

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

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## **Foreword**

This is version 3.2 of the Linux Standard Base C++ Specification. 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	<a href="http://www.linuxbase.org/spec/">http://www.linuxbase.org/spec/</a>
ISO C (1999)	ISO/IEC 9899: 1999, Programming Languages --C	
ISO POSIX (2003)	ISO/IEC 9945-1:2003 Information technology -- Portable Operating System Interface (POSIX) -- Part 1: Base Definitions  ISO/IEC 9945-2:2003 Information technology -- Portable Operating System Interface (POSIX) -- Part 2: System Interfaces  ISO/IEC 9945-3:2003 Information technology -- Portable Operating System Interface (POSIX) -- Part 3: Shell and Utilities  ISO/IEC 9945-4:2003 Information technology -- Portable Operating System Interface (POSIX) -- Part 4: Rationale  Including Technical Cor. 1: 2004	<a href="http://www.unix.org/version3/">http://www.unix.org/version3/</a>
ISO/IEC 14882: 2003 C++ Language	ISO/IEC 14882: 2003 Programming languages --C++	
Itanium™ C++ ABI	Itanium™ C++ ABI (Revision 1.83)	<a href="http://refspecs.linux-foundation.org/cxxabi-1.83.html">http://refspecs.linux-foundation.org/cxxabi-1.83.html</a>

## 3 Requirements

### 3.1 Relevant Libraries

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

**Table 3-1 Standard Library Names**

Library	Runtime Name
libstdcxx	libstdc++.so.6

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

### 3.2 LSB Implementation Conformance

An implementation shall satisfy the following requirements:

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

- The implementation may provide additional interfaces with different names. It may also provide additional behavior corresponding to data values outside the standard ranges, for standard named interfaces.

### **3.3 LSB Application Conformance**

An application shall satisfy the following requirements:

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

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

## 4 Definitions

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

can

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

cannot

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

may

is permitted; is allowed; is permissible

need not

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

shall

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

shall not

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

should

it is recommended that; ought to

should not

it is not recommended that; ought not to

## 5 Terminology

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

### archLSB

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

### Binary Standard

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

### gLSB

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

### implementation-defined

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

### Shell Script

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

### Source Standard

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

### undefined

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

### unspecified

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

## *5 Terminology*

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,

`forkpty(GLIBC_2.0) [SUSv3]`

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

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

## **II Low Level System Information**

# 7 C++ Class Representations

## 7.1 C++ Data Representation

Support for the C++ language shall be as specified in Itanium™ C++ ABI.

**Note:** This document, although containing a few architecture specific matters, is written as a generic specification, to be usable by C++ implementations on a variety of architectures.

This section provides additional information to supplement Itanium™ C++ ABI. Many of the definitions in that document are made in terms of C++. This section provides addition explanations using C terms to avoid self-referential problems.

### 7.1.1 Class Representation

An object file generated by the compilation process for a C++ program shall contain several closely related internal objects, or Class Components, to represent each C++ Class. Such objects are not a visible part of the source code. Table 7-1 describes these Class Components at a high level.

**Table 7-1 Class Components**

Object	Contains
Class Data	All non-static Class members
Virtual Table	Information needed to dispatch virtual functions, access virtual base class subobjects and to access the RTTI information
RTTI	Run-Time Type Information used by the typeid and dynamic_cast operators, and exception handlers
Typeinfo Name	String representation of Class name
Construction Virtual Table	Information needed during construction and destruction of Classes with non-trivial inheritance relationships.
VTT	A table of virtual table pointers which holds the addresses of construction and non-construction virtual tables.

#### 7.1.1.1 Virtual Table

Virtual tables are specified in Section 2.5.3 of Itanium™ C++ ABI.

Of the various categories of virtual table described in that specification, Category 1 (Leaf) is further described in Figure 7-1 and Category 2 (Non-virtual bases only) is further described in Figure 7-2. LSB conforming systems shall support these categories.

```
struct {
    ptrdiff_t      baseobject;
    const char     *typeinfo;
```

```

    fptr           virtfuncs[0];
};


```

**Figure 7-1 Category 1 Virtual Table**

```

struct {
    unsigned long   vcalloffset;
    ptrdiff_t      baseobject;
    const char     *typeinfo;
    fptr           virtfuncs[0];
};


```

**Figure 7-2 Category 2 Virtual Table**

### 7.1.1.2 Run-Time Type Information

Each type used in a C++ program has a data structure associated with it that provide information about the type which is used at runtime. This Run Time Type Information (RTTI) is defined in section 2.9.5 in Itanium™ C++ ABI. Additional details about the layout of this data is provided here.

```

struct {
    void     *basevtable;
    char     *name;
};


```

**Figure 7-3 Run-Time Type Information Prefix**

```

struct {
    void     *basevtable;
    char     *name;
    void     *basetypeinfo[0];
};


```

**Figure 7-4 Run-Time Type Information For Classes with no base class**

```

struct {
    void     *basevtable;
    char     *name;
    void     *basetype;
    void     *basetypeinfo[0];
};


```

**Figure 7-5 Run-Time Type Information for Classes with a single base class**

```

struct base_type_info {
    char     *base_type;
    unsigned long   offset_flags;
};

struct {
    void     *basevtable;
    char     *name;
    unsigned int   flags;
    unsigned int   base_count;
    struct base_type_info base_info[0];
};


```

**Figure 7-6 Run-Time Type Information for classes with multiple inheritance**

```

struct {
    void     *basevtable;
    char     *name;
    unsigned int   flags;
    void     *pointee;
    void     *basetypeinfo[0];
};


```

```
};
```

**Figure 7-7 Run-Time Type Information for pointer types**

```
struct {
    void     *basevtable;
    char     *name;
    unsigned int   flags;
    void     *pointee;
    void     *context;
    void     *basetypeinfo[0];
};
```

**Figure 7-8 Run-Time Type Information for pointer to member types**

## **8 Symbol Mapping**

This chapter defines how names are mapped from the source symbol to the object symbol.

### **8.1 Symbol Mapping**

Symbols in a source program are translated by the compilation system into symbols that exist in the object file. The rules for this translation are defined here.

#### **8.1.1 C++ Language**

External symbol names in a C++ object file shall be encoded according to the "name mangling" rules described in the Itanium™ C++ ABI.

### **III Base Libraries**

## 9 Libraries

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

### 9.1 Interfaces for libstdc++

Table 9-1 defines the library name and shared object name for the libstdc++ library

**Table 9-1 libstdc++ Definition**

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

Unless stated otherwise, all symbols are in the `std::` namespace.

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

#### 9.1.1 C++ Runtime Support

##### 9.1.1.1 Interfaces for C++ Runtime Support

An LSB conforming implementation shall provide the generic methods for C++ Runtime Support specified in Table 9-2, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-2 libstdc++ - C++ Runtime Support Function Interfaces**

<code>__gnu_cxx::__atomic_add(int volatile*, int)(GLIBCXX_3.4)</code> [CXXABI]
<code>__gnu_cxx::__exchange_and_add(int volatile*, int)(GLIBCXX_3.4)</code> [CXXABI]
<code>__gnu_cxx::__verbose_terminate_handler()(CXXABI_1.3)</code> [CXXABI]
<code>unexpected()(GLIBCXX_3.4)</code> [ISOcxx]
<code>set_terminate(void (*)())(GLIBCXX_3.4)</code> [ISOcxx]
<code>set_unexpected(void (*)())(GLIBCXX_3.4)</code> [ISOcxx]
<code>set_new_handler(void (*)())(GLIBCXX_3.4)</code> [ISOcxx]
<code>__throw_bad_cast()(GLIBCXX_3.4)</code> [ISOcxx]
<code>__throw_bad_alloc()(GLIBCXX_3.4)</code> [ISOcxx]
<code>__throw_bad_typeid()(GLIBCXX_3.4)</code> [ISOcxx]
<code>uncaught_exception()(GLIBCXX_3.4)</code> [ISOcxx]
<code>__throw_ios_failure(char const*)(GLIBCXX_3.4)</code> [ISOcxx]
<code>__throw_logic_error(char const*)(GLIBCXX_3.4)</code> [ISOcxx]
<code>__throw_range_error(char const*)(GLIBCXX_3.4)</code> [ISOcxx]

__throw_domain_error(char const*)(GLIBCXX_3.4) [ISOCXX]
__throw_length_error(char const*)(GLIBCXX_3.4) [ISOCXX]
__throw_out_of_range(char const*)(GLIBCXX_3.4) [ISOCXX]
__throw_bad_exception()(GLIBCXX_3.4) [ISOCXX]
__throw_runtime_error(char const*)(GLIBCXX_3.4) [ISOCXX]
__throw_overflow_error(char const*)(GLIBCXX_3.4) [ISOCXX]
__throw_underflow_error(char const*)(GLIBCXX_3.4) [ISOCXX]
__throw_invalid_argument(char const*)(GLIBCXX_3.4) [ISOCXX]
terminate()(GLIBCXX_3.4) [ISOCXX]
operator delete[](void*)(GLIBCXX_3.4) [ISOCXX]
operator delete[](void*, nothrow_t const&)(GLIBCXX_3.4) [ISOCXX]
operator delete(void*)(GLIBCXX_3.4) [ISOCXX]
operator delete(void*, nothrow_t const&)(GLIBCXX_3.4) [ISOCXX]
__cxa_allocate_exception(CXXABI_1.3) [CXXABI]
__cxa_bad_cast(CXXABI_1.3) [CXXABI]
__cxa_bad_typeid(CXXABI_1.3) [CXXABI]
__cxa_begin_catch(CXXABI_1.3) [CXXABI]
__cxa_call_unexpected(CXXABI_1.3) [CXXABI]
__cxa_current_exception_type(CXXABI_1.3) [CXXABI]
__cxa_demangle(CXXABI_1.3) [CXXABI]
__cxa_end_catch(CXXABI_1.3) [CXXABI]
__cxa_free_exception(CXXABI_1.3) [CXXABI]
__cxa_get_globals(CXXABI_1.3) [CXXABI]
__cxa_get_globals_fast(CXXABI_1.3) [CXXABI]
__cxa_guard_abort(CXXABI_1.3) [CXXABI]
__cxa_guard_acquire(CXXABI_1.3) [CXXABI]
__cxa_guard_release(CXXABI_1.3) [CXXABI]
__cxa_pure_virtual(CXXABI_1.3) [CXXABI]
__cxa_rethrow(CXXABI_1.3) [CXXABI]
__cxa_throw(CXXABI_1.3) [CXXABI]
__cxa_vec_cctor(CXXABI_1.3) [CXXABI]
__cxa_vec_cleanup(CXXABI_1.3) [CXXABI]
__cxa_vec_ctor(CXXABI_1.3) [CXXABI]
__cxa_vec_delete(CXXABI_1.3) [CXXABI]

__cxa_vec_delete2(CXXABI_1.3) [CXXABI]
__cxa_vec_delete3(CXXABI_1.3) [CXXABI]
__cxa_vec_dtor(CXXABI_1.3) [CXXABI]
__cxa_vec_new(CXXABI_1.3) [CXXABI]
__cxa_vec_new2(CXXABI_1.3) [CXXABI]
__cxa_vec_new3(CXXABI_1.3) [CXXABI]
__dynamic_cast(CXXABI_1.3) [CXXABI]
__gxx_personality_v0(CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for C++ Runtime Support specified in Table 9-3, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-3 libstdcxx - C++ Runtime Support Data Interfaces**

cin(GLIBCXX_3.4) [ISOCXX]
cerr(GLIBCXX_3.4) [ISOCXX]
clog(GLIBCXX_3.4) [ISOCXX]
cout(GLIBCXX_3.4) [ISOCXX]
wcin(GLIBCXX_3.4) [ISOCXX]
wcerr(GLIBCXX_3.4) [ISOCXX]
wclog(GLIBCXX_3.4) [ISOCXX]
wcout(GLIBCXX_3.4) [ISOCXX]
nothrow(GLIBCXX_3.4) [ISOCXX]

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

### 9.1.2.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for C++ type descriptors for built-in types specified in Table 9-4, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-4 libstdcxx - C++ type descriptors for built-in types Data Interfaces**

typeinfo for signed char const*(CXXABI_1.3) [CXXABI]
typeinfo for bool const*(CXXABI_1.3) [CXXABI]
typeinfo for char const*(CXXABI_1.3) [CXXABI]
typeinfo for double const*(CXXABI_1.3) [CXXABI]
typeinfo for long double const*(CXXABI_1.3) [CXXABI]

typeinfo for float const*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned char const*(CXXABI_1.3) [CXXABI]
typeinfo for int const*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned int const*(CXXABI_1.3) [CXXABI]
typeinfo for long const*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned long const*(CXXABI_1.3) [CXXABI]
typeinfo for short const*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned short const*(CXXABI_1.3) [CXXABI]
typeinfo for void const*(CXXABI_1.3) [CXXABI]
typeinfo for wchar_t const*(CXXABI_1.3) [CXXABI]
typeinfo for long long const*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned long long const*(CXXABI_1.3) [CXXABI]
typeinfo for signed char*(CXXABI_1.3) [CXXABI]
typeinfo for bool*(CXXABI_1.3) [CXXABI]
typeinfo for char*(CXXABI_1.3) [CXXABI]
typeinfo for double*(CXXABI_1.3) [CXXABI]
typeinfo for long double*(CXXABI_1.3) [CXXABI]
typeinfo for float*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned char*(CXXABI_1.3) [CXXABI]
typeinfo for int*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned int*(CXXABI_1.3) [CXXABI]
typeinfo for long*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned long*(CXXABI_1.3) [CXXABI]
typeinfo for short*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned short*(CXXABI_1.3) [CXXABI]
typeinfo for void*(CXXABI_1.3) [CXXABI]
typeinfo for wchar_t*(CXXABI_1.3) [CXXABI]
typeinfo for long long*(CXXABI_1.3) [CXXABI]
typeinfo for unsigned long long*(CXXABI_1.3) [CXXABI]
typeinfo for signed char(CXXABI_1.3) [CXXABI]
typeinfo for bool(CXXABI_1.3) [CXXABI]
typeinfo for char(CXXABI_1.3) [CXXABI]
typeinfo for double(CXXABI_1.3) [CXXABI]
typeinfo for long double(CXXABI_1.3) [CXXABI]

typeinfo for float(CXXABI_1.3) [CXXABI]
typeinfo for unsigned char(CXXABI_1.3) [CXXABI]
typeinfo for int(CXXABI_1.3) [CXXABI]
typeinfo for unsigned int(CXXABI_1.3) [CXXABI]
typeinfo for long(CXXABI_1.3) [CXXABI]
typeinfo for unsigned long(CXXABI_1.3) [CXXABI]
typeinfo for short(CXXABI_1.3) [CXXABI]
typeinfo for unsigned short(CXXABI_1.3) [CXXABI]
typeinfo for void(CXXABI_1.3) [CXXABI]
typeinfo for wchar_t(CXXABI_1.3) [CXXABI]
typeinfo for long long(CXXABI_1.3) [CXXABI]
typeinfo for unsigned long long(CXXABI_1.3) [CXXABI]
typeinfo name for signed char const*(CXXABI_1.3) [CXXABI]
typeinfo name for bool const*(CXXABI_1.3) [CXXABI]
typeinfo name for char const*(CXXABI_1.3) [CXXABI]
typeinfo name for double const*(CXXABI_1.3) [CXXABI]
typeinfo name for long double const*(CXXABI_1.3) [CXXABI]
typeinfo name for float const*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned char const*(CXXABI_1.3) [CXXABI]
typeinfo name for int const*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned int const*(CXXABI_1.3) [CXXABI]
typeinfo name for long const*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned long const*(CXXABI_1.3) [CXXABI]
typeinfo name for short const*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned short const*(CXXABI_1.3) [CXXABI]
typeinfo name for void const*(CXXABI_1.3) [CXXABI]
typeinfo name for wchar_t const*(CXXABI_1.3) [CXXABI]
typeinfo name for long long const*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned long long const*(CXXABI_1.3) [CXXABI]
typeinfo name for signed char*(CXXABI_1.3) [CXXABI]
typeinfo name for bool*(CXXABI_1.3) [CXXABI]
typeinfo name for char*(CXXABI_1.3) [CXXABI]
typeinfo name for double*(CXXABI_1.3) [CXXABI]
typeinfo name for long double*(CXXABI_1.3) [CXXABI]

typeinfo name for float*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned char*(CXXABI_1.3) [CXXABI]
typeinfo name for int*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned int*(CXXABI_1.3) [CXXABI]
typeinfo name for long*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned long*(CXXABI_1.3) [CXXABI]
typeinfo name for short*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned short*(CXXABI_1.3) [CXXABI]
typeinfo name for void*(CXXABI_1.3) [CXXABI]
typeinfo name for wchar_t*(CXXABI_1.3) [CXXABI]
typeinfo name for long long*(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned long long*(CXXABI_1.3) [CXXABI]
typeinfo name for signed char(CXXABI_1.3) [CXXABI]
typeinfo name for bool(CXXABI_1.3) [CXXABI]
typeinfo name for char(CXXABI_1.3) [CXXABI]
typeinfo name for double(CXXABI_1.3) [CXXABI]
typeinfo name for long double(CXXABI_1.3) [CXXABI]
typeinfo name for float(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned char(CXXABI_1.3) [CXXABI]
typeinfo name for int(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned int(CXXABI_1.3) [CXXABI]
typeinfo name for long(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned long(CXXABI_1.3) [CXXABI]
typeinfo name for short(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned short(CXXABI_1.3) [CXXABI]
typeinfo name for void(CXXABI_1.3) [CXXABI]
typeinfo name for wchar_t(CXXABI_1.3) [CXXABI]
typeinfo name for long long(CXXABI_1.3) [CXXABI]
typeinfo name for unsigned long long(CXXABI_1.3) [CXXABI]

### 9.1.3 C++ \_Rb\_tree

#### 9.1.3.1 Interfaces for C++ \_Rb\_tree

An LSB conforming implementation shall provide the generic methods for C++ \_Rb\_tree specified in Table 9-5, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-5 libstdc++ - C++ \_Rb\_tree Function Interfaces**

_Rb_tree_decrement(_Rb_tree_node_base const*)(GLIBCXX_3.4) [LSB]
_Rb_tree_decrement(_Rb_tree_node_base*)(GLIBCXX_3.4) [LSB]
_Rb_tree_increment(_Rb_tree_node_base const*)(GLIBCXX_3.4) [LSB]
_Rb_tree_increment(_Rb_tree_node_base*)(GLIBCXX_3.4) [LSB]
_Rb_tree_black_count(_Rb_tree_node_base const*, _Rb_tree_node_base const*)(GLIBCXX_3.4) [LSB]
_Rb_tree_rotate_left(_Rb_tree_node_base*, _Rb_tree_node_base*&)(GLIBCXX_3.4) [LSB]
_Rb_tree_rotate_right(_Rb_tree_node_base*, _Rb_tree_node_base*&)(GLIBCXX_3.4) [LSB]
_Rb_tree_rebalance_for_erase(_Rb_tree_node_base*, _Rb_tree_node_base&)(GLIBCXX_3.4) [LSB]
_Rb_tree_insert_and_rebalance(bool, _Rb_tree_node_base*, _Rb_tree_node_base*, _Rb_tree_node_base&)(GLIBCXX_3.4) [LSB]

## 9.1.4 Class type\_info

### 9.1.4.1 Class data for type\_info

The virtual table for the std::type\_info class is described by Table 9-6

**Table 9-6 Primary vtable for type\_info**

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

The Run Time Type Information for the std::type\_info class is described by Table 9-7

**Table 9-7 typeinfo for type\_info**

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

### 9.1.4.2 Interfaces for Class `type_info`

An LSB conforming implementation shall provide the generic methods for Class `std::type_info` specified in Table 9-8, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-8 libstdcxx - Class `type_info` Function Interfaces**

<code>type_info::__do_catch(type_info const*, void**, unsigned int)</code> const(GLIBCXX_3.4) [ISO CXX]
<code>type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**)</code> const(GLIBCXX_3.4) [ISO CXX]
<code>type_info::__is_pointer_p()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>type_info::__is_function_p()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>type_info::~type_info()</code> (GLIBCXX_3.4) [ISO CXX]
<code>type_info::~type_info()</code> (GLIBCXX_3.4) [ISO CXX]
<code>type_info::~type_info()</code> (GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::type_info` specified in Table 9-9, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-9 libstdcxx - Class `type_info` Data Interfaces**

<code>typeinfo for type_info(GLIBCXX_3.4)</code> [CXXABI]
<code>typeinfo name for type_info(GLIBCXX_3.4)</code> [CXXABI]
<code>vtable for type_info(GLIBCXX_3.4)</code> [CXXABI]

### 9.1.5 Class `__cxxabiv1::__enum_type_info`

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

The virtual table for the `__cxxabiv1::__enum_type_info` class is described by Table 9-10

**Table 9-10 Primary vtable for `__cxxabiv1::__enum_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	<code>typeinfo for __cxxabiv1::__enum_type_info</code>
<code>vfunc[0]:</code>	<code>__cxxabiv1::__enum_type_info::~__enum_type_info()</code>
<code>vfunc[1]:</code>	<code>__cxxabiv1::__enum_type_info::~__enum_type_info()</code>
<code>vfunc[2]:</code>	<code>type_info::__is_pointer_p()</code> const
<code>vfunc[3]:</code>	<code>type_info::__is_function_p()</code> const
<code>vfunc[4]:</code>	<code>type_info::__do_catch(type_info</code>

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

The Run Time Type Information for the \_\_cxxabiv1::\_\_enum\_type\_info class is described by Table 9-11

**Table 9-11 typeinfo for \_\_cxxabiv1::\_\_enum\_type\_info**

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

### 9.1.5.2 Interfaces for Class \_\_cxxabiv1::\_\_enum\_type\_info

An LSB conforming implementation shall provide the generic methods for Class \_\_cxxabiv1::\_\_enum\_type\_info specified in Table 9-12, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-12 libstdcxx - Class \_\_cxxabiv1::\_\_enum\_type\_info Function Interfaces**

__cxxabiv1::__enum_type_info::~__enum_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__enum_type_info::~__enum_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__enum_type_info::~__enum_type_info()(CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class \_\_cxxabiv1::\_\_enum\_type\_info specified in Table 9-13, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-13 libstdcxx - Class \_\_cxxabiv1::\_\_enum\_type\_info Data Interfaces**

typeinfo for __cxxabiv1::__enum_type_info(CXXABI_1.3) [CXXABI]
typeinfo name for __cxxabiv1::__enum_type_info(CXXABI_1.3) [CXXABI]
vtable for __cxxabiv1::__enum_type_info(CXXABI_1.3) [CXXABI]

### 9.1.6 Class \_\_cxxabiv1::\_\_array\_type\_info

#### 9.1.6.1 Class data for \_\_cxxabiv1::\_\_array\_type\_info

The virtual table for the \_\_cxxabiv1::\_\_array\_type\_info class is described by Table 9-14

**Table 9-14 Primary vtable for \_\_cxxabiv1::\_\_array\_type\_info**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for

	<code>__cxxabiv1::__array_type_info</code>
vfunc[0]:	<code>__cxxabiv1::__array_type_info::~_array_type_info()</code>
vfunc[1]:	<code>__cxxabiv1::__array_type_info::~_array_type_info()</code>
vfunc[2]:	<code>type_info::__is_pointer_p() const</code>
vfunc[3]:	<code>type_info::__is_function_p() const</code>
vfunc[4]:	<code>type_info::__do_catch(type_info const*, void**, unsigned int) const</code>
vfunc[5]:	<code>type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const</code>

The Run Time Type Information for the `__cxxabiv1::__array_type_info` class is described by Table 9-15

**Table 9-15 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>

### 9.1.6.2 Interfaces for Class `__cxxabiv1::__array_type_info`

An LSB conforming implementation shall provide the generic methods for Class `__cxxabiv1::__array_type_info` specified in Table 9-16, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-16 libstdcxx - Class `__cxxabiv1::__array_type_info` Function Interfaces**

<code>__cxxabiv1::__array_type_info::~_array_type_info()(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__array_type_info::~_array_type_info()(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__array_type_info::~_array_type_info()(CXXABI_1.3)</code> [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class `__cxxabiv1::__array_type_info` specified in Table 9-17, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-17 libstdcxx - Class `__cxxabiv1::__array_type_info` Data Interfaces**

typeinfo for <code>__cxxabiv1::__array_type_info(CXXABI_1.3)</code> [CXXABI]
typeinfo name for <code>__cxxabiv1::__array_type_info(CXXABI_1.3)</code> [CXXABI]
vtable for <code>__cxxabiv1::__array_type_info(CXXABI_1.3)</code> [CXXABI]

