

# **Linux Standard Base C++ Specification for S390X 3.2**

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## Foreword

This is version 3.2 of the Linux Standard Base C++ Specification for S390X. This specification is part of a family of specifications under the general title "Linux Standard Base". Developers of applications or implementations interested in using the LSB trademark should see the Linux Foundation Certification Policy for details.

## Introduction

The LSB defines a binary interface for application programs that are compiled and packaged for LSB-conforming implementations on many different hardware architectures. Since a binary specification shall include information specific to the computer processor architecture for which it is intended, it is not possible for a single document to specify the interface for all possible LSB-conforming implementations. Therefore, the LSB is a family of specifications, rather than a single one.

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:

- The first number (`x`) is the major version number. All versions with the same major version number should share binary compatibility. Any addition or deletion of a new library results in a new version number. Interfaces marked as `deprecated` may be removed from the specification at a major version change.
- The second number (`y`) is the minor version number. Individual interfaces may be added if all certified implementations already had that (previously undocumented) interface. Interfaces may be marked as `deprecated` at a minor version change. Other minor changes may be permitted at the discretion of the LSB workgroup.
- 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.



# **I Introductory Elements**





# 1 Scope

## 1.1 General

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 specification ("LSB-generic" or "generic LSB"), ISO/IEC 23360 Part 1, describing those parts of the interface that remain constant across all implementations of the LSB, and an architecture-specific part ("LSB-arch" or "archLSB") describing the parts of the interface that vary by processor architecture. Together, the LSB-generic and the relevant architecture-specific part of ISO/IEC 23360 for a single hardware architecture provide a complete interface specification for compiled application programs on systems that share a common hardware architecture.

ISO/IEC 23360 Part 1, the LSB-generic document, should be used in conjunction with an architecture-specific part. Whenever a section of the LSB-generic specification is supplemented by architecture-specific information, the LSB-generic document includes a reference to the architecture part. Architecture-specific parts of ISO/IEC 23360 may also contain additional information that is not referenced in the LSB-generic document.

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.

## 1.2 Module Specific Scope

This is the C++ module of the Linux Standards Base (LSB). This module supplements the core interfaces by providing system interfaces, libraries, and a runtime environment for applications built using the C++ programming language. These interfaces provide low-level support for the core constructs of the language, and implement the standard base C++ libraries.

Interfaces described in this module are presented in terms of C++; the binary interfaces will use encoded or mangled versions of the names.

## 2 Normative References

The specifications listed below are referenced in whole or in part by this module of the Linux Standard Base. In this specification, where only a particular section of one of these references is identified, then the normative reference is to that section alone, and the rest of the referenced document is informative.

**Table 2-1 Normative References**

<b>Name</b>	<b>Title</b>	<b>URL</b>
ISO/IEC 23360 Part 1	ISO/IEC 23360:2005 Linux Standard Base - Part 1 Generic Specification	<a href="http://www.linuxbase.org/spec/">http://www.linuxbase.org/spec/</a>
ISO C (1999)	ISO/IEC 9899: 1999, Programming Languages --C	
ISO POSIX (2003)	ISO/IEC 9945-1:2003 Information technology -- Portable Operating System Interface (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	<a href="http://www.unix.org/version3/">http://www.unix.org/ version3/</a>
ISO/IEC 14882: 2003 C++ Language	ISO/IEC 14882: 2003 Programming languages --C++	
Itanium™ C++ ABI	Itanium™ C++ ABI (Revision 1.83)	<a href="http://refspecs.linux-foundation.org/cxxabi-1.83.html">http://refspecs.linux- foundation.org/cxxabi- 1.83.html</a>

## 3 Requirements

### 3.1 Relevant Libraries

The libraries listed in Table 3-1 shall be available on a Linux Standard Base system, with the specified runtime names.

**Table 3-1 Standard Library Names**

Library	Runtime Name
libstdcxx	libstdc++.so.6

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

### 3.2 LSB Implementation Conformance

An implementation shall satisfy the following requirements:

- The implementation shall implement fully the architecture described in the hardware manual for the target processor architecture.
- The implementation shall be capable of executing compiled applications having the format and using the system interfaces described in this document.
- The implementation shall provide libraries containing the interfaces specified by this document, 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 document.
- The map of virtual memory provided by the implementation shall conform to the requirements of this document.
- 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 document.
- 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 document in the format defined here and in other referenced documents. All commands and utilities shall behave as required by this document. The implementation shall also provide all mandatory components of an application's runtime environment that are included or referenced in this document.
- 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

An application shall satisfy the following requirements:

- Its executable files are either shell scripts or object files in the format defined for the Object File Format system interface.
- Its object files participate in dynamic linking as defined in the Program Loading and Linking System interface.
- It employs only the instructions, traps, and other low-level facilities defined in the Low-Level System interface as being for use by applications.
- If it requires any optional interface defined in this document in order to be installed or to execute successfully, the requirement for that optional interface is stated in the application's documentation.
- It does not use any interface or data format that is not required to be provided by a conforming implementation, unless:
  - If such an interface or data format is supplied by another application through direct invocation of that application during execution, that application is in turn an LSB conforming application.
  - The use of that interface or data format, as well as its source, is identified in the documentation of the application.
- It shall not use any values for a named interface that are reserved for vendor extensions.

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

## 4 Definitions

For the purposes of this document, the following definitions, as specified in the *ISO/IEC Directives, Part 2, 2001, 4th Edition*, apply:

can

be able to; there is a possibility of; it is possible to

cannot

be unable to; there is no possibility of; it is not possible to

may

is permitted; is allowed; is permissible

need not

it is not required that; no...is required

shall

is to; is required to; it is required that; has to; only...is permitted; it is necessary

shall not

is not allowed [permitted] [acceptable] [permissible]; is required to be not; is required that...be not; is not to be

should

it is recommended that; ought to

should not

it is not recommended that; ought not to

## 5 Terminology

For the purposes of this document, the following terms apply:

### archLSB

The architectural part of the LSB Specification which describes the specific parts of the interface that are platform specific. The archLSB is complementary to the gLSB.

### Binary Standard

The total set of interfaces that are available to be used in the compiled binary code of a conforming application.

### gLSB

The common part of the LSB Specification that describes those parts of the interface that remain constant across all hardware implementations of the LSB.

### 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.

### 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.

### Source Standard

The set of interfaces that are available to be used in the source code of a conforming application.

### 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.

### 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.

Other terms and definitions used in this document shall have the same meaning as defined in Chapter 3 of the Base Definitions volume of ISO POSIX (2003).

## 6 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,

<code>forkpty(GLIBC_2.0) [SUSv3]</code>
---

refers to the interface named `forkpty()` with symbol version `GLIBC_2.0` that is defined in the `SUSv3` reference.

**Note:** Symbol versions are defined in the architecture specific parts of ISO/IEC 23360 only.



## **II Base Libraries**

## 7 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.

### 7.1 Interfaces for libstdcxx

Table 7-1 defines the library name and shared object name for the libstdcxx library

**Table 7-1 libstdcxx Definition**

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

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

[CXXABI] Itanium™ C++ ABI

[ISOCXX] ISO/IEC 14882: 2003 C++ Language

[LSB] ISO/IEC 23360 Part 1

#### 7.1.1 C++ Runtime Support

##### 7.1.1.1 Interfaces for C++ Runtime Support

An LSB conforming implementation shall provide the architecture specific methods for C++ Runtime Support specified in Table 7-2, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-2 libstdcxx - C++ Runtime Support Function Interfaces**

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

#### 7.1.2 C++ type descriptors for built-in types

##### 7.1.2.1 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.

#### 7.1.3 C++ \_Rb\_tree

##### 7.1.3.1 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.

## 7.1.4 Class `type_info`

### 7.1.4.1 Class data for `type_info`

The virtual table for the `std::type_info` class is described by Table 7-3

**Table 7-3 Primary vtable for `type_info`**

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

The Run Time Type Information for the `std::type_info` class is described by Table 7-4

**Table 7-4 typeinfo for `type_info`**

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

### 7.1.4.2 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.

## 7.1.5 Class `__cxxabiv1::__enum_type_info`

### 7.1.5.1 Class data for `__cxxabiv1::__enum_type_info`

The virtual table for the `__cxxabiv1::__enum_type_info` class is described by Table 7-5

**Table 7-5 Primary vtable for `__cxxabiv1::__enum_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__cxxabiv1::__enum_type_info</code>
<code>vfunc[0]:</code>	<code>__cxxabiv1::__enum_type_info::~~enum_type_info()</code>
<code>vfunc[1]:</code>	<code>__cxxabiv1::__enum_type_info::~~e</code>

	num_type_info()
vfunc[2]:	type_info::__is_pointer_p() const
vfunc[3]:	type_info::__is_function_p() const
vfunc[4]:	type_info::__do_catch(type_info const*, void**, unsigned int) const
vfunc[5]:	type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const

The Run Time Type Information for the `__cxxabiv1::__enum_type_info` class is described by Table 7-6

**Table 7-6 typeid for `__cxxabiv1::__enum_type_info`**

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

#### 7.1.5.2 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.

#### 7.1.6 Class `__cxxabiv1::__array_type_info`

##### 7.1.6.1 Class data for `__cxxabiv1::__array_type_info`

The virtual table for the `__cxxabiv1::__array_type_info` class is described by Table 7-7

**Table 7-7 Primary vtable for `__cxxabiv1::__array_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for <code>__cxxabiv1::__array_type_info</code>
vfunc[0]:	<code>__cxxabiv1::__array_type_info::~~array_type_info()</code>
vfunc[1]:	<code>__cxxabiv1::__array_type_info::~~array_type_info()</code>
vfunc[2]:	type_info::__is_pointer_p() const
vfunc[3]:	type_info::__is_function_p() const
vfunc[4]:	type_info::__do_catch(type_info const*, void**, unsigned int) const
vfunc[5]:	type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const

The Run Time Type Information for the `__cxxabiv1::__array_type_info` class is described by Table 7-8

**Table 7-8 typeinfo for `__cxxabiv1::__array_type_info`**

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

### 7.1.6.2 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.

### 7.1.7 Class `__cxxabiv1::__class_type_info`

#### 7.1.7.1 Class data for `__cxxabiv1::__class_type_info`

The virtual table for the `__cxxabiv1::__class_type_info` class is described by Table 7-9

**Table 7-9 Primary vtable for `__cxxabiv1::__class_type_info`**

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

	const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dyn cast_result&) const
vfunc[8]:	__cxxabiv1::__class_type_info::__do_ find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const

The Run Time Type Information for the `__cxxabiv1::__class_type_info` class is described by Table 7-10

**Table 7-10 typeinfo for `__cxxabiv1::__class_type_info`**

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

#### 7.1.7.2 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 7-11, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-11 libstdc++ - Class `__cxxabiv1::__class_type_info` Function Interfaces**

__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) [CXXABI]
__cxxabiv1::__class_type_info::__do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3) [CXXABI]

#### 7.1.8 Class `__cxxabiv1::__pbase_type_info`

##### 7.1.8.1 Class data for `__cxxabiv1::__pbase_type_info`

The virtual table for the `__cxxabiv1::__pbase_type_info` class is described by Table 7-12

**Table 7-12 Primary vtable for `__cxxabiv1::__pbase_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for __cxxabiv1::__pbase_type_info
vfunc[0]:	__cxxabiv1::__pbase_type_info::~~p base_type_info()

vfunc[1]:	<code>__cxxabiv1::__pbase_type_info::~~pbase_type_info()</code>
vfunc[2]:	<code>type_info::__is_pointer_p() const</code>
vfunc[3]:	<code>type_info::__is_function_p() const</code>
vfunc[4]:	<code>__cxxabiv1::__pbase_type_info::__do_catch(type_info const*, void**, unsigned int) const</code>
vfunc[5]:	<code>type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const</code>
vfunc[6]:	<code>__cxxabiv1::__pbase_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const</code>

The Run Time Type Information for the `__cxxabiv1::__pbase_type_info` class is described by Table 7-13

**Table 7-13 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>

### 7.1.8.2 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.

## 7.1.9 Class `__cxxabiv1::__pointer_type_info`

### 7.1.9.1 Class data for `__cxxabiv1::__pointer_type_info`

The virtual table for the `__cxxabiv1::__pointer_type_info` class is described by Table 7-14

**Table 7-14 Primary vtable for `__cxxabiv1::__pointer_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__cxxabiv1::__pointer_type_info</code>
vfunc[0]:	<code>__cxxabiv1::__pointer_type_info::~~pointer_type_info()</code>
vfunc[1]:	<code>__cxxabiv1::__pointer_type_info::~~pointer_type_info()</code>
vfunc[2]:	<code>__cxxabiv1::__pointer_type_info::__is_pointer_p() const</code>

vfunc[3]:	type_info::__is_function_p() const
vfunc[4]:	__cxxabiv1::__pbase_type_info::__do_catch(type_info const*, void**, unsigned int) const
vfunc[5]:	type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const
vfunc[6]:	__cxxabiv1::__pointer_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const

The Run Time Type Information for the `__cxxabiv1::__pointer_type_info` class is described by Table 7-15

**Table 7-15 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>

#### 7.1.9.2 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.

#### 7.1.10 Class `__cxxabiv1::__function_type_info`

##### 7.1.10.1 Class data for `__cxxabiv1::__function_type_info`

The virtual table for the `__cxxabiv1::__function_type_info` class is described by Table 7-16

**Table 7-16 Primary vtable for `__cxxabiv1::__function_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__cxxabiv1::__function_type_info</code>
vfunc[0]:	<code>__cxxabiv1::__function_type_info::~~_function_type_info()</code>
vfunc[1]:	<code>__cxxabiv1::__function_type_info::~~_function_type_info()</code>
vfunc[2]:	type_info::__is_pointer_p() const
vfunc[3]:	<code>__cxxabiv1::__function_type_info::__is_function_p()</code> const
vfunc[4]:	type_info::__do_catch(type_info const*, void**, unsigned int) const



vfunc[5]:	type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const
-----------	--

The Run Time Type Information for the `__cxxabiv1::__function_type_info` class is described by Table 7-17

**Table 7-17 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>

### 7.1.10.2 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.

### 7.1.11 Class `__cxxabiv1::__si_class_type_info`

#### 7.1.11.1 Class data for `__cxxabiv1::__si_class_type_info`

The virtual table for the `__cxxabiv1::__si_class_type_info` class is described by Table 7-18

**Table 7-18 Primary vtable for `__cxxabiv1::__si_class_type_info`**

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

vfunc[7]:	<code>__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&amp;) const</code>
vfunc[8]:	<code>__cxxabiv1::__si_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::__si_class_type_info` class is described by Table 7-19

**Table 7-19 typeinfo for `__cxxabiv1::__si_class_type_info`**

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

#### 7.1.11.2 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 7-20, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-20 libstdc++ - Class `__cxxabiv1::__si_class_type_info` Function Interfaces**

<code>__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&amp;) const(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__si_class_type_info::__do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3)</code> [CXXABI]

#### 7.1.12 Class `__cxxabiv1::__vmi_class_type_info`

##### 7.1.12.1 Class data for `__cxxabiv1::__vmi_class_type_info`

The virtual table for the `__cxxabiv1::__vmi_class_type_info` class is described by Table 7-21

**Table 7-21 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::__upc ast_result&) const
vfunc[7]:	__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
vfunc[8]:	__cxxabiv1::__vmi_class_type_info::__ _do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const

The Run Time Type Information for the \_\_cxxabiv1::\_\_vmi\_class\_type\_info class is described by Table 7-22

**Table 7-22 typeinfo for \_\_cxxabiv1::\_\_vmi\_class\_type\_info**

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

#### 7.1.12.2 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 7-23, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-23 libstdcxx - 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&amp;) const(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__vmi_class_type_info::__do_find_public_src(long, void const*, __cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3)</code> [CXXABI]

**7.1.13 Class `__cxxabiv1::__fundamental_type_info`****7.1.13.1 Class data for `__cxxabiv1::__fundamental_type_info`**

The virtual table for the `__cxxabiv1::__fundamental_type_info` class is described by Table 7-24

**Table 7-24 Primary vtable for `__cxxabiv1::__fundamental_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__cxxabiv1::__fundamental_type_info</code>
<code>vfunc[0]:</code>	<code>__cxxabiv1::__fundamental_type_info::~~__fundamental_type_info()</code>
<code>vfunc[1]:</code>	<code>__cxxabiv1::__fundamental_type_info::~~__fundamental_type_info()</code>
<code>vfunc[2]:</code>	<code>type_info::__is_pointer_p() const</code>
<code>vfunc[3]:</code>	<code>type_info::__is_function_p() const</code>
<code>vfunc[4]:</code>	<code>type_info::__do_catch(type_info const*, void**, unsigned int) const</code>
<code>vfunc[5]:</code>	<code>type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const</code>

The Run Time Type Information for the `__cxxabiv1::__fundamental_type_info` class is described by Table 7-25

**Table 7-25 typeinfo for `__cxxabiv1::__fundamental_type_info`**

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

### 7.1.13.2 Interfaces for Class `__cxxabiv1::__fundamental_type_info`

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

### 7.1.14 Class `__cxxabiv1::__pointer_to_member_type_info`

#### 7.1.14.1 Class data for `__cxxabiv1::__pointer_to_member_type_info`

The virtual table for the `__cxxabiv1::__pointer_to_member_type_info` class is described by Table 7-26

