
Linux Standard Base (LSB) —
Part 8-2:
Core specification for S390X
architecture

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by the Linux Foundation as Linux Standard Base (LSB): Core specification for S390X architecture and drafted in accordance with its editorial rules. It was assigned to Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 22, *Programming languages, their environments and system software interfaces*, and adopted by National Bodies.

This first edition of ISO/IEC 23360-8-2 cancels and replaces ISO/IEC 23360-8:2006, which has been technically revised.

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A list of all parts in the ISO/IEC 23660 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Contents

Foreword	iii
Introduction	vi
I Introductory Elements	1
1 Scope	2
2 References	3
2.1 Normative References	3
2.2 Informative References/Bibliography	5
3 Requirements	8
3.1 Relevant Libraries	8
3.2 LSB Implementation Conformance	8
3.3 LSB Application Conformance	9
4 Terms and Definitions	11
5 Documentation Conventions	13
II Executable and Linking Format (ELF)	14
6 Introduction	15
7 Low Level System Information	16
7.1 Machine Interface	16
7.2 Function Calling Sequence	16
7.3 Operating System Interface	17
7.4 Process Initialization	18
7.5 Coding Examples	18
7.6 Debug Information	18
8 Object Format	19
8.1 Introduction	19
8.2 ELF Header	19
8.3 Sections	19
8.4 Symbol Table	20
8.5 Relocation	20
9 Program Loading and Dynamic Linking	21
9.1 Introduction	21
9.2 Program Loading	21
9.3 Dynamic Linking	21
III Base Libraries	22
10 Libraries	23
10.1 Program Interpreter/Dynamic Linker	23
10.2 Interfaces for libc	23
10.3 Data Definitions for libc	44
10.4 Interfaces for libm	61
10.5 Data Definitions for libm	68
10.6 Interface Definitions for libm	70
10.7 Interfaces for libpthread	71
10.8 Data Definitions for libpthread	76
10.9 Interfaces for libgcc_s	77
10.10 Data Definitions for libgcc_s	78
10.11 Interface Definitions for libgcc_s	79
10.12 Interfaces for libdl	79
10.13 Data Definitions for libdl	80
10.14 Interfaces for libcrypt	80

10.15 Data Definitions for libcrypt.....	81
IV Utility Libraries	82
11 Libraries	83
11.1 Interfaces for libz	83
11.2 Data Definitions for libz	83
11.3 Interfaces for libncurses	84
11.4 Data Definitions for libncurses	84
11.5 Interfaces for libncursesw	84
11.6 Data Definitions for libncursesw	85
11.7 Interfaces for libutil	85
V Base Libraries.....	87
12 Libraries	88
12.1 Interfaces for libstdcxx.....	88
12.2 Interface Definitions for libstdcxx.....	220
VI Package Format and Installation	221
13 Software Installation.....	222
13.1 Package Dependencies	222
13.2 Package Architecture Considerations.....	222
Annex A Alphabetical Listing of Interfaces by Library	223
A.1 libc	223
A.2 libcrypt	239
A.3 libdl	239
A.4 libgcc_s.....	239
A.5 libm	240
A.6 libpthread.....	246
A.7 librt.....	249
A.8 libutil	250

Introduction

The LSB defines a binary interface for application programs that are compiled and packaged for LSB-conforming implementations on many different hardware architectures. A binary specification must include information specific to the computer processor architecture for which it is intended. To avoid the complexity of conditional descriptions, the specification has instead been divided into generic parts which are augmented by one of several architecture-specific parts, depending on the target processor architecture; the generic part will indicate when reference must be made to the architecture part, and vice versa.

This document should be used in conjunction with the documents it references. This document enumerates the system components it includes, but descriptions of those components may be included entirely or partly in this document, partly in other documents, or entirely in other reference documents. For example, the section that describes system service routines includes a list of the system routines supported in this interface, formal declarations of the data structures they use that are visible to applications, and a pointer to the underlying referenced specification for information about the syntax and semantics of each call. Only those routines not described in standards referenced by this document, or extensions to those standards, are described in the detail. Information referenced in this way is as much a part of this document as is the information explicitly included here.

The specification carries a version number of either the form $x.y$ or $x.y.z$. This version number carries the following meaning:

1. The first number (x) is the major version number. Versions sharing the same major version number shall be compatible in a backwards direction; that is, a newer version shall be compatible with an older version. Any deletion of a library results in a new major version number. Interfaces marked as deprecated may be removed from the specification at a major version change.
2. The second number (y) is the minor version number. Libraries and individual interfaces may be added, but not removed. Interfaces may be marked as deprecated at a minor version change. Other minor changes may be permitted at the discretion of the LSB workgroup.
3. The third number (z), if present, is the editorial level. Only editorial changes should be included in such versions.

Since this specification is a descriptive Application Binary Interface, and not a source level API specification, it is not possible to make a guarantee of 100% backward compatibility between major releases. However, it is the intent that those parts of the binary interface that are visible in the source level API will remain backward compatible from version to version, except where a feature marked as "Deprecated" in one release may be removed from a future release. Implementors are strongly encouraged to make use of symbol versioning to permit simultaneous support of applications conforming to different releases of this specification.

LSB is a trademark of the Linux Foundation. Developers of applications or implementations interested in using the trademark should see the Linux Foundation Certification Policy for details.

I Introductory Elements

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1 Scope

The Linux Standard Base (LSB) defines a system interface for compiled applications and a minimal environment for support of installation scripts. Its purpose is to enable a uniform industry standard environment for high-volume applications conforming to the LSB.

These specifications are composed of two basic parts: a common part describing those parts of the interface that remain constant across all implementations of the LSB, and an architecture-specific part describing the parts of the interface that vary by processor architecture. Together, the common part and the relevant architecture-specific part for a single hardware architecture provide a complete interface specification for compiled application programs on systems that share a common hardware architecture.

The LSB contains both a set of Application Program Interfaces (APIs) and Application Binary Interfaces (ABIs). APIs may appear in the source code of portable applications, while the compiled binary of that application may use the larger set of ABIs. A conforming implementation provides all of the ABIs listed here. The compilation system may replace (e.g. by macro definition) certain APIs with calls to one or more of the underlying binary interfaces, and may insert calls to binary interfaces as needed.

The LSB is primarily a binary interface definition. Not all of the source level APIs available to applications may be contained in this specification.

This is the S390X architecture specific part of the Core module of the Linux Standard Base (LSB). This part supplements the common part of the LSB Core module with those interfaces that differ between architectures.

This part should be used in conjunction with LSB Core - Generic, the common part. Whenever a section of the common part is supplemented by architecture-specific information, the common part includes a reference to the architecture-specific part. This part may also contain additional information that is not referenced in the common part.

Interfaces described in this part of the LSB Core Specification are mandatory except where explicitly listed otherwise. Interfaces described in the LSB Core module are supplemented by other LSB modules. All other modules depend on the presence of LSB Core.

2 References

2.1 Normative References

The following specifications are incorporated by reference into this specification. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced specification (including any amendments) applies.

Note: Where copies of a referenced specification are available on the World Wide Web, a Uniform Resource Locator (URL) is given, for informative purposes only. Such URL might at any given time resolve to a more recent copy of the specification, or be out of date (not resolve). Reference copies of specifications at the revision level indicated may be found at the Linux Foundation's Reference Specifications (<http://refspecs.linuxbase.org>) site.

Table 2-1 Normative References

Name	Title	URL
LSB Core - Generic	Linux Standard Base - Core Specification - Generic	http://www.linuxbase.org/spec/
Filesystem Hierarchy Standard	Filesystem Hierarchy Standard (FHS) 3.0	http://refspecs.linuxbase.org/fhs
ISO C (1999)	ISO/IEC 9899:1999 - Programming Languages -- C	
ISO/IEC 14882: 2003 C++ Language	ISO/IEC 14882: 2003 Programming languages --C++	
Itanium™ C++ ABI	Itanium™ C++ ABI (Revision 1.86)	http://refspecs.linuxfoundation.org/cxxabi-1.86.html
Large File Support	Large File Support	http://www.UNIX-systems.org/version2/whatsnew/lfs20mar.html
Libncursesw API	Libncursesw API	http://invisible-island.net/ncurses/man/ncurses.3x.html
Libncursesw Placeholder	Libncursesw Specification Placeholder	http://refspecs.linuxfoundation.org/libncursesw/libncurses.html
LINUX for zSeries Application Binary Interface Supplement	LINUX for zSeries Application Binary Interface Supplement	http://www.linux-foundation.org/spec/ELF/zSeries/lzsabi0_zSeries.html
POSIX 1003.1-2001 (ISO/IEC 9945-2003)	ISO/IEC 9945-1:2003 Information technology -- Portable Operating System Interface	http://www.unix.org/version3/

Name	Title	URL
	(POSIX) -- Part 1: Base Definitions ISO/IEC 9945-2:2003 Information technology -- Portable Operating System Interface (POSIX) -- Part 2: System Interfaces ISO/IEC 9945-3:2003 Information technology -- Portable Operating System Interface (POSIX) -- Part 3: Shell and Utilities ISO/IEC 9945-4:2003 Information technology -- Portable Operating System Interface (POSIX) -- Part 4: Rationale Including Technical Cor. 1: 2004	
POSIX 1003.1-2008 (ISO/IEC 9945-2009)	Portable Operating System Interface (POSIX®) 2008 Edition / The Open Group Technical Standard Base Specifications, Issue 7	http://www.unix.org/version4/
SUSv2	CAE Specification, January 1997, System Interfaces and Headers (XSH), Issue 5 (ISBN: 1-85912-181-0, C606)	http://www.opengroup.org/publications/catalog/un.htm
SVID Issue 3	American Telephone and Telegraph Company, System V Interface Definition, Issue 3; Morristown, NJ, UNIX Press, 1989. (ISBN 0201566524)	
SVID Issue 4	System V Interface Definition, Fourth Edition	http://refspecs.linuxfoundation.org/svid4/
System V ABI	System V Application Binary Interface, Edition 4.1	http://www.sco.com/developers/devspecs/gabi41.pdf

Name	Title	URL
System V ABI Update	System V Application Binary Interface - DRAFT - 17 December 2003	http://www.sco.com/developers/gabi/2003-12-17/contents.html
X/Open Curses, Issue 7	X/Open Curses, Issue 7 (ISBN: 1-931624-83-6, The Open Group, November 2009)	https://www2.opengroup.org/ogsys/catalog/C094
z/Architecture Principles of Operation	z/Architecture Principles of Operation	http://publibz.boulder.ibm.com/epubs/pdf/z9zs001.pdf

2.2 Informative References/Bibliography

The documents listed below provide essential background information to implementors of this specification. These references are included for information only, and do not represent normative parts of this specification.

Table 2-2 Other References

Name	Title	URL
DWARF Debugging Information Format, Version 4	DWARF Debugging Information Format, Version 4 (June 10, 2010)	http://www.dwarfstd.org/doc/DWARF4.pdf
IEC 60559/IEEE 754 Floating Point	IEC 60559:1989 Binary floating-point arithmetic for microprocessor systems	http://www.ieee.org/
ISO/IEC TR14652	ISO/IEC Technical Report 14652:2002 Specification method for cultural conventions	
ITU-T V.42	International Telecommunication Union Recommendation V.42 (2002): Error-correcting procedures for DCEs using asynchronous-to-synchronous conversion ITUV	http://www.itu.int/rec/recommendation.asp?type=folders&lang=e&parent=T-REC-V.42
Li18nux Globalization Specification	LI18N UX 2000 Globalization Specification, Version 1.0 with Amendment 4	http://www.openi18n.org/docs/html/LI18N UX-2000-amd4.htm

Name	Title	URL
Linux Allocated Device Registry	LINUX ALLOCATED DEVICES	http://www.lanana.org/docs/device-list/devices-2.6+.txt
Linux Assigned Names And Numbers Authority	Linux Assigned Names And Numbers Authority	http://www.lanana.org/
Mozilla's NSS SSL Reference	Mozilla's NSS SSL Reference	http://www.mozilla.org/projects/security/pki/nss/ref/ssl/
NSPR Reference	Mozilla's NSPR Reference	http://refspecs.linuxfoundation.org/NSPR_API_Reference/NSPR_API.html
PAM	Open Software Foundation, Request For Comments: 86.0 , October 1995, V. Samar & R.Schemers (SunSoft)	http://www.opengroup.org/tech/rfc/mirror/rfc/rfc86.0.txt
RFC 1321: The MD5 Message-Digest Algorithm	IETF RFC 1321: The MD5 Message-Digest Algorithm	http://www.ietf.org/rfc/rfc1321.txt
RFC 1833: Binding Protocols for ONC RPC Version 2	IETF RFC 1833: Binding Protocols for ONC RPC Version 2	http://www.ietf.org/rfc/rfc1833.txt
RFC 1950: ZLIB Compressed Data Format Specification	IETF RFC 1950: ZLIB Compressed Data Format Specification	http://www.ietf.org/rfc/rfc1950.txt
RFC 1951: DEFLATE Compressed Data Format Specification	IETF RFC 1951: DEFLATE Compressed Data Format Specification version 1.3	http://www.ietf.org/rfc/rfc1951.txt
RFC 1952: GZIP File Format Specification	IETF RFC 1952: GZIP file format specification version 4.3	http://www.ietf.org/rfc/rfc1952.txt
RFC 2440: OpenPGP Message Format	IETF RFC 2440: OpenPGP Message Format	http://www.ietf.org/rfc/rfc2440.txt
RFC 2821: Simple Mail Transfer Protocol	IETF RFC 2821: Simple Mail Transfer Protocol	http://www.ietf.org/rfc/rfc2821.txt
RFC 2822: Internet Message Format	IETF RFC 2822: Internet Message Format	http://www.ietf.org/rfc/rfc2822.txt
RFC 5531/4506 RPC & XDR	IETF RFC 5531 & 4506	http://www.ietf.org/

Name	Title	URL
RFC 791:Internet Protocol	IETF RFC 791: Internet Protocol Specification	http://www.ietf.org/rfc/rfc791.txt
RPM Package Format	RPM Package Format V3.0	http://www.rpm.org/max-rpm/s1-rpm-file-format-rpm-file-format.html
zlib Manual	zlib 1.2 Manual	http://www.gzip.org/zlib/

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3 Requirements

3.1 Relevant Libraries

The libraries listed in Table 3-1 shall be available on S390X Linux Standard Base systems, with the specified runtime names. These names override or supplement the names specified in the generic LSB (LSB Core - Generic) specification. The specified program interpreter, referred to as `proginterp` in this table, shall be used to load the shared libraries specified by `DT_NEEDED` entries at run time.

Table 3-1 Standard Library Names

Library	Runtime Name
libc	libc.so.6
libcrypt	libcrypt.so.1
libdl	libdl.so.2
libgcc_s	libgcc_s.so.1
libm	libm.so.6
libncurses	libncurses.so.5
libncursesw	libncursesw.so.5
libpthread	libpthread.so.0
libstdcxx	libstdc++.so.6
libutil	libutil.so.1
libz	libz.so.1
proginterp	/lib64/ld-lsb-s390x.so.3

These libraries will be in an implementation-defined directory which the dynamic linker shall search by default.

3.2 LSB Implementation Conformance

A conforming implementation is necessarily architecture specific, and must provide the interfaces specified by both the generic LSB Core specification (LSB Core - Generic) and the relevant architecture specific part of the LSB Core Specification.

Rationale: An implementation must provide *at least* the interfaces specified in these specifications. It may also provide additional interfaces.

A conforming implementation shall satisfy the following requirements:

- A processor architecture represents a family of related processors which may not have identical feature sets. The architecture specific parts of the LSB Core Specification that supplement this specification for a given target processor architecture describe a minimum acceptable processor. The implementation shall provide all features of this processor, whether in hardware or through emulation transparent to the application.

- The implementation shall be capable of executing compiled applications having the format and using the system interfaces described in this specification.
- The implementation shall provide libraries containing the interfaces specified by this specification, and shall provide a dynamic linking mechanism that allows these interfaces to be attached to applications at runtime. All the interfaces shall behave as specified in this specification.
- The map of virtual memory provided by the implementation shall conform to the requirements of this specification.
- The implementation's low-level behavior with respect to function call linkage, system traps, signals, and other such activities shall conform to the formats described in this specification.
- The implementation shall provide all of the mandatory interfaces in their entirety.
- The implementation may provide one or more of the optional interfaces. Each optional interface that is provided shall be provided in its entirety. The product documentation shall state which optional interfaces are provided.
- The implementation shall provide all files and utilities specified as part of this specification in the format defined here and in other documents normatively included by reference. All commands and utilities shall behave as required by this specification. The implementation shall also provide all mandatory components of an application's runtime environment that are included or referenced in this specification.
- The implementation, when provided with standard data formats and values at a named interface, shall provide the behavior defined for those values and data formats at that interface. However, a conforming implementation may consist of components which are separately packaged and/or sold. For example, a vendor of a conforming implementation might sell the hardware, operating system, and windowing system as separately packaged items.
- The implementation may provide additional interfaces with different names. It may also provide additional behavior corresponding to data values outside the standard ranges, for standard named interfaces.

3.3 LSB Application Conformance

A conforming application containing object files is necessarily architecture specific, and must conform to both the generic LSB Core specification (LSB Core - Generic) and the relevant architecture specific part of the LSB Core Specification. A conforming application which contains no object files may be architecture neutral. Architecture neutral applications shall conform only to the requirements of the generic LSB Core specification (LSB Core - Generic).

A conforming application shall satisfy the following requirements:

- Executable files shall be either object files in the format defined in the Object Format section of this specification, or script files in a scripting language where the interpreter is required by this specification.
- Object files shall participate in dynamic linking as defined in the Program Loading and Linking section of this specification.
- Object files shall employ only the instructions, traps, and other low-level facilities defined as being for use by applications in the Low-Level System Information section of this specification.

- If the application requires any optional interface defined in this specification in order to be installed or to execute successfully, the requirement for that optional interface shall be stated in the application's documentation.
- The application shall not use any interface or data format that is not required to be provided by a conforming implementation, unless such an interface or data format is supplied by another application through direct invocation of that application during execution. The other application must also be a conforming application, and the use of such interface or data format, as well as its source (in other words, the other conforming application), shall be identified in the documentation of the application.
- The application shall not use any values for a named interface that are reserved for vendor extensions.

A strictly conforming application shall not require or use any interface, facility, or implementation-defined extension not defined in this specification in order to be installed or to execute successfully.

4 Terms and Definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 2382, ISO 80000-2, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4.1

archLSB

Some LSB specification documents have both a generic, architecture-neutral part and an architecture-specific part. The latter describes elements whose definitions may be unique to a particular processor architecture. The term archLSB may be used in the generic part to refer to the corresponding section of the architecture-specific part.

4.2

Binary Standard, ABI

The total set of interfaces that are available to be used in the compiled binary code of a conforming application, including the run-time details such as calling conventions, binary format, C++ name mangling, etc.

4.3

Implementation-defined

Describes a value or behavior that is not defined by this document but is selected by an implementor. The value or behavior may vary among implementations that conform to this document. An application should not rely on the existence of the value or behavior. An application that relies on such a value or behavior cannot be assured to be portable across conforming implementations. The implementor shall document such a value or behavior so that it can be used correctly by an application.

4.4

Shell Script

A file that is read by an interpreter (e.g., awk). The first line of the shell script includes a reference to its interpreter binary.

4.5

Source Standard, API

The total set of interfaces that are available to be used in the source code of a conforming application. Due to translations, the Binary Standard and the Source Standard may contain some different interfaces.

4.6

Undefined

Describes the nature of a value or behavior not defined by this document which results from use of an invalid program construct or invalid data input. The value or behavior may vary among implementations that conform to this document. An application should not rely on the existence or validity of the value or behavior. An application that relies on any particular value or behavior cannot be assured to be portable across conforming implementations.

4.7

Unspecified

Describes the nature of a value or behavior not specified by this document which results from use of a valid program construct or valid data input. The value or behavior may vary among implementations that conform to this document. An application should not rely on the existence or validity of the value or behavior. An application that relies on any particular value or behavior cannot be assured to be portable across conforming implementations.

In addition, for the portions of this specification which build on IEEE Std 1003.1-2001, the definitions given in *IEEE Std 1003.1-2001, Base Definitions, Chapter 3* apply.

5 Documentation Conventions

Throughout this document, the following typographic conventions are used:

`function()`

the name of a function

command

the name of a command or utility

CONSTANT

a constant value

parameter

a parameter

variable

a variable

Throughout this specification, several tables of interfaces are presented. Each entry in these tables has the following format:

name

the name of the interface

(symver)

An optional symbol version identifier, if required.

[refno]

A reference number indexing the table of referenced specifications that follows this table.

For example,

forkpty(GLIBC_2.0) [SUSv4]

refers to the interface named `forkpty()` with symbol version `GLIBC_2.0` that is defined in the reference indicated by the tag `SUSv4`.

Note: For symbols with versions which differ between architectures, the symbol versions are defined in the architecture specific parts of of this module specification only. In the generic part, they will appear without symbol versions.

II Executable and Linking Format (ELF)

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6 Introduction

Executable and Linking Format (ELF) defines the object format for compiled applications. This specification supplements the information found in System V ABI Update and LINUX for zSeries Application Binary Interface Supplement, and is intended to document additions made since the publication of that document.

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7 Low Level System Information

7.1 Machine Interface

7.1.1 Processor Architecture

The z/Architecture is specified by the following documents

- LINUX for zSeries Application Binary Interface Supplement
- z/Architecture Principles of Operation

Only the non optional features of z/Architecture processor instruction set may be assumed to be present. An application should determine if any additional instruction set features are available before using those additional features. If a feature is not present, then a conforming application shall not use it.

Conforming applications shall not invoke the implementations underlying system call interface directly. The interfaces in the implementation base libraries shall be used instead.

Rationale: Implementation-supplied base libraries may use the system call interface but applications must not assume any particular operating system or kernel version is present.

Applications conforming to this specification must provide feedback to the user if a feature that is required for correct execution of the application is not present. Applications conforming to this specification should attempt to execute in a diminished capacity if a required instruction set feature is not present.

This specification does not provide any performance guarantees of a conforming system. A system conforming to this specification may be implemented in either hardware or software.

7.1.2 Data Representation

LSB-conforming applications shall use the data representation as defined in Chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.1.2.1 Byte Ordering

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.1.2.2 Fundamental Types

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.1.2.3 Aggregates and Unions

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.1.2.4 Bit Fields

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.2 Function Calling Sequence

LSB-conforming applications shall use the function calling sequence as defined in Chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.2.1 Registers

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.2.2 Stack Frame

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.2.3 Parameter Passing

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.2.4 Variable Argument Lists

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.2.5 Return Values

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3 Operating System Interface

LSB-conforming applications shall use the Operating System Interfaces as defined in Chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.1 Virtual Address Space

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.2 Page Size

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.3 Virtual Address Assignments

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.4 Managing the Process Stack

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.5 Coding Guidelines

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.6 Processor Execution Mode

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.7 Exception Interface

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.8 Signal Delivery

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.3.8.1 Signal Handler Interface

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.4 Process Initialization

LSB-conforming applications shall use the Process Initialization as defined in Chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.4.1 Registers

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.4.2 Process Stack

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.5 Coding Examples

LSB-conforming applications may implement fundamental operations using the Coding Examples as defined in Chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.5.1 Code Model Overview

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.5.2 Function Prolog and Epilog

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.5.3 Profiling

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.5.4 Data Objects

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.5.5 Function Calls

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.5.6 Dynamic Stack Space Allocation

See chapter 1 of the LINUX for zSeries Application Binary Interface Supplement.

7.6 Debug Information

The LSB does not currently specify the format of Debug information.

8 Object Format

8.1 Introduction

LSB-conforming implementations shall support the Executable and Linking Format (ELF) object file format, as defined by the following documents:

- System V ABI
- System V ABI Update
- LINUX for zSeries Application Binary Interface Supplement
- LSB Core - Generic
- this document

8.2 ELF Header

8.2.1 Machine Information

LSB-conforming applications shall use the Machine Information as defined in Chapter 2 of the LINUX for zSeries Application Binary Interface Supplement.

8.3 Sections

See chapter 2 of the LINUX for zSeries Application Binary Interface Supplement.

8.3.1 Special Sections

The following sections are defined in the LINUX for zSeries Application Binary Interface Supplement.

Table 8-1 ELF Special Sections

Name	Type	Attributes
.got	SHT_PROGBITS	SHF_AL- LOC+SHF_WRITE
.plt	SHT_PROGBITS	SHF_ALLOC+SHF_EX- ECINSTR

.got

This section holds the global offset table.

.plt

This section holds the procedure linkage table.

8.3.2 Linux Special Sections

The following Linux S/390 specific sections are defined here.

Table 8-2 Additional Special Sections

Name	Type	Attributes
.rela.dyn	SHT_RELA	SHF_ALLOC
.rela.plt	SHT_RELA	SHF_ALLOC
.sbss	SHT_PROGBITS	SHF_WRITE

.rela.dyn

This section holds RELA type relocation information for all sections of a shared library except the PLT.

.rela.plt

This section holds RELA type relocation information for the PLT section of a shared library or dynamically linked application

.sbss

This section holds uninitialized data that contribute to the program's memory image. The system initializes the data with zeroes when the program begins to run.

8.4 Symbol Table

LSB-conforming applications shall use the Symbol Table as defined in Chapter 2 of the LINUX for zSeries Application Binary Interface Supplement.

8.5 Relocation

LSB-conforming applications shall use Relocations as defined in Chapter 2 of the LINUX for zSeries Application Binary Interface Supplement.

8.5.1 Relocation Types

See chapter 2 of the LINUX for zSeries Application Binary Interface Supplement.

9 Program Loading and Dynamic Linking

9.1 Introduction

LSB-conforming implementations shall support the object file information and system actions that create running programs as specified in the System V ABI , System V ABI Update , LINUX for zSeries Application Binary Interface Supplement and as supplemented by the LSB Core - Generic and this document.

9.2 Program Loading

See Chapter 3 of the LINUX for zSeries Application Binary Interface Supplement.

9.3 Dynamic Linking

See Chapter 3 of the LINUX for zSeries Application Binary Interface Supplement.

9.3.1 Dynamic Section

The following dynamic entries are defined in the LINUX for zSeries Application Binary Interface Supplement.

DT_JMPREL

This entry is associated with a table of relocation entries for the procedure linkage table. This entry is mandatory both for executable and shared object files

DT_PLTGOT

This entry's d_ptr member gives the address of the first byte in the procedure linkage table

9.3.2 Global Offset Table

See Chapter 3 of the LINUX for zSeries Application Binary Interface Supplement.

9.3.3 Function Addresses

See chapter 3 of the LINUX for zSeries Application Binary Interface Supplement.

9.3.4 Procedure Linkage Table

See chapter 3 of the LINUX for zSeries Application Binary Interface Supplement.

III Base Libraries

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10 Libraries

An LSB-conforming implementation shall support base libraries which provide interfaces for accessing the operating system, processor and other hardware in the system.

Only interfaces and interface details which are unique to the S390X platform are defined here. This section should be used in conjunction with the corresponding section of LSB Core - Generic.

10.1 Program Interpreter/Dynamic Linker

The Program Interpreter shall be `/lib64/ld-lsb-s390x.so.3`.

10.2 Interfaces for libc

Table 10-1 defines the library name and shared object name for the libc library

Table 10-1 libc Definition

Library:	libc
SONAME:	libc.so.6

The behavior of the interfaces in this library is specified by the following specifications:

[LFS] Large File Support
 [LSB] LSB Core - Generic
 [RPC + XDR] RFC 5531/4506 RPC & XDR
 [SUSv2] SUSv2
 [SUSv3] POSIX 1003.1-2001 (ISO/IEC 9945-2003)
 [SUSv4] POSIX 1003.1-2008 (ISO/IEC 9945-2009)
 [SVID.4] SVID Issue 4

10.2.1 RPC

10.2.1.1 Interfaces for RPC

An LSB conforming implementation shall provide the architecture specific functions for RPC specified in Table 10-2, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-2 libc - RPC Function Interfaces

authnone_create(GLIBC_2.2) [SVID.4]	callrpc(GLIBC_2.2) [RPC + XDR]	clnt_create(GLIBC_2.2) [SVID.4]	clnt_pcreateerror(GLIBC_2.2) [SVID.4]
clnt_pererrno(GLIBC_2.2) [SVID.4]	clnt_perror(GLIBC_2.2) [SVID.4]	clnt_spcreateerror(GLIBC_2.2) [SVID.4]	clnt_sperrno(GLIBC_2.2) [SVID.4]
clnt_sperror(GLIBC_2.2) [SVID.4]	clntraw_create(GLIBC_2.2) [RPC + XDR]	clnttcp_create(GLIBC_2.2) [RPC + XDR]	clntudp_bufcreate(GLIBC_2.2) [RPC + XDR]

clntudp_create(GLIBC_2.2) [RPC + XDR]	key_decryptsession(GLIBC_2.2) [SVID.4]	pmap_getport(GLIBC_2.2) [LSB]	pmap_set(GLIBC_2.2) [LSB]
pmap_unset(GLIBC_2.2) [LSB]	svc_getreqset(GLIBC_2.2) [SVID.4]	svc_register(GLIBC_2.2) [LSB]	svc_run(GLIBC_2.2) [LSB]
svc_sendreply(GLIBC_2.2) [LSB]	svcerr_auth(GLIBC_2.2) [SVID.4]	svcerr_decode(GLIBC_2.2) [SVID.4]	svcerr_noproc(GLIBC_2.2) [SVID.4]
svcerr_noprog(GLIBC_2.2) [SVID.4]	svcerr_progvers(GLIBC_2.2) [SVID.4]	svcerr_systemerr(GLIBC_2.2) [SVID.4]	svcerr_weakauth(GLIBC_2.2) [SVID.4]
svcfld_create(GLIBC_2.2) [RPC + XDR]	svcraw_create(GLIBC_2.2) [RPC + XDR]	svctcp_create(GLIBC_2.2) [LSB]	svcudp_create(GLIBC_2.2) [LSB]
xdr_accepted_reply(GLIBC_2.2) [SVID.4]	xdr_array(GLIBC_2.2) [SVID.4]	xdr_bool(GLIBC_2.2) [SVID.4]	xdr_bytes(GLIBC_2.2) [SVID.4]
xdr_callhdr(GLIBC_2.2) [SVID.4]	xdr_callmsg(GLIBC_2.2) [SVID.4]	xdr_char(GLIBC_2.2) [SVID.4]	xdr_double(GLIBC_2.2) [SVID.4]
xdr_enum(GLIBC_2.2) [SVID.4]	xdr_float(GLIBC_2.2) [SVID.4]	xdr_free(GLIBC_2.2) [SVID.4]	xdr_int(GLIBC_2.2) [SVID.4]
xdr_long(GLIBC_2.2) [SVID.4]	xdr_opaque(GLIBC_2.2) [SVID.4]	xdr_opaque_auth(GLIBC_2.2) [SVID.4]	xdr_pointer(GLIBC_2.2) [SVID.4]
xdr_reference(GLIBC_2.2) [SVID.4]	xdr_rejected_reply(GLIBC_2.2) [SVID.4]	xdr_replymsg(GLIBC_2.2) [SVID.4]	xdr_short(GLIBC_2.2) [SVID.4]
xdr_string(GLIBC_2.2) [SVID.4]	xdr_u_char(GLIBC_2.2) [SVID.4]	xdr_u_int(GLIBC_2.2) [LSB]	xdr_u_long(GLIBC_2.2) [SVID.4]
xdr_u_short(GLIBC_2.2) [SVID.4]	xdr_union(GLIBC_2.2) [SVID.4]	xdr_vector(GLIBC_2.2) [SVID.4]	xdr_void(GLIBC_2.2) [SVID.4]
xdr_wrapstring(GLIBC_2.2) [SVID.4]	xdrmem_create(GLIBC_2.2) [SVID.4]	xdrrec_create(GLIBC_2.2) [SVID.4]	xdrrec_endofrecord(GLIBC_2.2) [RPC + XDR]
xdrrec_eof(GLIBC_2.2) [SVID.4]	xdrrec_skiprecord(GLIBC_2.2) [RPC + XDR]	xdrstdio_create(GLIBC_2.2) [LSB]	

An LSB conforming implementation shall provide the architecture specific deprecated functions for RPC specified in Table 10-3, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-3 libc - RPC Deprecated Function Interfaces

key_decryptsession(GLIBC_2.2) [SVID.4]			
--	--	--	--

10.2.2 Epoll

10.2.2.1 Interfaces for Epoll

No external functions are defined for libc - Epoll in this part of the specification. See also the generic specification.