### 9.1.7 Class `__cxxabiv1::__class_type_info`

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

The virtual table for the `__cxxabiv1::__class_type_info` class is described by Table 9-18

**Table 9-18 Primary vtable for \_\_cxxabiv1::\_\_class\_type\_info**

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

The Run Time Type Information for the \_\_cxxabiv1::\_\_class\_type\_info class is described by Table 9-19

**Table 9-19 typeinfo for \_\_cxxabiv1::\_\_class\_type\_info**

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

### 9.1.7.2 Interfaces for Class \_\_cxxabiv1::\_\_class\_type\_info

An LSB conforming implementation shall provide the generic methods for Class \_\_cxxabiv1::\_\_class\_type\_info specified in Table 9-20, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-20 libstdcxx - Class \_\_cxxabiv1::\_\_class\_type\_info Function Interfaces**

__cxxabiv1::__class_type_info::~_class_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__class_type_info::~_class_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__class_type_info::~_class_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__class_type_info::__do_catch(type_info const*, void**, unsigned int) const(CXXABI_1.3) [CXXABI]
__cxxabiv1::__class_type_info::__do_upcast(__cxxabiv1::__class_type_info

const*, void const*, __cxxabiv1::__class_type_info::__upcast_result&) const(CXXABI_1.3) [CXXABI]
__cxxabiv1::__class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const(CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class `__cxxabiv1::__class_type_info` specified in Table 9-21, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-21 libstdc++ - Class `__cxxabiv1::__class_type_info` Data Interfaces**

typeinfo for <code>__cxxabiv1::__class_type_info</code> (CXXABI_1.3) [CXXABI]
typeinfo name for <code>__cxxabiv1::__class_type_info</code> (CXXABI_1.3) [CXXABI]
vtable for <code>__cxxabiv1::__class_type_info</code> (CXXABI_1.3) [CXXABI]

## 9.1.8 Class `__cxxabiv1::__pbase_type_info`

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

The virtual table for the `__cxxabiv1::__pbase_type_info` class is described by Table 9-22

**Table 9-22 Primary vtable for `__cxxabiv1::__pbase_type_info`**

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

The Run Time Type Information for the `__cxxabiv1::__pbase_type_info` class is described by Table 9-23

**Table 9-23 typeinfo for \_\_cxxabiv1::\_\_pbase\_type\_info**

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

### 9.1.8.2 Interfaces for Class \_\_cxxabiv1::\_\_pbase\_type\_info

An LSB conforming implementation shall provide the generic methods for Class \_\_cxxabiv1::\_\_pbase\_type\_info specified in Table 9-24, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-24 libstdcxx - Class \_\_cxxabiv1::\_\_pbase\_type\_info Function Interfaces**

__cxxabiv1::__pbase_type_info::~__pbase_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__pbase_type_info::~__pbase_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__pbase_type_info::~__pbase_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__pbase_type_info::__do_catch(type_info const*, void**, unsigned int) const(CXXABI_1.3) [CXXABI]
__cxxabiv1::__pbase_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const(CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class \_\_cxxabiv1::\_\_pbase\_type\_info specified in Table 9-25, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-25 libstdcxx - Class \_\_cxxabiv1::\_\_pbase\_type\_info Data Interfaces**

typeinfo for __cxxabiv1::__pbase_type_info(CXXABI_1.3) [CXXABI]
typeinfo name for __cxxabiv1::__pbase_type_info(CXXABI_1.3) [CXXABI]
vtable for __cxxabiv1::__pbase_type_info(CXXABI_1.3) [CXXABI]

## 9.1.9 Class \_\_cxxabiv1::\_\_pointer\_type\_info

### 9.1.9.1 Class data for \_\_cxxabiv1::\_\_pointer\_type\_info

The virtual table for the \_\_cxxabiv1::\_\_pointer\_type\_info class is described by Table 9-26

**Table 9-26 Primary vtable for \_\_cxxabiv1::\_\_pointer\_type\_info**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for __cxxabiv1::__pointer_type_info
vfunc[0]:	__cxxabiv1::__pointer_type_info::~__

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

The Run Time Type Information for the `__cxxabiv1::__pointer_type_info` class is described by Table 9-27

**Table 9-27 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>

### 9.1.9.2 Interfaces for Class `__cxxabiv1::__pointer_type_info`

An LSB conforming implementation shall provide the generic methods for Class `__cxxabiv1::__pointer_type_info` specified in Table 9-28, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-28 libstdcxx - Class `__cxxabiv1::__pointer_type_info` Function Interfaces**

<code>__cxxabiv1::__pointer_type_info::~__pointer_type_info()</code> (CXXABI_1.3) [CXXABI]
<code>__cxxabiv1::__pointer_type_info::__is_pointer_p() const</code> (CXXABI_1.3) [CXXABI]
<code>__cxxabiv1::__pointer_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const</code> (CXXABI_1.3) [CXXABI]
<code>__cxxabiv1::__pointer_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const</code> (CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class `__cxxabiv1::__pointer_type_info` specified in Table 9-29, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-29 libstdcxx - Class \_\_cxxabiv1::\_\_pointer\_type\_info Data Interfaces**

typeinfo for __cxxabiv1::__pointer_type_info(CXXABI_1.3) [CXXABI]
typeinfo name for __cxxabiv1::__pointer_type_info(CXXABI_1.3) [CXXABI]
vtable for __cxxabiv1::__pointer_type_info(CXXABI_1.3) [CXXABI]

## 9.1.10 Class \_\_cxxabiv1::\_\_function\_type\_info

### 9.1.10.1 Class data for \_\_cxxabiv1::\_\_function\_type\_info

The virtual table for the \_\_cxxabiv1::\_\_function\_type\_info class is described by Table 9-30

**Table 9-30 Primary vtable for \_\_cxxabiv1::\_\_function\_type\_info**

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

The Run Time Type Information for the \_\_cxxabiv1::\_\_function\_type\_info class is described by Table 9-31

**Table 9-31 typeinfo for \_\_cxxabiv1::\_\_function\_type\_info**

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

### 9.1.10.2 Interfaces for Class \_\_cxxabiv1::\_\_function\_type\_info

An LSB conforming implementation shall provide the generic methods for Class \_\_cxxabiv1::\_\_function\_type\_info specified in Table 9-32, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-32 libstdcxx - Class \_\_cxxabiv1::\_\_function\_type\_info Function Interfaces**

__cxxabiv1::__function_type_info::~_function_type_info()(CXXABI_1.3)
--

[CXXABI]
__cxxabiv1::__function_type_info::~__function_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__function_type_info::~__function_type_info()(CXXABI_1.3) [CXXABI]
__cxxabiv1::__function_type_info::__is_function_p() const(CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class \_\_cxxabiv1::\_\_function\_type\_info specified in Table 9-33, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-33 libstdcxx - Class \_\_cxxabiv1::\_\_function\_type\_info Data Interfaces**

typeinfo for __cxxabiv1::__function_type_info(CXXABI_1.3) [CXXABI]
typeinfo name for __cxxabiv1::__function_type_info(CXXABI_1.3) [CXXABI]
vtable for __cxxabiv1::__function_type_info(CXXABI_1.3) [CXXABI]

### 9.1.11 Class \_\_cxxabiv1::\_\_si\_class\_type\_info

#### 9.1.11.1 Class data for \_\_cxxabiv1::\_\_si\_class\_type\_info

The virtual table for the \_\_cxxabiv1::\_\_si\_class\_type\_info class is described by Table 9-34

**Table 9-34 Primary vtable for \_\_cxxabiv1::\_\_si\_class\_type\_info**

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

	ast_result&) const
--	--------------------

The Run Time Type Information for the `__cxxabiv1::__si_class_type_info` class is described by Table 9-35

**Table 9-35 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>

### 9.1.11.2 Interfaces for Class `__cxxabiv1::__si_class_type_info`

An LSB conforming implementation shall provide the generic methods for Class `__cxxabiv1::__si_class_type_info` specified in Table 9-36, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-36 libstdcxx - Class `__cxxabiv1::__si_class_type_info` Function Interfaces**

<code>__cxxabiv1::__si_class_type_info::~__si_class_type_info()</code> (CXXABI_1.3) [CXXABI]
<code>__cxxabiv1::__si_class_type_info::~__si_class_type_info()</code> (CXXABI_1.3) [CXXABI]
<code>__cxxabiv1::__si_class_type_info::~__si_class_type_info()</code> (CXXABI_1.3) [CXXABI]
<code>__cxxabiv1::__si_class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__upcast_result&amp;)</code> const(CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class `__cxxabiv1::__si_class_type_info` specified in Table 9-37, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-37 libstdcxx - Class `__cxxabiv1::__si_class_type_info` Data Interfaces**

typeinfo for <code>__cxxabiv1::__si_class_type_info</code> (CXXABI_1.3) [CXXABI]
typeinfo name for <code>__cxxabiv1::__si_class_type_info</code> (CXXABI_1.3) [CXXABI]
vtable for <code>__cxxabiv1::__si_class_type_info</code> (CXXABI_1.3) [CXXABI]

### 9.1.12 Class `__cxxabiv1::__vmi_class_type_info`

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

The virtual table for the `__cxxabiv1::__vmi_class_type_info` class is described by Table 9-38

**Table 9-38 Primary vtable for `__cxxabiv1::__vmi_class_type_info`**

Base Offset	0
Virtual Base Offset	0

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

The Run Time Type Information for the \_\_cxxabiv1::\_\_vmi\_class\_type\_info class is described by Table 9-39

**Table 9-39 typeinfo for \_\_cxxabiv1::\_\_vmi\_class\_type\_info**

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

### 9.1.12.2 Interfaces for Class \_\_cxxabiv1::\_\_vmi\_class\_type\_info

An LSB conforming implementation shall provide the generic methods for Class \_\_cxxabiv1::\_\_vmi\_class\_type\_info specified in Table 9-40, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-40 libstdcxx - Class \_\_cxxabiv1::\_\_vmi\_class\_type\_info Function Interfaces**

__cxxabiv1::__vmi_class_type_info::__vmi_class_type_info() (CXXABI_1.3) [CXXABI]
__cxxabiv1::__vmi_class_type_info::__vmi_class_type_info() (CXXABI_1.3) [CXXABI]
__cxxabiv1::__vmi_class_type_info::__vmi_class_type_info() (CXXABI_1.3) [CXXABI]
__cxxabiv1::__vmi_class_type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void const*, __cxxabiv1::__class_type_info::__upcast_result&) const (CXXABI_1.3) [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class `__cxxabiv1::__vmi_class_type_info` specified in Table 9-41, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-41 libstdc++ - Class `__cxxabiv1::__vmi_class_type_info` Data Interfaces**

typeinfo for <code>__cxxabiv1::__vmi_class_type_info</code> (CXXABI_1.3) [CXXABI]
typeinfo name for <code>__cxxabiv1::__vmi_class_type_info</code> (CXXABI_1.3) [CXXABI]
vtable for <code>__cxxabiv1::__vmi_class_type_info</code> (CXXABI_1.3) [CXXABI]

### 9.1.13 Class `__cxxabiv1::__fundamental_type_info`

#### 9.1.13.1 Class data for `__cxxabiv1::__fundamental_type_info`

The virtual table for the `__cxxabiv1::__fundamental_type_info` class is described by Table 9-42

**Table 9-42 Primary vtable for `__cxxabiv1::__fundamental_type_info`**

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

The Run Time Type Information for the `__cxxabiv1::__fundamental_type_info` class is described by Table 9-43

**Table 9-43 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>

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

An LSB conforming implementation shall provide the generic methods for Class `__cxxabiv1::__fundamental_type_info` specified in Table 9-44, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-44 libstdcxx - Class `__cxxabiv1::__fundamental_type_info` Function Interfaces**

<code>__cxxabiv1::__fundamental_type_info::~__fundamental_type_info()(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__fundamental_type_info::~__fundamental_type_info()(CXXABI_1.3)</code> [CXXABI]
<code>__cxxabiv1::__fundamental_type_info::~__fundamental_type_info()(CXXABI_1.3)</code> [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class `__cxxabiv1::__fundamental_type_info` specified in Table 9-45, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-45 libstdcxx - Class `__cxxabiv1::__fundamental_type_info` Data Interfaces**

typeinfo for <code>__cxxabiv1::__fundamental_type_info(CXXABI_1.3)</code> [CXXABI]
typeinfo name for <code>__cxxabiv1::__fundamental_type_info(CXXABI_1.3)</code> [CXXABI]
vtable for <code>__cxxabiv1::__fundamental_type_info(CXXABI_1.3)</code> [CXXABI]

### 9.1.14 Class `__cxxabiv1::__pointer_to_member_type_info`

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

The virtual table for the `__cxxabiv1::__pointer_to_member_type_info` class is described by Table 9-46

**Table 9-46 Primary vtable for `__cxxabiv1::__pointer_to_member_type_info`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__cxxabiv1::__pointer_to_member_type_info</code>
vfunc[0]:	<code>__cxxabiv1::__pointer_to_member_type_info::~__pointer_to_member_type_info()</code>
vfunc[1]:	<code>__cxxabiv1::__pointer_to_member_type_info::__pointer_to_member_type_info()</code>
vfunc[2]:	<code>type_info::__is_pointer_p() const</code>
vfunc[3]:	<code>type_info::__is_function_p() const</code>

vfunc[4]:	<code>__cxxabiv1::__pbase_type_info::__do_catch(type_info const*, void**, unsigned int) const</code>
vfunc[5]:	<code>type_info::__do_upcast(__cxxabiv1::__class_type_info const*, void**) const</code>
vfunc[6]:	<code>__cxxabiv1::__pointer_to_member_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const</code>

The Run Time Type Information for the `__cxxabiv1::__pointer_to_member_type_info` class is described by Table 9-47

**Table 9-47 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>

#### 9.1.14.2 Interfaces for Class `__cxxabiv1::__pointer_to_member_type_info`

An LSB conforming implementation shall provide the generic methods for Class `__cxxabiv1::__pointer_to_member_type_info` specified in Table 9-48, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-48 libstdc++ - Class `__cxxabiv1::__pointer_to_member_type_info` Function Interfaces**

<code>__cxxabiv1::__pointer_to_member_type_info::~__pointer_to_member_type_info()</code> [CXXABI_1.3] [CXXABI]
<code>__cxxabiv1::__pointer_to_member_type_info::~__pointer_to_member_type_info()</code> [CXXABI_1.3] [CXXABI]
<code>__cxxabiv1::__pointer_to_member_type_info::~__pointer_to_member_type_info()</code> [CXXABI_1.3] [CXXABI]
<code>__cxxabiv1::__pointer_to_member_type_info::__pointer_catch(__cxxabiv1::__pbase_type_info const*, void**, unsigned int) const</code> [CXXABI_1.3] [CXXABI]

An LSB conforming implementation shall provide the generic data interfaces for Class `__cxxabiv1::__pointer_to_member_type_info` specified in Table 9-49, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-49 libstdc++ - Class `__cxxabiv1::__pointer_to_member_type_info` Data Interfaces**

typeinfo for <code>__cxxabiv1::__pointer_to_member_type_info</code> [CXXABI_1.3] [CXXABI]
typeinfo name for <code>__cxxabiv1::__pointer_to_member_type_info</code> [CXXABI_1.3]

[CXXABI]
vtable for __cxxabiv1::__pointer_to_member_type_info(CXXABI_1.3) [CXXABI]

### 9.1.15 Class `__gnu_cxx::stdio_filebuf<char, char_traits<char>>`

#### 9.1.15.1 Class data for `__gnu_cxx::stdio_filebuf<char, char_traits<char>>`

The virtual table for the `__gnu_cxx::stdio_filebuf<char, std::char_traits<char>>` class is described by Table 9-50

Table 9-50 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&lt;char, char_traits&lt;char&gt;&gt;</code>
vfunc[0]:	Unspecified
vfunc[1]:	Unspecified
vfunc[2]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;::imbue(locale const&amp;)</code>
vfunc[3]:	See The Architecture Specific Specification
vfunc[4]:	Unspecified
vfunc[5]:	Unspecified
vfunc[6]:	Unspecified
vfunc[7]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;::showmany()</code>
vfunc[8]:	Unspecified
vfunc[9]:	Unspecified
vfunc[10]:	Unspecified
vfunc[11]:	Unspecified
vfunc[12]:	Unspecified
vfunc[13]:	Unspecified

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

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

An LSB conforming implementation shall provide the generic data interfaces for Class `__gnu_cxx::stdio_filebuf<char, std::char_traits<char>>` specified in Table 9-51, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-51 libstdc++ - Class `__gnu_cxx::stdio_filebuf<char, std::char_traits<char>>` Data Interfaces**

typeinfo for <code>__gnu_cxx::stdio_filebuf&lt;char, std::char_traits&lt;char&gt;&gt;</code> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>__gnu_cxx::stdio_filebuf&lt;char, std::char_traits&lt;char&gt;&gt;</code> >(GLIBCXX_3.4) [CXXABI]

### 9.1.16 Class `__gnu_cxx::stdio_filebuf<wchar_t, std::char_traits<wchar_t>>`

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

The virtual table for the `__gnu_cxx::stdio_filebuf<wchar_t, std::char_traits<wchar_t>>` class is described by Table 9-52

**Table 9-52 Primary vtable for `__gnu_cxx::stdio_sync_filebuf<wchar_t, std::char_traits<wchar_t>>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>__gnu_cxx::stdio_sync_filebuf&lt;wchar_t, std::char_traits&lt;wchar_t&gt;&gt;</code>
vfunc[0]:	Unspecified
vfunc[1]:	Unspecified
vfunc[2]:	<code>basic_streambuf&lt;wchar_t, std::char_traits&lt;wchar_t&gt;&gt;::imbue(locale const&amp;)</code>
vfunc[3]:	See The Architecture Specific Specification
vfunc[4]:	Unspecified
vfunc[5]:	Unspecified
vfunc[6]:	Unspecified
vfunc[7]:	<code>basic_streambuf&lt;wchar_t, std::char_traits&lt;wchar_t&gt;&gt;::showmany()</code>
vfunc[8]:	Unspecified
vfunc[9]:	Unspecified
vfunc[10]:	Unspecified
vfunc[11]:	Unspecified

vfunc[12]:	Unspecified
vfunc[13]:	Unspecified

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

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

An LSB conforming implementation shall provide the generic data interfaces for Class `__gnu_cxx::stdio_filebuf<wchar_t, std::char_traits<wchar_t> >` specified in Table 9-53, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-53 libstdcxx - Class `__gnu_cxx::stdio_filebuf<wchar_t, char_traits<wchar_t> >` Data Interfaces**

typeinfo for <code>__gnu_cxx::stdio_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>__gnu_cxx::stdio_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]

### 9.1.17 Class `__gnu_cxx::__pool_alloc_base`

#### 9.1.17.1 Interfaces for Class `__gnu_cxx::__pool_alloc_base`

An LSB conforming implementation shall provide the generic methods for Class `__gnu_cxx::__pool_alloc_base` specified in Table 9-54, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-54 libstdcxx - Class `__gnu_cxx::__pool_alloc_base` Function Interfaces**

<code>__gnu_cxx::__pool_alloc_base::__M_get_mutex()</code> (GLIBCXX_3.4.2) [LSB]
--

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

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

An LSB conforming implementation shall provide the generic methods for Class `__gnu_cxx::stdio_sync_filebuf<char, std::char_traits<char> >` specified in Table 9-55, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-55 libstdcxx - Class `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >` Function Interfaces**

<code>__gnu_cxx::stdio_sync_filebuf&lt;char, char_traits&lt;char&gt; &gt;::__file()</code> (GLIBCXX_3.4.2) [LSB]
--

An LSB conforming implementation shall provide the generic data interfaces for Class `__gnu_cxx::stdio_sync_filebuf<char, std::char_traits<char> >` specified in Table 9-56, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-56 libstdcxx - Class `__gnu_cxx::stdio_sync_filebuf<char, char_traits<char>` > Data Interfaces**

typeinfo for <code>__gnu_cxx::stdio_sync_filebuf&lt;char, char_traits&lt;char&gt;</code> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>__gnu_cxx::stdio_sync_filebuf&lt;char, char_traits&lt;char&gt;</code> >(GLIBCXX_3.4) [CXXABI]
vtable for <code>__gnu_cxx::stdio_sync_filebuf&lt;char, char_traits&lt;char&gt;</code> >(GLIBCXX_3.4) [CXXABI]

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

### 9.1.19.1 Interfaces for Class

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

An LSB conforming implementation shall provide the generic methods for Class `__gnu_cxx::stdio_sync_filebuf<wchar_t, std::char_traits<wchar_t>` > specified in Table 9-57, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-57 libstdcxx - Class `__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>` > Function Interfaces**

<code>__gnu_cxx::stdio_sync_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;</code> >::file()(GLIBCXX_3.4.2) [LSB]
--

An LSB conforming implementation shall provide the generic data interfaces for Class `__gnu_cxx::stdio_sync_filebuf<wchar_t, std::char_traits<wchar_t>` > specified in Table 9-58, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-58 libstdcxx - Class `__gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t>` > Data Interfaces**

typeinfo for <code>__gnu_cxx::stdio_sync_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;</code> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>__gnu_cxx::stdio_sync_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;</code> >(GLIBCXX_3.4) [CXXABI]
vtable for <code>__gnu_cxx::stdio_sync_filebuf&lt;wchar_t, char_traits&lt;wchar_t&gt;</code> >(GLIBCXX_3.4) [CXXABI]

## 9.1.20 Class exception

### 9.1.20.1 Class data for exception

The virtual table for the `std::exception` class is described by Table 9-59

**Table 9-59 Primary vtable for exception**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for exception

vfunc[0]:	exception::~exception()
vfunc[1]:	exception::~exception()
vfunc[2]:	exception::what() const

The Run Time Type Information for the std::exception class is described by Table 9-60

**Table 9-60 typeinfo for exception**

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

### 9.1.20.2 Interfaces for Class exception

An LSB conforming implementation shall provide the generic methods for Class std::exception specified in Table 9-61, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-61 libstdcxx - Class exception Function Interfaces**

exception::what() const(GLIBCXX_3.4) [ISOCXX]
exception::~exception()(GLIBCXX_3.4) [ISOCXX]
exception::~exception()(GLIBCXX_3.4) [ISOCXX]
exception::~exception()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::exception specified in Table 9-62, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-62 libstdcxx - Class exception Data Interfaces**

typeinfo for exception(GLIBCXX_3.4) [CXXABI]
typeinfo name for exception(GLIBCXX_3.4) [CXXABI]
vtable for exception(GLIBCXX_3.4) [CXXABI]

### 9.1.21 Class bad\_typeid

#### 9.1.21.1 Class data for bad\_typeid

The virtual table for the std::bad\_typeid class is described by Table 9-63

**Table 9-63 Primary vtable for bad\_typeid**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for bad_typeid
vfunc[0]:	bad_typeid::~bad_typeid()
vfunc[1]:	bad_typeid::~bad_typeid()

vfunc[2]:	exception::what() const
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The Run Time Type Information for the std::bad\_typeid class is described by Table 9-64

**Table 9-64 typeinfo for bad\_typeid**

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

### 9.1.21.2 Interfaces for Class bad\_typeid

An LSB conforming implementation shall provide the generic methods for Class std::bad\_typeid specified in Table 9-65, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-65 libstdc++ - Class bad\_typeid Function Interfaces**

bad_typeid::~bad_typeid()(GLIBCXX_3.4) [ISOCXX]
bad_typeid::~bad_typeid()(GLIBCXX_3.4) [ISOCXX]
bad_typeid::~bad_typeid()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::bad\_typeid specified in Table 9-66, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-66 libstdc++ - Class bad\_typeid Data Interfaces**

typeinfo for bad_typeid(GLIBCXX_3.4) [CXXABI]
typeinfo name for bad_typeid(GLIBCXX_3.4) [CXXABI]
vtable for bad_typeid(GLIBCXX_3.4) [CXXABI]

### 9.1.22 Class logic\_error

#### 9.1.22.1 Class data for logic\_error

The virtual table for the std::logic\_error class is described by Table 9-67

**Table 9-67 Primary vtable for logic\_error**

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

The Run Time Type Information for the std::logic\_error class is described by Table 9-68

**Table 9-68 typeinfo for logic\_error**

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

### 9.1.22.2 Interfaces for Class logic\_error

An LSB conforming implementation shall provide the generic methods for Class std::logic\_error specified in Table 9-69, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-69 libstdc++ - Class logic\_error Function Interfaces**

logic_error::what() const(GLIBCXX_3.4) [ISOCXX]
logic_error::logic_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
logic_error::logic_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
logic_error::~logic_error()(GLIBCXX_3.4) [ISOCXX]
logic_error::~logic_error()(GLIBCXX_3.4) [ISOCXX]
logic_error::~logic_error()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::logic\_error specified in Table 9-70, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-70 libstdc++ - Class logic\_error Data Interfaces**

typeinfo for logic_error(GLIBCXX_3.4) [CXXABI]
typeinfo name for logic_error(GLIBCXX_3.4) [CXXABI]
vtable for logic_error(GLIBCXX_3.4) [CXXABI]