**Table 7-26 Primary vtable for `__cxxabiv1::__pointer_to_member_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__cxxabiv1::__pointer_to_member_type_info</code>
<code>vfunc[0]:</code>	<code>__cxxabiv1::__pointer_to_member_type_info::~__pointer_to_member_type_info()</code>
<code>vfunc[1]:</code>	<code>__cxxabiv1::__pointer_to_member_type_info::~__pointer_to_member_type_info()</code>
<code>vfunc[2]:</code>	<code>type_info::__is_pointer_p() const</code>
<code>vfunc[3]:</code>	<code>type_info::__is_function_p() const</code>
<code>vfunc[4]:</code>	<code>__cxxabiv1::__pbase_type_info::__do_catch(type_info const*, void**, unsigned int) const</code>
<code>vfunc[5]:</code>	<code>type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const</code>
<code>vfunc[6]:</code>	<code>__cxxabiv1::__pointer_to_member_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const</code>

The Run Time Type Information for the `__cxxabiv1::__pointer_to_member_type_info` class is described by Table 7-27

**Table 7-27 typeinfo for `__cxxabiv1::__pointer_to_member_type_info`**

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

**7.1.14.2 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.

**7.1.15 Class `__gnu_cxx::stdio_filebuf<char, char_traits<char>>`****7.1.15.1 Class data for `__gnu_cxx::stdio_filebuf<char, char_traits<char>>`**

The virtual table for the `__gnu_cxx::stdio_filebuf<char, std::char_traits<char>>` class is described by Table 7-28

**Table 7-28 Primary vtable for `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for <code>__gnu_cxx::stdio_sync_filebuf&lt;char, char_traits&lt;char&gt;&gt;</code>
vfunc[0]:	Unspecified
vfunc[1]:	Unspecified
vfunc[2]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;::imbue(locale const&amp;)</code>
vfunc[3]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;::setbuf(char*, long)</code>
vfunc[4]:	Unspecified
vfunc[5]:	Unspecified
vfunc[6]:	Unspecified
vfunc[7]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;::showmanyc()</code>
vfunc[8]:	Unspecified
vfunc[9]:	Unspecified
vfunc[10]:	Unspecified
vfunc[11]:	Unspecified
vfunc[12]:	Unspecified
vfunc[13]:	Unspecified

### 7.1.15.2 Interfaces for Class `__gnu_cxx::stdio_filebuf<char, char_traits<char>>`

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

### 7.1.16 Class `__gnu_cxx::stdio_filebuf<wchar_t, char_traits<wchar_t>>`

#### 7.1.16.1 Class data for `__gnu_cxx::stdio_filebuf<wchar_t, char_traits<wchar_t>>`

The virtual table for the `__gnu_cxx::stdio_filebuf<wchar_t, std::char_traits<wchar_t>>` class is described by Table 7-29

**Table 7-29 Primary vtable for `__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for <code>__gnu_cxx::stdio_sync_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
vfunc[0]:	Unspecified
vfunc[1]:	Unspecified
vfunc[2]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::imbue(locale const&amp;)</code>
vfunc[3]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::setbuf(wchar_t*, long)</code>
vfunc[4]:	Unspecified
vfunc[5]:	Unspecified
vfunc[6]:	Unspecified
vfunc[7]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::showmanyc()</code>
vfunc[8]:	Unspecified
vfunc[9]:	Unspecified
vfunc[10]:	Unspecified
vfunc[11]:	Unspecified
vfunc[12]:	Unspecified
vfunc[13]:	Unspecified

### 7.1.16.2 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.

### 7.1.17 Class `__gnu_cxx::__pool_alloc_base`

#### 7.1.17.1 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 7-30, with the full mandatory functionality as described in the referenced underlying specification.

Table 7-30 `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>

### 7.1.18 Class `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char>>`

#### 7.1.18.1 Interfaces for Class `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char>>`

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

### 7.1.19 Class `__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>`

#### 7.1.19.1 Interfaces for Class `__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>>`

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

### 7.1.20 Class `exception`

#### 7.1.20.1 Class data for `exception`

The virtual table for the `std::exception` class is described by Table 7-31

Table 7-31 Primary vtable for `exception`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>exception</code>
<code>vfunc[0]:</code>	<code>exception::~exception()</code>



vfunc[1]:	exception::~~exception()
vfunc[2]:	exception::what() const

The Run Time Type Information for the std::exception class is described by Table 7-32

**Table 7-32 typeinfo for exception**

Base Vtable	vtable for __cxxabiv1::__class_type_info
Name	typeid name for exception

### 7.1.20.2 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.

### 7.1.21 Class bad\_typeid

#### 7.1.21.1 Class data for bad\_typeid

The virtual table for the std::bad\_typeid class is described by Table 7-33

**Table 7-33 Primary vtable for bad\_typeid**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for bad_typeid
vfunc[0]:	bad_typeid::~~bad_typeid()
vfunc[1]:	bad_typeid::~~bad_typeid()
vfunc[2]:	exception::what() const

The Run Time Type Information for the std::bad\_typeid class is described by Table 7-34

**Table 7-34 typeid for bad\_typeid**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for bad_typeid

#### 7.1.21.2 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.

### 7.1.22 Class logic\_error

#### 7.1.22.1 Class data for logic\_error

The virtual table for the std::logic\_error class is described by Table 7-35

**Table 7-35 Primary vtable for `logic_error`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>logic_error</code>
<code>vfunc[0]:</code>	<code>logic_error::~~logic_error()</code>
<code>vfunc[1]:</code>	<code>logic_error::~~logic_error()</code>
<code>vfunc[2]:</code>	<code>logic_error::what() const</code>

The Run Time Type Information for the `std::logic_error` class is described by Table 7-36

**Table 7-36 typeinfo for `logic_error`**

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

### 7.1.22.2 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.

### 7.1.23 Class `range_error`

#### 7.1.23.1 Class data for `range_error`

The virtual table for the `std::range_error` class is described by Table 7-37

**Table 7-37 Primary vtable for `range_error`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>range_error</code>
<code>vfunc[0]:</code>	<code>range_error::~~range_error()</code>
<code>vfunc[1]:</code>	<code>range_error::~~range_error()</code>
<code>vfunc[2]:</code>	<code>runtime_error::what() const</code>

The Run Time Type Information for the `std::range_error` class is described by Table 7-38

**Table 7-38 typeinfo for `range_error`**

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

### 7.1.23.2 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.

## 7.1.24 Class domain\_error

### 7.1.24.1 Class data for domain\_error

The virtual table for the `std::domain_error` class is described by Table 7-39

**Table 7-39 Primary vtable for domain\_error**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for domain_error
vfunc[0]:	domain_error::~~domain_error()
vfunc[1]:	domain_error::~~domain_error()
vfunc[2]:	logic_error::what() const

The Run Time Type Information for the `std::domain_error` class is described by Table 7-40

**Table 7-40 typeinfo for domain\_error**

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

### 7.1.24.2 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.

## 7.1.25 Class length\_error

### 7.1.25.1 Class data for length\_error

The virtual table for the `std::length_error` class is described by Table 7-41

**Table 7-41 Primary vtable for length\_error**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for length_error
vfunc[0]:	length_error::~~length_error()
vfunc[1]:	length_error::~~length_error()
vfunc[2]:	logic_error::what() const

The Run Time Type Information for the `std::length_error` class is described by Table 7-42

**Table 7-42 typeinfo for length\_error**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
-------------	--

Name	typeinfo name for length_error
------	--------------------------------

### 7.1.25.2 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.

### 7.1.26 Class out\_of\_range

#### 7.1.26.1 Class data for out\_of\_range

The virtual table for the std::out\_of\_range class is described by Table 7-43

**Table 7-43 Primary vtable for out\_of\_range**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for out_of_range
vfunc[0]:	out_of_range::~~out_of_range()
vfunc[1]:	out_of_range::~~out_of_range()
vfunc[2]:	logic_error::what() const

The Run Time Type Information for the std::out\_of\_range class is described by Table 7-44

**Table 7-44 typeinfo for out\_of\_range**

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

### 7.1.26.2 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.

### 7.1.27 Class bad\_exception

#### 7.1.27.1 Class data for bad\_exception

The virtual table for the std::bad\_exception class is described by Table 7-45

**Table 7-45 Primary vtable for bad\_exception**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for bad_exception
vfunc[0]:	bad_exception::~~bad_exception()
vfunc[1]:	bad_exception::~~bad_exception()
vfunc[2]:	exception::what() const

The Run Time Type Information for the `std::bad_exception` class is described by Table 7-46

**Table 7-46 typeinfo for `bad_exception`**

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

### 7.1.27.2 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.

## 7.1.28 Class `runtime_error`

### 7.1.28.1 Class data for `runtime_error`

The virtual table for the `std::runtime_error` class is described by Table 7-47

**Table 7-47 Primary vtable for `runtime_error`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>runtime_error</code>
<code>vfunc[0]:</code>	<code>runtime_error::~~runtime_error()</code>
<code>vfunc[1]:</code>	<code>runtime_error::~~runtime_error()</code>
<code>vfunc[2]:</code>	<code>runtime_error::what() const</code>

The Run Time Type Information for the `std::runtime_error` class is described by Table 7-48

**Table 7-48 typeinfo for `runtime_error`**

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

### 7.1.28.2 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.

## 7.1.29 Class `overflow_error`

### 7.1.29.1 Class data for `overflow_error`

The virtual table for the `std::overflow_error` class is described by Table 7-49

**Table 7-49 Primary vtable for `overflow_error`**

Base Offset	0
Virtual Base Offset	0

RTTI	typeinfo for overflow_error
vfunc[0]:	overflow_error::~~overflow_error()
vfunc[1]:	overflow_error::~~overflow_error()
vfunc[2]:	runtime_error::what() const

The Run Time Type Information for the std::overflow\_error class is described by Table 7-50

**Table 7-50 typeinfo for overflow\_error**

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

### 7.1.29.2 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.

### 7.1.30 Class underflow\_error

#### 7.1.30.1 Class data for underflow\_error

The virtual table for the std::underflow\_error class is described by Table 7-51

**Table 7-51 Primary vtable for underflow\_error**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for underflow_error
vfunc[0]:	underflow_error::~~underflow_error()
vfunc[1]:	underflow_error::~~underflow_error()
vfunc[2]:	runtime_error::what() const

The Run Time Type Information for the std::underflow\_error class is described by Table 7-52

**Table 7-52 typeinfo for underflow\_error**

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

### 7.1.30.2 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.

### 7.1.31 Class `invalid_argument`

#### 7.1.31.1 Class data for `invalid_argument`

The virtual table for the `std::invalid_argument` class is described by Table 7-53

**Table 7-53 Primary vtable for `invalid_argument`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>invalid_argument</code>
<code>vfunc[0]:</code>	<code>invalid_argument::~~invalid_argument()</code>
<code>vfunc[1]:</code>	<code>invalid_argument::~~invalid_argument()</code>
<code>vfunc[2]:</code>	<code>logic_error::what() const</code>

The Run Time Type Information for the `std::invalid_argument` class is described by Table 7-54

**Table 7-54 typeinfo for `invalid_argument`**

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

#### 7.1.31.2 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.

### 7.1.32 Class `bad_cast`

#### 7.1.32.1 Class data for `bad_cast`

The virtual table for the `std::bad_cast` class is described by Table 7-55

**Table 7-55 Primary vtable for `bad_cast`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>bad_cast</code>
<code>vfunc[0]:</code>	<code>bad_cast::~~bad_cast()</code>
<code>vfunc[1]:</code>	<code>bad_cast::~~bad_cast()</code>
<code>vfunc[2]:</code>	<code>exception::what() const</code>

The Run Time Type Information for the `std::bad_cast` class is described by Table 7-56

**Table 7-56 typeinfo for bad\_cast**

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

**7.1.32.2 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.

**7.1.33 Class bad\_alloc****7.1.33.1 Class data for bad\_alloc**

The virtual table for the std::bad\_alloc class is described by Table 7-57

**Table 7-57 Primary vtable for bad\_alloc**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for bad_alloc
vfunc[0]:	bad_alloc::~~bad_alloc()
vfunc[1]:	bad_alloc::~~bad_alloc()
vfunc[2]:	exception::what() const

The Run Time Type Information for the std::bad\_alloc class is described by Table 7-58

**Table 7-58 typeinfo for bad\_alloc**

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

**7.1.33.2 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.

**7.1.34 struct \_\_numeric\_limits\_base****7.1.34.1 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.

**7.1.35 struct numeric\_limits<long double>****7.1.35.1 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.



**7.1.36 struct numeric\_limits<long long>****7.1.36.1 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.

**7.1.37 struct numeric\_limits<unsigned long long>****7.1.37.1 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.

**7.1.38 struct numeric\_limits<float>****7.1.38.1 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.

**7.1.39 struct numeric\_limits<double>****7.1.39.1 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.

**7.1.40 struct numeric\_limits<short>****7.1.40.1 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.

**7.1.41 struct numeric\_limits<unsigned short>****7.1.41.1 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.

**7.1.42 struct numeric\_limits<int>****7.1.42.1 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.

**7.1.43 struct numeric\_limits<unsigned int>****7.1.43.1 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.

**7.1.44 struct numeric\_limits<long>****7.1.44.1 Interfaces for struct numeric\_limits<long>**

No external methods are defined for libstdcxx - struct numeric\_limits<long> in this part of the specification. See also the generic specification.

**7.1.45 struct numeric\_limits<unsigned long>****7.1.45.1 Interfaces for struct numeric\_limits<unsigned long>**

No external methods are defined for libstdcxx - struct numeric\_limits<unsigned long> in this part of the specification. See also the generic specification.

**7.1.46 struct numeric\_limits<wchar\_t>****7.1.46.1 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.

**7.1.47 struct numeric\_limits<unsigned char>****7.1.47.1 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.

**7.1.48 struct numeric\_limits<signed char>****7.1.48.1 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.

**7.1.49 struct numeric\_limits<char>****7.1.49.1 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.

**7.1.50 struct numeric\_limits<bool>****7.1.50.1 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.

**7.1.51 Class ctype\_base****7.1.51.1 Class data for ctype\_base**

The Run Time Type Information for the std::ctype\_base class is described by Table 7-59

**Table 7-59 typeid for ctype\_base**

Base Vtable	vtable for __cxxabiv1::__class_type_info
-------------	---

Name	typeinfo name for ctype_base
------	------------------------------

### 7.1.51.2 Interfaces for Class `ctype_base`

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

### 7.1.52 Class `__ctype_abstract_base<char>`

#### 7.1.52.1 Class data for `__ctype_abstract_base<char>`

The virtual table for the `std::__ctype_abstract_base<char>` class is described by Table 7-60

**Table 7-60 Primary vtable for `__ctype_abstract_base<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__ctype_abstract_base&lt;char&gt;</code>
<code>vfunc[0]:</code>	
<code>vfunc[1]:</code>	
<code>vfunc[2]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[3]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[4]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[5]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[6]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[7]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[8]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[9]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[10]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[11]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[12]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[13]:</code>	<code>__cxa_pure_virtual</code>

#### 7.1.52.2 Interfaces for Class `__ctype_abstract_base<char>`

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

### 7.1.53 Class `__ctype_abstract_base<wchar_t>`

#### 7.1.53.1 Class data for `__ctype_abstract_base<wchar_t>`

The virtual table for the `std::__ctype_abstract_base<wchar_t>` class is described by Table 7-61

**Table 7-61 Primary vtable for `__ctype_abstract_base<wchar_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__ctype_abstract_base&lt;wchar_t&gt;</code>
<code>vfunc[0]:</code>	
<code>vfunc[1]:</code>	
<code>vfunc[2]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[3]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[4]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[5]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[6]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[7]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[8]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[9]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[10]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[11]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[12]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[13]:</code>	<code>__cxa_pure_virtual</code>

**7.1.53.2 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.

**7.1.54 Class `ctype<char>`****7.1.54.1 Class data for `ctype<char>`**

The virtual table for the `std::ctype<char>` class is described by Table 7-62

**Table 7-62 Primary vtable for `ctype<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>ctype&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>ctype&lt;char&gt;::~~ctype()</code>
<code>vfunc[1]:</code>	<code>ctype&lt;char&gt;::~~ctype()</code>
<code>vfunc[2]:</code>	<code>ctype&lt;char&gt;::do_toupper(char) const</code>
<code>vfunc[3]:</code>	<code>ctype&lt;char&gt;::do_toupper(char*, char const*) const</code>

vfunc[4]:	ctype<char>::do_tolower(char) const
vfunc[5]:	ctype<char>::do_tolower(char*, char const*) const
vfunc[6]:	ctype<char>::do_widen(char) const
vfunc[7]:	ctype<char>::do_widen(char const*, char const*, char*) const
vfunc[8]:	ctype<char>::do_narrow(char, char) const
vfunc[9]:	ctype<char>::do_narrow(char const*, char const*, char, char*) const

### 7.1.54.2 Interfaces for Class ctype<char>

An LSB conforming implementation shall provide the architecture specific methods for Class std::ctype<char> specified in Table 7-63, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-63 libstdcxx - Class ctype<char> Function Interfaces**