10.2.3 System Calls

10.2.3.1 Interfaces for System Calls

An LSB conforming implementation shall provide the architecture specific functions for System Calls specified in Table 10-4, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-4 libc - System Calls Function Interfaces

__fxstat(GLIBC_2.2) [LSB]	__getpgid(GLIBC_2.2) [LSB]	__lxstat(GLIBC_2.2) [LSB]	__xmknod(GLIBC_2.2) [LSB]
__xstat(GLIBC_2.2) [LSB]	access(GLIBC_2.2) [SUSv4]	acct(GLIBC_2.2) [LSB]	alarm(GLIBC_2.2) [SUSv4]
backtrace(GLIBC_2.2) [LSB]	backtrace_symbols(GLIBC_2.2) [LSB]	backtrace_symbols_fd(GLIBC_2.2) [LSB]	brk(GLIBC_2.2) [SUSv2]
chdir(GLIBC_2.2) [SUSv4]	chmod(GLIBC_2.2) [SUSv4]	chown(GLIBC_2.2) [SUSv4]	chroot(GLIBC_2.2) [SUSv2]
clock(GLIBC_2.2) [SUSv4]	close(GLIBC_2.2) [SUSv4]	closedir(GLIBC_2.2) [SUSv4]	creat(GLIBC_2.2) [SUSv4]
dup(GLIBC_2.2) [SUSv4]	dup2(GLIBC_2.2) [SUSv4]	execl(GLIBC_2.2) [SUSv4]	execle(GLIBC_2.2) [SUSv4]
execp(GLIBC_2.2) [SUSv4]	execv(GLIBC_2.2) [SUSv4]	execve(GLIBC_2.2) [SUSv4]	execvp(GLIBC_2.2) [SUSv4]
exit(GLIBC_2.2) [SUSv4]	fchdir(GLIBC_2.2) [SUSv4]	fchmod(GLIBC_2.2) [SUSv4]	fchown(GLIBC_2.2) [SUSv4]
fcntl(GLIBC_2.2) [LSB]	fdatasync(GLIBC_2.2) [SUSv4]	fexecve(GLIBC_2.2) [SUSv4]	flock(GLIBC_2.2) [LSB]
fork(GLIBC_2.2) [SUSv4]	fstatfs(GLIBC_2.2) [LSB]	fstatvfs(GLIBC_2.2) [SUSv4]	fsync(GLIBC_2.2) [SUSv4]
ftime(GLIBC_2.2) [SUSv3]	ftruncate(GLIBC_2.2) [SUSv4]	getcontext(GLIBC_2.2) [SUSv3]	getdtablesize(GLIBC_2.2) [LSB]
getegid(GLIBC_2.2) [SUSv4]	geteuid(GLIBC_2.2) [SUSv4]	getgid(GLIBC_2.2) [SUSv4]	getgroups(GLIBC_2.2) [SUSv4]

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getitimer(GLIBC_2.2) [SUSv4]	getloadavg(GLIBC_2.2) [LSB]	getpagesize(GLIBC_2.2) [LSB]	getpgid(GLIBC_2.2) [SUSv4]
getpgrp(GLIBC_2.2) [SUSv4]	getpid(GLIBC_2.2) [SUSv4]	getppid(GLIBC_2.2) [SUSv4]	getpriority(GLIBC_2.2) [SUSv4]
getrlimit(GLIBC_2.2) [LSB]	getrusage(GLIBC_2.2) [SUSv4]	getsid(GLIBC_2.2) [SUSv4]	getuid(GLIBC_2.2) [SUSv4]
getwd(GLIBC_2.2) [SUSv3]	initgroups(GLIBC_2.2) [LSB]	ioctl(GLIBC_2.2) [LSB]	kill(GLIBC_2.2) [LSB]
killpg(GLIBC_2.2) [SUSv4]	lchown(GLIBC_2.2) [SUSv4]	link(GLIBC_2.2) [LSB]	lockf(GLIBC_2.2) [SUSv4]
lseek(GLIBC_2.2) [SUSv4]	mkdir(GLIBC_2.2) [SUSv4]	mkfifo(GLIBC_2.2) [SUSv4]	mlock(GLIBC_2.2) [SUSv4]
mlockall(GLIBC_2.2) [SUSv4]	mmap(GLIBC_2.2) [SUSv4]	mprotect(GLIBC_2.2) [SUSv4]	mremap(GLIBC_2.2) [LSB]
msync(GLIBC_2.2) [SUSv4]	munlock(GLIBC_2.2) [SUSv4]	munlockall(GLIBC_2.2) [SUSv4]	munmap(GLIBC_2.2) [SUSv4]
nanosleep(GLIBC_2.2) [SUSv4]	nice(GLIBC_2.2) [SUSv4]	open(GLIBC_2.2) [SUSv4]	opendir(GLIBC_2.2) [SUSv4]
pathconf(GLIBC_2.2) [SUSv4]	pause(GLIBC_2.2) [SUSv4]	pipe(GLIBC_2.2) [SUSv4]	poll(GLIBC_2.2) [SUSv4]
pread(GLIBC_2.2) [SUSv4]	pselect(GLIBC_2.2) [SUSv4]	ptrace(GLIBC_2.2) [LSB]	pwrite(GLIBC_2.2) [SUSv4]
read(GLIBC_2.2) [SUSv4]	readdir(GLIBC_2.2) [SUSv4]	readdir_r(GLIBC_2.2) [SUSv4]	readlink(GLIBC_2.2) [SUSv4]
readv(GLIBC_2.2) [SUSv4]	rename(GLIBC_2.2) [SUSv4]	rmdir(GLIBC_2.2) [SUSv4]	sbrk(GLIBC_2.2) [SUSv2]
sched_get_priority_max(GLIBC_2.2) [SUSv4]	sched_get_priority_min(GLIBC_2.2) [SUSv4]	sched_getparam(GLIBC_2.2) [SUSv4]	sched_getscheduler(GLIBC_2.2) [SUSv4]
sched_rr_get_interval(GLIBC_2.2) [SUSv4]	sched_setparam(GLIBC_2.2) [SUSv4]	sched_setscheduler(GLIBC_2.2) [LSB]	sched_yield(GLIBC_2.2) [SUSv4]
select(GLIBC_2.2) [SUSv4]	setcontext(GLIBC_2.2) [SUSv3]	setgid(GLIBC_2.2) [SUSv4]	seteuid(GLIBC_2.2) [SUSv4]
setgid(GLIBC_2.2) [SUSv4]	setitimer(GLIBC_2.2) [SUSv4]	setpgid(GLIBC_2.2) [SUSv4]	setpgrp(GLIBC_2.2) [SUSv4]
setpriority(GLIBC_2.2) [SUSv4]	setregid(GLIBC_2.2) [SUSv4]	setreuid(GLIBC_2.2) [SUSv4]	setrlimit(GLIBC_2.2) [LSB]
setrlimit64(GLIBC_2.2) [LFS]	setsid(GLIBC_2.2) [SUSv4]	setuid(GLIBC_2.2) [SUSv4]	sleep(GLIBC_2.2) [SUSv4]
statfs(GLIBC_2.2) [LSB]	statvfs(GLIBC_2.2) [SUSv4]	stime(GLIBC_2.2) [LSB]	symlink(GLIBC_2.2) [SUSv4]

sync(GLIBC_2.2) [SUSv4]	sysconf(GLIBC_2.2) [LSB]	sysinfo(GLIBC_2.2) [LSB]	time(GLIBC_2.2) [SUSv4]
times(GLIBC_2.2) [SUSv4]	truncate(GLIBC_2.2) [SUSv4]	ulimit(GLIBC_2.2) [SUSv4]	umask(GLIBC_2.2) [SUSv4]
uname(GLIBC_2.2) [SUSv4]	unlink(GLIBC_2.2) [LSB]	utime(GLIBC_2.2) [SUSv4]	utimes(GLIBC_2.2) [SUSv4]
vfork(GLIBC_2.2) [SUSv3]	wait(GLIBC_2.2) [SUSv4]	wait4(GLIBC_2.2) [LSB]	waitid(GLIBC_2.2) [SUSv4]
waitpid(GLIBC_2.2) [SUSv4]	write(GLIBC_2.2) [SUSv4]	writew(GLIBC_2.2) [SUSv4]	

An LSB conforming implementation shall provide the architecture specific deprecated functions for System Calls specified in Table 10-5, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-5 libc - System Calls Deprecated Function Interfaces

fstatfs(GLIBC_2.2) [LSB]	getdtablesize(GLIBC_2.2) [LSB]	getpagesize(GLIBC_2.2) [LSB]	getwd(GLIBC_2.2) [SUSv3]
statfs(GLIBC_2.2) [LSB]			

10.2.4 Standard I/O

10.2.4.1 Interfaces for Standard I/O

An LSB conforming implementation shall provide the architecture specific functions for Standard I/O specified in Table 10-6, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-6 libc - Standard I/O Function Interfaces

_IO_feof(GLIBC_2.2) [LSB]	_IO_getc(GLIBC_2.2) [LSB]	_IO_putc(GLIBC_2.2) [LSB]	_IO_puts(GLIBC_2.2) [LSB]
__fprintf_chk(GLIBC_2.4) [LSB]	__printf_chk(GLIBC_2.4) [LSB]	__snprintf_chk(GLIBC_2.4) [LSB]	__sprintf_chk(GLIBC_2.4) [LSB]
__vfprintf_chk(GLIBC_2.4) [LSB]	__vprintf_chk(GLIBC_2.4) [LSB]	__vsnprintf_chk(GLIBC_2.4) [LSB]	__vsprintf_chk(GLIBC_2.4) [LSB]
asprintf(GLIBC_2.2) [LSB]	asprintf(GLIBC_2.4) [LSB]	clearerr(GLIBC_2.2) [SUSv4]	clearerr_unlocked(GLIBC_2.2) [LSB]
ctermid(GLIBC_2.2) [SUSv4]	dprintf(GLIBC_2.4) [SUSv4]	fclose(GLIBC_2.2) [SUSv4]	fdopen(GLIBC_2.2) [SUSv4]
feof(GLIBC_2.2) [SUSv4]	feof_unlocked(GLIBC_2.2) [LSB]	ferror(GLIBC_2.2) [SUSv4]	ferror_unlocked(GLIBC_2.2) [LSB]

fflush(GLIBC_2.2) [SUSv4]	fflush_unlocked(GLIBC_2.2) [LSB]	fgetc(GLIBC_2.2) [SUSv4]	fgetc_unlocked(GLIBC_2.2) [LSB]
fgetpos(GLIBC_2.2) [SUSv4]	fgets(GLIBC_2.2) [SUSv4]	fgets_unlocked(GLIBC_2.2) [LSB]	fgetwc_unlocked(GLIBC_2.2) [LSB]
fgetws_unlocked(GLIBC_2.2) [LSB]	fileno(GLIBC_2.2) [SUSv4]	fileno_unlocked(GLIBC_2.2) [LSB]	flockfile(GLIBC_2.2) [SUSv4]
fopen(GLIBC_2.2) [SUSv4]	fprintf(GLIBC_2.2) [SUSv4]	fprintf(GLIBC_2.4) [SUSv4]	fputc(GLIBC_2.2) [SUSv4]
fputc_unlocked(GLIBC_2.2) [LSB]	fputs(GLIBC_2.2) [SUSv4]	fputs_unlocked(GLIBC_2.2) [LSB]	fputwc_unlocked(GLIBC_2.2) [LSB]
fputws_unlocked(GLIBC_2.2) [LSB]	fread(GLIBC_2.2) [SUSv4]	fread_unlocked(GLIBC_2.2) [LSB]	freopen(GLIBC_2.2) [SUSv4]
fscanf(GLIBC_2.2) [LSB]	fscanf(GLIBC_2.4) [LSB]	fseek(GLIBC_2.2) [SUSv4]	fseeko(GLIBC_2.2) [SUSv4]
fsetpos(GLIBC_2.2) [SUSv4]	ftell(GLIBC_2.2) [SUSv4]	ftello(GLIBC_2.2) [SUSv4]	fwrite(GLIBC_2.2) [SUSv4]
fwrite_unlocked(GLIBC_2.2) [LSB]	getc(GLIBC_2.2) [SUSv4]	getc_unlocked(GLIBC_2.2) [SUSv4]	getchar(GLIBC_2.2) [SUSv4]
getchar_unlocked(GLIBC_2.2) [SUSv4]	getdelim(GLIBC_2.2) [SUSv4]	getline(GLIBC_2.2) [SUSv4]	getw(GLIBC_2.2) [SUSv2]
getwc_unlocked(GLIBC_2.2) [LSB]	getwchar_unlocked(GLIBC_2.2) [LSB]	pclose(GLIBC_2.2) [SUSv4]	popen(GLIBC_2.2) [SUSv4]
printf(GLIBC_2.2) [SUSv4]	printf(GLIBC_2.4) [SUSv4]	putc(GLIBC_2.2) [SUSv4]	putc_unlocked(GLIBC_2.2) [SUSv4]
putchar(GLIBC_2.2) [SUSv4]	putchar_unlocked(GLIBC_2.2) [SUSv4]	puts(GLIBC_2.2) [SUSv4]	putw(GLIBC_2.2) [SUSv2]
putwc_unlocked(GLIBC_2.2) [LSB]	putwchar_unlocked(GLIBC_2.2) [LSB]	remove(GLIBC_2.2) [SUSv4]	rewind(GLIBC_2.2) [SUSv4]
rewinddir(GLIBC_2.2) [SUSv4]	scanf(GLIBC_2.2) [LSB]	scanf(GLIBC_2.4) [LSB]	seekdir(GLIBC_2.2) [SUSv4]
setbuf(GLIBC_2.2) [SUSv4]	setbuffer(GLIBC_2.2) [LSB]	setvbuf(GLIBC_2.2) [SUSv4]	snprintf(GLIBC_2.2) [SUSv4]
snprintf(GLIBC_2.4) [SUSv4]	sprintf(GLIBC_2.2) [SUSv4]	sprintf(GLIBC_2.4) [SUSv4]	sscanf(GLIBC_2.2) [LSB]

sscanf(GLIBC_2.4) [LSB]	tellmdir(GLIBC_2.2) [SUSv4]	tempnam(GLIBC_2.2) [SUSv4]	ungetc(GLIBC_2.2) [SUSv4]
vasprintf(GLIBC_2.2) [LSB]	vasprintf(GLIBC_2.4) [LSB]	vdprintf(GLIBC_2.2) [SUSv4]	vdprintf(GLIBC_2.4) [SUSv4]
vfprintf(GLIBC_2.2) [SUSv4]	vfprintf(GLIBC_2.4) [SUSv4]	vprintf(GLIBC_2.2) [SUSv4]	vprintf(GLIBC_2.4) [SUSv4]
vsnprintf(GLIBC_2.2) [SUSv4]	vsnprintf(GLIBC_2.4) [SUSv4]	vsprintf(GLIBC_2.2) [SUSv4]	vsprintf(GLIBC_2.4) [SUSv4]

An LSB conforming implementation shall provide the architecture specific deprecated functions for Standard I/O specified in Table 10-7, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-7 libc - Standard I/O Deprecated Function Interfaces

asprintf(GLIBC_2.2) [LSB]	fprintf(GLIBC_2.2) [SUSv4]	fscanf(GLIBC_2.2) [LSB]	printf(GLIBC_2.2) [SUSv4]
scanf(GLIBC_2.2) [LSB]	snprintf(GLIBC_2.2) [SUSv4]	sprintf(GLIBC_2.2) [SUSv4]	sscanf(GLIBC_2.2) [LSB]
tempnam(GLIBC_2.2) [SUSv4]	vasprintf(GLIBC_2.2) [LSB]	vdprintf(GLIBC_2.2) [SUSv4]	vfprintf(GLIBC_2.2) [SUSv4]
vprintf(GLIBC_2.2) [SUSv4]	vsnprintf(GLIBC_2.2) [SUSv4]	vsprintf(GLIBC_2.2) [SUSv4]	

An LSB conforming implementation shall provide the architecture specific data interfaces for Standard I/O specified in Table 10-8, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-8 libc - Standard I/O Data Interfaces

stderr(GLIBC_2.2) [SUSv4]	stdin(GLIBC_2.2) [SUSv4]	stdout(GLIBC_2.2) [SUSv4]	
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10.2.5 Signal Handling

10.2.5.1 Interfaces for Signal Handling

An LSB conforming implementation shall provide the architecture specific functions for Signal Handling specified in Table 10-9, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-9 libc - Signal Handling Function Interfaces

__libc_current_sigrtmax(GLIBC_2.2) [LSB]	__libc_current_sigrtmin(GLIBC_2.2) [LSB]	__sigsetjmp(GLIBC_2.2) [LSB]	__sysv_signal(GLIBC_2.2) [LSB]
__xpg_sigpause(GLIBC_2.2) [LSB]	bsd_signal(GLIBC_2.2) [SUSv3]	psignal(GLIBC_2.2) [SUSv4]	raise(GLIBC_2.2) [SUSv4]

sigaction(GLIBC_2.2) [SUSv4]	sigaddset(GLIBC_2.2) [SUSv4]	sigaltstack(GLIBC_2.2) [SUSv4]	sigandset(GLIBC_2.2) [LSB]
sigdelset(GLIBC_2.2) [SUSv4]	sigemptyset(GLIBC_2.2) [SUSv4]	sigfillset(GLIBC_2.2) [SUSv4]	sighold(GLIBC_2.2) [SUSv4]
sigignore(GLIBC_2.2) [SUSv4]	siginterrupt(GLIBC_2.2) [SUSv4]	sigisemptyset(GLIBC_2.2) [LSB]	sigismember(GLIBC_2.2) [SUSv4]
siglongjmp(GLIBC_2.2) [SUSv4]	signal(GLIBC_2.2) [SUSv4]	sigorset(GLIBC_2.2) [LSB]	sigpause(GLIBC_2.2) [LSB]
sigpending(GLIBC_2.2) [SUSv4]	sigprocmask(GLIBC_2.2) [SUSv4]	sigqueue(GLIBC_2.2) [SUSv4]	sigrelse(GLIBC_2.2) [SUSv4]
sigreturn(GLIBC_2.2) [LSB]	sigset(GLIBC_2.2) [SUSv4]	sigsuspend(GLIBC_2.2) [SUSv4]	sigtimedwait(GLIBC_2.2) [SUSv4]
sigwait(GLIBC_2.2) [SUSv4]	sigwaitinfo(GLIBC_2.2) [SUSv4]		

An LSB conforming implementation shall provide the architecture specific deprecated functions for Signal Handling specified in Table 10-10, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-10 libc - Signal Handling Deprecated Function Interfaces

sigpause(GLIBC_2.2) [LSB]			
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An LSB conforming implementation shall provide the architecture specific data interfaces for Signal Handling specified in Table 10-11, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-11 libc - Signal Handling Data Interfaces

_sys_siglist(GLIBC_2.3.3) [LSB]			
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10.2.6 Localization Functions

10.2.6.1 Interfaces for Localization Functions

An LSB conforming implementation shall provide the architecture specific functions for Localization Functions specified in Table 10-12, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-12 libc - Localization Functions Function Interfaces

bind_textdomain_codeset(GLIBC_2.2) [LSB]	bindtextdomain(GLIBC_2.2) [LSB]	catclose(GLIBC_2.2) [SUSv4]	catgets(GLIBC_2.2) [SUSv4]
catopen(GLIBC_2.2) [SUSv4]	dcgettext(GLIBC_2.2) [LSB]	dcngettext(GLIBC_2.2) [LSB]	dgettext(GLIBC_2.2) [LSB]

dngettext(GLIBC_2.2) [LSB]	gettext(GLIBC_2.2) [LSB]	iconv(GLIBC_2.2) [SUSv4]	iconv_close(GLIBC_2.2) [SUSv4]
iconv_open(GLIBC_2.2) [SUSv4]	localeconv(GLIBC_2.2) [SUSv4]	ngettext(GLIBC_2.2) [LSB]	nl_langinfo(GLIBC_2.2) [SUSv4]
setlocale(GLIBC_2.2) [SUSv4]	textdomain(GLIBC_2.2) [LSB]		

An LSB conforming implementation shall provide the architecture specific data interfaces for Localization Functions specified in Table 10-13, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-13 libc - Localization Functions Data Interfaces

_nl_msg_cat_cntr (GLIBC_2.2) [LSB]			
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10.2.7 Posix Spawn Option

10.2.7.1 Interfaces for Posix Spawn Option

An LSB conforming implementation shall provide the architecture specific functions for Posix Spawn Option specified in Table 10-14, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-14 libc - Posix Spawn Option Function Interfaces

posix_spawn(GLIBC_2.15) [SUSv4]	posix_spawn_file_actions_addclose(GLIBC_2.2) [SUSv4]	posix_spawn_file_actions_adddup2(GLIBC_2.2) [SUSv4]	posix_spawn_file_actions_addopen(GLIBC_2.2) [SUSv4]
posix_spawn_file_actions_destroy(GLIBC_2.2) [SUSv4]	posix_spawn_file_actions_init(GLIBC_2.2) [SUSv4]	posix_spawnattr_destroy(GLIBC_2.2) [SUSv4]	posix_spawnattr_getflags(GLIBC_2.2) [SUSv4]
posix_spawnattr_getpgroup(GLIBC_2.2) [SUSv4]	posix_spawnattr_getschedparam(GLIBC_2.2) [SUSv4]	posix_spawnattr_getschedpolicy(GLIBC_2.2) [SUSv4]	posix_spawnattr_getsigdefault(GLIBC_2.2) [SUSv4]
posix_spawnattr_getsigmask(GLIBC_2.2) [SUSv4]	posix_spawnattr_init(GLIBC_2.2) [SUSv4]	posix_spawnattr_setflags(GLIBC_2.2) [SUSv4]	posix_spawnattr_setpgroup(GLIBC_2.2) [SUSv4]
posix_spawnattr_setschedparam(GLIBC_2.2) [SUSv4]	posix_spawnattr_setschedpolicy(GLIBC_2.2) [SUSv4]	posix_spawnattr_setsigdefault(GLIBC_2.2) [SUSv4]	posix_spawnattr_setsigmask(GLIBC_2.2) [SUSv4]
posix_spawn(GLIBC_2.15) [SUSv4]			

10.2.8 Posix Advisory Option

10.2.8.1 Interfaces for Posix Advisory Option

An LSB conforming implementation shall provide the architecture specific functions for Posix Advisory Option specified in Table 10-15, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-15 libc - Posix Advisory Option Function Interfaces

posix_fadvise(G LIBC_2.2) [SUSv4]	posix_fallocate(G LIBC_2.2) [SUSv4]	posix_madvise(G LIBC_2.2) [SUSv4]	posix_memalign(GLIBC_2.2) [SUSv4]
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10.2.9 Socket Interface

10.2.9.1 Interfaces for Socket Interface

An LSB conforming implementation shall provide the architecture specific functions for Socket Interface specified in Table 10-16, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-16 libc - Socket Interface Function Interfaces

__h_errno_locati on(GLIBC_2.2) [LSB]	accept(GLIBC_2. 2) [SUSv4]	bind(GLIBC_2.2) [SUSv4]	bindresvport(GL IBC_2.2) [LSB]
connect(GLIBC_2 .2) [SUSv4]	gethostid(GLIBC _2.2) [SUSv4]	gethostname(GLI BC_2.2) [SUSv4]	getpeername(GL IBC_2.2) [SUSv4]
getsockname(GL IBC_2.2) [SUSv4]	getsockopt(GLIB C_2.2) [LSB]	if_freenameindex (GLIBC_2.2) [SUSv4]	if_indextoname(GLIBC_2.2) [SUSv4]
if_nameindex(GL IBC_2.2) [SUSv4]	if_nametoindex(GLIBC_2.2) [SUSv4]	listen(GLIBC_2.2) [SUSv4]	recv(GLIBC_2.2) [SUSv4]
recvfrom(GLIBC _2.2) [SUSv4]	recvmsg(GLIBC_ 2.2) [SUSv4]	send(GLIBC_2.2) [SUSv4]	sendmsg(GLIBC _2.2) [SUSv4]
sendto(GLIBC_2. 2) [SUSv4]	setsockopt(GLIB C_2.2) [LSB]	shutdown(GLIB C_2.2) [SUSv4]	socketatmark(GLI BC_2.2.4) [SUSv4]
socket(GLIBC_2. 2) [SUSv4]	socketpair(GLIB C_2.2) [SUSv4]		

An LSB conforming implementation shall provide the architecture specific data interfaces for Socket Interface specified in Table 10-17, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-17 libc - Socket Interface Data Interfaces

in6addr_any(GLI BC_2.2) [SUSv3]	in6addr_loopbac k(GLIBC_2.2) [SUSv3]		
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10.2.10 Wide Characters

10.2.10.1 Interfaces for Wide Characters

An LSB conforming implementation shall provide the architecture specific functions for Wide Characters specified in Table 10-18, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-18 libc - Wide Characters Function Interfaces

__wcstod_internal(GLIBC_2.2) [LSB]	__wcstof_internal(GLIBC_2.2) [LSB]	__wcstol_internal(GLIBC_2.2) [LSB]	__wcstold_internal(GLIBC_2.2) [LSB]
__wcstold_internal(GLIBC_2.4) [LSB]	__wcstoul_internal(GLIBC_2.2) [LSB]	btowc(GLIBC_2.2) [SUSv4]	fgetwc(GLIBC_2.2) [SUSv4]
fgetwts(GLIBC_2.2) [SUSv4]	fputwc(GLIBC_2.2) [SUSv4]	fputwts(GLIBC_2.2) [SUSv4]	fwide(GLIBC_2.2) [SUSv4]
fwprintf(GLIBC_2.2) [SUSv4]	fwprintf(GLIBC_2.4) [SUSv4]	fwscanf(GLIBC_2.2) [LSB]	fwscanf(GLIBC_2.4) [LSB]
getwc(GLIBC_2.2) [SUSv4]	getwchar(GLIBC_2.2) [SUSv4]	mblen(GLIBC_2.2) [SUSv4]	mbrlen(GLIBC_2.2) [SUSv4]
mbrtowc(GLIBC_2.2) [SUSv4]	mbsinit(GLIBC_2.2) [SUSv4]	mbsnrtowcs(GLIBC_2.2) [SUSv4]	mbsrtowcs(GLIBC_2.2) [SUSv4]
mbstowcs(GLIBC_2.2) [SUSv4]	mbtowc(GLIBC_2.2) [SUSv4]	putwc(GLIBC_2.2) [SUSv4]	putwchar(GLIBC_2.2) [SUSv4]
swprintf(GLIBC_2.2) [SUSv4]	swprintf(GLIBC_2.4) [SUSv4]	swscanf(GLIBC_2.2) [LSB]	swscanf(GLIBC_2.4) [LSB]
towctrans(GLIBC_2.2) [SUSv4]	towlower(GLIBC_2.2) [SUSv4]	towupper(GLIBC_2.2) [SUSv4]	ungetwc(GLIBC_2.2) [SUSv4]
vfwprintf(GLIBC_2.2) [SUSv4]	vfwprintf(GLIBC_2.4) [SUSv4]	vfwscanf(GLIBC_2.2) [LSB]	vfwscanf(GLIBC_2.4) [LSB]
vswprintf(GLIBC_2.2) [SUSv4]	vswprintf(GLIBC_2.4) [SUSv4]	vswscanf(GLIBC_2.2) [LSB]	vswscanf(GLIBC_2.4) [LSB]
vwprintf(GLIBC_2.2) [SUSv4]	vwprintf(GLIBC_2.4) [SUSv4]	vwscanf(GLIBC_2.2) [LSB]	vwscanf(GLIBC_2.4) [LSB]
wcpcpy(GLIBC_2.2) [SUSv4]	wcpncpy(GLIBC_2.2) [SUSv4]	wcrtomb(GLIBC_2.2) [SUSv4]	wcscasecmp(GLIBC_2.2) [SUSv4]
wscat(GLIBC_2.2) [SUSv4]	wcschr(GLIBC_2.2) [SUSv4]	wscmp(GLIBC_2.2) [SUSv4]	wscoll(GLIBC_2.2) [SUSv4]
wscopy(GLIBC_2.2) [SUSv4]	wcscspn(GLIBC_2.2) [SUSv4]	wcsdup(GLIBC_2.2) [SUSv4]	wcsftime(GLIBC_2.2) [SUSv4]
wcslen(GLIBC_2.2) [SUSv4]	wcsncasecmp(GLIBC_2.2) [SUSv4]	wcsncat(GLIBC_2.2) [SUSv4]	wcsncmp(GLIBC_2.2) [SUSv4]
wcsncpy(GLIBC_2.2) [SUSv4]	wcsnlen(GLIBC_2.2) [SUSv4]	wcsnrtombs(GLIBC_2.2) [SUSv4]	wcspbrk(GLIBC_2.2) [SUSv4]

wcsrchr(GLIBC_2.2) [SUSv4]	wcsrtombs(GLIBC_2.2) [SUSv4]	wcsspn(GLIBC_2.2) [SUSv4]	wcsstr(GLIBC_2.2) [SUSv4]
wctod(GLIBC_2.2) [SUSv4]	wctof(GLIBC_2.2) [SUSv4]	wctoimax(GLIBC_2.2) [SUSv4]	wctok(GLIBC_2.2) [SUSv4]
wctol(GLIBC_2.2) [SUSv4]	wctold(GLIBC_2.2) [SUSv4]	wctold(GLIBC_2.4) [SUSv4]	wctoll(GLIBC_2.2) [SUSv4]
wctombs(GLIBC_2.2) [SUSv4]	wctoq(GLIBC_2.2) [LSB]	wctoul(GLIBC_2.2) [SUSv4]	wctoull(GLIBC_2.2) [SUSv4]
wctoumax(GLIBC_2.2) [SUSv4]	wctouq(GLIBC_2.2) [LSB]	wcswcs(GLIBC_2.2) [SUSv3]	wcswidth(GLIBC_2.2) [SUSv4]
wcsxfrm(GLIBC_2.2) [SUSv4]	wctob(GLIBC_2.2) [SUSv4]	wctomb(GLIBC_2.2) [SUSv4]	wctrans(GLIBC_2.2) [SUSv4]
wctype(GLIBC_2.2) [SUSv4]	wcwidth(GLIBC_2.2) [SUSv4]	wmemchr(GLIBC_2.2) [SUSv4]	wmemcmp(GLIBC_2.2) [SUSv4]
wmemcpy(GLIBC_2.2) [SUSv4]	wmemmove(GLIBC_2.2) [SUSv4]	wmemset(GLIBC_2.2) [SUSv4]	wprintf(GLIBC_2.2) [SUSv4]
wprintf(GLIBC_2.4) [SUSv4]	wscanf(GLIBC_2.2) [LSB]	wscanf(GLIBC_2.4) [LSB]	

An LSB conforming implementation shall provide the architecture specific deprecated functions for Wide Characters specified in Table 10-19, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-19 libc - Wide Characters Deprecated Function Interfaces

__wctold_internal(GLIBC_2.2) [LSB]	fwprintf(GLIBC_2.2) [SUSv4]	fwscanf(GLIBC_2.2) [LSB]	swprintf(GLIBC_2.2) [SUSv4]
swscanf(GLIBC_2.2) [LSB]	vfwprintf(GLIBC_2.2) [SUSv4]	vfwscanf(GLIBC_2.2) [LSB]	vswprintf(GLIBC_2.2) [SUSv4]
vswscanf(GLIBC_2.2) [LSB]	vwprintf(GLIBC_2.2) [SUSv4]	vwscanf(GLIBC_2.2) [LSB]	wctold(GLIBC_2.2) [SUSv4]
wprintf(GLIBC_2.2) [SUSv4]	wscanf(GLIBC_2.2) [LSB]		

10.2.11 String Functions

10.2.11.1 Interfaces for String Functions

An LSB conforming implementation shall provide the architecture specific functions for String Functions specified in Table 10-20, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-20 libc - String Functions Function Interfaces

__memcpy(GLIBC_2.2) [LSB]	__rawmemchr(GLIBC_2.2) [LSB]	__stpcpy(GLIBC_2.2) [LSB]	__strdup(GLIBC_2.2) [LSB]
__strtod_internal(GLIBC_2.2) [LSB]	__strtof_internal(GLIBC_2.2) [LSB]	__strtok_r(GLIBC_2.2) [LSB]	__strtol_internal(GLIBC_2.2) [LSB]
__strtold_internal(GLIBC_2.2) [LSB]	__strtold_internal(GLIBC_2.4) [LSB]	__strtoll_internal(GLIBC_2.2) [LSB]	__strtoul_internal(GLIBC_2.2) [LSB]
__strtoull_internal(GLIBC_2.2) [LSB]	__xpg_strerror_r(GLIBC_2.3.4) [LSB]	bcmp(GLIBC_2.2) [SUSv3]	bcopy(GLIBC_2.2) [SUSv3]
bzero(GLIBC_2.2) [SUSv3]	ffs(GLIBC_2.2) [SUSv4]	index(GLIBC_2.2) [SUSv3]	memcpy(GLIBC_2.2) [SUSv4]
memchr(GLIBC_2.2) [SUSv4]	memcmp(GLIBC_2.2) [SUSv4]	memcpy(GLIBC_2.2) [SUSv4]	memmove(GLIBC_2.2) [SUSv4]
memchr(GLIBC_2.2) [LSB]	memset(GLIBC_2.2) [SUSv4]	rindex(GLIBC_2.2) [SUSv3]	stpcpy(GLIBC_2.2) [SUSv4]
stpcpy(GLIBC_2.2) [SUSv4]	strcasecmp(GLIBC_2.2) [SUSv4]	strcasestr(GLIBC_2.2) [LSB]	strcat(GLIBC_2.2) [SUSv4]
strchr(GLIBC_2.2) [SUSv4]	strcmp(GLIBC_2.2) [SUSv4]	strcoll(GLIBC_2.2) [SUSv4]	strcpy(GLIBC_2.2) [SUSv4]
strcspn(GLIBC_2.2) [SUSv4]	strdup(GLIBC_2.2) [SUSv4]	strerror(GLIBC_2.2) [SUSv4]	strerror_r(GLIBC_2.2) [LSB]
strfmon(GLIBC_2.2) [SUSv4]	strfmon(GLIBC_2.4) [SUSv4]	strftime(GLIBC_2.2) [SUSv4]	strlen(GLIBC_2.2) [SUSv4]
strncasecmp(GLIBC_2.2) [SUSv4]	strncat(GLIBC_2.2) [SUSv4]	strncmp(GLIBC_2.2) [SUSv4]	strncpy(GLIBC_2.2) [SUSv4]
strndup(GLIBC_2.2) [SUSv4]	strnlen(GLIBC_2.2) [SUSv4]	strpbrk(GLIBC_2.2) [SUSv4]	strptime(GLIBC_2.2) [LSB]
strrchr(GLIBC_2.2) [SUSv4]	strsep(GLIBC_2.2) [LSB]	strsignal(GLIBC_2.2) [SUSv4]	strspn(GLIBC_2.2) [SUSv4]
strstr(GLIBC_2.2) [SUSv4]	strtof(GLIBC_2.2) [SUSv4]	strtoimax(GLIBC_2.2) [SUSv4]	strtok(GLIBC_2.2) [SUSv4]
strtok_r(GLIBC_2.2) [SUSv4]	strtold(GLIBC_2.2) [SUSv4]	strtold(GLIBC_2.4) [SUSv4]	strtoll(GLIBC_2.2) [SUSv4]
strtoq(GLIBC_2.2) [LSB]	strtoull(GLIBC_2.2) [SUSv4]	strtoumax(GLIBC_2.2) [SUSv4]	strtouq(GLIBC_2.2) [LSB]
strxfrm(GLIBC_2.2) [SUSv4]	swab(GLIBC_2.2) [SUSv4]		

An LSB conforming implementation shall provide the architecture specific deprecated functions for String Functions specified in Table 10-21, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-21 libc - String Functions Deprecated Function Interfaces

__strtold_interna l(GLIBC_2.2) [LSB]	strerror_r(GLIBC _2.2) [LSB]	strfmon(GLIBC_ 2.2) [SUSv4]	strtold(GLIBC_2. 2) [SUSv4]
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10.2.12 IPC Functions

10.2.12.1 Interfaces for IPC Functions

An LSB conforming implementation shall provide the architecture specific functions for IPC Functions specified in Table 10-22, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-22 libc - IPC Functions Function Interfaces

ftok(GLIBC_2.2) [SUSv4]	msgctl(GLIBC_2. 2) [SUSv4]	msgget(GLIBC_2 .2) [SUSv4]	msgrcv(GLIBC_2 .2) [SUSv4]
msgsnd(GLIBC_ 2.2) [SUSv4]	semctl(GLIBC_2. 2) [SUSv4]	semget(GLIBC_2 .2) [SUSv4]	semop(GLIBC_2. 2) [SUSv4]
shmat(GLIBC_2. 2) [SUSv4]	shmctl(GLIBC_2. 2) [SUSv4]	shmdt(GLIBC_2. 2) [SUSv4]	shmget(GLIBC_2 .2) [SUSv4]

10.2.13 Regular Expressions

10.2.13.1 Interfaces for Regular Expressions

An LSB conforming implementation shall provide the architecture specific functions for Regular Expressions specified in Table 10-23, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-23 libc - Regular Expressions Function Interfaces

regcomp(GLIBC_ 2.2) [SUSv4]	regerror(GLIBC_ 2.2) [SUSv4]	regexexec(GLIBC_2 .3.4) [LSB]	regfree(GLIBC_2. 2) [SUSv4]
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10.2.14 Character Type Functions

10.2.14.1 Interfaces for Character Type Functions

An LSB conforming implementation shall provide the architecture specific functions for Character Type Functions specified in Table 10-24, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-24 libc - Character Type Functions Function Interfaces

__ctype_get_mb_ cur_max(GLIBC_ 2.2) [LSB]	_tolower(GLIBC _2.2) [SUSv4]	_toupper(GLIBC _2.2) [SUSv4]	isalnum(GLIBC_ 2.2) [SUSv4]
isalpha(GLIBC_2 .2) [SUSv4]	isascii(GLIBC_2.2) [SUSv4]	iscntrl(GLIBC_2. 2) [SUSv4]	isdigit(GLIBC_2. 2) [SUSv4]

isgraph(GLIBC_2.2) [SUSv4]	islower(GLIBC_2.2) [SUSv4]	isprint(GLIBC_2.2) [SUSv4]	ispunct(GLIBC_2.2) [SUSv4]
isspace(GLIBC_2.2) [SUSv4]	isupper(GLIBC_2.2) [SUSv4]	iswalnum(GLIBC_2.2) [SUSv4]	iswalpha(GLIBC_2.2) [SUSv4]
iswblank(GLIBC_2.2) [SUSv4]	iswcntrl(GLIBC_2.2) [SUSv4]	iswctype(GLIBC_2.2) [SUSv4]	iswdigit(GLIBC_2.2) [SUSv4]
iswgraph(GLIBC_2.2) [SUSv4]	iswlower(GLIBC_2.2) [SUSv4]	iswprint(GLIBC_2.2) [SUSv4]	iswpunct(GLIBC_2.2) [SUSv4]
iswspace(GLIBC_2.2) [SUSv4]	iswupper(GLIBC_2.2) [SUSv4]	iswxdigit(GLIBC_2.2) [SUSv4]	isxdigit(GLIBC_2.2) [SUSv4]
toascii(GLIBC_2.2) [SUSv4]	tolower(GLIBC_2.2) [SUSv4]	toupper(GLIBC_2.2) [SUSv4]	

10.2.15 Time Manipulation

10.2.15.1 Interfaces for Time Manipulation

An LSB conforming implementation shall provide the architecture specific functions for Time Manipulation specified in Table 10-25, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-25 libc - Time Manipulation Function Interfaces

adjtime(GLIBC_2.2) [LSB]	asctime(GLIBC_2.2) [SUSv4]	asctime_r(GLIBC_2.2) [SUSv4]	ctime(GLIBC_2.2) [SUSv4]
ctime_r(GLIBC_2.2) [SUSv4]	difftime(GLIBC_2.2) [SUSv4]	gmtime(GLIBC_2.2) [SUSv4]	gmtime_r(GLIBC_2.2) [SUSv4]
localtime(GLIBC_2.2) [SUSv4]	localtime_r(GLIBC_2.2) [SUSv4]	mktime(GLIBC_2.2) [SUSv4]	tzset(GLIBC_2.2) [SUSv4]
ualarm(GLIBC_2.2) [SUSv3]			

An LSB conforming implementation shall provide the architecture specific data interfaces for Time Manipulation specified in Table 10-26, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-26 libc - Time Manipulation Data Interfaces

__daylight(GLIBC_2.2) [LSB]	__timezone(GLIBC_2.2) [LSB]	__tzname(GLIBC_2.2) [LSB]	daylight(GLIBC_2.2) [SUSv4]
timezone(GLIBC_2.2) [SUSv4]	tzname(GLIBC_2.2) [SUSv4]		

10.2.16 Terminal Interface Functions

10.2.16.1 Interfaces for Terminal Interface Functions

An LSB conforming implementation shall provide the architecture specific functions for Terminal Interface Functions specified in Table 10-27, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-27 libc - Terminal Interface Functions Function Interfaces

cfgetispeed(GLIBC_2.2) [SUSv4]	cfgetospeed(GLIBC_2.2) [SUSv4]	cfmakeraw(GLIBC_2.2) [LSB]	cfsetispeed(GLIBC_2.2) [SUSv4]
cfsetospeed(GLIBC_2.2) [SUSv4]	cfsetspeed(GLIBC_2.2) [LSB]	tcdrain(GLIBC_2.2) [SUSv4]	tcflow(GLIBC_2.2) [SUSv4]
tcflush(GLIBC_2.2) [SUSv4]	tcgetattr(GLIBC_2.2) [SUSv4]	tcgetpgrp(GLIBC_2.2) [SUSv4]	tcgetsid(GLIBC_2.2) [SUSv4]
tcsendbreak(GLIBC_2.2) [SUSv4]	tcsetattr(GLIBC_2.2) [SUSv4]	tcsetpgrp(GLIBC_2.2) [SUSv4]	

10.2.17 System Database Interface

10.2.17.1 Interfaces for System Database Interface

An LSB conforming implementation shall provide the architecture specific functions for System Database Interface specified in Table 10-28, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-28 libc - System Database Interface Function Interfaces

endgrent(GLIBC_2.2) [SUSv4]	endprotoent(GLIBC_2.2) [SUSv4]	endpwent(GLIBC_2.2) [SUSv4]	endservent(GLIBC_2.2) [SUSv4]
endutent(GLIBC_2.2) [LSB]	endutxent(GLIBC_2.2) [SUSv4]	getgrent(GLIBC_2.2) [SUSv4]	getgrent_r(GLIBC_2.2) [LSB]
getgrgid(GLIBC_2.2) [SUSv4]	getgrgid_r(GLIBC_2.2) [SUSv4]	getgrnam(GLIBC_2.2) [SUSv4]	getgrnam_r(GLIBC_2.2) [SUSv4]
getgrouplist(GLIBC_2.2.4) [LSB]	gethostbyaddr(GLIBC_2.2) [SUSv3]	gethostbyaddr_r(GLIBC_2.2) [LSB]	gethostbyname(GLIBC_2.2) [SUSv3]
gethostbyname2(GLIBC_2.2) [LSB]	gethostbyname2_r(GLIBC_2.2) [LSB]	gethostbyname_r(GLIBC_2.2) [LSB]	getprotobyname(GLIBC_2.2) [SUSv4]
getprotobyname_r(GLIBC_2.2) [LSB]	getprotobynumber(GLIBC_2.2) [SUSv4]	getprotobynumber_r(GLIBC_2.2) [LSB]	getprotoent(GLIBC_2.2) [SUSv4]
getprotoent_r(GLIBC_2.2) [LSB]	getpwent(GLIBC_2.2) [SUSv4]	getpwent_r(GLIBC_2.2) [LSB]	getpwnam(GLIBC_2.2) [SUSv4]
getpwnam_r(GLIBC_2.2) [SUSv4]	getpwuid(GLIBC_2.2) [SUSv4]	getpwuid_r(GLIBC_2.2) [SUSv4]	getservbyname(GLIBC_2.2) [SUSv4]
getservbyname_r(GLIBC_2.2) [LSB]	getservbyport(GLIBC_2.2) [SUSv4]	getservbyport_r(GLIBC_2.2) [LSB]	getservent(GLIBC_2.2) [SUSv4]
getservent_r(GLIBC_2.2) [LSB]	getutent(GLIBC_2.2) [LSB]	getutent_r(GLIBC_2.2) [LSB]	getutxent(GLIBC_2.2) [SUSv4]
getutxid(GLIBC_2.2) [SUSv4]	getutxline(GLIBC_2.2) [SUSv4]	pututxline(GLIBC_2.2) [SUSv4]	setgrent(GLIBC_2.2) [SUSv4]

setgroups(GLIBC_2.2) [LSB]	setprotoent(GLIBC_2.2) [SUSv4]	setpwent(GLIBC_2.2) [SUSv4]	setservent(GLIBC_2.2) [SUSv4]
setutent(GLIBC_2.2) [LSB]	setutxent(GLIBC_2.2) [SUSv4]	utmpname(GLIBC_2.2) [LSB]	

An LSB conforming implementation shall provide the architecture specific deprecated functions for System Database Interface specified in Table 10-29, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-29 libc - System Database Interface Deprecated Function Interfaces

gethostbyaddr(GLIBC_2.2) [SUSv3]	gethostbyaddr_r(GLIBC_2.2) [LSB]	gethostbyname(GLIBC_2.2) [SUSv3]	gethostbyname2(GLIBC_2.2) [LSB]
gethostbyname2_r(GLIBC_2.2) [LSB]	gethostbyname_r(GLIBC_2.2) [LSB]		

10.2.18 Language Support

10.2.18.1 Interfaces for Language Support

An LSB conforming implementation shall provide the architecture specific functions for Language Support specified in Table 10-30, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-30 libc - Language Support Function Interfaces

__libc_start_main(GLIBC_2.2) [LSB]			
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10.2.19 Large File Support

10.2.19.1 Interfaces for Large File Support

An LSB conforming implementation shall provide the architecture specific functions for Large File Support specified in Table 10-31, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-31 libc - Large File Support Function Interfaces

__fxstat64(GLIBC_2.2) [LSB]	__lxstat64(GLIBC_2.2) [LSB]	__xstat64(GLIBC_2.2) [LSB]	creat64(GLIBC_2.2) [LFS]
fgetpos64(GLIBC_2.2) [LFS]	fopen64(GLIBC_2.2) [LFS]	freopen64(GLIBC_2.2) [LFS]	fseeko64(GLIBC_2.2) [LFS]
fsetpos64(GLIBC_2.2) [LFS]	fstatfs64(GLIBC_2.2) [LSB]	fstatvfs64(GLIBC_2.2) [LFS]	ftello64(GLIBC_2.2) [LFS]

ftruncate64(GLIBC_2.2) [LFS]	ftw64(GLIBC_2.2) [LFS]	getrlimit64(GLIBC_2.2) [LFS]	lockf64(GLIBC_2.2) [LFS]
lseek64(GLIBC_2.2) [LFS]	mkstemp64(GLIBC_2.2) [LSB]	mmap64(GLIBC_2.2) [LFS]	nftw64(GLIBC_2.3.3) [LFS]
open64(GLIBC_2.2) [LFS]	posix_fadvise64(GLIBC_2.2) [LSB]	posix_fallocate64(GLIBC_2.2) [LSB]	pread64(GLIBC_2.2) [LSB]
pwrite64(GLIBC_2.2) [LSB]	readdir64(GLIBC_2.2) [LFS]	readdir64_r(GLIBC_2.2) [LSB]	statfs64(GLIBC_2.2) [LSB]
statvfs64(GLIBC_2.2) [LFS]	tmpfile64(GLIBC_2.2) [LFS]	truncate64(GLIBC_2.2) [LFS]	

An LSB conforming implementation shall provide the architecture specific deprecated functions for Large File Support specified in Table 10-32, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-32 libc - Large File Support Deprecated Function Interfaces

fstatfs64(GLIBC_2.2) [LSB]	statfs64(GLIBC_2.2) [LSB]		
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10.2.20 Inotify

10.2.20.1 Interfaces for Inotify

No external functions are defined for libc - Inotify in this part of the specification. See also the generic specification.

