

Linux Standard Base C++ Specification for S390 4.0

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Foreword

This is version 4.0 of the Linux Standard Base C++ Specification for S390. 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

Name	Title	URL
ISO/IEC 23360 Part 1	ISO/IEC 23360:2005 Linux Standard Base - Part 1 Generic Specification	http://www.linuxbase.org/spec/
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: Sys- tem 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: Ratio- nale Including Technical Cor. 1: 2004	http://www.unix.org/ version3/
ISO/IEC 14882: 2003 C++ Language	ISO/IEC 14882: 2003 Programming languages --C++	
Itanium™ C++ ABI	Itanium™ C++ ABI (Revision 1.83)	http://refspecs.linux- foundation.org/cxxabi- 1.83.html

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: For symbols with versions which differ between architectures, the 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 PowerPC 32 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

<code>operator new[](unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>operator new[](unsigned long, nothrow_t const&)(GLIBCXX_3.4)</code> [ISOCXX]
<code>operator new(unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>operator new(unsigned long, nothrow_t const&)(GLIBCXX_3.4)</code> [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 in the generic part of this specification.

The Run Time Type Information for the `std::type_info` class is described by [Table 7-3](#)

Table 7-3 `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 `libstdcxx` - 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 in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__enum_type_info` class is described by [Table 7-4](#)

Table 7-4 `typeinfo` for `__cxxabiv1::__enum_type_info`

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

7.1.5.2 Interfaces for Class `__cxxabiv1::__enum_type_info`

No external methods are defined for `libstdcxx` - 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 in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__array_type_info` class is described by [Table 7-5](#)

Table 7-5 `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 `libstdcxx` - 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 7-6](#)

Table 7-6 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&) const</code>
<code>vfunc[7]:</code>	<code>__cxxabiv1::__class_type_info::__do_dyncast(int, __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</code>
<code>vfunc[8]:</code>	<code>__cxxabiv1::__class_type_info::__do_find_public_src(int, void const*, __cxxabiv1::__class_type_info const*, void const*) const</code>

The Run Time Type Information for the `__cxxabiv1::__class_type_info` class is described by [Table 7-7](#)

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

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

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 7-8](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-8 libstdcxx - Class `__cxxabiv1::__class_type_info` Function Interfaces

<code>__cxxabiv1::__class_type_info::__do_dynccast(int, __cxxabiv1::__class_type_info::__sub_kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dynccast_result&) const(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__class_type_info::__do_find_public_src(int, void const*, __cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3)</code> [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 in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__pbase_type_info` class is described by [Table 7-9](#)

Table 7-9 typeinfo for `__cxxabiv1::__pbase_type_info`

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

7.1.8.2 Interfaces for Class `__cxxabiv1::__pbase_type_info`

No external methods are defined for libstdcxx - 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 in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__pointer_type_info` class is described by [Table 7-10](#)

Table 7-10 typeinfo for `__cxxabiv1::__pointer_type_info`

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

7.1.9.2 Interfaces for Class `__cxxabiv1::__pointer_type_info`

No external methods are defined for `libstdcxx` - 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 in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__function_type_info` class is described by [Table 7-11](#)

Table 7-11 typeinfo for `__cxxabiv1::__function_type_info`

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

7.1.10.2 Interfaces for Class `__cxxabiv1::__function_type_info`

No external methods are defined for `libstdcxx` - 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 7-12](#)

Table 7-12 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>
<code>vfunc[0]:</code>	<code>__cxxabiv1::__si_class_type_info::~~_si_class_type_info()</code>
<code>vfunc[1]:</code>	<code>__cxxabiv1::__si_class_type_info::~~_si_class_type_info()</code>

vfunc[2]:	type_info::__is_pointer_p() const
vfunc[3]:	type_info::__is_function_p() const
vfunc[4]:	__cxxabiv1::__class_type_info::__do_catch(type_info const*, void**, unsigned int) const
vfunc[5]:	__cxxabiv1::__class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const
vfunc[6]:	__cxxabiv1::__si_class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__upcast_result&) const
vfunc[7]:	__cxxabiv1::__si_class_type_info::__do_dyncast(int, __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
vfunc[8]:	__cxxabiv1::__si_class_type_info::__do_find_public_src(int, void const*, __cxxabiv1::__class_type_info const*, void const*) const

The Run Time Type Information for the `__cxxabiv1::__si_class_type_info` class is described by [Table 7-13](#)

Table 7-13 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 7-14](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-14 libstdc++ - Class `__cxxabiv1::__si_class_type_info` Function Interfaces

<code>__cxxabiv1::__si_class_type_info::__do_dyncast(int, __cxxabiv1::__class_type_info::__sub_kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dyncast_result&) const(CXXABI.1.3)</code> [CXXABI]

```
__cxxabiv1::__si_class_type_info::__do_find_public_src(int, void const*,
__cxxabiv1::__class_type_info const*, void const*) const(CXXABI_1.3)
\[CXXABI\]
```

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 7-15](#)

Table 7-15 Primary vtable for `__cxxabiv1::__vmi_class_type_info`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__cxxabiv1::__vmi_class_type_info</code>
vfunc[0]:	<code>__cxxabiv1::__vmi_class_type_info::</code> <code>~__vmi_class_type_info()</code>
vfunc[1]:	<code>__cxxabiv1::__vmi_class_type_info::</code> <code>~__vmi_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_</code> <code>catch(type_info const*, void**, unsigned int) const</code>
vfunc[5]:	<code>__cxxabiv1::__class_type_info::__do_</code> <code>upcast(__cxxabiv1::__class_type_info const*, void**) const</code>
vfunc[6]:	<code>__cxxabiv1::__vmi_class_type_info::__</code> <code>_do_upcast(__cxxabiv1::__class_type_info const*, void const*,</code> <code>__cxxabiv1::__class_type_info::__upc</code> <code>ast_result&) const</code>
vfunc[7]:	<code>__cxxabiv1::__vmi_class_type_info::__</code> <code>_do_dyncast(int,</code> <code>__cxxabiv1::__class_type_info::__sub</code> <code>_kind, __cxxabiv1::__class_type_info const*, void const*,</code> <code>__cxxabiv1::__class_type_info const*, void const*,</code> <code>__cxxabiv1::__class_type_info::__dyn</code> <code>cast_result&) const</code>
vfunc[8]:	<code>__cxxabiv1::__vmi_class_type_info::__</code> <code>_do_find_public_src(int, void const*,</code> <code>__cxxabiv1::__class_type_info const*, void const*) const</code>

The Run Time Type Information for the `__cxxabiv1::__vmi_class_type_info` class is described by [Table 7-16](#)

Table 7-16 typeinfo for `__cxxabiv1::__vmi_class_type_info`

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

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 7-17](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-17 libstdcxx - Class `__cxxabiv1::__vmi_class_type_info` Function Interfaces

<code>__cxxabiv1::__vmi_class_type_info::__do_dynccast(int, __cxxabiv1::__class_type_info::__sub_kind, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__dynccast_result&) const(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__vmi_class_type_info::__do_find_public_src(int, 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 in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__fundamental_type_info` class is described by [Table 7-18](#)

Table 7-18 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 libstdcxx - 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 in the generic part of this specification.

The Run Time Type Information for the `__cxxabiv1::__pointer_to_member_type_info` class is described by [Table 7-19](#)

Table 7-19 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 Interfaces for Class `__gnu_cxx::stdio_filebuf<char, char_traits<char> >`

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

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

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

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

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

Table 7-20 `libstdcxx` - Class `__gnu_cxx::__pool_alloc_base` Function Interfaces

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

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

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

The virtual table for the `__gnu_cxx::stdio_sync_filebuf<char, std::char_traits<char> >` class is described by [Table 7-21](#)

Table 7-21 Primary vtable for `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >`

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

vfunc[12]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::xsputn(char const*, int)
vfunc[13]:	__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >::overflow(int)

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

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

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

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

The virtual table for the `__gnu_cxx::stdio_sync_filebuf<wchar_t, std::char_traits<wchar_t> >` class is described by [Table 7-22](#)

Table 7-22 Primary vtable for `__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> ></code>
vfunc[0]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::~stdio_sync_filebuf()</code>
vfunc[1]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::~stdio_sync_filebuf()</code>
vfunc[2]:	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::imbue(locale const&)</code>
vfunc[3]:	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, int)</code>
vfunc[4]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)</code>
vfunc[5]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>
vfunc[6]:	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>

	<code>r_t, char_traits<wchar_t> >::sync()</code>
<code>vfunc[7]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::showmanyc()</code>
<code>vfunc[8]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, int)</code>
<code>vfunc[9]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::underflow()</code>
<code>vfunc[10]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::uflow()</code>
<code>vfunc[11]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)</code>
<code>vfunc[12]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::xsputn(wchar_t const*, int)</code>
<code>vfunc[13]:</code>	<code>__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >::overflow(unsigned int)</code>

7.1.19.2 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 in the generic part of this specification.

The Run Time Type Information for the `std::exception` class is described by [Table 7-23](#)

Table 7-23 typeinfo for exception

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

7.1.20.2 Interfaces for Class exception

No external methods are defined for `libstdcxx` - 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 in the generic part of this specification.

The Run Time Type Information for the std::bad_typeid class is described by [Table 7-24](#)

Table 7-24 typeinfo for bad_typeid

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo 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 in the generic part of this specification.

The Run Time Type Information for the std::logic_error class is described by [Table 7-25](#)

Table 7-25 typeinfo for logic_error

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

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 in the generic part of this specification.

The Run Time Type Information for the std::range_error class is described by [Table 7-26](#)

Table 7-26 typeinfo for range_error

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::domain_error` class is described by [Table 7-27](#)

Table 7-27 `typeinfo` for `domain_error`

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::length_error` class is described by [Table 7-28](#)

Table 7-28 `typeinfo` for `length_error`

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::out_of_range` class is described by [Table 7-29](#)

Table 7-29 `typeinfo` for `out_of_range`

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::bad_exception` class is described by [Table 7-30](#)

Table 7-30 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 in the generic part of this specification.