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

### 7.1.55 Class ctype<wchar\_t>

#### 7.1.55.1 Class data for ctype<wchar\_t>

The virtual table for the std::ctype<wchar\_t> class is described by Table 7-64

**Table 7-64 Primary vtable for ctype<wchar\_t>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for ctype<wchar_t>
vfunc[0]:	ctype<wchar_t>::~~ctype()
vfunc[1]:	ctype<wchar_t>::~~ctype()
vfunc[2]:	ctype<wchar_t>::do_is(unsigned short, wchar_t) const
vfunc[3]:	ctype<wchar_t>::do_is(wchar_t const*, wchar_t const*, unsigned short*) const
vfunc[4]:	ctype<wchar_t>::do_scan_is(unsigne

	d short, wchar_t const*, wchar_t const*) const
vfunc[5]:	ctype<wchar_t>::do_scan_not(unsigned short, wchar_t const*, wchar_t const*) const
vfunc[6]:	ctype<wchar_t>::do_toupper(wchar_t) const
vfunc[7]:	ctype<wchar_t>::do_toupper(wchar_t*, wchar_t const*) const
vfunc[8]:	ctype<wchar_t>::do_tolower(wchar_t) const
vfunc[9]:	ctype<wchar_t>::do_tolower(wchar_t*, wchar_t const*) const
vfunc[10]:	ctype<wchar_t>::do_widen(char) const
vfunc[11]:	ctype<wchar_t>::do_widen(char const*, char const*, wchar_t*) const
vfunc[12]:	ctype<wchar_t>::do_narrow(wchar_t, char) const
vfunc[13]:	ctype<wchar_t>::do_narrow(wchar_t const*, wchar_t const*, char, char*) const

The Run Time Type Information for the `std::ctype<wchar_t>` class is described by Table 7-65

**Table 7-65 typeinfo for `ctype<wchar_t>`**

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

### 7.1.55.2 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 7-66, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-66 `libstdcxx` - Class `ctype<wchar_t>` Function Interfaces**

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

## 7.1.56 Class `ctype_byname<char>`

### 7.1.56.1 Class data for `ctype_byname<char>`

The virtual table for the `std::ctype_byname<char>` class is described by Table 7-67

**Table 7-67 Primary vtable for `ctype_byname<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>ctype_byname&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>ctype_byname&lt;char&gt;::~~ctype_byname()</code>
<code>vfunc[1]:</code>	<code>ctype_byname&lt;char&gt;::~~ctype_byname()</code>
<code>vfunc[2]:</code>	<code>ctype&lt;char&gt;::do_toupper(char) const</code>
<code>vfunc[3]:</code>	<code>ctype&lt;char&gt;::do_toupper(char*, char const*) const</code>
<code>vfunc[4]:</code>	<code>ctype&lt;char&gt;::do_tolower(char) const</code>
<code>vfunc[5]:</code>	<code>ctype&lt;char&gt;::do_tolower(char*, char const*) const</code>
<code>vfunc[6]:</code>	<code>ctype&lt;char&gt;::do_widen(char) const</code>
<code>vfunc[7]:</code>	<code>ctype&lt;char&gt;::do_widen(char const*, char const*, char*) const</code>
<code>vfunc[8]:</code>	<code>ctype&lt;char&gt;::do_narrow(char, char) const</code>
<code>vfunc[9]:</code>	<code>ctype&lt;char&gt;::do_narrow(char const*, char const*, char*) const</code>

The Run Time Type Information for the `std::ctype_byname<char>` class is described by Table 7-68

**Table 7-68 typeinfo for `ctype_byname<char>`**

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

### 7.1.56.2 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 7-69, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-69 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]

**7.1.57 Class ctype\_byname<wchar\_t>****7.1.57.1 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 7-70, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-70 libstdcxx - Class ctype\_byname<wchar\_t> Function Interfaces**

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

**7.1.58 Class basic\_string<char, char\_traits<char>, allocator<char> >****7.1.58.1 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 7-71, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-71 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]
basic_string<char, char_traits<char>, allocator<char> >::find_last_of(char const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::find_last_of(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::find_last_of(char, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::find_first_of(char const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::find_first_of(char const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::find_first_of(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long) const(GLIBCXX_3.4) [ISOCXX]



<code>const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_first_of(char, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_last_not_of(char const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_last_not_of(char const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_last_not_of(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_last_not_of(char, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_first_not_of(char const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_first_not_of(char const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_first_not_of(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find_first_not_of(char, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::at(unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::copy(char*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find(char const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find(char const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::find(char, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::rfind(char const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::rfind(char const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::rfind(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>

<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::rfind(char, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::substr(unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::compare(unsigned long, unsigned long, char const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::compare(unsigned long, unsigned long, char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::compare(unsigned long, unsigned long, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::compare(unsigned long, unsigned long, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_M_check(unsigned long, char const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_M_limit(unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::operator[](unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_S_construct(unsigned long, char, allocator&lt;char&gt; const&amp;)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_M_replace_aux(unsigned long, unsigned long, unsigned long, char)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_M_replace_safe(unsigned long, unsigned long, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::at(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_Rep::_M_clone(allocator&lt;char&gt; const&amp;, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_Rep::_S_create(unsigned long, unsigned long, allocator&lt;char&gt; const&amp;)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::erase(unsigned long, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::append(char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::append(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;,</code>

<code>unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::append(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::assign(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::assign(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::assign(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::insert(__gnu_cxx::__normal_iterator&lt;char*, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::insert(unsigned long, char const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::insert(unsigned long, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::insert(unsigned long, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::insert(unsigned long, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::insert(unsigned long, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::resize(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::resize(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::replace(__gnu_cxx::__normal_iterator&lt;char*, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;, __gnu_cxx::__normal_iterator&lt;char*, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::replace(__gnu_cxx::__normal_iterator&lt;char*, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;, __gnu_cxx::__normal_iterator&lt;char*, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::replace(unsigned long, unsigned long, char const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::replace(unsigned long, unsigned long, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::replace(unsigned long, unsigned long, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::replace(unsigned long, unsigned long, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::replace(unsigned long, unsigned long, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::reserve(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::M_mutate(unsigned long, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(char const*, unsigned long, allocator&lt;char&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long, allocator&lt;char&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(unsigned long, char, allocator&lt;char&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(char const*, unsigned long, allocator&lt;char&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, unsigned long, unsigned long, allocator&lt;char&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_string(unsigned long, char, allocator&lt;char&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::operator[](unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

## 7.1.59 Class `basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

### 7.1.59.1 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 7-72, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-72 `libstdcxx` - Class `basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces**

<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_of(wchar_t const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_of(wchar_t const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_of(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_of(wchar_t, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_first_of(wchar_t const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_first_of(wchar_t const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_first_of(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_first_of(wchar_t, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_not_of(wchar_t const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_not_of(wchar_t const*, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_not_of(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_last_not_of(wchar_t, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::find_first_not_of(wchar_t const*, unsigned long) const</code> (GLIBCXX_3.4)

[ISOCXX]
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::find_first_not_of(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::find_first_not_of(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::find_first_not_of(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::at(unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::copy(wchar_t*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::find(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::find(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::find(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::find(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::rfind(wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::rfind(wchar_t const*, unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::rfind(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; const&amp;, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::rfind(wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::substr(unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::compare(unsigned long, unsigned long, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::compare(unsigned long, unsigned long, wchar_t const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::compare(unsigned long, unsigned long, basic_string&lt;wchar_t,</code>

<code>char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;)</code> <code>const(GLIBCXX_3.4)</code> <code>[ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::compare(unsigned long, unsigned long, basic_string&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long, unsigned</code> <code>long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::_M_check(unsigned long, char const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::_M_limit(unsigned long, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::operator[](unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::_S_construct(unsigned long, wchar_t, allocator&lt;wchar_t&gt;</code> <code>const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::_M_replace_aux(unsigned long, unsigned long, unsigned long,</code> <code>wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::_M_replace_safe(unsigned long, unsigned long, wchar_t const*, unsigned</code> <code>long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::at(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::_Rep::_M_clone(allocator&lt;wchar_t&gt; const&amp;, unsigned long)(GLIBCXX_3.4)</code> <code>[ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::_Rep::_S_create(unsigned long, unsigned long, allocator&lt;wchar_t&gt;</code> <code>const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::erase(unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::append(wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::append(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code> <code>const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::append(unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::assign(wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code> <code>&gt;::assign(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code> <code>const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;</code>

<code>&gt;::assign(unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::insert(__gnu_cxx::__normal_iterator&lt;wchar_t*, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;&gt;, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::insert(unsigned long, wchar_t const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::insert(unsigned long, wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::insert(unsigned long, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::insert(unsigned long, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::insert(unsigned long, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::resize(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::resize(unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::replace(__gnu_cxx::__normal_iterator&lt;wchar_t*, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;&gt;, __gnu_cxx::__normal_iterator&lt;wchar_t*, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;&gt;, wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::replace(__gnu_cxx::__normal_iterator&lt;wchar_t*, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;&gt;, __gnu_cxx::__normal_iterator&lt;wchar_t*, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;&gt;, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::replace(unsigned long, unsigned long, wchar_t const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::replace(unsigned long, unsigned long, wchar_t const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; &gt;::replace(unsigned long, unsigned long, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;</code>



<code>&gt;::replace(unsigned long, unsigned long, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::replace(unsigned long, unsigned long, unsigned long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::reserve(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::_M_mutate(unsigned long, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(wchar_t const*, unsigned long, allocator&lt;wchar_t&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long, unsigned long, allocator&lt;wchar_t&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(unsigned long, wchar_t, allocator&lt;wchar_t&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(wchar_t const*, unsigned long, allocator&lt;wchar_t&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, unsigned long, unsigned long, allocator&lt;wchar_t&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_string(unsigned long, wchar_t, allocator&lt;wchar_t&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::operator[](unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.60 Class `basic_stringstream<char, char_traits<char>, allocator<char> >`

#### 7.1.60.1 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 7-73

**Table 7-73 Primary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`**

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

**Table 7-74 Secondary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`**

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

**Table 7-75 Secondary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`**

Base Offset	-104
Virtual Base Offset	-104
RTTI	typeinfo for <code>basic_stringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;</code>
vfunc[0]:	virtual thunk to <code>basic_stringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;</code>

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

The VTT for the `std::basic_stringstream<char, std::char_traits<char>, std::allocator<char> >` class is described by Table 7-76

**Table 7-76 VTT for `basic_stringstream<char, char_traits<char>, allocator<char> >`**

VTT Name	<code>_ZTTSt18basic_stringstreamIcSt11char_traitsIcESaIcEE</code>
Number of Entries	10

### 7.1.60.2 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 7-77, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-77 `libstdcxx` - Class `basic_stringstream<char, char_traits<char>, allocator<char> >` Function Interfaces**

non-virtual thunk to <code>basic_stringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::~~basic_stringstream()(GLIBCXX_3.4) [CXXABI]</code>
non-virtual thunk to <code>basic_stringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::~~basic_stringstream()(GLIBCXX_3.4) [CXXABI]</code>
virtual thunk to <code>basic_stringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::~~basic_stringstream()(GLIBCXX_3.4) [CXXABI]</code>
virtual thunk to <code>basic_stringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::~~basic_stringstream()(GLIBCXX_3.4) [CXXABI]</code>

### 7.1.61 Class `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

#### 7.1.61.1 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 7-78

**Table 7-78 Primary vtable for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`**

Base Offset	0
Virtual Base Offset	104
RTTI	typeid for

	<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code>
<code>vfunc[0]:</code>	<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringstream()</code>
<code>vfunc[1]:</code>	<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringstream()</code>

**Table 7-79 Secondary vtable for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`**

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

**Table 7-80 Secondary vtable for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`**

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

	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 7-81

**Table 7-81 VTT for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`**

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

### 7.1.61.2 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 7-82, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-82 `libstdcxx` - Class `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces**

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

### 7.1.62 Class `basic_istream<char, char_traits<char>, allocator<char> >`

#### 7.1.62.1 Class data for `basic_istream<char, char_traits<char>, allocator<char> >`

The virtual table for the `std::basic_istream<char, std::char_traits<char>, std::allocator<char> >` class is described by Table 7-83

**Table 7-83 Primary vtable for `basic_istream<char, char_traits<char>, allocator<char> >`**

Base Offset	0
Virtual Base Offset	96
RTTI	typeinfo for <code>basic_istream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;</code>
vfunc[0]:	<code>basic_istream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;</code>

	>::~basic_istream()
vfunc[1]:	basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()

**Table 7-84 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 7-85

**Table 7-85 VTT for basic\_istream<char, char\_traits<char>, allocator<char> >**

VTT Name	_ZTTSt19basic_istreamIcSt11char_traitsIcESaIcEE
Number of Entries	4

### 7.1.62.2 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 7-86, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-86 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]
virtual thunk to basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()(GLIBCXX_3.4) [CXXABI]

### 7.1.63 Class `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

#### 7.1.63.1 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 7-87

**Table 7-87 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&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code>
vfunc[0]:	<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_istream()</code>
vfunc[1]:	<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_istream()</code>

**Table 7-88 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&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code>
vfunc[0]:	virtual thunk to <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_istream()</code>
vfunc[1]:	virtual thunk to <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~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 7-89

**Table 7-89 VTT for `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`**

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

### 7.1.63.2 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 7-90, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-90 `libstdcxx` - Class `basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces**

virtual thunk to <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~~basic_istream()(GLIBCXX_3.4)</code> [CXXABI]
virtual thunk to <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~~basic_istream()(GLIBCXX_3.4)</code> [CXXABI]

### 7.1.64 Class `basic_ostringstream<char, char_traits<char>, allocator<char> >`

#### 7.1.64.1 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 7-91

**Table 7-91 Primary vtable for `basic_ostringstream<char, char_traits<char>, allocator<char> >`**

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

**Table 7-92 Secondary vtable for `basic_ostringstream<char, char_traits<char>, allocator<char> >`**

Base Offset	-88
Virtual Base Offset	-88



RTTI	typeinfo for basic_ostringstream<char, char_traits<char>, allocator<char> >
vfunc[0]:	virtual thunk to basic_ostringstream<char, 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 7-93

**Table 7-93 VTT for `basic_ostringstream<char, char_traits<char>, allocator<char> >`**

VTT Name	<code>_ZTTSt19basic_ostringstreamIcSt11char_traitsIcESaIcEE</code>
Number of Entries	4

#### 7.1.64.2 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 7-94, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-94 `libstdc++` - Class `basic_ostringstream<char, char_traits<char>, allocator<char> >` Function Interfaces**

virtual thunk to <code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::~~basic_ostringstream()(GLIBCXX_3.4) [CXXABI]</code>
virtual thunk to <code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::~~basic_ostringstream()(GLIBCXX_3.4) [CXXABI]</code>

#### 7.1.65 Class `basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

##### 7.1.65.1 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 7-95

**Table 7-95 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 7-96 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 7-97

**Table 7-97 VTT for basic\_ostringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t> >**

VTT Name	_ZTTSt19basic_ostringstreamIwSt11char_traitsIwESaIwEE
Number of Entries	4

### 7.1.65.2 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 7-98, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-98 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]
virtual thunk to basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::~~basic_ostringstream()(GLIBCXX_3.4) [CXXABI]

## 7.1.66 Class basic\_stringbuf<char, char\_traits<char>, allocator<char>>

### 7.1.66.1 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 7-99

**Table 7-99 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()

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 7-100

**Table 7-100 typeid for basic\_stringbuf<char, char\_traits<char>, allocator<char> >**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for basic_stringbuf<char, char_traits<char>, allocator<char> >

### 7.1.66.2 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 7-101, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-101 libstdc++ - Class basic\_stringbuf<char, char\_traits<char>, allocator<char> > Function Interfaces**

<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::setbuf(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::_M_sync(char*, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>

## 7.1.67 Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

### 7.1.67.1 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 7-102

**Table 7-102 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&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code>
vfunc[0]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringbuf()</code>
vfunc[1]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringbuf()</code>
vfunc[2]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::imbue(locale const&amp;)</code>
vfunc[3]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::setbuf(wchar_t*, long)</code>
vfunc[4]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)</code>
vfunc[5]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::seekpos(fpos&lt;__mbstate_t&gt;, _Ios_Openmode)</code>
vfunc[6]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::sync()</code>
vfunc[7]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::showmanyc()</code>
vfunc[8]:	<code>basic_streambuf&lt;wchar_t,</code>

	<code>char_traits&lt;wchar_t&gt; &gt;::xsgetn(wchar_t*, long)</code>
<code>vfunc[9]:</code>	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::underflow()</code>
<code>vfunc[10]:</code>	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::uflow()</code>
<code>vfunc[11]:</code>	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::pbackfail(unsigned int)</code>
<code>vfunc[12]:</code>	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::xspn(wchar_t const*, long)</code>
<code>vfunc[13]:</code>	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::overflow(unsigned int)</code>

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 7-103

**Table 7-103 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&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code>

#### **7.1.67.2 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 7-104, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-104 libstdc++ - Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces**

<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::setbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::M_sync(wchar_t*, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>

## 7.1.68 Class `basic_istream<char, char_traits<char> >`

### 7.1.68.1 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 7-105

**Table 7-105 Primary vtable for `basic_istream<char, char_traits<char> >`**

Base Offset	0
Virtual Base Offset	24
RTTI	typeinfo for <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	<code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_istream()</code>
<code>vfunc[1]:</code>	<code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_istream()</code>