10.2.21 Standard Library

10.2.21.1 Interfaces for Standard Library

An LSB conforming implementation shall provide the architecture specific functions for Standard Library specified in Table 10-33, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-33 libc - Standard Library Function Interfaces

_Exit(GLIBC_2.2) [SUSv4]	__assert_fail(GLIBC_2.2) [LSB]	__cxa_atexit(GLIBC_2.2) [LSB]	__cxa_finalize(GLIBC_2.2) [LSB]
__errno_location(GLIBC_2.2) [LSB]	__fpending(GLIBC_2.2) [LSB]	__getpagesize(GLIBC_2.2) [LSB]	__isinf(GLIBC_2.2) [LSB]
__isinff(GLIBC_2.2) [LSB]	__isinfl(GLIBC_2.2) [LSB]	__isinfl(GLIBC_2.4) [LSB]	__isnan(GLIBC_2.2) [LSB]
__isnanf(GLIBC_2.2) [LSB]	__isnanl(GLIBC_2.2) [LSB]	__isnanl(GLIBC_2.4) [LSB]	__sysconf(GLIBC_2.2) [LSB]

__xpg_basename (GLIBC_2.2) [LSB]	_exit(GLIBC_2.2) [SUSv4]	_longjmp(GLIBC_2.2) [SUSv4]	_setjmp(GLIBC_2.2) [SUSv4]
a64l(GLIBC_2.2) [SUSv4]	abort(GLIBC_2.2) [SUSv4]	abs(GLIBC_2.2) [SUSv4]	alphasort(GLIBC_2.2) [SUSv4]
alphasort64(GLIBC_2.2) [LSB]	argz_add(GLIBC_2.2) [LSB]	argz_add_sep(GLIBC_2.2) [LSB]	argz_append(GLIBC_2.2) [LSB]
argz_count(GLIBC_2.2) [LSB]	argz_create(GLIBC_2.2) [LSB]	argz_create_sep(GLIBC_2.2) [LSB]	argz_delete(GLIBC_2.2) [LSB]
argz_extract(GLIBC_2.2) [LSB]	argz_insert(GLIBC_2.2) [LSB]	argz_next(GLIBC_2.2) [LSB]	argz_replace(GLIBC_2.2) [LSB]
argz_stringify(GLIBC_2.2) [LSB]	atof(GLIBC_2.2) [SUSv4]	atoi(GLIBC_2.2) [SUSv4]	atol(GLIBC_2.2) [SUSv4]
atoll(GLIBC_2.2) [SUSv4]	basename(GLIBC_2.2) [LSB]	bsearch(GLIBC_2.2) [SUSv4]	calloc(GLIBC_2.2) [SUSv4]
closelog(GLIBC_2.2) [SUSv4]	confstr(GLIBC_2.2) [SUSv4]	cuserid(GLIBC_2.2) [SUSv2]	daemon(GLIBC_2.2) [LSB]
dirfd(GLIBC_2.2) [SUSv4]	dirname(GLIBC_2.2) [SUSv4]	div(GLIBC_2.2) [SUSv4]	dl_iterate_phdr(GLIBC_2.2.4) [LSB]
drand48(GLIBC_2.2) [SUSv4]	drand48_r(GLIBC_2.2) [LSB]	ecvt(GLIBC_2.2) [SUSv3]	envz_add(GLIBC_2.2) [LSB]
envz_entry(GLIBC_2.2) [LSB]	envz_get(GLIBC_2.2) [LSB]	envz_merge(GLIBC_2.2) [LSB]	envz_remove(GLIBC_2.2) [LSB]
envz_strip(GLIBC_2.2) [LSB]	erand48(GLIBC_2.2) [SUSv4]	erand48_r(GLIBC_2.2) [LSB]	err(GLIBC_2.2) [LSB]
error(GLIBC_2.2) [LSB]	errx(GLIBC_2.2) [LSB]	fcvt(GLIBC_2.2) [SUSv3]	fmemopen(GLIBC_2.2) [SUSv4]
fmtmsg(GLIBC_2.2) [SUSv4]	fnmatch(GLIBC_2.2.3) [LSB]	fpathconf(GLIBC_2.2) [SUSv4]	free(GLIBC_2.2) [SUSv4]
freaddrinfo(GLIBC_2.2) [SUSv4]	ftrylockfile(GLIBC_2.2) [SUSv4]	ftw(GLIBC_2.2) [SUSv4]	funlockfile(GLIBC_2.2) [SUSv4]
gai_strerror(GLIBC_2.2) [SUSv4]	gcvt(GLIBC_2.2) [SUSv3]	getaddrinfo(GLIBC_2.2) [SUSv4]	getcwd(GLIBC_2.2) [LSB]
getdate(GLIBC_2.2) [SUSv4]	getdomainname(GLIBC_2.2) [LSB]	getenv(GLIBC_2.2) [SUSv4]	getlogin(GLIBC_2.2) [SUSv4]
getlogin_r(GLIBC_2.2) [SUSv4]	getnameinfo(GLIBC_2.2) [SUSv4]	getopt(GLIBC_2.2) [LSB]	getopt_long(GLIBC_2.2) [LSB]
getopt_long_only(GLIBC_2.2) [LSB]	getsubopt(GLIBC_2.2) [SUSv4]	gettimeofday(GLIBC_2.2) [SUSv4]	glob(GLIBC_2.2) [SUSv4]
glob64(GLIBC_2.2) [LSB]	globfree(GLIBC_2.2) [SUSv4]	globfree64(GLIBC_2.2) [LSB]	grantpt(GLIBC_2.2) [SUSv4]

hcreate(GLIBC_2.2) [SUSv4]	hcreate_r(GLIBC_2.2) [LSB]	hdestroy(GLIBC_2.2) [SUSv4]	hdestroy_r(GLIBC_2.2) [LSB]
hsearch(GLIBC_2.2) [SUSv4]	hsearch_r(GLIBC_2.2) [LSB]	htonl(GLIBC_2.2) [SUSv4]	htons(GLIBC_2.2) [SUSv4]
imaxabs(GLIBC_2.2) [SUSv4]	imaxdiv(GLIBC_2.2) [SUSv4]	inet_addr(GLIBC_2.2) [SUSv4]	inet_aton(GLIBC_2.2) [LSB]
inet_ntoa(GLIBC_2.2) [SUSv4]	inet_ntop(GLIBC_2.2) [SUSv4]	inet_pton(GLIBC_2.2) [SUSv4]	initstate(GLIBC_2.2) [SUSv4]
initstate_r(GLIBC_2.2) [LSB]	insque(GLIBC_2.2) [SUSv4]	isatty(GLIBC_2.2) [SUSv4]	isblank(GLIBC_2.2) [SUSv4]
jrand48(GLIBC_2.2) [SUSv4]	jrand48_r(GLIBC_2.2) [LSB]	l64a(GLIBC_2.2) [SUSv4]	labs(GLIBC_2.2) [SUSv4]
lcong48(GLIBC_2.2) [SUSv4]	lcong48_r(GLIBC_2.2) [LSB]	ldiv(GLIBC_2.2) [SUSv4]	lfind(GLIBC_2.2) [SUSv4]
llabs(GLIBC_2.2) [SUSv4]	lldiv(GLIBC_2.2) [SUSv4]	longjmp(GLIBC_2.2) [SUSv4]	lrand48(GLIBC_2.2) [SUSv4]
lrand48_r(GLIBC_2.2) [LSB]	lsearch(GLIBC_2.2) [SUSv4]	makecontext(GLIBC_2.2) [SUSv3]	malloc(GLIBC_2.2) [SUSv4]
memmem(GLIBC_2.2) [LSB]	mkdtemp(GLIBC_2.2) [SUSv4]	mkstemp(GLIBC_2.2) [SUSv4]	mktemp(GLIBC_2.2) [SUSv3]
mrnd48(GLIBC_2.2) [SUSv4]	mrnd48_r(GLIBC_2.2) [LSB]	nftw(GLIBC_2.3) [SUSv4]	nrnd48(GLIBC_2.2) [SUSv4]
nrnd48_r(GLIBC_2.2) [LSB]	ntohl(GLIBC_2.2) [SUSv4]	ntohs(GLIBC_2.2) [SUSv4]	open_memstream(GLIBC_2.2) [SUSv4]
openlog(GLIBC_2.2) [SUSv4]	petror(GLIBC_2.2) [SUSv4]	posix_openpt(GLIBC_2.2.1) [SUSv4]	ptsname(GLIBC_2.2) [SUSv4]
putenv(GLIBC_2.2) [SUSv4]	qsort(GLIBC_2.2) [SUSv4]	rand(GLIBC_2.2) [SUSv4]	rand_r(GLIBC_2.2) [SUSv4]
random(GLIBC_2.2) [SUSv4]	random_r(GLIBC_2.2) [LSB]	realloc(GLIBC_2.2) [SUSv4]	realpath(GLIBC_2.3) [SUSv4]
remque(GLIBC_2.2) [SUSv4]	scandir(GLIBC_2.2) [SUSv4]	scandir64(GLIBC_2.2) [LSB]	seed48(GLIBC_2.2) [SUSv4]
seed48_r(GLIBC_2.2) [LSB]	sendfile(GLIBC_2.2) [LSB]	setenv(GLIBC_2.2) [SUSv4]	sethostname(GLIBC_2.2) [LSB]
setlogmask(GLIBC_2.2) [SUSv4]	setstate(GLIBC_2.2) [SUSv4]	setstate_r(GLIBC_2.2) [LSB]	srand(GLIBC_2.2) [SUSv4]
srand48(GLIBC_2.2) [SUSv4]	srand48_r(GLIBC_2.2) [LSB]	srandom(GLIBC_2.2) [SUSv4]	srandom_r(GLIBC_2.2) [LSB]
strtod(GLIBC_2.2) [SUSv4]	strtol(GLIBC_2.2) [SUSv4]	strtoul(GLIBC_2.2) [SUSv4]	swapcontext(GLIBC_2.2) [SUSv3]

syslog(GLIBC_2.2) [SUSv4]	syslog(GLIBC_2.4) [SUSv4]	system(GLIBC_2.2) [LSB]	tdelete(GLIBC_2.2) [SUSv4]
tfind(GLIBC_2.2) [SUSv4]	tmpfile(GLIBC_2.2) [SUSv4]	tmpnam(GLIBC_2.2) [SUSv4]	tsearch(GLIBC_2.2) [SUSv4]
ttname(GLIBC_2.2) [SUSv4]	ttname_r(GLIBC_2.2) [SUSv4]	twalk(GLIBC_2.2) [SUSv4]	unlockpt(GLIBC_2.2) [SUSv4]
unsetenv(GLIBC_2.2) [SUSv4]	usleep(GLIBC_2.2) [SUSv3]	verrx(GLIBC_2.2) [LSB]	vfscanf(GLIBC_2.2) [LSB]
vfscanf(GLIBC_2.4) [LSB]	vscanf(GLIBC_2.2) [LSB]	vscanf(GLIBC_2.4) [LSB]	vsscanf(GLIBC_2.2) [LSB]
vsscanf(GLIBC_2.4) [LSB]	vsyslog(GLIBC_2.2) [LSB]	vsyslog(GLIBC_2.4) [LSB]	warn(GLIBC_2.2) [LSB]
warnx(GLIBC_2.2) [LSB]	wordexp(GLIBC_2.2) [SUSv4]	wordfree(GLIBC_2.2) [SUSv4]	

An LSB conforming implementation shall provide the architecture specific deprecated functions for Standard Library specified in Table 10-34, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-34 libc - Standard Library Deprecated Function Interfaces

__isnfl(GLIBC_2.2) [LSB]	__isnarl(GLIBC_2.2) [LSB]	basename(GLIBC_2.2) [LSB]	getdomainname(GLIBC_2.2) [LSB]
inet_aton(GLIBC_2.2) [LSB]	syslog(GLIBC_2.2) [SUSv4]	tmpnam(GLIBC_2.2) [SUSv4]	vfscanf(GLIBC_2.2) [LSB]
vscanf(GLIBC_2.2) [LSB]	vsscanf(GLIBC_2.2) [LSB]	vsyslog(GLIBC_2.2) [LSB]	

An LSB conforming implementation shall provide the architecture specific data interfaces for Standard Library specified in Table 10-35, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-35 libc - Standard Library Data Interfaces

__environ(GLIBC_2.2) [LSB]	_environ(GLIBC_2.2) [LSB]	_sys_errlist(GLIBC_2.12) [LSB]	environ(GLIBC_2.2) [SUSv4]
getdate_err(GLIBC_2.2) [SUSv4]	optarg(GLIBC_2.2) [SUSv4]	opterr(GLIBC_2.2) [SUSv4]	optind(GLIBC_2.2) [SUSv4]
optopt(GLIBC_2.2) [SUSv4]			

10.2.22 GNU Extensions for libc

10.2.22.1 Interfaces for GNU Extensions for libc

An LSB conforming implementation shall provide the architecture specific functions for GNU Extensions for libc specified in Table 10-36, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-36 libc - GNU Extensions for libc Function Interfaces

gnu_get_libc_release(GLIBC_2.2) [LSB]	gnu_get_libc_version(GLIBC_2.2) [LSB]		
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10.3 Data Definitions for libc

This section defines global identifiers and their values that are associated with interfaces contained in libc. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

10.3.1 argz.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.2 assert.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.3 cpio.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.4 ctype.h

```
enum {
    _ISupper = 1,
    _ISlower = 2,
    _ISalpha = 4,
    _ISdigit = 8,
    _ISxdigit = 16,
    _ISspace = 32,
    _ISprint = 64,
    _ISgraph = 128,
    _ISblank = 256,
    _IScntrl = 512,
    _ISpunct = 1024,
    _ISalnum = 2048
};
```

10.3.5 dirent.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.6 elf.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.7 endian.h

```
#define __BYTE_ORDER    __BIG_ENDIAN
```

10.3.8 errno.h

```
#define EDEADLOCK        35
```

10.3.9 fcntl.h

```
#define O_LARGEFILE      0
#define O_DIRECTORY      0200000
#define O_NOFOLLOW       0400000
#define POSIX_FADV_DONTNEED 6
#define POSIX_FADV_NOREUSE 7

#define F_GETLK64        5
#define F_SETLK64        6
#define F_SETLKW64       7
```

10.3.10 fmtmsg.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.11 fnmatch.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.12 ftw.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.13 getopt.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.14 glob.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.15 iconv.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.16 ifaddrs.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.17 inttypes.h

```

#define __PRI64_PREFIX "l"
#define __PRIPTR_PREFIX "l"

typedef ldiv_t imaxdiv_t;

```

10.3.18 langinfo.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.19 limits.h

```
#define ULONG_MAX      0xFFFFFFFFFFFFFFFFUL
#define LONG_BIT       64
#define LONG_MAX       9223372036854775807L

#define CHAR_MIN       0
#define CHAR_MAX       255

#define PTHREAD_STACK_MIN 16384
```

10.3.20 link.h

```
struct dl_phdr_info {
    Elf64_Addr dlpi_addr;
    const char *dlpi_name;
    const Elf64_Phdr *dlpi_phdr;
    Elf64_Half dlpi_phnum;
    unsigned long long int dlpi_adds;
    unsigned long long int dlpi_subs;
    size_t dlpi_tls_modid;
    void *dlpi_tls_data;
};
```

10.3.21 locale.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.22 lsb/time.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.23 lsb/types.h

```
typedef int64_t ssize_t;
```

10.3.24 lsb/wchar.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.25 net/if.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.26 netdb.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.27 netinet/icmp6.h

```

#define ICMP6_RR_RESULT_FLAGS_FORBIDDEN 0x1000
#define ICMP6_RR_RESULT_FLAGS_OOB      0x2000
#define ND_NA_FLAG_OVERRIDE            0x20000000
#define ND_NA_FLAG_SOLICITED           0x40000000
#define ND_NA_FLAG_ROUTER              0x80000000

```

10.3.28 netinet/igmp.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.29 netinet/in.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.30 netinet/in_system.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.31 netinet/ip.h

```

struct timestamp {
    u_int8_t len;
    u_int8_t ptr;
    unsigned int overflow:4;
    unsigned int flags:4;
    u_int32_t data[9];
};

struct iphdr {
    unsigned int version:4;
    unsigned int ihl:4;
    u_int8_t tos;
    u_int16_t tot_len;
    u_int16_t id;
    u_int16_t frag_off;
    u_int8_t ttl;
    u_int8_t protocol;
    u_int16_t check;
    u_int32_t saddr;
    u_int32_t daddr;
};

```

```

struct ip {
    unsigned int ip_v:4;
    unsigned int ip_hl:4;
    u_int8_t ip_tos;
    u_short ip_len;
    u_short ip_id;
    u_short ip_off;
    u_int8_t ip_ttl;
    u_int8_t ip_p;
    u_short ip_sum;
    struct in_addr ip_src;
    struct in_addr ip_dst;
};

struct ip_timestamp {
    u_int8_t ipt_len;
    u_int8_t ipt_code;
    u_int8_t ipt_ptr;
    unsigned int ipt_flg:4;
    unsigned int ipt_oflw:4;
    u_int32_t data[9];
};

```

10.3.32 netinet/ip6.h

```

#define IP6_ALERT_MLD    0x0000
#define IP6F_MORE_FRAG  0x0001
#define IP6_ALERT_RSVP  0x0001
#define IP6_ALERT_AN     0x0002
#define IP6F_RESERVED_MASK 0x0006
#define IP6F_OFF_MASK    0xffff8

```

10.3.33 netinet/ip_icmp.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.34 netinet/tcp.h

```

struct tcphdr {
    uint16_t source;
    uint16_t dest;
    uint32_t seq;
    uint32_t ack_seq;
    uint16_t doff:4;
    uint16_t res1:4;
    uint16_t res2:2;
    uint16_t urg:1;
    uint16_t ack:1;
    uint16_t psh:1;
    uint16_t rst:1;
    uint16_t syn:1;
    uint16_t fin:1;
    uint16_t window;
    uint16_t check;
    uint16_t urg_ptr;
};

```

10.3.35 netinet/udp.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.36 nl_types.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.37 pwd.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.38 regex.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.39 rpc/auth.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.40 rpc/clnt.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.41 rpc/rpc_msg.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.42 rpc/svc.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.43 rpc/types.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.44 rpc/xdr.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.45 sched.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.46 search.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.47 setjmp.h

```

typedef long int __jmp_buf[18];

```

10.3.48 signal.h

```

#define __NUM_ACRS      16
#define __NUM_FPRS      16
#define __NUM_GPRS      16

typedef struct {
    unsigned long int mask;
    unsigned long int addr;
} __attribute__((aligned(8))) _psw_t;
typedef struct {
    _psw_t psw;
    unsigned long int gprs[16];
    unsigned int acrs[16];
} _s390_regs_common;

#define SIGEV_PAD_SIZE ((SIGEV_MAX_SIZE/sizeof(int))-4)

#define SI_PAD_SIZE ((SI_MAX_SIZE/sizeof(int))-4)

struct sigaction {
    union {
        sighandler_t _sa_handler;
        void (*_sa_sigaction) (int, siginfo_t *, void *);
    } __sigaction_handler;
    unsigned long int sa_flags;

```

```

        void (*sa_restorer) (void);
        sigset_t sa_mask;
    };

#define MINSIGSTKSZ    2048    /* Minimum stack size for a signal
handler. */
#define SIGSTKSZ        8192    /* System default stack size. */

typedef struct {
    unsigned int fpc;
    double fprs[__NUM_FPRS];
} _s390_fp_regs;
typedef struct {
    _s390_regs_common regs;
    _s390_fp_regs fpregs;
} _sigregs;

struct sigcontext {
    unsigned long int oldmask;
    _sigregs *sregs;
};

```

10.3.49 spawn.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.50 stddef.h

```

typedef int wchar_t;
typedef unsigned long int size_t;
typedef long int ptrdiff_t;

```

10.3.51 stdint.h

```

#define INT64_C(c)      c ## L
#define INTMAX_C(c)     c ## L
#define __INT64_C(c)    c ## L
#define UINT64_C(c)     c ## UL
#define UINTMAX_C(c)    c ## UL
#define __UINT64_C(c)  c ## UL

#define INTPTR_MIN      (-9223372036854775807L-1)
#define INT_FAST16_MIN  (-9223372036854775807L-1)
#define INT_FAST32_MIN  (-9223372036854775807L-1)
#define PTRDIFF_MIN     (-9223372036854775807L-1)
#define SIZE_MAX        (18446744073709551615UL)
#define UINTPTR_MAX     (18446744073709551615UL)
#define UINT_FAST16_MAX (18446744073709551615UL)
#define UINT_FAST32_MAX (18446744073709551615UL)
#define INTPTR_MAX      (9223372036854775807L)
#define INT_FAST16_MAX  (9223372036854775807L)
#define INT_FAST32_MAX  (9223372036854775807L)
#define PTRDIFF_MAX     (9223372036854775807L)

typedef long int int64_t;
typedef long int intmax_t;
typedef unsigned long int uintmax_t;
typedef long int intptr_t;
typedef unsigned long int uintptr_t;

```

```

typedef unsigned long int uint64_t;
typedef long int int_least64_t;
typedef unsigned long int uint_least64_t;
typedef long int int_fast16_t;
typedef long int int_fast32_t;
typedef long int int_fast64_t;
typedef unsigned long int uint_fast16_t;
typedef unsigned long int uint_fast32_t;
typedef unsigned long int uint_fast64_t;

```

10.3.52 stdio.h

```
#define __IO_FILE_SIZE 216
```

10.3.53 stdlib.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.54 string.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.55 sys/epoll.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.56 sys/file.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.57 sys/inotify.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.58 sys/ioctl.h

```

#define TIOCGWINSZ      0x5413
#define TIOCSWINSZ      0x5414
#define FIONREAD        21531
#define TIOCNOTTY       21538

```

10.3.59 sys/ipc.h

```

struct ipc_perm {
    key_t __key;
    uid_t uid;
    gid_t gid;
    uid_t cuid;
    gid_t cgid;
    mode_t mode;
    unsigned short __seq;
    unsigned short __pad2;
    unsigned long int __unused1;
    unsigned long int __unused2;
};

```

10.3.60 sys/mman.h

```

#define MCL_CURRENT 1
#define MCL_FUTURE 2

```

10.3.61 sys/msg.h

```

typedef unsigned long int msgqnum_t;
typedef unsigned long int msglen_t;

struct msqid_ds {
    struct ipc_perm msg_perm;
    time_t msg_stime;
    time_t msg_rtime;
    time_t msg_ctime;
    unsigned long int __msg_bytes;
    msgqnum_t msg_qnum;
    msglen_t msg_qbytes;
    pid_t msg_lspid;
    pid_t msg_lrpid;
    unsigned long int __unused4;
    unsigned long int __unused5;
};

```

10.3.62 sys/param.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.63 sys/poll.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.64 sys/ptrace.h

```

enum __ptrace_request {
    PTRACE_TRACEME = 0,
    PTRACE_PEEKTEXT = 1,

```

```

PTRACE_PEEKDATA = 2,
PTRACE_PEEKUSER = 3,
PTRACE_POKE TEXT = 4,
PTRACE_POKE DATA = 5,
PTRACE_POKE USER = 6,
PTRACE_CONT = 7,
PTRACE_KILL = 8,
PTRACE_SINGLESTEP = 9,
PTRACE_ATTACH = 16,
PTRACE_DETACH = 17,
PTRACE_SYSCALL = 24,
PTRACE_SETOPTIONS = 0x4200,
PTRACE_GETEVENTMSG = 0x4201,
PTRACE_GETSIGINFO = 0x4202,
PTRACE_SETSIGINFO = 0x4203
};

```

10.3.65 sys/resource.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.66 sys/select.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.67 sys/sem.h

```

struct semid_ds {
    struct ipc_perm sem_perm;
    time_t sem_otime;
    time_t sem_ctime;
    unsigned long int sem_nsems;
    unsigned long int __unused3;
    unsigned long int __unused4;
};

```

10.3.68 sys/shm.h

```

#define SHMLBA (__getpagesize())

typedef unsigned long int shmatt_t;

struct shmid_ds {
    struct ipc_perm shm_perm;
    size_t shm_segsz;
    time_t shm_atime;
    time_t shm_dtime;
    time_t shm_ctime;
    pid_t shm_cpid;
    pid_t shm_lpid;
    shmatt_t shm_nattch;
    unsigned long int __unused4;
    unsigned long int __unused5;
};

```

10.3.69 sys/socket.h

```
typedef uint64_t __ss_aligntype;

#define SO_RCVLOWAT 18
#define SO_SNDLOWAT 19
#define SO_RCVTIMEO 20
#define SO_SNDTIMEO 21
```

10.3.70 sys/stat.h

```
#define _MKNOD_VER 0
#define _STAT_VER 1

struct stat {
    dev_t st_dev;
    ino_t st_ino;
    nlink_t st_nlink;
    mode_t st_mode;
    uid_t st_uid;
    gid_t st_gid;
    int pad0;
    dev_t st_rdev;
    off_t st_size;
    struct timespec st_atim; /* Time of last access. */
    struct timespec st_mtim; /* Time of last modification. */
    struct timespec st_ctim; /* Time of last status change. */
    blksize_t st_blksize;
    blkcnt_t st_blocks;
    long int __unused[3];
};

struct stat64 {
    dev_t st_dev;
    ino64_t st_ino;
    nlink_t st_nlink;
    mode_t st_mode;
    uid_t st_uid;
    gid_t st_gid;
    int pad0;
    dev_t st_rdev;
    off_t st_size;
    struct timespec st_atim; /* Time of last access. */
    struct timespec st_mtim; /* Time of last modification. */
    struct timespec st_ctim; /* Time of last status change. */
    blksize_t st_blksize;
    blkcnt64_t st_blocks;
    long int __unused[3];
};
```

10.3.71 sys/statfs.h

```
struct statfs {
    int f_type; /* type of filesystem */
    int f_bsize; /* optimal transfer block size */
    fsblkcnt_t f_blocks; /* total data blocks in file system */
    /*
    fsblkcnt_t f_bfree; /* free blocks in fs */
    fsblkcnt_t f_bavail; /* free blocks avail to non-superuser */
    /*
    fsfilcnt_t f_files; /* total file nodes in file system */
    /*
    fsfilcnt_t f_ffree; /* free file nodes in file system */
```

```

        fsid_t f_fsid;           /* file system id */
        int f_namelen;          /* maximum length of filenames */
        int f_frsize;           /* fragment size */
        int f_spare[5];         /* spare for later */
    };
    struct statfs64 {
        int f_type;              /* type of filesystem */
        int f_bsize;             /* optimal transfer block size */
        fsblkcnt64_t f_blocks;   /* total data blocks in file system */
        /*
        fsblkcnt64_t f_bfree;     /* free blocks in fs */
        fsblkcnt64_t f_bavail;   /* free blocks avail to non-
        superuser */
        fsfilcnt64_t f_files;     /* total file nodes in file system */
        /*
        fsfilcnt64_t f_ffree;     /* free file nodes in file system */
        fsid_t f_fsid;           /* file system id */
        int f_namelen;          /* maximum length of filenames */
        int f_frsize;           /* fragment size */
        int f_spare[5];         /* spare for later */
    };

```

10.3.72 sys/statvfs.h

```

struct statvfs {
    unsigned long int f_bsize;
    unsigned long int f_frsize;
    fsblkcnt64_t f_blocks;
    fsblkcnt64_t f_bfree;
    fsblkcnt64_t f_bavail;
    fsfilcnt64_t f_files;
    fsfilcnt64_t f_ffree;
    fsfilcnt64_t f_favail;
    unsigned long int f_fsid;
    unsigned long int f_flag;
    unsigned long int f_namemax;
    int __f_spare[6];
};
struct statvfs64 {
    unsigned long int f_bsize;
    unsigned long int f_frsize;
    fsblkcnt64_t f_blocks;
    fsblkcnt64_t f_bfree;
    fsblkcnt64_t f_bavail;
    fsfilcnt64_t f_files;
    fsfilcnt64_t f_ffree;
    fsfilcnt64_t f_favail;
    unsigned long int f_fsid;
    unsigned long int f_flag;
    unsigned long int f_namemax;
    int __f_spare[6];
};

```

10.3.73 sys/sysinfo.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.74 sys/time.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.75 sys/timeb.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.76 sys/times.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.77 sys/un.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.78 sys/utsname.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.79 sys/wait.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.80 sysexits.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.81 syslog.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.3.82 tar.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.83 termios.h

```

#define CR2      1024
#define CR3      1536
#define CRDLY    1536
#define VT1      16384
#define VTDLY    16384
#define OLCUC    2
#define TAB1     2048
#define NLDLY    256
#define FF1      32768
#define FFDLY    32768
#define ONLCR    4
#define XCASE    4
#define TAB2     4096
#define CR1      512
#define IUCLC    512
#define TAB3     6144
#define TABDLY   6144
#define BS1      8192
#define BSDLY    8192

#define VSUSP    10
#define VEOL     11
#define VREPRINT 12
#define VDISCARD 13
#define VWERASE  14
#define VEOL2    16
#define VMIN     6
#define VSWTC    7
#define VSTART   8
#define VSTOP    9

#define IXON     1024
#define IXOFF    4096

#define HUPCL    1024
#define CREAD    128
#define CS6      16
#define CLOCAL   2048
#define PARENB   256
#define CS7      32
#define CS8      48
#define CSIZE    48
#define VTIME    5
#define PARODD   512
#define CSTOPB   64

#define ISIG     1
#define ECHOPRT  1024
#define NOFLSH   128
#define ECHOE    16
#define PENDIN   16384
#define ICANON   2
#define ECHOKE   2048
#define TOSTOP   256

```

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```

#define ECHOK 32
#define IEXTEN 32768
#define FLUSHO 4096
#define ECHOCTL 512
#define ECHONL 64

```

10.3.84 time.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.85 ucontext.h

```

#define NGREG 27

typedef union {
    double d;
    float f;
} fpreg_t;

typedef struct {
    unsigned int fpc;
    fpreg_t fprs[16];
} fpregset_t;

typedef struct {
    _psw_t psw;
    unsigned long int gregs[16];
    unsigned int aregs[16];
    fpregset_t fpregs;
} mcontext_t;

typedef struct ucontext {
    unsigned long int uc_flags;
    struct ucontext *uc_link;
    stack_t uc_stack;
    mcontext_t uc_mcontext;
    sigset_t uc_sigmask;
} ucontext_t;

```

10.3.86 ulimit.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.87 unistd.h

```

/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */

```

10.3.88 utime.h

```

/*

```

```

* This header is architecture neutral
* Please refer to the generic specification for details
*/

```

10.3.89 utmp.h

```

struct lastlog {
    time_t ll_time;
    char ll_line[UT_LINESIZE];
    char ll_host[UT_HOSTSIZE];
};

struct utmp {
    short ut_type;           /* Type of login. */
    pid_t ut_pid;           /* Process ID of login process. */
    char ut_line[UT_LINESIZE]; /* Devicename. */
    char ut_id[4];          /* Inittab ID. */
    char ut_user[UT_NAMESIZE]; /* Username. */
    char ut_host[UT_HOSTSIZE]; /* Hostname for remote login. */
    struct exit_status ut_exit; /* Exit status of a process marked
as DEAD_PROCESS. */
    long int ut_session;     /* Session ID, used for windowing.
*/
    struct timeval ut_tv;    /* Time entry was made. */
    int32_t ut_addr_v6[4];  /* Internet address of remote host.
*/
    char __unused[20];      /* Reserved for future use. */
};

```

10.3.90 utmpx.h

```

struct utmpx {
    short ut_type;           /* Type of login. */
    pid_t ut_pid;           /* Process ID of login process. */
    char ut_line[UT_LINESIZE]; /* Devicename. */
    char ut_id[4];          /* Inittab ID. */
    char ut_user[UT_NAMESIZE]; /* Username. */
    char ut_host[UT_HOSTSIZE]; /* Hostname for remote login. */
    struct exit_status ut_exit; /* Exit status of a process marked
as DEAD_PROCESS. */
    long int ut_session;     /* Session ID, used for windowing.
*/
    struct timeval ut_tv;    /* Time entry was made. */
    int32_t ut_addr_v6[4];  /* Internet address of remote host.
*/
    char __unused[20];      /* Reserved for future use. */
};

```

10.3.91 wordexp.h