### 9.1.23 Class range\_error

#### 9.1.23.1 Class data for range\_error

The virtual table for the std::range\_error class is described by Table 9-71

**Table 9-71 Primary vtable for range\_error**

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

The Run Time Type Information for the std::range\_error class is described by Table 9-72

**Table 9-72 typeinfo for range\_error**

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

### 9.1.23.2 Interfaces for Class range\_error

An LSB conforming implementation shall provide the generic methods for Class std::range\_error specified in Table 9-73, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-73 libstdc++ - Class range\_error Function Interfaces**

range_error::range_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
range_error::range_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
range_error::~range_error()(GLIBCXX_3.4) [ISO CXX]
range_error::~range_error()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::range\_error specified in Table 9-74, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-74 libstdc++ - Class range\_error Data Interfaces**

typeinfo for range_error(GLIBCXX_3.4) [CXXABI]
typeinfo name for range_error(GLIBCXX_3.4) [CXXABI]
vtable for range_error(GLIBCXX_3.4) [CXXABI]

## 9.1.24 Class domain\_error

### 9.1.24.1 Class data for domain\_error

The virtual table for the std::domain\_error class is described by Table 9-75

**Table 9-75 Primary vtable for domain\_error**

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

The Run Time Type Information for the std::domain\_error class is described by Table 9-76

**Table 9-76 typeinfo for domain\_error**

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

### 9.1.24.2 Interfaces for Class domain\_error

An LSB conforming implementation shall provide the generic methods for Class std::domain\_error specified in Table 9-77, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-77 libstdc++ - Class domain\_error Function Interfaces**

domain_error::domain_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
domain_error::domain_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
domain_error::~domain_error()(GLIBCXX_3.4) [ISO CXX]
domain_error::~domain_error()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::domain\_error specified in Table 9-78, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-78 libstdc++ - Class domain\_error Data Interfaces**

typeinfo for domain_error(GLIBCXX_3.4) [CXXABI]
typeinfo name for domain_error(GLIBCXX_3.4) [CXXABI]
vtable for domain_error(GLIBCXX_3.4) [CXXABI]

### 9.1.25 Class length\_error

#### 9.1.25.1 Class data for length\_error

The virtual table for the std::length\_error class is described by Table 9-79

**Table 9-79 Primary vtable for length\_error**

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

The Run Time Type Information for the std::length\_error class is described by Table 9-80

**Table 9-80 typeinfo for length\_error**

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

### 9.1.25.2 Interfaces for Class length\_error

An LSB conforming implementation shall provide the generic methods for Class std::length\_error specified in Table 9-81, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-81 libstdcxx - Class length\_error Function Interfaces**

length_error::length_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
length_error::length_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
length_error::~length_error()(GLIBCXX_3.4) [ISOCXX]
length_error::~length_error()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::length\_error specified in Table 9-82, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-82 libstdcxx - Class length\_error Data Interfaces**

typeinfo for length_error(GLIBCXX_3.4) [CXXABI]
typeinfo name for length_error(GLIBCXX_3.4) [CXXABI]
vtable for length_error(GLIBCXX_3.4) [CXXABI]

### 9.1.26 Class out\_of\_range

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

The virtual table for the std::out\_of\_range class is described by Table 9-83

**Table 9-83 Primary vtable for out\_of\_range**

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

The Run Time Type Information for the std::out\_of\_range class is described by Table 9-84

**Table 9-84 typeinfo for out\_of\_range**

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

### 9.1.26.2 Interfaces for Class out\_of\_range

An LSB conforming implementation shall provide the generic methods for Class std::out\_of\_range specified in Table 9-85, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-85 libstdcxx - Class out\_of\_range Function Interfaces**

out_of_range::out_of_range(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
out_of_range::out_of_range(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
out_of_range::~out_of_range()(GLIBCXX_3.4) [ISO CXX]
out_of_range::~out_of_range()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::out\_of\_range specified in Table 9-86, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-86 libstdcxx - Class out\_of\_range Data Interfaces**

typeinfo for out_of_range(GLIBCXX_3.4) [CXXABI]
typeinfo name for out_of_range(GLIBCXX_3.4) [CXXABI]
vtable for out_of_range(GLIBCXX_3.4) [CXXABI]

### 9.1.27 Class bad\_exception

#### 9.1.27.1 Class data for bad\_exception

The virtual table for the std::bad\_exception class is described by Table 9-87

**Table 9-87 Primary vtable for bad\_exception**

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

The Run Time Type Information for the std::bad\_exception class is described by Table 9-88

**Table 9-88 typeinfo for bad\_exception**

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

**9.1.27.2 Interfaces for Class bad\_exception**

An LSB conforming implementation shall provide the generic methods for Class std::bad\_exception specified in Table 9-89, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-89 libstdcxx - Class bad\_exception Function Interfaces**

bad_exception::~bad_exception()(GLIBCXX_3.4) [ISOCXX]
bad_exception::~bad_exception()(GLIBCXX_3.4) [ISOCXX]
bad_exception::~bad_exception()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::bad\_exception specified in Table 9-90, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-90 libstdcxx - Class bad\_exception Data Interfaces**

typeinfo for bad_exception(GLIBCXX_3.4) [CXXABI]
typeinfo name for bad_exception(GLIBCXX_3.4) [CXXABI]
vtable for bad_exception(GLIBCXX_3.4) [CXXABI]

**9.1.28 Class runtime\_error****9.1.28.1 Class data for runtime\_error**

The virtual table for the std::runtime\_error class is described by Table 9-91

**Table 9-91 Primary vtable for runtime\_error**

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

The Run Time Type Information for the std::runtime\_error class is described by Table 9-92

**Table 9-92 typeinfo for runtime\_error**

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

### 9.1.28.2 Interfaces for Class runtime\_error

An LSB conforming implementation shall provide the generic methods for Class std::runtime\_error specified in Table 9-93, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-93 libstdcxx - Class runtime\_error Function Interfaces**

runtime_error::what() const(GLIBCXX_3.4) [ISOCXX]
runtime_error::runtime_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
runtime_error::runtime_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
runtime_error::~runtime_error()(GLIBCXX_3.4) [ISOCXX]
runtime_error::~runtime_error()(GLIBCXX_3.4) [ISOCXX]
runtime_error::~runtime_error()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::runtime\_error specified in Table 9-94, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-94 libstdcxx - Class runtime\_error Data Interfaces**

typeinfo for runtime_error(GLIBCXX_3.4) [CXXABI]
typeinfo name for runtime_error(GLIBCXX_3.4) [CXXABI]
vtable for runtime_error(GLIBCXX_3.4) [CXXABI]

## 9.1.29 Class overflow\_error

### 9.1.29.1 Class data for overflow\_error

The virtual table for the std::overflow\_error class is described by Table 9-95

**Table 9-95 Primary vtable for overflow\_error**

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

The Run Time Type Information for the std::overflow\_error class is described by Table 9-96

**Table 9-96 typeinfo for overflow\_error**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
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Name	typeinfo name for overflow_error
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### 9.1.29.2 Interfaces for Class `overflow_error`

An LSB conforming implementation shall provide the generic methods for Class `std::overflow_error` specified in Table 9-97, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-97 libstdc++ - Class `overflow_error` Function Interfaces**

overflow_error::overflow_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOcxx]
overflow_error::overflow_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOcxx]
overflow_error::~overflow_error()(GLIBCXX_3.4) [ISOcxx]
overflow_error::~overflow_error()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::overflow_error` specified in Table 9-98, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-98 libstdc++ - Class `overflow_error` Data Interfaces**

typeinfo for overflow_error(GLIBCXX_3.4) [CXXABI]
typeinfo name for overflow_error(GLIBCXX_3.4) [CXXABI]
vtable for overflow_error(GLIBCXX_3.4) [CXXABI]

### 9.1.30 Class `underflow_error`

#### 9.1.30.1 Class data for `underflow_error`

The virtual table for the `std::underflow_error` class is described by Table 9-99

**Table 9-99 Primary vtable for `underflow_error`**

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

The Run Time Type Information for the `std::underflow_error` class is described by Table 9-100

**Table 9-100 typeinfo for `underflow_error`**

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

### 9.1.30.2 Interfaces for Class underflow\_error

An LSB conforming implementation shall provide the generic methods for Class std::underflow\_error specified in Table 9-101, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-101 libstdc++ - Class underflow\_error Function Interfaces**

underflow_error::underflow_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
underflow_error::underflow_error(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
underflow_error::~underflow_error()(GLIBCXX_3.4) [ISO CXX]
underflow_error::~underflow_error()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::underflow\_error specified in Table 9-102, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-102 libstdc++ - Class underflow\_error Data Interfaces**

typeinfo for underflow_error(GLIBCXX_3.4) [CXXABI]
typeinfo name for underflow_error(GLIBCXX_3.4) [CXXABI]
vtable for underflow_error(GLIBCXX_3.4) [CXXABI]

### 9.1.31 Class invalid\_argument

#### 9.1.31.1 Class data for invalid\_argument

The virtual table for the std::invalid\_argument class is described by Table 9-103

**Table 9-103 Primary vtable for invalid\_argument**

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

The Run Time Type Information for the std::invalid\_argument class is described by Table 9-104

**Table 9-104 typeinfo for invalid\_argument**

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

### 9.1.31.2 Interfaces for Class invalid\_argument

An LSB conforming implementation shall provide the generic methods for Class std::invalid\_argument specified in Table 9-105, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-105 libstdc++ - Class invalid\_argument Function Interfaces**

invalid_argument::invalid_argument(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
invalid_argument::invalid_argument(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISO CXX]
invalid_argument::~invalid_argument()(GLIBCXX_3.4) [ISO CXX]
invalid_argument::~invalid_argument()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::invalid\_argument specified in Table 9-106, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-106 libstdc++ - Class invalid\_argument Data Interfaces**

typeinfo for invalid_argument(GLIBCXX_3.4) [CXXABI]
typeinfo name for invalid_argument(GLIBCXX_3.4) [CXXABI]
vtable for invalid_argument(GLIBCXX_3.4) [CXXABI]

## 9.1.32 Class bad\_cast

### 9.1.32.1 Class data for bad\_cast

The virtual table for the std::bad\_cast class is described by Table 9-107

**Table 9-107 Primary vtable for bad\_cast**

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

The Run Time Type Information for the std::bad\_cast class is described by Table 9-108

**Table 9-108 typeinfo for bad\_cast**

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

### 9.1.32.2 Interfaces for Class `bad_cast`

An LSB conforming implementation shall provide the generic methods for Class `std::bad_cast` specified in Table 9-109, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-109 libstdcxx - Class `bad_cast` Function Interfaces**

bad_cast::~bad_cast()(GLIBCXX_3.4) [ISOcxx]
bad_cast::~bad_cast()(GLIBCXX_3.4) [ISOcxx]
bad_cast::~bad_cast()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::bad_cast` specified in Table 9-110, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-110 libstdcxx - Class `bad_cast` Data Interfaces**

typeinfo for bad_cast(GLIBCXX_3.4) [CXXABI]
typeinfo name for bad_cast(GLIBCXX_3.4) [CXXABI]
vtable for bad_cast(GLIBCXX_3.4) [CXXABI]

### 9.1.33 Class `bad_alloc`

#### 9.1.33.1 Class data for `bad_alloc`

The virtual table for the `std::bad_alloc` class is described by Table 9-111

**Table 9-111 Primary vtable for `bad_alloc`**

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

The Run Time Type Information for the `std::bad_alloc` class is described by Table 9-112

**Table 9-112 typeinfo for `bad_alloc`**

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

#### 9.1.33.2 Interfaces for Class `bad_alloc`

An LSB conforming implementation shall provide the generic methods for Class `std::bad_alloc` specified in Table 9-113, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-113 libstdc++ - Class bad\_alloc Function Interfaces**

bad_alloc::~bad_alloc()(GLIBCXX_3.4) [ISO CXX]
bad_alloc::~bad_alloc()(GLIBCXX_3.4) [ISO CXX]
bad_alloc::~bad_alloc()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::bad\_alloc specified in Table 9-114, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-114 libstdc++ - Class bad\_alloc Data Interfaces**

typeinfo for bad_alloc(GLIBCXX_3.4) [CXXABI]
typeinfo name for bad_alloc(GLIBCXX_3.4) [CXXABI]
vtable for bad_alloc(GLIBCXX_3.4) [CXXABI]

### 9.1.34 struct \_\_numeric\_limits\_base

#### 9.1.34.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct \_\_numeric\_limits\_base specified in Table 9-115, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-115 libstdc++ - struct \_\_numeric\_limits\_base Data Interfaces**

__numeric_limits_base::has_denorm(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::is_bounded(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::is_integer(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::round_style(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::has_infinity(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::max_exponent(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::min_exponent(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::is_specialized(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::max_exponent10(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::min_exponent10(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::tininess_before(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::radix(GLIBCXX_3.4) [ISO CXX]

__numeric_limits_base::traps(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::digits(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::digits10(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::is_exact(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::is_iec559(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::is_modulo(GLIBCXX_3.4) [ISO CXX]
__numeric_limits_base::is_signed(GLIBCXX_3.4) [ISO CXX]

### 9.1.35 struct numeric\_limits<long double>

#### 9.1.35.1 Interfaces for struct numeric\_limits<long double>

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

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<long double> specified in Table 9-116, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-116 libstdcxx - struct numeric\_limits<long double> Data Interfaces**

numeric_limits<long double>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::tinytess_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long double>::is_exact(GLIBCXX_3.4) [ISO CXX]

numeric_limits<long double>::is_iec559(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long double>::is_modulo(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long double>::is_signed(GLIBCXX_3.4) [ISOcxx]

### 9.1.36 struct numeric\_limits<long long>

#### 9.1.36.1 Interfaces for struct numeric\_limits<long long>

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

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<long long> specified in Table 9-117, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-117 libstdcxx - struct numeric\_limits<long long> Data Interfaces**

numeric_limits<long long>::has_denorm(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::is_bounded(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::is_integer(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::round_style(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::has_infinity(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::max_exponent(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::min_exponent(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::has_quiet_NaN(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::is_specialized(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::max_exponent10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::min_exponent10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::has_denorm_loss(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::tinyness_before(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::has_signaling_NaN(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::radix(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::traps(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::digits(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::digits10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::is_exact(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::is_iec559(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::is_modulo(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long long>::is_signed(GLIBCXX_3.4) [ISOcxx]

### 9.1.37 struct numeric\_limits<unsigned long long>

#### 9.1.37.1 Interfaces for struct numeric\_limits<unsigned long long>

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

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<unsigned long long> specified in Table 9-118, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-118 libstdcxx - struct numeric\_limits<unsigned long long> Data Interfaces**

numeric_limits<unsigned long long>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::is_iec559(GLIBCXX_3.4) [ISO CXX]

numeric_limits<unsigned long long>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long long>::is_signed(GLIBCXX_3.4) [ISO CXX]

### 9.1.38 struct numeric\_limits<float>

#### 9.1.38.1 Interfaces for struct numeric\_limits<float>

No external methods are defined for libstdcxx - struct numeric\_limits<float> in this part of the specification. See also the relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<float> specified in Table 9-119, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-119 libstdcxx - struct numeric\_limits<float> Data Interfaces**

numeric_limits<float>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<float>::is_signed(GLIBCXX_3.4) [ISO CXX]

### 9.1.39 struct numeric\_limits<double>

#### 9.1.39.1 Interfaces for struct numeric\_limits<double>

No external methods are defined for libstdcxx - struct numeric\_limits<double> in this part of the specification. See also the relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<double> specified in Table 9-120, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-120 libstdcxx - struct numeric\_limits<double> Data Interfaces**

numeric_limits<double>::has_denorm(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::is_bounded(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::is_integer(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::round_style(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::has_infinity(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::max_exponent(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::min_exponent(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::has_quiet_NaN(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::is_specialized(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::max_exponent10(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::min_exponent10(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::has_denorm_loss(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::tinyness_before(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::has_signaling_NaN(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::radix(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::traps(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::digits(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::digits10(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::is_exact(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::is_iec559(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::is_modulo(GLIBCXX_3.4) [ISOCXX]
numeric_limits<double>::is_signed(GLIBCXX_3.4) [ISOCXX]

### 9.1.40 struct numeric\_limits<short>

#### 9.1.40.1 Interfaces for struct numeric\_limits<short>

No external methods are defined for libstdcxx - struct numeric\_limits<short> in this part of the specification. See also the relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<short> specified in Table 9-121, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-121 libstdc++ - struct numeric\_limits<short> Data Interfaces**

numeric_limits<short>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<short>::is_signed(GLIBCXX_3.4) [ISO CXX]

## 9.1.41 struct numeric\_limits<unsigned short>

### 9.1.41.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<unsigned short> specified in Table 9-122, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-122 libstdc++ - struct numeric\_limits<unsigned short> Data Interfaces**

numeric_limits<unsigned short>::has_denorm(GLIBCXX_3.4) [ISO CXX]
---

numeric_limits<unsigned short>::is_bounded(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::is_integer(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::round_style(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::has_infinity(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::max_exponent(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::min_exponent(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::has_quiet_NaN(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::is_specialized(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::max_exponent10(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::min_exponent10(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::has_denorm_loss(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::tinyness_before(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::has_signaling_NaN(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::radix(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::traps(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::digits(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::digits10(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::is_exact(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::is_iec559(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::is_modulo(GLIBCXX_3.4) [ISOCXX]
numeric_limits<unsigned short>::is_signed(GLIBCXX_3.4) [ISOCXX]

### 9.1.42 struct numeric\_limits<int>

#### 9.1.42.1 Interfaces for struct numeric\_limits<int>

No external methods are defined for libstdcxx - struct numeric\_limits<int> in this part of the specification. See also the relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<int> specified in Table 9-123, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-123 libstdcxx - struct numeric\_limits<int> Data Interfaces**

numeric_limits<int>::has_denorm(GLIBCXX_3.4) [ISOCXX]
numeric_limits<int>::is_bounded(GLIBCXX_3.4) [ISOCXX]
numeric_limits<int>::is_integer(GLIBCXX_3.4) [ISOCXX]
numeric_limits<int>::round_style(GLIBCXX_3.4) [ISOCXX]
numeric_limits<int>::has_infinity(GLIBCXX_3.4) [ISOCXX]

numeric_limits<int>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<int>::is_signed(GLIBCXX_3.4) [ISO CXX]

### 9.1.43 struct numeric\_limits<unsigned int>

#### 9.1.43.1 Interfaces for struct numeric\_limits<unsigned int>

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

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<unsigned int> specified in Table 9-124, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-124 libstdcxx - struct numeric\_limits<unsigned int> Data Interfaces**

numeric_limits<unsigned int>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::has_INFINITY(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::is_specialized(GLIBCXX_3.4) [ISO CXX]

numeric_limits<unsigned int>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned int>::is_signed(GLIBCXX_3.4) [ISO CXX]

### 9.1.44 struct numeric\_limits<long>

#### 9.1.44.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<long> specified in Table 9-125, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-125 libstdcxx - struct numeric\_limits<long> Data Interfaces**

numeric_limits<long>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<long>::tinyness_before(GLIBCXX_3.4) [ISO CXX]

numeric_limits<long>::has_signaling_NaN(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::radix(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::traps(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::digits(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::digits10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::is_exact(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::is_iec559(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::is_modulo(GLIBCXX_3.4) [ISOcxx]
numeric_limits<long>::is_signed(GLIBCXX_3.4) [ISOcxx]

### 9.1.45 struct numeric\_limits<unsigned long>

#### 9.1.45.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<unsigned long> specified in Table 9-126, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-126 libstdcxx - struct numeric\_limits<unsigned long> Data Interfaces**

numeric_limits<unsigned long>::has_denorm(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::is_bounded(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::is_integer(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::round_style(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::has_infinity(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::max_exponent(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::min_exponent(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::has_quiet_NaN(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::is_specialized(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::max_exponent10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::min_exponent10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::has_denorm_loss(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::tininess_before(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::has_signaling_NaN(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::radix(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::traps(GLIBCXX_3.4) [ISOcxx]
numeric_limits<unsigned long>::digits(GLIBCXX_3.4) [ISOcxx]

numeric_limits<unsigned long>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned long>::is_signed(GLIBCXX_3.4) [ISO CXX]

### 9.1.46 struct numeric\_limits<wchar\_t>

#### 9.1.46.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<wchar\_t> specified in Table 9-127, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-127 libstdcxx - struct numeric\_limits<wchar\_t> Data Interfaces**

numeric_limits<wchar_t>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::tinytess_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<wchar_t>::is_modulo(GLIBCXX_3.4) [ISO CXX]

numeric_limits<wchar_t>::is_signed(GLIBCXX_3.4) [ISO CXX]
---

## 9.1.47 struct numeric\_limits<unsigned char>

### 9.1.47.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<unsigned char> specified in Table 9-128, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-128 libstdcxx - struct numeric\_limits<unsigned char> Data Interfaces**

numeric_limits<unsigned char>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<unsigned char>::is_signed(GLIBCXX_3.4) [ISO CXX]

## 9.1.48 struct numeric\_limits<signed char>

### 9.1.48.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for struct numeric\_limits<signed char> specified in Table 9-129, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-129 libstdcxx - struct numeric\_limits<signed char> Data Interfaces**

numeric_limits<signed char>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<signed char>::is_signed(GLIBCXX_3.4) [ISO CXX]

## 9.1.49 struct numeric\_limits<char>

### 9.1.49.1 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for `struct numeric_limits<char>` specified in Table 9-130, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-130 libstdc++ - struct numeric\_limits<char> Data Interfaces**

numeric_limits<char>::has_denorm(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::is_bounded(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::is_integer(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::round_style(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::has_infinity(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::max_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::min_exponent(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::has_quiet_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::is_specialized(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::max_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::min_exponent10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::has_denorm_loss(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::tinyness_before(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::has_signaling_NaN(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::radix(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::traps(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::digits(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::digits10(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::is_exact(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::is_iec559(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::is_modulo(GLIBCXX_3.4) [ISO CXX]
numeric_limits<char>::is_signed(GLIBCXX_3.4) [ISO CXX]

## 9.1.50 struct numeric\_limits<bool>

### 9.1.50.1 Interfaces for struct numeric\_limits<bool>

No external methods are defined for `libstdc++ - struct numeric_limits<bool>` in this part of the specification. See also the relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for `struct numeric_limits<bool>` specified in Table 9-131, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-131 libstdc++ - struct numeric\_limits<bool> Data Interfaces**

numeric_limits<bool>::has_denorm(GLIBCXX_3.4) [ISO CXX]
---

numeric_limits<bool>::is_bounded(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::is_integer(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::round_style(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::has_infinity(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::max_exponent(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::min_exponent(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::has_quiet_NaN(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::is_specialized(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::max_exponent10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::min_exponent10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::has_denorm_loss(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::tinyness_before(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::has_signaling_NaN(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::radix(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::traps(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::digits(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::digits10(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::is_exact(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::is_iec559(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::is_modulo(GLIBCXX_3.4) [ISOcxx]
numeric_limits<bool>::is_signed(GLIBCXX_3.4) [ISOcxx]

### 9.1.51 Class ctype\_base

#### 9.1.51.1 Class data for ctype\_base

The Run Time Type Information for the std::ctype\_base class is described by Table 9-132

**Table 9-132 typeinfo for ctype\_base**

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

#### 9.1.51.2 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for Class std::ctype\_base specified in Table 9-133, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-133 libstdc++ - Class ctype\_base Data Interfaces**

ctype_base::alnum(GLIBCXX_3.4) [ISOCXX]
ctype_base::alpha(GLIBCXX_3.4) [ISOCXX]
ctype_base::cntrl(GLIBCXX_3.4) [ISOCXX]
ctype_base::digit(GLIBCXX_3.4) [ISOCXX]
ctype_base::graph(GLIBCXX_3.4) [ISOCXX]
ctype_base::lower(GLIBCXX_3.4) [ISOCXX]
ctype_base::print(GLIBCXX_3.4) [ISOCXX]
ctype_base::punct(GLIBCXX_3.4) [ISOCXX]
ctype_base::space(GLIBCXX_3.4) [ISOCXX]
ctype_base::upper(GLIBCXX_3.4) [ISOCXX]
ctype_base::xdigit(GLIBCXX_3.4) [ISOCXX]
typeinfo for ctype_base(GLIBCXX_3.4) [CXXABI]
typeinfo name for ctype_base(GLIBCXX_3.4) [CXXABI]

