership affiliation with IEEE. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments.

Interpretations: Occasionally questions may arise regarding the meaning of portions of standards as they relate to specific applications. When the need for interpretations is brought to the attention of the IEEE , the Institute will initiate action to prepare appropriate responses. Since IEEE Standards represent a consensus of all concerned interests, it is important to ensure that any interpretation has also received the concurrence of a balance of interests. For this reason, the IEEE and the members of its technical committees are not able to provide an instant response to interpretation requests except in those cases where the matter has previously received formal consideration.

Comments on standards and requests for interpretations should be addressed to:

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TABLES

Introduction

(This Introduction is not a normative part of P1003.2b Information technology — Portable Operating System Interface (POSIX) — Part 2: Shell and Utilities — Amendment 2, but is included for information only.)

HLJ : To be provided.

Briefly, POSIX. 2b consists of minor changes to accomplish the following (from PAR):

(1) *Resolve international comments on ISO / IEC DIS 9945-2 and 9945-2/ DAM 1 (P1003.2 and P1003.2a).*

(2) *Resolve issues resulting from requests for interpretation of the original IEEE 1003.2 and 1003.2a documents.*

(3) *Improve the clarity, accuracy, and precision of the language in the original 1003.2 and 1003.2a documents, correcting deficiencies found in implementing systems, test suites, or applications based on the documents.*

(4) *Resolve issues identified by IEEE working groups producing functional standards (profiles) that desire finer granularity in groupings of optional utilities and features.*

(5) *Incorporate interfaces associated with new facilities being produced by the P1003.1a project, such as symbolic links. (Note: Extended or supplementary shell and utility features based on P1003.1a interfaces will be included in P1003.2b only if schedules can be arranged so that the P1003.1a supplement is available for citation as a normative reference at the time of approval of P1003.2b.)*

(6) *Assume responsibility for definition of file interchange and archiving formats from P1003.1. This would involve movement of the current section 10 in IEEE Std 1003.1-1990 and the proposed new format from P1003.1a to the clause in P1003.2 that describes the ''pax''utility.*

Related Standards Activities

Activities to extend this standard to address additional requirements are in progress, and similar efforts can be anticipated in the future.

The following areas are under active consideration at this time, or are expected to become active in the near future: [1)]

1) A *Standards Status Report* that lists all current IEEE Computer Society standards projects is available from the IEEE Computer Society, 1730 Massachusetts Avenue NW, Washington, DC 20036-1903; Telephone: +1 202 371-0101; FAX: +1 202 728-9614. Working drafts of POSIX standards under development are also available from this office.

(1) Language-independent service descriptions of POSIX.1 {8}

(2) C, Ada, and Fortran Language bindings to (1)

(3) Verification testing methods

(4) Realtime facilities

(5) Secure/Trusted System considerations

(6) Network interface facilities

(7) System Administration

(8) Graphical User Interfaces

(9) Profiles describing application- or user-specific combinations of Open Systems standards for: supercomputing, multiprocessor, and batch extensions; transaction processing; realtime systems; and multiuser systems based on historical models

(10) An overall guide to POSIX-based or related Open Systems standards and profiles

Extensions are approved as ''amendments'' or ''revisions'' to this document, following the IEEE and ISO/IEC Procedures.

Approved amendments are published separately until the full document is reprinted and such amendments are incorporated in their proper positions.

If you have interest in participating in the TCOS working groups addressing these issues, please send your name, address, and phone number to the Secretary, IEEE Standards Board, Institute of Electrical and Electronics Engineers, Inc., P.O. Box 1331, 445 Hoes Lane, Piscataway, NJ 08855-1331, and ask to have this forwarded to the chairperson of the appropriate TCOS working group. If you have interest in participating in this work at the international level, contact your ISO/IEC national body.

P1003.2b was prepared by the 1003.2b working group, sponsored by the Technical Committee on Operating Systems and Application Environments of the IEEE Computer Society. At the time this standard was approved, the membership of the 1003.2b working group was as follows:

Technical Committee on Operating Systems
and Application Environments (TCOS)

Chair: Jehan-François Pâris

TCOS Standards Subcommittee

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John Q. Public	John Q. Public	Jane Doe
Jane Doe	John Q. Public	John Q. Public

Working Group

Jane Doe	John Q. Public	John Q. Public
John Q. Public	Jane Doe	John Q. Public

The following persons provided valuable input during the balloting period:

John Q. Public	Jane Doe	John Q. Public
Jane Doe	John Q. Public	John Q. Public

The following persons were members of the 1003.2b balloting group that approved the standard for submission to the IEEE Standards Board:

John Q. Public *TBD Institutional Representative*

Jane Doe	John Q. Public	John Q. Public
John Q. Public	John Q. Public	Jane Doe

When the IEEE Standards Board approved this standard on *<date to be provided>*, it had the following membership:

(to be pasted in by IEEE)

Information technology — Portable Operating System Interface (POSIX) — Part 2: Shell and Utilities — Amendment 2

Section 1: Revisions to General

1.1 Scope

HLJ : To be provided. See the Introduction. Proposed text is solicited.

1.2 Normative References

⇒ **1.2 Normative References.** *Add the following entries to the Normative References clause in the correct sorted sequence, disregarding the sequence numbers shown here.*

{9} ISO 1001: 1986, *Information processing—File structure and labelling of magnetic tapes for information interchange.*

Issue: *The following three standards seem to correspond to ANSI X3.14, 22, 39, and 54. Someone with access to the actual documents should check this assumption carefully.*

{10} ISO 1863: 1976, *Information processing—9-track, 12,7 mm (0.5 in) wide magnetic tape for information interchange recorded at 32 rpmm (800 rpi).*