The Run Time Type Information for the `std::runtime_error` class is described by [Table 7-31](#)

Table 7-31 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 in the generic part of this specification.

The Run Time Type Information for the `std::overflow_error` class is described

by [Table 7-32](#)

Table 7-32 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 in the generic part of this specification.

The Run Time Type Information for the std::underflow_error class is described by [Table 7-33](#)

Table 7-33 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 in the generic part of this specification.

The Run Time Type Information for the std::invalid_argument class is described by [Table 7-34](#)

Table 7-34 typeinfo for invalid_argument

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

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 in the generic part of this specification.

The Run Time Type Information for the std::bad_cast class is described by [Table 7-35](#)

Table 7-35 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 in the generic part of this specification.

The Run Time Type Information for the std::bad_alloc class is described by [Table 7-36](#)

Table 7-36 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 7-37](#)

Table 7-37 typeinfo 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 in the generic part of this specification.

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 in the generic part of this specification.

7.1.53.2 Interfaces for Class __ctype_abstract_base<wchar_t>

No external methods are defined for libstdc++ - 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 in the generic part of this specification.

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 7-38](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-38 libstdc++ - 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 in the generic part of this specification.

The Run Time Type Information for the std::ctype<wchar_t> class is described by [Table 7-39](#)

Table 7-39 typeinfo for ctype<wchar_t>

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

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 7-40](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-40 libstdcxx - Class ctype<wchar_t> Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the std::ctype_byname<char> class is described by [Table 7-41](#)

Table 7-41 typeinfo for ctype_byname<char>

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

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 7-42](#), with the

full mandatory functionality as described in the referenced underlying specification.

Table 7-42 libstdcxx - Class `ctype_byname<char>` Function Interfaces

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

7.1.57 Class `ctype_byname<wchar_t>`

7.1.57.1 Class data for `ctype_byname<wchar_t>`

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

The Run Time Type Information for the `std::ctype_byname<wchar_t>` class is described by [Table 7-43](#)

Table 7-43 typeinfo for `ctype_byname<wchar_t>`

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

7.1.57.2 Interfaces for Class `ctype_byname<wchar_t>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::ctype_byname<wchar_t>` specified in [Table 7-44](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-44 libstdcxx - Class `ctype_byname<wchar_t>` Function Interfaces

<code>ctype_byname<wchar_t>::ctype_byname(char const*, unsigned long)</code> (GLIBCXX_3.4) [CXXABI]
<code>ctype_byname<wchar_t>::ctype_byname(char const*, unsigned long)</code> (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 7-45](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-45 libstdcxx - Class `basic_string<char, char_traits<char>, allocator<char>>` Function Interfaces

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

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

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

<code>basic_string<char, char_traits<char>, allocator<char> >::_Rep::_M_set_length_and_sharable(unsigned long)(GLIBCXX_3.4.5)</code> [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::_Rep::_M_clone(allocator<char> const&, unsigned long)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::_Rep::_S_create(unsigned long, unsigned long, allocator<char> const&)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::erase(unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::append(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::append(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::append(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::assign(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::assign(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::assign(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::insert(__gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> > >, unsigned long, char)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::insert(unsigned long, char const*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::insert(unsigned long, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::insert(unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<char, char_traits<char>, allocator<char> >::insert(unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::insert(unsigned long, unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::resize(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::resize(unsigned long, char)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::_M_copy(char*, char const*, unsigned long)(GLIBCXX_3.4.5) [ISOCXX]</code>

<code>basic_string<char, char_traits<char>, allocator<char> >::M_move(char*, char const*, unsigned long)(GLIBCXX_3.4.5) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(__gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> >, __gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> >, char const*, unsigned long)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(__gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> >, __gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> >, unsigned long, char)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, char const*)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, char const*, unsigned long)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::replace(unsigned long, unsigned long, unsigned long, char)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::reserve(unsigned long)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::M_assign(char*, unsigned long, char)(GLIBCXX_3.4.5) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::M_mutate(unsigned long, unsigned long, unsigned long)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::basic_string(char const*, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::basic_string(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::basic_string(basic_string<char, char_traits<char>, allocator<char> > const&, unsigned long, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::basic_string(unsigned long, char, allocator<char> const&)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::basic_string(char const*, unsigned long, allocator<char> const&)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_string<char, char_traits<char>, allocator<char> >::basic_string(basic_string<char, char_traits<char>, allocator<char> ></code>

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

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 7-46](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-46 `libstdcxx` - Class `basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces

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

[illegible]

<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::substr(unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, wchar_t const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, wchar_t const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::compare(unsigned long, unsigned long, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&, unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_check(unsigned long, char const*) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_limit(unsigned long, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::operator[](unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::S_construct(unsigned long, wchar_t, allocator<wchar_t> const&)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_replace_aux(unsigned long, unsigned long, unsigned long, wchar_t)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::M_replace_safe(unsigned long, unsigned long, wchar_t const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::at(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::Rep::M_set_length_and_sharable(unsigned long)</code> (GLIBCXX_3.4.5) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::Rep::M_clone(allocator<wchar_t> const&, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::Rep::S_create(unsigned long, unsigned long, allocator<wchar_t> const&)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::erase(unsigned long, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::append(wchar_t const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>></code>

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

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

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

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 7-47](#)

Table 7-47 Primary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`

Base Offset	0
Virtual Base Offset	52
RTTI	typeinfo for <code>basic_stringstream<char, char_traits<char>, allocator<char> ></code>
vfunc[0]:	<code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>
vfunc[1]:	<code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>

Table 7-48 Secondary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`

Base Offset	-8
Virtual Base Offset	44
RTTI	typeinfo for <code>basic_stringstream<char, char_traits<char>, allocator<char> ></code>
vfunc[0]:	non-virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>
vfunc[1]:	non-virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>

Table 7-49 Secondary vtable for `basic_stringstream<char, char_traits<char>, allocator<char> >`

Base Offset	-52
Virtual Base Offset	-52
RTTI	typeinfo for <code>basic_stringstream<char, char_traits<char>, allocator<char> ></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_stringstream<char, char_traits<char>, allocator<char> >::~basic_stringstream()</code>

The VTT for the `std::basic_stringstream<char, std::char_traits<char>, std::allocator<char> >` class is described by [Table 7-50](#)

Table 7-50 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 7-51](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-51 `libstdcxx` - Class `basic_stringstream<char, char_traits<char>, allocator<char> >` Function Interfaces

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

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 7-52](#)

Table 7-52 Primary vtable for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

Base Offset	0
Virtual Base Offset	52
RTTI	typeinfo for <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> ></code>
vfunc[0]:	<code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()</code>
vfunc[1]:	<code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()</code>

Table 7-53 Secondary vtable for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

Base Offset	-8
Virtual Base Offset	44
RTTI	typeinfo for <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> ></code>
vfunc[0]:	non-virtual thunk to <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()</code>
vfunc[1]:	non-virtual thunk to <code>basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()</code>

Table 7-54 Secondary vtable for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

Base Offset	-52
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Virtual Base Offset	-52
RTTI	typeinfo for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >
vfunc[0]:	virtual thunk to basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()
vfunc[1]:	virtual thunk to basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringstream()

The VTT for the std::basic_stringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > class is described by [Table 7-55](#)

Table 7-55 VTT for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

VTT Name	_ZTTSt18basic_stringstreamIwSt11c har_traitsIwESaIwEE
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 7-56](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-56 libstdcxx - Class basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces

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

7.1.62 Class basic_istreamstream<char, char_traits<char>, allocator<char> >

7.1.62.1 Class data for basic_istreamstream<char, char_traits<char>, allocator<char> >

The virtual table for the std::basic_istreamstream<char, std::char_traits<char>,

std::allocator<char> > class is described by [Table 7-57](#)

Table 7-57 Primary vtable for basic_istream<char, char_traits<char>, allocator<char> >

Base Offset	0
Virtual Base Offset	48
RTTI	typeinfo for basic_istream<char, char_traits<char>, allocator<char> >
vfunc[0]:	basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()
vfunc[1]:	basic_istream<char, char_traits<char>, allocator<char> >::~basic_istream()

Table 7-58 Secondary vtable for basic_istream<char, char_traits<char>, allocator<char> >

Base Offset	-48
Virtual Base Offset	-48
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 7-59](#)

Table 7-59 VTT for basic_istream<char, char_traits<char>, allocator<char> >

VTT Name	_ZTTSt19basic_istreamIcSt11c har_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 7-60](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-60 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 7-61](#)

Table 7-61 Primary vtable for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

Base Offset	0
Virtual Base Offset	48
RTTI	typeinfo for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >
vfunc[0]:	basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_istream()
vfunc[1]:	basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_istream()

Table 7-62 Secondary vtable for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

Base Offset	-48
Virtual Base Offset	-48
RTTI	typeinfo for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >
vfunc[0]:	virtual thunk to basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_istream()
vfunc[1]:	virtual thunk to basic_istream<wchar_t,

	char_traits<wchar_t>, allocator<wchar_t> >::~basic_istreamream()
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The VTT for the std::basic_istreamream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > class is described by [Table 7-63](#)

Table 7-63 VTT for basic_istreamream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

VTT Name	_ZTTSt19basic_istreamreamIwSt11c har_traitsIwESaIwEE
Number of Entries	4

7.1.63.2 Interfaces for Class basic_istreamream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

An LSB conforming implementation shall provide the architecture specific methods for Class std::basic_istreamream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> > specified in [Table 7-64](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-64 libstdc++ - Class basic_istreamream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces

virtual thunk to basic_istreamream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_istreamream()(GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_istreamream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_istreamream()(GLIBCXX_3.4) [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 7-65](#)