## 9.1.52 Class \_\_ctype\_abstract\_base<char>

### 9.1.52.1 Class data for \_\_ctype\_abstract\_base<char>

The virtual table for the std::\_\_ctype\_abstract\_base<char> class is described by Table 9-134

**Table 9-134 Primary vtable for \_\_ctype\_abstract\_base<char>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for __ctype_abstract_base<char>
vfunc[0]:	
vfunc[1]:	
vfunc[2]:	__cxa_pure_virtual
vfunc[3]:	__cxa_pure_virtual
vfunc[4]:	__cxa_pure_virtual
vfunc[5]:	__cxa_pure_virtual
vfunc[6]:	__cxa_pure_virtual
vfunc[7]:	__cxa_pure_virtual
vfunc[8]:	__cxa_pure_virtual
vfunc[9]:	__cxa_pure_virtual
vfunc[10]:	__cxa_pure_virtual
vfunc[11]:	__cxa_pure_virtual

vfunc[12]:	__cxa_pure_virtual
vfunc[13]:	__cxa_pure_virtual

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

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

An LSB conforming implementation shall provide the generic data interfaces for Class `std::__ctype_abstract_base<char>` specified in Table 9-135, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-135 libstdcxx - Class `__ctype_abstract_base<char>` Data Interfaces**

typeinfo for <code>__ctype_abstract_base&lt;char&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>__ctype_abstract_base&lt;char&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>__ctype_abstract_base&lt;char&gt;</code> (GLIBCXX_3.4) [CXXABI]

### 9.1.53 Class `__ctype_abstract_base<wchar_t>`

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

The virtual table for the `std::__ctype_abstract_base<wchar_t>` class is described by Table 9-136

**Table 9-136 Primary vtable for `__ctype_abstract_base<wchar_t>`**

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

vfunc[13]:	__cxa_pure_virtual
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### 9.1.53.2 Interfaces for Class `__ctype_abstract_base<wchar_t>`

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

An LSB conforming implementation shall provide the generic data interfaces for Class `std::__ctype_abstract_base<wchar_t>` specified in Table 9-137, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-137 libstdcxx - Class `__ctype_abstract_base<wchar_t>` Data Interfaces**

typeinfo for <code>__ctype_abstract_base&lt;wchar_t&gt;(GLIBCXX_3.4)</code> [CXXABI]
typeinfo name for <code>__ctype_abstract_base&lt;wchar_t&gt;(GLIBCXX_3.4)</code> [CXXABI]
vtable for <code>__ctype_abstract_base&lt;wchar_t&gt;(GLIBCXX_3.4)</code> [CXXABI]

## 9.1.54 Class `ctype<char>`

### 9.1.54.1 Class data for `ctype<char>`

The virtual table for the `std::ctype<char>` class is described by Table 9-138

**Table 9-138 Primary vtable for `ctype<char>`**

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

### 9.1.54.2 Interfaces for Class `ctype<char>`

An LSB conforming implementation shall provide the generic methods for Class `std::ctype<char>` specified in Table 9-139, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-139 libstdc++ - Class `ctype<char>` Function Interfaces**

<code>ctype&lt;char&gt;::do_tolower(char*, char const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::do_tolower(char) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::do_toupper(char*, char const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::do_toupper(char) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::do_widen(char const*, char const*, char*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::do_widen(char) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::do_narrow(char const*, char const*, char, char*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::do_narrow(char, char) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::classic_table()(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::~ctype()(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::~ctype()(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::~ctype()(GLIBCXX_3.4) [ISOCXX]</code>
<code>bool has_facet&lt;ctype&lt;char&gt;&gt;(locale const&amp;)(GLIBCXX_3.4) [ISOCXX]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::ctype<char>` specified in Table 9-140, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-140 libstdc++ - Class `ctype<char>` Data Interfaces**

<code>ctype&lt;char&gt;::table_size(GLIBCXX_3.4) [ISOCXX]</code>
<code>ctype&lt;char&gt;::id(GLIBCXX_3.4) [ISOCXX]</code>
<code>typeinfo for ctype&lt;char&gt;(GLIBCXX_3.4) [CXXABI]</code>
<code>typeinfo name for ctype&lt;char&gt;(GLIBCXX_3.4) [CXXABI]</code>
<code>vtable for ctype&lt;char&gt;(GLIBCXX_3.4) [CXXABI]</code>

### 9.1.55 Class `ctype<wchar_t>`

#### 9.1.55.1 Class data for `ctype<wchar_t>`

The virtual table for the `std::ctype<wchar_t>` class is described by Table 9-141

**Table 9-141 Primary vtable for `ctype<wchar_t>`**

Base Offset	0
Virtual Base Offset	0

RTTI	typeinfo for ctype<wchar_t>
vfunc[0]:	ctype<wchar_t>::~ctype()
vfunc[1]:	ctype<wchar_t>::~ctype()
vfunc[2]:	ctype<wchar_t>::do_is(unsigned short, wchar_t) const
vfunc[3]:	ctype<wchar_t>::do_is(wchar_t const*, wchar_t const*, unsigned short*) const
vfunc[4]:	ctype<wchar_t>::do_scan_is(unsigned short, wchar_t const*, wchar_t const*) const
vfunc[5]:	ctype<wchar_t>::do_scan_not(unsigned short, wchar_t const*, wchar_t const*) const
vfunc[6]:	ctype<wchar_t>::do_toupper(wchar_t) const
vfunc[7]:	ctype<wchar_t>::do_toupper(wchar_t*, wchar_t const*) const
vfunc[8]:	ctype<wchar_t>::do_tolower(wchar_t) const
vfunc[9]:	ctype<wchar_t>::do_tolower(wchar_t*, wchar_t const*) const
vfunc[10]:	ctype<wchar_t>::do_widen(char) const
vfunc[11]:	ctype<wchar_t>::do_widen(char const*, char const*, wchar_t*) const
vfunc[12]:	ctype<wchar_t>::do_narrow(wchar_t, char) const
vfunc[13]:	ctype<wchar_t>::do_narrow(wchar_t const*, wchar_t const*, char, char*) const

The Run Time Type Information for the std::ctype<wchar\_t> class is described by Table 9-142

**Table 9-142 typeinfo for ctype<wchar\_t>**

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

### 9.1.55.2 Interfaces for Class ctype<wchar\_t>

An LSB conforming implementation shall provide the generic methods for Class std::ctype<wchar\_t> specified in Table 9-143, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-143 libstdc++ - Class ctype<wchar\_t> Function Interfaces**

ctype<wchar_t>::do_scan_is(unsigned short, wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_tolower(wchar_t*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_tolower(wchar_t) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_toupper(wchar_t*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_toupper(wchar_t) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_scan_not(unsigned short, wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::_M_convert_to_wmask(unsigned short) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_is(wchar_t const*, wchar_t const*, unsigned short*) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_is(unsigned short, wchar_t) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_widen(char const*, char const*, wchar_t*) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_widen(char) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_narrow(wchar_t const*, wchar_t const*, char, char*) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::do_narrow(wchar_t, char) const(GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::_M_initialize_ctype() (GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::~ctype() (GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::~ctype() (GLIBCXX_3.4) [ISOCXX]
ctype<wchar_t>::~ctype() (GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::ctype<wchar\_t> specified in Table 9-144, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-144 libstdc++ - Class ctype<wchar\_t> Data Interfaces**

ctype<wchar_t>::id(GLIBCXX_3.4) [ISOCXX]
typeinfo for ctype<wchar_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for ctype<wchar_t>(GLIBCXX_3.4) [CXXABI]
vtable for ctype<wchar_t>(GLIBCXX_3.4) [CXXABI]

## 9.1.56 Class `ctype_byname<char>`

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

The virtual table for the `std::ctype_byname<char>` class is described by Table 9-145

**Table 9-145 Primary vtable for `ctype_byname<char>`**

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

The Run Time Type Information for the `std::ctype_byname<char>` class is described by Table 9-146

**Table 9-146 typeinfo for `ctype_byname<char>`**

Base Vtable	vtable for <code>_cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>ctype_byname&lt;char&gt;</code>

### 9.1.56.2 Interfaces for Class `ctype_byname<char>`

An LSB conforming implementation shall provide the generic methods for Class `std::ctype_byname<char>` specified in Table 9-147, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-147 libstdc++ - Class `ctype_byname<char>` Function Interfaces**

<code>ctype_byname&lt;char&gt;::~ctype_byname() (GLIBCXX_3.4) [ISO CXX]</code>
--

ctype_byname<char>::~ctype_byname()(GLIBCXX_3.4) [ISOcxx]
ctype_byname<char>::~ctype_byname()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::ctype\_byname<char> specified in Table 9-148, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-148 libstdc++ - Class ctype\_byname<char> Data Interfaces**

typeinfo for ctype_byname<char>(GLIBCXX_3.4) [Cxxabi]
typeinfo name for ctype_byname<char>(GLIBCXX_3.4) [Cxxabi]
vtable for ctype_byname<char>(GLIBCXX_3.4) [Cxxabi]

### 9.1.57 Class ctype\_byname<wchar\_t>

#### 9.1.57.1 Interfaces for Class ctype\_byname<wchar\_t>

An LSB conforming implementation shall provide the generic methods for Class std::ctype\_byname<wchar\_t> specified in Table 9-149, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-149 libstdc++ - Class ctype\_byname<wchar\_t> Function Interfaces**

ctype_byname<wchar_t>::~ctype_byname()(GLIBCXX_3.4) [Cxxabi]
ctype_byname<wchar_t>::~ctype_byname()(GLIBCXX_3.4) [Cxxabi]
ctype_byname<wchar_t>::~ctype_byname()(GLIBCXX_3.4) [Cxxabi]

An LSB conforming implementation shall provide the generic data interfaces for Class std::ctype\_byname<wchar\_t> specified in Table 9-150, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-150 libstdc++ - Class ctype\_byname<wchar\_t> Data Interfaces**

typeinfo for ctype_byname<wchar_t>(GLIBCXX_3.4) [Cxxabi]
typeinfo name for ctype_byname<wchar_t>(GLIBCXX_3.4) [Cxxabi]
vtable for ctype_byname<wchar_t>(GLIBCXX_3.4) [Cxxabi]

### 9.1.58 Class basic\_string<char, char\_traits<char>, allocator<char> >

#### 9.1.58.1 Interfaces for Class basic\_string<char, char\_traits<char>, allocator<char> >

An LSB conforming implementation shall provide the generic methods for Class std::basic\_string<char, std::char\_traits<char>, std::allocator<char> > specified in Table 9-151, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-151 libstdc++ - Class basic\_string<char, char\_traits<char>, allocator<char> > Function Interfaces**

basic_string<char, char_traits<char>, allocator<char> >::get_allocator()
--

const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::end() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::_Rep::M_is_leaked() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::_Rep::M_is_shared() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::data() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::rend() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::size() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::begin() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::c_str() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::empty() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::_M_rep() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::length() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::rbegin() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::_M_data() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::_M_iend() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::compare(char const*) const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::compare(basic_string<char, char_traits<char>, allocator<char> > const&) const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::capacity() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::max_size() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::_M_ibegin() const(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char> >::_Alloc_hider::_Alloc_hider(char*, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]

basic_string<char, char_traits<char>, allocator<char>>::_Alloc_hider::_Alloc_hider(char*, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_M_leak_hard()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_S_empty_rep()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_S_copy_chars(char*, __gnu_cxx::__normal_iterator<char const*, basic_string<char, char_traits<char>, allocator<char>> >, __gnu_cxx::__normal_iterator<char const*, basic_string<char, char_traits<char>, allocator<char>> >)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_S_copy_chars(char*, __gnu_cxx::__normal_iterator<char const*, basic_string<char, char_traits<char>, allocator<char>> >, __gnu_cxx::__normal_iterator<char const*, basic_string<char, char_traits<char>, allocator<char>> > >)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_S_copy_chars(char*, char const*, char const*)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_S_copy_chars(char*, char*, char*)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::end()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_M_destroy(allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_M_dispose(allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_M_refcopy()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_M_refdata()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_S_empty_rep()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_M_set_leaked()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_M_set_sharable()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_Rep::_M_grab(allocator<char> const&, allocator<char> const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::rend()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::swap(basic_string<char, char_traits<char>, allocator<char>>&)(GLIBCXX_3.4) [ISOCXX]

basic_string<char, char_traits<char>, allocator<char>>::begin()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::clear()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::erase(__gnu_cxx::__normal_iterator<char*>, basic_string<char, char_traits<char>, allocator<char>> >)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::erase(__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>> >)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::append(char const*)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::append(basic_string<char, char_traits<char>, allocator<char>> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::assign(char const*)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::assign(basic_string<char, char_traits<char>, allocator<char>> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::insert(__gnu_cxx::__normal_iterator<char*>, basic_string<char, char_traits<char>, allocator<char>> >, char)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::rbegin()(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_M_data(char*)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::_M_leak()(GLIBCXX_3.4) [ISOCXX]
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>> >, __gnu_cxx::__normal_iterator<char const*>, basic_string<char, char_traits<char>, allocator<char>> >, __gnu_cxx::__normal_iterator<char const*>, basic_string<char, char_traits<char>, allocator<char>> >)(GLIBCXX_3.4) [ISOCXX]
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*)(GLIBCXX_3.4) [ISOCXX]
basic_string<char, char_traits<char>, allocator<char>>::replace(__gnu_cxx::__normal_iterator<char*>, basic_string<char,



>::basic_string(allocator<char> const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::basic_string(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::basic_string()(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::basic_string<__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> >::operator=(basic_string<char, char_traits<char>, allocator<char> > const&), __gnu_cxx::__normal_iterator<char*, basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::basic_string<char const*>(char const*, char const*, allocator<char> const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::basic_string<char*>(char*, char*, allocator<char> const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::~basic_string()(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::~basic_string()(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::operator=(char const*)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::operator=(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::operator=(char)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::operator+=(char const*)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::operator+=(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::operator+=(char)(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_string<char, std::char\_traits<char>, std::allocator<char> > specified in Table 9-152, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-152 libstdcxx - Class basic\_string<char, char\_traits<char>, allocator<char> > Data Interfaces**

basic_string<char, char_traits<char>, allocator<char>
---

>:_Rep::S_max_size(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>:_Rep::S_terminal(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>:_Rep::S_empty_rep_storage(GLIBCXX_3.4) [ISOcxx]
basic_string<char, char_traits<char>, allocator<char>>::npos(GLIBCXX_3.4) [ISOcxx]

### 9.1.59 Class basic\_string<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t> >

#### 9.1.59.1 Interfaces for Class basic\_string<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t> >

An LSB conforming implementation shall provide the generic methods for Class std::basic\_string<wchar\_t, std::char\_traits<wchar\_t>, std::allocator<wchar\_t> > specified in Table 9-153, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-153 libstdc++ - Class basic\_string<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t> > Function Interfaces**

basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::get_allocator() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::end() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>:_Rep::M_is_leaked() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>:_Rep::M_is_shared() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::data() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::rend() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::size() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::begin() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::c_str() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::empty() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_M_rep() const(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::length() const(GLIBCXX_3.4) [ISOcxx]

basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::rbegin() const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_M_data() const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_M_iend() const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::compare(wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::compare(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&) const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::capacity() const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::max_size() const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_M_ibegin() const(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_Alloc_hider::_Alloc_hider(wchar_t*, allocator<wchar_t> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_Alloc_hider::_Alloc_hider(wchar_t*, allocator<wchar_t> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_M_leak_hard()(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_S_empty_rep()(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_S_copy_chars(wchar_t*, __gnu_cxx::__normal_iterator<wchar_t const*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > >, __gnu_cxx::__normal_iterator<wchar_t const*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > >)(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_S_copy_chars(wchar_t*, __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> > >)(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_S_copy_chars(wchar_t*, wchar_t const*, wchar_t const*)(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::_S_copy_chars(wchar_t*, wchar_t*, wchar_t*)(GLIBCXX_3.4) [ISOCXX]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::end()(GLIBCXX_3.4) [ISOCXX]

basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_M_destroy(allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_M_dispose(allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_M_refcopy()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_M_refdata()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_S_empty_rep()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_M_set_leaked()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_M_set_sharable()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_M_grab(allocator<wchar_t> const&, allocator<wchar_t> const&)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::rend()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::swap(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>&)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::begin()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::clear()(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::erase(__gnu_cxx::__normal_iterator<wchar_t*, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>>)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::erase(__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>>>)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::append(wchar_t const*)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::append(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>>::assign(wchar_t const*)(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::assign(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&)(GLIBCXX_3.4) [ISOcxx]







operator+<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>(wchar_t, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>> const&)(GLIBCXX_3.4) [ISOcxx]
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An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_string<wchar\_t, std::char\_traits<wchar\_t>, std::allocator<wchar\_t>> specified in Table 9-154, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-154 libstdc++ - Class basic\_string<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>> Data Interfaces**

basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_S_max_size(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_S_terminal(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::_Rep::_S_empty_rep_storage(GLIBCXX_3.4) [ISOcxx]
basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>::npos(GLIBCXX_3.4) [ISOcxx]

### 9.1.60 Class basic\_stringstream<char, char\_traits<char>, allocator<char>>

#### 9.1.60.1 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 in the relevant architecture specific part of this specification.

The VTT for the std::basic\_stringstream<char, std::char\_traits<char>, std::allocator<char>> class is described by Table 9-155

**Table 9-155 VTT for basic\_stringstream<char, char\_traits<char>, allocator<char>>**

VTT Name	_ZTTSt18basic_stringstreamIcSt11char_traitsIcESaIcEE
Number of Entries	10

#### 9.1.60.2 Interfaces for Class basic\_stringstream<char, char\_traits<char>, allocator<char>>

An LSB conforming implementation shall provide the generic methods for Class std::basic\_stringstream<char, std::char\_traits<char>, std::allocator<char>> specified in Table 9-156, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-156 libstdc++ - Class basic\_stringstream<char, char\_traits<char>, allocator<char>> Function Interfaces**

basic_stringstream<char, char_traits<char>, allocator<char>>::str() const(GLIBCXX_3.4) [ISOcxx]
--

basic_stringstream<char, char_traits<char>, allocator<char>>::rdbuf() const(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::str(basic_string<char, char_traits<char>, allocator<char>> const&)(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::basic_stringstream(basic_string<char, char_traits<char>, allocator<char>> const&, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::basic_stringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::basic_stringstream(basic_string<char, char_traits<char>, allocator<char>> const&, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::basic_stringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::~basic_stringstream()(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::~basic_stringstream()(GLIBCXX_3.4) [ISOcxx]
basic_stringstream<char, char_traits<char>, allocator<char>>::~basic_stringstream()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_stringstream<char, std::char\_traits<char>, std::allocator<char>> specified in Table 9-157, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-157 libstdcxx - Class basic\_stringstream<char, char\_traits<char>, allocator<char>> Data Interfaces**

typeinfo for basic_stringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_stringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_stringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_stringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]

### 9.1.61 Class basic\_stringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>>

#### 9.1.61.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_stringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` class is described by Table 9-158

**Table 9-158 VTT for `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`**

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

### 9.1.61.2 Interfaces for Class `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_stringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` specified in Table 9-159, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-159 libstdc++ - Class `basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Function Interfaces**

<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::str() const(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::rdbuf() const(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::str(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_stringstream(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_stringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_stringstream(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_stringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringstream()(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringstream()(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_stringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringstream()(GLIBCXX_3.4) [ISO CXX]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_stringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` specified in Table 9-160, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-160 libstdcxx - Class basic\_stringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t> > Data Interfaces**

typeinfo for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]
VTT for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]
vtable for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]

### 9.1.62 Class basic\_istringstream<char, char\_traits<char>, allocator<char> >

#### 9.1.62.1 Class data for basic\_istringstream<char, char\_traits<char>, allocator<char> >

The virtual table for the std::basic\_istringstream<char, std::char\_traits<char>, std::allocator<char> > class is described in the relevant architecture specific part of this specification.

The VTT for the std::basic\_istringstream<char, std::char\_traits<char>, std::allocator<char> > class is described by Table 9-161

**Table 9-161 VTT for basic\_istringstream<char, char\_traits<char>, allocator<char> >**

VTT Name	_ZTTSt19basic_istringstreamIcSt11char_traitsIcESaIcEE
Number of Entries	4

#### 9.1.62.2 Interfaces for Class basic\_istringstream<char, char\_traits<char>, allocator<char> >

An LSB conforming implementation shall provide the generic methods for Class std::basic\_istringstream<char, std::char\_traits<char>, std::allocator<char> > specified in Table 9-162, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-162 libstdcxx - Class basic\_istringstream<char, char\_traits<char>, allocator<char> > Function Interfaces**

basic_istringstream<char, char_traits<char>, allocator<char> >::str() const(GLIBCXX_3.4) [ISOCXX]
basic_istringstream<char, char_traits<char>, allocator<char> >::rdbuf() const(GLIBCXX_3.4) [ISOCXX]
basic_istringstream<char, char_traits<char>, allocator<char> >::str(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_istringstream<char, char_traits<char>, allocator<char> >::basic_istringstream(basic_string<char, char_traits<char>, allocator<char> > const&, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]

basic_istringstream<char, char_traits<char>, allocator<char>>::basic_istringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_istringstream<char, char_traits<char>, allocator<char>>::basic_istringstream(basic_string<char, char_traits<char>, allocator<char>> const&, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_istringstream<char, char_traits<char>, allocator<char>>::basic_istringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_istringstream<char, char_traits<char>, allocator<char>>::~basic_istringstream()(GLIBCXX_3.4) [ISOcxx]
basic_istringstream<char, char_traits<char>, allocator<char>>::~basic_istringstream()(GLIBCXX_3.4) [ISOcxx]
basic_istringstream<char, char_traits<char>, allocator<char>>::~basic_istringstream()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_istringstream<char, std::char\_traits<char>, std::allocator<char>> specified in Table 9-163, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-163 libstdc++ - Class basic\_istringstream<char, char\_traits<char>, allocator<char>> Data Interfaces**

typeinfo for basic_istringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_istringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_istringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_istringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]

### 9.1.63 Class basic\_istringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>>

#### 9.1.63.1 Class data for basic\_istringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>>

The virtual table for the std::basic\_istringstream<wchar\_t, std::char\_traits<wchar\_t>, std::allocator<wchar\_t>> class is described in the relevant architecture specific part of this specification.

The VTT for the std::basic\_istringstream<wchar\_t, std::char\_traits<wchar\_t>, std::allocator<wchar\_t>> class is described by Table 9-164

**Table 9-164 VTT for basic\_istringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>>**

VTT Name	_ZTTSt19basic_istringstreamIwSt11char_traitsIwESaIwEE
Number of Entries	4

### 9.1.63.2 Interfaces for Class `basic_istringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_istringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` specified in Table 9-165, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-165 libstdc++ - Class `basic_istringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>` Function Interfaces**

<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::str() const(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::rdbuf() const(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::str(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_istringstream(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_istringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_istringstream(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::basic_istringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_istringstream()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_istringstream()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_istringstream()(GLIBCXX_3.4) [ISOcxx]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_istringstream<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` specified in Table 9-166, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-166 libstdc++ - Class `basic_istringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t>` Data Interfaces**

<code>typeinfo for basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;(GLIBCXX_3.4) [CXXABI]</code>
<code>typeinfo name for basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;(GLIBCXX_3.4) [CXXABI]</code>
<code>VTT for basic_istringstream&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;(GLIBCXX_3.4) [CXXABI]</code>

vtable for basic_istringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]
--

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

#### 9.1.64.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_ostringstream<char, std::char_traits<char>, std::allocator<char> >` class is described by Table 9-167

**Table 9-167 VTT for `basic_ostringstream<char, char_traits<char>, allocator<char> >`**

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

#### 9.1.64.2 Interfaces for Class `basic_ostringstream<char, char_traits<char>, allocator<char> >`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_ostringstream<char, std::char_traits<char>, std::allocator<char> >` specified in Table 9-168, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-168 libstdc++ - Class `basic_ostringstream<char, char_traits<char>, allocator<char> >` Function Interfaces**

<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::str()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::rdbuf()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::str(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_ostringstream(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_ostringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_ostringstream(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;::basic_ostringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]</code>
<code>basic_ostringstream&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;</code>

>::~basic_ostringstream()(GLIBCXX_3.4) [ISOcxx]
basic_ostringstream<char, char_traits<char>, allocator<char>>::~basic_ostringstream()(GLIBCXX_3.4) [ISOcxx]
basic_ostringstream<char, char_traits<char>, allocator<char>>::~basic_ostringstream()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_ostringstream<char, std::char\_traits<char>, std::allocator<char>> specified in Table 9-169, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-169 libstdc++ - Class basic\_ostringstream<char, char\_traits<char>, allocator<char>> Data Interfaces**

typeinfo for basic_ostringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_ostringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_ostringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_ostringstream<char, char_traits<char>, allocator<char>>(GLIBCXX_3.4) [CXXABI]

### 9.1.65 Class basic\_ostringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>>

#### 9.1.65.1 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 in the relevant architecture specific part of this specification.