```

/*
* This header is architecture neutral
* Please refer to the generic specification for details
*/

```

10.4 Interfaces for libm

Table 10-37 defines the library name and shared object name for the libm library

Table 10-37 libm Definition

Library:	libm
SONAME:	libm.so.6

The behavior of the interfaces in this library is specified by the following specifications:

[LSB] LSB Core - Generic

[SUSv3] POSIX 1003.1-2001 (ISO/IEC 9945-2003)

[SUSv4] POSIX 1003.1-2008 (ISO/IEC 9945-2009)

10.4.1 Math

10.4.1.1 Interfaces for Math

An LSB conforming implementation shall provide the architecture specific functions for Math specified in Table 10-38, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-38 libm - Math Function Interfaces

__finite(GLIBC_2.2) [LSB]	__finitef(GLIBC_2.2) [LSB]	__finitel(GLIBC_2.2) [LSB]	__finitel(GLIBC_2.4) [LSB]
__fpclassify(GLIBC_2.2) [LSB]	__fpclassifyf(GLIBC_2.2) [LSB]	__fpclassifyl(GLIBC_2.4) [LSB]	__signbit(GLIBC_2.2) [LSB]
__signbitf(GLIBC_2.2) [LSB]	__signbitl(GLIBC_2.4) [LSB]	acos(GLIBC_2.2) [SUSv4]	acosf(GLIBC_2.2) [SUSv4]
acosh(GLIBC_2.2) [SUSv4]	acoshf(GLIBC_2.2) [SUSv4]	acoshl(GLIBC_2.2) [SUSv4]	acoshl(GLIBC_2.4) [SUSv4]
acosl(GLIBC_2.2) [SUSv4]	acosl(GLIBC_2.4) [SUSv4]	asin(GLIBC_2.2) [SUSv4]	asinf(GLIBC_2.2) [SUSv4]
asinh(GLIBC_2.2) [SUSv4]	asinhf(GLIBC_2.2) [SUSv4]	asinh1(GLIBC_2.2) [SUSv4]	asinh1(GLIBC_2.4) [SUSv4]
asinl(GLIBC_2.2) [SUSv4]	asinl(GLIBC_2.4) [SUSv4]	atan(GLIBC_2.2) [SUSv4]	atan2(GLIBC_2.2) [SUSv4]
atan2f(GLIBC_2.2) [SUSv4]	atan2l(GLIBC_2.2) [SUSv4]	atan2l(GLIBC_2.4) [SUSv4]	atanf(GLIBC_2.2) [SUSv4]
atanh(GLIBC_2.2) [SUSv4]	atanhf(GLIBC_2.2) [SUSv4]	atanhl(GLIBC_2.2) [SUSv4]	atanhl(GLIBC_2.4) [SUSv4]
atanl(GLIBC_2.2) [SUSv4]	atanl(GLIBC_2.4) [SUSv4]	cabs(GLIBC_2.2) [SUSv4]	cabsf(GLIBC_2.2) [SUSv4]
cabs1(GLIBC_2.2) [SUSv4]	cabs1(GLIBC_2.4) [SUSv4]	cacos(GLIBC_2.2) [SUSv4]	cacosf(GLIBC_2.2) [SUSv4]
cacosh(GLIBC_2.2) [SUSv4]	cacoshf(GLIBC_2.2) [SUSv4]	cacosh1(GLIBC_2.2) [SUSv4]	cacosh1(GLIBC_2.4) [SUSv4]
cacosl(GLIBC_2.2) [SUSv4]	cacosl(GLIBC_2.4) [SUSv4]	carg(GLIBC_2.2) [SUSv4]	cargf(GLIBC_2.2) [SUSv4]

cargl(GLIBC_2.2) [SUSv4]	cargl(GLIBC_2.4) [SUSv4]	casin(GLIBC_2.2) [SUSv4]	casinf(GLIBC_2.2) [SUSv4]
casinh(GLIBC_2.2) [SUSv4]	casinhf(GLIBC_2.2) [SUSv4]	casinhl(GLIBC_2.2) [SUSv4]	casinhl(GLIBC_2.4) [SUSv4]
casinl(GLIBC_2.2) [SUSv4]	casinl(GLIBC_2.4) [SUSv4]	catan(GLIBC_2.2) [SUSv4]	catanf(GLIBC_2.2) [SUSv4]
catanh(GLIBC_2.2) [SUSv4]	catanhf(GLIBC_2.2) [SUSv4]	catanhl(GLIBC_2.2) [SUSv4]	catanhl(GLIBC_2.4) [SUSv4]
catanl(GLIBC_2.2) [SUSv4]	catanl(GLIBC_2.4) [SUSv4]	cbrt(GLIBC_2.2) [SUSv4]	cbrtf(GLIBC_2.2) [SUSv4]
cbrtl(GLIBC_2.2) [SUSv4]	cbrtl(GLIBC_2.4) [SUSv4]	ccos(GLIBC_2.2) [SUSv4]	ccosf(GLIBC_2.2) [SUSv4]
ccosh(GLIBC_2.2) [SUSv4]	ccoshf(GLIBC_2.2) [SUSv4]	ccoshl(GLIBC_2.2) [SUSv4]	ccoshl(GLIBC_2.4) [SUSv4]
ccosl(GLIBC_2.2) [SUSv4]	ccosl(GLIBC_2.4) [SUSv4]	ceil(GLIBC_2.2) [SUSv4]	ceilf(GLIBC_2.2) [SUSv4]
ceill(GLIBC_2.2) [SUSv4]	ceilf(GLIBC_2.4) [SUSv4]	cexp(GLIBC_2.2) [SUSv4]	cexpf(GLIBC_2.2) [SUSv4]
cexpl(GLIBC_2.2) [SUSv4]	cexpl(GLIBC_2.4) [SUSv4]	cimag(GLIBC_2.2) [SUSv4]	cimagf(GLIBC_2.2) [SUSv4]
cimagl(GLIBC_2.2) [SUSv4]	cimagl(GLIBC_2.4) [SUSv4]	clog(GLIBC_2.2) [SUSv4]	clog10(GLIBC_2.2) [LSB]
clog10f(GLIBC_2.2) [LSB]	clog10l(GLIBC_2.2) [LSB]	clog10l(GLIBC_2.4) [LSB]	clogf(GLIBC_2.2) [SUSv4]
clogl(GLIBC_2.2) [SUSv4]	clogl(GLIBC_2.4) [SUSv4]	conj(GLIBC_2.2) [SUSv4]	conjf(GLIBC_2.2) [SUSv4]
conjl(GLIBC_2.2) [SUSv4]	conjl(GLIBC_2.4) [SUSv4]	copysign(GLIBC_2.2) [SUSv4]	copysignf(GLIBC_2.2) [SUSv4]
copysignl(GLIBC_2.2) [SUSv4]	copysignl(GLIBC_2.4) [SUSv4]	cos(GLIBC_2.2) [SUSv4]	cosf(GLIBC_2.2) [SUSv4]
cosh(GLIBC_2.2) [SUSv4]	coshf(GLIBC_2.2) [SUSv4]	coshl(GLIBC_2.2) [SUSv4]	coshl(GLIBC_2.4) [SUSv4]
cosl(GLIBC_2.2) [SUSv4]	cosl(GLIBC_2.4) [SUSv4]	cpow(GLIBC_2.2) [SUSv4]	cpowf(GLIBC_2.2) [SUSv4]
cpowl(GLIBC_2.2) [SUSv4]	cpowl(GLIBC_2.4) [SUSv4]	cproj(GLIBC_2.2) [SUSv4]	cprojf(GLIBC_2.2) [SUSv4]
cprojl(GLIBC_2.2) [SUSv4]	cprojl(GLIBC_2.4) [SUSv4]	creal(GLIBC_2.2) [SUSv4]	crealf(GLIBC_2.2) [SUSv4]
creall(GLIBC_2.2) [SUSv4]	creall(GLIBC_2.4) [SUSv4]	csin(GLIBC_2.2) [SUSv4]	csinf(GLIBC_2.2) [SUSv4]
csinh(GLIBC_2.2) [SUSv4]	csinhf(GLIBC_2.2) [SUSv4]	csinhl(GLIBC_2.2) [SUSv4]	csinhl(GLIBC_2.4) [SUSv4]

csinl(GLIBC_2.2) [SUSv4]	csinl(GLIBC_2.4) [SUSv4]	csqrt(GLIBC_2.2) [SUSv4]	csqrtf(GLIBC_2.2) [SUSv4]
csqrtl(GLIBC_2.2) [SUSv4]	csqrtl(GLIBC_2.4) [SUSv4]	ctan(GLIBC_2.2) [SUSv4]	ctanf(GLIBC_2.2) [SUSv4]
ctanh(GLIBC_2.2) [SUSv4]	ctanhf(GLIBC_2.2) [SUSv4]	ctanhl(GLIBC_2.2) [SUSv4]	ctanhl(GLIBC_2.4) [SUSv4]
ctanl(GLIBC_2.2) [SUSv4]	ctanl(GLIBC_2.4) [SUSv4]	drem(GLIBC_2.2) [LSB]	dremf(GLIBC_2.2) [LSB]
dreml(GLIBC_2.2) [LSB]	dreml(GLIBC_2.4) [LSB]	erf(GLIBC_2.2) [SUSv4]	erfc(GLIBC_2.2) [SUSv4]
erfcf(GLIBC_2.2) [SUSv4]	erfcf(GLIBC_2.2) [SUSv4]	erfcf(GLIBC_2.4) [SUSv4]	erff(GLIBC_2.2) [SUSv4]
erfl(GLIBC_2.2) [SUSv4]	erfl(GLIBC_2.4) [SUSv4]	exp(GLIBC_2.2) [SUSv4]	exp10(GLIBC_2.2) [LSB]
exp10f(GLIBC_2.2) [LSB]	exp10l(GLIBC_2.2) [LSB]	exp10l(GLIBC_2.4) [LSB]	exp2(GLIBC_2.2) [SUSv4]
exp2f(GLIBC_2.2) [SUSv4]	exp2l(GLIBC_2.4) [SUSv4]	expf(GLIBC_2.2) [SUSv4]	expl(GLIBC_2.2) [SUSv4]
expl(GLIBC_2.4) [SUSv4]	expm1(GLIBC_2.2) [SUSv4]	expm1f(GLIBC_2.2) [SUSv4]	expm1l(GLIBC_2.2) [SUSv4]
expm1l(GLIBC_2.4) [SUSv4]	fabs(GLIBC_2.2) [SUSv4]	fabsf(GLIBC_2.2) [SUSv4]	fabsl(GLIBC_2.2) [SUSv4]
fabsl(GLIBC_2.4) [SUSv4]	fdim(GLIBC_2.2) [SUSv4]	fdimf(GLIBC_2.2) [SUSv4]	fdiml(GLIBC_2.2) [SUSv4]
fdiml(GLIBC_2.4) [SUSv4]	feclearexcept(GLIBC_2.2) [SUSv4]	fedisableexcept(GLIBC_2.2) [LSB]	feenableexcept(GLIBC_2.2) [LSB]
fegetenv(GLIBC_2.2) [SUSv4]	fegetexcept(GLIBC_2.2) [LSB]	fegetexceptflag(GLIBC_2.2) [SUSv4]	fegetround(GLIBC_2.2) [SUSv4]
feholdexcept(GLIBC_2.2) [SUSv4]	feraiseexcept(GLIBC_2.2) [SUSv4]	fesetenv(GLIBC_2.2) [SUSv4]	fesetexceptflag(GLIBC_2.2) [SUSv4]
fesetround(GLIBC_2.2) [SUSv4]	fetestexcept(GLIBC_2.2) [SUSv4]	feupdateenv(GLIBC_2.2) [SUSv4]	finite(GLIBC_2.2) [LSB]
finitel(GLIBC_2.2) [LSB]	finitel(GLIBC_2.2) [LSB]	finitel(GLIBC_2.4) [LSB]	floor(GLIBC_2.2) [SUSv4]
floorf(GLIBC_2.2) [SUSv4]	floorl(GLIBC_2.2) [SUSv4]	floorl(GLIBC_2.4) [SUSv4]	fma(GLIBC_2.2) [SUSv4]
fmaf(GLIBC_2.2) [SUSv4]	fmal(GLIBC_2.2) [SUSv4]	fmal(GLIBC_2.4) [SUSv4]	fmax(GLIBC_2.2) [SUSv4]
fmaxf(GLIBC_2.2) [SUSv4]	fmaxl(GLIBC_2.2) [SUSv4]	fmaxl(GLIBC_2.4) [SUSv4]	fmin(GLIBC_2.2) [SUSv4]

fminf(GLIBC_2.2) [SUSv4]	fminl(GLIBC_2.2) [SUSv4]	fminl(GLIBC_2.4) [SUSv4]	fmod(GLIBC_2.2) [SUSv4]
fmodf(GLIBC_2.2) [SUSv4]	fmodl(GLIBC_2.2) [SUSv4]	fmodl(GLIBC_2.4) [SUSv4]	frexp(GLIBC_2.2) [SUSv4]
frexpf(GLIBC_2.2) [SUSv4]	frexpl(GLIBC_2.2) [SUSv4]	frexpl(GLIBC_2.4) [SUSv4]	gamma(GLIBC_2.2) [LSB]
gammaf(GLIBC_2.2) [LSB]	gammal(GLIBC_2.2) [LSB]	gammal(GLIBC_2.4) [LSB]	hypot(GLIBC_2.2) [SUSv4]
hypotf(GLIBC_2.2) [SUSv4]	hypotl(GLIBC_2.2) [SUSv4]	hypotl(GLIBC_2.4) [SUSv4]	ilogb(GLIBC_2.2) [SUSv4]
ilogbf(GLIBC_2.2) [SUSv4]	ilogbl(GLIBC_2.2) [SUSv4]	ilogbl(GLIBC_2.4) [SUSv4]	j0(GLIBC_2.2) [SUSv4]
j0f(GLIBC_2.2) [LSB]	j0l(GLIBC_2.2) [LSB]	j0l(GLIBC_2.4) [LSB]	j1(GLIBC_2.2) [SUSv4]
j1f(GLIBC_2.2) [LSB]	j1l(GLIBC_2.2) [LSB]	j1l(GLIBC_2.4) [LSB]	jn(GLIBC_2.2) [SUSv4]
jnf(GLIBC_2.2) [LSB]	jnl(GLIBC_2.2) [LSB]	jnl(GLIBC_2.4) [LSB]	ldexp(GLIBC_2.2) [SUSv4]
ldexpf(GLIBC_2.2) [SUSv4]	ldexpl(GLIBC_2.2) [SUSv4]	ldexpl(GLIBC_2.4) [SUSv4]	lgamma(GLIBC_2.2) [SUSv4]
lgamma_r(GLIBC_2.2) [LSB]	lgammaf(GLIBC_2.2) [SUSv4]	lgammaf_r(GLIBC_2.2) [LSB]	lgammal(GLIBC_2.2) [SUSv4]
lgammal(GLIBC_2.4) [SUSv4]	lgammal_r(GLIBC_2.2) [LSB]	lgammal_r(GLIBC_2.4) [LSB]	llrint(GLIBC_2.2) [SUSv4]
llrintf(GLIBC_2.2) [SUSv4]	llrintl(GLIBC_2.2) [SUSv4]	llrintl(GLIBC_2.4) [SUSv4]	llround(GLIBC_2.2) [SUSv4]
llroundf(GLIBC_2.2) [SUSv4]	llroundl(GLIBC_2.2) [SUSv4]	llroundl(GLIBC_2.4) [SUSv4]	log(GLIBC_2.2) [SUSv4]
log10(GLIBC_2.2) [SUSv4]	log10f(GLIBC_2.2) [SUSv4]	log10l(GLIBC_2.2) [SUSv4]	log10l(GLIBC_2.4) [SUSv4]
log1p(GLIBC_2.2) [SUSv4]	log1pf(GLIBC_2.2) [SUSv4]	log1pl(GLIBC_2.2) [SUSv4]	log1pl(GLIBC_2.4) [SUSv4]
log2(GLIBC_2.2) [SUSv4]	log2f(GLIBC_2.2) [SUSv4]	log2l(GLIBC_2.2) [SUSv4]	log2l(GLIBC_2.4) [SUSv4]
logb(GLIBC_2.2) [SUSv4]	logbf(GLIBC_2.2) [SUSv4]	logbl(GLIBC_2.2) [SUSv4]	logbl(GLIBC_2.4) [SUSv4]
logf(GLIBC_2.2) [SUSv4]	logl(GLIBC_2.2) [SUSv4]	logl(GLIBC_2.4) [SUSv4]	lrint(GLIBC_2.2) [SUSv4]
lrintf(GLIBC_2.2) [SUSv4]	lrintl(GLIBC_2.2) [SUSv4]	lrintl(GLIBC_2.4) [SUSv4]	lround(GLIBC_2.2) [SUSv4]
lroundf(GLIBC_2.2) [SUSv4]	lroundl(GLIBC_2.2) [SUSv4]	lroundl(GLIBC_2.4) [SUSv4]	matherr(GLIBC_2.2) [LSB]

modf(GLIBC_2.2) [SUSv4]	modff(GLIBC_2.2) [SUSv4]	modfl(GLIBC_2.2) [SUSv4]	modfl(GLIBC_2.4) [SUSv4]
nan(GLIBC_2.2) [SUSv4]	nanf(GLIBC_2.2) [SUSv4]	nanl(GLIBC_2.2) [SUSv4]	nanl(GLIBC_2.4) [SUSv4]
nearbyint(GLIBC_2.2) [SUSv4]	nearbyintf(GLIBC_2.2) [SUSv4]	nearbyintl(GLIBC_2.2) [SUSv4]	nearbyintl(GLIBC_2.4) [SUSv4]
nextafter(GLIBC_2.2) [SUSv4]	nextafterf(GLIBC_2.2) [SUSv4]	nextafterl(GLIBC_2.2) [SUSv4]	nextafterl(GLIBC_2.4) [SUSv4]
nexttoward(GLIBC_2.2) [SUSv4]	nexttoward(GLIBC_2.4) [SUSv4]	nexttowardf(GLIBC_2.2) [SUSv4]	nexttowardf(GLIBC_2.4) [SUSv4]
nexttowardl(GLIBC_2.2) [SUSv4]	nexttowardl(GLIBC_2.4) [SUSv4]	pow(GLIBC_2.2) [SUSv4]	pow10(GLIBC_2.2) [LSB]
pow10f(GLIBC_2.2) [LSB]	pow10l(GLIBC_2.2) [LSB]	pow10l(GLIBC_2.4) [LSB]	powf(GLIBC_2.2) [SUSv4]
powl(GLIBC_2.2) [SUSv4]	powl(GLIBC_2.4) [SUSv4]	remainder(GLIBC_2.2) [SUSv4]	remainderf(GLIBC_2.2) [SUSv4]
remainderl(GLIBC_2.2) [SUSv4]	remainderl(GLIBC_2.4) [SUSv4]	remquo(GLIBC_2.2) [SUSv4]	remquoof(GLIBC_2.2) [SUSv4]
remquol(GLIBC_2.2) [SUSv4]	remquol(GLIBC_2.4) [SUSv4]	rint(GLIBC_2.2) [SUSv4]	rintf(GLIBC_2.2) [SUSv4]
rintl(GLIBC_2.2) [SUSv4]	rintl(GLIBC_2.4) [SUSv4]	round(GLIBC_2.2) [SUSv4]	roundf(GLIBC_2.2) [SUSv4]
roundl(GLIBC_2.2) [SUSv4]	roundl(GLIBC_2.4) [SUSv4]	scalb(GLIBC_2.2) [SUSv3]	scalbf(GLIBC_2.2) [LSB]
scalbl(GLIBC_2.2) [LSB]	scalbl(GLIBC_2.4) [LSB]	scalbln(GLIBC_2.2) [SUSv4]	scalblnf(GLIBC_2.2) [SUSv4]
scalblnl(GLIBC_2.2) [SUSv4]	scalblnl(GLIBC_2.4) [SUSv4]	scalbn(GLIBC_2.2) [SUSv4]	scalbnf(GLIBC_2.2) [SUSv4]
scalbnl(GLIBC_2.2) [SUSv4]	scalbnl(GLIBC_2.4) [SUSv4]	significand(GLIBC_2.2) [LSB]	significandf(GLIBC_2.2) [LSB]
significandl(GLIBC_2.2) [LSB]	significandl(GLIBC_2.4) [LSB]	sin(GLIBC_2.2) [SUSv4]	sincos(GLIBC_2.2) [LSB]
sincosf(GLIBC_2.2) [LSB]	sincosl(GLIBC_2.2) [LSB]	sincosl(GLIBC_2.4) [LSB]	sinf(GLIBC_2.2) [SUSv4]
sinh(GLIBC_2.2) [SUSv4]	sinhf(GLIBC_2.2) [SUSv4]	sinhl(GLIBC_2.2) [SUSv4]	sinhl(GLIBC_2.4) [SUSv4]
sinl(GLIBC_2.2) [SUSv4]	sinl(GLIBC_2.4) [SUSv4]	sqrt(GLIBC_2.2) [SUSv4]	sqrtf(GLIBC_2.2) [SUSv4]
sqrtrl(GLIBC_2.2) [SUSv4]	sqrtrl(GLIBC_2.4) [SUSv4]	tan(GLIBC_2.2) [SUSv4]	tanf(GLIBC_2.2) [SUSv4]
tanh(GLIBC_2.2) [SUSv4]	tanhf(GLIBC_2.2) [SUSv4]	tanhf(GLIBC_2.2) [SUSv4]	tanhf(GLIBC_2.4) [SUSv4]

tanl(GLIBC_2.2) [SUSv4]	tanl(GLIBC_2.4) [SUSv4]	tgamma(GLIBC_2.2) [SUSv4]	tgammaf(GLIBC_2.2) [SUSv4]
tgammal(GLIBC_2.2) [SUSv4]	tgammal(GLIBC_2.4) [SUSv4]	trunc(GLIBC_2.2) [SUSv4]	truncf(GLIBC_2.2) [SUSv4]
truncl(GLIBC_2.2) [SUSv4]	truncl(GLIBC_2.4) [SUSv4]	y0(GLIBC_2.2) [SUSv4]	y0f(GLIBC_2.2) [LSB]
y0l(GLIBC_2.2) [LSB]	y0l(GLIBC_2.4) [LSB]	y1(GLIBC_2.2) [SUSv4]	y1f(GLIBC_2.2) [LSB]
y1l(GLIBC_2.2) [LSB]	y1l(GLIBC_2.4) [LSB]	yn(GLIBC_2.2) [SUSv4]	ynf(GLIBC_2.2) [LSB]
ynl(GLIBC_2.2) [LSB]	ynl(GLIBC_2.4) [LSB]		

An LSB conforming implementation shall provide the architecture specific deprecated functions for Math specified in Table 10-39, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-39 libm - Math Deprecated Function Interfaces

__finitel(GLIBC_2.2) [LSB]	acoshl(GLIBC_2.2) [SUSv4]	acosl(GLIBC_2.2) [SUSv4]	asinh1(GLIBC_2.2) [SUSv4]
asinl(GLIBC_2.2) [SUSv4]	atan2l(GLIBC_2.2) [SUSv4]	atanhl(GLIBC_2.2) [SUSv4]	atanl(GLIBC_2.2) [SUSv4]
cabs1(GLIBC_2.2) [SUSv4]	cacoshl(GLIBC_2.2) [SUSv4]	cacosl(GLIBC_2.2) [SUSv4]	carg1(GLIBC_2.2) [SUSv4]
casinh1(GLIBC_2.2) [SUSv4]	casinl(GLIBC_2.2) [SUSv4]	catanh1(GLIBC_2.2) [SUSv4]	catanl(GLIBC_2.2) [SUSv4]
cbrtl(GLIBC_2.2) [SUSv4]	ccoshl(GLIBC_2.2) [SUSv4]	ccosl(GLIBC_2.2) [SUSv4]	ceil1(GLIBC_2.2) [SUSv4]
cexpl(GLIBC_2.2) [SUSv4]	cimagl(GLIBC_2.2) [SUSv4]	clog10l(GLIBC_2.2) [LSB]	clogl(GLIBC_2.2) [SUSv4]
conj1(GLIBC_2.2) [SUSv4]	copysignl(GLIBC_2.2) [SUSv4]	coshl(GLIBC_2.2) [SUSv4]	cosl(GLIBC_2.2) [SUSv4]
cpowl(GLIBC_2.2) [SUSv4]	cproj1(GLIBC_2.2) [SUSv4]	creall(GLIBC_2.2) [SUSv4]	csinh1(GLIBC_2.2) [SUSv4]
csinl(GLIBC_2.2) [SUSv4]	csqrt1(GLIBC_2.2) [SUSv4]	ctanh1(GLIBC_2.2) [SUSv4]	ctanl(GLIBC_2.2) [SUSv4]
drem(GLIBC_2.2) [LSB]	dremf(GLIBC_2.2) [LSB]	dreml(GLIBC_2.2) [LSB]	dreml(GLIBC_2.4) [LSB]
erfcl(GLIBC_2.2) [SUSv4]	erfl(GLIBC_2.2) [SUSv4]	exp10l(GLIBC_2.2) [LSB]	expl(GLIBC_2.2) [SUSv4]

expm1(GLIBC_2.2) [SUSv4]	fabsl(GLIBC_2.2) [SUSv4]	fdiml(GLIBC_2.2) [SUSv4]	finite(GLIBC_2.2) [LSB]
finitel(GLIBC_2.2) [LSB]	finitel(GLIBC_2.2) [LSB]	finitel(GLIBC_2.4) [LSB]	floorl(GLIBC_2.2) [SUSv4]
fmal(GLIBC_2.2) [SUSv4]	fmaxl(GLIBC_2.2) [SUSv4]	fminl(GLIBC_2.2) [SUSv4]	fmodl(GLIBC_2.2) [SUSv4]
frexpl(GLIBC_2.2) [SUSv4]	gamma(GLIBC_2.2) [LSB]	gammaf(GLIBC_2.2) [LSB]	gammal(GLIBC_2.2) [LSB]
gammal(GLIBC_2.4) [LSB]	hypotl(GLIBC_2.2) [SUSv4]	ilogbl(GLIBC_2.2) [SUSv4]	j0l(GLIBC_2.2) [LSB]
j1l(GLIBC_2.2) [LSB]	jnl(GLIBC_2.2) [LSB]	ldexpl(GLIBC_2.2) [SUSv4]	lgammal(GLIBC_2.2) [SUSv4]
lgamma_r(GLIBC_2.2) [LSB]	llrintl(GLIBC_2.2) [SUSv4]	llroundl(GLIBC_2.2) [SUSv4]	log10l(GLIBC_2.2) [SUSv4]
log1pl(GLIBC_2.2) [SUSv4]	log2l(GLIBC_2.2) [SUSv4]	logbl(GLIBC_2.2) [SUSv4]	logl(GLIBC_2.2) [SUSv4]
lrintl(GLIBC_2.2) [SUSv4]	lroundl(GLIBC_2.2) [SUSv4]	matherr(GLIBC_2.2) [LSB]	modfl(GLIBC_2.2) [SUSv4]
nanl(GLIBC_2.2) [SUSv4]	nearbyintl(GLIBC_2.2) [SUSv4]	nextafterl(GLIBC_2.2) [SUSv4]	nexttoward(GLIBC_2.2) [SUSv4]
nexttowardf(GLIBC_2.2) [SUSv4]	nexttowardl(GLIBC_2.2) [SUSv4]	pow10l(GLIBC_2.2) [LSB]	powl(GLIBC_2.2) [SUSv4]
remainderl(GLIBC_2.2) [SUSv4]	remquol(GLIBC_2.2) [SUSv4]	rintl(GLIBC_2.2) [SUSv4]	roundl(GLIBC_2.2) [SUSv4]
scalbl(GLIBC_2.2) [LSB]	scalblnl(GLIBC_2.2) [SUSv4]	scalbnl(GLIBC_2.2) [SUSv4]	significandl(GLIBC_2.2) [LSB]
sincosl(GLIBC_2.2) [LSB]	sinhl(GLIBC_2.2) [SUSv4]	sinl(GLIBC_2.2) [SUSv4]	sqrtil(GLIBC_2.2) [SUSv4]
tanh1l(GLIBC_2.2) [SUSv4]	tanl(GLIBC_2.2) [SUSv4]	tgammal(GLIBC_2.2) [SUSv4]	trunc1l(GLIBC_2.2) [SUSv4]
y0l(GLIBC_2.2) [LSB]	y1l(GLIBC_2.2) [LSB]	ynl(GLIBC_2.2) [LSB]	

An LSB conforming implementation shall provide the architecture specific data interfaces for Math specified in Table 10-40, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-40 libm - Math Data Interfaces

signgam(GLIBC_2.2) [SUSv4]			
----------------------------	--	--	--

10.5 Data Definitions for libm

This section defines global identifiers and their values that are associated with interfaces contained in libm. These definitions are organized into groups that

correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

10.5.1 complex.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.5.2 fenv.h

```
#define FE_INEXACT      0x08
#define FE_UNDERFLOW   0x10
#define FE_OVERFLOW    0x20
#define FE_DIVBYZERO    0x40
#define FE_INVALID      0x80

#define FE_ALL_EXCEPT \
    (FE_INEXACT | FE_DIVBYZERO | FE_UNDERFLOW | FE_OVERFLOW |
FE_INVALID)

#define FE_TONEAREST    0
#define FE_TOWARDZERO   0x1
#define FE_UPWARD       0x2
#define FE_DOWNWARD     0x3

typedef unsigned int fexcept_t;

typedef struct {
    fexcept_t fpc;
    void *ieee_instruction_pointer;
} fenv_t;

#define FE_DFL_ENV      ((const fenv_t *) -1)
```

10.5.3 math.h

```
typedef double float_t;
typedef double double_t;

#define isfinite(x) \
    (sizeof (x) == sizeof (float) ? __finitef (x) : sizeof (x) ==
sizeof (double)? __finite (x) : __finitel (x)) /* Return nonzero
value if X is not +-Inf or NaN. */
#define fpclassify(x) \
```

```

    (sizeof (x) == sizeof (float) ? __fpclassifyf (x) : sizeof (x) ==
    sizeof (double) ? __fpclassify (x) : __fpclassifyl (x)) /*
Return number of classification appropriate for X. */
#define isinf(x) \
    (sizeof (x) == sizeof (float) ? __isnanf (x) : sizeof (x) ==
    sizeof (double) ? __isnan (x) : __isnanl (x))
#define isnan(x) \
    (sizeof (x) == sizeof (float) ? __isnanf (x) : sizeof (x) ==
    sizeof (double) ? __isnan (x) : __isnanl (x))
#define signbit(x) \
    (sizeof (x) == sizeof (float) ? __signbitf (x) : sizeof (x) ==
    sizeof (double) ? __signbit (x) : __signbitl (x) /* Return nonzero
value if sign of X is negative. */

#define HUGE_VALL      0x1.0p2047L

#define FP_ILOGB0      -2147483647
#define FP_ILOGBNAN    2147483647

extern int __fpclassifyl(long double);
extern int __signbitl(long double);
extern long double exp2l(long double);

```

10.6 Interface Definitions for libm

The interfaces defined on the following pages are included in libm and are defined by this specification. Unless otherwise noted, these interfaces shall be included in the source standard.

Other interfaces listed in Section 10.4 shall behave as described in the referenced base document. For interfaces referencing LSB and not listed below, please see the generic part of the specification.

__fpclassifyl

Name

__fpclassifyl — Classify real floating type

Synopsis

```
int __fpclassifyl(long double arg);
```

Description

__fpclassifyl() has the same specification as fpclassify() in POSIX 1003.1-2008 (ISO/IEC 9945-2009), except that the argument type for __fpclassifyl() is known to be long double.

__fpclassifyl() is not in the source standard; it is only in the binary standard.

__signbitl**Name**

__signbitl — test sign of floating point value

Synopsis