**Table 7-106 Secondary vtable for `basic_istream<char, char_traits<char> >`**

Base Offset	-16
Virtual Base Offset	8
RTTI	typeinfo for <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	non-virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_istream()</code>
<code>vfunc[1]:</code>	non-virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_istream()</code>

**Table 7-107 Secondary vtable for `basic_istream<char, char_traits<char> >`**

Base Offset	-24
Virtual Base Offset	-24
RTTI	typeinfo for <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_istream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_istream()</code>

The VTT for the `std::basic_istream<char, std::char_traits<char> >` class is described by Table 7-108

**Table 7-108 VTT for `basic_istream<char, char_traits<char> >`**

VTT Name	<code>_ZTTSd</code>
Number of Entries	7

### 7.1.68.2 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 7-109, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-109 `libstdc++` - Class `basic_istream<char, char_traits<char> >` Function Interfaces**

non-virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI]
non-virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt; &gt;::~basic_istream()</code> (GLIBCXX_3.4) [CXXABI]

### 7.1.69 Class `basic_istream<wchar_t, char_traits<wchar_t> >`

#### 7.1.69.1 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 7-110

**Table 7-110 Primary vtable for `basic_istream<wchar_t, char_traits<wchar_t> >`**

Base Offset	0
Virtual Base Offset	24
RTTI	typeinfo for <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code>
<code>vfunc[0]:</code>	<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_istream()</code>
<code>vfunc[1]:</code>	<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_istream()</code>



**Table 7-111 Secondary vtable for `basic_iostream<wchar_t, char_traits<wchar_t>>`**

Base Offset	-16
Virtual Base Offset	8
RTTI	typeinfo for <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
vfunc[0]:	non-virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code>
vfunc[1]:	non-virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code>

**Table 7-112 Secondary vtable for `basic_iostream<wchar_t, char_traits<wchar_t>>`**

Base Offset	-24
Virtual Base Offset	-24
RTTI	typeinfo for <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
vfunc[0]:	virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code>
vfunc[1]:	virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code>

The VTT for the `std::basic_iostream<wchar_t, std::char_traits<wchar_t>>` class is described by Table 7-113

**Table 7-113 VTT for `basic_iostream<wchar_t, char_traits<wchar_t>>`**

VTT Name	<code>_ZTTSt14basic_iostreamIwSt11char_traitsIwEE</code>
Number of Entries	7

### 7.1.69.2 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 7-114, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-114 libstdcxx - Class `basic_iostream<wchar_t, char_traits<wchar_t>>` Function Interfaces**

non-virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]
non-virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]

**7.1.70 Class `basic_istream<char, char_traits<char>>`****7.1.70.1 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 7-115

**Table 7-115 Primary vtable for `basic_istream<char, char_traits<char>>`**

Base Offset	0
Virtual Base Offset	16
RTTI	typeinfo for <code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;</code>
<code>vfunc[0]:</code>	<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_istream()</code>
<code>vfunc[1]:</code>	<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_istream()</code>

**Table 7-116 Secondary vtable for `basic_istream<char, char_traits<char>>`**

Base Offset	-16
Virtual Base Offset	-16
RTTI	typeinfo for <code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;</code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_istream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_istream()</code>

The VTT for the `std::basic_istream<char, std::char_traits<char>>` class is described by Table 7-117

**Table 7-117 VTT for `basic_istream<char, char_traits<char>>`**

VTT Name	<code>_ZTTSi</code>
Number of Entries	2

### 7.1.70.2 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 7-118, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-118 libstdc++ - Class `basic_istream<char, char_traits<char>>` Function Interfaces**

<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::get(char*, long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::get(char*, long, char)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::read(char*, long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::seekg(long, _Ios_Seekdir)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::ignore(long, int)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::getline(char*, long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::getline(char*, long, char)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::readsome(char*, long)(GLIBCXX_3.4)</code> [ISOCXX]
virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::~basic_istream()(GLIBCXX_3.4)</code> [CXXABI]
virtual thunk to <code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;&gt;::~basic_istream()(GLIBCXX_3.4)</code> [CXXABI]

### 7.1.71 Class `basic_istream<wchar_t, char_traits<wchar_t>>`

#### 7.1.71.1 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 7-119

**Table 7-119 Primary vtable for `basic_istream<wchar_t, char_traits<wchar_t>>`**

Base Offset	0
Virtual Base Offset	16
RTTI	typeinfo for <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
vfunc[0]:	<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_istream()</code>

vfunc[1]:	basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()
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**Table 7-120 Secondary vtable for basic\_istream<wchar\_t, char\_traits<wchar\_t> >**

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

The VTT for the std::basic\_istream<wchar\_t, std::char\_traits<wchar\_t> > class is described by Table 7-121

**Table 7-121 VTT for basic\_istream<wchar\_t, char\_traits<wchar\_t> >**

VTT Name	_ZTTSt13basic_istreamIwSt11char_traitsIwEE
Number of Entries	2

### 7.1.71.2 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 7-122, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-122 libstdcxx - Class basic\_istream<wchar\_t, char\_traits<wchar\_t> > Function Interfaces**

basic_istream<wchar_t, char_traits<wchar_t> >::get(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::get(wchar_t*, long, wchar_t)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::read(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::seekg(long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::ignore(long, unsigned int)(GLIBCXX_3.4) [ISOCXX]

<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::getline(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::getline(wchar_t*, long, wchar_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::readsome(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
virtual thunk to <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_istream()(GLIBCXX_3.4) [CXXABI]</code>
virtual thunk to <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_istream()(GLIBCXX_3.4) [CXXABI]</code>

### 7.1.72 Class `istreambuf_iterator<wchar_t, char_traits<wchar_t> >`

#### 7.1.72.1 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.

### 7.1.73 Class `istreambuf_iterator<char, char_traits<char> >`

#### 7.1.73.1 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.

### 7.1.74 Class `basic_ostream<char, char_traits<char> >`

#### 7.1.74.1 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 7-123

**Table 7-123 Primary vtable for `basic_ostream<char, char_traits<char> >`**

Base Offset	0
Virtual Base Offset	8
RTTI	<code>typeid</code> for <code>basic_ostream&lt;char, char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	<code>basic_ostream&lt;char, char_traits&lt;char&gt; &gt;::~basic_ostream()</code>
<code>vfunc[1]:</code>	<code>basic_ostream&lt;char, char_traits&lt;char&gt; &gt;::~basic_ostream()</code>

**Table 7-124 Secondary vtable for `basic_ostream<char, char_traits<char>>`**

Base Offset	-8
Virtual Base Offset	-8
RTTI	typeinfo for <code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;</code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_ostream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_ostream()</code>

The VTT for the `std::basic_ostream<char, std::char_traits<char>>` class is described by Table 7-125

**Table 7-125 VTT for `basic_ostream<char, char_traits<char>>`**

VTT Name	<code>_ZTTS0</code>
Number of Entries	2

#### 7.1.74.2 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 7-126, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-126 `libstdcxx` - Class `basic_ostream<char, char_traits<char>>` Function Interfaces**

<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::seekp(long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::write(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::_M_write(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
virtual thunk to <code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_ostream()(GLIBCXX_3.4) [CXXABI]</code>
virtual thunk to <code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::~~basic_ostream()(GLIBCXX_3.4) [CXXABI]</code>

#### 7.1.75 Class `basic_ostream<wchar_t, char_traits<wchar_t>>`

##### 7.1.75.1 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 7-127

**Table 7-127 Primary vtable for `basic_ostream<wchar_t, char_traits<wchar_t>>`**

Base Offset	0
Virtual Base Offset	8
RTTI	typeinfo for <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
<code>vfunc[0]:</code>	<code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_ostream()</code>
<code>vfunc[1]:</code>	<code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_ostream()</code>

**Table 7-128 Secondary vtable for `basic_ostream<wchar_t, char_traits<wchar_t>>`**

Base Offset	-8
Virtual Base Offset	-8
RTTI	typeinfo for <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_ostream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~~basic_ostream()</code>

The VTT for the `std::basic_ostream<wchar_t, std::char_traits<wchar_t>>` class is described by Table 7-129

**Table 7-129 VTT for `basic_ostream<wchar_t, char_traits<wchar_t>>`**

VTT Name	<code>_ZTTSt13basic_ostreamIwSt11char_traitsIwEE</code>
Number of Entries	2

### 7.1.75.2 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 7-130, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-130 `libstdcxx` - Class `basic_ostream<wchar_t, char_traits<wchar_t>>` Function Interfaces**

<code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::seekp(long,</code>
--

<code>_Ios_Seekdir</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::write(wchar_t const*, long)</code> (GLIBCXX_3.4) [ISOCXX]
virtual thunk to <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_ostream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_ostream()</code> (GLIBCXX_3.4) [CXXABI]

## 7.1.76 Class `basic_fstream<char, char_traits<char> >`

### 7.1.76.1 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 7-131

**Table 7-131 Primary vtable for `basic_fstream<char, char_traits<char> >`**

Base Offset	0
Virtual Base Offset	264
RTTI	typeinfo for <code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	<code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_fstream()</code>
<code>vfunc[1]:</code>	<code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_fstream()</code>

**Table 7-132 Secondary vtable for `basic_fstream<char, char_traits<char> >`**

Base Offset	-16
Virtual Base Offset	248
RTTI	typeinfo for <code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	non-virtual thunk to <code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_fstream()</code>
<code>vfunc[1]:</code>	non-virtual thunk to <code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_fstream()</code>

**Table 7-133 Secondary vtable for `basic_fstream<char, char_traits<char> >`**

Base Offset	-264
Virtual Base Offset	-264
RTTI	typeinfo for <code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_fstream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_fstream()</code>



vfunc[1]:	virtual thunk to basic_fstream<char, char_traits<char> >::~basic_fstream()
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The VTT for the std::basic\_fstream<char, std::char\_traits<char> > class is described by Table 7-134

**Table 7-134 VTT for basic\_fstream<char, char\_traits<char> >**

VTT Name	_ZTTSt13basic_fstreamIcSt11char_traitsIcEE
Number of Entries	10

### 7.1.76.2 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 7-135, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-135 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]
non-virtual thunk to basic_fstream<char, char_traits<char> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_fstream<char, char_traits<char> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_fstream<char, char_traits<char> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI]

### 7.1.77 Class basic\_fstream<wchar\_t, char\_traits<wchar\_t> >

#### 7.1.77.1 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 7-136

**Table 7-136 Primary vtable for basic\_fstream<wchar\_t, char\_traits<wchar\_t> >**

Base Offset	0
Virtual Base Offset	264
RTTI	typeinfo for basic_fstream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()
vfunc[1]:	basic_fstream<wchar_t, char_traits<wchar_t> >

	>::~basic_fstream()
--	---------------------

**Table 7-137 Secondary vtable for basic\_fstream<wchar\_t, char\_traits<wchar\_t> >**

Base Offset	-16
Virtual Base Offset	248
RTTI	typeinfo for basic_fstream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	non-virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()
vfunc[1]:	non-virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()

**Table 7-138 Secondary vtable for basic\_fstream<wchar\_t, char\_traits<wchar\_t> >**

Base Offset	-264
Virtual Base Offset	-264
RTTI	typeinfo for basic_fstream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	virtual thunk to basic_fstream<wchar_t, 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 7-139

**Table 7-139 VTT for basic\_fstream<wchar\_t, char\_traits<wchar\_t> >**

VTT Name	_ZTTSt13basic_fstreamlwSt11char_traitslwEE
Number of Entries	10

### 7.1.77.2 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 7-140, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-140 libstdcxx - 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]
non-virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_fstream<wchar_t, char_traits<wchar_t> >::~basic_fstream()(GLIBCXX_3.4) [CXXABI]

**7.1.78 Class basic\_ifstream<char, char\_traits<char> >****7.1.78.1 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 7-141

**Table 7-141 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()

**Table 7-142 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 7-143

**Table 7-143 VTT for basic\_ifstream<char, char\_traits<char> >**

VTT Name	_ZTTSt14basic_ifstreamIcSt11char_traitsIcEE
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Number of Entries	4
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### 7.1.78.2 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 7-144, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-144 libstdcxx - Class `basic_ifstream<char, char_traits<char>>` Function Interfaces**

virtual thunk to <code>basic_ifstream&lt;char, char_traits&lt;char&gt;&gt;::~basic_ifstream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_ifstream&lt;char, char_traits&lt;char&gt;&gt;::~basic_ifstream()</code> (GLIBCXX_3.4) [CXXABI]

### 7.1.79 Class `basic_ifstream<wchar_t, char_traits<wchar_t>>`

#### 7.1.79.1 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 7-145

**Table 7-145 Primary vtable for `basic_ifstream<wchar_t, char_traits<wchar_t>>`**

Base Offset	0
Virtual Base Offset	256
RTTI	typeinfo for <code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
<code>vfunc[0]:</code>	<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_ifstream()</code>
<code>vfunc[1]:</code>	<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_ifstream()</code>

**Table 7-146 Secondary vtable for `basic_ifstream<wchar_t, char_traits<wchar_t>>`**

Base Offset	-256
Virtual Base Offset	-256
RTTI	typeinfo for <code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_ifstream()</code>

vfunc[1]:	virtual thunk to basic_ifstream<wchar_t, char_traits<wchar_t> >::~basic_ifstream()
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The VTT for the `std::basic_ifstream<wchar_t, std::char_traits<wchar_t> >` class is described by Table 7-147

**Table 7-147 VTT for `basic_ifstream<wchar_t, char_traits<wchar_t> >`**

VTT Name	<code>_ZTTSt14basic_ifstreamlwSt11char_t raitslwEE</code>
Number of Entries	4

### 7.1.79.2 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 7-148, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-148 `libstdcxx` - Class `basic_ifstream<wchar_t, char_traits<wchar_t> >` Function Interfaces**

virtual thunk to <code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_ifstream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_ifstream()</code> (GLIBCXX_3.4) [CXXABI]

### 7.1.80 Class `basic_ofstream<char, char_traits<char> >`

#### 7.1.80.1 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 7-149

**Table 7-149 Primary vtable for `basic_ofstream<char, char_traits<char> >`**

Base Offset	0
Virtual Base Offset	248
RTTI	<code>typeinfo</code> for <code>basic_ofstream&lt;char, char_traits&lt;char&gt; &gt;</code>
vfunc[0]:	<code>basic_ofstream&lt;char, char_traits&lt;char&gt; &gt;::~basic_ofstream()</code>
vfunc[1]:	<code>basic_ofstream&lt;char, char_traits&lt;char&gt; &gt;::~basic_ofstream()</code>

**Table 7-150 Secondary vtable for `basic_ofstream<char, char_traits<char> >`**

Base Offset	-248
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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 7-151

**Table 7-151 VTT for `basic_ofstream<char, char_traits<char> >`**

VTT Name	<code>_ZTTSt14basic_ofstreamIcSt11char_traitsIcEE</code>
Number of Entries	4

### 7.1.80.2 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 7-152, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-152 `libstdc++` - Class `basic_ofstream<char, char_traits<char> >` Function Interfaces**

virtual thunk to <code>basic_ofstream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_ofstream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_ofstream&lt;char, char_traits&lt;char&gt; &gt;::~~basic_ofstream()</code> (GLIBCXX_3.4) [CXXABI]

### 7.1.81 Class `basic_ofstream<wchar_t, char_traits<wchar_t> >`

#### 7.1.81.1 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 7-153

**Table 7-153 Primary vtable for `basic_ofstream<wchar_t, char_traits<wchar_t> >`**

Base Offset	0
Virtual Base Offset	248
RTTI	typeinfo for <code>basic_ofstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code>
vfunc[0]:	<code>basic_ofstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code>

	>::~~basic_ofstream()
vfunc[1]:	basic_ofstream<wchar_t, char_traits<wchar_t> >::~~basic_ofstream()

**Table 7-154 Secondary vtable for basic\_ofstream<wchar\_t, char\_traits<wchar\_t> >**

Base Offset	-248
Virtual Base Offset	-248
RTTI	typeinfo for basic_ofstream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	virtual thunk to basic_ofstream<wchar_t, char_traits<wchar_t> >::~~basic_ofstream()
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 7-155

**Table 7-155 VTT for basic\_ofstream<wchar\_t, char\_traits<wchar\_t> >**

VTT Name	_ZTTSt14basic_ofstreamlwSt11char_t raitslwEE
Number of Entries	4

### 7.1.81.2 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 7-156, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-156 libstdcxx - 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]
virtual thunk to basic_ofstream<wchar_t, char_traits<wchar_t> >::~~basic_ofstream()(GLIBCXX_3.4) [CXXABI]

### 7.1.82 Class basic\_streambuf<char, char\_traits<char> >

#### 7.1.82.1 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 7-157

Table 7-157 Primary vtable for `basic_streambuf<char, char_traits<char> >`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;</code>
vfunc[0]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::~basic_streambuf()</code>
vfunc[1]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::~basic_streambuf()</code>
vfunc[2]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::imbue(locale const&amp;)</code>
vfunc[3]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::setbuf(char*, long)</code>
vfunc[4]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)</code>
vfunc[5]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::seekpos(fpos&lt;__mbstate_t&gt;, _Ios_Openmode)</code>
vfunc[6]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::sync()</code>
vfunc[7]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::showmanyc()</code>
vfunc[8]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::xsgetn(char*, long)</code>
vfunc[9]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::underflow()</code>
vfunc[10]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::uflow()</code>
vfunc[11]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::pbackfail(int)</code>
vfunc[12]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::xsputn(char const*, long)</code>
vfunc[13]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::overflow(int)</code>



