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Programming languages — C++ — File System Technical Specification

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Foreword

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1 Scope [fs.scope]

1 This Technical Specification specifies requirements for implementations of an interface that computer programs written in the C++ programming language may use to perform operations on file systems and their components, such as paths, regular files, and directories. This Technical Specification is applicable to information technology systems that can access hierarchical file systems, such as those with operating systems that conform to the POSIX (3) interface. This Technical Specification is applicable only to vendors who wish to provide the interface it describes.

2 Conformance [fs.conformance]

1 Conformance is specified in terms of behavior. Ideal behavior is not always implementable, so the conformance sub-clauses take that into account.

2.1 POSIX conformance [fs.conform.9945]

1 Some behavior is specified by reference to POSIX (3). How such behavior is actually implemented is unspecified.

2 [*Note:* This constitutes an "as if" rule allowing implementations to call native operating system or other API's. —*end note*]

3 Implementations are encouraged to provide such behavior as it is defined by POSIX. Implementations shall document any behavior that differs from the behavior defined by POSIX. Implementations that do not support exact POSIX behavior are encouraged to provide behavior as close to POSIX behavior as is reasonable given the limitations of actual operating systems and file systems. If an implementation cannot provide any reasonable behavior, the implementation shall report an error as specified in § 7.

4 [*Note:* This allows users to rely on an exception being thrown or an error code being set when an implementation cannot provide any reasonable behavior. — *end note*]

5 Implementations are not required to provide behavior that is not supported by a particular file system.

6 [*Example:* The FAT file system used by some memory cards, camera memory, and floppy discs does not support hard links, symlinks, and many other features of more capable file systems, so implementations are not required to support those features on the FAT file system. —*end example*]

2.2 Operating system dependent behavior conformance [fs.conform.os]

1 Some behavior is specified as being operating system dependent (4.13). The operating system an implementation is dependent upon is implementation defined.