Table 7-65 Primary vtable for basic_ostringstream<char, char_traits<char>, allocator<char> >

Base Offset	0
Virtual Base Offset	44
RTTI	typeinfo for basic_ostringstream<char, char_traits<char>, allocator<char> >
vfunc[0]:	basic_ostringstream<char, char_traits<char>, allocator<char> >::~basic_ostringstream()
vfunc[1]:	basic_ostringstream<char, char_traits<char>, allocator<char> >::~basic_ostringstream()

Table 7-66 Secondary vtable for `basic_ostringstream<char, char_traits<char>, allocator<char> >`

Base Offset	-44
Virtual Base Offset	-44
RTTI	typeinfo for <code>basic_ostringstream<char, char_traits<char>, allocator<char> ></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ostringstream<char, char_traits<char>, allocator<char> >::~basic_ostringstream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_ostringstream<char, char_traits<char>, allocator<char> >::~basic_ostringstream()</code>

The VTT for the `std::basic_ostringstream<char, std::char_traits<char>, std::allocator<char> >` class is described by [Table 7-67](#)

Table 7-67 VTT for `basic_ostringstream<char, char_traits<char>, allocator<char> >`

VTT Name	<code>_ZTTSt19basic_ostringstreamIcSt11c har_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 7-68](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-68 `libstdcxx` - Class `basic_ostringstream<char, char_traits<char>, allocator<char> >` Function Interfaces

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

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 7-69](#)

Table 7-69 Primary vtable for `basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

Base Offset	0
Virtual Base Offset	44
RTTI	typeinfo for <code>basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>></code>
vfunc[0]:	<code>basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()</code>
vfunc[1]:	<code>basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()</code>

Table 7-70 Secondary vtable for `basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

Base Offset	-44
Virtual Base Offset	-44
RTTI	typeinfo for <code>basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>></code>
vfunc[0]:	virtual thunk to <code>basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()</code>
vfunc[1]:	virtual thunk to <code>basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()</code>

The VTT for the `std::basic_ostringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t>>` class is described by [Table 7-71](#)

Table 7-71 VTT for `basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`

VTT Name	<code>_ZTTSt19basic_ostringstreamIwSt11 char_traitsIwESaIwEE</code>
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 7-72](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-72 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 7-73](#)

Table 7-73 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*, int)
vfunc[4]:	basic_stringbuf<char, char_traits<char>, allocator<char> >::seekoff(long 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*, int)
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> >::xsputn(char const*, int)
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 7-74](#)

Table 7-74 typeinfo for `basic_stringbuf<char, char_traits<char>, allocator<char> >`

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

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 7-75](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-75 libstdcxx - Class `basic_stringbuf<char, char_traits<char>, allocator<char> >` Function Interfaces

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

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 7-76](#)

Table 7-76 Primary vtable for `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringbuf()</code>
<code>vfunc[1]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_stringbuf()</code>
<code>vfunc[2]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::imbue(locale const&)</code>
<code>vfunc[3]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::setbuf(wchar_t*, int)</code>
<code>vfunc[4]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)</code>
<code>vfunc[5]:</code>	<code>basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>
<code>vfunc[6]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::sync()</code>
<code>vfunc[7]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::showmanyc()</code>
<code>vfunc[8]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> ></code>

	>::xsgetn(wchar_t*, int)
vfunc[9]:	basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::underflow()
vfunc[10]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::uflow()
vfunc[11]:	basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::pbackfail(unsigned int)
vfunc[12]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::xsputn(wchar_t const*, int)
vfunc[13]:	basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::overflow(unsigned int)

The Run Time Type Information for the `std::basic_stringbuf<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` class is described by [Table 7-77](#)

Table 7-77 typeid for basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >

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

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 7-78](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-78 libstdc++ - Class basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces

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

7.1.68 Class `basic_iostream<char, char_traits<char>>`

7.1.68.1 Class data for `basic_iostream<char, char_traits<char>>`

The virtual table for the `std::basic_iostream<char, std::char_traits<char>>` class is described by [Table 7-79](#)

Table 7-79 Primary vtable for `basic_iostream<char, char_traits<char>>`

Base Offset	0
Virtual Base Offset	12
RTTI	typeinfo for <code>basic_iostream<char, char_traits<char>></code>
vfunc[0]:	<code>basic_iostream<char, char_traits<char>>::~basic_iostream()</code>
vfunc[1]:	<code>basic_iostream<char, char_traits<char>>::~basic_iostream()</code>

Table 7-80 Secondary vtable for `basic_iostream<char, char_traits<char>>`

Base Offset	-8
Virtual Base Offset	4
RTTI	typeinfo for <code>basic_iostream<char, char_traits<char>></code>
vfunc[0]:	non-virtual thunk to <code>basic_iostream<char, char_traits<char>>::~basic_iostream()</code>
vfunc[1]:	non-virtual thunk to <code>basic_iostream<char, char_traits<char>>::~basic_iostream()</code>

Table 7-81 Secondary vtable for `basic_iostream<char, char_traits<char>>`

Base Offset	-12
Virtual Base Offset	-12
RTTI	typeinfo for <code>basic_iostream<char, char_traits<char>></code>
vfunc[0]:	virtual thunk to <code>basic_iostream<char, char_traits<char>>::~basic_iostream()</code>
vfunc[1]:	virtual thunk to <code>basic_iostream<char, char_traits<char>>::~basic_iostream()</code>

The VTT for the `std::basic_iostream<char, std::char_traits<char>>` class is de-

scribed by [Table 7-82](#)

Table 7-82 VTT for `basic_iostream<char, char_traits<char> >`

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

7.1.68.2 Interfaces for Class `basic_iostream<char, char_traits<char> >`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::basic_iostream<char, std::char_traits<char> >` specified in [Table 7-83](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-83 `libstdcxx` - Class `basic_iostream<char, char_traits<char> >` Function Interfaces

non-virtual thunk to <code>basic_iostream<char, char_traits<char> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]
non-virtual thunk to <code>basic_iostream<char, char_traits<char> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_iostream<char, char_traits<char> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_iostream<char, char_traits<char> >::~basic_iostream()</code> (GLIBCXX_3.4) [CXXABI]

7.1.69 Class `basic_iostream<wchar_t, char_traits<wchar_t> >`

7.1.69.1 Class data for `basic_iostream<wchar_t, char_traits<wchar_t> >`

The virtual table for the `std::basic_iostream<wchar_t, std::char_traits<wchar_t> >` class is described by [Table 7-84](#)

Table 7-84 Primary vtable for `basic_iostream<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	12
RTTI	typeinfo for <code>basic_iostream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()</code>
<code>vfunc[1]:</code>	<code>basic_iostream<wchar_t, char_traits<wchar_t> >::~basic_iostream()</code>

Table 7-85 Secondary vtable for `basic_iostream<wchar_t, char_traits<wchar_t> >`

Base Offset	-8
-------------	----

Virtual Base Offset	4
RTTI	typeinfo for basic_istream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	non-virtual thunk to basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()
vfunc[1]:	non-virtual thunk to basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()

Table 7-86 Secondary vtable for basic_istream<wchar_t, char_traits<wchar_t> >

Base Offset	-12
Virtual Base Offset	-12
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 7-87](#)

Table 7-87 VTT for basic_istream<wchar_t, char_traits<wchar_t> >

VTT Name	_ZTTSt14basic_istreamIwSt11char_traitsIwEE
Number of Entries	7

7.1.69.2 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 7-88](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-88 libstdcxx - Class basic_istream<wchar_t, char_traits<wchar_t> > Function Interfaces

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

>::~~basic_istream()(GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_istream<wchar_t, char_traits<wchar_t>>::~basic_istream()(GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_istream<wchar_t, char_traits<wchar_t>>::~basic_istream()(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 7-89](#)

Table 7-89 Primary vtable for basic_istream<char, char_traits<char>>

Base Offset	0
Virtual Base Offset	8
RTTI	typeinfo for basic_istream<char, char_traits<char>>
vfunc[0]:	basic_istream<char, char_traits<char>>::~basic_istream()
vfunc[1]:	basic_istream<char, char_traits<char>>::~basic_istream()

Table 7-90 Secondary vtable for basic_istream<char, char_traits<char>>

Base Offset	-8
Virtual Base Offset	-8
RTTI	typeinfo for basic_istream<char, char_traits<char>>
vfunc[0]:	virtual thunk to basic_istream<char, char_traits<char>>::~basic_istream()
vfunc[1]:	virtual thunk to basic_istream<char, char_traits<char>>::~basic_istream()

The VTT for the std::basic_istream<char, std::char_traits<char>> class is described by [Table 7-91](#)

Table 7-91 VTT for basic_istream<char, char_traits<char>>

VTT Name	_ZTTSi
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 7-92](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-92 libstdcxx - Class basic_istream<char, char_traits<char> > Function Interfaces

basic_istream<char, char_traits<char> >::get(char*, int)(GLIBCXX_3.4) [ISOCXX]
basic_istream<char, char_traits<char> >::get(char*, int, char)(GLIBCXX_3.4) [ISOCXX]
basic_istream<char, char_traits<char> >::read(char*, int)(GLIBCXX_3.4) [ISOCXX]
basic_istream<char, char_traits<char> >::seekg(long long, _Ios_Seekdir) (GLIBCXX_3.4) [ISOCXX]
basic_istream<char, char_traits<char> >::ignore(int)(GLIBCXX_3.4.5) [ISOCXX]
basic_istream<char, char_traits<char> >::ignore(int, int)(GLIBCXX_3.4) [ISOCXX]
basic_istream<char, char_traits<char> >::getline(char*, int)(GLIBCXX_3.4) [ISOCXX]
basic_istream<char, char_traits<char> >::getline(char*, int, char) (GLIBCXX_3.4) [ISOCXX]
basic_istream<char, char_traits<char> >::readsom(char*, int)(GLIBCXX_3.4) [ISOCXX]
virtual thunk to basic_istream<char, char_traits<char> >::~basic_istream() (GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_istream<char, char_traits<char> >::~basic_istream() (GLIBCXX_3.4) [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 7-93](#)