The Run Time Type Information for the `std::basic_streambuf<char, std::char_traits<char> >` class is described by Table 7-158

**Table 7-158 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&lt;char, char_traits&lt;char&gt; &gt;</code>

### 7.1.82.2 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 7-159, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-159 libstdc++ - Class `basic_streambuf<char, char_traits<char> >` Function Interfaces**

<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::pubseekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::sgetn(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::sputn(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::setbuf(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::xsgetn(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::xspn(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;::pubsetbuf(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.83 Class `basic_streambuf<wchar_t, char_traits<wchar_t> >`

#### 7.1.83.1 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 7-160

**Table 7-160 Primary vtable for `basic_streambuf<wchar_t, char_traits<wchar_t> >`**

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

Virtual Base Offset	0
RTTI	typeid for basic_streambuf<wchar_t, char_traits<wchar_t> >
vfunc[0]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::~basic_streambuf()
vfunc[1]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::~basic_streambuf()
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> >::xsputn(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 7-161

**Table 7-161 typeid for `basic_streambuf<wchar_t, char_traits<wchar_t> >`**

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeid name for <code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code>

### 7.1.83.2 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 7-162, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-162 libstdc++ - Class `basic_streambuf<wchar_t, char_traits<wchar_t> >` Function Interfaces**

<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::pubseekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::sgetn(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::sputn(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::setbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::xsgetn(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::xsputn(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::pubsetbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.84 Class `basic_filebuf<char, char_traits<char> >`

#### 7.1.84.1 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 7-163

**Table 7-163 Primary vtable for `basic_filebuf<char, char_traits<char> >`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for <code>basic_filebuf&lt;char,</code>

	<code>char_traits&lt;char&gt; &gt;</code>
<code>vfunc[0]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::~~basic_filebuf()</code>
<code>vfunc[1]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::~~basic_filebuf()</code>
<code>vfunc[2]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::imbue(locale const&amp;)</code>
<code>vfunc[3]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::setbuf(char*, long)</code>
<code>vfunc[4]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)</code>
<code>vfunc[5]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::seekpos(fpos&lt;__mbstate_t&gt;, _Ios_Openmode)</code>
<code>vfunc[6]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::sync()</code>
<code>vfunc[7]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::showmanyc()</code>
<code>vfunc[8]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::xsgetn(char*, long)</code>
<code>vfunc[9]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::underflow()</code>
<code>vfunc[10]:</code>	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;::uflow()</code>
<code>vfunc[11]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::pbackfail(int)</code>
<code>vfunc[12]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::xsputn(char const*, long)</code>
<code>vfunc[13]:</code>	<code>basic_filebuf&lt;char, char_traits&lt;char&gt;&gt;::overflow(int)</code>

The Run Time Type Information for the `std::basic_filebuf<char, std::char_traits<char> >` class is described by Table 7-164

**Table 7-164** `typeinfo` for `basic_filebuf<char, char_traits<char> >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;</code>

#### 7.1.84.2 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 7-165, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-165 libstdcxx - Class `basic_filebuf<char, char_traits<char> >` Function Interfaces**

<code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;::_M_set_buffer(long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;::_M_convert_to_external(char*, long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;::setbuf(char*, long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;::xsgetn(char*, long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;::xspn(char const*, long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;::_M_seek(long, _Ios_Seekdir, __mbstate_t)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf&lt;char, char_traits&lt;char&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISOCXX]

### 7.1.85 Class `basic_filebuf<wchar_t, char_traits<wchar_t> >`

#### 7.1.85.1 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 7-166

**Table 7-166 Primary vtable for `basic_filebuf<wchar_t, char_traits<wchar_t> >`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code>
<code>vfunc[0]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~~basic_filebuf()</code>
<code>vfunc[1]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~~basic_filebuf()</code>
<code>vfunc[2]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::imbue(locale const&amp;)</code>
<code>vfunc[3]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::setbuf(wchar_t*, long)</code>
<code>vfunc[4]:</code>	<code>basic_filebuf&lt;wchar_t,</code>

	<code>char_traits&lt;wchar_t&gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)</code>
<code>vfunc[5]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::seekpos(fpos&lt;__mbstate_t&gt;, _Ios_Openmode)</code>
<code>vfunc[6]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::sync()</code>
<code>vfunc[7]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::showmanyc()</code>
<code>vfunc[8]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::xsgetn(wchar_t*, long)</code>
<code>vfunc[9]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::underflow()</code>
<code>vfunc[10]:</code>	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::uflow()</code>
<code>vfunc[11]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::pbackfail(unsigned int)</code>
<code>vfunc[12]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::xsputn(wchar_t const*, long)</code>
<code>vfunc[13]:</code>	<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::overflow(unsigned int)</code>

The Run Time Type Information for the `std::basic_filebuf<wchar_t, std::char_traits<wchar_t>>` class is described by Table 7-167

**Table 7-167** typeinfo for `basic_filebuf<wchar_t, char_traits<wchar_t>>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code>

### 7.1.85.2 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 7-168, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-168 libstdcxx - Class `basic_filebuf<wchar_t, char_traits<wchar_t> >` Function Interfaces**

<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::_M_set_buffer(long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::_M_convert_to_external(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::setbuf(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::xsgetn(wchar_t*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::xspn(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::_M_seek(long, _Ios_Seekdir, __mbstate_t)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::seekoff(long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::_M_write(wchar_t const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>virtual thunk to basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_fstream()(GLIBCXX_3.4) [CXXABI]</code>

## 7.1.86 Class `ios_base`

### 7.1.86.1 Class data for `ios_base`

The Run Time Type Information for the `std::ios_base` class is described by Table 7-169

**Table 7-169 typeinfo for `ios_base`**

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

### 7.1.86.2 Interfaces for Class `ios_base`

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

## 7.1.87 Class `basic_ios<char, char_traits<char> >`

### 7.1.87.1 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 by Table 7-170

**Table 7-170 Primary vtable for `basic_ios<char, char_traits<char> >`**

Base Offset	0
Virtual Base Offset	0

RTTI	typeinfo for basic_ios<char, char_traits<char> >
vfunc[0]:	basic_ios<char, char_traits<char> >::~~basic_ios()
vfunc[1]:	basic_ios<char, char_traits<char> >::~~basic_ios()

### 7.1.87.2 Interfaces for Class basic\_ios<char, char\_traits<char> >

No external methods are defined for libstdcxx - Class std::basic\_ios<char, std::char\_traits<char> > in this part of the specification. See also the generic specification.

### 7.1.88 Class basic\_ios<wchar\_t, char\_traits<wchar\_t> >

#### 7.1.88.1 Interfaces for Class basic\_ios<wchar\_t, char\_traits<wchar\_t> >

No external methods are defined for libstdcxx - Class std::basic\_ios<wchar\_t, std::char\_traits<wchar\_t> > in this part of the specification. See also the generic specification.

### 7.1.89 Class ios\_base::failure

#### 7.1.89.1 Class data for ios\_base::failure

The virtual table for the std::ios\_base::failure class is described by Table 7-171

**Table 7-171 Primary vtable for ios\_base::failure**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for ios_base::failure
vfunc[0]:	ios_base::failure::~~failure()
vfunc[1]:	ios_base::failure::~~failure()
vfunc[2]:	ios_base::failure::what() const

The Run Time Type Information for the std::ios\_base::failure class is described by Table 7-172

**Table 7-172 typeinfo for ios\_base::failure**

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

### 7.1.89.2 Interfaces for Class ios\_base::failure

No external methods are defined for libstdcxx - Class std::ios\_base::failure in this part of the specification. See also the generic specification.



## 7.1.90 Class `__timepunct<char>`

### 7.1.90.1 Class data for `__timepunct<char>`

The virtual table for the `std::__timepunct<char>` class is described by Table 7-173

**Table 7-173 Primary vtable for `__timepunct<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__timepunct&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>__timepunct&lt;char&gt;::~~__timepunct()</code>
<code>vfunc[1]:</code>	<code>__timepunct&lt;char&gt;::~~__timepunct()</code>

The Run Time Type Information for the `std::__timepunct<char>` class is described by Table 7-174

**Table 7-174 typeinfo for `__timepunct<char>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__timepunct&lt;char&gt;</code>

### 7.1.90.2 Interfaces for Class `__timepunct<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::__timepunct<char>` specified in Table 7-175, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-175 `libstdcxx` - Class `__timepunct<char>` Function Interfaces**

<code>__timepunct&lt;char&gt;::_M_put(char*, unsigned long, char const*, tm const*)</code> <code>const</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;char&gt;::_timepunct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;char&gt;::_timepunct(__timepunct_cache&lt;char&gt;*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;char&gt;::_timepunct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;char&gt;::_timepunct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;char&gt;::_timepunct(__timepunct_cache&lt;char&gt;*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;char&gt;::_timepunct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

### 7.1.91 Class `__timepunct<wchar_t>`

#### 7.1.91.1 Class data for `__timepunct<wchar_t>`

The virtual table for the `std::__timepunct<wchar_t>` class is described by Table 7-176

**Table 7-176 Primary vtable for `__timepunct<wchar_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__timepunct&lt;wchar_t&gt;</code>
<code>vfunc[0]:</code>	<code>__timepunct&lt;wchar_t&gt;::~__timepunct()</code>
<code>vfunc[1]:</code>	<code>__timepunct&lt;wchar_t&gt;::~__timepunct()</code>

The Run Time Type Information for the `std::__timepunct<wchar_t>` class is described by Table 7-177

**Table 7-177 typeinfo for `__timepunct<wchar_t>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__timepunct&lt;wchar_t&gt;</code>

#### 7.1.91.2 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 7-178, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-178 libstdcxx - Class `__timepunct<wchar_t>` Function Interfaces**

<code>__timepunct&lt;wchar_t&gt;::M_put(wchar_t*, unsigned long, wchar_t const*, tm const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;wchar_t&gt;::__timepunct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;wchar_t&gt;::__timepunct(__timepunct_cache&lt;wchar_t&gt;*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;wchar_t&gt;::__timepunct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;wchar_t&gt;::__timepunct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;wchar_t&gt;::__timepunct(__timepunct_cache&lt;wchar_t&gt;*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>__timepunct&lt;wchar_t&gt;::__timepunct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

## 7.1.92 Class `messages_base`

### 7.1.92.1 Class data for `messages_base`

The Run Time Type Information for the `std::messages_base` class is described by Table 7-179

**Table 7-179** `typeinfo` for `messages_base`

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

### 7.1.92.2 Interfaces for Class `messages_base`

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

## 7.1.93 Class `messages<char>`

### 7.1.93.1 Class data for `messages<char>`

The virtual table for the `std::messages<char>` class is described by Table 7-180

**Table 7-180** Primary vtable for `messages<char>`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>messages&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>messages&lt;char&gt;::~~messages()</code>
<code>vfunc[1]:</code>	<code>messages&lt;char&gt;::~~messages()</code>
<code>vfunc[2]:</code>	<code>messages&lt;char&gt;::do_open(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, locale const&amp;) const</code>
<code>vfunc[3]:</code>	<code>messages&lt;char&gt;::do_get(int, int, int, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;) const</code>
<code>vfunc[4]:</code>	<code>messages&lt;char&gt;::do_close(int) const</code>

### 7.1.93.2 Interfaces for Class `messages<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::messages<char>` specified in Table 7-181, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-181** `libstdc++` - Class `messages<char>` Function Interfaces

<code>messages&lt;char&gt;::messages(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>messages&lt;char&gt;::messages(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>messages&lt;char&gt;::messages(__locale_struct*, char const*, unsigned</code>

long)(GLIBCXX_3.4) [ISOCXX]
messages<char>::messages(unsigned long)(GLIBCXX_3.4) [ISOCXX]

## 7.1.94 Class messages<wchar\_t>

### 7.1.94.1 Class data for messages<wchar\_t>

The virtual table for the std::messages<wchar\_t> class is described by Table 7-182

**Table 7-182 Primary vtable for messages<wchar\_t>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for messages<wchar_t>
vfunc[0]:	messages<wchar_t>::~~messages()
vfunc[1]:	messages<wchar_t>::~~messages()
vfunc[2]:	messages<wchar_t>::do_open(basic_string<char, char_traits<char>, allocator<char> > const&, locale const&) const
vfunc[3]:	messages<wchar_t>::do_get(int, int, int, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&) const
vfunc[4]:	messages<wchar_t>::do_close(int) const

### 7.1.94.2 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 7-183, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-183 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]

## 7.1.95 Class messages\_byname<char>

### 7.1.95.1 Class data for messages\_byname<char>

The virtual table for the std::messages\_byname<char> class is described by Table 7-184

**Table 7-184 Primary vtable for `messages_byname<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>messages_byname&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>messages_byname&lt;char&gt;::~messages_byname()</code>
<code>vfunc[1]:</code>	<code>messages_byname&lt;char&gt;::~messages_byname()</code>
<code>vfunc[2]:</code>	<code>messages&lt;char&gt;::do_open(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, locale const&amp;) const</code>
<code>vfunc[3]:</code>	<code>messages&lt;char&gt;::do_get(int, int, int, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;) const</code>
<code>vfunc[4]:</code>	<code>messages&lt;char&gt;::do_close(int) const</code>

The Run Time Type Information for the `std::messages_byname<char>` class is described by Table 7-185

**Table 7-185 typeinfo for `messages_byname<char>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>messages_byname&lt;char&gt;</code>

### 7.1.95.2 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 7-186, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-186 `libstdcxx` - Class `messages_byname<char>` Function Interfaces**

<code>messages_byname&lt;char&gt;::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>messages_byname&lt;char&gt;::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.96 Class `messages_byname<wchar_t>`

#### 7.1.96.1 Class data for `messages_byname<wchar_t>`

The virtual table for the `std::messages_byname<wchar_t>` class is described by Table 7-187

**Table 7-187 Primary vtable for `messages_byname<wchar_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>messages_byname&lt;wchar_t&gt;</code>
<code>vfunc[0]:</code>	<code>messages_byname&lt;wchar_t&gt;::~~messages_byname()</code>
<code>vfunc[1]:</code>	<code>messages_byname&lt;wchar_t&gt;::~~messages_byname()</code>
<code>vfunc[2]:</code>	<code>messages&lt;wchar_t&gt;::do_open(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, locale const&amp;) const</code>
<code>vfunc[3]:</code>	<code>messages&lt;wchar_t&gt;::do_get(int, int, int, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;) const</code>
<code>vfunc[4]:</code>	<code>messages&lt;wchar_t&gt;::do_close(int) const</code>

The Run Time Type Information for the `std::messages_byname<wchar_t>` class is described by Table 7-188

**Table 7-188 typeinfo for `messages_byname<wchar_t>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>messages_byname&lt;wchar_t&gt;</code>

### 7.1.96.2 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 7-189, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-189 `libstdcxx` - Class `messages_byname<wchar_t>` Function Interfaces**

<code>messages_byname&lt;wchar_t&gt;::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>messages_byname&lt;wchar_t&gt;::messages_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.97 Class `numpunct<char>`

#### 7.1.97.1 Class data for `numpunct<char>`

The virtual table for the `std::numpunct<char>` class is described by Table 7-190

**Table 7-190 Primary vtable for `numpunct<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for numpunct&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>numpunct&lt;char&gt;::~~numpunct()</code>
<code>vfunc[1]:</code>	<code>numpunct&lt;char&gt;::~~numpunct()</code>
<code>vfunc[2]:</code>	<code>numpunct&lt;char&gt;::do_decimal_point( ) const</code>
<code>vfunc[3]:</code>	<code>numpunct&lt;char&gt;::do_thousands_sep( ) const</code>
<code>vfunc[4]:</code>	<code>numpunct&lt;char&gt;::do_grouping() const</code>
<code>vfunc[5]:</code>	<code>numpunct&lt;char&gt;::do_truename() const</code>
<code>vfunc[6]:</code>	<code>numpunct&lt;char&gt;::do_falsename() const</code>

The Run Time Type Information for the `std::numpunct<char>` class is described by Table 7-191

**Table 7-191 `typeinfo` for `numpunct<char>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo name for numpunct&lt;char&gt;</code>

### 7.1.97.2 Interfaces for Class `numpunct<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::numpunct<char>` specified in Table 7-192, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-192 `libstdcxx` - Class `numpunct<char>` Function Interfaces**

<code>numpunct&lt;char&gt;::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [CXXABI]</code>
<code>numpunct&lt;char&gt;::numpunct(__numpunct_cache&lt;char&gt;*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct&lt;char&gt;::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct&lt;char&gt;::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [CXXABI]</code>
<code>numpunct&lt;char&gt;::numpunct(__numpunct_cache&lt;char&gt;*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct&lt;char&gt;::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

## 7.1.98 Class `numpunct<wchar_t>`

### 7.1.98.1 Class data for `numpunct<wchar_t>`

The virtual table for the `std::numpunct<wchar_t>` class is described by Table 7-193