The VTT for the std::basic\_ostringstream<wchar\_t, std::char\_traits<wchar\_t>, std::allocator<wchar\_t>> class is described by Table 9-170

**Table 9-170 VTT for basic\_ostringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>>**

VTT Name	_ZTTSt19basic_ostringstreamIwSt11char_traitsIwESaIwEE
Number of Entries	4

#### 9.1.65.2 Interfaces for Class basic\_ostringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t>>

An LSB conforming implementation shall provide the generic methods for Class std::basic\_ostringstream<wchar\_t, std::char\_traits<wchar\_t>, std::allocator<wchar\_t>> specified in Table 9-171, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-171 libstdcxx - Class basic\_ostringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t> > Function Interfaces**

basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::str() const(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::rdbuf() const(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::str(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::basic_ostringstream(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::basic_ostringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::basic_ostringstream(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::basic_ostringstream(_Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()(GLIBCXX_3.4) [ISOCXX]
basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >::~basic_ostringstream()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_ostringstream<wchar\_t, std::char\_traits<wchar\_t>, std::allocator<wchar\_t> > specified in Table 9-172, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-172 libstdcxx - Class basic\_ostringstream<wchar\_t, char\_traits<wchar\_t>, allocator<wchar\_t> > Data Interfaces**

typeinfo for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]
VTT for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]
vtable for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(GLIBCXX_3.4) [CXXABI]

## 9.1.66 Class `basic_stringbuf<char, char_traits<char>, allocator<char>` >

### 9.1.66.1 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 9-173

**Table 9-173 Primary vtable for `basic_stringbuf<char, char_traits<char>, allocator<char>` >**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;</code> >
vfunc[0]:	<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;</code> >::~ <code>basic_stringbuf()</code>
vfunc[1]:	<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;</code> >::~ <code>basic_stringbuf()</code>
vfunc[2]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;</code> >::imbue( <code>locale const&amp;</code> )
vfunc[3]:	See The Architecture Specific Specification
vfunc[4]:	See The Architecture Specific Specification
vfunc[5]:	<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;</code> >::seekpos( <code>fpos&lt;__mbstate_t&gt;, _Ios_Openmode</code> )
vfunc[6]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;</code> >::sync()
vfunc[7]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;</code> >::showmany()
vfunc[8]:	See The Architecture Specific Specification
vfunc[9]:	<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;</code> >::underflow()
vfunc[10]:	<code>basic_streambuf&lt;char, char_traits&lt;char&gt;</code> >::uflow()
vfunc[11]:	<code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;</code> >::pbackfail( <code>int</code> )

vfunc[12]:	See The Architecture Specific Specification
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 9-174

**Table 9-174 typeinfo for basic\_stringbuf<char, char\_traits<char>, allocator<char>>**

Base Vtable	vtable for _cxxabiv1::__si_class_type_info
Name	typeinfo name for basic_stringbuf<char, char_traits<char>, allocator<char>>

### 9.1.66.2 Interfaces for Class basic\_stringbuf<char, char\_traits<char>, allocator<char>>

An LSB conforming implementation shall provide the generic methods for Class std::basic\_stringbuf<char, std::char\_traits<char>, std::allocator<char>> specified in Table 9-175, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-175 libstdcxx - Class basic\_stringbuf<char, char\_traits<char>, allocator<char>> Function Interfaces**

basic_stringbuf<char, char_traits<char>, allocator<char>>::str() const(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::_M_update_egptr()(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::_M_stringbuf_init(_Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::str(basic_string<char, char_traits<char>, allocator<char>> const&)(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::overflow(int)(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::pbackfail(int)(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::underflow()(GLIBCXX_3.4) [ISO CXX]
basic_stringbuf<char, char_traits<char>, allocator<char>>::basic_stringbuf(basic_string<char, char_traits<char>, allocator<char>> const&, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]

basic_stringbuf<char, char_traits<char>, allocator<char>>::basic_stringbuf(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_stringbuf<char, char_traits<char>, allocator<char>>::basic_stringbuf(basic_string<char, char_traits<char>, allocator<char>> const&, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_stringbuf<char, char_traits<char>, allocator<char>>::basic_stringbuf(_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_stringbuf<char, char_traits<char>, allocator<char>>::~basic_stringbuf()(GLIBCXX_3.4) [ISOcxx]
basic_stringbuf<char, char_traits<char>, allocator<char>>::~basic_stringbuf()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_stringbuf<char, std::char_traits<char>, std::allocator<char>>` specified in Table 9-176, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-176 libstdcxx - Class `basic_stringbuf<char, char_traits<char>, allocator<char>>` Data Interfaces**

typeinfo for <code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
typeinfo name for <code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
vtable for <code>basic_stringbuf&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]

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

#### 9.1.67.1 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 9-177

**Table 9-177 Primary vtable for `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t>>`**

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

vfunc[1]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::~basic_stringbuf()</code>
vfunc[2]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::imbue(locale const&amp;)</code>
vfunc[3]:	See The Architecture Specific Specification
vfunc[4]:	See The Architecture Specific Specification
vfunc[5]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::seekpos(fpos&lt;__mbstate_t&gt;, _Ios_Openmode)</code>
vfunc[6]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::sync()</code>
vfunc[7]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::showmanyc()</code>
vfunc[8]:	See The Architecture Specific Specification
vfunc[9]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::underflow()</code>
vfunc[10]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::uflow()</code>
vfunc[11]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::pbackfail(unsigned int)</code>
vfunc[12]:	See The Architecture Specific Specification
vfunc[13]:	<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;::overflow(unsigned int)</code>

The Run Time Type Information for the `std::basic_stringbuf<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` class is described by Table 9-178

**Table 9-178 typeinfo for `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >`**

Base Vtable	vtable for
-------------	------------

	<code>__cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>basic_stringbuf&lt;wchar_t,</code> <code>char_traits&lt;wchar_t&gt;,</code> <code>allocator&lt;wchar_t&gt;</code>

### 9.1.67.2 Interfaces for Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_stringbuf<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t>` specified in Table 9-179, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-179 libstdc++ - Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t>` Function Interfaces**

<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::str()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::_M_update_egptr()</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::_M_stringbuf_init(_Ios_Openmode)</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::str(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt; const&amp;)</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::seekpos(fpos&lt;_mbstate_t&gt;, _Ios_Openmode)</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::overflow(unsigned int)</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::pbackfail(unsigned int)</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::underflow()</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::basic_stringbuf(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &amp;)</code> const&, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::basic_stringbuf(_Ios_Openmode)</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::basic_stringbuf(basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &amp;)</code> const&, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::basic_stringbuf(_Ios_Openmode)</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;::~basic_stringbuf()</code> (GLIBCXX_3.4) [ISO CXX]
<code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt;&gt;</code>

>::~basic_stringbuf()(GLIBCXX_3.4) [ISOcxx]
---

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_stringbuf<wchar_t, std::char_traits<wchar_t>, std::allocator<wchar_t> >` specified in Table 9-180, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-180 libstdc++ - Class `basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >` Data Interfaces**

typeinfo for <code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>basic_stringbuf&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]

### 9.1.68 Class `basic_iostream<char, char_traits<char> >`

#### 9.1.68.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_iostream<char, std::char_traits<char> >` class is described by Table 9-181

**Table 9-181 VTT for `basic_iostream<char, char_traits<char> >`**

VTT Name	_ZTTsd
Number of Entries	7

#### 9.1.68.2 Interfaces for Class `basic_iostream<char, char_traits<char> >`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_iostream<char, std::char_traits<char> >` specified in Table 9-182, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-182 libstdc++ - Class `basic_iostream<char, char_traits<char> >` Function Interfaces**

<code>basic_iostream&lt;char, char_traits&lt;char&gt; &gt;::basic_iostream(basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;*)(GLIBCXX_3.4)</code> [ISOcxx]
<code>basic_iostream&lt;char, char_traits&lt;char&gt; &gt;::basic_iostream()(GLIBCXX_3.4)</code> [ISOcxx]
<code>basic_iostream&lt;char, char_traits&lt;char&gt; &gt;::basic_iostream(basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;*)(GLIBCXX_3.4)</code> [ISOcxx]
<code>basic_iostream&lt;char, char_traits&lt;char&gt; &gt;::basic_iostream()(GLIBCXX_3.4)</code> [ISOcxx]

basic_iostream<char, char_traits<char>>::~basic_iostream()(GLIBCXX_3.4) [ISO CXX]
basic_iostream<char, char_traits<char>>::~basic_iostream()(GLIBCXX_3.4) [ISO CXX]
basic_iostream<char, char_traits<char>>::~basic_iostream()(GLIBCXX_3.4) [ISO CXX]
basic_istream<char, char_traits<char>>& operator>><char_traits<char>>(basic_istream<char, char_traits<char>>&, signed char*)(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_iostream<char, std::char\_traits<char>> specified in Table 9-183, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-183 libstdcxx - Class basic\_iostream<char, char\_traits<char>> Data Interfaces**

typeinfo for basic_iostream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_iostream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_iostream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_iostream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]

### 9.1.69 Class basic\_iostream<wchar\_t, char\_traits<wchar\_t>>

#### 9.1.69.1 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 in the relevant architecture specific part of this specification.

The VTT for the std::basic\_iostream<wchar\_t, std::char\_traits<wchar\_t>> class is described by Table 9-184

**Table 9-184 VTT for basic\_iostream<wchar\_t, char\_traits<wchar\_t>>**

VTT Name	_ZTTSt14basic_iostreamIwSt11char_traitsIwEE
Number of Entries	7

#### 9.1.69.2 Interfaces for Class basic\_iostream<wchar\_t, char\_traits<wchar\_t>>

An LSB conforming implementation shall provide the generic methods for Class std::basic\_iostream<wchar\_t, std::char\_traits<wchar\_t>> specified in Table 9-185, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-185 libstdc++ - Class `basic_iostream<wchar_t, char_traits<wchar_t>` Function Interfaces**

<code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_iostream(basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_iostream()(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_iostream(basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;*)(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_iostream()(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_iostream()(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_iostream()(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_iostream()(GLIBCXX_3.4) [ISOCXX]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_iostream<wchar_t, std::char_traits<wchar_t>>` specified in Table 9-186, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-186 libstdc++ - Class `basic_iostream<wchar_t, char_traits<wchar_t>` Data Interfaces**

<code>typeinfo for basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>
<code>typeinfo name for basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>
<code>VTT for basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>
<code>vtable for basic_iostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>

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

### 9.1.70.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_istream<char, std::char_traits<char>>` class is described by Table 9-187

**Table 9-187 VTT for `basic_istream<char, char_traits<char>>`**

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

### 9.1.70.2 Interfaces for Class `basic_istream<char, char_traits<char>>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_istream<char, std::char_traits<char>>` specified in Table 9-188, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-188 libstdc++ - Class `basic_istream<char, char_traits<char>>` Function Interfaces**

<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::gcount() const(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::sentry::operator bool() const(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::get(basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;&amp;)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::get(basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;&amp;, char)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::get(char&amp;)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::get()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::peek()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::sync()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::seekg(fpos&lt;__mbstate_t&gt;)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::tellg()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::unget()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::sentry::sentry(basic_istream&lt;char, char_traits&lt;char&gt;&gt;&amp;, bool)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::sentry::sentry(basic_istream&lt;char, char_traits&lt;char&gt;&gt;&amp;, bool)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::putback(char)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::basic_istream(basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;*)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::basic_istream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::basic_istream(basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;*)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::basic_istream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_istream&lt;char, char_traits&lt;char&gt;&gt;::~basic_istream()(GLIBCXX_3.4)</code> [ISO CXX]

basic_istream<char, char_traits<char> >::~basic_istream()(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >::~basic_istream()(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >::operator>>(basic_istream<char, char_traits<char> >& (*)(basic_istream<char, char_traits<char> >&))(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(ios_base& (*)(ios_base&))(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(basic_ios<char, char_traits<char> >& (*)(basic_ios<char, char_traits<char> >&))(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(basic_streambuf<char, char_traits<char> >*)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(void*&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(bool&)(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >::operator>>(double&)(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >::operator>>(long double&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(float&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(int&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(unsigned int&)(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >::operator>>(long&)(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >::operator>>(unsigned long&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(short&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(unsigned short&)(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >::operator>>(long long&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >::operator>>(unsigned long long&)(GLIBCXX_3.4) [ISOCXX]
--

basic_istream<char, char_traits<char> >& ws<char, char_traits<char> >(basic_istream<char, char_traits<char> >&)(GLIBCXX_3.4) [ISOCXX]
---

basic_istream<char, char_traits<char> >& getline<char, char_traits<char>,
---



complex<double>&)(GLIBCXX_3.4) [ISO CXX]
basic_istream<char, char_traits<char> >& operator>><long double, char, char_traits<char> >(basic_istream<char, char_traits<char> >&, complex<long double>&)(GLIBCXX_3.4) [ISO CXX]
basic_istream<char, char_traits<char> >& operator>><float, char, char_traits<char> >(basic_istream<char, char_traits<char> >&, complex<float>&)(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_istream<char, std::char\_traits<char> > specified in Table 9-189, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-189 libstdcxx - Class basic\_istream<char, char\_traits<char> > Data Interfaces**

typeinfo for basic_istream<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_istream<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
VTT for basic_istream<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
vtable for basic_istream<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]

### 9.1.71 Class basic\_istream<wchar\_t, char\_traits<wchar\_t> >

#### 9.1.71.1 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 in the relevant architecture specific part of this specification.

The VTT for the std::basic\_istream<wchar\_t, std::char\_traits<wchar\_t> > class is described by Table 9-190

**Table 9-190 VTT for basic\_istream<wchar\_t, char\_traits<wchar\_t> >**

VTT Name	_ZTTSt13basic_istreamIwSt11char_traitsIwEE
Number of Entries	2

#### 9.1.71.2 Interfaces for Class basic\_istream<wchar\_t, char\_traits<wchar\_t> >

An LSB conforming implementation shall provide the generic methods for Class std::basic\_istream<wchar\_t, std::char\_traits<wchar\_t> > specified in Table 9-191, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-191 libstdcxx - Class basic\_istream<wchar\_t, char\_traits<wchar\_t> > Function Interfaces**

basic_istream<wchar_t, char_traits<wchar_t> >::gcount() const(GLIBCXX_3.4) [ISO CXX]
---

basic_istream<wchar_t, char_traits<wchar_t> >::sentry::operator bool() const(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::get(basic_streambuf<wchar_t, char_traits<wchar_t> >&)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::get(basic_streambuf<wchar_t, char_traits<wchar_t> >&, wchar_t)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::get(wchar_t&)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::get()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::peek()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::sync()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::seekg(fpos<__mbstate_t>)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::tellg()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::unget()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::sentry::sentry(basic_istream<wchar_t, char_traits<wchar_t> >&, bool)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::sentry::sentry(basic_istream<wchar_t, char_traits<wchar_t> >&, bool)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::putback(wchar_t)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::basic_istream(basic_streambuf<wchar_t, char_traits<wchar_t> >*)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::basic_istream(basic_streambuf<wchar_t, char_traits<wchar_t> >*)(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::~basic_istream()(GLIBCXX_3.4) [ISOCXX]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(basic_istream<wchar_t, char_traits<wchar_t> >&

(*)(basic_istream<wchar_t, char_traits<wchar_t> >&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(ios_base& (*)&(ios_base&))(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(basic_ios<wchar_t, char_traits<wchar_t> >& (*)&(basic_ios<wchar_t, char_traits<wchar_t> >&))(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(basic_streambuf<wchar_t, char_traits<wchar_t> >*)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(void*&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(bool&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(double&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(long double&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(float&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(int&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(unsigned int&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(long&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(unsigned long&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(short&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(unsigned short&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(long long&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >::operator>>(unsigned long long&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >& ws<wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> >&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> >& getline<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> >&, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >&)(GLIBCXX_3.4) [ISOcxx]

basic_istream<wchar_t, char_traits<wchar_t> &> getline<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> &)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><double, wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, complex<double>&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><long double, wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, complex<long double>&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><float, wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, complex<float>&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, wchar_t*) (GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, wchar_t&)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, _Setiosflags)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, _Setprecision)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, _Resetiosflags)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, _Setw)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, _Setbase)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, _Setfill<wchar_t>)(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t> &> operator>><wchar_t, char_traits<wchar_t>, allocator<wchar_t> >(basic_istream<wchar_t, char_traits<wchar_t> &, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> &)(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_istream<wchar\_t, std::char\_traits<wchar\_t> > specified in Table 9-192, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-192 libstdcxx - Class `basic_istream<wchar_t, char_traits<wchar_t>>` Data Interfaces**

typeinfo for <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
VTT for <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>basic_istream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]

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

#### 9.1.72.1 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 relevant architecture specific part of this specification.

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

#### 9.1.73.1 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 relevant architecture specific part of this specification.

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

#### 9.1.74.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_ostream<char, std::char_traits<char>>` class is described by Table 9-193

**Table 9-193 VTT for `basic_ostream<char, char_traits<char>>`**

VTT Name	ZTTSO
Number of Entries	2

#### 9.1.74.2 Interfaces for Class `basic_ostream<char, char_traits<char>>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_ostream<char, std::char_traits<char>>` specified in Table 9-194, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-194 libstdc++ - Class `basic_ostream<char, char_traits<char>` Function Interfaces**

<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::sentry::operator bool() const(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::put(char)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::flush()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::seekp(fpos&lt;_mbstate_t&gt;)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::tellp()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::sentry::sentry(basic_ostream&lt;char, char_traits&lt;char&gt;&gt;&amp;)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::sentry::sentry(basic_ostream&lt;char, char_traits&lt;char&gt;&gt;&amp;)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::sentry::~sentry()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::sentry::~sentry()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::basic_ostream(basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;*)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::basic_ostream()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::basic_ostream(basic_streambuf&lt;char, char_traits&lt;char&gt;&gt;*)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::basic_ostream()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::~basic_ostream()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::~basic_ostream()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::operator&lt;&lt;(basic_ostream&lt;char, char_traits&lt;char&gt;&gt;&amp; (*)(basic_ostream&lt;char, char_traits&lt;char&gt; &gt;&amp;))(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::operator&lt;&lt;(ios_base&amp; (*)(ios_base&amp;))(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::operator&lt;&lt;(basic_ios&lt;char, char_traits&lt;char&gt;&gt;&amp; (*)(basic_ios&lt;char, char_traits&lt;char&gt; &gt;&amp;))(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ostream&lt;char, char_traits&lt;char&gt;&gt;::operator&lt;&lt;(void const*)(GLIBCXX_3.4) [ISOcxx]</code>

basic_ostream<char, char_traits<char> >::operator<<(basic_streambuf<char, char_traits<char> >*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(bool)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(double)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(long double)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(float)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(int)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(unsigned int)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(long)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(unsigned long)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(short)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(unsigned short)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(long long)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >::operator<<(unsigned long long)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >& endl<char, char_traits<char> >(basic_ostream<char, char_traits<char> >&)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >& ends<char, char_traits<char> >(basic_ostream<char, char_traits<char> >&)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >& flush<char, char_traits<char> >(basic_ostream<char, char_traits<char> >&)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >& operator<<<char_traits<char> >(basic_ostream<char, char_traits<char> >&, signed char const*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >& operator<<<char_traits<char> >(basic_ostream<char, char_traits<char> >&, char const*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >& operator<<<char_traits<char> >(basic_ostream<char, char_traits<char> >&, unsigned char const*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<char, char_traits<char> >& operator<<<char_traits<char> >(basic_ostream<char, char_traits<char> >&, signed char)(GLIBCXX_3.4)

[ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char_traits<char>>(basic_ostream<char, char_traits<char>>&, char)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char_traits<char>>(basic_ostream<char, char_traits<char>>&, unsigned char)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, _Setiosflags)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, _Setprecision)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, _Resetiosflags)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, _Setw)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, _Setbase)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, _Setfill<char>)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <char, char_traits<char>, allocator<char>>(basic_ostream<char, char_traits<char>>&, basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <double, char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, complex<double> const&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <long double, char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, complex<long double> const&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<char, char_traits<char>>& operator<< <float, char, char_traits<char>>(basic_ostream<char, char_traits<char>>&, complex<float> const&)(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_ostream<char, std::char\_traits<char>> specified in Table 9-195, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-195 libstdc++ - Class basic\_ostream<char, char\_traits<char>> Data Interfaces**

typeinfo for basic_ostream<char, char_traits<char>>(GLIBCXX_3.4)
--

[CXXABI]
typeinfo name for basic_ostream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_ostream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_ostream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]

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

#### 9.1.75.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_ostream<wchar_t, std::char_traits<wchar_t>>` class is described by Table 9-196

**Table 9-196 VTT for `basic_ostream<wchar_t, char_traits<wchar_t>>`**

VTT Name	_ZTTSt13basic_ostreamIwSt11char_traitsIwEE
Number of Entries	2

#### 9.1.75.2 Interfaces for Class `basic_ostream<wchar_t, char_traits<wchar_t>>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_ostream<wchar_t, std::char_traits<wchar_t>>` specified in Table 9-197, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-197 libstdc++ - Class `basic_ostream<wchar_t, char_traits<wchar_t>>` Function Interfaces**

basic_ostream<wchar_t, char_traits<wchar_t>>::sentry::operator bool() const(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::put(wchar_t)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::flush()(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::seekp(fpos<__mbstate_t>)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::tellp()(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::sentry::sentry(basic_ostream<wchar_t, char_traits<wchar_t>>&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::sentry::sentry(basic_ostream<wchar_t, char_traits<wchar_t>>&)(GLIBCXX_3.4) [ISOcxx]

basic_ostream<wchar_t, char_traits<wchar_t>>::sentry::~sentry()(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::sentry::~sentry()(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::basic_ostream(basic_streambuf<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::basic_ostream(basic_streambuf<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::~basic_ostream()(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::~basic_ostream()(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::~basic_ostream()(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(basic_ostream<wchar_t, char_traits<wchar_t>>&)(*)(basic_ostream<wchar_t, char_traits<wchar_t>>&))(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(ios_base&)(*)(ios_base&))(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(basic_ios<wchar_t, char_traits<wchar_t>>&)(*)(basic_ios<wchar_t, char_traits<wchar_t>>&))(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(void const*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(basic_streambuf<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(bool)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(double)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(long double)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(float)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(int)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>::operator<<(unsigned int)(GLIBCXX_3.4) [ISOCXX]
basic_ostream<wchar_t, char_traits<wchar_t>>

>::operator<<(long)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >::operator<<(unsigned long)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >::operator<<(short)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >::operator<<(unsigned short)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >::operator<<(long long)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >::operator<<(unsigned long long)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& endl<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& ends<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& flush<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<double, wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, complex<double> const&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<long double, wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, complex<long double> const&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<float, wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, complex<float> const&)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, wchar_t const*)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, char const*)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, wchar_t)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&, _Setiosflags)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t> >& operator<<<wchar_t, char_traits<wchar_t> >(basic_ostream<wchar_t, char_traits<wchar_t> >&,

_Setprecision)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>& operator<< <wchar_t, char_traits<wchar_t>>(basic_ostream<wchar_t, char_traits<wchar_t>>&, _Resetiosflags)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>& operator<< <wchar_t, char_traits<wchar_t>>(basic_ostream<wchar_t, char_traits<wchar_t>>&, _Setw)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>& operator<< <wchar_t, char_traits<wchar_t>>(basic_ostream<wchar_t, char_traits<wchar_t>>&, _Setbase)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>& operator<< <wchar_t, char_traits<wchar_t>>(basic_ostream<wchar_t, char_traits<wchar_t>>&, _Setfill<wchar_t>)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>& operator<< <wchar_t, char_traits<wchar_t>>(basic_ostream<wchar_t, char_traits<wchar_t>>&, char)(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>& operator<< <wchar_t, char_traits<wchar_t>, allocator<wchar_t>>(basic_ostream<wchar_t, char_traits<wchar_t>>&, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&)(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_ostream<wchar_t, std::char_traits<wchar_t>>` specified in Table 9-198, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-198 libstdcxx - Class `basic_ostream<wchar_t, char_traits<wchar_t>>` Data Interfaces**

typeinfo for <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
VTT for <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>basic_ostream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]

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

### 9.1.76.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_fstream<char, std::char_traits<char>>` class is described by Table 9-199

**Table 9-199 VTT for `basic_fstream<char, char_traits<char>>`**

VTT Name	_ZTTSt13basic_fstreamIcSt11char_tra
----------	-------------------------------------

	itsIcEE
Number of Entries	10

### 9.1.76.2 Interfaces for Class `basic_fstream<char, char_traits<char>>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_fstream<char, std::char_traits<char>>` specified in Table 9-200, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-200 libstdc++ - Class `basic_fstream<char, char_traits<char>>` Function Interfaces**

<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::rdbuf()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::open(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::close()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::is_open()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::basic_fstream(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::basic_fstream(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::~basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::~basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;char, char_traits&lt;char&gt;&gt;::~basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_fstream<char, std::char_traits<char>>` specified in Table 9-201, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-201 libstdc++ - Class `basic_fstream<char, char_traits<char>>` Data Interfaces**

<code>typeinfo for basic_fstream&lt;char, char_traits&lt;char&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>typeinfo name for basic_fstream&lt;char, char_traits&lt;char&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>VTT for basic_fstream&lt;char, char_traits&lt;char&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]

vtable for basic_fstream<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
--

### 9.1.77 Class `basic_fstream<wchar_t, char_traits<wchar_t> >`

#### 9.1.77.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_fstream<wchar_t, std::char_traits<wchar_t> >` class is described by Table 9-202

**Table 9-202 VTT for `basic_fstream<wchar_t, char_traits<wchar_t> >`**

VTT Name	_ZTTSt13basic_fstreamIwSt11char_traitsIwEE
Number of Entries	10

#### 9.1.77.2 Interfaces for Class `basic_fstream<wchar_t, char_traits<wchar_t> >`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_fstream<wchar_t, std::char_traits<wchar_t> >` specified in Table 9-203, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-203 libstdcxx - Class `basic_fstream<wchar_t, char_traits<wchar_t> >` Function Interfaces**

<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::rdbuf() const(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::open(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::close()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::is_open()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::basic_fstream(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::basic_fstream(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_fstream()(GLIBCXX_3.4)</code> [ISO CXX]

<code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_fstream()(GLIBCXX_3.4) [ISOcxx]</code>
---

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_fstream<wchar_t, std::char_traits<wchar_t>>` specified in Table 9-204, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-204 libstdc++ - Class `basic_fstream<wchar_t, char_traits<wchar_t>>` Data Interfaces**

typeinfo for <code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>
typeinfo name for <code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>
VTT for <code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>
vtable for <code>basic_fstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4) [CXXABI]</code>

### 9.1.78 Class `basic_ifstream<char, char_traits<char>>`

#### 9.1.78.1 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 in the relevant architecture specific part of this specification.