Table 7-93 Primary vtable for basic_istream<wchar_t, char_traits<wchar_t> >

Base Offset	0
Virtual Base Offset	8
RTTI	typeinfo for basic_istream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()
vfunc[1]:	basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()

Table 7-94 Secondary vtable for `basic_istream<wchar_t, char_traits<wchar_t>>`

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

The VTT for the `std::basic_istream<wchar_t, std::char_traits<wchar_t>>` class is described by [Table 7-95](#)

Table 7-95 VTT for `basic_istream<wchar_t, char_traits<wchar_t>>`

VTT Name	<code>_ZTTSt13basic_istreamIwSt11char_traitsIwEE</code>
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 7-96](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-96 libstdcxx - Class `basic_istream<wchar_t, char_traits<wchar_t>>` Function Interfaces

<code>basic_istream<wchar_t, char_traits<wchar_t>>::get(wchar_t*, int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t>>::get(wchar_t*, int, wchar_t)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t>>::read(wchar_t*, int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t>>::ignore(int)</code> (GLIBCXX_3.4.5) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t>>::ignore(int, unsigned int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t>>::getline(wchar_t*, int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t>>::getline(wchar_t*, int, wchar_t)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t>>::readsome(wchar_t*, int)</code> (GLIBCXX_3.4) [ISOCXX]

virtual thunk to basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()(GLIBCXX_3.4) [CXXABI]

virtual thunk to basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()(GLIBCXX_3.4) [CXXABI]

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 7-97](#)

Table 7-97 Primary vtable for basic_ostream<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	4
RTTI	typeid for basic_ostream<char, char_traits<char> >
vfunc[0]:	basic_ostream<char, char_traits<char> >::~basic_ostream()
vfunc[1]:	basic_ostream<char, char_traits<char> >::~basic_ostream()

Table 7-98 Secondary vtable for basic_ostream<char, char_traits<char> >

Base Offset	-4
Virtual Base Offset	-4
RTTI	typeid for basic_ostream<char, char_traits<char> >

vfunc[0]:	virtual thunk to basic_ostream<char, char_traits<char>>::~basic_ostream()
vfunc[1]:	virtual thunk to basic_ostream<char, char_traits<char>>::~basic_ostream()

The VTT for the `std::basic_ostream<char, std::char_traits<char> >` class is described by [Table 7-99](#)

Table 7-99 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 7-100](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-100 `libstdcxx` - Class `basic_ostream<char, char_traits<char> >` Function Interfaces

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

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 7-101](#)

Table 7-101 Primary vtable for `basic_ostream<wchar_t, char_traits<wchar_t> >`

Base Offset	0
Virtual Base Offset	4
RTTI	typeinfo for <code>basic_ostream<wchar_t, char_traits<wchar_t> ></code>

vfunc[0]:	basic_ostream<wchar_t, char_traits<wchar_t> >::~basic_ostream()
vfunc[1]:	basic_ostream<wchar_t, char_traits<wchar_t> >::~basic_ostream()

Table 7-102 Secondary vtable for basic_ostream<wchar_t, char_traits<wchar_t> >

Base Offset	-4
Virtual Base Offset	-4
RTTI	typeinfo for basic_ostream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	virtual thunk to basic_ostream<wchar_t, char_traits<wchar_t> >::~basic_ostream()
vfunc[1]:	virtual thunk to basic_ostream<wchar_t, char_traits<wchar_t> >::~basic_ostream()

The VTT for the std::basic_ostream<wchar_t, std::char_traits<wchar_t> > class is described by [Table 7-103](#)

Table 7-103 VTT for basic_ostream<wchar_t, char_traits<wchar_t> >

VTT Name	_ZTTSt13basic_ostreamIwSt11char_t raitsIwEE
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 7-104](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-104 libstdcxx - Class basic_ostream<wchar_t, char_traits<wchar_t> > Function Interfaces

basic_ostream<wchar_t, char_traits<wchar_t> >::write(wchar_t const*, int) (GLIBCXX_3.4) [ISOCXX]
virtual thunk to basic_ostream<wchar_t, char_traits<wchar_t> >::~basic_ostream()(GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_ostream<wchar_t, char_traits<wchar_t> >::~basic_ostream()(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 7-105](#)

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

Base Offset	0
Virtual Base Offset	148
RTTI	typeinfo for <code>basic_fstream<char, char_traits<char> ></code>
vfunc[0]:	<code>basic_fstream<char, char_traits<char> >::~basic_fstream()</code>
vfunc[1]:	<code>basic_fstream<char, char_traits<char> >::~basic_fstream()</code>

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

Base Offset	-8
Virtual Base Offset	140
RTTI	typeinfo for <code>basic_fstream<char, char_traits<char> ></code>
vfunc[0]:	non-virtual thunk to <code>basic_fstream<char, char_traits<char> >::~basic_fstream()</code>
vfunc[1]:	non-virtual thunk to <code>basic_fstream<char, char_traits<char> >::~basic_fstream()</code>

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

Base Offset	-148
Virtual Base Offset	-148
RTTI	typeinfo for <code>basic_fstream<char, char_traits<char> ></code>
vfunc[0]:	virtual thunk to <code>basic_fstream<char, char_traits<char> >::~basic_fstream()</code>
vfunc[1]:	virtual thunk to <code>basic_fstream<char, char_traits<char> >::~basic_fstream()</code>

The VTT for the `std::basic_fstream<char, std::char_traits<char> >` class is described by [Table 7-108](#)

Table 7-108 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 7-109](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-109 libstdcxx - 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 7-110](#)

Table 7-110 Primary vtable for basic_fstream<wchar_t, char_traits<wchar_t> >

Base Offset	0
Virtual Base Offset	152
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 7-111 Secondary vtable for basic_fstream<wchar_t, char_traits<wchar_t> >

Base Offset	-8
Virtual Base Offset	144

RTTI	typeid 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 7-112 Secondary vtable for basic_fstream<wchar_t, char_traits<wchar_t> >

Base Offset	-152
Virtual Base Offset	-152
RTTI	typeid 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 7-113](#)

Table 7-113 VTT for basic_fstream<wchar_t, char_traits<wchar_t> >

VTT Name	_ZTTSt13basic_fstreamIwSt11char_traitsIwEE
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 7-114](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-114 libstdc++ - Class basic_fstream<wchar_t, char_traits<wchar_t> > Function Interfaces

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

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 7-115](#)

Table 7-115 Primary vtable for basic_ifstream<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	144
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 7-116 Secondary vtable for basic_ifstream<char, char_traits<char> >

Base Offset	-144
Virtual Base Offset	-144
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 7-117](#)

Table 7-117 VTT for basic_ifstream<char, char_traits<char> >

VTT Name	_ZTTSt14basic_ifstreamIcSt11char_traitsIcEE
Number of Entries	4

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

Table 7-118 libstdcxx - Class `basic_ifstream<char, char_traits<char> >` Function Interfaces

virtual thunk to <code>basic_ifstream<char, char_traits<char> >::~basic_ifstream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_ifstream<char, char_traits<char> >::~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 7-119](#)

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

Base Offset	0
Virtual Base Offset	148
RTTI	typeinfo for <code>basic_ifstream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	<code>basic_ifstream<wchar_t, char_traits<wchar_t> >::~basic_ifstream()</code>
<code>vfunc[1]:</code>	<code>basic_ifstream<wchar_t, char_traits<wchar_t> >::~basic_ifstream()</code>

Table 7-120 Secondary vtable for `basic_ifstream<wchar_t, char_traits<wchar_t> >`

Base Offset	-148
Virtual Base Offset	-148
RTTI	typeinfo for <code>basic_ifstream<wchar_t, char_traits<wchar_t> ></code>
<code>vfunc[0]:</code>	virtual thunk to <code>basic_ifstream<wchar_t, char_traits<wchar_t> >::~basic_ifstream()</code>
<code>vfunc[1]:</code>	virtual thunk to <code>basic_ifstream<wchar_t, char_traits<wchar_t> >::~basic_ifstream()</code>

The VTT for the `std::basic_ifstream<wchar_t, std::char_traits<wchar_t> >` class is described by [Table 7-121](#)

Table 7-121 VTT for `basic_ifstream<wchar_t, char_traits<wchar_t> >`

VTT Name	<code>_ZTTSt14basic_ifstreamIwSt11char_t</code>
----------	---

	raitslwEE
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 7-122](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-122 libstdcxx - Class `basic_ifstream<wchar_t, char_traits<wchar_t>>` Function Interfaces

virtual thunk to <code>basic_ifstream<wchar_t, char_traits<wchar_t>>::~basic_ifstream()</code> (GLIBCXX_3.4) [CXXABI]
virtual thunk to <code>basic_ifstream<wchar_t, char_traits<wchar_t>>::~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 7-123](#)

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

Base Offset	0
Virtual Base Offset	140
RTTI	typeinfo for <code>basic_ofstream<char, char_traits<char>></code>
vfunc[0]:	<code>basic_ofstream<char, char_traits<char>>::~basic_ofstream()</code>
vfunc[1]:	<code>basic_ofstream<char, char_traits<char>>::~basic_ofstream()</code>

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

Base Offset	-140
Virtual Base Offset	-140
RTTI	typeinfo for <code>basic_ofstream<char, char_traits<char>></code>
vfunc[0]:	virtual thunk to <code>basic_ofstream<char, char_traits<char>>::~basic_ofstream()</code>
vfunc[1]:	virtual thunk to <code>basic_ofstream<char,</code>

	char_traits<char> >::~basic_ofstream()
--	---

The VTT for the std::basic_ofstream<char, std::char_traits<char> > class is described by [Table 7-125](#)