**Table 7-193 Primary vtable for `numpunct<wchar_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>numpunct&lt;wchar_t&gt;</code>
<code>vfunc[0]:</code>	<code>numpunct&lt;wchar_t&gt;::~~numpunct()</code>
<code>vfunc[1]:</code>	<code>numpunct&lt;wchar_t&gt;::~~numpunct()</code>
<code>vfunc[2]:</code>	<code>numpunct&lt;wchar_t&gt;::do_decimal_point() const</code>
<code>vfunc[3]:</code>	<code>numpunct&lt;wchar_t&gt;::do_thousands_sep() const</code>
<code>vfunc[4]:</code>	<code>numpunct&lt;wchar_t&gt;::do_grouping() const</code>
<code>vfunc[5]:</code>	<code>numpunct&lt;wchar_t&gt;::do_truename() const</code>
<code>vfunc[6]:</code>	<code>numpunct&lt;wchar_t&gt;::do_falsename() const</code>

The Run Time Type Information for the `std::numpunct<wchar_t>` class is described by Table 7-194

**Table 7-194 typeinfo for `numpunct<wchar_t>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>numpunct&lt;wchar_t&gt;</code>

### 7.1.98.2 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 7-195, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-195 `libstdcxx` - Class `numpunct<wchar_t>` Function Interfaces**

<code>numpunct&lt;wchar_t&gt;::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct&lt;wchar_t&gt;::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct&lt;wchar_t&gt;::numpunct(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>



<code>numpunct&lt;wchar_t&gt;::numpunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
---

## 7.1.99 Class `numpunct_byname<char>`

### 7.1.99.1 Class data for `numpunct_byname<char>`

The virtual table for the `std::numpunct_byname<char>` class is described by Table 7-196

**Table 7-196 Primary vtable for `numpunct_byname<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>numpunct_byname&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>numpunct_byname&lt;char&gt;::~~numpunct_byname()</code>
<code>vfunc[1]:</code>	<code>numpunct_byname&lt;char&gt;::~~numpunct_byname()</code>
<code>vfunc[2]:</code>	<code>numpunct&lt;char&gt;::do_decimal_point()</code> const
<code>vfunc[3]:</code>	<code>numpunct&lt;char&gt;::do_thousands_sep()</code> const
<code>vfunc[4]:</code>	<code>numpunct&lt;char&gt;::do_grouping()</code> const
<code>vfunc[5]:</code>	<code>numpunct&lt;char&gt;::do_truename()</code> const
<code>vfunc[6]:</code>	<code>numpunct&lt;char&gt;::do_falsename()</code> const

The Run Time Type Information for the `std::numpunct_byname<char>` class is described by Table 7-197

**Table 7-197 typeinfo for `numpunct_byname<char>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>numpunct_byname&lt;char&gt;</code>

### 7.1.99.2 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 7-198, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-198 `libstdcxx` - Class `numpunct_byname<char>` Function Interfaces**

<code>numpunct_byname&lt;char&gt;::numpunct_byname(char const*, unsigned</code>
---

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

### 7.1.100 Class numpunct\_byname<wchar\_t>

#### 7.1.100.1 Class data for numpunct\_byname<wchar\_t>

The virtual table for the std::numpunct\_byname<wchar\_t> class is described by Table 7-199

**Table 7-199 Primary vtable for numpunct\_byname<wchar\_t>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for numpunct_byname<wchar_t>
vfunc[0]:	numpunct_byname<wchar_t>::~~num punct_byname()
vfunc[1]:	numpunct_byname<wchar_t>::~~num punct_byname()
vfunc[2]:	numpunct<wchar_t>::do_decimal_p oint() const
vfunc[3]:	numpunct<wchar_t>::do_thousands _sep() const
vfunc[4]:	numpunct<wchar_t>::do_grouping() const
vfunc[5]:	numpunct<wchar_t>::do_truename() const
vfunc[6]:	numpunct<wchar_t>::do_falsename( ) const

The Run Time Type Information for the std::numpunct\_byname<wchar\_t> class is described by Table 7-200

**Table 7-200 typeinfo for numpunct\_byname<wchar\_t>**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for numpunct_byname<wchar_t>

#### 7.1.100.2 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 7-201, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-201 libstdcxx - Class `numpunct_byname<wchar_t>` Function Interfaces**

<code>numpunct_byname&lt;wchar_t&gt;::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>numpunct_byname&lt;wchar_t&gt;::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.101 Class `__codecvt_abstract_base<char, char, __mbstate_t>`

#### 7.1.101.1 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.

### 7.1.102 Class `__codecvt_abstract_base<wchar_t, char, __mbstate_t>`

#### 7.1.102.1 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 by Table 7-202

**Table 7-202 Primary vtable for `__codecvt_abstract_base<wchar_t, char, __mbstate_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeid</code> for <code>__codecvt_abstract_base&lt;wchar_t, char, __mbstate_t&gt;</code>
<code>vfunc[0]:</code>	
<code>vfunc[1]:</code>	
<code>vfunc[2]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[3]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[4]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[5]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[6]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[7]:</code>	<code>__cxa_pure_virtual</code>
<code>vfunc[8]:</code>	<code>__cxa_pure_virtual</code>

### 7.1.102.2 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.

### 7.1.103 Class `codecvt_base`

#### 7.1.103.1 Class data for `codecvt_base`

The Run Time Type Information for the `std::codecvt_base` class is described by Table 7-203

**Table 7-203** typeinfo for `codecvt_base`

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

#### 7.1.103.2 Interfaces for Class `codecvt_base`

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

### 7.1.104 Class `codecvt<char, char, __mbstate_t>`

#### 7.1.104.1 Class data for `codecvt<char, char, __mbstate_t>`

The virtual table for the `std::codecvt<char, char, __mbstate_t>` class is described by Table 7-204

**Table 7-204** Primary vtable for `codecvt<char, char, __mbstate_t>`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>codecvt&lt;char, char, __mbstate_t&gt;</code>
<code>vfunc[0]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::~~codecvt()</code>
<code>vfunc[1]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::~~codecvt()</code>
<code>vfunc[2]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_out(__mbstate_t&amp;, char const*, char const*, char const*&amp;, char*, char*, char*&amp;) const</code>
<code>vfunc[3]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_unshift(__mbstate_t&amp;, char*, char*, char*&amp;) const</code>
<code>vfunc[4]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_in(__mbstate_t&amp;, char const*, char const*, char const*&amp;, char*, char*, char*&amp;) const</code>

vfunc[5]:	codecvt<char, char, __mbstate_t>::do_encoding() const
vfunc[6]:	codecvt<char, char, __mbstate_t>::do_always_noconv() const
vfunc[7]:	codecvt<char, char, __mbstate_t>::do_length(__mbstate_t &, char const*, char const*, unsigned long) const
vfunc[8]:	codecvt<char, char, __mbstate_t>::do_max_length() const

The Run Time Type Information for the `std::codecvt<char, char, __mbstate_t>` class is described by Table 7-205

**Table 7-205 typeid for `codecvt<char, char, __mbstate_t>`**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for <code>codecvt&lt;char, char, __mbstate_t&gt;</code>

#### **7.1.104.2 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 by Table 7-206

**Table 7-206 Primary vtable for `__codecvt_abstract_base<char, char, __mbstate_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for __codecvt_abstract_base<char, char, __mbstate_t>
vfunc[0]:	
vfunc[1]:	
vfunc[2]:	__cxa_pure_virtual
vfunc[3]:	__cxa_pure_virtual
vfunc[4]:	__cxa_pure_virtual
vfunc[5]:	__cxa_pure_virtual
vfunc[6]:	__cxa_pure_virtual
vfunc[7]:	__cxa_pure_virtual
vfunc[8]:	__cxa_pure_virtual

**7.1.104.3 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 7-207, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-207 `libstdc++` - Class `codecvt<char, char, __mbstate_t>` Function Interfaces**

<code>codecvt&lt;char, char, __mbstate_t&gt;::do_length(__mbstate_t&amp;, char const*, char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::codecvt(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::codecvt(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

**7.1.105 Class `codecvt<wchar_t, char, __mbstate_t>`****7.1.105.1 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 7-208

**Table 7-208 Primary vtable for `codecvt<wchar_t, char, __mbstate_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for codecvt&lt;wchar_t, char, __mbstate_t&gt;</code>
<code>vfunc[0]:</code>	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::~~codecvt()</code>
<code>vfunc[1]:</code>	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::~~codecvt()</code>
<code>vfunc[2]:</code>	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_out(__mbstate_t&amp;, wchar_t const*, wchar_t const*, wchar_t const*&amp;, char*, char*, char*&amp;) const</code>
<code>vfunc[3]:</code>	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_unshift(__mbstate_t&amp;, char*, char*, char*&amp;) const</code>
<code>vfunc[4]:</code>	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_in(__mbstate_t&amp;, char const*, char const*, char const*&amp;, wchar_t*, wchar_t*,</code>

	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 7-209

**Table 7-209 typeid for `codecvt<wchar_t, char, __mbstate_t>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>codecvt&lt;wchar_t, char, __mbstate_t&gt;</code>

### 7.1.105.2 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 7-210, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-210 libstdc++ - Class `codecvt<wchar_t, char, __mbstate_t>` Function Interfaces**

<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_length(__mbstate_t&amp;, char const*, char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::codecvt(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::codecvt(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

### 7.1.106 Class `codecvt_byname<char, char, __mbstate_t>`

#### 7.1.106.1 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 7-211

**Table 7-211 Primary vtable for `codecvt_byname<char, char, __mbstate_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>codecvt_byname&lt;char, char, __mbstate_t&gt;</code>
<code>vfunc[0]:</code>	<code>codecvt_byname&lt;char, char, __mbstate_t&gt;::~~codecvt_byname()</code>
<code>vfunc[1]:</code>	<code>codecvt_byname&lt;char, char, __mbstate_t&gt;::~~codecvt_byname()</code>
<code>vfunc[2]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_out(__mbstate_t&amp;, char const*, char const*, char const*&amp;, char*, char*, char*&amp;) const</code>
<code>vfunc[3]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_unshift(__mbstate_t&amp;, char*, char*, char*&amp;) const</code>
<code>vfunc[4]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_in(__mbstate_t&amp;, char const*, char const*, char const*&amp;, char*, char*, char*&amp;) const</code>
<code>vfunc[5]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_encoding() const</code>
<code>vfunc[6]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_always_noconv() const</code>
<code>vfunc[7]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_length(__mbstate_t&amp;, char const*, char const*, unsigned long) const</code>
<code>vfunc[8]:</code>	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_max_length() const</code>

The Run Time Type Information for the `std::codecvt_byname<char, char, __mbstate_t>` class is described by Table 7-212

**Table 7-212 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&lt;char, char, __mbstate_t&gt;</code>

### **7.1.106.2 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 7-213, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-213 libstdcxx - Class `codecvt_byname<char, char, __mbstate_t>` Function Interfaces**

<code>codecvt_byname&lt;char, char, __mbstate_t&gt;::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>codecvt_byname&lt;char, char, __mbstate_t&gt;::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.107 Class `codecvt_byname<wchar_t, char, __mbstate_t>`

#### 7.1.107.1 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 7-214

**Table 7-214 Primary vtable for `codecvt_byname<wchar_t, char, __mbstate_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>codecvt_byname&lt;wchar_t, char, __mbstate_t&gt;</code>
vfunc[0]:	<code>codecvt_byname&lt;wchar_t, char, __mbstate_t&gt;::~~codecvt_byname()</code>
vfunc[1]:	<code>codecvt_byname&lt;wchar_t, char, __mbstate_t&gt;::~~codecvt_byname()</code>
vfunc[2]:	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_out(__mbstate_t&amp;, wchar_t const*, wchar_t const*, wchar_t const*&amp;, char*, char*, char*&amp;) const</code>
vfunc[3]:	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_unshift(__mbstate_t&amp;, char*, char*, char*&amp;) const</code>
vfunc[4]:	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_in(__mbstate_t&amp;, char const*, char const*, char const*&amp;, wchar_t*, wchar_t*, wchar_t*&amp;) const</code>
vfunc[5]:	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_encoding() const</code>
vfunc[6]:	<code>codecvt&lt;wchar_t, char, __mbstate_t&gt;::do_always_noconv() const</code>
vfunc[7]:	<code>codecvt&lt;wchar_t, char,</code>

	<code>__mbstate_t::do_length(__mbstate_t &amp;, char const*, char const*, unsigned long) const</code>
<code>vfunc[8]:</code>	<code>codecvt&lt;wchar_t, char, __mbstate_t::do_max_length() const</code>

The Run Time Type Information for the `std::codecvt_byname<wchar_t, char, __mbstate_t>` class is described by Table 7-215

**Table 7-215 typeinfo for `codecvt_byname<wchar_t, char, __mbstate_t>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>codecvt_byname&lt;wchar_t, char, __mbstate_t&gt;</code>

### 7.1.107.2 Class data for `collate_byname<wchar_t>`

The virtual table for the `std::collate_byname<wchar_t>` class is described by Table 7-216

**Table 7-216 Primary vtable for `collate_byname<wchar_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>collate_byname&lt;wchar_t&gt;</code>
<code>vfunc[0]:</code>	<code>collate_byname&lt;wchar_t&gt;::~~collate_byname()</code>
<code>vfunc[1]:</code>	<code>collate_byname&lt;wchar_t&gt;::~~collate_byname()</code>
<code>vfunc[2]:</code>	<code>collate&lt;wchar_t&gt;::do_compare(wchar_t const*, wchar_t const*, wchar_t const*, wchar_t const*) const</code>
<code>vfunc[3]:</code>	<code>collate&lt;wchar_t&gt;::do_transform(wchar_t const*, wchar_t const*) const</code>
<code>vfunc[4]:</code>	<code>collate&lt;wchar_t&gt;::do_hash(wchar_t const*, wchar_t const*) const</code>

The Run Time Type Information for the `std::collate_byname<wchar_t>` class is described by Table 7-217

**Table 7-217 typeinfo for `collate_byname<wchar_t>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>collate_byname&lt;wchar_t&gt;</code>

### 7.1.107.3 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 7-218, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-218 `libstdc++` - Class `codecvt_byname<wchar_t, char, __mbstate_t>` Function Interfaces**

<code>codecvt_byname&lt;wchar_t, char, __mbstate_t&gt;::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>codecvt_byname&lt;wchar_t, char, __mbstate_t&gt;::codecvt_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate_byname&lt;wchar_t&gt;::collate_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate_byname&lt;wchar_t&gt;::collate_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.108 Class `collate<char>`

#### 7.1.108.1 Class data for `collate<char>`

The virtual table for the `std::collate<char>` class is described by Table 7-219

**Table 7-219 Primary vtable for `collate<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>collate&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>collate&lt;char&gt;::~~collate()</code>
<code>vfunc[1]:</code>	<code>collate&lt;char&gt;::~~collate()</code>
<code>vfunc[2]:</code>	<code>collate&lt;char&gt;::do_compare(char const*, char const*, char const*, char const*) const</code>
<code>vfunc[3]:</code>	<code>collate&lt;char&gt;::do_transform(char const*, char const*) const</code>
<code>vfunc[4]:</code>	<code>collate&lt;char&gt;::do_hash(char const*, char const*) const</code>

The Run Time Type Information for the `std::collate<char>` class is described by Table 7-220

**Table 7-220 `typeinfo` for `collate<char>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>collate&lt;char&gt;</code>

### 7.1.108.2 Interfaces for Class `collate<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::collate<char>` specified in Table 7-221, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-221 `libstdcxx` - Class `collate<char>` Function Interfaces**

<code>collate&lt;char&gt;::_M_transform(char*, char const*, unsigned long)</code> <code>const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate&lt;char&gt;::collate(__locale_struct*, unsigned long)(GLIBCXX_3.4)</code> <code>[ISOCXX]</code>
<code>collate&lt;char&gt;::collate(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate&lt;char&gt;::collate(__locale_struct*, unsigned long)(GLIBCXX_3.4)</code> <code>[ISOCXX]</code>
<code>collate&lt;char&gt;::collate(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.109 Class `collate<wchar_t>`

#### 7.1.109.1 Class data for `collate<wchar_t>`

The virtual table for the `std::collate<wchar_t>` class is described by Table 7-222

**Table 7-222 Primary vtable for `collate<wchar_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>collate&lt;wchar_t&gt;</code>
<code>vfunc[0]:</code>	<code>collate&lt;wchar_t&gt;::~~collate()</code>
<code>vfunc[1]:</code>	<code>collate&lt;wchar_t&gt;::~~collate()</code>
<code>vfunc[2]:</code>	<code>collate&lt;wchar_t&gt;::do_compare(wchar_t const*, wchar_t const*, wchar_t const*, wchar_t const*) const</code>
<code>vfunc[3]:</code>	<code>collate&lt;wchar_t&gt;::do_transform(wchar_t const*, wchar_t const*) const</code>
<code>vfunc[4]:</code>	<code>collate&lt;wchar_t&gt;::do_hash(wchar_t const*, wchar_t const*) const</code>

The Run Time Type Information for the `std::collate<wchar_t>` class is described by Table 7-223

**Table 7-223 `typeinfo` for `collate<wchar_t>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>collate&lt;wchar_t&gt;</code>