The VTT for the `std::basic_ifstream<char, std::char_traits<char>>` class is described by Table 9-205

**Table 9-205 VTT for `basic_ifstream<char, char_traits<char>>`**

VTT Name	<code>_ZTTSt14basic_ifstreamIcSt11char_traitsIcEE</code>
Number of Entries	4

#### 9.1.78.2 Interfaces for Class `basic_ifstream<char, char_traits<char>>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_ifstream<char, std::char_traits<char>>` specified in Table 9-206, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-206 libstdc++ - Class `basic_ifstream<char, char_traits<char>>` Function Interfaces**

<code>basic_ifstream&lt;char, char_traits&lt;char&gt;&gt;::rdbuf() const(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ifstream&lt;char, char_traits&lt;char&gt;&gt;::open(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ifstream&lt;char, char_traits&lt;char&gt;&gt;::close()(GLIBCXX_3.4) [ISOcxx]</code>
<code>basic_ifstream&lt;char, char_traits&lt;char&gt;&gt;::is_open()(GLIBCXX_3.4) [ISOcxx]</code>

basic_ifstream<char, char_traits<char>>::basic_ifstream(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_ifstream<char, char_traits<char>>::basic_ifstream()(GLIBCXX_3.4) [ISOcxx]
basic_ifstream<char, char_traits<char>>::basic_ifstream(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_ifstream<char, char_traits<char>>::basic_ifstream()(GLIBCXX_3.4) [ISOcxx]
basic_ifstream<char, char_traits<char>>::~basic_ifstream()(GLIBCXX_3.4) [ISOcxx]
basic_ifstream<char, char_traits<char>>::~basic_ifstream()(GLIBCXX_3.4) [ISOcxx]
basic_ifstream<char, char_traits<char>>::~basic_ifstream()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_ifstream<char, std::char\_traits<char>> specified in Table 9-207, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-207 libstdc++ - Class basic\_ifstream<char, char\_traits<char>> Data Interfaces**

typeinfo for basic_ifstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_ifstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_ifstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_ifstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]

### 9.1.79 Class basic\_ifstream<wchar\_t, char\_traits<wchar\_t>>

#### 9.1.79.1 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 in the relevant architecture specific part of this specification.

The VTT for the std::basic\_ifstream<wchar\_t, std::char\_traits<wchar\_t>> class is described by Table 9-208

**Table 9-208 VTT for basic\_ifstream<wchar\_t, char\_traits<wchar\_t>>**

VTT Name	_ZTTSt14basic_ifstreamIwSt11char_traitsIwEE
Number of Entries	4

### 9.1.79.2 Interfaces for Class `basic_ifstream<wchar_t, char_traits<wchar_t>>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_ifstream<wchar_t, std::char_traits<wchar_t>>` specified in Table 9-209, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-209 libstdc++ - Class `basic_ifstream<wchar_t, char_traits<wchar_t>>` Function Interfaces**

<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::rdbuf() const(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::open(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::close()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::is_open()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_ifstream(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_ifstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_ifstream(char const*, _Ios_Openmode)(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::basic_ifstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_ifstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_ifstream()(GLIBCXX_3.4)</code> [ISO CXX]
<code>basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;::~basic_ifstream()(GLIBCXX_3.4)</code> [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_ifstream<wchar_t, std::char_traits<wchar_t>>` specified in Table 9-210, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-210 libstdc++ - Class `basic_ifstream<wchar_t, char_traits<wchar_t>>` Data Interfaces**

<code>typeinfo for basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>typeinfo for basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>typeinfo name for basic_ifstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]

typeinfo name for basic_streambuf<wchar_t, char_traits<wchar_t>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_ifstream<wchar_t, char_traits<wchar_t>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_ifstream<wchar_t, char_traits<wchar_t>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_streambuf<wchar_t, char_traits<wchar_t>>(GLIBCXX_3.4) [CXXABI]

### 9.1.80 Class basic\_ofstream<char, char\_traits<char>>

#### 9.1.80.1 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 in the relevant architecture specific part of this specification.

The VTT for the std::basic\_ofstream<char, std::char\_traits<char>> class is described by Table 9-211

**Table 9-211 VTT for basic\_ofstream<char, char\_traits<char>>**

VTT Name	_ZTTSt14basic_ofstreamIcSt11char_traitsIcEE
Number of Entries	4

#### 9.1.80.2 Interfaces for Class basic\_ofstream<char, char\_traits<char>>

An LSB conforming implementation shall provide the generic methods for Class std::basic\_ofstream<char, std::char\_traits<char>> specified in Table 9-212, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-212 libstdcxx - Class basic\_ofstream<char, char\_traits<char>> Function Interfaces**

basic_ofstream<char, char_traits<char>>::rdbuf() const(GLIBCXX_3.4) [ISOCXX]
basic_ofstream<char, char_traits<char>>::open(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_ofstream<char, char_traits<char>>::close()(GLIBCXX_3.4) [ISOCXX]
basic_ofstream<char, char_traits<char>>::is_open()(GLIBCXX_3.4) [ISOCXX]
basic_ofstream<char, char_traits<char>>::basic_ofstream(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_ofstream<char, char_traits<char>>::basic_ofstream()(GLIBCXX_3.4) [ISOCXX]
basic_ofstream<char, char_traits<char>>::basic_ofstream(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_ofstream<char, char_traits<char>>::basic_ofstream()(GLIBCXX_3.4) [ISOCXX]

basic_ofstream<char, char_traits<char>>::~basic_ofstream()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<char, char_traits<char>>::~basic_ofstream()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<char, char_traits<char>>::~basic_ofstream()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_ofstream<char, std::char\_traits<char>> specified in Table 9-213, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-213 libstdc++ - Class basic\_ofstream<char, char\_traits<char>> Data Interfaces**

typeinfo for basic_ofstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_ofstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
VTT for basic_ofstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]
vtable for basic_ofstream<char, char_traits<char>>(GLIBCXX_3.4) [CXXABI]

### 9.1.81 Class basic\_ofstream<wchar\_t, char\_traits<wchar\_t>>

#### 9.1.81.1 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 in the relevant architecture specific part of this specification.

The VTT for the std::basic\_ofstream<wchar\_t, std::char\_traits<wchar\_t>> class is described by Table 9-214

**Table 9-214 VTT for basic\_ofstream<wchar\_t, char\_traits<wchar\_t>>**

VTT Name	_ZTTSt14basic_ofstreamIwSt11char_traitsIwEE
Number of Entries	4

#### 9.1.81.2 Interfaces for Class basic\_ofstream<wchar\_t, char\_traits<wchar\_t>>

An LSB conforming implementation shall provide the generic methods for Class std::basic\_ofstream<wchar\_t, std::char\_traits<wchar\_t>> specified in Table 9-215, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-215 libstdc++ - Class basic\_ofstream<wchar\_t, char\_traits<wchar\_t>> Function Interfaces**

basic_ofstream<wchar_t, char_traits<wchar_t>>::rdbuf() const(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::open(char const*,

_Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::close()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::is_open()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::basic_ofstream(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::basic_ofstream()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::basic_ofstream(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::basic_ofstream()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::~basic_ofstream()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::~basic_ofstream()(GLIBCXX_3.4) [ISOcxx]
basic_ofstream<wchar_t, char_traits<wchar_t>>::~basic_ofstream()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_ofstream<wchar_t, std::char_traits<wchar_t>>` specified in Table 9-216, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-216 libstdc++ - Class `basic_ofstream<wchar_t, char_traits<wchar_t>>` Data Interfaces**

typeinfo for <code>basic_ofstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>basic_ofstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
VTT for <code>basic_ofstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>basic_ofstream&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]

### 9.1.82 Class `basic_streambuf<char, char_traits<char>>`

#### 9.1.82.1 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 9-217

**Table 9-217 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]:	See The Architecture Specific Specification
vfunc[4]:	See The Architecture Specific Specification
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]:	See The Architecture Specific Specification
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]:	See The Architecture Specific Specification
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 9-218

**Table 9-218 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> >
--	---------------------

### 9.1.82.2 Interfaces for Class `basic_streambuf<char, char_traits<char> >`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_streambuf<char, std::char_traits<char> >` specified in Table 9-219, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-219 libstdc++ - Class `basic_streambuf<char, char_traits<char> >` Function Interfaces**

basic_streambuf<char, char_traits<char> >::gptr() const(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::pptr() const(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::eback() const(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::egptr() const(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::eptr() const(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::pbase() const(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::getloc() const(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::pubseekpos(fpos<__mbstate_t>, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::setg(char*, char*, char*)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::setp(char*, char*)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::sync()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::gbump(int)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::imbue(locale const&)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::pbump(int)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::sgetc()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::sputc(char)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::uflow()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::sbumpc()(GLIBCXX_3.4)

[ISO CXX]
basic_streambuf<char, char_traits<char> >::snextc()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::pubsync()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::seekpos(fpos<__mbstate_t>, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::sungetc()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::in_avail()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::overflow(int)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::pubimbue(locale const&)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::pbackfail(int)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::showmanyc()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::sputbackc(char)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::underflow()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::basic_streambuf(basic_streambuf<char, char_traits<char> > const&)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::basic_streambuf()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::basic_streambuf(basic_streambuf<char, char_traits<char> > const&)(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::basic_streambuf()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::~basic_streambuf()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::~basic_streambuf()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::~basic_streambuf()(GLIBCXX_3.4) [ISO CXX]
basic_streambuf<char, char_traits<char> >::operator=(basic_streambuf<char, char_traits<char> > const&)(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_streambuf<char, std::char\_traits<char> > specified in Table 9-

220, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-220 libstdc++ - Class `basic_streambuf<char, char_traits<char> >` Data Interfaces**

typeinfo for <code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>basic_streambuf&lt;char, char_traits&lt;char&gt; &gt;</code> (GLIBCXX_3.4) [CXXABI]

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

#### 9.1.83.1 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 9-221

**Table 9-221 Primary vtable for `basic_streambuf<wchar_t, char_traits<wchar_t> >`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;</code>
vfunc[0]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_streambuf()</code>
vfunc[1]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::~basic_streambuf()</code>
vfunc[2]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::imbue(locale const&amp;)</code>
vfunc[3]:	See The Architecture Specific Specification
vfunc[4]:	See The Architecture Specific Specification
vfunc[5]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::seekpos(fpos&lt;__mbstate_t&gt;, _Ios_Openmode)</code>
vfunc[6]:	<code>basic_streambuf&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;::sync()</code>

vfunc[7]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::showmany()
vfunc[8]:	See The Architecture Specific Specification
vfunc[9]:	basic_streambuf<wchar_t, char_traits<wchar_t>>::underflow()
vfunc[10]:	basic_streambuf<wchar_t, char_traits<wchar_t>>::uflow()
vfunc[11]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)
vfunc[12]:	See The Architecture Specific Specification
vfunc[13]:	basic_streambuf<wchar_t, char_traits<wchar_t> >::overflow(unsigned int)

The Run Time Type Information for the std::basic\_streambuf<wchar\_t, std::char\_traits<wchar\_t> > class is described by Table 9-222

**Table 9-222 typeinfo for basic\_streambuf<wchar\_t, char\_traits<wchar\_t> >**

Base Vtable	vtable for _cxxabiv1::__class_type_info
Name	typeinfo name for basic_streambuf<wchar_t, char_traits<wchar_t> >

### 9.1.83.2 Interfaces for Class basic\_streambuf<wchar\_t, char\_traits<wchar\_t> >

An LSB conforming implementation shall provide the generic methods for Class std::basic\_streambuf<wchar\_t, std::char\_traits<wchar\_t> > specified in Table 9-223, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-223 libstdc++ - Class basic\_streambuf<wchar\_t, char\_traits<wchar\_t> > Function Interfaces**

basic_streambuf<wchar_t, char_traits<wchar_t> >::gptr() const(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::pptr() const(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::eback() const(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::egptr() const(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::eptr()

const(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::pbase() const(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::getloc() const(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::pubseekpos(fpos<__mbstate_t>, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::setg(wchar_t*, wchar_t*, wchar_t*)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::setp(wchar_t*, wchar_t*)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::sync()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::gbump(int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::imbue(locale const&)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::pbump(int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::sgetc()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::sputc(wchar_t)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::uflow()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::sbumpc()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::snextc()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::pubsync()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::sungetc()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::in_avail()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::overflow(unsigned int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t>>::pubimbue(locale const&)(GLIBCXX_3.4) [ISOCXX]

basic_streambuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::showmany()
basic_streambuf<wchar_t, char_traits<wchar_t> >::sputbackc(wchar_t)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::underflow()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::basic_streambuf(basic_streambuf<wchar_t, char_traits<wchar_t> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::basic_streambuf()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::basic_streambuf(basic_streambuf<wchar_t, char_traits<wchar_t> > const&)(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::basic_streambuf()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::~basic_streambuf()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::~basic_streambuf()(GLIBCXX_3.4) [ISOCXX]
basic_streambuf<wchar_t, char_traits<wchar_t> >::operator=(basic_streambuf<wchar_t, char_traits<wchar_t> > const&)(GLIBCXX_3.4) [ISOCXX]

### 9.1.84 Class basic\_filebuf<char, char\_traits<char> >

#### 9.1.84.1 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 9-224

**Table 9-224 Primary vtable for basic\_filebuf<char, char\_traits<char> >**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for basic_filebuf<char, char_traits<char> >
vfunc[0]:	basic_filebuf<char, char_traits<char> >::~basic_filebuf()
vfunc[1]:	basic_filebuf<char, char_traits<char> >::~basic_filebuf()
vfunc[2]:	basic_filebuf<char, char_traits<char> >

	>::imbue(locale const&)
vfunc[3]:	See The Architecture Specific Specification
vfunc[4]:	See The Architecture Specific Specification
vfunc[5]:	basic_filebuf<char, char_traits<char>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)
vfunc[6]:	basic_filebuf<char, char_traits<char>>::sync()
vfunc[7]:	basic_filebuf<char, char_traits<char>>::showmanyc()
vfunc[8]:	See The Architecture Specific Specification
vfunc[9]:	basic_filebuf<char, char_traits<char>>::underflow()
vfunc[10]:	basic_streambuf<char, char_traits<char>>::uflow()
vfunc[11]:	basic_filebuf<char, char_traits<char>>::pbackfail(int)
vfunc[12]:	See The Architecture Specific Specification
vfunc[13]:	basic_filebuf<char, char_traits<char>>::overflow(int)

The Run Time Type Information for the std::basic\_filebuf<char, std::char\_traits<char> > class is described by Table 9-225

**Table 9-225 typeinfo for basic\_filebuf<char, char\_traits<char> >**

Base Vtable	vtable for _cxxabiv1::__si_class_type_info
Name	typeinfo name for basic_filebuf<char, char_traits<char> >

### 9.1.84.2 Interfaces for Class basic\_filebuf<char, char\_traits<char> >

An LSB conforming implementation shall provide the generic methods for Class std::basic\_filebuf<char, std::char\_traits<char> > specified in Table 9-226, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-226 libstdc++ - Class basic\_filebuf<char, char\_traits<char> > Function Interfaces**

basic_filebuf<char, char_traits<char>>::is_open() const(GLIBCXX_3.4) [ISOCXX]
basic_filebuf<char, char_traits<char>>::_M_create_pback()(GLIBCXX_3.4)

[ISO CXX]
basic_filebuf<char, char_traits<char>>::_M_destroy_pback()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::_M_terminate_output()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::_M_destroy_internal_buffer()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::_M_allocate_internal_buffer()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::open(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::sync()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::close()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::imbue(locale const&)(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::overflow(int)(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::pbackfail(int)(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::showmany_c()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::underflow()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::basic_filebuf()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::basic_filebuf()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::~basic_filebuf()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::~basic_filebuf()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<char, char_traits<char>>::~basic_filebuf()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::basic_filebuf<char, std::char_traits<char>>` specified in Table 9-227, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-227 libstdc++ - Class basic\_filebuf<char, char\_traits<char> > Data Interfaces**

typeinfo for basic_filebuf<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_filebuf<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
vtable for basic_filebuf<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]

**9.1.85 Class basic\_filebuf<wchar\_t, char\_traits<wchar\_t> >****9.1.85.1 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 9-228

**Table 9-228 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]:	See The Architecture Specific Specification
vfunc[4]:	See The Architecture Specific Specification
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]:	See The Architecture Specific Specification
vfunc[9]:	basic_filebuf<wchar_t,

	char_traits<wchar_t>::underflow()
vfunc[10]:	basic_streambuf<wchar_t, char_traits<wchar_t>::uflow()
vfunc[11]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::pbackfail(unsigned int)
vfunc[12]:	See The Architecture Specific Specification
vfunc[13]:	basic_filebuf<wchar_t, char_traits<wchar_t> >::overflow(unsigned int)

The Run Time Type Information for the std::basic\_filebuf<wchar\_t, std::char\_traits<wchar\_t>> class is described by Table 9-229

**Table 9-229 typeinfo for basic\_filebuf<wchar\_t, char\_traits<wchar\_t>>**

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

### 9.1.85.2 Interfaces for Class basic\_filebuf<wchar\_t, char\_traits<wchar\_t>>

An LSB conforming implementation shall provide the generic methods for Class std::basic\_filebuf<wchar\_t, std::char\_traits<wchar\_t>> specified in Table 9-230, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-230 libstdc++ - Class basic\_filebuf<wchar\_t, char\_traits<wchar\_t>> Function Interfaces**

basic_filebuf<wchar_t, char_traits<wchar_t>>::is_open() const(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_create_pback()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_destroy_pback()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_terminate_output()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_destroy_internal_buffer()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<wchar_t, char_traits<wchar_t> >::_M_allocate_internal_buffer()(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<wchar_t, char_traits<wchar_t>>::open(char const*, _Ios_Openmode)(GLIBCXX_3.4) [ISO CXX]
basic_filebuf<wchar_t, char_traits<wchar_t>>::sync()(GLIBCXX_3.4)

[ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::close()(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::imbue(locale const&)(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::seekpos(fpos<__mbstate_t>, _Ios_Openmode)(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::overflow(unsigned int)(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::pbackfail(unsigned int)(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::showmany(c)(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::underflow()(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::basic_filebuf()(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::basic_filebuf()(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::~basic_filebuf()(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::~basic_filebuf()(GLIBCXX_3.4) [ISOcxx]
basic_filebuf<wchar_t, char_traits<wchar_t>>::~basic_filebuf()(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t>>::basic_istream()(GLIBCXX_3.4) [ISOcxx]
basic_istream<wchar_t, char_traits<wchar_t>>::basic_istream()(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::basic_ostream()(GLIBCXX_3.4) [ISOcxx]
basic_ostream<wchar_t, char_traits<wchar_t>>::basic_ostream()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_filebuf<wchar\_t, std::char\_traits<wchar\_t>> specified in Table 9-231, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-231 libstdc++ - Class basic\_filebuf<wchar\_t, char\_traits<wchar\_t>> Data Interfaces**

typeinfo for basic_filebuf<wchar_t, char_traits<wchar_t>>(GLIBCXX_3.4) [CXABI]
typeinfo name for basic_filebuf<wchar_t, char_traits<wchar_t>>

>(GLIBCXX_3.4) [CXXABI]
vtable for basic_filebuf<wchar_t, char_traits<wchar_t>>(GLIBCXX_3.4) [CXXABI]

## 9.1.86 Class ios\_base

### 9.1.86.1 Class data for ios\_base

The Run Time Type Information for the std::ios\_base class is described by Table 9-232

**Table 9-232 typeinfo for ios\_base**

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

### 9.1.86.2 Interfaces for Class ios\_base

An LSB conforming implementation shall provide the generic methods for Class std::ios\_base specified in Table 9-233, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-233 libstdcxx - Class ios\_base Function Interfaces**

ios_base::_M_grow_words(int, bool)(GLIBCXX_3.4) [ISOCXX]
ios_base::sync_with_stdio(bool)(GLIBCXX_3.4) [ISOCXX]
ios_base::register_callback(void (*) (ios_base::event, ios_base&, int), int)(GLIBCXX_3.4) [ISOCXX]
ios_base::Init::Init()(GLIBCXX_3.4) [ISOCXX]
ios_base::Init::Init()(GLIBCXX_3.4) [ISOCXX]
ios_base::Init::~Init()(GLIBCXX_3.4) [ISOCXX]
ios_base::Init::~Init()(GLIBCXX_3.4) [ISOCXX]
ios_base::imbue(locale const&)(GLIBCXX_3.4) [ISOCXX]
ios_base::xalloc()(GLIBCXX_3.4) [ISOCXX]
ios_base::_M_init()(GLIBCXX_3.4) [ISOCXX]
ios_base::failure::failure(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
ios_base::failure::failure(basic_string<char, char_traits<char>, allocator<char> > const&)(GLIBCXX_3.4) [ISOCXX]
ios_base::failure::~failure()(GLIBCXX_3.4) [ISOCXX]
ios_base::failure::~failure()(GLIBCXX_3.4) [ISOCXX]
ios_base::failure::~failure()(GLIBCXX_3.4) [ISOCXX]
ios_base::ios_base()(GLIBCXX_3.4) [ISOCXX]
ios_base::ios_base()(GLIBCXX_3.4) [ISOCXX]

ios_base::~ios_base()(GLIBCXX_3.4) [ISOCXX]
ios_base::~ios_base()(GLIBCXX_3.4) [ISOCXX]
ios_base::~ios_base()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::ios\_base specified in Table 9-234, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-234 libstdc++ - Class ios\_base Data Interfaces**

ios_base::floatfield(GLIBCXX_3.4) [ISOCXX]
ios_base::scientific(GLIBCXX_3.4) [ISOCXX]
ios_base::adjustfield(GLIBCXX_3.4) [ISOCXX]
ios_base::in(GLIBCXX_3.4) [ISOCXX]
ios_base::app(GLIBCXX_3.4) [ISOCXX]
ios_base::ate(GLIBCXX_3.4) [ISOCXX]
ios_base::beg(GLIBCXX_3.4) [ISOCXX]
ios_base::cur(GLIBCXX_3.4) [ISOCXX]
ios_base::dec(GLIBCXX_3.4) [ISOCXX]
ios_base::end(GLIBCXX_3.4) [ISOCXX]
ios_base::hex(GLIBCXX_3.4) [ISOCXX]
ios_base::oct(GLIBCXX_3.4) [ISOCXX]
ios_base::out(GLIBCXX_3.4) [ISOCXX]
ios_base::left(GLIBCXX_3.4) [ISOCXX]
ios_base::fixed(GLIBCXX_3.4) [ISOCXX]
ios_base::right(GLIBCXX_3.4) [ISOCXX]
ios_base::trunc(GLIBCXX_3.4) [ISOCXX]
ios_base::badbit(GLIBCXX_3.4) [ISOCXX]
ios_base::binary(GLIBCXX_3.4) [ISOCXX]
ios_base::eofbit(GLIBCXX_3.4) [ISOCXX]
ios_base::skipws(GLIBCXX_3.4) [ISOCXX]
ios_base::failbit(GLIBCXX_3.4) [ISOCXX]
ios_base::goodbit(GLIBCXX_3.4) [ISOCXX]
ios_base::showpos(GLIBCXX_3.4) [ISOCXX]
ios_base::unitbuf(GLIBCXX_3.4) [ISOCXX]
ios_base::internal(GLIBCXX_3.4) [ISOCXX]
ios_base::showbase(GLIBCXX_3.4) [ISOCXX]
ios_base::basefield(GLIBCXX_3.4) [ISOCXX]

ios_base::boolalpha(GLIBCXX_3.4) [ISOCXX]
ios_base::showpoint(GLIBCXX_3.4) [ISOCXX]
ios_base::uppercase(GLIBCXX_3.4) [ISOCXX]
typeinfo for ios_base(GLIBCXX_3.4) [CXXABI]
typeinfo name for ios_base(GLIBCXX_3.4) [CXXABI]
vtable for ios_base(GLIBCXX_3.4) [CXXABI]