Table 7-125 VTT for basic_ofstream<char, char_traits<char> >

VTT Name	_ZTTSt14basic_ofstreamIcSt11char_traitsIcEE
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 7-126](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-126 libstdcxx - Class basic_ofstream<char, char_traits<char> > Function Interfaces

virtual thunk to basic_ofstream<char, char_traits<char> >::~basic_ofstream() (GLIBCXX_3.4) [CXXABI]
virtual thunk to basic_ofstream<char, char_traits<char> >::~basic_ofstream() (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 7-127](#)

Table 7-127 Primary vtable for basic_ofstream<wchar_t, char_traits<wchar_t> >

Base Offset	0
Virtual Base Offset	144
RTTI	typeinfo for basic_ofstream<wchar_t, char_traits<wchar_t> >
vfunc[0]:	basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()
vfunc[1]:	basic_ofstream<wchar_t, char_traits<wchar_t> >::~basic_ofstream()

Table 7-128 Secondary vtable for basic_ofstream<wchar_t, char_traits<wchar_t> >

Base Offset	-144
Virtual Base Offset	-144
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 7-129](#)

Table 7-129 VTT for basic_ofstream<wchar_t, char_traits<wchar_t> >

VTT Name	_ZTTSt14basic_ofstreamIwSt11char_traitsIwEE
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 7-130](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-130 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 7-131](#)

Table 7-131 Primary vtable for basic_streambuf<char, char_traits<char> >

Base Offset	0
Virtual Base Offset	0

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

The Run Time Type Information for the std::basic_streambuf<char, std::char_traits<char> > class is described by [Table 7-132](#)

Table 7-132 typeinfo for basic_streambuf<char, char_traits<char> >

Base Vtable	vtable for __cxxabiv1::__class_type_info
Name	typeinfo name for basic_streambuf<char,

	char_traits<char> >
--	---------------------

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 7-133](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-133 libstdcxx - Class basic_streambuf<char, char_traits<char> > Function Interfaces

basic_streambuf<char, char_traits<char> >::pubseekoff(long long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<char, char_traits<char> >::sgetn(char*, int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<char, char_traits<char> >::sputn(char const*, int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<char, char_traits<char> >::setbuf(char*, int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<char, char_traits<char> >::xsgetn(char*, int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<char, char_traits<char> >::xsputn(char const*, int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<char, char_traits<char> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<char, char_traits<char> >::pubsetbuf(char*, int)(GLIBCXX_3.4) [ISOCXX]

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 7-134](#)

Table 7-134 Primary vtable for basic_streambuf<wchar_t, char_traits<wchar_t> >

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo 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,

	<code>char_traits<wchar_t> >::~~basic_streambuf()</code>
<code>vfunc[2]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::imbue(locale const&)</code>
<code>vfunc[3]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, int)</code>
<code>vfunc[4]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)</code>
<code>vfunc[5]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>
<code>vfunc[6]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::sync()</code>
<code>vfunc[7]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::showmanyc()</code>
<code>vfunc[8]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, int)</code>
<code>vfunc[9]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::underflow()</code>
<code>vfunc[10]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::uflow()</code>
<code>vfunc[11]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)</code>
<code>vfunc[12]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::xspn(wchar_t const*, int)</code>
<code>vfunc[13]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::overflow(unsigned int)</code>

The Run Time Type Information for the `std::basic_streambuf<wchar_t, std::char_traits<wchar_t> >` class is described by [Table 7-135](#)

Table 7-135 `typeinfo` for `basic_streambuf<wchar_t, char_traits<wchar_t> >`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeinfo name for <code>basic_streambuf<wchar_t, char_traits<wchar_t> ></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 7-136](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-136 libstdcxx - Class `basic_streambuf<wchar_t, char_traits<wchar_t> >` Function Interfaces

<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::pubseekoff(long long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::sgetn(wchar_t*, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::sputn(wchar_t const*, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::xsputn(wchar_t const*, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::pubsetbuf(wchar_t*, int)(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 7-137](#)

Table 7-137 Primary vtable for `basic_filebuf<char, char_traits<char> >`

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for basic_filebuf<char, char_traits<char> ></code>
<code>vfunc[0]:</code>	<code>basic_filebuf<char, char_traits<char> >::~~basic_filebuf()</code>
<code>vfunc[1]:</code>	<code>basic_filebuf<char, char_traits<char> >::~~basic_filebuf()</code>
<code>vfunc[2]:</code>	<code>basic_filebuf<char, char_traits<char> >::imbue(locale const&)</code>
<code>vfunc[3]:</code>	<code>basic_filebuf<char, char_traits<char> >::setbuf(char*, int)</code>
<code>vfunc[4]:</code>	<code>basic_filebuf<char, char_traits<char> >::seekoff(long long, _Ios_Seekdir,</code>

	<code>_Ios_Openmode)</code>
<code>vfunc[5]:</code>	<code>basic_filebuf<char, char_traits<char>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)</code>
<code>vfunc[6]:</code>	<code>basic_filebuf<char, char_traits<char>>::sync()</code>
<code>vfunc[7]:</code>	<code>basic_filebuf<char, char_traits<char>>::showmanyc()</code>
<code>vfunc[8]:</code>	<code>basic_filebuf<char, char_traits<char>>::xsgetn(char*, int)</code>
<code>vfunc[9]:</code>	<code>basic_filebuf<char, char_traits<char>>::underflow()</code>
<code>vfunc[10]:</code>	<code>basic_streambuf<char, char_traits<char>>::uflow()</code>
<code>vfunc[11]:</code>	<code>basic_filebuf<char, char_traits<char>>::pbackfail(int)</code>
<code>vfunc[12]:</code>	<code>basic_filebuf<char, char_traits<char>>::xsputn(char const*, int)</code>
<code>vfunc[13]:</code>	<code>basic_filebuf<char, char_traits<char>>::overflow(int)</code>

The Run Time Type Information for the `std::basic_filebuf<char, std::char_traits<char>>` class is described by [Table 7-138](#)

Table 7-138 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<char, char_traits<char>></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 7-139](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-139 libstdc++ - Class `basic_filebuf<char, char_traits<char>>` Function Interfaces

<code>basic_filebuf<char, char_traits<char>>::M_set_buffer(int)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf<char, char_traits<char>>::M_convert_to_external(char*, int)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf<char, char_traits<char>>::setbuf(char*, int)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf<char, char_traits<char>>::xsgetn(char*, int)(GLIBCXX_3.4)</code> [ISOCXX]
<code>basic_filebuf<char, char_traits<char>>::xsputn(char const*, int)</code>

(GLIBCXX_3.4) [ISOCXX]
basic_filebuf<char, char_traits<char> >::_M_seek(long long, _Ios_Seekdir, __mbstate_t)(GLIBCXX_3.4) [ISOCXX]
basic_filebuf<char, char_traits<char> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)(GLIBCXX_3.4) [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 7-140](#)

Table 7-140 Primary vtable for basic_filebuf<wchar_t, char_traits<wchar_t> >

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for basic_filebuf<wchar_t, char_traits<wchar_t> >
vfunc[0]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::~basic_filebuf()
vfunc[1]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::~basic_filebuf()
vfunc[2]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::imbue(locale const&)
vfunc[3]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, int)
vfunc[4]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)
vfunc[5]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)
vfunc[6]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::sync()
vfunc[7]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::showmanyc()
vfunc[8]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, int)
vfunc[9]:	basic_filebuf<wchar_t,

	<code>char_traits<wchar_t> >::underflow()</code>
<code>vfunc[10]:</code>	<code>basic_streambuf<wchar_t, char_traits<wchar_t> >::uflow()</code>
<code>vfunc[11]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)</code>
<code>vfunc[12]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::xsputn(wchar_t const*, int)</code>
<code>vfunc[13]:</code>	<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::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 7-141](#)

Table 7-141 `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<wchar_t, char_traits<wchar_t> ></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 7-142](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-142 `libstdc++` - Class `basic_filebuf<wchar_t, char_traits<wchar_t> >` Function Interfaces

<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::M_set_buffer(int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::M_convert_to_external(wchar_t*, int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::setbuf(wchar_t*, int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::xsgetn(wchar_t*, int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::xsputn(wchar_t const*, int)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::M_seek(long long, _Ios_Seekdir, __mbstate_t)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_filebuf<wchar_t, char_traits<wchar_t> >::seekoff(long long, _Ios_Seekdir, _Ios_Openmode)</code> (GLIBCXX_3.4) [ISOCXX]
<code>basic_istream<wchar_t, char_traits<wchar_t> >::seekg(long long, _Ios_Seekdir)</code> (GLIBCXX_3.4) [ISOCXX]

basic_ostream<wchar_t, char_traits<wchar_t> >::seekp(long long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t> >::_M_write(wchar_t const*, int)(GLIBCXX_3.4) [ISOCXX]

7.1.86 Class ios_base

7.1.86.1 Class data for ios_base

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

The Run Time Type Information for the std::ios_base class is described by [Table 7-143](#)

Table 7-143 typeinfo for ios_base

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

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 in the generic part of this specification.

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 Class data for basic_ios<wchar_t, char_traits<wchar_t> >

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

The Run Time Type Information for the std::basic_ios<wchar_t, std::char_traits<wchar_t> > class is described by [Table 7-144](#)

Table 7-144 typeinfo for basic_ios<wchar_t, char_traits<wchar_t> >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info	
Name	typeinfo name for basic_ios<wchar_t,	

	char_traits<wchar_t> >	1026
flags:	8	
basetype:	typeinfo for ios_base	

7.1.88.2 Interfaces for Class basic_ios<wchar_t, char_traits<wchar_t> >

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

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 in the generic part of this specification.

The Run Time Type Information for the std::ios_base::failure class is described by [Table 7-145](#)

Table 7-145 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 libstdc++ - 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 in the generic part of this specification.

