



**INTERNATIONAL STANDARD ISO/IEC 9945-4:2003**  
**TECHNICAL CORRIGENDUM 1**

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**Information technology — Portable Operating System Interface  
(POSIX®) —**

**Part 4:  
Rationale**

**TECHNICAL CORRIGENDUM 1**

*Technologies de l'information — Interface pour la portabilité des systèmes (POSIX®) —*

*Partie 4: Rationnel*

*RECTIFICATIF TECHNIQUE 1*

Technical Corrigendum 1 to ISO/IEC 9945-4:2003 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 22, *Programming languages, their environments and system software interfaces*.

## 1 Scope

This technical corrigendum addresses issues raised in defect reports and interpretation requests submitted up to 14 August 2003, and that meet all of the following criteria:

- a. They are in the scope of the approved International Standard.
- b. They contain no new APIs (functions/utilities), however, they may add enumeration symbols, non-function # defines, and reserve additional namespaces.
- c. They address contradictions between different parts of the International Standard, or add consistency between it and overriding International Standards, or address security-related problems.

## 2 Changes to ISO/IEC 9945-4

### Change Number: XRAT/TC1/1 [XBD ERN 20]

On Page: xxxiii Line: "ISO/IEC 8859" Section: Referenced Documents

Add after line starting "Part 10":

"Part 11: Latin/Thai Alphabet"

Add after line starting "Part 15":

"Part 16: Latin Alphabet No. 10"

### Change Number: XRAT/TC1/2 [XBD ERN 35]

On Page: 7 Line: 191 Section: A.1.4

Add to the end of the paragraph:

"In some places the text refers to facilities supplied by the implementation that are outside of the standard as implementation-supplied or implementation-provided. This is not intended to imply a requirement for documentation. If it were the term "implementation-defined" would have been used."

### Change Number: XRAT/TC1/3 [XBD ERN 17]

On Page: 42 Line: 1652 Section: A.6.3

Change From:

"There is no additional rationale provided for this section."

To:

"The standard does not specify how wide characters are encoded or provide a method for defining wide characters in a charmap. It specifies ways of translating between wide characters and multibyte characters. The standard does not prevent an extension from providing a method to define wide characters."

### Change Number: XRAT/TC1/4 [XBD ERN 25]

On Page: 49 Line: 1962-1966 Section: A.7.3.3

Change From:

"The locale definition is an extension of the ISO C standard localeconv() specification. In particular, rules on how currency\_symbol is treated are extended to also cover int\_curr\_symbol, and p\_set\_by\_space and n\_sep\_by\_space have been augmented with the value 2, which places a <space> between the sign and the symbol (if they are adjacent; otherwise, it should be treated as a 0). The following table shows the result of various combinations:"

To:

"The locale definition is an extension of the ISO C standard localeconv() specification. In particular, rules on how currency\_symbol is treated are extended to also cover int\_curr\_symbol, and p\_set\_by\_space and n\_sep\_by\_space have been augmented with the value 2, which places a <space> between the sign and the symbol. This has been updated to match the C99 requirements and is an incompatible change from UNIX 98 and POSIX.2-1992 and POSIX.1-1996 requirements. The following table shows the result of various combinations:"

### Change Number: XRAT/TC1/5 [XSH ERN 92]

On Page: 55 Line: 2254-2257,2258-2259 Section: 8.2

In Section 8.2 Internationalization Variables

Change From:

"The text about locale implies that any utilities written in standard C and conforming to IEEE Std 1003.1-2001 must issue the following call:

```
setlocale(LC_ALL, "")
```

If this were omitted, the ISO C standard specifies that the C locale would be used."

To:

"Utilities conforming to the Shell and Utilities volume of IEEE Std 1003.1-2001 and written in standard C can access the locale variables by issuing the following call:

```
setlocale(LC_ALL, "")
```

If this were omitted, the ISO C standard specifies that the C locale would be used."

Change From:

"If any of the environment variables are invalid, it makes sense to default to an implementation-defined, consistent locale environment."

To:

"The DESCRIPTION of setlocale() requires that when setting all categories of a locale, that if the value of any of the environment-variable searches yields a locale that is not supported (and nonnull), the setlocale() function returns a null pointer and the locale of the process is unchanged.

For the standard utilities, if any of the environment variables are invalid, it makes sense to default to an implementation-defined, consistent locale environment."

**Change Number: XRAT/TC1/6 [XRAT ERN 1]**

On Page: 72 Line: 2960-2961 Section: A.12.2

Change From:

"Guidelines 1 and 2 are offered as guidance for locales using Latin alphabets. No recommendations are made by IEEE Std 1003.1-2001 concerning utility naming in other locales."

To:

"Guidelines 1 and 2 encourage utility writers to use only characters from the portable character set because use of locale specific characters may make the utility inaccessible from other locales. Use of uppercase letters is discouraged due to problems associated with porting utilities to systems that don't distinguish between uppercase and lowercase characters in file names. Use of non-alphanumeric characters is discouraged due to the number of utilities that treat non-alphanumeric characters in "special" ways depending on context (such as the shell using whitespace characters to delimit arguments, various quote characters for quoting, <dollar-sign> to introduce variable expansion,...)"

**Change Number: XRAT/TC1/7 [XSH ERN 89]**

On Page: 177 Line: 7479 Section: B.2 Threads

Insert new section before B.2.10:

"B.2.9.8 Use of Application-Managed Thread Stacks

IEEE Std 1003.1-2001/Cor 2-200x, item XSH/TC1/8 is applied, adding this new section. It was added to make it clear that the current standard does not allow an application to determine when a stack can be reclaimed. This may be addressed in a future revision."

**Change Number: XRAT/TC1/8 [XBD ERN 11]**

On Page: 224 Line: 9264-9265 Section: C.1.9

Delete the paragraph:

" {POSIX2\_SYMLINKS} was developed even though there is no comparable configuration value for the system interfaces."

Rationale: The pathconf() symbolic constant \_PC\_2\_SYMLINKS has been introduced as a result of this defect report.

**Change Number: XRAT/TC1/9 [XRAT ERN 2]**

On Page: 240,241 Line: 9903-9911,9921,9925,9958 Section: C.2.6.4

Change From:

"The "(( ))" form of KornShell arithmetic in early proposals was omitted. The standard developers concluded that there was a strong desire for some kind of arithmetic evaluator to replace expr, and that relating it to '\$' makes it work well with the standard shell language, and it provides access to arithmetic evaluation in places where accessing a utility would be inconvenient.

The syntax and semantics for arithmetic were changed for the ISO/IEC 9945-2:1993 standard. The language is essentially a pure arithmetic evaluator of constants and operators (excluding assignment) and represents a simple subset of the previous arithmetic language (which was derived from the KornShell "(( ))" construct). "