Product Standard

Operating System and Languages:
Internationalized System Calls and Libraries Extended V2

The Open Group
Copyright © January 1998, The Open Group

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owners.

Motif®, OSF/1®, UNIX®, and the “X Device”® are registered trademarks and IT DialTone™ and The Open Group™ are trademarks of The Open Group in the U.S. and other countries.

Product Standard
Operating System and Languages: Internationalized System Calls and Libraries Extended V2
Document Number: X98SI

Published in the U.K. by The Open Group, January 1998.

Any comments relating to the material contained in this document may be submitted to:

The Open Group
Apex Plaza
Forbury Road
Reading
Berkshire RG1 1AX
U.K.

Or by email to:
OGSpecs@opengroup.org
**Product Standard**

**NAME**
Internationalized System Calls and Libraries Extended V2

**LABEL FOR LOGO**
No label.

**DESCRIPTION**
This Product Standard is the foundation for conformance to the UNIX 98 Product Standard. It is a substantially enhanced version of the Internationalized System Calls and Libraries Extended Product Standard, which is the foundation for the UNIX 95 Product Standard.

The principal enhancements are as follows:

- Threads interfaces, fully aligned with the POSIX Threads Extension,\(^1\) together with a set of X/Open-defined threads extensions.
- Multibyte Support Extension (MSE), aligned with ISO/IEC 9899:1990/Amendment 1:1995 (E),\(^2\) to further support internationalized applications.
- Large File Support extensions to permit UNIX systems to support files of arbitrary sizes.
- Dynamic Linking extensions to permit applications to share common code.
- Changes to remove any hardware data-length dependencies or restrictions. This is known as Data Size Neutral (or N-bit clean). It is of particular relevance to the ongoing move to 64-bit CPUs.
- Year 2000 changes to minimize the impact of the millennium rollover.

- The interfaces previously defined in the Shared Memory, Enhanced Internationalization, and the POSIX2 C-Language Binding Feature Groups are now mandatory in System Interfaces and Headers, Issue 5.\(^3\) This is not a change, since the Internationalized System Calls and Libraries Extended Product Standard already required that these Feature Groups be supported.

---

Four optional Feature Groups are defined:

- Realtime (aligned with the POSIX Realtime Extension and the 1003.1i technical corrigendum\(^4\))
- Realtime Threads
- Encryption
- Legacy

**CONFORMATION REQUIREMENTS**

**Human-Computer Interface**

System Interface Definitions, Issue 5,\(^5\) Section 4.1, Portable Character Set, Table 4-1, glyphs.

**Portability Interface**

System Interfaces and Headers, Issue 5 and System Interface Definitions, Issue 5, with the following Feature Groups defined as optional:

- Realtime
- Realtime Threads
- Encryption
- Legacy

**Programming Language Environment**

C Language. Dialect ISO C. ISO C source programs invoking the services of this Product Standard must be supported by the registered product.

**Interoperability**

- Data Interchange Formats
  - None.
- Communications Interfaces and Protocols
  - None.

---

OPERATIONAL ENVIRONMENT
Not applicable.

PORTABILITY ENVIRONMENT
None.

OVERRIDING STANDARDS
ISO/IEC 9945-1: 1996 (POSIX-1). 6
ISO/IEC 9899: 1990 (C Language). 8
This Product Standard is also fully aligned with NIST FIPS 151-2, 9 although it does not defer to it. All the NIST FIPS 151-2 options are mandated by this Product Standard.

INDICATORS OF COMPLIANCE
Test Reports for the Portability Interface from currently authorized releases of the VSX4, VSX5, VSU5, and VSTH Test Suites. Also, the VSRT Test Suite if the product supports the Realtime Feature Group.

MIGRATION
As this Product Standard is primarily a superset of Internationalized System Calls and Libraries Extended, there are very few incompatibility issues in migrating applications from systems registered as conformant to the Internationalized System Calls and Libraries Extended Product Standard. The few incompatibilities arise from alignment with the formal standards.

Detailed migration information can be found in Go Solo 2. 10