The Run Time Type Information for the std::__timepunct<char> class is described by [Table 7-146](#)

Table 7-146 typeinfo for __timepunct<char>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for __timepunct<char>

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 7-147](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-147 libstdcxx - Class `__timepunct<char>` Function Interfaces

<code>__timepunct<char>::__M_put(char*, unsigned long, char const*, tm const*)</code> <code>const(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__locale_struct*, char const*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__timepunct_cache<char>*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__locale_struct*, char const*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(__timepunct_cache<char>*, unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>
<code>__timepunct<char>::__timepunct(unsigned long)</code> <code>(GLIBCXX_3.4) [ISOCXX]</code>

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 in the generic part of this specification.

The Run Time Type Information for the `std::__timepunct<wchar_t>` class is described by [Table 7-148](#)

Table 7-148 typeinfo for `__timepunct<wchar_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__timepunct<wchar_t></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 7-149](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-149 libstdcxx - Class `__timepunct<wchar_t>` Function Interfaces

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

__timepunct<wchar_t>::__timepunct(unsigned long)(GLIBCXX_3.4) [ISO CXX]
--

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 7-150](#)

Table 7-150 typeid for messages_base

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

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 in the generic part of this specification.

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 7-151](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-151 libstdc++ - Class messages<char> Function Interfaces

messages<char>::messages(__locale_struct*, char const*, unsigned long) (GLIBCXX_3.4) [ISO CXX]
messages<char>::messages(unsigned long)(GLIBCXX_3.4) [ISO CXX]
messages<char>::messages(__locale_struct*, char const*, unsigned long) (GLIBCXX_3.4) [ISO CXX]
messages<char>::messages(unsigned long)(GLIBCXX_3.4) [ISO CXX]

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 in the generic part of this specification.

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

Table 7-152 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 in the generic part of this specification.

The Run Time Type Information for the std::messages_byname<char> class is described by [Table 7-153](#)

Table 7-153 typeid for messages_byname<char>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for messages_byname<char>

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 7-154](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-154 libstdcxx - Class messages_byname<char> Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the std::messages_byname<wchar_t> class is described by [Table 7-155](#)

Table 7-155 typeid for messages_byname<wchar_t>

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for messages_byname<wchar_t>

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

Table 7-156 libstdcxx - Class `messages_byname<wchar_t>` Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::numpunct<char>` class is described by [Table 7-157](#)

Table 7-157 typeid for `numpunct<char>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>numpunct<char></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 7-158](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-158 libstdcxx - Class `numpunct<char>` Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::numpunct<wchar_t>` class is described by [Table 7-159](#)

Table 7-159 typeinfo for `numpunct<wchar_t>`

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

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 7-160](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-160 libstdcxx - Class `numpunct<wchar_t>` Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::numpunct_byname<char>` class is described by [Table 7-161](#)

Table 7-161 typeinfo for `numpunct_byname<char>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>numpunct_byname<char></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 7-162](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-162 libstdcxx - Class `numpunct_byname<char>` Function Interfaces

<code>numpunct_byname<char>::numpunct_byname(char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>numpunct_byname<char>::numpunct_byname(char const*, unsigned long)</code> (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 in the generic part of this specification.

The Run Time Type Information for the `std::numpunct_byname<wchar_t>` class is described by [Table 7-163](#)

Table 7-163 `typeinfo` for `numpunct_byname<wchar_t>`

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

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 7-164](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-164 `libstdcxx` - Class `numpunct_byname<wchar_t>` Function Interfaces

<code>numpunct_byname<wchar_t>::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISO CXX]</code>
<code>numpunct_byname<wchar_t>::numpunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISO CXX]</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 in the generic part of this specification.

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 7-165](#)

Table 7-165 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 `libstdc++` - 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 7-166](#)

Table 7-166 Primary vtable for `codecvt<char, char, __mbstate_t>`

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

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 7-167](#)

Table 7-167 typeinfo for `codecvt<char, char, __mbstate_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>codecvt<char, char, __mbstate_t></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 in the generic part of this specification.

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

Table 7-168 libstdcxx - Class `codecvt<char, char, __mbstate_t>` Function Interfaces

<code>codecvt<char, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<char, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<char, char, __mbstate_t>::codecvt(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<char, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<char, char, __mbstate_t>::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 7-169](#)

Table 7-169 Primary vtable for `codecvt<wchar_t, char, __mbstate_t>`

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

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

The Run Time Type Information for the `std::codecvt<wchar_t, char, __mbstate_t>` class is described by [Table 7-170](#)

Table 7-170 typeinfo for `codecvt<wchar_t, char, __mbstate_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>codecvt<wchar_t, char, __mbstate_t></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 7-171](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-171 libstdcxx - Class `codecvt<wchar_t, char, __mbstate_t>` Function Interfaces

<code>codecvt<wchar_t, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<wchar_t, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<wchar_t, char, __mbstate_t>::codecvt(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<wchar_t, char, __mbstate_t>::codecvt(__locale_struct*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>codecvt<wchar_t, char, __mbstate_t>::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 7-172](#)

Table 7-172 Primary vtable for `codecvt_byname<char, char, __mbstate_t>`

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

	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_byname<char, char, __mbstate_t>` class is described by [Table 7-173](#)

Table 7-173 typeid for `codecvt_byname<char, char, __mbstate_t>`

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for codecvt_byname<char, char, __mbstate_t>

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 7-174](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-174 libstdc++ - Class `codecvt_byname<char, char, __mbstate_t>` Function Interfaces

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

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 7-175](#)

Table 7-175 Primary vtable for `codecvt_byname<wchar_t, char, __mbstate_t>`

Base Offset	0
Virtual Base Offset	0
RTTI	typeid for codecvt_byname<wchar_t, char, __mbstate_t>
vfunc[0]:	codecvt_byname<wchar_t, char, __mbstate_t>::~~codecvt_byname()
vfunc[1]:	codecvt_byname<wchar_t, char, __mbstate_t>::~~codecvt_byname()

vfunc[2]:	codecvt<wchar_t, char, __mbstate_t>::do_out(__mbstate_t&, wchar_t const*, wchar_t const*, wchar_t const*&, char*, char*, char*&) const
vfunc[3]:	codecvt<wchar_t, char, __mbstate_t>::do_unshift(__mbstate_t&, char*, char*, char*&) const
vfunc[4]:	codecvt<wchar_t, char, __mbstate_t>::do_in(__mbstate_t&, char const*, char const*, char const*&, wchar_t*, wchar_t*, wchar_t*&) const
vfunc[5]:	codecvt<wchar_t, char, __mbstate_t>::do_encoding() const
vfunc[6]:	codecvt<wchar_t, char, __mbstate_t>::do_always_noconv() const
vfunc[7]:	codecvt<wchar_t, char, __mbstate_t>::do_length(__mbstate_t&, char const*, char const*, unsigned long) const
vfunc[8]:	codecvt<wchar_t, char, __mbstate_t>::do_max_length() const

The Run Time Type Information for the `std::codecvt_byname<wchar_t, char, __mbstate_t>` class is described by [Table 7-176](#)

Table 7-176 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<wchar_t, char, __mbstate_t></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 in the generic part of this specification.

The Run Time Type Information for the `std::collate_byname<wchar_t>` class is described by [Table 7-177](#)

Table 7-177 typeinfo for `collate_byname<wchar_t>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>collate_byname<wchar_t></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 7-178](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-178 libstdcxx - Class `codecvt_byname<wchar_t, char, __mbstate_t>` Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::collate<char>` class is described by [Table 7-179](#)

Table 7-179 typeid for `collate<char>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>collate<char></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 7-180](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-180 libstdcxx - Class `collate<char>` Function Interfaces

<code>collate<char>::_M_transform(char*, char const*, unsigned long) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate<char>::collate(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate<char>::collate(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate<char>::collate(__locale_struct*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate<char>::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 in the generic part of this specification.

The Run Time Type Information for the `std::collate<wchar_t>` class is described by [Table 7-181](#)

Table 7-181 typeinfo for `collate<wchar_t>`

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

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 7-182](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-182 `libstdcxx` - Class `collate<wchar_t>` Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::collate_byname<char>` class is described by [Table 7-183](#)

Table 7-183 typeinfo for `collate_byname<char>`

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

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 7-184](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-184 libstdcxx - Class `collate_byname<char>` Function Interfaces

<code>collate_byname<char>::collate_byname(char const*, unsigned long)</code> (GLIBCXX_3.4) [ISO CXX]
<code>collate_byname<char>::collate_byname(char const*, unsigned long)</code> (GLIBCXX_3.4) [ISO CXX]

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 7-185](#)

Table 7-185 typeinfo for `time_base`

Base Vtable	vtable for <code>__cxxabiv1::__class_type_info</code>
Name	typeinfo 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 in the generic part of this specification.

The Run Time Type Information for the `std::time_get_byname<char, std::istreambuf_iterator<char, std::char_traits<char>>>` class is described by [Table 7-186](#)

Table 7-186 typeinfo for `time_get_byname<char, istreambuf_iterator<char, char_traits<char>>>`

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

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 7-187](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-187 libstdcxx - Class `time_get_byname<char, istreambuf_iterator<char, char_traits<char>>>` Function Interfaces

<code>time_get_byname<char, istreambuf_iterator<char, char_traits<char>>></code> <code>>::time_get_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_get_byname<char, istreambuf_iterator<char, char_traits<char>>></code> <code>>::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 in the generic part of this specification.

The Run Time Type Information for the `std::time_get_byname<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described by [Table 7-188](#)

Table 7-188 typeid for `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

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

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

Table 7-189 libstdcxx - Class `time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces

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

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

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 in the generic part of this specification.