```
#include <math.h>
int __signbitl(long double arg);
```

Description

__signbitl() has the same specification as signbit() in POSIX 1003.1-2008 (ISO/IEC 9945-2009), except that the argument type for __signbitl() is known to be long double.

__signbitl() is not in the source standard; it is only in the binary standard.

10.7 Interfaces for libpthread

Table 10-41 defines the library name and shared object name for the libpthread library

Table 10-41 libpthread Definition

Library:	libpthread
SONAME:	libpthread.so.0

The behavior of the interfaces in this library is specified by the following specifications:

- [LFS] Large File Support
- [LSB] LSB Core - Generic
- [SUSv3] POSIX 1003.1-2001 (ISO/IEC 9945-2003)
- [SUSv4] POSIX 1003.1-2008 (ISO/IEC 9945-2009)

10.7.1 Realtime Threads**10.7.1.1 Interfaces for Realtime Threads**

An LSB conforming implementation shall provide the architecture specific functions for Realtime Threads specified in Table 10-42, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-42 libpthread - Realtime Threads Function Interfaces

pthread_attr_getinheritsched(GLIBC_2.2) [SUSv4]	pthread_attr_getschedpolicy(GLIBC_2.2) [SUSv4]	pthread_attr_getscope(GLIBC_2.2) [SUSv4]	pthread_attr_setinheritsched(GLIBC_2.2) [SUSv4]
pthread_attr_setschedpolicy(GLIBC_2.2) [SUSv4]	pthread_attr_setscope(GLIBC_2.2) [SUSv4]	pthread_getschedparam(GLIBC_2.2) [SUSv4]	pthread_setschedparam(GLIBC_2.2) [SUSv4]

10.7.2 Advanced Realtime Threads

10.7.2.1 Interfaces for Advanced Realtime Threads

An LSB conforming implementation shall provide the architecture specific functions for Advanced Realtime Threads specified in Table 10-43, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-43 libpthread - Advanced Realtime Threads Function Interfaces

pthread_barrier_destroy(GLIBC_2.2) [SUSv4]	pthread_barrier_init(GLIBC_2.2) [SUSv4]	pthread_barrier_wait(GLIBC_2.2) [SUSv4]	pthread_barrierattr_destroy(GLIBC_2.2) [SUSv4]
pthread_barrierattr_init(GLIBC_2.2) [SUSv4]	pthread_barrierattr_setpshared(GLIBC_2.2) [SUSv4]	pthread_getcpu(LOCKID(GLIBC_2.2)) [SUSv4]	pthread_spin_destroy(GLIBC_2.2) [SUSv4]
pthread_spin_init(GLIBC_2.2) [SUSv4]	pthread_spin_lock(GLIBC_2.2) [SUSv4]	pthread_spin_trylock(GLIBC_2.2) [SUSv4]	pthread_spin_unlock(GLIBC_2.2) [SUSv4]

10.7.3 Posix Threads

10.7.3.1 Interfaces for Posix Threads

An LSB conforming implementation shall provide the architecture specific functions for Posix Threads specified in Table 10-44, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-44 libpthread - Posix Threads Function Interfaces

_pthread_cleanup_pop(GLIBC_2.2) [LSB]	_pthread_cleanup_push(GLIBC_2.2) [LSB]	pthread_attr_destroy(GLIBC_2.2) [SUSv4]	pthread_attr_getdetachstate(GLIBC_2.2) [SUSv4]
pthread_attr_getguardsize(GLIBC_2.2) [SUSv4]	pthread_attr_getschedparam(GLIBC_2.2) [SUSv4]	pthread_attr_getstack(GLIBC_2.2) [SUSv4]	pthread_attr_getstackaddr(GLIBC_2.2) [SUSv3]
pthread_attr_getstacksize(GLIBC_2.2) [SUSv4]	pthread_attr_init(GLIBC_2.2) [SUSv4]	pthread_attr_setdetachstate(GLIBC_2.2) [SUSv4]	pthread_attr_setguardsize(GLIBC_2.2) [SUSv4]
pthread_attr_setschedparam(GLIBC_2.2) [SUSv4]	pthread_attr_setstack(GLIBC_2.2) [SUSv4]	pthread_attr_setstackaddr(GLIBC_2.2) [SUSv3]	pthread_attr_setstacksize(GLIBC_2.2) [SUSv4]
pthread_cancel(GLIBC_2.2) [SUSv4]	pthread_cond_broadcast(GLIBC_2.3.2) [SUSv4]	pthread_cond_destroy(GLIBC_2.3.2) [SUSv4]	pthread_cond_init(GLIBC_2.3.2) [SUSv4]
pthread_cond_signal(GLIBC_2.3.2) [SUSv4]	pthread_cond_timedwait(GLIBC_2.3.2) [SUSv4]	pthread_cond_wait(GLIBC_2.3.2) [SUSv4]	pthread_condattr_destroy(GLIBC_2.2) [SUSv4]

pthread_condattr_getpshared(GLIBC_2.2) [SUSv4]	pthread_condattr_init(GLIBC_2.2) [SUSv4]	pthread_condattr_setpshared(GLIBC_2.2) [SUSv4]	pthread_create(GLIBC_2.2) [SUSv4]
pthread_detach(GLIBC_2.2) [SUSv4]	pthread_equal(GLIBC_2.2) [SUSv4]	pthread_exit(GLIBC_2.2) [SUSv4]	pthread_getconcurrency(GLIBC_2.2) [SUSv4]
pthread_getspecific(GLIBC_2.2) [SUSv4]	pthread_join(GLIBC_2.2) [SUSv4]	pthread_key_create(GLIBC_2.2) [SUSv4]	pthread_key_delete(GLIBC_2.2) [SUSv4]
pthread_kill(GLIBC_2.2) [SUSv4]	pthread_mutex_destroy(GLIBC_2.2) [SUSv4]	pthread_mutex_init(GLIBC_2.2) [SUSv4]	pthread_mutex_lock(GLIBC_2.2) [SUSv4]
pthread_mutex_timedlock(GLIBC_2.2) [SUSv4]	pthread_mutex_trylock(GLIBC_2.2) [SUSv4]	pthread_mutex_unlock(GLIBC_2.2) [SUSv4]	pthread_mutexattr_destroy(GLIBC_2.2) [SUSv4]
pthread_mutexattr_getpshared(GLIBC_2.2) [SUSv4]	pthread_mutexattr_gettype(GLIBC_2.2) [SUSv4]	pthread_mutexattr_init(GLIBC_2.2) [SUSv4]	pthread_mutexattr_setpshared(GLIBC_2.2) [SUSv4]
pthread_mutexattr_settype(GLIBC_2.2) [SUSv4]	pthread_once(GLIBC_2.2) [SUSv4]	pthread_rwlock_destroy(GLIBC_2.2) [SUSv4]	pthread_rwlock_init(GLIBC_2.2) [SUSv4]
pthread_rwlock_rdlock(GLIBC_2.2) [SUSv4]	pthread_rwlock_timedrdlock(GLIBC_2.2) [SUSv4]	pthread_rwlock_timedwrlock(GLIBC_2.2) [SUSv4]	pthread_rwlock_tryrdlock(GLIBC_2.2) [SUSv4]
pthread_rwlock_trywrlock(GLIBC_2.2) [SUSv4]	pthread_rwlock_unlock(GLIBC_2.2) [SUSv4]	pthread_rwlock_wrlock(GLIBC_2.2) [SUSv4]	pthread_rwlockattr_destroy(GLIBC_2.2) [SUSv4]
pthread_rwlockattr_getpshared(GLIBC_2.2) [SUSv4]	pthread_rwlockattr_init(GLIBC_2.2) [SUSv4]	pthread_rwlockattr_setpshared(GLIBC_2.2) [SUSv4]	pthread_self(GLIBC_2.2) [SUSv4]
pthread_setcancelstate(GLIBC_2.2) [SUSv4]	pthread_setcanceltype(GLIBC_2.2) [SUSv4]	pthread_setconcurrency(GLIBC_2.2) [SUSv4]	pthread_setspecific(GLIBC_2.2) [SUSv4]
pthread_sigmask(GLIBC_2.2) [SUSv4]	pthread_testcancel(GLIBC_2.2) [SUSv4]	sem_close(GLIBC_2.2) [SUSv4]	sem_destroy(GLIBC_2.2) [SUSv4]
sem_getvalue(GLIBC_2.2) [SUSv4]	sem_init(GLIBC_2.2) [SUSv4]	sem_open(GLIBC_2.2) [SUSv4]	sem_post(GLIBC_2.2) [SUSv4]
sem_timedwait(GLIBC_2.2) [SUSv4]	sem_trywait(GLIBC_2.2) [SUSv4]	sem_unlink(GLIBC_2.2) [SUSv4]	sem_wait(GLIBC_2.2) [SUSv4]

An LSB conforming implementation shall provide the architecture specific deprecated functions for Posix Threads specified in Table 10-45, with the full mandatory functionality as described in the referenced underlying specification.

Note: These interfaces are deprecated, and applications should avoid using them. These interfaces may be withdrawn in future releases of this specification.

Table 10-45 libpthread - Posix Threads Deprecated Function Interfaces

pthread_attr_getstackaddr(GLIBC_2.2) [SUSv3]	pthread_attr_setstackaddr(GLIBC_2.2) [SUSv3]		
--	--	--	--

10.7.4 Thread aware versions of libc interfaces

10.7.4.1 Interfaces for Thread aware versions of libc interfaces

An LSB conforming implementation shall provide the architecture specific functions for Thread aware versions of libc interfaces specified in Table 10-46, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-46 libpthread - Thread aware versions of libc interfaces Function Interfaces

lseek64(GLIBC_2.2) [LFS]	open64(GLIBC_2.2) [LFS]	pread(GLIBC_2.2) [SUSv4]	pread64(GLIBC_2.2) [LSB]
pwrite(GLIBC_2.2) [SUSv4]	pwrite64(GLIBC_2.2) [LSB]		

10.7.5 GNU Extensions for libpthread

10.7.5.1 Interfaces for GNU Extensions for libpthread

An LSB conforming implementation shall provide the architecture specific functions for GNU Extensions for libpthread specified in Table 10-47, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-47 libpthread - GNU Extensions for libpthread Function Interfaces

pthread_getattr_np(GLIBC_2.2.3) [LSB]	pthread_mutex_consistent_np(GLIBC_2.4) [LSB]	pthread_mutexattr_getrobust_np(GLIBC_2.4) [LSB]	pthread_mutexattr_setrobust_np(GLIBC_2.4) [LSB]
pthread_rwlockattr_getkind_np(GLIBC_2.2) [LSB]	pthread_rwlockattr_setkind_np(GLIBC_2.2) [LSB]		

10.7.6 System Calls

10.7.6.1 Interfaces for System Calls

An LSB conforming implementation shall provide the architecture specific functions for System Calls specified in Table 10-48, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-48 libpthread - System Calls Function Interfaces

close(GLIBC_2.2) [SUSv4]	fcntl(GLIBC_2.2) [LSB]	fork(GLIBC_2.2) [SUSv4]	fsync(GLIBC_2.2) [SUSv4]
lseek(GLIBC_2.2) [SUSv4]	msync(GLIBC_2.2) [SUSv4]	nanosleep(GLIBC_2.2) [SUSv4]	open(GLIBC_2.2) [SUSv4]
pause(GLIBC_2.2) [SUSv4]	read(GLIBC_2.2) [SUSv4]	vfork(GLIBC_2.2) [SUSv3]	wait(GLIBC_2.2) [SUSv4]
waitpid(GLIBC_2.2) [LSB]	write(GLIBC_2.2) [SUSv4]		

10.7.7 Standard I/O

10.7.7.1 Interfaces for Standard I/O

An LSB conforming implementation shall provide the architecture specific functions for Standard I/O specified in Table 10-49, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-49 libpthread - Standard I/O Function Interfaces

flockfile(GLIBC_2.2) [SUSv4]			
------------------------------	--	--	--

10.7.8 Signal Handling

10.7.8.1 Interfaces for Signal Handling

An LSB conforming implementation shall provide the architecture specific functions for Signal Handling specified in Table 10-50, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-50 libpthread - Signal Handling Function Interfaces

__libc_current_sigrtmax(GLIBC_2.2) [LSB]	__libc_current_sigrtmin(GLIBC_2.2) [LSB]	raise(GLIBC_2.2) [SUSv4]	sigaction(GLIBC_2.2) [SUSv4]
siglongjmp(GLIBC_2.2) [SUSv4]	sigwait(GLIBC_2.2) [SUSv4]		

10.7.9 Standard Library

10.7.9.1 Interfaces for Standard Library

An LSB conforming implementation shall provide the architecture specific functions for Standard Library specified in Table 10-51, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-51 libpthread - Standard Library Function Interfaces

__errno_location(GLIBC_2.2) [LSB]	ftrylockfile(GLIBC_2.2) [SUSv4]	funlockfile(GLIBC_2.2) [SUSv4]	longjmp(GLIBC_2.2) [SUSv4]
system(GLIBC_2.2) [LSB]			

10.7.10 Socket Interface

10.7.10.1 Interfaces for Socket Interface

An LSB conforming implementation shall provide the architecture specific functions for Socket Interface specified in Table 10-52, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-52 libpthread - Socket Interface Function Interfaces

__h_errno_location(GLIBC_2.2) [LSB]	accept(GLIBC_2.2) [SUSv4]	connect(GLIBC_2.2) [SUSv4]	recv(GLIBC_2.2) [SUSv4]
recvfrom(GLIBC_2.2) [SUSv4]	recvmsg(GLIBC_2.2) [SUSv4]	send(GLIBC_2.2) [SUSv4]	sendmsg(GLIBC_2.2) [SUSv4]
sendto(GLIBC_2.2) [SUSv4]			

10.7.11 Terminal Interface Functions

10.7.11.1 Interfaces for Terminal Interface Functions

An LSB conforming implementation shall provide the architecture specific functions for Terminal Interface Functions specified in Table 10-53, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-53 libpthread - Terminal Interface Functions Function Interfaces

tcdrain(GLIBC_2.2) [SUSv4]			
----------------------------	--	--	--

10.8 Data Definitions for libpthread

This section defines global identifiers and their values that are associated with interfaces contained in libpthread. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

10.8.1 lsb/pthread.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.8.2 pthread.h

```

#define __SIZEOF_PTHREAD_BARRIER_T 32
#define __SIZEOF_PTHREAD_MUTEX_T 40
#define __SIZEOF_PTHREAD_ATTR_T 56
#define __SIZEOF_PTHREAD_RWLOCK_T 56
#define PTHREAD_RWLOCK_INITIALIZER { { 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 } }
#define PTHREAD_MUTEX_INITIALIZER { { 0, 0, 0, 0, 0, 0, 0, { 0, 0 } } }

typedef union {
    char __size[__SIZEOF_PTHREAD_BARRIER_T];
    long int __align;
} pthread_barrier_t;

typedef struct __pthread_internal_list __pthread_list_t;
struct __pthread_mutex_s {
    int __lock;
    unsigned int __count;
    int __owner;
    unsigned int __nusers;
    int __kind;
    int __spins;
    __pthread_list_t __list;
};

typedef union {
    struct {
        int __lock;
        unsigned int __nr_readers;
        unsigned int __readers_wakeup;
        unsigned int __writer_wakeup;
        unsigned int __nr_readers_queued;
        unsigned int __nr_writers_queued;
        int __writer;
        int __pad1;
        unsigned long int __pad2;
        unsigned long int __pad3;
        unsigned int __flags;
    } __data;
    char __size[__SIZEOF_PTHREAD_RWLOCK_T];
    long int __align;
} pthread_rwlock_t;

```

10.8.3 semaphore.h

```

#define __SIZEOF_SEM_T 32

```

10.9 Interfaces for libgcc_s

Table 10-54 defines the library name and shared object name for the libgcc_s library

Table 10-54 libgcc_s Definition

Library:	libgcc_s
SONAME:	libgcc_s.so.1

The behavior of the interfaces in this library is specified by the following specifications:

[LSB] LSB Core - Generic

10.9.1 Unwind Library

10.9.1.1 Interfaces for Unwind Library

An LSB conforming implementation shall provide the architecture specific functions for Unwind Library specified in Table 10-55, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-55 libgcc_s - Unwind Library Function Interfaces

_Unwind_Backtrace(GCC_3.3) [LSB]	_Unwind_DeleteException(GCC_3.0) [LSB]	_Unwind_FindEnclosingFunction(GCC_3.3) [LSB]	_Unwind_FindFrame(GCC_3.0) [LSB]
_Unwind_ForceUnwind(GCC_3.0) [LSB]	_Unwind_GetCFA(GCC_3.3) [LSB]	_Unwind_GetDataRelBase(GCC_3.0) [LSB]	_Unwind_GetGR(GCC_3.0) [LSB]
_Unwind_GetIP(GCC_3.0) [LSB]	_Unwind_GetLanguageSpecificData(GCC_3.0) [LSB]	_Unwind_GetRegionStart(GCC_3.0) [LSB]	_Unwind_GetTextRelBase(GCC_3.0) [LSB]
_Unwind_RaiseException(GCC_3.0) [LSB]	_Unwind_Resume(GCC_3.0) [LSB]	_Unwind_Resume_or_Rethrow(GCC_3.3) [LSB]	_Unwind_SetGR(GCC_3.0) [LSB]
_Unwind_SetIP(GCC_3.0) [LSB]			

10.10 Data Definitions for libgcc_s

This section defines global identifiers and their values that are associated with interfaces contained in libgcc_s. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

10.10.1 unwind.h

```
extern _Unwind_Ptr _Unwind_GetDataRelBase(struct _Unwind_Context
*);
extern _Unwind_Ptr _Unwind_GetTextRelBase(struct _Unwind_Context
*);
```

10.11 Interface Definitions for libgcc_s

The interfaces defined on the following pages are included in libgcc_s and are defined by this specification. Unless otherwise noted, these interfaces shall be included in the source standard.

Other interfaces listed in Section 10.9 shall behave as described in the referenced base document. For interfaces referencing LSB and not listed below, please see the generic part of the specification.

_Unwind_Find_FDE

Name

_Unwind_Find_FDE — private C++ error handling method

Synopsis

```
fde * _Unwind_Find_FDE(void * pc, struct dwarf_eh_bases * bases);
```

Description

_Unwind_Find_FDE() looks for the object containing *pc*, then inserts into *bases*.

_Unwind_GetDataRelBase

Name

_Unwind_GetDataRelBase — private IA64 C++ error handling method

Synopsis

```
_Unwind_Ptr _Unwind_GetDataRelBase(struct _Unwind_Context * context);
```

Description

_Unwind_GetDataRelBase() returns the global pointer in register one for *context*.

_Unwind_GetTextRelBase

Name

_Unwind_GetTextRelBase — private IA64 C++ error handling method

Synopsis

```
_Unwind_Ptr _Unwind_GetTextRelBase(struct _Unwind_Context * context);
```

Description

_Unwind_GetTextRelBase() calls the abort method, then returns.

10.12 Interfaces for libdl

Table 10-56 defines the library name and shared object name for the libdl library

Table 10-56 libdl Definition

Library:	libdl
----------	-------

SONAME:	libdl.so.2
---------	------------

The behavior of the interfaces in this library is specified by the following specifications:

[LSB] LSB Core - Generic
[SUSv4] POSIX 1003.1-2008 (ISO/IEC 9945-2009)

10.12.1 Dynamic Loader

10.12.1.1 Interfaces for Dynamic Loader

An LSB conforming implementation shall provide the architecture specific functions for Dynamic Loader specified in Table 10-57, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-57 libdl - Dynamic Loader Function Interfaces

dladdr(GLIBC_2.2) [LSB]	dlclose(GLIBC_2.2) [SUSv4]	dlderror(GLIBC_2.2) [SUSv4]	dlopen(GLIBC_2.2) [LSB]
dlsym(GLIBC_2.2) [LSB]	dlvsym(GLIBC_2.2) [LSB]		

10.13 Data Definitions for libdl

This section defines global identifiers and their values that are associated with interfaces contained in libdl. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

10.13.1 dlfcn.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

10.14 Interfaces for libcrypt

Table 10-58 defines the library name and shared object name for the libcrypt library

Table 10-58 libcrypt Definition

Library:	libcrypt
----------	----------

SONAME:	libcrypt.so.1
---------	---------------

The behavior of the interfaces in this library is specified by the following specifications:

[LSB] LSB Core - Generic
[SUSv4] POSIX 1003.1-2008 (ISO/IEC 9945-2009)

10.14.1 Encryption

10.14.1.1 Interfaces for Encryption

An LSB conforming implementation shall provide the architecture specific functions for Encryption specified in Table 10-59, with the full mandatory functionality as described in the referenced underlying specification.

Table 10-59 libcrypt - Encryption Function Interfaces

crypt(GLIBC_2.2) [SUSv4]	crypt_r(GLIBC_2.2) [LSB]	encrypt(GLIBC_2.2) [SUSv4]	encrypt_r(GLIBC_2.2) [LSB]
setkey(GLIBC_2.2) [SUSv4]	setkey_r(GLIBC_2.2) [LSB]		

10.15 Data Definitions for libcrypt

This section defines global identifiers and their values that are associated with interfaces contained in libcrypt. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

10.15.1 crypt.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

IV Utility Libraries

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11 Libraries

An LSB-conforming implementation shall also support the following utility libraries which are built on top of the interfaces provided by the base libraries. These libraries implement common functionality, and hide additional system dependent information such as file formats and device names.

11.1 Interfaces for libz

Table 11-1 defines the library name and shared object name for the libz library

Table 11-1 libz Definition

Library:	libz
SONAME:	libz.so.1

11.1.1 Compression Library

11.1.1.1 Interfaces for Compression Library

No external functions are defined for libz - Compression Library in this part of the specification. See also the generic specification.

11.2 Data Definitions for libz

This section defines global identifiers and their values that are associated with interfaces contained in libz. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

11.2.1 zconf.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

11.2.2 zlib.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

11.3 Interfaces for libncurses

Table 11-2 defines the library name and shared object name for the libncurses library

Table 11-2 libncurses Definition

Library:	libncurses
SONAME:	libncurses.so.5

11.3.1 Curses

11.3.1.1 Interfaces for Curses

No external functions are defined for libncurses - Curses in this part of the specification. See also the generic specification.

11.4 Data Definitions for libncurses

This section defines global identifiers and their values that are associated with interfaces contained in libncurses. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

11.4.1 curses.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

11.5 Interfaces for libncursesw

Table 11-3 defines the library name and shared object name for the libncursesw library

Table 11-3 libncursesw Definition

Library:	libncursesw
SONAME:	libncursesw.so.5

11.5.1 Curses Wide

11.5.1.1 Interfaces for Curses Wide

No external functions are defined for libncursesw - Curses Wide in this part of the specification. See also the generic specification.

11.6 Data Definitions for libncursesw

This section defines global identifiers and their values that are associated with interfaces contained in libncursesw. These definitions are organized into groups that correspond to system headers. This convention is used as a convenience for the reader, and does not imply the existence of these headers, or their content. Where an interface is defined as requiring a particular system header file all of the data definitions for that system header file presented here shall be in effect.

This section gives data definitions to promote binary application portability, not to repeat source interface definitions available elsewhere. System providers and application developers should use this ABI to supplement - not to replace - source interface definition specifications.

This specification uses the ISO C (1999) C Language as the reference programming language, and data definitions are specified in ISO C format. The C language is used here as a convenient notation. Using a C language description of these data objects does not preclude their use by other programming languages.

11.6.1 ncursesw/curses.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

11.6.2 ncursesw/ncurses_dll.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

11.6.3 ncursesw/term.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

11.6.4 ncursesw/unctrl.h