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

#### 9.1.87.1 Class data for `basic_ios<char, char_traits<char>>`

The virtual table for the `std::basic_ios<char, std::char_traits<char>>` class is described by Table 9-235

**Table 9-235 Primary vtable for `basic_ios<char, char_traits<char>>`**

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

#### 9.1.87.2 Interfaces for Class `basic_ios<char, char_traits<char>>`

An LSB conforming implementation shall provide the generic methods for Class `std::basic_ios<char, std::char_traits<char>>` specified in Table 9-236, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-236 libstdcxx - Class `basic_ios<char, char_traits<char>>` Function Interfaces**

<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::exceptions() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::bad() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::eof() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::tie() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::fail() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::fill() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::good() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::rdbuf() const(GLIBCXX_3.4) [ISOCXX]</code>
<code>basic_ios&lt;char, char_traits&lt;char&gt;&gt;::widen(char) const(GLIBCXX_3.4) [ISOCXX]</code>

basic_ios<char, char_traits<char> >::narrow(char, char) const(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::rdstate() const(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::operator void*() const(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::operator!() const(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::exceptions(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::_M_setstate(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::tie(basic_ostream<char, char_traits<char> >*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::fill(char)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::init(basic_streambuf<char, char_traits<char> >*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::clear(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::imbue(locale const&)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::rdbuf(basic_streambuf<char, char_traits<char> >*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::copyfmt(basic_ios<char, char_traits<char> > const&)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::setstate(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::basic_ios(basic_streambuf<char, char_traits<char> >*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::basic_ios(basic_streambuf<char, char_traits<char> >*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::~basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::~basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<char, char_traits<char> >::~basic_ios()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_ios<char, std::char\_traits<char> > specified in Table 9-237, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-237 libstdc++ - Class basic\_ios<char, char\_traits<char> > Data Interfaces**

typeinfo for basic_ios<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for basic_ios<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]
vtable for basic_ios<char, char_traits<char> >(GLIBCXX_3.4) [CXXABI]

**9.1.88 Class basic\_ios<wchar\_t, char\_traits<wchar\_t> >****9.1.88.1 Interfaces for Class basic\_ios<wchar\_t, char\_traits<wchar\_t> >**

An LSB conforming implementation shall provide the generic methods for Class `std::basic_ios<wchar_t, std::char_traits<wchar_t> >` specified in Table 9-238, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-238 libstdc++ - Class basic\_ios<wchar\_t, char\_traits<wchar\_t> > Function Interfaces**

basic_ios<wchar_t, char_traits<wchar_t> >::exceptions() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::bad() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::eof() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::tie() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::fail() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::fill() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::good() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::rdbuf() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::widen(char) const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::narrow(wchar_t, char) const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::rdstate() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::operator void*() const(GLIBCXX_3.4) [ISOCXX]
basic_ios<wchar_t, char_traits<wchar_t> >::operator!() const(GLIBCXX_3.4) [ISOCXX]

basic_ios<wchar_t, char_traits<wchar_t>>::exceptions(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::_M_setstate(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::tie(basic_ostream<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::fill(wchar_t)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::init(basic_streambuf<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::clear(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::imbue(locale const&)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::rdbuf(basic_streambuf<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::copyfmt(basic_ios<wchar_t, char_traits<wchar_t>> const&)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::setstate(_Ios_Iostate)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::basic_ios(basic_streambuf<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::basic_ios(basic_streambuf<wchar_t, char_traits<wchar_t>>*)(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::~basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::~basic_ios()(GLIBCXX_3.4) [ISOcxx]
basic_ios<wchar_t, char_traits<wchar_t>>::~basic_ios()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::basic\_ios<wchar\_t, std::char\_traits<wchar\_t>> specified in Table 9-239, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-239 libstdc++ - Class `basic_ios<wchar_t, char_traits<wchar_t>>` Data Interfaces**

typeinfo for <code>basic_ios&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>basic_ios&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>basic_ios&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> (GLIBCXX_3.4) [CXXABI]

### 9.1.89 Class `ios_base::failure`

#### 9.1.89.1 Class data for `ios_base::failure`

The virtual table for the `std::ios_base::failure` class is described by Table 9-240

**Table 9-240 Primary vtable for `ios_base::failure`**

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

The Run Time Type Information for the `std::ios_base::failure` class is described by Table 9-241

**Table 9-241 typeinfo for `ios_base::failure`**

Base Vtable	vtable for <code>_cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>ios_base::failure</code>

#### 9.1.89.2 Interfaces for Class `ios_base::failure`

An LSB conforming implementation shall provide the generic methods for Class `std::ios_base::failure` specified in Table 9-242, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-242 libstdc++ - Class `ios_base::failure` Function Interfaces**

<code>ios_base::failure::what() const(GLIBCXX_3.4)</code> [ISO CXX]
---

An LSB conforming implementation shall provide the generic data interfaces for Class `std::ios_base::failure` specified in Table 9-243, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-243 libstdc++ - Class `ios_base::failure` Data Interfaces**

typeinfo for <code>ios_base::failure(GLIBCXX_3.4)</code> [CXXABI]
typeinfo name for <code>ios_base::failure(GLIBCXX_3.4)</code> [CXXABI]

vtable for ios_base::failure(GLIBCXX_3.4) [CXXABI]
--

## 9.1.90 Class `__timepunct<char>`

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

The virtual table for the `std::__timepunct<char>` class is described by Table 9-244

**Table 9-244 Primary vtable for `__timepunct<char>`**

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

The Run Time Type Information for the `std::__timepunct<char>` class is described by Table 9-245

**Table 9-245 typeinfo for `__timepunct<char>`**

Base Vtable	vtable for <code>_cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>__timepunct&lt;char&gt;</code>

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

An LSB conforming implementation shall provide the generic methods for Class `std::__timepunct<char>` specified in Table 9-246, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-246 libstdcxx - Class `__timepunct<char>` Function Interfaces**

<code>__timepunct&lt;char&gt;::__M_am_pm_format(char const*) const(GLIBCXX_3.4)</code> [ISOCXX]
<code>__timepunct&lt;char&gt;::__M_date_formats(char const**) const(GLIBCXX_3.4)</code> [ISOCXX]
<code>__timepunct&lt;char&gt;::__M_time_formats(char const**) const(GLIBCXX_3.4)</code> [ISOCXX]
<code>__timepunct&lt;char&gt;::__M_days_abbreviated(char const**) const(GLIBCXX_3.4)</code> [ISOCXX]
<code>__timepunct&lt;char&gt;::__M_date_time_formats(char const**) const(GLIBCXX_3.4)</code> [ISOCXX]
<code>__timepunct&lt;char&gt;::__M_months_abbreviated(char const**) const(GLIBCXX_3.4)</code> [ISOCXX]
<code>__timepunct&lt;char&gt;::__M_days(char const**) const(GLIBCXX_3.4)</code> [ISOCXX]
<code>__timepunct&lt;char&gt;::__M_am_pm(char const**) const(GLIBCXX_3.4)</code> [ISOCXX]

__timepunct<char>::__M_months(char const**) const(GLIBCXX_3.4) [ISO CXX]
__timepunct<wchar_t>::__M_am_pm_format(wchar_t const*) const(GLIBCXX_3.4) [ISO CXX]
__timepunct<char>::__M_initialize_timepunct(__locale_struct*)(GLIBCXX_3.4) [ISO CXX]
__timepunct<char>::__~__timepunct()(GLIBCXX_3.4) [ISO CXX]
__timepunct<char>::__~__timepunct()(GLIBCXX_3.4) [ISO CXX]
__timepunct<char>::__~__timepunct()(GLIBCXX_3.4) [ISO CXX]
bool has_facet<__timepunct<char>>(locale const&)(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::\_\_timepunct<char> specified in Table 9-247, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-247 libstdc++ - Class \_\_timepunct<char> Data Interfaces**

guard variable for __timepunct<char>::id(GLIBCXX_3.4) [CXXABI]
__timepunct<char>::id(GLIBCXX_3.4) [ISO CXX]
typeinfo for __timepunct<char>(GLIBCXX_3.4) [CXXABI]
typeinfo name for __timepunct<char>(GLIBCXX_3.4) [CXXABI]
vtable for __timepunct<char>(GLIBCXX_3.4) [CXXABI]

## 9.1.91 Class \_\_timepunct<wchar\_t>

### 9.1.91.1 Class data for \_\_timepunct<wchar\_t>

The virtual table for the std::\_\_timepunct<wchar\_t> class is described by Table 9-248

**Table 9-248 Primary vtable for \_\_timepunct<wchar\_t>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for __timepunct<wchar_t>
vfunc[0]:	__timepunct<wchar_t>::__~__timepunct()
vfunc[1]:	__timepunct<wchar_t>::__~__timepunct()

The Run Time Type Information for the std::\_\_timepunct<wchar\_t> class is described by Table 9-249

**Table 9-249 typeinfo for \_\_timepunct<wchar\_t>**

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

	__timepunct<wchar_t>
--	----------------------

### 9.1.91.2 Interfaces for Class \_\_timepunct<wchar\_t>

An LSB conforming implementation shall provide the generic methods for Class std::\_\_timepunct<wchar\_t> specified in Table 9-250, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-250 libstdcxx - Class \_\_timepunct<wchar\_t> Function Interfaces**

__timepunct<wchar_t>::__M_date_formats(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_time_formats(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_days_abbreviated(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_date_time_formats(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_months_abbreviated(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_days(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_am_pm(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_months(wchar_t const**) const(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__M_initialize_timepunct(__locale_struct*)(GLIBCXX _3.4) [ISOcxx]
__timepunct<wchar_t>::__~__timepunct()(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__~__timepunct()(GLIBCXX_3.4) [ISOcxx]
__timepunct<wchar_t>::__~__timepunct()(GLIBCXX_3.4) [ISOcxx]
bool has_facet<__timepunct<wchar_t>>(locale const&)(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::\_\_timepunct<wchar\_t> specified in Table 9-251, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-251 libstdcxx - Class \_\_timepunct<wchar\_t> Data Interfaces**

guard variable for __timepunct<wchar_t>::id(GLIBCXX_3.4) [CXXABI]
__timepunct<wchar_t>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for __timepunct<wchar_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for __timepunct<wchar_t>(GLIBCXX_3.4) [CXXABI]
vtable for __timepunct<wchar_t>(GLIBCXX_3.4) [CXXABI]

## 9.1.92 Class messages\_base

### 9.1.92.1 Class data for messages\_base

The Run Time Type Information for the std::messages\_base class is described by Table 9-252

**Table 9-252 typeinfo for messages\_base**

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

### 9.1.92.2 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for Class std::messages\_base specified in Table 9-253, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-253 libstdc++ - Class messages\_base Data Interfaces**

typeinfo for messages_base(GLIBCXX_3.4) [CXXABI]
typeinfo name for messages_base(GLIBCXX_3.4) [CXXABI]

## 9.1.93 Class messages<char>

### 9.1.93.1 Class data for messages<char>

The virtual table for the std::messages<char> class is described by Table 9-254

**Table 9-254 Primary vtable for messages<char>**

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

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

An LSB conforming implementation shall provide the generic methods for Class `std::messages<char>` specified in Table 9-255, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-255 libstdc++ - Class `messages<char>` Function Interfaces**

<code>messages&lt;char&gt;::_M_convert_to_char(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::_M_convert_from_char(char*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::get(int, int, int, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::open(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, locale const&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::open(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, locale const&amp;, char const*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::close(int) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::do_get(int, int, int, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::do_open(basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;, locale const&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::do_close(int) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::~messages() (GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::~messages() (GLIBCXX_3.4) [ISOcxx]</code>
<code>messages&lt;char&gt;::~messages() (GLIBCXX_3.4) [ISOcxx]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::messages<char>` specified in Table 9-256, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-256 libstdc++ - Class `messages<char>` Data Interfaces**

<code>guard variable for messages&lt;char&gt;::id(GLIBCXX_3.4) [CXXABI]</code>
<code>messages&lt;char&gt;::id(GLIBCXX_3.4) [ISOcxx]</code>
<code>typeinfo for messages&lt;char&gt; (GLIBCXX_3.4) [CXXABI]</code>
<code>typeinfo name for messages&lt;char&gt; (GLIBCXX_3.4) [CXXABI]</code>
<code>vtable for messages&lt;char&gt; (GLIBCXX_3.4) [CXXABI]</code>

### 9.1.94 Class `messages<wchar_t>`

#### 9.1.94.1 Class data for `messages<wchar_t>`

The virtual table for the `std::messages<wchar_t>` class is described by Table 9-257

**Table 9-257 Primary vtable for messages<wchar\_t>**

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

**9.1.94.2 Interfaces for Class messages<wchar\_t>**

An LSB conforming implementation shall provide the generic methods for Class std::messages<wchar\_t> specified in Table 9-258, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-258 libstdcxx - Class messages<wchar\_t> Function Interfaces**

messages<wchar_t>::_M_convert_to_char(basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::_M_convert_from_char(char*) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::get(int, int, int, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::open(basic_string<char, char_traits<char>, allocator<char> > const&, locale const&) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::open(basic_string<char, char_traits<char>, allocator<char> > const&, locale const&, char const*) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::close(int) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::do_get(int, int, int, basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::do_open(basic_string<char, char_traits<char>, allocator<char> > const&, locale const&) const(GLIBCXX_3.4) [ISO CXX]
messages<wchar_t>::do_close(int) const(GLIBCXX_3.4) [ISO CXX]

messages<wchar_t>::~messages()(GLIBCXX_3.4) [ISOcxx]
messages<wchar_t>::~messages()(GLIBCXX_3.4) [ISOcxx]
messages<wchar_t>::~messages()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::messages<wchar\_t> specified in Table 9-259, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-259 libstdc++ - Class messages<wchar\_t> Data Interfaces**

guard variable for messages<wchar_t>::id(GLIBCXX_3.4) [Cxxabi]
messages<wchar_t>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for messages<wchar_t>(GLIBCXX_3.4) [Cxxabi]
typeinfo name for messages<wchar_t>(GLIBCXX_3.4) [Cxxabi]
vtable for messages<wchar_t>(GLIBCXX_3.4) [Cxxabi]

## 9.1.95 Class messages\_byname<char>

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

The virtual table for the std::messages\_byname<char> class is described by Table 9-260

**Table 9-260 Primary vtable for messages\_byname<char>**

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

The Run Time Type Information for the std::messages\_byname<char> class is described by Table 9-261

**Table 9-261 typeinfo for messages\_byname<char>**

Base Vtable	vtable for
-------------	------------

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

### 9.1.95.2 Interfaces for Class `messages_byname<char>`

An LSB conforming implementation shall provide the generic methods for Class `std::messages_byname<char>` specified in Table 9-262, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-262 libstdc++ - Class `messages_byname<char>` Function Interfaces**

<code>messages_byname&lt;char&gt;::~messages_byname()(GLIBCXX_3.4)</code> [ISO CXX]
<code>messages_byname&lt;char&gt;::~messages_byname()(GLIBCXX_3.4)</code> [ISO CXX]
<code>messages_byname&lt;char&gt;::~messages_byname()(GLIBCXX_3.4)</code> [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::messages_byname<char>` specified in Table 9-263, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-263 libstdc++ - Class `messages_byname<char>` Data Interfaces**

<code>typeinfo for messages_byname&lt;char&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>typeinfo name for messages_byname&lt;char&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>vtable for messages_byname&lt;char&gt;(GLIBCXX_3.4)</code> [CXXABI]

### 9.1.96 Class `messages_byname<wchar_t>`

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

The virtual table for the `std::messages_byname<wchar_t>` class is described by Table 9-264

**Table 9-264 Primary vtable for `messages_byname<wchar_t>`**

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

	allocator<wchar_t> > const&) const
vfunc[4]:	messages<wchar_t>::do_close(int) const

The Run Time Type Information for the std::messages\_byname<wchar\_t> class is described by Table 9-265

**Table 9-265 typeinfo for messages\_byname<wchar\_t>**

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

### 9.1.96.2 Interfaces for Class messages\_byname<wchar\_t>

An LSB conforming implementation shall provide the generic methods for Class std::messages\_byname<wchar\_t> specified in Table 9-266, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-266 libstdc++ - Class messages\_byname<wchar\_t> Function Interfaces**

messages_byname<wchar_t>::~messages_byname()(GLIBCXX_3.4) [ISOCXX]
messages_byname<wchar_t>::~messages_byname()(GLIBCXX_3.4) [ISOCXX]
messages_byname<wchar_t>::~messages_byname()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::messages\_byname<wchar\_t> specified in Table 9-267, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-267 libstdc++ - Class messages\_byname<wchar\_t> Data Interfaces**

typeinfo for messages_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for messages_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]
vtable for messages_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]

### 9.1.97 Class numpunct<char>

#### 9.1.97.1 Class data for numpunct<char>

The virtual table for the std::numpunct<char> class is described by Table 9-268

**Table 9-268 Primary vtable for numpunct<char>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for numpunct<char>
vfunc[0]:	numpunct<char>::~numpunct()
vfunc[1]:	numpunct<char>::~numpunct()
vfunc[2]:	numpunct<char>::do_decimal_point(

	) const
vfunc[3]:	numpunct<char>::do_thousands_sep() () const
vfunc[4]:	numpunct<char>::do_grouping() const
vfunc[5]:	numpunct<char>::do_truename() const
vfunc[6]:	numpunct<char>::do_falsename() const

The Run Time Type Information for the std::numpunct<char> class is described by Table 9-269

**Table 9-269 typeinfo for numpunct<char>**

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

### 9.1.97.2 Interfaces for Class numpunct<char>

An LSB conforming implementation shall provide the generic methods for Class std::numpunct<char> specified in Table 9-270, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-270 libstdc++ - Class numpunct<char> Function Interfaces**

numpunct<char>::do_grouping() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::do_truename() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::do_falsename() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::decimal_point() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::do_decimal_point() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::do_thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::grouping() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::truename() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::falsename() const(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::_M_initialize_numpunct(__locale_struct*)(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::~numpunct()(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::~numpunct()(GLIBCXX_3.4) [ISOCXX]
numpunct<char>::~numpunct()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::numpunct<char> specified in Table 9-271, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-271 libstdc++ - Class numpunct<char> Data Interfaces**

guard variable for numpunct<char>::id(GLIBCXX_3.4) [CXXABI]
numpunct<char>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for numpunct<char>(GLIBCXX_3.4) [CXXABI]
typeinfo name for numpunct<char>(GLIBCXX_3.4) [CXXABI]
vtable for numpunct<char>(GLIBCXX_3.4) [CXXABI]

## 9.1.98 Class numpunct<wchar\_t>

### 9.1.98.1 Class data for numpunct<wchar\_t>

The virtual table for the std::numpunct<wchar\_t> class is described by Table 9-272

**Table 9-272 Primary vtable for numpunct<wchar\_t>**

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

The Run Time Type Information for the std::numpunct<wchar\_t> class is described by Table 9-273

**Table 9-273 typeinfo for numpunct<wchar\_t>**

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

### 9.1.98.2 Interfaces for Class `numpunct<wchar_t>`

An LSB conforming implementation shall provide the generic methods for Class `std::numpunct<wchar_t>` specified in Table 9-274, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-274 libstdc++ - Class `numpunct<wchar_t>` Function Interfaces**

<code>numpunct&lt;wchar_t&gt;::do_grouping()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::do_truename()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::do_falsename()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::decimal_point()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::thousands_sep()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::do_decimal_point()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::do_thousands_sep()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::grouping()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::truename()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::falsename()</code> const(GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::_M_initialize_numpunct(__locale_struct*)(GLIBCXX_3.4)</code> [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::~numpunct()</code> (GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::~numpunct()</code> (GLIBCXX_3.4) [ISOCXX]
<code>numpunct&lt;wchar_t&gt;::~numpunct()</code> (GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::numpunct<wchar_t>` specified in Table 9-275, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-275 libstdc++ - Class `numpunct<wchar_t>` Data Interfaces**

guard variable for <code>numpunct&lt;wchar_t&gt;::id(GLIBCXX_3.4)</code> [CXXABI]
<code>numpunct&lt;wchar_t&gt;::id(GLIBCXX_3.4)</code> [ISOCXX]
typeinfo for <code>numpunct&lt;wchar_t&gt;(GLIBCXX_3.4)</code> [CXXABI]
typeinfo name for <code>numpunct&lt;wchar_t&gt;(GLIBCXX_3.4)</code> [CXXABI]
vtable for <code>numpunct&lt;wchar_t&gt;(GLIBCXX_3.4)</code> [CXXABI]

### 9.1.99 Class `numpunct_byname<char>`

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

The virtual table for the `std::numpunct_byname<char>` class is described by Table 9-276

**Table 9-276 Primary vtable for `numpunct_byname<char>`**

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

Virtual Base Offset	0
RTTI	typeinfo for numpunct_byname<char>
vfunc[0]:	numpunct_byname<char>::~numpu nct_byname()
vfunc[1]:	numpunct_byname<char>::~numpu nct_byname()
vfunc[2]:	numpunct<char>::do_decimal_point( ) const
vfunc[3]:	numpunct<char>::do_thousands_sep( ) const
vfunc[4]:	numpunct<char>::do_grouping() const
vfunc[5]:	numpunct<char>::do_truename() const
vfunc[6]:	numpunct<char>::do_falsename() const

The Run Time Type Information for the std::numpunct\_byname<char> class is described by Table 9-277

**Table 9-277 typeinfo for numpunct\_byname<char>**

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

### 9.1.99.2 Interfaces for Class numpunct\_byname<char>

An LSB conforming implementation shall provide the generic methods for Class std::numpunct\_byname<char> specified in Table 9-278, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-278 libstdc++ - Class numpunct\_byname<char> Function Interfaces**

numpunct_byname<char>::~numpunct_byname()(GLIBCXX_3.4) [ISO CXX]
numpunct_byname<char>::~numpunct_byname()(GLIBCXX_3.4) [ISO CXX]
numpunct_byname<char>::~numpunct_byname()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::numpunct\_byname<char> specified in Table 9-279, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-279 libstdc++ - Class numpunct\_byname<char> Data Interfaces**

typeinfo for numpunct_byname<char>(GLIBCXX_3.4) [CXXABI]
typeinfo name for numpunct_byname<char>(GLIBCXX_3.4) [CXXABI]

vtable for <code>numpunct_byname&lt;char&gt;(GLIBCXX_3.4)</code> [CXXABI]
---

### 9.1.100 Class `numpunct_byname<wchar_t>`

#### 9.1.100.1 Class data for `numpunct_byname<wchar_t>`

The virtual table for the `std::numpunct_byname<wchar_t>` class is described by Table 9-280

**Table 9-280 Primary vtable for `numpunct_byname<wchar_t>`**

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

The Run Time Type Information for the `std::numpunct_byname<wchar_t>` class is described by Table 9-281

**Table 9-281 typeinfo for `numpunct_byname<wchar_t>`**

Base Vtable	vtable for <code>_cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>numpunct_byname&lt;wchar_t&gt;</code>

#### 9.1.100.2 Interfaces for Class `numpunct_byname<wchar_t>`

An LSB conforming implementation shall provide the generic methods for Class `std::numpunct_byname<wchar_t>` specified in Table 9-282, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-282 libstdcxx - Class `numpunct_byname<wchar_t>` Function Interfaces**

<code>numpunct_byname&lt;wchar_t&gt;::~numpunct_byname()(GLIBCXX_3.4)</code>
--

[ISO CXX]
numpunct_byname<wchar_t>::~numpunct_byname()(GLIBCXX_3.4) [ISO CXX]
numpunct_byname<wchar_t>::~numpunct_byname()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::numpunct\_byname<wchar\_t> specified in Table 9-283, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-283 libstdcxx - Class numpunct\_byname<wchar\_t> Data Interfaces**

typeinfo for numpunct_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for numpunct_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]
vtable for numpunct_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]

### 9.1.101 Class \_\_codecvt\_abstract\_base<char, char, \_\_mbstate\_t>

#### 9.1.101.1 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 relevant architecture specific part of this specification.