The Run Time Type Information for the std::time_put_byname<char, std::ostreambuf_iterator<char, std::char_traits<char> > > class is described by [Table 7-190](#)

Table 7-190 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 7-191](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-191 libstdcxx - Class time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > > Function Interfaces

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

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 in the generic part of this specification.

The Run Time Type Information for the `std::time_put_byname<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described by [Table 7-192](#)

Table 7-192 typeinfo for `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

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

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 7-193](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-193 libstdcxx - Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces

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

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 in the generic part of this specification.

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 7-194](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-194 libstdcxx - Class `time_get<char, istreambuf_iterator<char, char_traits<char> > >` Function Interfaces

<code>time_get<char, istreambuf_iterator<char, char_traits<char> > >::M_extract_num(istreambuf_iterator<char, char_traits<char> >,</code>

istreambuf_iterator<char, char_traits<char> >, int&, int, int, unsigned long, ios_base&, _Ios_Iostate&) const(GLIBCXX_3.4) [ISOCXX]
time_get<char, istreambuf_iterator<char, char_traits<char> >>::M_extract_name(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, int&, char const**, unsigned long, ios_base&, _Ios_Iostate&) const(GLIBCXX_3.4) [ISOCXX]
time_get<char, istreambuf_iterator<char, char_traits<char> >>::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]
time_get<char, istreambuf_iterator<char, char_traits<char> >>::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]

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 in the generic part of this specification.

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

Table 7-195 libstdcxx - Class time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > Function Interfaces

time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>::M_extract_num(istreambuf_iterator<wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, int&, int, int, unsigned long, ios_base&, _Ios_Iostate&) const(GLIBCXX_3.4) [ISOCXX]
time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>::M_extract_name(istreambuf_iterator<wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, int&, wchar_t const**, unsigned long, ios_base&, _Ios_Iostate&) const(GLIBCXX_3.4) [ISOCXX]
time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]
time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>::time_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]

7.1.119 Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>>`

7.1.119.1 Class data for `time_put<char, ostreambuf_iterator<char, char_traits<char>>>`

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

The Run Time Type Information for the `std::time_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>>` class is described by [Table 7-196](#)

Table 7-196 typeinfo for `time_put<char, ostreambuf_iterator<char, char_traits<char>>>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>	2
Name	typeinfo name for <code>time_put<char, ostreambuf_iterator<char, char_traits<char>>></code>	
flags:	8	
basetype:	typeinfo for <code>locale::facet</code>	
basetype:	typeinfo for <code>time_base</code>	

7.1.119.2 Interfaces for Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::time_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>>` specified in [Table 7-197](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-197 `libstdc++` - Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>>` Function Interfaces

<code>time_put<char, ostreambuf_iterator<char, char_traits<char>>></code> <code>>::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>time_put<char, ostreambuf_iterator<char, char_traits<char>>></code> <code>>::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 Class data for `time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

The virtual table for the `std::time_put<wchar_t,`

std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > > class is described in the generic part of this specification.

The Run Time Type Information for the std::time_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > > class is described by [Table 7-198](#)

Table 7-198 typeinfo for time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >

Base Vtable	vtable for __cxxabiv1::__si_class_t type_info	2
Name	typeinfo name for time_put<wchar_t, ostreambuf_iterator<w char_t, char_traits<wchar_t> > >	
flags:	8	
basetype:	typeinfo for locale::facet	
basetype:	typeinfo for time_base	

7.1.120.2 Interfaces for Class time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >

An LSB conforming implementation shall provide the architecture specific methods for Class std::time_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > > specified in [Table 7-199](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-199 libstdcxx - Class time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > > Function Interfaces

time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::time_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]

7.1.121 Class moneypunct<char, false>

7.1.121.1 Class data for moneypunct<char, false>

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

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 7-200](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-200 libstdcxx - Class `money_punct<char, false>` Function Interfaces

<code>money_punct<char, false>::money_punct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, false>::money_punct(__money_punct_cache<char, false>*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, false>::money_punct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, false>::money_punct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, false>::money_punct(__money_punct_cache<char, false>*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, false>::money_punct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

7.1.122 Class `money_punct<char, true>`

7.1.122.1 Class data for `money_punct<char, true>`

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

7.1.122.2 Interfaces for Class `money_punct<char, true>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct<char, true>` specified in [Table 7-201](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-201 libstdcxx - Class `money_punct<char, true>` Function Interfaces

<code>money_punct<char, true>::money_punct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, true>::money_punct(__money_punct_cache<char, true>*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, true>::money_punct(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, true>::money_punct(__locale_struct*, char const*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, true>::money_punct(__money_punct_cache<char, true>*, unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>money_punct<char, true>::money_punct(unsigned long)</code> (GLIBCXX_3.4) [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 in the generic part of this specification.

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 7-202](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-202 libstdc++ - Class `money_punct<wchar_t, false>` Function Interfaces

<code>money_punct<wchar_t, false>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, false>::money_punct(__money_punct_cache<wchar_t, false>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, false>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, false>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, false>::money_punct(__money_punct_cache<wchar_t, false>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, false>::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 in the generic part of this specification.

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 7-203](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-203 libstdc++ - Class `money_punct<wchar_t, true>` Function Interfaces

<code>money_punct<wchar_t, true>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, true>::money_punct(__money_punct_cache<wchar_t, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, true>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, true>::money_punct(__locale_struct*, char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, true>::money_punct(__money_punct_cache<wchar_t, true>*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct<wchar_t, true>::money_punct(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

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 in the generic part of this specification.

The Run Time Type Information for the `std::money_punct_byname<char, false>` class is described by [Table 7-204](#)

Table 7-204 typeinfo for `money_punct_byname<char, false>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>money_punct_byname<char, false></code>

7.1.125.2 Interfaces for Class `money_punct_byname<char, false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct_byname<char, false>` specified in [Table 7-205](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-205 `libstdc++` - Class `money_punct_byname<char, false>` Function Interfaces

<code>money_punct_byname<char, false>::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct_byname<char, false>::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

7.1.126 Class `money_punct_byname<char, true>`

7.1.126.1 Class data for `money_punct_byname<char, true>`

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

The Run Time Type Information for the `std::money_punct_byname<char, true>` class is described by [Table 7-206](#)

Table 7-206 typeinfo for `money_punct_byname<char, true>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>money_punct_byname<char, true></code>

7.1.126.2 Interfaces for Class `money_punct_byname<char, true>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::money_punct_byname<char, true>` specified in [Table 7-207](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-207 libstdcxx - Class `moneypunct_byname<char, true>` Function Interfaces

<code>moneypunct_byname<char, true>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct_byname<char, true>::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 in the generic part of this specification.

The Run Time Type Information for the `std::moneypunct_byname<wchar_t, false>` class is described by [Table 7-208](#)

Table 7-208 typeid for `moneypunct_byname<wchar_t, false>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>moneypunct_byname<wchar_t, false></code>

7.1.127.2 Interfaces for Class `moneypunct_byname<wchar_t, false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::moneypunct_byname<wchar_t, false>` specified in [Table 7-209](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-209 libstdcxx - Class `moneypunct_byname<wchar_t, false>` Function Interfaces

<code>moneypunct_byname<wchar_t, false>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>moneypunct_byname<wchar_t, false>::moneypunct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

7.1.128 Class `moneypunct_byname<wchar_t, true>`

7.1.128.1 Class data for `moneypunct_byname<wchar_t, true>`

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

The Run Time Type Information for the `std::moneypunct_byname<wchar_t, true>` class is described by [Table 7-210](#)

Table 7-210 typeid for `moneypunct_byname<wchar_t, true>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeid name for <code>moneypunct_byname<wchar_t,</code>

	true>
--	-------

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 7-211](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-211 libstdcxx - Class `money_punct_byname<wchar_t, true>` Function Interfaces

<code>money_punct_byname<wchar_t, true>::money_punct_byname(char const*, unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_punct_byname<wchar_t, true>::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 7-212](#)

Table 7-212 typeinfo for `money_base`

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

7.1.129.2 Interfaces for Class `money_base`

No external methods are defined for libstdcxx - 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 in the generic part of this specification.

The Run Time Type Information for the `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` class is described by [Table 7-213](#)

Table 7-213 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<char, istreambuf_iterator<char,</code>

	char_traits<char> > >
--	-----------------------

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 7-214](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-214 libstdcxx - Class money_get<char, istreambuf_iterator<char, char_traits<char> > > Function Interfaces

money_get<char, istreambuf_iterator<char, char_traits<char> > >::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]
money_get<char, istreambuf_iterator<char, char_traits<char> > >::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]

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 in the generic part of this specification.

The Run Time Type Information for the std::money_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > > class is described by [Table 7-215](#)

Table 7-215 typeid for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >

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 7-216](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-216 libstdcxx - Class money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > Function Interfaces

money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >
--

<code>>::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > >::money_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

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 in the generic part of this specification.

The Run Time Type Information for the `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described by [Table 7-217](#)

Table 7-217 `typeinfo` for `money_put<char, ostreambuf_iterator<char, char_traits<char> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>money_put<char, ostreambuf_iterator<char, char_traits<char> > ></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 7-218](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-218 `libstdcxx` - Class `money_put<char, ostreambuf_iterator<char, char_traits<char> > >` Function Interfaces

<code>money_put<char, ostreambuf_iterator<char, char_traits<char> > > >::money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_put<char, ostreambuf_iterator<char, char_traits<char> > > >::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 in the generic part of this specification.

The Run Time Type Information for the `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described by [Table 7-219](#)

Table 7-219 `typeinfo` for `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > ></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 7-220](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-220 `libstdcxx` - Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Function Interfaces

<code>money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>
<code>money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::money_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]</code>

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 7-221](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-221 `libstdcxx` - Class `locale` Function Interfaces

<code>locale::_Impl::_Impl(char const*, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(locale::_Impl const&, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(char const*, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(locale::_Impl const&, unsigned long)(GLIBCXX_3.4) [LSB]</code>
<code>locale::_Impl::_Impl(unsigned long)(GLIBCXX_3.4) [LSB]</code>

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 in the generic part of this specification.