```
/*
 * This header is architecture neutral
 * Please refer to the generic specification for details
 */
```

11.7 Interfaces for libutil

Table 11-4 defines the library name and shared object name for the libutil library

Table 11-4 libutil Definition

Library:	libutil
SONAME:	libutil.so.1

The behavior of the interfaces in this library is specified by the following specifications:

[LSB] LSB Core - Generic

11.7.1 Utility Functions

11.7.1.1 Interfaces for Utility Functions

An LSB conforming implementation shall provide the architecture specific functions for Utility Functions specified in Table 11-5, with the full mandatory functionality as described in the referenced underlying specification.

Table 11-5 libutil - Utility Functions Function Interfaces

forkpty(GLIBC_2.2) [LSB]	login(GLIBC_2.2) [LSB]	login_tty(GLIBC_2.2) [LSB]	logout(GLIBC_2.2) [LSB]
logwtmp(GLIBC_2.2) [LSB]	openpty(GLIBC_2.2) [LSB]		

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V Base Libraries

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12 Libraries

An LSB-conforming implementation shall support base libraries which provide interfaces for accessing the operating system, processor and other hardware in the system.

Only those interfaces that are unique to the z/Architecture platform are defined here. This section should be used in conjunction with the corresponding section in the Linux Standard Base Specification.

12.1 Interfaces for libstdcxx

Table 12-1 defines the library name and shared object name for the libstdcxx library

Table 12-1 libstdcxx Definition

Library:	libstdcxx
SONAME:	libstdc++.so.6

The behavior of the interfaces in this library is specified by the following specifications:

[CXXABI-1.86] Itanium™ C++ ABI
 [ISOCXX] ISO/IEC 14882: 2003 C++ Language
 [LSB] LSB Core - Generic

12.1.1 C++ Runtime Support

12.1.1.1 Interfaces for C++ Runtime Support

An LSB conforming implementation shall provide the architecture specific methods for C++ Runtime Support specified in Table 12-2, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-2 libstdcxx - C++ Runtime Support Function Interfaces

operator new[](unsigned long)(GLIBCXX_3.4) [ISOCXX]
operator new[](unsigned long, noexcept_t const&)(GLIBCXX_3.4) [ISOCXX]
operator new(unsigned long)(GLIBCXX_3.4) [ISOCXX]
operator new(unsigned long, noexcept_t const&)(GLIBCXX_3.4) [ISOCXX]

12.1.2 C++ type descriptors for built-in types

12.1.2.1 Interfaces for C++ type descriptors for built-in types

No external methods are defined for libstdcxx - C++ type descriptors for built-in types in this part of the specification. See also the generic specification.

12.1.3 C++ _Rb_tree

12.1.3.1 Interfaces for C++ _Rb_tree

No external methods are defined for libstdcxx - C++ _Rb_tree in this part of the specification. See also the generic specification.

12.1.4 Class type_info

12.1.4.1 Class data for type_info

The virtual table for the `std::type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `std::type_info` class is described by Table 12-3

Table 12-3 typeinfo for type_info

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeinfo name for <code>type_info</code>

12.1.4.2 Interfaces for Class type_info

No external methods are defined for `libstdc++` - Class `std::type_info` in this part of the specification. See also the generic specification.

12.1.5 Class __cxxabiv1::__enum_type_info

12.1.5.1 Class data for __cxxabiv1::__enum_type_info

The virtual table for the `__cxxabiv1::__enum_type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__enum_type_info` class is described by Table 12-4

Table 12-4 typeinfo for __cxxabiv1::__enum_type_info

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__cxxabiv1::__enum_type_info</code>

12.1.5.2 Interfaces for Class __cxxabiv1::__enum_type_info

No external methods are defined for `libstdc++` - Class `__cxxabiv1::__enum_type_info` in this part of the specification. See also the generic specification.

12.1.6 Class __cxxabiv1::__array_type_info

12.1.6.1 Class data for __cxxabiv1::__array_type_info

The virtual table for the `__cxxabiv1::__array_type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__array_type_info` class is described by Table 12-5

Table 12-5 typeinfo for __cxxabiv1::__array_type_info

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
-------------	---

Name	typeinfo name for __cxxabiv1::__array_type_info
------	--

12.1.6.2 Interfaces for Class __cxxabiv1::__array_type_info

No external methods are defined for libstdc++ - Class __cxxabiv1::__array_type_info in this part of the specification. See also the generic specification.

12.1.7 Class __cxxabiv1::__class_type_info

12.1.7.1 Class data for __cxxabiv1::__class_type_info

The virtual table for the __cxxabiv1::__class_type_info class is described by Table 12-6

Table 12-6 Primary vtable for __cxxabiv1::__class_type_info

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for __cxxabiv1::__class_type_info
vfunc[0]:	__cxxabiv1::__class_type_info::~__class_type_info()
vfunc[1]:	__cxxabiv1::__class_type_info::~__class_type_info()
vfunc[2]:	type_info::__is_pointer_p() const
vfunc[3]:	type_info::__is_function_p() const
vfunc[4]:	__cxxabiv1::__class_type_info::__do_catch(type_info const*, void**, unsigned int) const
vfunc[5]:	__cxxabiv1::__class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const
vfunc[6]:	__cxxabiv1::__class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__upcast_result&) const
vfunc[7]:	__cxxabiv1::__class_type_info::__do_dynccast(long, __cxxabiv1::__class_type_info::__sub_kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dynccast_result&) const

vfunc[8]:	<code>__cxxabiv1::__class_type_info::__do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const</code>
-----------	--

The Run Time Type Information for the `__cxxabiv1::__class_type_info` class is described by Table 12-7

Table 12-7 typeinfo for `__cxxabiv1::__class_type_info`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__cxxabiv1::__class_type_info</code>

12.1.7.2 Interfaces for Class `__cxxabiv1::__class_type_info`

An LSB conforming implementation shall provide the architecture specific methods for Class `__cxxabiv1::__class_type_info` specified in Table 12-8, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-8 libstdc++ - Class `__cxxabiv1::__class_type_info` Function Interfaces

<code>__cxxabiv1::__class_type_info::__do_dyncast(long, __cxxabiv1::__class_type_info::__sub_kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dyncast_result&) const(CXXABI_1.3)</code> [CXXABI-1.86]
<code>__cxxabiv1::__class_type_info::__do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3)</code> [CXXABI-1.86]

12.1.8 Class `__cxxabiv1::__pbase_type_info`

12.1.8.1 Class data for `__cxxabiv1::__pbase_type_info`

The virtual table for the `__cxxabiv1::__pbase_type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__pbase_type_info` class is described by Table 12-9

Table 12-9 typeinfo for `__cxxabiv1::__pbase_type_info`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__cxxabiv1::__pbase_type_info</code>

12.1.8.2 Interfaces for Class `__cxxabiv1::__pbase_type_info`

No external methods are defined for libstdc++ - Class `__cxxabiv1::__pbase_type_info` in this part of the specification. See also the generic specification.

12.1.9 Class `__cxxabiv1::__pointer_type_info`

12.1.9.1 Class data for `__cxxabiv1::__pointer_type_info`

The virtual table for the `__cxxabiv1::__pointer_type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__pointer_type_info` class is described by Table 12-10

Table 12-10 typeinfo for `__cxxabiv1::__pointer_type_info`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__cxxabiv1::__pointer_type_info</code>

12.1.9.2 Interfaces for Class `__cxxabiv1::__pointer_type_info`

No external methods are defined for `libstdc++` - Class `__cxxabiv1::__pointer_type_info` in this part of the specification. See also the generic specification.

12.1.10 Class `__cxxabiv1::__function_type_info`

12.1.10.1 Class data for `__cxxabiv1::__function_type_info`

The virtual table for the `__cxxabiv1::__function_type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__function_type_info` class is described by Table 12-11

Table 12-11 typeinfo for `__cxxabiv1::__function_type_info`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__cxxabiv1::__function_type_info</code>

12.1.10.2 Interfaces for Class `__cxxabiv1::__function_type_info`

No external methods are defined for `libstdc++` - Class `__cxxabiv1::__function_type_info` in this part of the specification. See also the generic specification.

12.1.11 Class `__cxxabiv1::__si_class_type_info`

12.1.11.1 Class data for `__cxxabiv1::__si_class_type_info`

The virtual table for the `__cxxabiv1::__si_class_type_info` class is described by Table 12-12

Table 12-12 Primary vtable for `__cxxabiv1::__si_class_type_info`

Base Offset	0
-------------	---

Virtual Base Offset	0
RTTI	typeinfo for __cxxabiv1::__si_class_type_info
vfunc[0]:	__cxxabiv1::__si_class_type_info::~~ si_class_type_info()
vfunc[1]:	__cxxabiv1::__si_class_type_info::~~ si_class_type_info()
vfunc[2]:	type_info::__is_pointer_p() const
vfunc[3]:	type_info::__is_function_p() const
vfunc[4]:	__cxxabiv1::__class_type_info::__do catch(type_info const*, void**, unsigned int) const
vfunc[5]:	__cxxabiv1::__class_type_info::__do upcast(__cxxabiv1::__class_type_info const*, void**) const
vfunc[6]:	__cxxabiv1::__si_class_type_info::__d o_upcast(__cxxabiv1::__class_type_in fo const*, void const*, __cxxabiv1::__class_type_info::__upc ast_result&) const
vfunc[7]:	__cxxabiv1::__si_class_type_info::__d o_dyn_cast(long, __cxxabiv1::__class_type_info::__sub _kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dyn cast_result&) const
vfunc[8]:	__cxxabiv1::__si_class_type_info::__d o_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const

The Run Time Type Information for the __cxxabiv1::__si_class_type_info class is described by Table 12-13

Table 12-13 typeinfo for __cxxabiv1::__si_class_type_info

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for __cxxabiv1::__si_class_type_info

12.1.11.2 Interfaces for Class __cxxabiv1::__si_class_type_info

An LSB conforming implementation shall provide the architecture specific methods for Class __cxxabiv1::__si_class_type_info specified in Table 12-14, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-14 libstdcxx - Class __cxxabiv1::__si_class_type_info Function Interfaces

__cxxabiv1::__si_class_type_info::__do_dynccast(long, __cxxabiv1::__class_type_info::__sub_kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dynccast_result&) const(CXXABI_1.3) [CXXABI-1.86]
__cxxabiv1::__si_class_type_info::__do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3) [CXXABI-1.86]

12.1.12 Class __cxxabiv1::__vmi_class_type_info

12.1.12.1 Class data for __cxxabiv1::__vmi_class_type_info

The virtual table for the __cxxabiv1::__vmi_class_type_info class is described by Table 12-15

Table 12-15 Primary vtable for __cxxabiv1::__vmi_class_type_info

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for __cxxabiv1::__vmi_class_type_info
vfunc[0]:	__cxxabiv1::__vmi_class_type_info::~~__vmi_class_type_info()
vfunc[1]:	__cxxabiv1::__vmi_class_type_info::~~__vmi_class_type_info()
vfunc[2]:	type_info::__is_pointer_p() const
vfunc[3]:	type_info::__is_function_p() const
vfunc[4]:	__cxxabiv1::__class_type_info::__do_catch(type_info const*, void**, unsigned int) const
vfunc[5]:	__cxxabiv1::__class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const
vfunc[6]:	__cxxabiv1::__vmi_class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__upcast_result&) const

vfunc[7]:	<code>__cxxabiv1::__vmi_class_type_info:: _do_dyncast(long, __cxxabiv1::__class_type_info::__sub _kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dyn cast_result&) const</code>
vfunc[8]:	<code>__cxxabiv1::__vmi_class_type_info:: _do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const</code>

The Run Time Type Information for the `__cxxabiv1::__vmi_class_type_info` class is described by Table 12-16

Table 12-16 typeinfo for `__cxxabiv1::__vmi_class_type_info`

Base Vtable	vtable for <code>__cxxabiv1::__vmi_class_type_info</code>
Name	typeinfo name for <code>__cxxabiv1::__vmi_class_type_info</code>

12.1.12.2 Interfaces for Class `__cxxabiv1::__vmi_class_type_info`

An LSB conforming implementation shall provide the architecture specific methods for Class `__cxxabiv1::__vmi_class_type_info` specified in Table 12-17, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-17 libstdc++ - Class `__cxxabiv1::__vmi_class_type_info` Function Interfaces

<code>__cxxabiv1::__vmi_class_type_info::_do_dyncast(long, __cxxabiv1::__class_type_info::__sub_kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dyncast_result&) const(CXXABI_1.3) [CXXABI-1.86]</code>
<code>__cxxabiv1::__vmi_class_type_info::_do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3) [CXXABI-1.86]</code>

12.1.13 Class `__cxxabiv1::__fundamental_type_info`

12.1.13.1 Class data for `__cxxabiv1::__fundamental_type_info`

The virtual table for the `__cxxabiv1::__fundamental_type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__fundamental_type_info` class is described by Table 12-18

Table 12-18 typeid for `__cxxabiv1::__fundamental_type_info`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>__cxxabiv1::__fundamental_type_info</code>

12.1.13.2 Interfaces for Class**`__cxxabiv1::__fundamental_type_info`**

No external methods are defined for `libstdcxx` - Class `__cxxabiv1::__fundamental_type_info` in this part of the specification. See also the generic specification.

12.1.14 Class**`__cxxabiv1::__pointer_to_member_type_info`****12.1.14.1 Class data for****`__cxxabiv1::__pointer_to_member_type_info`**

The virtual table for the `__cxxabiv1::__pointer_to_member_type_info` class is described in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__pointer_to_member_type_info` class is described by Table 12-19

Table 12-19 typeid for `__cxxabiv1::__pointer_to_member_type_info`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>__cxxabiv1::__pointer_to_member_type_info</code>

12.1.14.2 Interfaces for Class**`__cxxabiv1::__pointer_to_member_type_info`**

No external methods are defined for `libstdcxx` - Class `__cxxabiv1::__pointer_to_member_type_info` in this part of the specification. See also the generic specification.

12.1.15 Class `__gnu_cxx::stdio_filebuf<char, char_traits<char> >`**12.1.15.1 Interfaces for Class `__gnu_cxx::stdio_filebuf<char, char_traits<char> >`**

No external methods are defined for `libstdcxx` - Class `__gnu_cxx::stdio_filebuf<char, std::char_traits<char> >` in this part of the specification. See also the generic specification.

12.1.16 Class `__gnu_cxx::stdio_filebuf<wchar_t, char_traits<wchar_t> >`

12.1.16.1 Interfaces for Class

`__gnu_cxx::stdio_filebuf<wchar_t, char_traits<wchar_t> >`

No external methods are defined for `libstdcxx` - Class `__gnu_cxx::stdio_filebuf<wchar_t, std::char_traits<wchar_t> >` in this part of the specification. See also the generic specification.

12.1.17 Class `__gnu_cxx::__pool_alloc_base`

12.1.17.1 Interfaces for Class `__gnu_cxx::__pool_alloc_base`

An LSB conforming implementation shall provide the architecture specific methods for Class `__gnu_cxx::__pool_alloc_base` specified in Table 12-20, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-20 `libstdcxx` - Class `__gnu_cxx::__pool_alloc_base` Function Interfaces

<code>__gnu_cxx::__pool_alloc_base::M_get_free_list(unsigned long)(GLIBCXX_3.4.2) [LSB]</code>
<code>__gnu_cxx::__pool_alloc_base::M_refill(unsigned long)(GLIBCXX_3.4.2) [LSB]</code>

12.1.18 Class `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >`

12.1.18.1 Class data for `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >`

The virtual table for the `__gnu_cxx::stdio_sync_filebuf<char, std::char_traits<char> >` class is described by Table 12-21

Table 12-21 Primary vtable for `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for __gnu_cxx::stdio_sync_filebuf<char, char_traits<char> ></code>
<code>vfunc[0]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::~~stdio_sync_filebuf()</code>
<code>vfunc[1]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::~~stdio_sync_filebuf()</code>
<code>vfunc[2]:</code>	<code>basic_streambuf<char, char_traits<char> >::imbue(locale const&)</code>

vfunc[3]:	basic_streambuf<char, char_traits<char> >::setbuf(char*, long)
vfunc[4]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)
vfunc[5]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)
vfunc[6]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::sync()
vfunc[7]:	basic_streambuf<char, char_traits<char> >::showmanyc()
vfunc[8]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::xsgetn(char*, long)
vfunc[9]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::underflow()
vfunc[10]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::uflow()
vfunc[11]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::pbackfail(int)
vfunc[12]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::xsputn(char const*, long)
vfunc[13]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::overflow(int)

12.1.18.2 Interfaces for Class

__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >

No external methods are defined for libstdc++ - Class __gnu_cxx::stdio_sync_filebuf<char, std::char_traits<char> > in this part of the specification. See also the generic specification.

12.1.19 Class __gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >

12.1.19.1 Class data for

__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >

The virtual table for the __gnu_cxx::stdio_sync_filebuf<wchar_t, std::char_traits<wchar_t> > class is described by Table 12-22

Table 12-22 Primary vtable for `__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>></code>
vfunc[0]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::~~stdio_sync_filebuf()</code>
vfunc[1]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::~~stdio_sync_filebuf()</code>
vfunc[2]:	<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::imbue(locale const&)</code>
vfunc[3]:	<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::setbuf(wchar_t*, long)</code>
vfunc[4]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::seekoff(long, _Ios_Seekdir, _Ios_Openmode)</code>
vfunc[5]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>
vfunc[6]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::sync()</code>
vfunc[7]:	<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::showmanyc()</code>
vfunc[8]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::xsgetn(wchar_t*, long)</code>
vfunc[9]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::underflow()</code>
vfunc[10]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::uflow()</code>
vfunc[11]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::pbackfail(unsigned int)</code>

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vfunc[12]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::xsputn(wchar_t const*, long)</code>
vfunc[13]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>::overflow(unsigned int)</code>

12.1.19.2 Interfaces for Class

`__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>`

No external methods are defined for libstdc++ - Class `__gnu_cxx::stdio_sync_filebuf<wchar_t, std::char_traits<wchar_t>>` in this part of the specification. See also the generic specification.

12.1.20 Class exception

12.1.20.1 Class data for exception

The virtual table for the `std::exception` class is described in the generic part of this specification.

The Run Time Type Information for the `std::exception` class is described by Table 12-23

Table 12-23 typeinfo for exception

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeinfo name for exception

12.1.20.2 Interfaces for Class exception

No external methods are defined for libstdc++ - Class `std::exception` in this part of the specification. See also the generic specification.

12.1.21 Class bad_typeid

12.1.21.1 Class data for bad_typeid

The virtual table for the `std::bad_typeid` class is described in the generic part of this specification.

The Run Time Type Information for the `std::bad_typeid` class is described by Table 12-24

Table 12-24 typeinfo for bad_typeid

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for bad_typeid

12.1.21.2 Interfaces for Class bad_typeid

No external methods are defined for libstdc++ - Class `std::bad_typeid` in this part of the specification. See also the generic specification.

12.1.22 Class logic_error

12.1.22.1 Class data for logic_error

The virtual table for the `std::logic_error` class is described in the generic part of this specification.

The Run Time Type Information for the `std::logic_error` class is described by Table 12-25

Table 12-25 typeinfo for logic_error

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for logic_error

12.1.22.2 Interfaces for Class logic_error

No external methods are defined for `libstdc++` - Class `std::logic_error` in this part of the specification. See also the generic specification.

12.1.23 Class range_error

12.1.23.1 Class data for range_error

The virtual table for the `std::range_error` class is described in the generic part of this specification.

The Run Time Type Information for the `std::range_error` class is described by Table 12-26

Table 12-26 typeinfo for range_error

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for range_error

12.1.23.2 Interfaces for Class range_error

No external methods are defined for `libstdc++` - Class `std::range_error` in this part of the specification. See also the generic specification.

12.1.24 Class domain_error

12.1.24.1 Class data for domain_error

The virtual table for the `std::domain_error` class is described in the generic part of this specification.

The Run Time Type Information for the `std::domain_error` class is described by Table 12-27

Table 12-27 typeinfo for domain_error

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for domain_error

12.1.24.2 Interfaces for Class `domain_error`

No external methods are defined for `libstdc++` - Class `std::domain_error` in this part of the specification. See also the generic specification.

12.1.25 Class `length_error`

12.1.25.1 Class data for `length_error`

The virtual table for the `std::length_error` class is described in the generic part of this specification.

The Run Time Type Information for the `std::length_error` class is described by Table 12-28

Table 12-28 `typeinfo` for `length_error`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>length_error</code>

12.1.25.2 Interfaces for Class `length_error`

No external methods are defined for `libstdc++` - Class `std::length_error` in this part of the specification. See also the generic specification.

12.1.26 Class `out_of_range`

12.1.26.1 Class data for `out_of_range`

The virtual table for the `std::out_of_range` class is described in the generic part of this specification.

The Run Time Type Information for the `std::out_of_range` class is described by Table 12-29

Table 12-29 `typeinfo` for `out_of_range`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>out_of_range</code>

12.1.26.2 Interfaces for Class `out_of_range`

No external methods are defined for `libstdc++` - Class `std::out_of_range` in this part of the specification. See also the generic specification.

12.1.27 Class `bad_exception`

12.1.27.1 Class data for `bad_exception`

The virtual table for the `std::bad_exception` class is described in the generic part of this specification.

The Run Time Type Information for the `std::bad_exception` class is described by Table 12-30

Table 12-30 typeinfo for `bad_exception`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>bad_exception</code>

12.1.27.2 Interfaces for Class `bad_exception`

No external methods are defined for `libstdc++` - Class `std::bad_exception` in this part of the specification. See also the generic specification.

12.1.28 Class `runtime_error`

12.1.28.1 Class data for `runtime_error`

The virtual table for the `std::runtime_error` class is described in the generic part of this specification.

The Run Time Type Information for the `std::runtime_error` class is described by Table 12-31

Table 12-31 typeinfo for `runtime_error`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>runtime_error</code>

12.1.28.2 Interfaces for Class `runtime_error`

No external methods are defined for `libstdc++` - Class `std::runtime_error` in this part of the specification. See also the generic specification.

12.1.29 Class `overflow_error`

12.1.29.1 Class data for `overflow_error`

The virtual table for the `std::overflow_error` class is described in the generic part of this specification.

The Run Time Type Information for the `std::overflow_error` class is described by Table 12-32

Table 12-32 typeinfo for `overflow_error`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>overflow_error</code>

12.1.29.2 Interfaces for Class `overflow_error`

No external methods are defined for `libstdc++` - Class `std::overflow_error` in this part of the specification. See also the generic specification.

12.1.30 Class `underflow_error`

12.1.30.1 Class data for `underflow_error`

The virtual table for the `std::underflow_error` class is described in the generic part of this specification.

The Run Time Type Information for the `std::underflow_error` class is described by Table 12-33

Table 12-33 typeinfo for `underflow_error`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>underflow_error</code>

12.1.30.2 Interfaces for Class `underflow_error`

No external methods are defined for `libstdc++` - Class `std::underflow_error` in this part of the specification. See also the generic specification.

12.1.31 Class `invalid_argument`

12.1.31.1 Class data for `invalid_argument`

The virtual table for the `std::invalid_argument` class is described in the generic part of this specification.

The Run Time Type Information for the `std::invalid_argument` class is described by Table 12-34

Table 12-34 typeinfo for `invalid_argument`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>invalid_argument</code>

12.1.31.2 Interfaces for Class `invalid_argument`

No external methods are defined for `libstdc++` - Class `std::invalid_argument` in this part of the specification. See also the generic specification.

12.1.32 Class `bad_cast`

12.1.32.1 Class data for `bad_cast`

The virtual table for the `std::bad_cast` class is described in the generic part of this specification.

The Run Time Type Information for the `std::bad_cast` class is described by Table 12-35

Table 12-35 typeinfo for `bad_cast`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>bad_cast</code>

12.1.32.2 Interfaces for Class `bad_cast`

No external methods are defined for `libstdc++` - Class `std::bad_cast` in this part of the specification. See also the generic specification.

12.1.33 Class `bad_alloc`

12.1.33.1 Class data for `bad_alloc`

The virtual table for the `std::bad_alloc` class is described in the generic part of this specification.

The Run Time Type Information for the `std::bad_alloc` class is described by Table 12-36

Table 12-36 `typeinfo` for `bad_alloc`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>bad_alloc</code>

12.1.33.2 Interfaces for Class `bad_alloc`

No external methods are defined for `libstdc++` - Class `std::bad_alloc` in this part of the specification. See also the generic specification.

12.1.34 struct `__numeric_limits_base`

12.1.34.1 Interfaces for struct `__numeric_limits_base`

No external methods are defined for `libstdc++` - struct `__numeric_limits_base` in this part of the specification. See also the generic specification.

12.1.35 struct `numeric_limits<long double>`

12.1.35.1 Interfaces for struct `numeric_limits<long double>`

No external methods are defined for `libstdc++` - struct `numeric_limits<long double>` in this part of the specification. See also the generic specification.

12.1.36 struct `numeric_limits<long long>`

12.1.36.1 Interfaces for struct `numeric_limits<long long>`

No external methods are defined for `libstdc++` - struct `numeric_limits<long long>` in this part of the specification. See also the generic specification.

12.1.37 struct `numeric_limits<unsigned long long>`

12.1.37.1 Interfaces for struct `numeric_limits<unsigned long long>`

No external methods are defined for `libstdc++` - struct `numeric_limits<unsigned long long>` in this part of the specification. See also the generic specification.

12.1.38 struct numeric_limits<float>**12.1.38.1 Interfaces for struct numeric_limits<float>**

No external methods are defined for libstdc++ - struct numeric_limits<float> in this part of the specification. See also the generic specification.

12.1.39 struct numeric_limits<double>**12.1.39.1 Interfaces for struct numeric_limits<double>**

No external methods are defined for libstdc++ - struct numeric_limits<double> in this part of the specification. See also the generic specification.

12.1.40 struct numeric_limits<short>**12.1.40.1 Interfaces for struct numeric_limits<short>**

No external methods are defined for libstdc++ - struct numeric_limits<short> in this part of the specification. See also the generic specification.

12.1.41 struct numeric_limits<unsigned short>**12.1.41.1 Interfaces for struct numeric_limits<unsigned short>**

No external methods are defined for libstdc++ - struct numeric_limits<unsigned short> in this part of the specification. See also the generic specification.

12.1.42 struct numeric_limits<int>**12.1.42.1 Interfaces for struct numeric_limits<int>**

No external methods are defined for libstdc++ - struct numeric_limits<int> in this part of the specification. See also the generic specification.

12.1.43 struct numeric_limits<unsigned int>**12.1.43.1 Interfaces for struct numeric_limits<unsigned int>**

No external methods are defined for libstdc++ - struct numeric_limits<unsigned int> in this part of the specification. See also the generic specification.

12.1.44 struct numeric_limits<long>**12.1.44.1 Interfaces for struct numeric_limits<long>**

No external methods are defined for libstdc++ - struct numeric_limits<long> in this part of the specification. See also the generic specification.

12.1.45 struct numeric_limits<unsigned long>**12.1.45.1 Interfaces for struct numeric_limits<unsigned long>**

No external methods are defined for libstdc++ - struct numeric_limits<unsigned long> in this part of the specification. See also the generic specification.

12.1.46 struct numeric_limits<wchar_t>**12.1.46.1 Interfaces for struct numeric_limits<wchar_t>**

No external methods are defined for libstdcxx - struct numeric_limits<wchar_t> in this part of the specification. See also the generic specification.

12.1.47 struct numeric_limits<unsigned char>**12.1.47.1 Interfaces for struct numeric_limits<unsigned char>**

No external methods are defined for libstdcxx - struct numeric_limits<unsigned char> in this part of the specification. See also the generic specification.

12.1.48 struct numeric_limits<signed char>**12.1.48.1 Interfaces for struct numeric_limits<signed char>**

No external methods are defined for libstdcxx - struct numeric_limits<signed char> in this part of the specification. See also the generic specification.

12.1.49 struct numeric_limits<char>**12.1.49.1 Interfaces for struct numeric_limits<char>**

No external methods are defined for libstdcxx - struct numeric_limits<char> in this part of the specification. See also the generic specification.

12.1.50 struct numeric_limits<bool>**12.1.50.1 Interfaces for struct numeric_limits<bool>**

No external methods are defined for libstdcxx - struct numeric_limits<bool> in this part of the specification. See also the generic specification.

12.1.51 struct numeric_limits<__float128>**12.1.51.1 Interfaces for struct numeric_limits<__float128>**

No external methods are defined for libstdcxx - struct numeric_limits<__float128> in this part of the specification. See also the generic specification.

An LSB conforming implementation shall provide the architecture specific data interfaces for struct numeric_limits<__float128> specified in Table 12-37, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-37 libstdcxx - struct numeric_limits<__float128> Data Interfaces

numeric_limits<__float128>::has_denorm(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::is_bounded(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::is_integer(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::round_style(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::has_infinity(GLIBCXX_LDBL_3.4) [ISOCXX]

numeric_limits<__float128>::max_exponent(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::min_exponent(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::has_quiet_NaN(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::is_specialized(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::max_exponent10(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::min_exponent10(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::has_denorm_loss(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::tinyness_before(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::has_signaling_NaN(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::radix(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::traps(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::digits(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::digits10(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::is_exact(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::is_iec559(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::is_modulo(GLIBCXX_LDBL_3.4) [ISOCXX]
numeric_limits<__float128>::is_signed(GLIBCXX_LDBL_3.4) [ISOCXX]
typeinfo for __float128 const*(CXXABI_LDBL_1.3) [CXXABI-1.86]
typeinfo for __float128*(CXXABI_LDBL_1.3) [CXXABI-1.86]
typeinfo for __float128(CXXABI_LDBL_1.3) [CXXABI-1.86]
typeinfo name for __float128 const*(CXXABI_LDBL_1.3) [CXXABI-1.86]
typeinfo name for __float128*(CXXABI_LDBL_1.3) [CXXABI-1.86]
typeinfo name for __float128(CXXABI_LDBL_1.3) [CXXABI-1.86]

12.1.52 Class ctype_base

12.1.52.1 Class data for ctype_base

The Run Time Type Information for the std::ctype_base class is described by Table 12-38

Table 12-38 typeinfo for ctype_base

Base Vtable	vtable for __cxxabiv1::__class_type_info
Name	typeinfo name for ctype_base

12.1.52.2 Interfaces for Class `ctype_base`

No external methods are defined for `libstdcxx` - Class `std::ctype_base` in this part of the specification. See also the generic specification.

12.1.53 Class `__ctype_abstract_base<char>`

12.1.53.1 Class data for `__ctype_abstract_base<char>`

The virtual table for the `std::__ctype_abstract_base<char>` class is described in the generic part of this specification.

12.1.53.2 Interfaces for Class `__ctype_abstract_base<char>`

No external methods are defined for `libstdcxx` - Class `std::__ctype_abstract_base<char>` in this part of the specification. See also the generic specification.

12.1.54 Class `__ctype_abstract_base<wchar_t>`

12.1.54.1 Class data for `__ctype_abstract_base<wchar_t>`

The virtual table for the `std::__ctype_abstract_base<wchar_t>` class is described in the generic part of this specification.

12.1.54.2 Interfaces for Class `__ctype_abstract_base<wchar_t>`

No external methods are defined for `libstdcxx` - Class `std::__ctype_abstract_base<wchar_t>` in this part of the specification. See also the generic specification.

12.1.55 Class `ctype<char>`

12.1.55.1 Class data for `ctype<char>`

The virtual table for the `std::ctype<char>` class is described in the generic part of this specification.

12.1.55.2 Interfaces for Class `ctype<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::ctype<char>` specified in Table 12-39, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-39 `libstdcxx` - Class `ctype<char>` Function Interfaces

<code>ctype<char>::ctype(__locale_struct*, unsigned short const*, bool, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype<char>::ctype(unsigned short const*, bool, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype<char>::ctype(__locale_struct*, unsigned short const*, bool, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype<char>::ctype(unsigned short const*, bool, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.56 Class `ctype<wchar_t>`

12.1.56.1 Class data for `ctype<wchar_t>`

The virtual table for the `std::ctype<wchar_t>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::ctype<wchar_t>` class is described by Table 12-40

Table 12-40 `typeinfo` for `ctype<wchar_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>ctype<wchar_t></code>

12.1.56.2 Interfaces for Class `ctype<wchar_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::ctype<wchar_t>` specified in Table 12-41, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-41 `libstdc++` - Class `ctype<wchar_t>` Function Interfaces

<code>ctype<wchar_t>::ctype(__locale_struct*, unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>ctype<wchar_t>::ctype(unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>ctype<wchar_t>::ctype(__locale_struct*, unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>ctype<wchar_t>::ctype(unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]

12.1.57 Class `ctype_byname<char>`

12.1.57.1 Class data for `ctype_byname<char>`

The virtual table for the `std::ctype_byname<char>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::ctype_byname<char>` class is described by Table 12-42

Table 12-42 `typeinfo` for `ctype_byname<char>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>ctype_byname<char></code>

12.1.57.2 Interfaces for Class `ctype_byname<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::ctype_byname<char>` specified in Table 12-43, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-43 libstdcxx - Class ctype_byname<char> Function Interfaces

ctype_byname<char>::ctype_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
ctype_byname<char>::ctype_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.58 Class ctype_byname<wchar_t>**12.1.58.1 Class data for ctype_byname<wchar_t>**

The virtual table for the std::ctype_byname<wchar_t> class is described in the generic part of this specification.

The Run Time Type Information for the std::ctype_byname<wchar_t> class is described by Table 12-44

Table 12-44 typeidinfo for ctype_byname<wchar_t>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeidinfo name for ctype_byname<wchar_t>

12.1.58.2 Interfaces for Class ctype_byname<wchar_t>

An LSB conforming implementation shall provide the architecture specific methods for Class std::ctype_byname<wchar_t> specified in Table 12-45, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-45 libstdcxx - Class ctype_byname<wchar_t> Function Interfaces

ctype_byname<wchar_t>::ctype_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
ctype_byname<wchar_t>::ctype_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.59 Class basic_string<char, char_traits<char>, allocator<char> >**12.1.59.1 Interfaces for Class basic_string<char, char_traits<char>, allocator<char> >**

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_string<char, std::char_traits<char>, std::allocator<char> > specified in Table 12-46, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-46 libstdcxx - Class basic_string<char, char_traits<char>, allocator<char> > Function Interfaces

basic_string<char, char_traits<char>, allocator<char> >::find_last_of(char const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]

<code>basic_string<char, char_traits<char>, allocator<char> >::find_last_of(char const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_last_of(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_last_of(char, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_of(char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_of(char const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_of(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_of(char, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::M_check_length(unsigned long, unsigned long, char const*) const</code> (GLIBCXX_3.4.5) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_last_not_of(char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_last_not_of(char const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_last_not_of(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_last_not_of(char, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_not_of(char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_not_of(char const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_not_of(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find_first_not_of(char, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::at(unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::copy(char*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]

<code>basic_string<char, char_traits<char>, allocator<char> >::find(char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find(char const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::find(char, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::rfind(char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::rfind(char const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::rfind(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::rfind(char, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::substr(unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::compare(unsigned long, unsigned long, char const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::compare(unsigned long, unsigned long, char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::compare(unsigned long, unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::compare(unsigned long, unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::_M_check(unsigned long, char const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::_M_limit(unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::operator[]</code> (unsigned long) const(GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::_S_construct(unsigned long, char, allocator<char> const&)</code> (GLIBCXX_3.4) [ISOCXX]

basic_string<char, char_traits<char>, allocator<char>>::M_replace_aux(unsigned long, unsigned long, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::M_replace_safe(unsigned long, unsigned long, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::at(unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::Rep::M_set_length_and_sharable(unsigned long)(GLIBCXX_3.4.5) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::Rep::M_clone(allocator<char> const&, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::Rep::S_create(unsigned long, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::erase(unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::append(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::append(basic_string<char, char_traits<char>, allocator<char>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::append(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::assign(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::assign(basic_string<char, char_traits<char>, allocator<char>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::assign(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::insert(__gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char>> >, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::insert(unsigned long, char const*)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::insert(unsigned long, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::insert(unsigned long, basic_string<char, char_traits<char>, allocator<char>> const&)(GLIBCXX_3.4) [ISOCXX]

<code>basic_string<char, char_traits<char>, allocator<char> >::insert(unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::insert(unsigned long, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::resize(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::resize(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::_M_copy(char*, char const*, unsigned long)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::_M_move(char*, char const*, unsigned long)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(__gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> > >, __gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> > >, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(__gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> > >, __gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> > >, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, char const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::reserve(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::_M_assign(char*, unsigned long, char)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::_M_mutate(unsigned long, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::basic_string(char const*, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]</code>

<code>basic_string<char, char_traits<char>, allocator<char>> >::basic_string(basic_string<char, char_traits<char>, allocator<char>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char>> >::basic_string(basic_string<char, char_traits<char>, allocator<char>> const&, unsigned long, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char>> >::basic_string(unsigned long, char, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char>> >::basic_string(char const*, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char>> >::basic_string(basic_string<char, char_traits<char>, allocator<char>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char>> >::basic_string(basic_string<char, char_traits<char>, allocator<char>> > const&, unsigned long, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char>> >::basic_string(unsigned long, char, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char>> >::operator[] (unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.60 Class `basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

12.1.60.1 Interfaces for Class `basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_string<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t>>` specified in Table 12-47, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-47 libstdc++ - Class `basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>` Function Interfaces

<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> >::find_last_of(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> >::find_last_of(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> >::find_last_of(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>

<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_last_of(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_of(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_of(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_of(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_of(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_check_length(unsigned long, unsigned long, char const*) const(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_last_not_of(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_last_not_of(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_last_not_of(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_last_not_of(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_not_of(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_not_of(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_not_of(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find_first_not_of(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::at(unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::copy(wchar_t*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>

basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::find(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::rfind(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::rfind(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::rfind(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::rfind(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::substr(unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_M_check(unsigned long, char const*) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_M_limit(unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::operator[](unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_S_construct(unsigned long, wchar_t, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]

<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_replace_aux(unsigned long, unsigned long, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_replace_safe(unsigned long, unsigned long, wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::at(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::Rep::M_set_length_and_sharable(unsigned long)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::Rep::M_clone(allocator<wchar_t> const&, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::Rep::_S_create(unsigned long, unsigned long, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::erase(unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::append(wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::append(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::append(unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::assign(wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::assign(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::assign(unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::insert(__gnu_cxx::__normal_iterator<wchar_t*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>>, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::insert(unsigned long, wchar_t const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::insert(unsigned long, wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::insert(unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&)(GLIBCXX_3.4) [ISOCXX]</code>

<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::insert(unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::insert(unsigned long, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::resize(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::resize(unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_copy(wchar_t*, wchar_t const*, unsigned long)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_move(wchar_t*, wchar_t const*, unsigned long)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::replace(__gnu_cxx::__normal_iterator<wchar_t*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > >, __gnu_cxx::__normal_iterator<wchar_t*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > >, wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::replace(__gnu_cxx::__normal_iterator<wchar_t*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > >, __gnu_cxx::__normal_iterator<wchar_t*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > >, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::replace(unsigned long, unsigned long, wchar_t const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::replace(unsigned long, unsigned long, wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::replace(unsigned long, unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::replace(unsigned long, unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::replace(unsigned long, unsigned long, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>

<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::reserve(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_assign(wchar_t*, unsigned long, wchar_t)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_mutate(unsigned long, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(wchar_t const*, unsigned long, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(unsigned long, wchar_t, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(wchar_t const*, unsigned long, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::basic_string(unsigned long, wchar_t, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::operator[](unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.61 Class `basic_stringstream<char, char_traits<char>, allocator<char>>`

12.1.61.1 Class data for `basic_stringstream<char, char_traits<char>, allocator<char>>`

The virtual table for the `std::basic_stringstream<char, std::char_traits<char>, std::allocator<char>>` class is described by Table 12-48

Table 12-48 Primary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`

Base Offset	0
Virtual Base Offset	104
RTTI	typeinfo for <code>basic_stringstream<char, char_traits<char>, allocator<char> ></code>
vfunc[0]:	<code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>
vfunc[1]:	<code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>

Table 12-49 Secondary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`

Base Offset	-16
Virtual Base Offset	88
RTTI	typeinfo for <code>basic_stringstream<char, char_traits<char>, allocator<char> ></code>
vfunc[0]:	non-virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>
vfunc[1]:	non-virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>

Table 12-50 Secondary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`

Base Offset	-104
Virtual Base Offset	-104
RTTI	typeinfo for <code>basic_stringstream<char, char_traits<char>, allocator<char> ></code>
vfunc[0]:	virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>
vfunc[1]:	virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>

The VTT for the `std::basic_stringstream<char, std::char_traits<char>, std::allocator<char> >` class is described by Table 12-51

Table 12-51 VTT for basic_stringstream<char, char_traits<char>, allocator<char> >

VTT Name	_ZTTSt18basic_stringstreamIcSt11char_traitsIcESaIcEE
Number of Entries	10

12.1.61.2 Interfaces for Class basic_stringstream<char, char_traits<char>, allocator<char> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_stringstream<char, std::char_traits<char>, std::allocator<char> > specified in Table 12-52, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-52 libstdc++ - Class basic_stringstream<char, char_traits<char>, allocator<char> > Function Interfaces

non-virtual thunk to basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()(GLIBCXX_3.4) [CXXABI-1.86]
non-virtual thunk to basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.62 Class basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

12.1.62.1 Class data for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

The virtual table for the std::basic_stringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > class is described by Table 12-53

Table 12-53 Primary vtable for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

Base Offset	0
Virtual Base Offset	104
RTTI	typeinfo for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >
vfunc[0]:	basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()

vfunc[1]:	basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()
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Table 12-54 Secondary vtable for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

Base Offset	-16
Virtual Base Offset	88
RTTI	typeinfo for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >
vfunc[0]:	non-virtual thunk to basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()
vfunc[1]:	non-virtual thunk to basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()

Table 12-55 Secondary vtable for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

Base Offset	-104
Virtual Base Offset	-104
RTTI	typeinfo for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >
vfunc[0]:	virtual thunk to basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()
vfunc[1]:	virtual thunk to basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()

The VTT for the std::basic_stringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > class is described by Table 12-56

Table 12-56 VTT for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

VTT Name	<code>_ZTTSt18basic_stringstreamIwSt11char_traitsIwESaIwEE</code>
Number of Entries	10

12.1.62.2 Interfaces for Class `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_stringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` specified in Table 12-57, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-57 `libstdcxx` - Class `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces

non-virtual thunk to <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~~basic_stringstream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
non-virtual thunk to <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~~basic_stringstream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~~basic_stringstream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~~basic_stringstream()</code> (GLIBCXX_3.4) [CXXABI-1.86]

12.1.63 Class `basic_istreamstream<char, char_traits<char>, allocator<char> >`

12.1.63.1 Class data for `basic_istreamstream<char, char_traits<char>, allocator<char> >`

The virtual table for the `std::basic_istreamstream<char, std::char_traits<char>, std::allocator<char> >` class is described by Table 12-58

Table 12-58 Primary vtable for `basic_istreamstream<char, char_traits<char>, allocator<char> >`

Base Offset	0
Virtual Base Offset	96
RTTI	<code>typeinfo for basic_istreamstream<char, char_traits<char>, allocator<char> ></code>
<code>vfunc[0]:</code>	<code>basic_istreamstream<char, char_traits<char>, allocator<char> >::~~basic_istreamstream()</code>
<code>vfunc[1]:</code>	<code>basic_istreamstream<char, char_traits<char>, allocator<char> >::~~basic_istreamstream()</code>

Table 12-59 Secondary vtable for basic_istream<char, char_traits<char>, allocator<char> >

Base Offset	-96
Virtual Base Offset	-96
RTTI	typeinfo for basic_istream<char, char_traits<char>, allocator<char> >
vfunc[0]:	virtual thunk to basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()
vfunc[1]:	virtual thunk to basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()

The VTT for the std::basic_istream<char, std::char_traits<char>, std::allocator<char> > class is described by Table 12-60

Table 12-60 VTT for basic_istream<char, char_traits<char>, allocator<char> >

VTT Name	_ZTISt19basic_istreamIcSt11char_traitsIcESaIcEE
Number of Entries	4

12.1.63.2 Interfaces for Class basic_istream<char, char_traits<char>, allocator<char> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_istream<char, std::char_traits<char>, std::allocator<char> > specified in Table 12-61, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-61 libstdc++ - Class basic_istream<char, char_traits<char>, allocator<char> > Function Interfaces

virtual thunk to basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.64 Class basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

12.1.64.1 Class data for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

The virtual table for the std::basic_istream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > class is described by Table 12-62

Table 12-62 Primary vtable for `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

Base Offset	0
Virtual Base Offset	96
RTTI	typeinfo for <code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>></code>
<code>vfunc[0]:</code>	<code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_istream()</code>
<code>vfunc[1]:</code>	<code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_istream()</code>

Table 12-63 Secondary vtable for `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

Base Offset	-96
Virtual Base Offset	-96
RTTI	typeinfo for <code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_istream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_istream()</code>

The VTT for the `std::basic_istream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t>>` class is described by Table 12-64

Table 12-64 VTT for `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

VTT Name	<code>_ZTTSt19basic_istreamIwSt11char_traitsIwESaIwEE</code>
Number of Entries	4

12.1.64.2 Interfaces for Class `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_istream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t>>` specified in Table 12-65, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-65 `libstdcxx` - Class `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>` Function Interfaces

virtual thunk to <code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]</code>
virtual thunk to <code>basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]</code>

12.1.65 Class `basic_ostringstream<char, char_traits<char>, allocator<char>>`

12.1.65.1 Class data for `basic_ostringstream<char, char_traits<char>, allocator<char>>`

The virtual table for the `std::basic_ostringstream<char, std::char_traits<char>, std::allocator<char>>` class is described by Table 12-66

Table 12-66 Primary vtable for `basic_ostringstream<char, char_traits<char>, allocator<char>>`

Base Offset	0
Virtual Base Offset	88
RTTI	typeinfo for <code>basic_ostringstream<char, char_traits<char>, allocator<char>></code>
<code>vfunc[0]:</code>	<code>basic_ostringstream<char, char_traits<char>, allocator<char>>::~basic_ostringstream()</code>
<code>vfunc[1]:</code>	<code>basic_ostringstream<char, char_traits<char>, allocator<char>>::~basic_ostringstream()</code>

Table 12-67 Secondary vtable for `basic_ostringstream<char, char_traits<char>, allocator<char>>`

Base Offset	-88
Virtual Base Offset	-88
RTTI	typeinfo for <code>basic_ostringstream<char, char_traits<char>, allocator<char>></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ostringstream<char,</code>

	char_traits<char>, allocator<char> >::~basic_ostringstream()
vfunc[1]:	virtual thunk to basic_ostringstream<char, char_traits<char>, allocator<char> >::~basic_ostringstream()

The VTT for the std::basic_ostringstream<char, std::char_traits<char>, std::allocator<char> > class is described by Table 12-68

Table 12-68 VTT for basic_ostringstream<char, char_traits<char>, allocator<char> >

VTT Name	_ZTTSt19basic_ostringstreamIcSt11c har_traitsIcESaIcEE
Number of Entries	4

12.1.65.2 Interfaces for Class basic_ostringstream<char, char_traits<char>, allocator<char> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_ostringstream<char, std::char_traits<char>, std::allocator<char> > specified in Table 12-69, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-69 libstdc++ - Class basic_ostringstream<char, char_traits<char>, allocator<char> > Function Interfaces

virtual thunk to basic_ostringstream<char, char_traits<char>, allocator<char> >::~basic_ostringstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_ostringstream<char, char_traits<char>, allocator<char> >::~basic_ostringstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.66 Class basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

12.1.66.1 Class data for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

The virtual table for the std::basic_ostringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > class is described by Table 12-70

Table 12-70 Primary vtable for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

Base Offset	0
Virtual Base Offset	88
RTTI	typeinfo for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

vfunc[0]:	basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()
vfunc[1]:	basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()

Table 12-71 Secondary vtable for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

Base Offset	-88
Virtual Base Offset	-88
RTTI	typeinfo for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >
vfunc[0]:	virtual thunk to basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()
vfunc[1]:	virtual thunk to basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()

The VTT for the std::basic_ostringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > class is described by Table 12-72

Table 12-72 VTT for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

VTT Name	_ZTTSt19basic_ostringstreamIwSt11char_traitsIwESaIwEE
Number of Entries	4

12.1.66.2 Interfaces for Class basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_ostringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > specified in Table 12-73, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-73 libstdcxx - Class basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> Function Interfaces

virtual thunk to basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_ostringstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~basic_ostringstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.67 Class basic_stringbuf<char, char_traits<char>, allocator<char>>

12.1.67.1 Class data for basic_stringbuf<char, char_traits<char>, allocator<char>>

The virtual table for the std::basic_stringbuf<char, std::char_traits<char>, std::allocator<char>> class is described by Table 12-74

Table 12-74 Primary vtable for basic_stringbuf<char, char_traits<char>, allocator<char>>

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for basic_stringbuf<char, char_traits<char>, allocator<char>>
vfunc[0]:	basic_stringbuf<char, char_traits<char>, allocator<char>>::~basic_stringbuf()
vfunc[1]:	basic_stringbuf<char, char_traits<char>, allocator<char>>::~basic_stringbuf()
vfunc[2]:	basic_streambuf<char, char_traits<char>>::imbue(locale const&)
vfunc[3]:	basic_stringbuf<char, char_traits<char>, allocator<char>>::setbuf(char*, long)
vfunc[4]:	basic_stringbuf<char, char_traits<char>, allocator<char>>::seekoff(long, _Ios_Seekdir, _Ios_Openmode)
vfunc[5]:	basic_stringbuf<char, char_traits<char>, allocator<char>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)
vfunc[6]:	basic_streambuf<char, char_traits<char>>::sync()
vfunc[7]:	basic_streambuf<char, char_traits<char>>::showmanyc()

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vfunc[8]:	basic_streambuf<char, char_traits<char> >::xsgetn(char*, long)
vfunc[9]:	basic_stringbuf<char, char_traits<char>, allocator<char> >::underflow()
vfunc[10]:	basic_streambuf<char, char_traits<char> >::uflow()
vfunc[11]:	basic_stringbuf<char, char_traits<char>, allocator<char> >::pbackfail(int)
vfunc[12]:	basic_streambuf<char, char_traits<char> >::xspn(char const*, long)
vfunc[13]:	basic_stringbuf<char, char_traits<char>, allocator<char> >::overflow(int)

The Run Time Type Information for the `std::basic_stringbuf<char, std::char_traits<char>, std::allocator<char> >` class is described by Table 12-75

Table 12-75 typeid for `basic_stringbuf<char, char_traits<char>, allocator<char> >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>basic_stringbuf<char, char_traits<char>, allocator<char> ></code>

12.1.67.2 Interfaces for Class `basic_stringbuf<char, char_traits<char>, allocator<char> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_stringbuf<char, std::char_traits<char>, std::allocator<char> >` specified in Table 12-76, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-76 libstdc++ - Class `basic_stringbuf<char, char_traits<char>, allocator<char> >` Function Interfaces

<code>basic_stringbuf<char, char_traits<char>, allocator<char> >::setbuf(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_stringbuf<char, char_traits<char>, allocator<char> >::_M_sync(char*, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_stringbuf<char, char_traits<char>, allocator<char> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.68 Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

12.1.68.1 Class data for `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

The virtual table for the `std::basic_stringbuf<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` class is described by Table 12-77

Table 12-77 Primary vtable for `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringbuf()</code>
<code>vfunc[1]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~~basic_stringbuf()</code>
<code>vfunc[2]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::imbue(locale const&)</code>
<code>vfunc[3]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::setbuf(wchar_t*, long)</code>
<code>vfunc[4]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)</code>
<code>vfunc[5]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>
<code>vfunc[6]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::sync()</code>
<code>vfunc[7]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::showmanyc()</code>

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vfunc[8]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, long)
vfunc[9]:	basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::underflow()
vfunc[10]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::uflow()
vfunc[11]:	basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::pbackfail(unsigned int)
vfunc[12]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::xspn(wchar_t const*, long)
vfunc[13]:	basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::overflow(unsigned int)

The Run Time Type Information for the `std::basic_stringbuf<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` class is described by Table 12-78

Table 12-78 typeid for `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> ></code>

12.1.68.2 Interfaces for Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_stringbuf<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` specified in Table 12-79, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-79 libstdc++ - Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces

<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::setbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::M_sync(wchar_t*, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