### 7.1.109.2 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 7-224, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-224 libstdcxx - Class `collate<wchar_t>` Function Interfaces**

<code>collate&lt;wchar_t&gt;::_M_transform(wchar_t*, wchar_t const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate&lt;wchar_t&gt;::collate(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate&lt;wchar_t&gt;::collate(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate&lt;wchar_t&gt;::collate(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>collate&lt;wchar_t&gt;::collate(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

### 7.1.110 Class `collate_byname<char>`

#### 7.1.110.1 Class data for `collate_byname<char>`

The virtual table for the `std::collate_byname<char>` class is described by Table 7-225

**Table 7-225 Primary vtable for `collate_byname<char>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>collate_byname&lt;char&gt;</code>
<code>vfunc[0]:</code>	<code>collate_byname&lt;char&gt;::~~collate_byname()</code>
<code>vfunc[1]:</code>	<code>collate_byname&lt;char&gt;::~~collate_byname()</code>
<code>vfunc[2]:</code>	<code>collate&lt;char&gt;::do_compare(char const*, char const*, char const*, char const*) const</code>
<code>vfunc[3]:</code>	<code>collate&lt;char&gt;::do_transform(char const*, char const*) const</code>
<code>vfunc[4]:</code>	<code>collate&lt;char&gt;::do_hash(char const*, char const*) const</code>

The Run Time Type Information for the `std::collate_byname<char>` class is described by Table 7-226

**Table 7-226 `typeinfo` for `collate_byname<char>`**

Base Vtable	<code>vtable</code> for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>collate_byname&lt;char&gt;</code>

**7.1.110.2 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 7-227, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-227 `libstdcxx` - Class `collate_byname<char>` Function Interfaces**

<code>collate_byname&lt;char&gt;::collate_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate_byname&lt;char&gt;::collate_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

**7.1.111 Class `collate_byname<wchar_t>`****7.1.111.1 Interfaces for Class `collate_byname<wchar_t>`**

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

**7.1.112 Class `time_base`****7.1.112.1 Class data for `time_base`**

The Run Time Type Information for the `std::time_base` class is described by Table 7-228

**Table 7-228 `typeinfo` for `time_base`**

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

**7.1.112.2 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.

**7.1.113 Class `time_get_byname<char, istreambuf_iterator<char, char_traits<char>>>`****7.1.113.1 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 by Table 7-229

**Table 7-229 Primary vtable for `time_get_byname<char, istreambuf_iterator<char, char_traits<char>>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>time_get_byname&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code>

	istreambuf_iterator<char, char_traits<char> > >
vfunc[0]:	time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >::~time_get_byname()
vfunc[1]:	time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >::~time_get_byname()
vfunc[2]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::~do_date_order() const
vfunc[3]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::~do_get_time(istreambuf_iterator<c har, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[4]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::~do_get_date(istreambuf_iterator<c har, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[5]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::~do_get_weekday(istreambuf_iterat or<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[6]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::~do_get_monthname(istreambuf_it erator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[7]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::~do_get_year(istreambuf_iterator<c

	har, char_traits<char> >, istreambuf_iterator<char, char_traits<char> > >, ios_base&, _Ios_Iostate&, tm*) const
--	--

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 7-230

**Table 7-230 typeid for `time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >`**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for <code>time_get_byname&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;</code>

### 7.1.113.2 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 7-231, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-231 libstdc++ - Class `time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >` Function Interfaces**

<code>time_get_byname&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get_byname&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.114 Class `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

#### 7.1.114.1 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 by Table 7-232

**Table 7-232 Primary vtable for `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for <code>time_get_byname&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;</code>



vfunc[0]:	time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~time_get_byname()
vfunc[1]:	time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~time_get_byname()
vfunc[2]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~do_date_order() const
vfunc[3]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~do_get_time(istreambuf_iterator< wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[4]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~do_get_date(istreambuf_iterator< wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[5]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~do_get_weekday(istreambuf_iterat or<wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[6]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~do_get_monthname(istreambuf_it erator<wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[7]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~do_get_year(istreambuf_iterator< wchar_t, char_traits<wchar_t> >, 

	istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
--	---

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 7-233

**Table 7-233** typeinfo for `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >

#### 7.1.114.2 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 7-234, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-234** `libstdc++` - Class `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces

<code>time_get_byname&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get_byname&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

#### 7.1.115 Class `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >`

##### 7.1.115.1 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 by Table 7-235

**Table 7-235** Primary vtable for `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>time_put_byname&lt;char, ostreambuf_iterator&lt;char,</code>

	char_traits<char> > >
vfunc[0]:	time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >::~time_put_byname()
vfunc[1]:	time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >::~time_put_byname()
vfunc[2]:	time_put<char, ostreambuf_iterator<char, char_traits<char> > >::do_put(ostreambuf_iterator<char, char_traits<char> >, ios_base&, char, tm const*, char, char) const

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 7-236

**Table 7-236** typeinfo for `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >`

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >

#### 7.1.115.2 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 7-237, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-237** libstdcxx - Class `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >` Function Interfaces

<code>time_put_byname&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_put_byname&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.116 Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

#### 7.1.116.1 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 by Table 7-238

**Table 7-238 Primary vtable for `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code>
<code>vfunc[0]:</code>	<code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::~time_put_byname()</code>
<code>vfunc[1]:</code>	<code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::~time_put_byname()</code>
<code>vfunc[2]:</code>	<code>time_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::do_put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, wchar_t, tm const*, char, char) const</code>

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 7-239

**Table 7-239 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&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code>

### 7.1.116.2 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 7-240, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-240 `libstdcxx` - Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces**

<code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::time_put_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.117 Class `time_get<char, istreambuf_iterator<char, char_traits<char>>>`

#### 7.1.117.1 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 by Table 7-241

**Table 7-241 Primary vtable for `time_get<char, istreambuf_iterator<char, char_traits<char>>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code>
<code>vfunc[0]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::~~time_get()</code>
<code>vfunc[1]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::~~time_get()</code>
<code>vfunc[2]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::do_date_order() const</code>
<code>vfunc[3]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::do_get_time(istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, istreambuf_iterator&lt;char,</code>

	<code>char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
<code>vfunc[4]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;&gt;::do_get_date(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
<code>vfunc[5]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;&gt;::do_get_weekday(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
<code>vfunc[6]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;&gt;::do_get_monthname(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
<code>vfunc[7]:</code>	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;&gt;::do_get_year(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>

### 7.1.117.2 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 7-242, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-242 libstdcxx - Class `time_get<char, istreambuf_iterator<char, char_traits<char> >>` Function Interfaces**

<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;&gt;::_M_extract_num(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, int&amp;, int, int, unsigned long, ios_base&amp;, _Ios_Iostate&amp;) const (GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;&gt;::_M_extract_name(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;,</code>

<code>istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, int&amp;, char const**, unsigned long, ios_base&amp;, _Ios_Iostate&amp;) const (GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.118 Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

#### 7.1.118.1 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 by Table 7-243

**Table 7-243 Primary vtable for `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;</code>
<code>vfunc[0]:</code>	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::~~time_get()</code>
<code>vfunc[1]:</code>	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::~~time_get()</code>
<code>vfunc[2]:</code>	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::do_date_order() const</code>
<code>vfunc[3]:</code>	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::do_get_time(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
<code>vfunc[4]:</code>	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::do_get_date(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;,</code>

	istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[5]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_get_weekday(istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[6]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_get_monthname(istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[7]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_get_year(istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, tm*) const

#### 7.1.118.2 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 7-244, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-244 libstdcxx - Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces**

<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::M_extract_num(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, int&amp;, int, int, unsigned long, ios_base&amp;, _Ios_Iostate&amp;) const (GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::M_extract_name(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, int&amp;, wchar_t const**, unsigned long, ios_base&amp;, _Ios_Iostate&amp;) const (GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::time_get(unsigned long) (GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;</code>



<code>&gt;::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
--

### 7.1.119 Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>>`

#### 7.1.119.1 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 7-245, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-245 libstdcxx - Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>>` Function Interfaces**

<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code> <code>&gt;::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
---

<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code> <code>&gt;::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
---

### 7.1.120 Class `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

#### 7.1.120.1 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 7-246, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-246 libstdcxx - Class `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces**

<code>time_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
--

<code>time_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
--

### 7.1.121 Class `money_punct<char, false>`

#### 7.1.121.1 Class data for `money_punct<char, false>`

The virtual table for the `std::money_punct<char, false>` class is described by Table 7-247

**Table 7-247 Primary vtable for `money_punct<char, false>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>money_punct&lt;char, false&gt;</code>
<code>vfunc[0]:</code>	<code>money_punct&lt;char,</code>

	false>::~moneypunct()
vfunc[1]:	moneypunct<char, false>::~moneypunct()
vfunc[2]:	moneypunct<char, false>::~do_decimal_point() const
vfunc[3]:	moneypunct<char, false>::~do_thousands_sep() const
vfunc[4]:	moneypunct<char, false>::~do_grouping() const
vfunc[5]:	moneypunct<char, false>::~do_curr_symbol() const
vfunc[6]:	moneypunct<char, false>::~do_positive_sign() const
vfunc[7]:	moneypunct<char, false>::~do_negative_sign() const
vfunc[8]:	moneypunct<char, false>::~do_frac_digits() const
vfunc[9]:	moneypunct<char, false>::~do_pos_format() const
vfunc[10]:	moneypunct<char, false>::~do_neg_format() const

### 7.1.121.2 Interfaces for Class `moneypunct<char, false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::moneypunct<char, false>` specified in Table 7-248, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-248 libstdcxx - Class `moneypunct<char, false>` Function Interfaces**

<code>moneypunct&lt;char, false&gt;::moneypunct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct&lt;char, false&gt;::moneypunct(__moneypunct_cache&lt;char, false&gt;*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct&lt;char, false&gt;::moneypunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct&lt;char, false&gt;::moneypunct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct&lt;char, false&gt;::moneypunct(__moneypunct_cache&lt;char, false&gt;*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct&lt;char, false&gt;::moneypunct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

## 7.1.122 Class moneypunct<char, true>

### 7.1.122.1 Class data for moneypunct<char, true>

The virtual table for the `std::moneypunct<char, true>` class is described by Table 7-249

**Table 7-249 Primary vtable for moneypunct<char, true>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for moneypunct<char, true>
vfunc[0]:	moneypunct<char, true>::~~moneypunct()
vfunc[1]:	moneypunct<char, true>::~~moneypunct()
vfunc[2]:	moneypunct<char, true>::do_decimal_point() const
vfunc[3]:	moneypunct<char, true>::do_thousands_sep() const
vfunc[4]:	moneypunct<char, true>::do_grouping() const
vfunc[5]:	moneypunct<char, true>::do_curr_symbol() const
vfunc[6]:	moneypunct<char, true>::do_positive_sign() const
vfunc[7]:	moneypunct<char, true>::do_negative_sign() const
vfunc[8]:	moneypunct<char, true>::do_frac_digits() const
vfunc[9]:	moneypunct<char, true>::do_pos_format() const
vfunc[10]:	moneypunct<char, true>::do_neg_format() const

### 7.1.122.2 Interfaces for Class moneypunct<char, true>

An LSB conforming implementation shall provide the architecture specific methods for Class `std::moneypunct<char, true>` specified in Table 7-250, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-250 libstdcxx - Class moneypunct<char, true> Function Interfaces**

<code>moneypunct&lt;char, true&gt;::moneypunct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct&lt;char, true&gt;::moneypunct(__moneypunct_cache&lt;char, true&gt;*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

<code>money_punct&lt;char, true&gt;::money_punct(unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>money_punct&lt;char, true&gt;::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>money_punct&lt;char, true&gt;::money_punct(__money_punct_cache&lt;char, true&gt;*, unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>money_punct&lt;char, true&gt;::money_punct(unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]

### 7.1.123 Class `money_punct<wchar_t, false>`

#### 7.1.123.1 Class data for `money_punct<wchar_t, false>`

The virtual table for the `std::money_punct<wchar_t, false>` class is described by Table 7-251

**Table 7-251 Primary vtable for `money_punct<wchar_t, false>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for money_punct&lt;wchar_t, false&gt;</code>
<code>vfunc[0]:</code>	<code>money_punct&lt;wchar_t, false&gt;::~~money_punct()</code>
<code>vfunc[1]:</code>	<code>money_punct&lt;wchar_t, false&gt;::~~money_punct()</code>
<code>vfunc[2]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_decimal_point() const</code>
<code>vfunc[3]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_thousands_sep() const</code>
<code>vfunc[4]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_grouping() const</code>
<code>vfunc[5]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_curr_symbol() const</code>
<code>vfunc[6]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_positive_sign() const</code>
<code>vfunc[7]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_negative_sign() const</code>
<code>vfunc[8]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_frac_digits() const</code>
<code>vfunc[9]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_pos_format() const</code>
<code>vfunc[10]:</code>	<code>money_punct&lt;wchar_t, false&gt;::do_neg_format() const</code>

### 7.1.123.2 Interfaces for Class `money_punct<wchar_t, false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct<wchar_t, false>` specified in Table 7-252, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-252 libstdc++ - Class `money_punct<wchar_t, false>` Function Interfaces**

<code>money_punct&lt;wchar_t, false&gt;::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct&lt;wchar_t, false&gt;::money_punct(__money_punct_cache&lt;wchar_t, false&gt;*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct&lt;wchar_t, false&gt;::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct&lt;wchar_t, false&gt;::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct&lt;wchar_t, false&gt;::money_punct(__money_punct_cache&lt;wchar_t, false&gt;*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct&lt;wchar_t, false&gt;::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.124 Class `money_punct<wchar_t, true>`

#### 7.1.124.1 Class data for `money_punct<wchar_t, true>`

The virtual table for the `std::money_punct<wchar_t, true>` class is described by Table 7-253

**Table 7-253 Primary vtable for `money_punct<wchar_t, true>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for money_punct&lt;wchar_t, true&gt;</code>
<code>vfunc[0]:</code>	<code>money_punct&lt;wchar_t, true&gt;::~~money_punct()</code>
<code>vfunc[1]:</code>	<code>money_punct&lt;wchar_t, true&gt;::~~money_punct()</code>
<code>vfunc[2]:</code>	<code>money_punct&lt;wchar_t, true&gt;::do_decimal_point() const</code>
<code>vfunc[3]:</code>	<code>money_punct&lt;wchar_t, true&gt;::do_thousands_sep() const</code>
<code>vfunc[4]:</code>	<code>money_punct&lt;wchar_t, true&gt;::do_grouping() const</code>
<code>vfunc[5]:</code>	<code>money_punct&lt;wchar_t, true&gt;::do_curr_symbol() const</code>
<code>vfunc[6]:</code>	<code>money_punct&lt;wchar_t,</code>

	true>::do_positive_sign() const
vfunc[7]:	money_punct<wchar_t, true>::do_negative_sign() const
vfunc[8]:	money_punct<wchar_t, true>::do_frac_digits() const
vfunc[9]:	money_punct<wchar_t, true>::do_pos_format() const
vfunc[10]:	money_punct<wchar_t, true>::do_neg_format() const

### 7.1.124.2 Interfaces for Class money\_punct<wchar\_t, true>

An LSB conforming implementation shall provide the architecture specific methods for Class std::money\_punct<wchar\_t, true> specified in Table 7-254, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-254 libstdc++ - Class money\_punct<wchar\_t, true> Function Interfaces**

money_punct<wchar_t, true>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
money_punct<wchar_t, true>::money_punct(__money_punct_cache<wchar_t, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
money_punct<wchar_t, true>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]
money_punct<wchar_t, true>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
money_punct<wchar_t, true>::money_punct(__money_punct_cache<wchar_t, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]
money_punct<wchar_t, true>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]

### 7.1.125 Class money\_punct\_byname<char, false>

#### 7.1.125.1 Class data for money\_punct\_byname<char, false>

The virtual table for the std::money\_punct\_byname<char, false> class is described by Table 7-255

**Table 7-255 Primary vtable for money\_punct\_byname<char, false>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for money_punct_byname<char, false>
vfunc[0]:	money_punct_byname<char, false>::~~money_punct_byname()
vfunc[1]:	money_punct_byname<char,

	false>::~moneypunct_byname()
vfunc[2]:	moneypunct<char, false>::do_decimal_point() const
vfunc[3]:	moneypunct<char, false>::do_thousands_sep() const
vfunc[4]:	moneypunct<char, false>::do_grouping() const
vfunc[5]:	moneypunct<char, false>::do_curr_symbol() const
vfunc[6]:	moneypunct<char, false>::do_positive_sign() const
vfunc[7]:	moneypunct<char, false>::do_negative_sign() const
vfunc[8]:	moneypunct<char, false>::do_frac_digits() const
vfunc[9]:	moneypunct<char, false>::do_pos_format() const
vfunc[10]:	moneypunct<char, false>::do_neg_format() const

The Run Time Type Information for the `std::moneypunct_byname<char, false>` class is described by Table 7-256

**Table 7-256 typeid for moneypunct\_byname<char, false>**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for moneypunct_byname<char, false>

### 7.1.125.2 Interfaces for Class `moneypunct_byname<char, false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::moneypunct_byname<char, false>` specified in Table 7-257, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-257 libstdc++ - Class `moneypunct_byname<char, false>` Function Interfaces**