The Run Time Type Information for the `std::locale::facet` class is described by [Table 7-222](#)

Table 7-222 typeinfo for `locale::facet`

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

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`

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 Class data for `num_get<char, istreambuf_iterator<char, char_traits<char>>>`

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

The Run Time Type Information for the `std::num_get<char, std::istreambuf_iterator<char, std::char_traits<char>>>` class is described by [Table 7-223](#)

Table 7-223 typeinfo for `num_get<char, istreambuf_iterator<char, char_traits<char>>>`

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>num_get<char, istreambuf_iterator<char, char_traits<char>>></code>
basetype:	typeinfo for <code>locale::facet</code>

7.1.138.2 Interfaces for Class num_get<char, istreambuf_iterator<char, char_traits<char> > >

An LSB conforming implementation shall provide the architecture specific methods for Class std::num_get<char, std::istreambuf_iterator<char, std::char_traits<char> > > specified in [Table 7-224](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-224 libstdcxx - Class num_get<char, istreambuf_iterator<char, char_traits<char> > > Function Interfaces

num_get<char, istreambuf_iterator<char, char_traits<char> > >::num_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]
num_get<char, istreambuf_iterator<char, char_traits<char> > >::num_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]

7.1.139 Class num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >

7.1.139.1 Class data for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >

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

The Run Time Type Information for the std::num_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t> > > class is described by [Table 7-225](#)

Table 7-225 typeid for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeid name for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >
basetype:	typeid for locale::facet

7.1.139.2 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 7-226](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-226 libstdcxx - Class num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > Function Interfaces

num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >::num_get(unsigned long)(GLIBCXX_3.4) [ISOCXX]
--

```
num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >
>::num_get(unsigned long)(GLIBCXX_3.4) \[ISOCXX\]
```

7.1.140 Class num_put<char, ostreambuf_iterator<char, char_traits<char> > >

7.1.140.1 Class data for num_put<char, ostreambuf_iterator<char, char_traits<char> > >

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

The Run Time Type Information for the `std::num_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described by [Table 7-227](#)

Table 7-227 typeinfo for num_put<char, ostreambuf_iterator<char, char_traits<char> > >

Base Vtable	vtable for <code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>num_put<char, ostreambuf_iterator<char, char_traits<char> > ></code>
basetype:	typeinfo for <code>locale::facet</code>

7.1.140.2 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 7-228](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-228 libstdcxx - Class num_put<char, ostreambuf_iterator<char, char_traits<char> > > Function Interfaces

<code>num_put<char, ostreambuf_iterator<char, char_traits<char> > >::M_group_int(char const*, unsigned long, char, ios_base&, char*, char*, int&) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>num_put<char, ostreambuf_iterator<char, char_traits<char> > >::M_group_float(char const*, unsigned long, char, char const*, char*, char*, int&) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>num_put<char, ostreambuf_iterator<char, char_traits<char> > >::M_pad(char, int, ios_base&, char*, char const*, int&) const</code> (GLIBCXX_3.4) [ISOCXX]
<code>num_put<char, ostreambuf_iterator<char, char_traits<char> > >::num_put(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>num_put<char, ostreambuf_iterator<char, char_traits<char> > >::num_put(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]

7.1.141 Class num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >

7.1.141.1 Class data for num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >

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

The Run Time Type Information for the std::num_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > > class is described by [Table 7-229](#)

Table 7-229 typeinfo for num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >
basetype:	typeinfo for locale::facet

7.1.141.2 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 7-230](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-230 libstdcxx - Class num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > > Function Interfaces

num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::_M_group_int(char const*, unsigned long, wchar_t, ios_base&, wchar_t*, wchar_t*, int&) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::_M_group_float(char const*, unsigned long, wchar_t, wchar_t const*, wchar_t*, wchar_t*, int&) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::_M_pad(wchar_t, int, ios_base&, wchar_t*, wchar_t const*, int&) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::num_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::num_put(unsigned long)(GLIBCXX_3.4) [ISOCXX]

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

Table 7-231 `libstdcxx` - Class `gslice` Function Interfaces

<code>gslice::_Indexer::_Indexer(unsigned long, valarray<unsigned long> const&, valarray<unsigned long> const&)(GLIBCXX_3.4) [ISOCXX]</code>
<code>gslice::_Indexer::_Indexer(unsigned long, valarray<unsigned long> const&, valarray<unsigned long> const&)(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 7-232](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-232 `libstdcxx` - Class `__basic_file<char>` Function Interfaces

<code>__basic_file<char>::xsgetn(char*, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>__basic_file<char>::xspn(char const*, int)(GLIBCXX_3.4) [ISOCXX]</code>
<code>__basic_file<char>::seekoff(long long, _Ios_Seekdir)(GLIBCXX_3.4) [ISOCXX]</code>
<code>__basic_file<char>::xspn_2(char const*, int, char const*, int)(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 7-233](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-233 libstdcxx - Class `valarray<unsigned int>` Function Interfaces

<code>valarray<unsigned long>::size() const</code> (GLIBCXX_3.4) [ISOCXX]
<code>valarray<unsigned long>::valarray(valarray<unsigned long> const&)</code> (GLIBCXX_3.4) [ISOCXX]
<code>valarray<unsigned long>::valarray(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>valarray<unsigned long>::valarray(valarray<unsigned long> const&)</code> (GLIBCXX_3.4) [ISOCXX]
<code>valarray<unsigned long>::valarray(unsigned long)</code> (GLIBCXX_3.4) [ISOCXX]
<code>valarray<unsigned long>::~~valarray()</code> (GLIBCXX_3.4) [ISOCXX]
<code>valarray<unsigned long>::~~valarray()</code> (GLIBCXX_3.4) [ISOCXX]
<code>valarray<unsigned long>::operator[]</code> (unsigned long)(GLIBCXX_3.4) [ISOCXX]

7.1.146 Class `allocator<char>`

7.1.146.1 Class data for `allocator<char>`

7.1.146.2 Interfaces for Class `allocator<char>`

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

7.1.147 Class `allocator<wchar_t>`

7.1.147.1 Class data for `allocator<wchar_t>`

7.1.147.2 Interfaces for Class `allocator<wchar_t>`

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

7.1.148 Class `__gnu_cxx::__pool<true>`

7.1.148.1 Interfaces for Class `__gnu_cxx::__pool<true>`

An LSB conforming implementation shall provide the architecture specific methods for Class `__gnu_cxx::__pool<true>` specified in [Table 7-234](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-234 libstdcxx - Class `__gnu_cxx::__pool<true>` Function Interfaces

<code>__gnu_cxx::__pool<true>::M_reclaim_block(char*, unsigned long)</code> (GLIBCXX_3.4.4) [LSB]
<code>__gnu_cxx::__pool<true>::M_reserve_block(unsigned long, unsigned long)</code> (GLIBCXX_3.4.4) [LSB]

7.1.149 Class `__gnu_cxx::__pool<false>`

7.1.149.1 Interfaces for Class `__gnu_cxx::__pool<false>`

An LSB conforming implementation shall provide the architecture specific methods for Class `__gnu_cxx::__pool<false>` specified in [Table 7-235](#), with the

full mandatory functionality as described in the referenced underlying specification.

Table 7-235 libstdcxx - Class `__gnu_cxx::__pool<false>` Function Interfaces

<code>__gnu_cxx::__pool<false>::_M_reclaim_block(char*, unsigned long)</code> (GLIBCXX_3.4.4) [LSB]
<code>__gnu_cxx::__pool<false>::_M_reserve_block(unsigned long, unsigned long)</code> (GLIBCXX_3.4.4) [LSB]

7.1.150 Class `__gnu_cxx::free_list`

7.1.150.1 Interfaces for Class `__gnu_cxx::free_list`

An LSB conforming implementation shall provide the architecture specific methods for Class `__gnu_cxx::free_list` specified in [Table 7-236](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-236 libstdcxx - Class `__gnu_cxx::free_list` Function Interfaces

<code>__gnu_cxx::free_list::_M_get(unsigned long)</code> (GLIBCXX_3.4.4) [LSB]
--

7.1.151 Class `locale::_Impl`

7.1.151.1 Interfaces for Class `locale::_Impl`

An LSB conforming implementation shall provide the architecture specific methods for Class `std::locale::_Impl` specified in [Table 7-237](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-237 libstdcxx - Class `locale::_Impl` Function Interfaces

<code>locale::_Impl::_M_install_cache(locale::facet const*, unsigned long)</code> (GLIBCXX_3.4.7) [ISOCXX]

7.1.152 Namespace `std` Functions

7.1.152.1 Interfaces for Namespace `std` Functions

An LSB conforming implementation shall provide the architecture specific methods for Namespace `std` Functions specified in [Table 7-238](#), with the full mandatory functionality as described in the referenced underlying specification.

Table 7-238 libstdcxx - Namespace `std` Functions Function Interfaces

<code>int __copy_streambufs<char, char_traits<char> >(basic_streambuf<char, char_traits<char> >*, basic_streambuf<char, char_traits<char> >*)</code> (GLIBCXX_3.4.6) [ISOCXX]
<code>int __copy_streambufs<wchar_t, char_traits<wchar_t> >(basic_streambuf<wchar_t, char_traits<wchar_t> >*, basic_streambuf<wchar_t, char_traits<wchar_t> >*)</code> (GLIBCXX_3.4.6) [ISOCXX]

7.1.153 Class `char_traits<char>`

7.1.153.1 Interfaces for Class `char_traits<char>`

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

7.1.154 Class `char_traits<wchar_t>`

7.1.154.1 Interfaces for Class `char_traits<wchar_t>`

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

7.2 Interface Definitions for `libstdcxx`

The interfaces defined on the following pages are included in `libstdcxx` 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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