```
basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t>
>::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
```

12.1.69 Class basic_iostream<char, char_traits<char> >

12.1.69.1 Class data for basic_iostream<char, char_traits<char> >

The virtual table for the std::basic_iostream<char, std::char_traits<char> > class is described by Table 12-80

Table 12-80 Primary vtable for basic_iostream<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	24
RTTI	typeinfo for basic_iostream<char, char_traits<char> >
vfunc[0]:	basic_iostream<char, char_traits<char> >::~basic_iostream()
vfunc[1]:	basic_iostream<char, char_traits<char> >::~basic_iostream()

Table 12-81 Secondary vtable for basic_iostream<char, char_traits<char> >

Base Offset	-16
Virtual Base Offset	8
RTTI	typeinfo for basic_iostream<char, char_traits<char> >
vfunc[0]:	non-virtual thunk to basic_iostream<char, char_traits<char> >::~basic_iostream()
vfunc[1]:	non-virtual thunk to basic_iostream<char, char_traits<char> >::~basic_iostream()

Table 12-82 Secondary vtable for basic_iostream<char, char_traits<char> >

Base Offset	-24
Virtual Base Offset	-24
RTTI	typeinfo for basic_iostream<char, char_traits<char> >
vfunc[0]:	virtual thunk to basic_iostream<char, char_traits<char> >::~basic_iostream()

vfunc[1]:	virtual thunk to basic_istream<char, char_traits<char>>::~basic_istream()
-----------	---

The VTT for the `std::basic_istream<char, std::char_traits<char>>` class is described by Table 12-83

Table 12-83 VTT for `basic_istream<char, char_traits<char>>`

VTT Name	_ZTTSd
Number of Entries	7

12.1.69.2 Interfaces for Class `basic_istream<char, char_traits<char>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_istream<char, std::char_traits<char>>` specified in Table 12-84, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-84 libstdc++ - Class `basic_istream<char, char_traits<char>>` Function Interfaces

non-virtual thunk to <code>basic_istream<char, char_traits<char>>::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
non-virtual thunk to <code>basic_istream<char, char_traits<char>>::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_istream<char, char_traits<char>>::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_istream<char, char_traits<char>>::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI-1.86]

12.1.70 Class `basic_istream<wchar_t, char_traits<wchar_t>>`

12.1.70.1 Class data for `basic_istream<wchar_t, char_traits<wchar_t>>`

The virtual table for the `std::basic_istream<wchar_t, std::char_traits<wchar_t>>` class is described by Table 12-85

Table 12-85 Primary vtable for `basic_istream<wchar_t, char_traits<wchar_t>>`

Base Offset	0
Virtual Base Offset	24
RTTI	typeinfo for <code>basic_istream<wchar_t, char_traits<wchar_t>></code>
vfunc[0]:	<code>basic_istream<wchar_t, char_traits<wchar_t>>::~basic_istream()</code>

vfunc[1]:	basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()
-----------	---

Table 12-86 Secondary vtable for basic_iostream<wchar_t, char_traits<wchar_t> >

Base Offset	-16
Virtual Base Offset	8
RTTI	typeinfo for basic_iostream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	non-virtual thunk to basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()
vfunc[1]:	non-virtual thunk to basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()

Table 12-87 Secondary vtable for basic_iostream<wchar_t, char_traits<wchar_t> >

Base Offset	-24
Virtual Base Offset	-24
RTTI	typeinfo for basic_iostream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	virtual thunk to basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()
vfunc[1]:	virtual thunk to basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()

The VTT for the std::basic_iostream<wchar_t, std::char_traits<wchar_t> > class is described by Table 12-88

Table 12-88 VTT for basic_iostream<wchar_t, char_traits<wchar_t> >

VTT Name	_ZTTSt14basic_iostreamIwSt11char_t raitsIwEE
Number of Entries	7

12.1.70.2 Interfaces for Class basic_iostream<wchar_t, char_traits<wchar_t> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_iostream<wchar_t, std::char_traits<wchar_t> >

specified in Table 12-89, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-89 libstdc++ - Class `basic_iostream<wchar_t, char_traits<wchar_t> >` Function Interfaces

non-virtual thunk to <code>basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
non-virtual thunk to <code>basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI-1.86]

12.1.71 Class `basic_istream<char, char_traits<char> >`

12.1.71.1 Class data for `basic_istream<char, char_traits<char> >`

The virtual table for the `std::basic_istream<char, std::char_traits<char> >` class is described by Table 12-90

Table 12-90 Primary vtable for `basic_istream<char, char_traits<char> >`

Base Offset	0
Virtual Base Offset	16
RTTI	typeinfo for <code>basic_istream<char, char_traits<char> ></code>
vfunc[0]:	<code>basic_istream<char, char_traits<char> >::~basic_istream()</code>
vfunc[1]:	<code>basic_istream<char, char_traits<char> >::~basic_istream()</code>

Table 12-91 Secondary vtable for `basic_istream<char, char_traits<char> >`

Base Offset	-16
Virtual Base Offset	-16
RTTI	typeinfo for <code>basic_istream<char, char_traits<char> ></code>
vfunc[0]:	virtual thunk to <code>basic_istream<char, char_traits<char> >::~basic_istream()</code>
vfunc[1]:	virtual thunk to <code>basic_istream<char, char_traits<char> >::~basic_istream()</code>

The VTT for the `std::basic_istream<char, std::char_traits<char> >` class is described by Table 12-92

Table 12-92 VTT for `basic_istream<char, char_traits<char> >`

VTT Name	<code>_ZTTSi</code>
Number of Entries	2

12.1.71.2 Interfaces for Class `basic_istream<char, char_traits<char> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_istream<char, std::char_traits<char> >` specified in Table 12-93, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-93 `libstdc++` - Class `basic_istream<char, char_traits<char> >` Function Interfaces

<code>basic_istream<char, char_traits<char> >& basic_istream<char, char_traits<char> >::M_extract<__float128>(__float128&)(GLIBCXX_LDBL_3.4.7) [LSB]</code>
<code>basic_istream<char, char_traits<char> >::get(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::get(char*, long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::read(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::seekg(long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::ignore(long)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::ignore(long, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::getline(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::getline(char*, long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::readsome(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >::operator>>(__float128&)(GLIBCXX_LDBL_3.4) [ISOCXX]</code>
<code>basic_istream<char, char_traits<char> >& operator>><__float128, char, char_traits<char> >(basic_istream<char, char_traits<char> >&, complex<__float128>&)(GLIBCXX_LDBL_3.4) [ISOCXX]</code>
<code>virtual thunk to basic_istream<char, char_traits<char> >::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]</code>
<code>virtual thunk to basic_istream<char, char_traits<char> >::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]</code>

12.1.72 Class `basic_istream<wchar_t, char_traits<wchar_t> >`

12.1.72.1 Class data for `basic_istream<wchar_t, char_traits<wchar_t> >`

The virtual table for the `std::basic_istream<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-94

Table 12-94 Primary vtable for `basic_istream<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	16
RTTI	<code>typeinfo for basic_istream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_istream<wchar_t, char_traits<wchar_t> >::~~basic_istream()</code>
<code>vfunc[1]:</code>	<code>basic_istream<wchar_t, char_traits<wchar_t> >::~~basic_istream()</code>

Table 12-95 Secondary vtable for `basic_istream<wchar_t, char_traits<wchar_t> >`

Base Offset	-16
Virtual Base Offset	-16
RTTI	<code>typeinfo for basic_istream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_istream<wchar_t, char_traits<wchar_t> >::~~basic_istream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_istream<wchar_t, char_traits<wchar_t> >::~~basic_istream()</code>

The VTT for the `std::basic_istream<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-96

Table 12-96 VTT for `basic_istream<wchar_t, char_traits<wchar_t> >`

VTT Name	<code>_ZTTSt13basic_istreamIwSt11char_traitsIwEE</code>
Number of Entries	2

12.1.72.2 Interfaces for Class `basic_istream<wchar_t, char_traits<wchar_t> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_istream<wchar_t, std::char_traits<wchar_t> >` specified in Table 12-97, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-97 libstdc++ - Class `basic_istream<wchar_t, char_traits<wchar_t> >` Function Interfaces

<code>basic_istream<wchar_t, char_traits<wchar_t> >& basic_istream<wchar_t, char_traits<wchar_t> >::M_extract<__float128>(__float128&)(GLIBCXX_LDBL_3.4.7) [LSB]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::get(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::get(wchar_t*, long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::read(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::seekg(long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::ignore(long)(GLIBCXX_3.4.5) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::ignore(long, unsigned int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::getline(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::getline(wchar_t*, long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::readsome(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(__float128&)(GLIBCXX_LDBL_3.4) [ISOCXX]</code>
<code>basic_istream<wchar_t, char_traits<wchar_t> >& operator>><__float128, wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> >&, complex<__float128>&)(GLIBCXX_LDBL_3.4) [ISOCXX]</code>
<code>virtual thunk to basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]</code>
<code>virtual thunk to basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()(GLIBCXX_3.4) [CXXABI-1.86]</code>

12.1.73 Class `istreambuf_iterator<wchar_t, char_traits<wchar_t> >`

12.1.73.1 Interfaces for Class `istreambuf_iterator<wchar_t, char_traits<wchar_t> >`

No external methods are defined for `libstdcxx` - Class `std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> >` in this part of the specification. See also the generic specification.

12.1.74 Class `istreambuf_iterator<char, char_traits<char> >`

12.1.74.1 Interfaces for Class `istreambuf_iterator<char, char_traits<char> >`

No external methods are defined for `libstdcxx` - Class `std::istreambuf_iterator<char, std::char_traits<char> >` in this part of the specification. See also the generic specification.

12.1.75 Class `basic_ostream<char, char_traits<char> >`

12.1.75.1 Class data for `basic_ostream<char, char_traits<char> >`

The virtual table for the `std::basic_ostream<char, std::char_traits<char> >` class is described by Table 12-98

Table 12-98 Primary vtable for `basic_ostream<char, char_traits<char> >`

Base Offset	0
Virtual Base Offset	8
RTTI	<code>typeinfo</code> for <code>basic_ostream<char, char_traits<char> ></code>
<code>vfunc[0]:</code>	<code>basic_ostream<char, char_traits<char> >::~~basic_ostream()</code>
<code>vfunc[1]:</code>	<code>basic_ostream<char, char_traits<char> >::~~basic_ostream()</code>

Table 12-99 Secondary vtable for `basic_ostream<char, char_traits<char> >`

Base Offset	-8
Virtual Base Offset	-8
RTTI	<code>typeinfo</code> for <code>basic_ostream<char, char_traits<char> ></code>
<code>vfunc[0]:</code>	<code>virtual thunk to basic_ostream<char, char_traits<char> >::~~basic_ostream()</code>

vfunc[1]:	virtual thunk to basic_ostream<char, char_traits<char>>::~basic_ostream()
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The VTT for the `std::basic_ostream<char, std::char_traits<char>>` class is described by Table 12-100

Table 12-100 VTT for `basic_ostream<char, char_traits<char>>`

VTT Name	_ZTTSo
Number of Entries	2

12.1.75.2 Interfaces for Class `basic_ostream<char, char_traits<char>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_ostream<char, std::char_traits<char>>` specified in Table 12-101, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-101 `libstdc++` - Class `basic_ostream<char, char_traits<char>>` Function Interfaces

<code>basic_ostream<char, char_traits<char>>::seekp(long, _Ios_Seekdir)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_ostream<char, char_traits<char>>::write(char const*, long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_ostream<char, char_traits<char>>::_M_write(char const*, long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_ostream<char, char_traits<char>>& basic_ostream<char, char_traits<char>>::_M_insert<__float128>(__float128)</code> (GLIBCXX_LDBL_3.4.7) [LSB]
<code>basic_ostream<char, char_traits<char>>::operator<<(__float128)</code> (GLIBCXX_LDBL_3.4) [ISOCXX]
<code>basic_ostream<char, char_traits<char>>& operator<< <__float128, char, char_traits<char>>>(basic_ostream<char, char_traits<char>>&, complex<__float128> const&)</code> (GLIBCXX_LDBL_3.4) [ISOCXX]
virtual thunk to <code>basic_ostream<char, char_traits<char>>::~basic_ostream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_ostream<char, char_traits<char>>::~basic_ostream()</code> (GLIBCXX_3.4) [CXXABI-1.86]

12.1.76 Class `basic_ostream<wchar_t, char_traits<wchar_t>>`

12.1.76.1 Class data for `basic_ostream<wchar_t, char_traits<wchar_t>>`

The virtual table for the `std::basic_ostream<wchar_t, std::char_traits<wchar_t>>` class is described by Table 12-102

Table 12-102 Primary vtable for `basic_ostream<wchar_t, char_traits<wchar_t>>`

Base Offset	0
Virtual Base Offset	8
RTTI	<code>typeinfo for basic_ostream<wchar_t, char_traits<wchar_t>></code>
<code>vfunc[0]:</code>	<code>basic_ostream<wchar_t, char_traits<wchar_t>>::~~basic_ostream()</code>
<code>vfunc[1]:</code>	<code>basic_ostream<wchar_t, char_traits<wchar_t>>::~~basic_ostream()</code>

Table 12-103 Secondary vtable for `basic_ostream<wchar_t, char_traits<wchar_t>>`

Base Offset	-8
Virtual Base Offset	-8
RTTI	<code>typeinfo for basic_ostream<wchar_t, char_traits<wchar_t>></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ostream<wchar_t, char_traits<wchar_t>>::~~basic_ostream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_ostream<wchar_t, char_traits<wchar_t>>::~~basic_ostream()</code>

The VTT for the `std::basic_ostream<wchar_t, std::char_traits<wchar_t>>` class is described by Table 12-104

Table 12-104 VTT for `basic_ostream<wchar_t, char_traits<wchar_t>>`

VTT Name	<code>_ZTTSt13basic_ostreamIwSt11char_traitsIwEE</code>
Number of Entries	2

12.1.76.2 Interfaces for Class `basic_ostream<wchar_t, char_traits<wchar_t>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_ostream<wchar_t, std::char_traits<wchar_t>>` specified in Table 12-105, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-105 libstdcxx - Class basic_ostream<wchar_t, char_traits<wchar_t> > Function Interfaces

basic_ostream<wchar_t, char_traits<wchar_t> >::seekp(long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t> >::write(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t> >& basic_ostream<wchar_t, char_traits<wchar_t> >::M_insert<__float128>(__float128)(GLIBCXX_LDBL_3.4.7) [LSB]
basic_ostream<wchar_t, char_traits<wchar_t> >::operator<<(__float128)(GLIBCXX_LDBL_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<< <__float128, wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, complex<__float128> const&)(GLIBCXX_LDBL_3.4) [ISOCXX]
virtual thunk to basic_ostream<wchar_t, char_traits<wchar_t> >::~~basic_ostream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_ostream<wchar_t, char_traits<wchar_t> >::~~basic_ostream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.77 Class basic_fstream<char, char_traits<char> >**12.1.77.1 Class data for basic_fstream<char, char_traits<char> >**

The virtual table for the std::basic_fstream<char, std::char_traits<char> > class is described by Table 12-106

Table 12-106 Primary vtable for basic_fstream<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	264
RTTI	typeinfo for basic_fstream<char, char_traits<char> >
vfunc[0]:	basic_fstream<char, char_traits<char> >::~~basic_fstream()
vfunc[1]:	basic_fstream<char, char_traits<char> >::~~basic_fstream()

Table 12-107 Secondary vtable for basic_fstream<char, char_traits<char> >

Base Offset	-16
Virtual Base Offset	248
RTTI	typeinfo for basic_fstream<char, char_traits<char> >

vfunc[0]:	non-virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()
vfunc[1]:	non-virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()

Table 12-108 Secondary vtable for basic_fstream<char, char_traits<char> >

Base Offset	-264
Virtual Base Offset	-264
RTTI	typeinfo for basic_fstream<char, char_traits<char> >
vfunc[0]:	virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()
vfunc[1]:	virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()

The VTT for the std::basic_fstream<char, std::char_traits<char> > class is described by Table 12-109

Table 12-109 VTT for basic_fstream<char, char_traits<char> >

VTT Name	_ZITSt13basic_fstreamIcSt11char_traitsIcEE
Number of Entries	10

12.1.77.2 Interfaces for Class basic_fstream<char, char_traits<char> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_fstream<char, std::char_traits<char> > specified in Table 12-110, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-110 libstdc++ - Class basic_fstream<char, char_traits<char> > Function Interfaces

non-virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]
non-virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_fstream<char, char_traits<char> >::~~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.78 Class `basic_fstream<wchar_t, char_traits<wchar_t> >`

12.1.78.1 Class data for `basic_fstream<wchar_t, char_traits<wchar_t> >`

The virtual table for the `std::basic_fstream<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-111

Table 12-111 Primary vtable for `basic_fstream<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	264
RTTI	<code>typeinfo for basic_fstream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_fstream<wchar_t, char_traits<wchar_t> >::~~basic_fstream()</code>
<code>vfunc[1]:</code>	<code>basic_fstream<wchar_t, char_traits<wchar_t> >::~~basic_fstream()</code>

Table 12-112 Secondary vtable for `basic_fstream<wchar_t, char_traits<wchar_t> >`

Base Offset	-16
Virtual Base Offset	248
RTTI	<code>typeinfo for basic_fstream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	non-virtual thunk to <code>basic_fstream<wchar_t, char_traits<wchar_t> >::~~basic_fstream()</code>
<code>vfunc[1]:</code>	non-virtual thunk to <code>basic_fstream<wchar_t, char_traits<wchar_t> >::~~basic_fstream()</code>

Table 12-113 Secondary vtable for `basic_fstream<wchar_t, char_traits<wchar_t> >`

Base Offset	-264
Virtual Base Offset	-264
RTTI	<code>typeinfo for basic_fstream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_fstream<wchar_t,</code>

	char_traits<wchar_t> >::~basic_fstream()
vfunc[1]:	virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()

The VTT for the std::basic_fstream<wchar_t, std::char_traits<wchar_t> > class is described by Table 12-114

Table 12-114 VTT for basic_fstream<wchar_t, char_traits<wchar_t> >

VTT Name	_ZTTSt13basic_fstreamIwSt11char_traitsIwEE
Number of Entries	10

12.1.78.2 Interfaces for Class basic_fstream<wchar_t, char_traits<wchar_t> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_fstream<wchar_t, std::char_traits<wchar_t> > specified in Table 12-115, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-115 libstdc++ - Class basic_fstream<wchar_t, char_traits<wchar_t> > Function Interfaces

non-virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]
non-virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.79 Class basic_ifstream<char, char_traits<char> >

12.1.79.1 Class data for basic_ifstream<char, char_traits<char> >

The virtual table for the std::basic_ifstream<char, std::char_traits<char> > class is described by Table 12-116

Table 12-116 Primary vtable for basic_ifstream<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	256
RTTI	typeinfo for basic_ifstream<char, char_traits<char> >
vfunc[0]:	basic_ifstream<char, char_traits<char> >::~basic_ifstream()

vfunc[1]:	basic_ifstream<char, char_traits<char> >::~basic_ifstream()
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Table 12-117 Secondary vtable for basic_ifstream<char, char_traits<char> >

Base Offset	-256
Virtual Base Offset	-256
RTTI	typeinfo for basic_ifstream<char, char_traits<char> >
vfunc[0]:	virtual thunk to basic_ifstream<char, char_traits<char> >::~basic_ifstream()
vfunc[1]:	virtual thunk to basic_ifstream<char, char_traits<char> >::~basic_ifstream()

The VTT for the std::basic_ifstream<char, std::char_traits<char> > class is described by Table 12-118

Table 12-118 VTT for basic_ifstream<char, char_traits<char> >

VTT Name	_ZTTSt14basic_ifstreamlcSt11char_tr aitslcEE
Number of Entries	4

12.1.79.2 Interfaces for Class basic_ifstream<char, char_traits<char> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_ifstream<char, std::char_traits<char> > specified in Table 12-119, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-119 libstdcxx - Class basic_ifstream<char, char_traits<char> > Function Interfaces

virtual thunk to basic_ifstream<char, char_traits<char> >::~basic_ifstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_ifstream<char, char_traits<char> >::~basic_ifstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.80 Class basic_ifstream<wchar_t, char_traits<wchar_t> >

12.1.80.1 Class data for basic_ifstream<wchar_t, char_traits<wchar_t> >

The virtual table for the std::basic_ifstream<wchar_t, std::char_traits<wchar_t> > class is described by Table 12-120

Table 12-120 Primary vtable for `basic_ifstream<wchar_t, char_traits<wchar_t>>`

Base Offset	0
Virtual Base Offset	256
RTTI	typeinfo for <code>basic_ifstream<wchar_t, char_traits<wchar_t>></code>
vfunc[0]:	<code>basic_ifstream<wchar_t, char_traits<wchar_t>>::~basic_ifstream()</code>
vfunc[1]:	<code>basic_ifstream<wchar_t, char_traits<wchar_t>>::~basic_ifstream()</code>

Table 12-121 Secondary vtable for `basic_ifstream<wchar_t, char_traits<wchar_t>>`

Base Offset	-256
Virtual Base Offset	-256
RTTI	typeinfo for <code>basic_ifstream<wchar_t, char_traits<wchar_t>></code>
vfunc[0]:	virtual thunk to <code>basic_ifstream<wchar_t, char_traits<wchar_t>>::~basic_ifstream()</code>
vfunc[1]:	virtual thunk to <code>basic_ifstream<wchar_t, char_traits<wchar_t>>::~basic_ifstream()</code>

The VTT for the `std::basic_ifstream<wchar_t, std::char_traits<wchar_t>>` class is described by Table 12-122

Table 12-122 VTT for `basic_ifstream<wchar_t, char_traits<wchar_t>>`

VTT Name	<code>_ZTTSt14basic_ifstreamIwSt11char_traitsIwEE</code>
Number of Entries	4

12.1.80.2 Interfaces for Class `basic_ifstream<wchar_t, char_traits<wchar_t>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_ifstream<wchar_t, std::char_traits<wchar_t>>` specified in Table 12-123, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-123 libstdc++ - Class basic_ifstream<wchar_t, char_traits<wchar_t> > Function Interfaces

virtual thunk to basic_ifstream<wchar_t, char_traits<wchar_t> >::~basic_ifstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_ifstream<wchar_t, char_traits<wchar_t> >::~basic_ifstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.81 Class basic_ofstream<char, char_traits<char> >**12.1.81.1 Class data for basic_ofstream<char, char_traits<char> >**

The virtual table for the std::basic_ofstream<char, std::char_traits<char> > class is described by Table 12-124

Table 12-124 Primary vtable for basic_ofstream<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	248
RTTI	typeinfo for basic_ofstream<char, char_traits<char> >
vfunc[0]:	basic_ofstream<char, char_traits<char> >::~basic_ofstream()
vfunc[1]:	basic_ofstream<char, char_traits<char> >::~basic_ofstream()

Table 12-125 Secondary vtable for basic_ofstream<char, char_traits<char> >

Base Offset	-248
Virtual Base Offset	-248
RTTI	typeinfo for basic_ofstream<char, char_traits<char> >
vfunc[0]:	virtual thunk to basic_ofstream<char, char_traits<char> >::~basic_ofstream()
vfunc[1]:	virtual thunk to basic_ofstream<char, char_traits<char> >::~basic_ofstream()

The VTT for the std::basic_ofstream<char, std::char_traits<char> > class is described by Table 12-126

Table 12-126 VTT for basic_ofstream<char, char_traits<char> >

VTT Name	_ZTTSt14basic_ofstreamIcSt11char_traitsIcEE
Number of Entries	4

12.1.81.2 Interfaces for Class `basic_ofstream<char, char_traits<char> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_ofstream<char, std::char_traits<char> >` specified in Table 12-127, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-127 libstdcxx - Class `basic_ofstream<char, char_traits<char> >` Function Interfaces

virtual thunk to <code>basic_ofstream<char, char_traits<char> >::~basic_ofstream()</code> (GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to <code>basic_ofstream<char, char_traits<char> >::~basic_ofstream()</code> (GLIBCXX_3.4) [CXXABI-1.86]

12.1.82 Class `basic_ofstream<wchar_t, char_traits<wchar_t> >`

12.1.82.1 Class data for `basic_ofstream<wchar_t, char_traits<wchar_t> >`

The virtual table for the `std::basic_ofstream<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-128

Table 12-128 Primary vtable for `basic_ofstream<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	248
RTTI	typeinfo for <code>basic_ofstream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()</code>
<code>vfunc[1]:</code>	<code>basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()</code>

Table 12-129 Secondary vtable for `basic_ofstream<wchar_t, char_traits<wchar_t> >`

Base Offset	-248
Virtual Base Offset	-248
RTTI	typeinfo for <code>basic_ofstream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()</code>

vfunc[1]:	virtual thunk to basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()
-----------	---

The VTT for the std::basic_ofstream<wchar_t, std::char_traits<wchar_t> > class is described by Table 12-130

Table 12-130 VTT for basic_ofstream<wchar_t, char_traits<wchar_t> >

VTT Name	_ZTTSt14basic_ofstreamlwSt11char_t raitslwEE
Number of Entries	4

12.1.82.2 Interfaces for Class basic_ofstream<wchar_t, char_traits<wchar_t> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_ofstream<wchar_t, std::char_traits<wchar_t> > specified in Table 12-131, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-131 libstdc++ - Class basic_ofstream<wchar_t, char_traits<wchar_t> > Function Interfaces

virtual thunk to basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()(GLIBCXX_3.4) [CXXABI-1.86]
virtual thunk to basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()(GLIBCXX_3.4) [CXXABI-1.86]

12.1.83 Class basic_streambuf<char, char_traits<char> >

12.1.83.1 Class data for basic_streambuf<char, char_traits<char> >

The virtual table for the std::basic_streambuf<char, std::char_traits<char> > class is described by Table 12-132

Table 12-132 Primary vtable for basic_streambuf<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for basic_streambuf<char, char_traits<char> >
vfunc[0]:	basic_streambuf<char, char_traits<char> >::~basic_streambuf()
vfunc[1]:	basic_streambuf<char, char_traits<char> >::~basic_streambuf()

vfunc[2]:	basic_streambuf<char, char_traits<char> >::imbue(locale const&)
vfunc[3]:	basic_streambuf<char, char_traits<char> >::setbuf(char*, long)
vfunc[4]:	basic_streambuf<char, char_traits<char> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)
vfunc[5]:	basic_streambuf<char, char_traits<char> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)
vfunc[6]:	basic_streambuf<char, char_traits<char> >::sync()
vfunc[7]:	basic_streambuf<char, char_traits<char> >::showmanyc()
vfunc[8]:	basic_streambuf<char, char_traits<char> >::xsgetn(char*, long)
vfunc[9]:	basic_streambuf<char, char_traits<char> >::underflow()
vfunc[10]:	basic_streambuf<char, char_traits<char> >::uflow()
vfunc[11]:	basic_streambuf<char, char_traits<char> >::pbackfail(int)
vfunc[12]:	basic_streambuf<char, char_traits<char> >::xspn(char const*, long)
vfunc[13]:	basic_streambuf<char, char_traits<char> >::overflow(int)

The Run Time Type Information for the `std::basic_streambuf<char, std::char_traits<char> >` class is described by Table 12-133

Table 12-133 typeid for `basic_streambuf<char, char_traits<char> >`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeid name for <code>basic_streambuf<char, char_traits<char> ></code>

12.1.83.2 Interfaces for Class `basic_streambuf<char, char_traits<char> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_streambuf<char, std::char_traits<char> >` specified

in Table 12-134, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-134 libstdcxx - Class `basic_streambuf<char, char_traits<char> >` Function Interfaces

<code>basic_streambuf<char, char_traits<char> >::pubseekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<char, char_traits<char> >::sgetn(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<char, char_traits<char> >::sputn(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<char, char_traits<char> >::setbuf(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<char, char_traits<char> >::xsgetn(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<char, char_traits<char> >::xsputn(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<char, char_traits<char> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<char, char_traits<char> >::pubsetbuf(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.84 Class `basic_streambuf<wchar_t, char_traits<wchar_t> >`

12.1.84.1 Class data for `basic_streambuf<wchar_t, char_traits<wchar_t> >`

The virtual table for the `std::basic_streambuf<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-135

Table 12-135 Primary vtable for `basic_streambuf<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeid</code> for <code>basic_streambuf<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::~~basic_streambuf()</code>
<code>vfunc[1]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::~~basic_streambuf()</code>

vfunc[2]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::imbue(locale const&)
vfunc[3]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, long)
vfunc[4]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)
vfunc[5]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)
vfunc[6]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::sync()
vfunc[7]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::showmanyc()
vfunc[8]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, long)
vfunc[9]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::underflow()
vfunc[10]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::uflow()
vfunc[11]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)
vfunc[12]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::xspn(wchar_t const*, long)
vfunc[13]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::overflow(unsigned int)

The Run Time Type Information for the `std::basic_streambuf<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-136

Table 12-136 typeid for `basic_streambuf<wchar_t, char_traits<wchar_t> >`

Base Vtable	vtable for __cxxabiv1::__class_type_info
Name	typeid name for basic_streambuf<wchar_t, char_traits<wchar_t> >

12.1.84.2 Interfaces for Class `basic_streambuf<wchar_t, char_traits<wchar_t>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_streambuf<wchar_t, std::char_traits<wchar_t>>` specified in Table 12-137, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-137 libstdc++ - Class `basic_streambuf<wchar_t, char_traits<wchar_t>>` > Function Interfaces

<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::pubseekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::sgetn(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::sputn(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::setbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::xsgetn(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::xsputn(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t>>::pubsetbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.85 Class `basic_filebuf<char, char_traits<char>>`

12.1.85.1 Class `data for basic_filebuf<char, char_traits<char>>`

The virtual table for the `std::basic_filebuf<char, std::char_traits<char>>` class is described by Table 12-138

Table 12-138 Primary vtable for `basic_filebuf<char, char_traits<char>>`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for basic_filebuf<char, char_traits<char>></code>
<code>vfunc[0]:</code>	<code>basic_filebuf<char, char_traits<char>>::~~basic_filebuf()</code>
<code>vfunc[1]:</code>	<code>basic_filebuf<char, char_traits<char>>::~~basic_filebuf()</code>
<code>vfunc[2]:</code>	<code>basic_filebuf<char, char_traits<char>>::imbue(locale const&)</code>

vfunc[3]:	basic_filebuf<char, char_traits<char>>::setbuf(char*, long)
vfunc[4]:	basic_filebuf<char, char_traits<char>>::seekoff(long, _Ios_Seekdir, _Ios_Openmode)
vfunc[5]:	basic_filebuf<char, char_traits<char>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)
vfunc[6]:	basic_filebuf<char, char_traits<char>>::sync()
vfunc[7]:	basic_filebuf<char, char_traits<char>>::showmanyc()
vfunc[8]:	basic_filebuf<char, char_traits<char>>::xsgetn(char*, long)
vfunc[9]:	basic_filebuf<char, char_traits<char>>::underflow()
vfunc[10]:	basic_streambuf<char, char_traits<char>>::uflow()
vfunc[11]:	basic_filebuf<char, char_traits<char>>::pbackfail(int)
vfunc[12]:	basic_filebuf<char, char_traits<char>>::xspn(char const*, long)
vfunc[13]:	basic_filebuf<char, char_traits<char>>::overflow(int)

The Run Time Type Information for the std::basic_filebuf<char, std::char_traits<char>> class is described by Table 12-139

Table 12-139 typeid for basic_filebuf<char, char_traits<char>>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for basic_filebuf<char, char_traits<char>>

12.1.85.2 Interfaces for Class basic_filebuf<char, char_traits<char>>

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_filebuf<char, std::char_traits<char>> specified in Table 12-140, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-140 libstdc++ - Class basic_filebuf<char, char_traits<char>> Function Interfaces

basic_filebuf<char, char_traits<char>>::_M_set_buffer(long)(GLIBCXX_3.4) [ISO CXX]
--

<code>basic_filebuf<char, char_traits<char> >::_M_convert_to_external(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<char, char_traits<char> >::setbuf(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<char, char_traits<char> >::xsgetn(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<char, char_traits<char> >::xspn(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<char, char_traits<char> >::_M_seek(long, _Ios_Seekdir, __mbstate_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<char, char_traits<char> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.86 Class `basic_filebuf<wchar_t, char_traits<wchar_t> >`

12.1.86.1 Class data for `basic_filebuf<wchar_t, char_traits<wchar_t> >`

The virtual table for the `std::basic_filebuf<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-141

Table 12-141 Primary vtable for `basic_filebuf<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for basic_filebuf<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::~~basic_filebuf()</code>
<code>vfunc[1]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::~~basic_filebuf()</code>
<code>vfunc[2]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::imbue(locale const&)</code>
<code>vfunc[3]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, long)</code>
<code>vfunc[4]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)</code>
<code>vfunc[5]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>

vfunc[6]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::sync()
vfunc[7]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::showmanyc()
vfunc[8]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, long)
vfunc[9]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::underflow()
vfunc[10]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::uflow()
vfunc[11]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)
vfunc[12]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::xspn(wchar_t const*, long)
vfunc[13]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::overflow(unsigned int)

The Run Time Type Information for the std::basic_filebuf<wchar_t, std::char_traits<wchar_t> > class is described by Table 12-142

Table 12-142 typeid for basic_filebuf<wchar_t, char_traits<wchar_t> >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for basic_filebuf<wchar_t, char_traits<wchar_t> >

12.1.86.2 Interfaces for Class basic_filebuf<wchar_t, char_traits<wchar_t> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_filebuf<wchar_t, std::char_traits<wchar_t> > specified in Table 12-143, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-143 libstdc++ - Class basic_filebuf<wchar_t, char_traits<wchar_t> > Function Interfaces

basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_set_buffer(long)(GLIBCXX_3.4) [ISOCXX]
basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_convert_to_external(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]

<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::xspn(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_seek(long, _Ios_Seekdir, __mbstate_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ostream<wchar_t, char_traits<wchar_t> >::_M_write(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI-1.86]</code>

12.1.87 Class `ios_base`

12.1.87.1 Class data for `ios_base`

The virtual table for the `std::ios_base` class is described in the generic part of this specification.

The Run Time Type Information for the `std::ios_base` class is described by Table 12-144

Table 12-144 `typeinfo` for `ios_base`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	<code>typeinfo</code> name for <code>ios_base</code>

12.1.87.2 Interfaces for Class `ios_base`

No external methods are defined for `libstdc++` - Class `std::ios_base` in this part of the specification. See also the generic specification.

12.1.88 Class `basic_ios<char, char_traits<char> >`

12.1.88.1 Class data for `basic_ios<char, char_traits<char> >`

The virtual table for the `std::basic_ios<char, std::char_traits<char> >` class is described in the generic part of this specification.

12.1.88.2 Interfaces for Class `basic_ios<char, char_traits<char> >`

No external methods are defined for `libstdc++` - Class `std::basic_ios<char, std::char_traits<char> >` in this part of the specification. See also the generic specification.

12.1.89 Class `basic_ios<wchar_t, char_traits<wchar_t> >`

12.1.89.1 Class data for `basic_ios<wchar_t, char_traits<wchar_t> >`

The virtual table for the `std::basic_ios<wchar_t, std::char_traits<wchar_t> >` class is described in the generic part of this specification.

The Run Time Type Information for the `std::basic_ios<wchar_t, std::char_traits<wchar_t> >` class is described by Table 12-145

Table 12-145 typeinfo for `basic_ios<wchar_t, char_traits<wchar_t> >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>	1026
Name	typeinfo name for <code>basic_ios<wchar_t, char_traits<wchar_t> ></code>	
flags:	8	
basetype:	typeinfo for <code>ios_base</code>	

12.1.89.2 Interfaces for Class `basic_ios<wchar_t, char_traits<wchar_t> >`

No external methods are defined for `libstdc++` - Class `std::basic_ios<wchar_t, std::char_traits<wchar_t> >` in this part of the specification. See also the generic specification.

12.1.90 Class `ios_base::failure`

12.1.90.1 Class data for `ios_base::failure`

The virtual table for the `std::ios_base::failure` class is described in the generic part of this specification.

The Run Time Type Information for the `std::ios_base::failure` class is described by Table 12-146

Table 12-146 typeinfo for `ios_base::failure`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>ios_base::failure</code>

12.1.90.2 Interfaces for Class `ios_base::failure`

No external methods are defined for `libstdc++` - Class `std::ios_base::failure` in this part of the specification. See also the generic specification.

12.1.91 Class `__timepunct<char>`

12.1.91.1 Class data for `__timepunct<char>`

The virtual table for the `std::__timepunct<char>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::__timepunct<char>` class is described by Table 12-147

Table 12-147 typeid for `__timepunct<char>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>__timepunct<char></code>

12.1.91.2 Interfaces for Class `__timepunct<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::__timepunct<char>` specified in Table 12-148, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-148 libstdc++ - Class `__timepunct<char>` Function Interfaces

<code>__timepunct<char>::M_put(char*, unsigned long, char const*, tm const*)</code> <code>const(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__locale_struct*, char const*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__timepunct_cache<char>*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__locale_struct*, char const*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__timepunct_cache<char>*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>

12.1.92 Class `__timepunct<wchar_t>`

12.1.92.1 Class data for `__timepunct<wchar_t>`

The virtual table for the `std::__timepunct<wchar_t>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::__timepunct<wchar_t>` class is described by Table 12-149

Table 12-149 typeid for `__timepunct<wchar_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>__timepunct<wchar_t></code>

12.1.92.2 Interfaces for Class `__timepunct<wchar_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::__timepunct<wchar_t>` specified in Table 12-150, with the

full mandatory functionality as described in the referenced underlying specification.

Table 12-150 libstdcxx - Class `__timepunct<wchar_t>` Function Interfaces

<code>__timepunct<wchar_t>:: M_put(wchar_t*, unsigned long, wchar_t const*, tm const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct<wchar_t>::__timepunct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct<wchar_t>::__timepunct(__timepunct_cache<wchar_t>*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct<wchar_t>::__timepunct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct<wchar_t>::__timepunct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct<wchar_t>::__timepunct(__timepunct_cache<wchar_t>*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct<wchar_t>::__timepunct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

12.1.93 Class `messages_base`

12.1.93.1 Class data for `messages_base`

The Run Time Type Information for the `std::messages_base` class is described by Table 12-151

Table 12-151 `typeinfo` for `messages_base`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	<code>typeinfo</code> name for <code>messages_base</code>

12.1.93.2 Interfaces for Class `messages_base`

No external methods are defined for `libstdcxx` - Class `std::messages_base` in this part of the specification. See also the generic specification.

12.1.94 Class `messages<char>`

12.1.94.1 Class data for `messages<char>`

The virtual table for the `std::messages<char>` class is described in the generic part of this specification.

12.1.94.2 Interfaces for Class `messages<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::messages<char>` specified in Table 12-152, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-152 libstdcxx - Class messages<char> Function Interfaces

messages<char>::messages(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages<char>::messages(unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages<char>::messages(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages<char>::messages(unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.95 Class messages<wchar_t>

12.1.95.1 Class data for messages<wchar_t>

The virtual table for the std::messages<wchar_t> class is described in the generic part of this specification.

12.1.95.2 Interfaces for Class messages<wchar_t>

An LSB conforming implementation shall provide the architecture specific methods for Class std::messages<wchar_t> specified in Table 12-153, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-153 libstdcxx - Class messages<wchar_t> Function Interfaces

messages<wchar_t>::messages(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages<wchar_t>::messages(unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages<wchar_t>::messages(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages<wchar_t>::messages(unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.96 Class messages_byname<char>

12.1.96.1 Class data for messages_byname<char>

The virtual table for the std::messages_byname<char> class is described in the generic part of this specification.

The Run Time Type Information for the std::messages_byname<char> class is described by Table 12-154

Table 12-154 typeid for messages_byname<char>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for messages_byname<char>

12.1.96.2 Interfaces for Class messages_byname<char>

An LSB conforming implementation shall provide the architecture specific methods for Class std::messages_byname<char> specified in Table 12-155, with

the full mandatory functionality as described in the referenced underlying specification.

Table 12-155 libstdc++ - Class messages_byname<char> Function Interfaces

messages_byname<char>::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages_byname<char>::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.97 Class messages_byname<wchar_t>

12.1.97.1 Class data for messages_byname<wchar_t>

The virtual table for the std::messages_byname<wchar_t> class is described in the generic part of this specification.

The Run Time Type Information for the std::messages_byname<wchar_t> class is described by Table 12-156

Table 12-156 typeid for messages_byname<wchar_t>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for messages_byname<wchar_t>

12.1.97.2 Interfaces for Class messages_byname<wchar_t>

An LSB conforming implementation shall provide the architecture specific methods for Class std::messages_byname<wchar_t> specified in Table 12-157, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-157 libstdc++ - Class messages_byname<wchar_t> Function Interfaces

messages_byname<wchar_t>::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
messages_byname<wchar_t>::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.98 Class numpunct<char>

12.1.98.1 Class data for numpunct<char>

The virtual table for the std::numpunct<char> class is described in the generic part of this specification.

The Run Time Type Information for the std::numpunct<char> class is described by Table 12-158

Table 12-158 typeid for numpunct<char>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for numpunct<char>

12.1.98.2 Interfaces for Class `numpunct<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::numpunct<char>` specified in Table 12-159, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-159 `libstdcxx` - Class `numpunct<char>` Function Interfaces

<code>numpunct<char>::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<char>::numpunct(__numpunct_cache<char>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<char>::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<char>::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<char>::numpunct(__numpunct_cache<char>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<char>::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.99 Class `numpunct<wchar_t>`

12.1.99.1 Class data for `numpunct<wchar_t>`

The virtual table for the `std::numpunct<wchar_t>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::numpunct<wchar_t>` class is described by Table 12-160

Table 12-160 `typeinfo` for `numpunct<wchar_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>numpunct<wchar_t></code>

12.1.99.2 Interfaces for Class `numpunct<wchar_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::numpunct<wchar_t>` specified in Table 12-161, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-161 `libstdcxx` - Class `numpunct<wchar_t>` Function Interfaces

<code>numpunct<wchar_t>::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<wchar_t>::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<wchar_t>::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct<wchar_t>::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.100 Class numpunct_byname<char>

12.1.100.1 Class data for numpunct_byname<char>

The virtual table for the std::numpunct_byname<char> class is described in the generic part of this specification.

The Run Time Type Information for the std::numpunct_byname<char> class is described by Table 12-162

Table 12-162 typeid for numpunct_byname<char>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for numpunct_byname<char>

12.1.100.2 Interfaces for Class numpunct_byname<char>

An LSB conforming implementation shall provide the architecture specific methods for Class std::numpunct_byname<char> specified in Table 12-163, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-163 libstdc++ - Class numpunct_byname<char> Function Interfaces

numpunct_byname<char>::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
numpunct_byname<char>::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.101 Class numpunct_byname<wchar_t>

12.1.101.1 Class data for numpunct_byname<wchar_t>

The virtual table for the std::numpunct_byname<wchar_t> class is described in the generic part of this specification.

The Run Time Type Information for the std::numpunct_byname<wchar_t> class is described by Table 12-164

Table 12-164 typeid for numpunct_byname<wchar_t>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for numpunct_byname<wchar_t>

12.1.101.2 Interfaces for Class numpunct_byname<wchar_t>

An LSB conforming implementation shall provide the architecture specific methods for Class std::numpunct_byname<wchar_t> specified in Table 12-165, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-165 libstdcxx - Class `numpunct_byname<wchar_t>` Function Interfaces