<code>moneypunct_byname&lt;char, false&gt;::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct_byname&lt;char, false&gt;::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

**7.1.126 Class moneypunct\_byname<char, true>****7.1.126.1 Class data for moneypunct\_byname<char, true>**

The virtual table for the `std::moneypunct_byname<char, true>` class is described by Table 7-258

**Table 7-258 Primary vtable for moneypunct\_byname<char, true>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>moneypunct_byname&lt;char, true&gt;</code>
<code>vfunc[0]:</code>	<code>moneypunct_byname&lt;char, true&gt;::~~moneypunct_byname()</code>
<code>vfunc[1]:</code>	<code>moneypunct_byname&lt;char, true&gt;::~~moneypunct_byname()</code>
<code>vfunc[2]:</code>	<code>moneypunct&lt;char, true&gt;::do_decimal_point() const</code>
<code>vfunc[3]:</code>	<code>moneypunct&lt;char, true&gt;::do_thousands_sep() const</code>
<code>vfunc[4]:</code>	<code>moneypunct&lt;char, true&gt;::do_grouping() const</code>
<code>vfunc[5]:</code>	<code>moneypunct&lt;char, true&gt;::do_curr_symbol() const</code>
<code>vfunc[6]:</code>	<code>moneypunct&lt;char, true&gt;::do_positive_sign() const</code>
<code>vfunc[7]:</code>	<code>moneypunct&lt;char, true&gt;::do_negative_sign() const</code>
<code>vfunc[8]:</code>	<code>moneypunct&lt;char, true&gt;::do_frac_digits() const</code>
<code>vfunc[9]:</code>	<code>moneypunct&lt;char, true&gt;::do_pos_format() const</code>
<code>vfunc[10]:</code>	<code>moneypunct&lt;char, true&gt;::do_neg_format() const</code>

The Run Time Type Information for the `std::moneypunct_byname<char, true>` class is described by Table 7-259

**Table 7-259 typeinfo for moneypunct\_byname<char, true>**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>moneypunct_byname&lt;char, true&gt;</code>



### 7.1.126.2 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 7-260, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-260 libstdcxx - Class `moneypunct_byname<char, true>` Function Interfaces**

<code>moneypunct_byname&lt;char, true&gt;::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct_byname&lt;char, true&gt;::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.127 Class `moneypunct_byname<wchar_t, false>`

#### 7.1.127.1 Class data for `moneypunct_byname<wchar_t, false>`

The virtual table for the `std::moneypunct_byname<wchar_t, false>` class is described by Table 7-261

**Table 7-261 Primary vtable for `moneypunct_byname<wchar_t, false>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeid for moneypunct_byname&lt;wchar_t, false&gt;</code>
<code>vfunc[0]:</code>	<code>moneypunct_byname&lt;wchar_t, false&gt;::~~moneypunct_byname()</code>
<code>vfunc[1]:</code>	<code>moneypunct_byname&lt;wchar_t, false&gt;::~~moneypunct_byname()</code>
<code>vfunc[2]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_decimal_point() const</code>
<code>vfunc[3]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_thousands_sep() const</code>
<code>vfunc[4]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_grouping() const</code>
<code>vfunc[5]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_curr_symbol() const</code>
<code>vfunc[6]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_positive_sign() const</code>
<code>vfunc[7]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_negative_sign() const</code>
<code>vfunc[8]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_frac_digits() const</code>
<code>vfunc[9]:</code>	<code>moneypunct&lt;wchar_t, false&gt;::do_pos_format() const</code>

vfunc[10]:	money_punct<wchar_t, false>::do_neg_format() const
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The Run Time Type Information for the `std::money_punct_byname<wchar_t, false>` class is described by Table 7-262

**Table 7-262 typeid for money\_punct\_byname<wchar\_t, false>**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for money_punct_byname<wchar_t, false>

### 7.1.127.2 Interfaces for Class money\_punct\_byname<wchar\_t, false>

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct_byname<wchar_t, false>` specified in Table 7-263, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-263 libstdc++ - Class money\_punct\_byname<wchar\_t, false> Function Interfaces**

<code>money_punct_byname&lt;wchar_t, false&gt;::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct_byname&lt;wchar_t, false&gt;::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.128 Class money\_punct\_byname<wchar\_t, true>

#### 7.1.128.1 Class data for money\_punct\_byname<wchar\_t, true>

The virtual table for the `std::money_punct_byname<wchar_t, true>` class is described by Table 7-264

**Table 7-264 Primary vtable for money\_punct\_byname<wchar\_t, true>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for money_punct_byname<wchar_t, true>
vfunc[0]:	money_punct_byname<wchar_t, true>::~~money_punct_byname()
vfunc[1]:	money_punct_byname<wchar_t, true>::~~money_punct_byname()
vfunc[2]:	money_punct<wchar_t, true>::do_decimal_point() const
vfunc[3]:	money_punct<wchar_t, true>::do_thousands_sep() const

vfunc[4]:	money_punct<wchar_t, true>::do_grouping() const
vfunc[5]:	money_punct<wchar_t, true>::do_curr_symbol() const
vfunc[6]:	money_punct<wchar_t, true>::do_positive_sign() const
vfunc[7]:	money_punct<wchar_t, true>::do_negative_sign() const
vfunc[8]:	money_punct<wchar_t, true>::do_frac_digits() const
vfunc[9]:	money_punct<wchar_t, true>::do_pos_format() const
vfunc[10]:	money_punct<wchar_t, true>::do_neg_format() const

The Run Time Type Information for the `std::money_punct_byname<wchar_t, true>` class is described by Table 7-265

**Table 7-265 typeid for `money_punct_byname<wchar_t, true>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>money_punct_byname&lt;wchar_t, true&gt;</code>

### 7.1.128.2 Interfaces for Class `money_punct_byname<wchar_t, true>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct_byname<wchar_t, true>` specified in Table 7-266, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-266 libstdc++ - Class `money_punct_byname<wchar_t, true>` Function Interfaces**

<code>money_punct_byname&lt;wchar_t, true&gt;::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct_byname&lt;wchar_t, true&gt;::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.129 Class `money_base`

#### 7.1.129.1 Class data for `money_base`

The Run Time Type Information for the `std::money_base` class is described by Table 7-267

**Table 7-267 typeid for `money_base`**

Base Vtable	vtable for
-------------	------------

	__cxxabiv1::__class_type_info
Name	typeinfo name for money_base

### 7.1.129.2 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.

### 7.1.130 Class money\_get<char, istreambuf\_iterator<char, char\_traits<char>>>

#### 7.1.130.1 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 by Table 7-268

**Table 7-268 Primary vtable for money\_get<char, istreambuf\_iterator<char, char\_traits<char>>>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for money_get<char, istreambuf_iterator<char, char_traits<char>>>
vfunc[0]:	money_get<char, istreambuf_iterator<char, char_traits<char>>>::~~money_get()
vfunc[1]:	money_get<char, istreambuf_iterator<char, char_traits<char>>>::~~money_get()
vfunc[2]:	money_get<char, istreambuf_iterator<char, char_traits<char>>>::do_get(istreambuf_iterator<char, char_traits<char>>, istreambuf_iterator<char, char_traits<char>>, bool, ios_base&, _Ios_Iostate&, long double&) const
vfunc[3]:	money_get<char, istreambuf_iterator<char, char_traits<char>>>::do_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

The Run Time Type Information for the `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 7-269

**Table 7-269** typeinfo for `money_get<char, istreambuf_iterator<char, char_traits<char> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;</code>

### 7.1.130.2 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 7-270, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-270** `libstdcxx` - Class `money_get<char, istreambuf_iterator<char, char_traits<char> > >` Function Interfaces

<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.131 Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

#### 7.1.131.1 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 by Table 7-271

**Table 7-271** Primary vtable for `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>money_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;</code>
<code>vfunc[0]:</code>	<code>money_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::~~money_get()</code>
<code>vfunc[1]:</code>	<code>money_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t,</code>

	<code>char_traits&lt;wchar_t&gt; &gt;</code> <code>&gt;::~money_get()</code>
<code>vfunc[2]:</code>	<code>money_get&lt;wchar_t,</code> <code>istreambuf_iterator&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt; &gt;</code> <code>&gt;::do_get(istreambuf_iterator&lt;wchar</code> <code>_t, char_traits&lt;wchar_t&gt; &gt;,</code> <code>istreambuf_iterator&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt; &gt;, bool,</code> <code>ios_base&amp;, _Ios_Iostate&amp;, long</code> <code>double&amp;) const</code>
<code>vfunc[3]:</code>	<code>money_get&lt;wchar_t,</code> <code>istreambuf_iterator&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt; &gt;</code> <code>&gt;::do_get(istreambuf_iterator&lt;wchar</code> <code>_t, char_traits&lt;wchar_t&gt; &gt;,</code> <code>istreambuf_iterator&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt; &gt;, bool,</code> <code>ios_base&amp;, _Ios_Iostate&amp;,</code> <code>basic_string&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt;,</code> <code>allocator&lt;wchar_t&gt; &gt;&amp;) const</code>

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 7-272

**Table 7-272 typeid 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	typeid name for <code>money_get&lt;wchar_t,</code> <code>istreambuf_iterator&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt; &gt; &gt;</code>

### 7.1.131.2 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 7-273, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-273 libstdc++ - Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces**

<code>money_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code> <code>&gt;::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code> <code>&gt;::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.132 Class `money_put<char, ostreambuf_iterator<char, char_traits<char>>>`

#### 7.1.132.1 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 by Table 7-274

**Table 7-274 Primary vtable for `money_put<char, ostreambuf_iterator<char, char_traits<char>>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code>
<code>vfunc[0]:</code>	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::~~money_put()</code>
<code>vfunc[1]:</code>	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::~~money_put()</code>
<code>vfunc[2]:</code>	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::do_put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, bool, ios_base&amp;, char, long double) const</code>
<code>vfunc[3]:</code>	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;::do_put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, bool, ios_base&amp;, char, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt; const&amp;) const</code>

The Run Time Type Information for the `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>>` class is described by Table 7-275

**Table 7-275 `typeinfo` for `money_put<char, ostreambuf_iterator<char, char_traits<char>>>`**

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	<code>typeinfo</code> name for <code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code>

### 7.1.132.2 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 7-276, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-276 libstdcxx - Class `money_put<char, ostreambuf_iterator<char, char_traits<char>>>` Function Interfaces**

<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code> <code>&gt;::money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code> <code>&gt;::money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.133 Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

#### 7.1.133.1 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 by Table 7-277

**Table 7-277 Primary vtable for `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo</code> for <code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code>
<code>vfunc[0]:</code>	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::~~money_put()</code>
<code>vfunc[1]:</code>	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::~~money_put()</code>
<code>vfunc[2]:</code>	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::do_put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, bool, ios_base&amp;, wchar_t, long double) const</code>
<code>vfunc[3]:</code>	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code>



	>::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
--	---

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 7-278

**Table 7-278 typeid 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	typeid name for <code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;</code>

### 7.1.133.2 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 7-279, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-279 libstdc++ - Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces**

<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

## 7.1.134 Class locale

### 7.1.134.1 Interfaces for Class locale

An LSB conforming implementation shall provide the architecture specific methods for Class `std::locale` specified in Table 7-280, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-280 libstdc++ - Class locale Function Interfaces**

<code>locale::_Impl::_Impl(char const*, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(locale::_Impl const&amp;, 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&amp;, unsigned long)(GLIBCXX_3.4)</code>

[LSB]
locale::_Impl::_Impl(unsigned long)(GLIBCXX_3.4) [LSB]

### 7.1.135 Class locale::facet

#### 7.1.135.1 Class data for locale::facet

The virtual table for the std::locale::facet class is described by Table 7-281

**Table 7-281 Primary vtable for locale::facet**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for locale::facet
vfunc[0]:	locale::facet::~~facet()
vfunc[1]:	locale::facet::~~facet()

The Run Time Type Information for the std::locale::facet class is described by Table 7-282

**Table 7-282 typeinfo for locale::facet**

Base Vtable	vtable for __cxxabiv1::__class_type_info
Name	typeinfo name for locale::facet

#### 7.1.135.2 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.

### 7.1.136 facet functions

#### 7.1.136.1 Interfaces for facet functions

No external methods are defined for libstdc++ - facet functions in this part of the specification. See also the generic specification.

### 7.1.137 Class \_\_num\_base

#### 7.1.137.1 Class data for \_\_num\_base

The Run Time Type Information for the std::\_\_num\_base class is described by Table 7-283

**Table 7-283**

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

#### 7.1.137.2 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.

### 7.1.138 Class `num_get<char, istreambuf_iterator<char, char_traits<char>>>`

#### 7.1.138.1 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 7-284, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-284 libstdcxx - Class `num_get<char, istreambuf_iterator<char, char_traits<char>>>` Function Interfaces**

<code>num_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code> <code>&gt;::num_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code> <code>&gt;::num_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.139 Class `num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

#### 7.1.139.1 Interfaces for Class `num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::num_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 7-285, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-285 libstdcxx - Class `num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces**

<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::num_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code> <code>&gt;::num_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.140 Class `num_put<char, ostreambuf_iterator<char, char_traits<char>>>`

#### 7.1.140.1 Interfaces for Class `num_put<char, ostreambuf_iterator<char, char_traits<char>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::num_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>>` specified in Table 7-286, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-286 libstdcxx - Class `num_put<char, ostreambuf_iterator<char, char_traits<char>>>` Function Interfaces**

<code>num_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;&gt;</code> <code>&gt;::M_group_int(char const*, unsigned long, char, ios_base&amp;, char*, char*,</code> <code>int&amp;) const(GLIBCXX_3.4) [ISOCXX]</code>
---

<code>num_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::M_group_float(char const*, unsigned long, char, char const*, char*, char*, int&amp;) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::M_pad(char, long, ios_base&amp;, char*, char const*, int&amp;) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::num_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::num_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.141 Class `num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

#### 7.1.141.1 Interfaces for Class `num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::num_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` specified in Table 7-287, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-287 libstdc++ - Class `num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces**

<code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::M_group_int(char const*, unsigned long, wchar_t, ios_base&amp;, wchar_t*, wchar_t*, int&amp;) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::M_group_float(char const*, unsigned long, wchar_t, wchar_t const*, wchar_t*, wchar_t*, int&amp;) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::M_pad(wchar_t, long, ios_base&amp;, wchar_t*, wchar_t const*, int&amp;) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::num_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::num_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.142 Class `gslice`

#### 7.1.142.1 Class data for `gslice`

#### 7.1.142.2 Interfaces for Class `gslice`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::gslice` specified in Table 7-288, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-288 libstdc++ - Class `gslice` Function Interfaces**

<code>gslice::_Indexer::_Indexer(unsigned long, valarray&lt;unsigned long&gt; const&amp;, </code>
---

<code>valarray&lt;unsigned long&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>gslice::Indexer::Indexer(unsigned long, valarray&lt;unsigned long&gt; const&amp;, valarray&lt;unsigned long&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.143 Class `__basic_file<char>`

#### 7.1.143.1 Class data for `__basic_file<char>`

#### 7.1.143.2 Interfaces for Class `__basic_file<char>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::__basic_file<char>` specified in Table 7-289, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-289 libstdcxx - Class `__basic_file<char>` Function Interfaces**

<code>__basic_file&lt;char&gt;::xsgetn(char*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>__basic_file&lt;char&gt;::xspn(char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>__basic_file&lt;char&gt;::seekoff(long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]</code>
<code>__basic_file&lt;char&gt;::xspn_2(char const*, long, char const*, long)(GLIBCXX_3.4) [ISOCXX]</code>

### 7.1.144 Class `_List_node_base`

#### 7.1.144.1 Interfaces for Class `_List_node_base`

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

### 7.1.145 Class `valarray<unsigned int>`

#### 7.1.145.1 Class data for `valarray<unsigned int>`

#### 7.1.145.2 Interfaces for Class `valarray<unsigned int>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::valarray<unsigned int>` specified in Table 7-290, with the full mandatory functionality as described in the referenced underlying specification.

**Table 7-290 libstdcxx - Class `valarray<unsigned int>` Function Interfaces**

<code>valarray&lt;unsigned long&gt;::size() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>valarray&lt;unsigned long&gt;::valarray(valarray&lt;unsigned long&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>valarray&lt;unsigned long&gt;::valarray(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>valarray&lt;unsigned long&gt;::valarray(valarray&lt;unsigned long&gt; const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>
<code>valarray&lt;unsigned long&gt;::valarray(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>valarray&lt;unsigned long&gt;::~~valarray()(GLIBCXX_3.4) [ISOCXX]</code>
<code>valarray&lt;unsigned long&gt;::~~valarray()(GLIBCXX_3.4) [ISOCXX]</code>

```
valarray<unsigned long>::operator[](unsigned long)(GLIBCXX_3.4)
[ISO CXX]
```

### 7.1.146 Class allocator<char>

#### 7.1.146.1 Interfaces for Class allocator<char>

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

### 7.1.147 Class allocator<wchar>

#### 7.1.147.1 Interfaces for Class allocator<wchar>

No external methods are defined for libstdc++ - Class std::allocator<wchar> in this part of the specification. See also the generic specification.

## 7.2 Interface Definitions for libstdc++

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

Other interfaces listed in Section 7.1 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.

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