<code>numpunct_byname<wchar_t>::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct_byname<wchar_t>::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.102 Class `__codecvt_abstract_base<char, char, __mbstate_t>`

12.1.102.1 Class data for `__codecvt_abstract_base<char, char, __mbstate_t>`

The virtual table for the `std::__codecvt_abstract_base<char, char, __mbstate_t>` class is described in the generic part of this specification.

12.1.102.2 Interfaces for Class

`__codecvt_abstract_base<char, char, __mbstate_t>`

No external methods are defined for libstdcxx - Class `std::__codecvt_abstract_base<char, char, __mbstate_t>` in this part of the specification. See also the generic specification.

12.1.103 Class `__codecvt_abstract_base<wchar_t, char, __mbstate_t>`

12.1.103.1 Class data for `__codecvt_abstract_base<wchar_t, char, __mbstate_t>`

The virtual table for the `std::__codecvt_abstract_base<wchar_t, char, __mbstate_t>` class is described in the generic part of this specification.

12.1.103.2 Interfaces for Class

`__codecvt_abstract_base<wchar_t, char, __mbstate_t>`

No external methods are defined for libstdcxx - Class `std::__codecvt_abstract_base<wchar_t, char, __mbstate_t>` in this part of the specification. See also the generic specification.

12.1.104 Class `codecvt_base`

12.1.104.1 Class data for `codecvt_base`

The Run Time Type Information for the `std::codecvt_base` class is described by Table 12-166

Table 12-166 typeinfo for `codecvt_base`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeinfo name for <code>codecvt_base</code>

12.1.104.2 Interfaces for Class `codecvt_base`

No external methods are defined for `libstdc++` - Class `std::codecvt_base` in this part of the specification. See also the generic specification.

12.1.105 Class `codecvt<char, char, __mbstate_t>`

12.1.105.1 Class data for `codecvt<char, char, __mbstate_t>`

The virtual table for the `std::codecvt<char, char, __mbstate_t>` class is described by Table 12-167

Table 12-167 Primary vtable for `codecvt<char, char, __mbstate_t>`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>codecvt<char, char, __mbstate_t></code>
<code>vfunc[0]:</code>	<code>codecvt<char, char, __mbstate_t>::~~codecvt()</code>
<code>vfunc[1]:</code>	<code>codecvt<char, char, __mbstate_t>::~~codecvt()</code>
<code>vfunc[2]:</code>	<code>codecvt<char, char, __mbstate_t>::do_out(__mbstate_t&, char const*, char const*, char const*&, char*, char*, char*&) const</code>
<code>vfunc[3]:</code>	<code>codecvt<char, char, __mbstate_t>::do_unshift(__mbstate_t&, char*, char*, char*&) const</code>
<code>vfunc[4]:</code>	<code>codecvt<char, char, __mbstate_t>::do_in(__mbstate_t&, char const*, char const*, char const*&, char*, char*, char*&) const</code>
<code>vfunc[5]:</code>	<code>codecvt<char, char, __mbstate_t>::do_encoding() const</code>
<code>vfunc[6]:</code>	<code>codecvt<char, char, __mbstate_t>::do_always_noconv() const</code>
<code>vfunc[7]:</code>	<code>codecvt<char, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const</code>
<code>vfunc[8]:</code>	<code>codecvt<char, char, __mbstate_t>::do_max_length() const</code>

The Run Time Type Information for the `std::codecvt<char, char, __mbstate_t>` class is described by Table 12-168

Table 12-168 typeid for codecvt<char, char, __mbstate_t>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for codecvt<char, char, __mbstate_t>

12.1.105.2 Interfaces for Class codecvt<char, char, __mbstate_t>

An LSB conforming implementation shall provide the architecture specific methods for Class std::codecvt<char, char, __mbstate_t> specified in Table 12-169, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-169 libstdc++ - Class codecvt<char, char, __mbstate_t> Function Interfaces

codecvt<char, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const (GLIBCXX_3.4) [ISOCXX]
codecvt<char, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long) (GLIBCXX_3.4) [ISOCXX]
codecvt<char, char, __mbstate_t>::codecvt(unsigned long) (GLIBCXX_3.4) [ISOCXX]
codecvt<char, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long) (GLIBCXX_3.4) [ISOCXX]
codecvt<char, char, __mbstate_t>::codecvt(unsigned long) (GLIBCXX_3.4) [ISOCXX]

12.1.106 Class codecvt<wchar_t, char, __mbstate_t>

12.1.106.1 Class data for codecvt<wchar_t, char, __mbstate_t>

The virtual table for the std::codecvt<wchar_t, char, __mbstate_t> class is described by Table 12-170

Table 12-170 Primary vtable for codecvt<wchar_t, char, __mbstate_t>

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for codecvt<wchar_t, char, __mbstate_t>
vfunc[0]:	codecvt<wchar_t, char, __mbstate_t>::~~codecvt()
vfunc[1]:	codecvt<wchar_t, char, __mbstate_t>::~~codecvt()
vfunc[2]:	codecvt<wchar_t, char, __mbstate_t>::do_out(__mbstate_t&, wchar_t const*, wchar_t const*,

	wchar_t const*&, char*, char*, char*&) const
vfunc[3]:	codecvt<wchar_t, char, __mbstate_t>::do_unshift(__mbstate_t&, char*, char*, char*&) const
vfunc[4]:	codecvt<wchar_t, char, __mbstate_t>::do_in(__mbstate_t&, char const*, char const*, char const*&, wchar_t*, wchar_t*, wchar_t*&) const
vfunc[5]:	codecvt<wchar_t, char, __mbstate_t>::do_encoding() const
vfunc[6]:	codecvt<wchar_t, char, __mbstate_t>::do_always_noconv() const
vfunc[7]:	codecvt<wchar_t, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const
vfunc[8]:	codecvt<wchar_t, char, __mbstate_t>::do_max_length() const

The Run Time Type Information for the `std::codecvt<wchar_t, char, __mbstate_t>` class is described by Table 12-171

Table 12-171 typeinfo for `codecvt<wchar_t, char, __mbstate_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>codecvt<wchar_t, char, __mbstate_t></code>

12.1.106.2 Interfaces for Class `codecvt<wchar_t, char, __mbstate_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::codecvt<wchar_t, char, __mbstate_t>` specified in Table 12-172, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-172 libstdc++ - Class `codecvt<wchar_t, char, __mbstate_t>` Function Interfaces

<code>codecvt<wchar_t, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<wchar_t, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<wchar_t, char, __mbstate_t>::codecvt(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

<code>codecvt<wchar_t, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>codecvt<wchar_t, char, __mbstate_t>::codecvt(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.107 Class `codecvt_byname<char, char, __mbstate_t>`

12.1.107.1 Class data for `codecvt_byname<char, char, __mbstate_t>`

The virtual table for the `std::codecvt_byname<char, char, __mbstate_t>` class is described by Table 12-173

Table 12-173 Primary vtable for `codecvt_byname<char, char, __mbstate_t>`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for codecvt_byname<char, char, __mbstate_t></code>
<code>vfunc[0]:</code>	<code>codecvt_byname<char, char, __mbstate_t>::~~codecvt_byname()</code>
<code>vfunc[1]:</code>	<code>codecvt_byname<char, char, __mbstate_t>::~~codecvt_byname()</code>
<code>vfunc[2]:</code>	<code>codecvt<char, char, __mbstate_t>::do_out(__mbstate_t&, char const*, char const*, char const*&, char*, char*, char*&) const</code>
<code>vfunc[3]:</code>	<code>codecvt<char, char, __mbstate_t>::do_unshift(__mbstate_t&, char*, char*, char*&) const</code>
<code>vfunc[4]:</code>	<code>codecvt<char, char, __mbstate_t>::do_in(__mbstate_t&, char const*, char const*, char const*&, char*, char*, char*&) const</code>
<code>vfunc[5]:</code>	<code>codecvt<char, char, __mbstate_t>::do_encoding() const</code>
<code>vfunc[6]:</code>	<code>codecvt<char, char, __mbstate_t>::do_always_noconv() const</code>
<code>vfunc[7]:</code>	<code>codecvt<char, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const</code>
<code>vfunc[8]:</code>	<code>codecvt<char, char, __mbstate_t>::do_max_length() const</code>

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The Run Time Type Information for the `std::codecvt_byname<char, char, __mbstate_t>` class is described by Table 12-174

Table 12-174 typeinfo for `codecvt_byname<char, char, __mbstate_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>codecvt_byname<char, char, __mbstate_t></code>

12.1.107.2 Interfaces for Class `codecvt_byname<char, char, __mbstate_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::codecvt_byname<char, char, __mbstate_t>` specified in Table 12-175, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-175 `libstdcxx` - Class `codecvt_byname<char, char, __mbstate_t>` Function Interfaces

<code>codecvt_byname<char, char, __mbstate_t>::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>codecvt_byname<char, char, __mbstate_t>::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.108 Class `codecvt_byname<wchar_t, char, __mbstate_t>`

12.1.108.1 Class data for `codecvt_byname<wchar_t, char, __mbstate_t>`

The virtual table for the `std::codecvt_byname<wchar_t, char, __mbstate_t>` class is described by Table 12-176

Table 12-176 Primary vtable for `codecvt_byname<wchar_t, char, __mbstate_t>`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>codecvt_byname<wchar_t, char, __mbstate_t></code>
<code>vfunc[0]:</code>	<code>codecvt_byname<wchar_t, char, __mbstate_t>::~~codecvt_byname()</code>
<code>vfunc[1]:</code>	<code>codecvt_byname<wchar_t, char, __mbstate_t>::~~codecvt_byname()</code>
<code>vfunc[2]:</code>	<code>codecvt<wchar_t, char, __mbstate_t>::do_out(__mbstate_t&, wchar_t const*, wchar_t const*,</code>

	wchar_t const*&, char*, char*, char*&) const
vfunc[3]:	codecvt<wchar_t, char, __mbstate_t>::do_unshift(__mbstate_t&, char*, char*, char*&) const
vfunc[4]:	codecvt<wchar_t, char, __mbstate_t>::do_in(__mbstate_t&, char const*, char const*, char const*&, wchar_t*, wchar_t*, wchar_t*&) const
vfunc[5]:	codecvt<wchar_t, char, __mbstate_t>::do_encoding() const
vfunc[6]:	codecvt<wchar_t, char, __mbstate_t>::do_always_noconv() const
vfunc[7]:	codecvt<wchar_t, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const
vfunc[8]:	codecvt<wchar_t, char, __mbstate_t>::do_max_length() const

The Run Time Type Information for the `std::codecvt_byname<wchar_t, char, __mbstate_t>` class is described by Table 12-177

Table 12-177 typeid for `codecvt_byname<wchar_t, char, __mbstate_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>codecvt_byname<wchar_t, char, __mbstate_t></code>

12.1.108.2 Interfaces for Class `codecvt_byname<wchar_t, char, __mbstate_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::codecvt_byname<wchar_t, char, __mbstate_t>` specified in Table 12-178, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-178 `libstdcxx` - Class `codecvt_byname<wchar_t, char, __mbstate_t>` Function Interfaces

<code>codecvt_byname<wchar_t, char, __mbstate_t>::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>codecvt_byname<wchar_t, char, __mbstate_t>::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.109 Class `collate<char>`

12.1.109.1 Class data for `collate<char>`

The virtual table for the `std::collate<char>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::collate<char>` class is described by Table 12-179

Table 12-179 typeinfo for `collate<char>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>collate<char></code>

12.1.109.2 Interfaces for Class `collate<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::collate<char>` specified in Table 12-180, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-180 `libstdcxx` - Class `collate<char>` Function Interfaces

<code>collate<char>::_M_transform(char*, char const*, unsigned long)</code> <code>const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate<char>::collate(__locale_struct*, unsigned long)(GLIBCXX_3.4)</code> <code>[ISOCXX]</code>
<code>collate<char>::collate(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate<char>::collate(__locale_struct*, unsigned long)(GLIBCXX_3.4)</code> <code>[ISOCXX]</code>
<code>collate<char>::collate(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.110 Class `collate<wchar_t>`

12.1.110.1 Class data for `collate<wchar_t>`

The virtual table for the `std::collate<wchar_t>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::collate<wchar_t>` class is described by Table 12-181

Table 12-181 typeinfo for `collate<wchar_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>collate<wchar_t></code>

12.1.110.2 Interfaces for Class `collate<wchar_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::collate<wchar_t>` specified in Table 12-182, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-182 libstdcxx - Class `collate<wchar_t>` Function Interfaces

<code>collate<wchar_t>::_M_transform(wchar_t*, wchar_t const*, unsigned long)</code> const(GLIBCXX_3.4) [ISOCXX]
<code>collate<wchar_t>::collate(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate<wchar_t>::collate(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate<wchar_t>::collate(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate<wchar_t>::collate(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

12.1.111 Class `collate_byname<char>`**12.1.111.1 Class data for `collate_byname<char>`**

The virtual table for the `std::collate_byname<char>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::collate_byname<char>` class is described by Table 12-183

Table 12-183 typeinfo for `collate_byname<char>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>collate_byname<char></code>

12.1.111.2 Interfaces for Class `collate_byname<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::collate_byname<char>` specified in Table 12-184, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-184 libstdcxx - Class `collate_byname<char>` Function Interfaces

<code>collate_byname<char>::collate_byname(char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate_byname<char>::collate_byname(char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

12.1.112 Class `collate_byname<wchar_t>`**12.1.112.1 Class data for `collate_byname<wchar_t>`**

The virtual table for the `std::collate_byname<wchar_t>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::collate_byname<wchar_t>` class is described by Table 12-185

Table 12-185 typeid for `collate_byname<wchar_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>collate_byname<wchar_t></code>

12.1.112.2 Interfaces for Class `collate_byname<wchar_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::collate_byname<wchar_t>` specified in Table 12-186, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-186 `libstdcxx` - Class `collate_byname<wchar_t>` Function Interfaces

<code>collate_byname<wchar_t>::collate_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate_byname<wchar_t>::collate_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.113 Class `time_base`

12.1.113.1 Class data for `time_base`

The Run Time Type Information for the `std::time_base` class is described by Table 12-187

Table 12-187 typeid for `time_base`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeid name for <code>time_base</code>

12.1.113.2 Interfaces for Class `time_base`

No external methods are defined for `libstdcxx` - Class `std::time_base` in this part of the specification. See also the generic specification.

12.1.114 Class `time_get_byname<char, istreambuf_iterator<char, char_traits<char>>>`

12.1.114.1 Class data for `time_get_byname<char, istreambuf_iterator<char, char_traits<char>>>`

The virtual table for the `std::time_get_byname<char, std::istreambuf_iterator<char, std::char_traits<char>>>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::time_get_byname<char, std::istreambuf_iterator<char, std::char_traits<char>>>` class is described by Table 12-188

Table 12-188 typeinfo for `time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>time_get_byname<char, istreambuf_iterator<char, char_traits<char> > ></code>

12.1.114.2 Interfaces for Class `time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_get_byname<char, std::istreambuf_iterator<char, std::char_traits<char> > >` specified in Table 12-189, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-189 `libstdcxx` - Class `time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >` Function Interfaces

<code>time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.115 Class `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

12.1.115.1 Class data for `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

The virtual table for the `std::time_get_byname<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described in the generic part of this specification.

The Run Time Type Information for the `std::time_get_byname<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described by Table 12-190

Table 12-190 typeinfo for `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > ></code>

12.1.115.2 Interfaces for Class `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_get_byname<wchar_t,`

`std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` specified in Table 12-191, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-191 libstdcxx - Class `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces

<code>time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.116 Class `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >`

12.1.116.1 Class data for `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >`

The virtual table for the `std::time_put_byname<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described in the generic part of this specification.

The Run Time Type Information for the `std::time_put_byname<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 12-192

Table 12-192 typeid for `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > ></code>

12.1.116.2 Interfaces for Class `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_put_byname<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` specified in Table 12-193, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-193 libstdcxx - Class `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >` Function Interfaces

<code>time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.117 Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

12.1.117.1 Class data for `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

The virtual table for the `std::time_put_byname<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::time_put_byname<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described by Table 12-194

Table 12-194 typeinfo for `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>></code>

12.1.117.2 Interfaces for Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_put_byname<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 12-195, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-195 `libstdc++` - Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces

<code>time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.118 Class `time_get<char, istreambuf_iterator<char, char_traits<char>>>`

12.1.118.1 Class data for `time_get<char, istreambuf_iterator<char, char_traits<char>>>`

The virtual table for the `std::time_get<char, std::istreambuf_iterator<char, std::char_traits<char>>>` class is described in the generic part of this specification.

12.1.118.2 Interfaces for Class `time_get<char, istreambuf_iterator<char, char_traits<char>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_get<char, std::istreambuf_iterator<char, std::char_traits<char>>>` specified in Table 12-196, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-196 libstdcxx - Class `time_get<char, istreambuf_iterator<char, char_traits<char>>>` Function Interfaces

<code>time_get<char, istreambuf_iterator<char, char_traits<char>>></code> <code>>::M_extract_num(istreambuf_iterator<char, char_traits<char>>,</code> <code>istreambuf_iterator<char, char_traits<char>>, int&, int, int, unsigned long,</code> <code>ios_base&, _Ios_ostate&) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get<char, istreambuf_iterator<char, char_traits<char>>></code> <code>>::M_extract_name(istreambuf_iterator<char, char_traits<char>>,</code> <code>istreambuf_iterator<char, char_traits<char>>, int&, char const**, unsigned</code> <code>long, ios_base&, _Ios_ostate&) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get<char, istreambuf_iterator<char, char_traits<char>>></code> <code>>::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get<char, istreambuf_iterator<char, char_traits<char>>></code> <code>>::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.119 Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

12.1.119.1 Class data for `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

The virtual table for the `std::time_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described in the generic part of this specification.

12.1.119.2 Interfaces for Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 12-197, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-197 libstdcxx - Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces

<code>time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>></code> <code>>::M_extract_num(istreambuf_iterator<wchar_t, char_traits<wchar_t>>,</code> <code>istreambuf_iterator<wchar_t, char_traits<wchar_t>>, int&, int, int, unsigned</code> <code>long, ios_base&, _Ios_ostate&) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>></code> <code>>::M_extract_name(istreambuf_iterator<wchar_t, char_traits<wchar_t>>,</code> <code>istreambuf_iterator<wchar_t, char_traits<wchar_t>>, int&, wchar_t const**,</code> <code>unsigned long, ios_base&, _Ios_ostate&) const(GLIBCXX_3.4) [ISOCXX]</code>

time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]
--

time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]
--

12.1.120 Class time_put<char, ostreambuf_iterator<char, char_traits<char> > >

12.1.120.1 Class data for time_put<char, ostreambuf_iterator<char, char_traits<char> > >

The virtual table for the std::time_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > > class is described in the generic part of this specification.

The Run Time Type Information for the std::time_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > > class is described by Table 12-198

Table 12-198 typeid for time_put<char, ostreambuf_iterator<char, char_traits<char> > >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info	
Name	typeid name for time_put<char, ostreambuf_iterator<char, char_traits<char> > > >	
flags:	8	
basetype:	typeid for locale::facet	2
basetype:	typeid for time_base	2

12.1.120.2 Interfaces for Class time_put<char, ostreambuf_iterator<char, char_traits<char> > >

An LSB conforming implementation shall provide the architecture specific methods for Class std::time_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > > specified in Table 12-199, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-199 libstdcxx - Class time_put<char, ostreambuf_iterator<char, char_traits<char> > > Function Interfaces

time_put<char, ostreambuf_iterator<char, char_traits<char> > >::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]

time_put<char, ostreambuf_iterator<char, char_traits<char> > >::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.121 Class `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

12.1.121.1 Class data for `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

The virtual table for the `std::time_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::time_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described by Table 12-200

Table 12-200 typeinfo for `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>	
Name	typeinfo name for <code>time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>></code>	
flags:	8	
basetype:	typeinfo for <code>locale::facet</code>	
basetype:	typeinfo for <code>time_base</code>	
		2
		2

12.1.121.2 Interfaces for Class `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 12-201, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-201 libstdc++ - Class `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces

<code>time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.122 Class `moneypunct<char, false>`

12.1.122.1 Class data for `moneypunct<char, false>`

The virtual table for the `std::moneypunct<char, false>` class is described in the generic part of this specification.

12.1.122.2 Interfaces for Class `money_punct<char, false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct<char, false>` specified in Table 12-202, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-202 libstdc++ - Class `money_punct<char, false>` Function Interfaces

<code>money_punct<char, false>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, false>::money_punct(__money_punct_cache<char, false>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, false>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, false>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, false>::money_punct(__money_punct_cache<char, false>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, false>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.123 Class `money_punct<char, true>`

12.1.123.1 Class data for `money_punct<char, true>`

The virtual table for the `std::money_punct<char, true>` class is described in the generic part of this specification.

12.1.123.2 Interfaces for Class `money_punct<char, true>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct<char, true>` specified in Table 12-203, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-203 libstdc++ - Class `money_punct<char, true>` Function Interfaces

<code>money_punct<char, true>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, true>::money_punct(__money_punct_cache<char, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, true>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, true>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, true>::money_punct(__money_punct_cache<char, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<char, true>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.124 Class moneypunct<wchar_t, false>

12.1.124.1 Class data for moneypunct<wchar_t, false>

The virtual table for the std::moneypunct<wchar_t, false> class is described in the generic part of this specification.

12.1.124.2 Interfaces for Class moneypunct<wchar_t, false>

An LSB conforming implementation shall provide the architecture specific methods for Class std::moneypunct<wchar_t, false> specified in Table 12-204, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-204 libstdcxx - Class moneypunct<wchar_t, false> Function Interfaces

moneypunct<wchar_t, false>::moneypunct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::moneypunct(__moneypunct_cache<wchar_t, false>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::moneypunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::moneypunct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::moneypunct(__moneypunct_cache<wchar_t, false>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::moneypunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.125 Class moneypunct<wchar_t, true>

12.1.125.1 Class data for moneypunct<wchar_t, true>

The virtual table for the std::moneypunct<wchar_t, true> class is described in the generic part of this specification.

12.1.125.2 Interfaces for Class moneypunct<wchar_t, true>

An LSB conforming implementation shall provide the architecture specific methods for Class std::moneypunct<wchar_t, true> specified in Table 12-205, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-205 libstdcxx - Class moneypunct<wchar_t, true> Function Interfaces

moneypunct<wchar_t, true>::moneypunct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::moneypunct(__moneypunct_cache<wchar_t, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::moneypunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]

<code>money_punct<wchar_t, true>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, true>::money_punct(__money_punct_cache<wchar_t, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, true>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.126 Class `money_punct_byname<char, false>`

12.1.126.1 Class data for `money_punct_byname<char, false>`

The virtual table for the `std::money_punct_byname<char, false>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::money_punct_byname<char, false>` class is described by Table 12-206

Table 12-206 `typeinfo` for `money_punct_byname<char, false>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>money_punct_byname<char, false></code>

12.1.126.2 Interfaces for Class `money_punct_byname<char, false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct_byname<char, false>` specified in Table 12-207, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-207 `libstdc++` - Class `money_punct_byname<char, false>` Function Interfaces

<code>money_punct_byname<char, false>::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct_byname<char, false>::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

12.1.127 Class `money_punct_byname<char, true>`

12.1.127.1 Class data for `money_punct_byname<char, true>`

The virtual table for the `std::money_punct_byname<char, true>` class is described in the generic part of this specification.

The Run Time Type Information for the `std::money_punct_byname<char, true>` class is described by Table 12-208

Table 12-208 `typeinfo` for `money_punct_byname<char, true>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
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Name	typeinfo name for moneypunct_byname<char, true>
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12.1.127.2 Interfaces for Class moneypunct_byname<char, true>

An LSB conforming implementation shall provide the architecture specific methods for Class std::moneypunct_byname<char, true> specified in Table 12-209, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-209 libstdcxx - Class moneypunct_byname<char, true> Function Interfaces

moneypunct_byname<char, true>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct_byname<char, true>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.128 Class moneypunct_byname<wchar_t, false>

12.1.128.1 Class data for moneypunct_byname<wchar_t, false>

The virtual table for the std::moneypunct_byname<wchar_t, false> class is described in the generic part of this specification.

The Run Time Type Information for the std::moneypunct_byname<wchar_t, false> class is described by Table 12-210

Table 12-210 typeinfo for moneypunct_byname<wchar_t, false>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for moneypunct_byname<wchar_t, false>

12.1.128.2 Interfaces for Class moneypunct_byname<wchar_t, false>

An LSB conforming implementation shall provide the architecture specific methods for Class std::moneypunct_byname<wchar_t, false> specified in Table 12-211, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-211 libstdcxx - Class moneypunct_byname<wchar_t, false> Function Interfaces

moneypunct_byname<wchar_t, false>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct_byname<wchar_t, false>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.129 Class moneypunct_byname<wchar_t, true>

12.1.129.1 Class data for moneypunct_byname<wchar_t, true>

The virtual table for the std::moneypunct_byname<wchar_t, true> class is described in the generic part of this specification.

The Run Time Type Information for the std::moneypunct_byname<wchar_t, true> class is described by Table 12-212

Table 12-212 typeid for moneypunct_byname<wchar_t, true>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for moneypunct_byname<wchar_t, true>

12.1.129.2 Interfaces for Class moneypunct_byname<wchar_t, true>

An LSB conforming implementation shall provide the architecture specific methods for Class std::moneypunct_byname<wchar_t, true> specified in Table 12-213, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-213 libstdc++ - Class moneypunct_byname<wchar_t, true> Function Interfaces

moneypunct_byname<wchar_t, true>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
moneypunct_byname<wchar_t, true>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]

12.1.130 Class money_base

12.1.130.1 Class data for money_base

The Run Time Type Information for the std::money_base class is described by Table 12-214

Table 12-214 typeid for money_base

Base Vtable	vtable for __cxxabiv1::__class_type_info
Name	typeid name for money_base

12.1.130.2 Interfaces for Class money_base

No external methods are defined for libstdc++ - Class std::money_base in this part of the specification. See also the generic specification.

12.1.131 Class money_get<char, istreambuf_iterator<char, char_traits<char> > >

12.1.131.1 Class data for money_get<char, istreambuf_iterator<char, char_traits<char> > >

The virtual table for the `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` class is described in the generic part of this specification.

The Run Time Type Information for the `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 12-215

Table 12-215 typeid for money_get<char, istreambuf_iterator<char, char_traits<char> > >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for money_get<char, istreambuf_iterator<char, char_traits<char> > >

12.1.131.2 Interfaces for Class money_get<char, istreambuf_iterator<char, char_traits<char> > >

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` specified in Table 12-216, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-216 libstdcxx - Class money_get<char, istreambuf_iterator<char, char_traits<char> > > Function Interfaces

<code>istreambuf_iterator<char, char_traits<char> ></code> <code>__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >::M_extract<false>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, basic_string<char, char_traits<char>, allocator<char> >&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>istreambuf_iterator<char, char_traits<char> ></code> <code>__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >::M_extract<true>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, basic_string<char, char_traits<char>, allocator<char> >&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, bool, ios_base&, _Ios_Iostate&, basic_string<char, char_traits<char>, allocator<char> >&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >::get(istreambuf_iterator<char, char_traits<char> >,</code>

<code>istreambuf_iterator<char, char_traits<char> >, bool, ios_base&, _Ios_Iostate&, __float128&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >::money_get(unsigned long)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >::money_get(unsigned long)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>money_get<char, istreambuf_iterator<char, char_traits<char> > >::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_get<char, istreambuf_iterator<char, char_traits<char> > >::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

An LSB conforming implementation shall provide the architecture specific data interfaces for Class `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` specified in Table 12-217, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-217 libstdcxx - Class `money_get<char, istreambuf_iterator<char, char_traits<char> > >` Data Interfaces

<code>typeinfo for __gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>
<code>typeinfo name for __gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>

12.1.132 Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

12.1.132.1 Class data for `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

The virtual table for the `std::money_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described in the generic part of this specification.

The Run Time Type Information for the `std::money_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described by Table 12-218

Table 12-218 typeinfo for `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > ></code>

12.1.132.2 Interfaces for Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 12-219, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-219 libstdcxx - Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces

<code>istreambuf_iterator<wchar_t, char_traits<wchar_t>></code> <code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::_M_extract<false>(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, _Ios_ostate&, basic_string<char, char_traits<char>, allocator<char>>&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>istreambuf_iterator<wchar_t, char_traits<wchar_t>></code> <code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::_M_extract<true>(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, _Ios_ostate&, basic_string<char, char_traits<char>, allocator<char>>&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_ostate&, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_ostate&, __float128&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_ostate&, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_ostate&, __float128&) const(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_ostate&, double&) const(GLIBCXX_LDBL_3.4) [LSB]</code>

<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::money_get(unsigned long)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::money_get(unsigned long)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~money_get()(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~money_get()(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~money_get()(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

An LSB conforming implementation shall provide the architecture specific data interfaces for Class `std::money_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` specified in Table 12-220, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-220 libstdc++ Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Data Interfaces

<code>typeinfo for __gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>
<code>typeinfo name for __gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>
<code>vtable for __gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>

12.1.133 Class `money_put<char, ostreambuf_iterator<char, char_traits<char> > >`

12.1.133.1 Class data for `money_put<char, ostreambuf_iterator<char, char_traits<char> > >`

The virtual table for the `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described in the generic part of this specification.

The Run Time Type Information for the `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 12-221

Table 12-221 typeid for money_put<char, ostreambuf_iterator<char, char_traits<char> > >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for money_put<char, ostreambuf_iterator<char, char_traits<char> > >

12.1.133.2 Interfaces for Class money_put<char, ostreambuf_iterator<char, char_traits<char> > >

An LSB conforming implementation shall provide the architecture specific methods for Class std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > > specified in Table 12-222, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-222 libstdcxx - Class money_put<char, ostreambuf_iterator<char, char_traits<char> > > Function Interfaces

__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::put(ostreambuf_iterator<char, char_traits<char> >, bool, ios_base&, char, basic_string<char, char_traits<char>, allocator<char> > const&) const(GLIBCXX_LDBL_3.4) [ISOCXX]
__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::put(ostreambuf_iterator<char, char_traits<char> >, bool, ios_base&, char, __float128) const(GLIBCXX_LDBL_3.4) [ISOCXX]
__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::do_put(ostreambuf_iterator<char, char_traits<char> >, bool, ios_base&, char, basic_string<char, char_traits<char>, allocator<char> > const&) const(GLIBCXX_LDBL_3.4) [ISOCXX]
__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::do_put(ostreambuf_iterator<char, char_traits<char> >, bool, ios_base&, char, __float128) const(GLIBCXX_LDBL_3.4) [ISOCXX]
__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::__do_put(ostreambuf_iterator<char, char_traits<char> >, bool, ios_base&, char, double) const(GLIBCXX_LDBL_3.4) [ISOCXX]
ostreambuf_iterator<char, char_traits<char> > __gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::_M_insert<false>(ostreambuf_iterator<char, char_traits<char> >, ios_base&, char, basic_string<char, char_traits<char>, allocator<char> > const&) const(GLIBCXX_LDBL_3.4) [LSB]
ostreambuf_iterator<char, char_traits<char> > __gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::_M_insert<true>(ostreambuf_iterator<char, char_traits<char> >, ios_base&, char, basic_string<char, char_traits<char>, allocator<char> > const&) const(GLIBCXX_LDBL_3.4) [LSB]
__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::money_put(unsigned long)(GLIBCXX_LDBL_3.4) [LSB]

<code>__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >::money_put(unsigned long)(GLIBCXX_LDBL_3.4)</code> [LSB]
<code>money_put<char, ostreambuf_iterator<char, char_traits<char> > >::money_put(unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>money_put<char, ostreambuf_iterator<char, char_traits<char> > >::money_put(unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]

An LSB conforming implementation shall provide the architecture specific data interfaces for Class `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` specified in Table 12-223, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-223 libstdc++ - Class `money_put<char, ostreambuf_iterator<char, char_traits<char> > >` Data Interfaces

<code>typeinfo for __gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >(GLIBCXX_LDBL_3.4)</code> [CXXABI-1.86]
<code>typeinfo name for __gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > >(GLIBCXX_LDBL_3.4)</code> [CXXABI-1.86]

12.1.134 Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

12.1.134.1 Class data for `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

The virtual table for the `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described in the generic part of this specification.

The Run Time Type Information for the `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described by Table 12-224

Table 12-224 `typeinfo` for `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo name for money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > ></code>

12.1.134.2 Interfaces for Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` specified in Table 12-225, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-225 libstdcxx - Class money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>> Function Interfaces

<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, wchar_t, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&) const(GLIBCXX_LDBL_3.4) [ISOCXX]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, wchar_t, __float128) const(GLIBCXX_LDBL_3.4) [ISOCXX]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, wchar_t, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&) const(GLIBCXX_LDBL_3.4) [ISOCXX]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, wchar_t, __float128) const(GLIBCXX_LDBL_3.4) [ISOCXX]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, wchar_t, double) const(GLIBCXX_LDBL_3.4) [ISOCXX]</pre>
<pre>ostreambuf_iterator<wchar_t, char_traits<wchar_t>> __gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::M_insert<false>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, wchar_t, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&) const(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>ostreambuf_iterator<wchar_t, char_traits<wchar_t>> __gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::M_insert<true>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, wchar_t, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&) const(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::money_put(unsigned long)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::money_put(unsigned long)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_put()(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_put()(GLIBCXX_LDBL_3.4) [LSB]</pre>

<code>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~money_put()(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

An LSB conforming implementation shall provide the architecture specific data interfaces for Class `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` specified in Table 12-226, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-226 libstdcxx - Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Data Interfaces

<code>typeinfo for __gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>
<code>typeinfo name for __gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>
<code>vtable for __gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >(GLIBCXX_LDBL_3.4) [CXXABI-1.86]</code>

12.1.135 Class locale

12.1.135.1 Interfaces for Class locale

An LSB conforming implementation shall provide the architecture specific methods for Class `std::locale` specified in Table 12-227, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-227 libstdcxx - Class locale Function Interfaces

<code>locale::_Impl::_Impl(char const*, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(locale::_Impl const&, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(char const*, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(locale::_Impl const&, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(unsigned long)(GLIBCXX_3.4) [LSB]</code>

12.1.136 Class locale::facet

12.1.136.1 Class data for locale::facet

The virtual table for the `std::locale::facet` class is described in the generic part of this specification.

The Run Time Type Information for the `std::locale::facet` class is described by Table 12-228

Table 12-228 typeinfo for `locale::facet`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeinfo name for <code>locale::facet</code>

12.1.136.2 Interfaces for Class `locale::facet`

No external methods are defined for `libstdc++` - Class `std::locale::facet` in this part of the specification. See also the generic specification.

12.1.137 facet functions

12.1.137.1 Interfaces for facet functions

An LSB conforming implementation shall provide the architecture specific methods for facet functions specified in Table 12-229, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-229 `libstdc++` - facet functions Function Interfaces

<code>void __convert_to_v<__float128>(char const*, __float128&, _Ios_Iostate&, __locale_struct* const&)(GLIBCXX_LDBL_3.4) [ISOCXX]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::num_get<char, istreambuf_iterator<char, char_traits<char>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::num_put<char, ostreambuf_iterator<char, char_traits<char>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>
<code>bool has_facet<__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>>(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</code>

<pre>__gnu_cxx_ldbl128::num_get<char, istreambuf_iterator<char, char_traits<char> > > const& use_facet<__gnu_cxx_ldbl128::num_get<char, istreambuf_iterator<char, char_traits<char> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > const& use_facet<__gnu_cxx_ldbl128::num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::num_put<char, ostreambuf_iterator<char, char_traits<char> > > const& use_facet<__gnu_cxx_ldbl128::num_put<char, ostreambuf_iterator<char, char_traits<char> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > > const& use_facet<__gnu_cxx_ldbl128::num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > > const& use_facet<__gnu_cxx_ldbl128::money_get<char, istreambuf_iterator<char, char_traits<char> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > const& use_facet<__gnu_cxx_ldbl128::money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > > const& use_facet<__gnu_cxx_ldbl128::money_put<char, ostreambuf_iterator<char, char_traits<char> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>
<pre>__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > > const& use_facet<__gnu_cxx_ldbl128::money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > > >(locale const&)(GLIBCXX_LDBL_3.4) [LSB]</pre>

12.1.138 Class `__num_base`

12.1.138.1 Class data for `__num_base`

12.1.138.2 Interfaces for Class `__num_base`

No external methods are defined for `libstdc++` - Class `std::__num_base` in this part of the specification. See also the generic specification.

12.1.139 Class num_get<char, istreambuf_iterator<char, char_traits<char> > >

12.1.139.1 Class data for num_get<char, istreambuf_iterator<char, char_traits<char> > >

The virtual table for the std::num_get<char, std::istreambuf_iterator<char, std::char_traits<char> > > class is described in the generic part of this specification.

The Run Time Type Information for the std::num_get<char, std::istreambuf_iterator<char, std::char_traits<char> > > class is described by Table 12-230

Table 12-230 typeid for num_get<char, istreambuf_iterator<char, char_traits<char> > >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for num_get<char, istreambuf_iterator<char, char_traits<char> > >
basetype:	typeid for locale::facet

12.1.139.2 Interfaces for Class num_get<char, istreambuf_iterator<char, char_traits<char> > >

An LSB conforming implementation shall provide the architecture specific methods for Class std::num_get<char, std::istreambuf_iterator<char, std::char_traits<char> > > specified in Table 12-231, with the full mandatory functionality as described in the referenced underlying specification.

Table 12-231 libstdc++ - Class num_get<char, istreambuf_iterator<char, char_traits<char> > > Function Interfaces

istreambuf_iterator<char, char_traits<char> > __gnu_cxx_ldbl128::num_get<char, istreambuf_iterator<char, char_traits<char> > >::_M_extract_int<unsigned int>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned int&) const(GLIBCXX_LDBL_3.4) [LSB]
istreambuf_iterator<char, char_traits<char> > __gnu_cxx_ldbl128::num_get<char, istreambuf_iterator<char, char_traits<char> > >::_M_extract_int<long>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, long&) const(GLIBCXX_LDBL_3.4) [LSB]
istreambuf_iterator<char, char_traits<char> > __gnu_cxx_ldbl128::num_get<char, istreambuf_iterator<char, char_traits<char> > >::_M_extract_int<unsigned long>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned long&) const(GLIBCXX_LDBL_3.4) [LSB]