### 9.1.102 Class \_\_codecvt\_abstract\_base<wchar\_t, char, \_\_mbstate\_t>

#### 9.1.102.1 Class data for \_\_codecvt\_abstract\_base<wchar\_t, char, \_\_mbstate\_t>

The virtual table for the std::\_\_codecvt\_abstract\_base<wchar\_t, char, \_\_mbstate\_t> class is described by Table 9-284

**Table 9-284 Primary vtable for \_\_codecvt\_abstract\_base<wchar\_t, char, \_\_mbstate\_t>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for __codecvt_abstract_base<wchar_t, char, __mbstate_t>
vfunc[0]:	
vfunc[1]:	
vfunc[2]:	__cxa_pure_virtual
vfunc[3]:	__cxa_pure_virtual
vfunc[4]:	__cxa_pure_virtual
vfunc[5]:	__cxa_pure_virtual

vfunc[6]:	<code>__cxa_pure_virtual</code>
vfunc[7]:	<code>__cxa_pure_virtual</code>
vfunc[8]:	<code>__cxa_pure_virtual</code>

### 9.1.102.2 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 relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for Class `std::__codecvt_abstract_base<wchar_t, char, __mbstate_t>` specified in Table 9-285, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-285 libstdcxx - Class `__codecvt_abstract_base<wchar_t, char, __mbstate_t>` Data Interfaces**

typeinfo for <code>__codecvt_abstract_base&lt;wchar_t, char, __mbstate_t&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>__codecvt_abstract_base&lt;wchar_t, char, __mbstate_t&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>__codecvt_abstract_base&lt;wchar_t, char, __mbstate_t&gt;</code> (GLIBCXX_3.4) [CXXABI]

## 9.1.103 Class `codecvt_base`

### 9.1.103.1 Class data for `codecvt_base`

The Run Time Type Information for the `std::codecvt_base` class is described by Table 9-286

**Table 9-286 typeinfo for `codecvt_base`**

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

### 9.1.103.2 Interfaces for Class `codecvt_base`

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

An LSB conforming implementation shall provide the generic data interfaces for Class `std::codecvt_base` specified in Table 9-287, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-287 libstdcxx - Class `codecvt_base` Data Interfaces**

typeinfo for <code>codecvt_base</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>codecvt_base</code> (GLIBCXX_3.4) [CXXABI]

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

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

The virtual table for the `std::codecvt<char, char, __mbstate_t>` class is described by Table 9-288

**Table 9-288 Primary vtable for `codecvt<char, char, __mbstate_t>`**

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

The Run Time Type Information for the `std::codecvt<char, char, __mbstate_t>` class is described by Table 9-289

**Table 9-289 typeinfo for `codecvt<char, char, __mbstate_t>`**

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

### 9.1.104.2 Class data for `__codecvt_abstract_base<char, char, __mbstate_t>`

The virtual table for the `std::__codecvt_abstract_base<char, char, __mbstate_t>` class is described by Table 9-290

**Table 9-290 Primary vtable for `__codecvt_abstract_base<char, char, __mbstate_t>`**

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

### 9.1.104.3 Interfaces for Class `codecvt<char, char, __mbstate_t>`

An LSB conforming implementation shall provide the generic methods for Class `std::codecvt<char, char, __mbstate_t>` specified in Table 9-291, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-291 libstdcxx - Class `codecvt<char, char, __mbstate_t>` Function Interfaces**

<code>codecvt&lt;char, char, __mbstate_t&gt;::do_unshift(__mbstate_t&amp;, char*, char*, char*&amp;) const(GLIBCXX_3.4)</code> [ISO CXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::do_encoding() const(GLIBCXX_3.4)</code> [ISO CXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::do_max_length() const(GLIBCXX_3.4)</code> [ISO CXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::do_always_noconv() const(GLIBCXX_3.4)</code> [ISO CXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::do_in(__mbstate_t&amp;, char const*, char const*, char const*, char const*&amp;, char*, char*, char*&amp;) const(GLIBCXX_3.4)</code> [ISO CXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::do_out(__mbstate_t&amp;, char const*, char const*, char const*, char const*&amp;, char*, char*, char*&amp;) const(GLIBCXX_3.4)</code> [ISO CXX]
<code>codecvt&lt;char, char, __mbstate_t&gt;::~codecvt()(GLIBCXX_3.4)</code> [ISO CXX]

codecvt<char, char, __mbstate_t>::~codecvt()(GLIBCXX_3.4) [ISO CXX]
codecvt<char, char, __mbstate_t>::~codecvt()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::codecvt<char, char, \_\_mbstate\_t> specified in Table 9-292, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-292 libstdc++ - Class `codecvt<char, char, __mbstate_t>` Data Interfaces**

codecvt<char, char, __mbstate_t>::id(GLIBCXX_3.4) [ISO CXX]
typeinfo for __codecvt_abstract_base<char, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
typeinfo for codecvt<char, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for __codecvt_abstract_base<char, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for codecvt<char, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
vtable for __codecvt_abstract_base<char, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
vtable for codecvt<char, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]

### 9.1.105 Class `codecvt<wchar_t, char, __mbstate_t>`

#### 9.1.105.1 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 9-293

**Table 9-293 Primary vtable for `codecvt<wchar_t, char, __mbstate_t>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for codecvt<wchar_t, char, __mbstate_t>
vfunc[0]:	codecvt<wchar_t, char, __mbstate_t>::~codecvt()
vfunc[1]:	codecvt<wchar_t, char, __mbstate_t>::~codecvt()
vfunc[2]:	codecvt<wchar_t, char, __mbstate_t>::do_out(__mbstate_t&, wchar_t const*, wchar_t const*, wchar_t const*&, char*, char*, char*&) const
vfunc[3]:	codecvt<wchar_t, char, __mbstate_t>::do_unshift(__mbstate_t&, char*, char*, char*&) const

vfunc[4]:	codecvt<wchar_t, char, __mbstate_t>::do_in(__mbstate_t&, char const*, char const*, char const*&, wchar_t*, wchar_t*, wchar_t*&) const
vfunc[5]:	codecvt<wchar_t, char, __mbstate_t>::do_encoding() const
vfunc[6]:	codecvt<wchar_t, char, __mbstate_t>::do_always_noconv() const
vfunc[7]:	See The Architecture Specific Specification
vfunc[8]:	codecvt<wchar_t, char, __mbstate_t>::do_max_length() const

The Run Time Type Information for the std::codecvt<wchar\_t, char, \_\_mbstate\_t> class is described by Table 9-294

**Table 9-294 typeinfo for codecvt<wchar\_t, char, \_\_mbstate\_t>**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for codecvt<wchar_t, char, __mbstate_t>

### 9.1.105.2 Interfaces for Class codecvt<wchar\_t, char, \_\_mbstate\_t>

An LSB conforming implementation shall provide the generic methods for Class std::codecvt<wchar\_t, char, \_\_mbstate\_t> specified in Table 9-295, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-295 libstdc++ - Class codecvt<wchar\_t, char, \_\_mbstate\_t> Function Interfaces**

codecvt<wchar_t, char, __mbstate_t>::do_unshift(__mbstate_t&, char*, char*, char*&) const(GLIBCXX_3.4) [ISOCXX]
codecvt<wchar_t, char, __mbstate_t>::do_encoding() const(GLIBCXX_3.4) [ISOCXX]
codecvt<wchar_t, char, __mbstate_t>::do_max_length() const(GLIBCXX_3.4) [ISOCXX]
codecvt<wchar_t, char, __mbstate_t>::do_always_noconv() const(GLIBCXX_3.4) [ISOCXX]
codecvt<wchar_t, char, __mbstate_t>::do_in(__mbstate_t&, char const*, char const*, char const*&, wchar_t*, wchar_t*, wchar_t*&) const(GLIBCXX_3.4) [ISOCXX]
codecvt<wchar_t, char, __mbstate_t>::do_out(__mbstate_t&, wchar_t const*, wchar_t const*, wchar_t const*&, char*, char*, char*&) const(GLIBCXX_3.4) [ISOCXX]
codecvt<wchar_t, char, __mbstate_t>::~codecvt()(GLIBCXX_3.4) [ISOCXX]

codecvt<wchar_t, char, __mbstate_t>::~codecvt()(GLIBCXX_3.4) [ISO CXX]
codecvt<wchar_t, char, __mbstate_t>::~codecvt()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::codecvt<wchar\_t, char, \_\_mbstate\_t> specified in Table 9-296, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-296 libstdc++ - Class codecvt<wchar\_t, char, \_\_mbstate\_t> Data Interfaces**

codecvt<wchar_t, char, __mbstate_t>::id(GLIBCXX_3.4) [ISO CXX]
typeinfo for codecvt<wchar_t, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for codecvt<wchar_t, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
vtable for codecvt<wchar_t, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]

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

#### 9.1.106.1 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 9-297

**Table 9-297 Primary vtable for `codecvt_byname<char, char, __mbstate_t>`**

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

	<code>__mbstate_t&gt;::do_always_noconv()</code> const
vfunc[7]:	See The Architecture Specific Specification
vfunc[8]:	<code>codecvt&lt;char, char, __mbstate_t&gt;::do_max_length()</code> const

The Run Time Type Information for the `std::codecvt_byname<char, char, __mbstate_t>` class is described by Table 9-298

**Table 9-298 typeinfo for `codecvt_byname<char, char, __mbstate_t>`**

Base Vtable	vtable for <code>_cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>codecvt_byname&lt;char, char, __mbstate_t&gt;</code>

### 9.1.106.2 Interfaces for Class `codecvt_byname<char, char, __mbstate_t>`

An LSB conforming implementation shall provide the generic methods for Class `std::codecvt_byname<char, char, __mbstate_t>` specified in Table 9-299, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-299 libstdc++ - Class `codecvt_byname<char, char, __mbstate_t>` Function Interfaces**

<code>codecvt_byname&lt;char, char, __mbstate_t&gt;::~codecvt_byname()</code> (GLIBCXX_3.4) [ISO CXX]
<code>codecvt_byname&lt;char, char, __mbstate_t&gt;::~codecvt_byname()</code> (GLIBCXX_3.4) [ISO CXX]
<code>codecvt_byname&lt;char, char, __mbstate_t&gt;::~codecvt_byname()</code> (GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::codecvt_byname<char, char, __mbstate_t>` specified in Table 9-300, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-300 libstdc++ - Class `codecvt_byname<char, char, __mbstate_t>` Data Interfaces**

typeinfo for <code>codecvt_byname&lt;char, char, __mbstate_t&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>codecvt_byname&lt;char, char, __mbstate_t&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>codecvt_byname&lt;char, char, __mbstate_t&gt;</code> (GLIBCXX_3.4) [CXXABI]

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

#### 9.1.107.1 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 9-301

**Table 9-301 Primary vtable for `codecvt_byname<wchar_t, char, __mbstate_t>`**

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

The Run Time Type Information for the `std::codecvt_byname<wchar_t, char, __mbstate_t>` class is described by Table 9-302

**Table 9-302 typeinfo for `codecvt_byname<wchar_t, char, __mbstate_t>`**

Base Vtable	vtable for <code>_cxxabiv1::__si_class_type_info</code>
-------------	--

Name	typeinfo name for codecvt_byname<wchar_t, char, __mbstate_t>
------	--

### 9.1.107.2 Class data for collate\_byname<wchar\_t>

The virtual table for the std::collate\_byname<wchar\_t> class is described by Table 9-303

**Table 9-303 Primary vtable for collate\_byname<wchar\_t>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for collate_byname<wchar_t>
vfunc[0]:	collate_byname<wchar_t>::~collate_ byname()
vfunc[1]:	collate_byname<wchar_t>::~collate_ byname()
vfunc[2]:	collate<wchar_t>::do_compare(wchar_t const*, wchar_t const*, wchar_t const*, wchar_t const*) const
vfunc[3]:	collate<wchar_t>::do_transform(wchar_t const*, wchar_t const*) const
vfunc[4]:	collate<wchar_t>::do_hash(wchar_t const*, wchar_t const*) const

The Run Time Type Information for the std::collate\_byname<wchar\_t> class is described by Table 9-304

**Table 9-304 typeinfo for collate\_byname<wchar\_t>**

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

### 9.1.107.3 Interfaces for Class codecvt\_byname<wchar\_t, char, \_\_mbstate\_t>

An LSB conforming implementation shall provide the generic methods for Class std::codecvt\_byname<wchar\_t, char, \_\_mbstate\_t> specified in Table 9-305, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-305 libstdc++ - Class codecvt\_byname<wchar\_t, char, \_\_mbstate\_t>  
Function Interfaces**

codecvt_byname<wchar_t, char, __mbstate_t>::~codecvt_byname()(GLIBCXX_3.4) [ISO CXX]
codecvt_byname<wchar_t, char,

__mbstate_t>::~codecvt_byname()(GLIBCXX_3.4) [ISO CXX]
codecvt_byname<wchar_t, char, __mbstate_t>::~codecvt_byname()(GLIBCXX_3.4) [ISO CXX]
collate_byname<wchar_t>::~collate_byname()(GLIBCXX_3.4) [ISO CXX]
collate_byname<wchar_t>::~collate_byname()(GLIBCXX_3.4) [ISO CXX]
collate_byname<wchar_t>::~collate_byname()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::codecvt\_byname<wchar\_t, char, \_\_mbstate\_t> specified in Table 9-306, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-306 libstdc++ - Class codecvt\_byname<wchar\_t, char, \_\_mbstate\_t> Data Interfaces**

typeinfo for codecvt_byname<wchar_t, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
typeinfo for collate_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for codecvt_byname<wchar_t, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for collate_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]
vtable for codecvt_byname<wchar_t, char, __mbstate_t>(GLIBCXX_3.4) [CXXABI]
vtable for collate_byname<wchar_t>(GLIBCXX_3.4) [CXXABI]

### 9.1.108 Class collate<char>

#### 9.1.108.1 Class data for collate<char>

The virtual table for the std::collate<char> class is described by Table 9-307

**Table 9-307 Primary vtable for collate<char>**

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

The Run Time Type Information for the std::collate<char> class is described by Table 9-308

**Table 9-308 typeinfo for collate<char>**

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

### 9.1.108.2 Interfaces for Class collate<char>

An LSB conforming implementation shall provide the generic methods for Class std::collate<char> specified in Table 9-309, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-309 libstdc++ - Class collate<char> Function Interfaces**

collate<char>::_M_compare(char const*, char const*) const(GLIBCXX_3.4) [ISOCXX]
collate<char>::do_compare(char const*, char const*, char const*, char const*) const(GLIBCXX_3.4) [ISOCXX]
collate<char>::do_transform(char const*, char const*) const(GLIBCXX_3.4) [ISOCXX]
collate<char>::hash(char const*, char const*) const(GLIBCXX_3.4) [ISOCXX]
collate<char>::compare(char const*, char const*, char const*, char const*) const(GLIBCXX_3.4) [ISOCXX]
collate<char>::do_hash(char const*, char const*) const(GLIBCXX_3.4) [ISOCXX]
collate<char>::transform(char const*, char const*) const(GLIBCXX_3.4) [ISOCXX]
collate<char>::~collate()(GLIBCXX_3.4) [ISOCXX]
collate<char>::~collate()(GLIBCXX_3.4) [ISOCXX]
collate<char>::~collate()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::collate<char> specified in Table 9-310, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-310 libstdc++ - Class collate<char> Data Interfaces**

guard variable for collate<char>::id(GLIBCXX_3.4) [CXXABI]
collate<char>::id(GLIBCXX_3.4) [ISOCXX]
typeinfo for collate<char>(GLIBCXX_3.4) [CXXABI]
typeinfo name for collate<char>(GLIBCXX_3.4) [CXXABI]
vtable for collate<char>(GLIBCXX_3.4) [CXXABI]

### 9.1.109 Class `collate<wchar_t>`

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

The virtual table for the `std::collate<wchar_t>` class is described by Table 9-311

**Table 9-311 Primary vtable for `collate<wchar_t>`**

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

The Run Time Type Information for the `std::collate<wchar_t>` class is described by Table 9-312

**Table 9-312 typeinfo for `collate<wchar_t>`**

Base Vtable	vtable for <code>_cxxabiv1::__si_class_type_info</code>
Name	typeinfo name for <code>collate&lt;wchar_t&gt;</code>

#### 9.1.109.2 Interfaces for Class `collate<wchar_t>`

An LSB conforming implementation shall provide the generic methods for Class `std::collate<wchar_t>` specified in Table 9-313, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-313 libstdc++ - Class `collate<wchar_t>` Function Interfaces**

<code>collate&lt;wchar_t&gt;::_M_compare(wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate&lt;wchar_t&gt;::do_compare(wchar_t const*, wchar_t const*, wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate&lt;wchar_t&gt;::do_transform(wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate&lt;wchar_t&gt;::hash(wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate&lt;wchar_t&gt;::compare(wchar_t const*, wchar_t const*, wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]</code>
<code>collate&lt;wchar_t&gt;::do_hash(wchar_t const*, wchar_t const*)</code>

const(GLIBCXX_3.4) [ISOCXX]
collate<wchar_t>::transform(wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
collate<wchar_t>::~collate()(GLIBCXX_3.4) [ISOCXX]
collate<wchar_t>::~collate()(GLIBCXX_3.4) [ISOCXX]
collate<wchar_t>::~collate()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::collate<wchar\_t> specified in Table 9-314, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-314 libstdcxx - Class collate<wchar\_t> Data Interfaces**

guard variable for collate<wchar_t>::id(GLIBCXX_3.4) [CXXABI]
collate<wchar_t>::id(GLIBCXX_3.4) [ISOCXX]
typeinfo for collate<wchar_t>(GLIBCXX_3.4) [CXXABI]
typeinfo name for collate<wchar_t>(GLIBCXX_3.4) [CXXABI]
vtable for collate<wchar_t>(GLIBCXX_3.4) [CXXABI]

## 9.1.110 Class collate\_byname<char>

### 9.1.110.1 Class data for collate\_byname<char>

The virtual table for the std::collate\_byname<char> class is described by Table 9-315

**Table 9-315 Primary vtable for collate\_byname<char>**

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

The Run Time Type Information for the std::collate\_byname<char> class is described by Table 9-316

**Table 9-316 typeinfo for collate\_byname<char>**

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

**9.1.110.2 Interfaces for Class collate\_byname<char>**

An LSB conforming implementation shall provide the generic methods for Class std::collate\_byname<char> specified in Table 9-317, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-317 libstdc++ - Class collate\_byname<char> Function Interfaces**

collate_byname<char>::~collate_byname()(GLIBCXX_3.4) [ISO CXX]
collate_byname<char>::~collate_byname()(GLIBCXX_3.4) [ISO CXX]
collate_byname<char>::~collate_byname()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::collate\_byname<char> specified in Table 9-318, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-318 libstdc++ - Class collate\_byname<char> Data Interfaces**

typeinfo for collate_byname<char>(GLIBCXX_3.4) [CXXABI]
typeinfo name for collate_byname<char>(GLIBCXX_3.4) [CXXABI]
vtable for collate_byname<char>(GLIBCXX_3.4) [CXXABI]

**9.1.111 Class collate\_byname<wchar\_t>****9.1.111.1 Interfaces for Class collate\_byname<wchar\_t>**

No external methods are defined for libstdc++ - Class std::collate\_byname<wchar\_t> in this part of the specification. See also the relevant architecture specific part of this specification.

**9.1.112 Class time\_base****9.1.112.1 Class data for time\_base**

The Run Time Type Information for the std::time\_base class is described by Table 9-319

**Table 9-319 typeinfo for time\_base**

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

**9.1.112.2 Interfaces for Class time\_base**

No external methods are defined for libstdc++ - Class std::time\_base in this part of the specification. See also the relevant architecture specific part of this specification.

An LSB conforming implementation shall provide the generic data interfaces for Class std::time\_base specified in Table 9-320, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-320 libstdc++ - Class time\_base Data Interfaces**

typeinfo for time_base(GLIBCXX_3.4) [CXXABI]
typeinfo name for time_base(GLIBCXX_3.4) [CXXABI]

### 9.1.113 Class time\_get\_byname<char, istreambuf\_iterator<char, char\_traits<char> > >

#### 9.1.113.1 Class data for time\_get\_byname<char, istreambuf\_iterator<char, char\_traits<char> > >

The virtual table for the std::time\_get\_byname<char, std::istreambuf\_iterator<char, std::char\_traits<char> > > class is described by Table 9-321

**Table 9-321 Primary vtable for time\_get\_byname<char, istreambuf\_iterator<char, char\_traits<char> > >**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >
vfunc[0]:	time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >::~time_get_byname()
vfunc[1]:	time_get_byname<char, istreambuf_iterator<char, char_traits<char> > >::~time_get_byname()
vfunc[2]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::do_date_order() const
vfunc[3]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::do_get_time(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[4]:	time_get<char, istreambuf_iterator<char, char_traits<char> > >::do_get_date(istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const

	har, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[5]:	time_get<char, istreambuf_iterator<char, char_traits<char> >::do_get_weekday(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[6]:	time_get<char, istreambuf_iterator<char, char_traits<char> >::do_get_monthname(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const
vfunc[7]:	time_get<char, istreambuf_iterator<char, char_traits<char> >::do_get_year(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const

The Run Time Type Information for the `std::time_get_byname<char, std::istreambuf_iterator<char, std::char_traits<char> >>` class is described by Table 9-322

**Table 9-322 typeinfo for `time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>`**

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

### 9.1.113.2 Interfaces for Class `time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>`

An LSB conforming implementation shall provide the generic methods for Class `std::time_get_byname<char, std::istreambuf_iterator<char, std::char_traits<char> >>` specified in Table 9-323, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-323 libstdcxx - Class time\_get\_byname<char, istreambuf\_iterator<char, char\_traits<char> >> Function Interfaces**

time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>::~time_get_byname()(GLIBCXX_3.4) [ISOcxx]
time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>::~time_get_byname()(GLIBCXX_3.4) [ISOcxx]
time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>::~time_get_byname()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::time\_get\_byname<char, std::istreambuf\_iterator<char, std::char\_traits<char> >> specified in Table 9-324, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-324 libstdcxx - Class time\_get\_byname<char, istreambuf\_iterator<char, char\_traits<char> >> Data Interfaces**

typeinfo for time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>(GLIBCXX_3.4) [CXXABI]
typeinfo name for time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>(GLIBCXX_3.4) [CXXABI]
vtable for time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>(GLIBCXX_3.4) [CXXABI]

### 9.1.114 Class time\_get\_byname<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t> >>

#### 9.1.114.1 Class data for time\_get\_byname<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t> >>

The virtual table for the std::time\_get\_byname<wchar\_t, std::istreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t> >> class is described by Table 9-325

**Table 9-325 Primary vtable for time\_get\_byname<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t> >>**

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

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

The Run Time Type Information for the `std::time_get_byname<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described by Table 9-326

**Table 9-326 typeinfo for time\_get\_byname<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>**

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

#### **9.1.114.2 Interfaces for Class time\_get\_byname<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>**

An LSB conforming implementation shall provide the generic methods for Class std::time\_get\_byname<wchar\_t, std::istreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> specified in Table 9-327, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-327 libstdc++ - Class time\_get\_byname<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>> Function Interfaces**

time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_get_byname()(GLIBCXX_3.4) [ISO CXX]
time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_get_byname()(GLIBCXX_3.4) [ISO CXX]
time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_get_byname()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::time\_get\_byname<wchar\_t, std::istreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> specified in Table 9-328, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-328 libstdc++ - Class time\_get\_byname<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>> Data Interfaces**

typeinfo for time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]
vtable for time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]

#### **9.1.115 Class time\_put\_byname<char, ostreambuf\_iterator<char, char\_traits<char>>>**

##### **9.1.115.1 Class data for time\_put\_byname<char, ostreambuf\_iterator<char, char\_traits<char>>>**

The virtual table for the std::time\_put\_byname<char, std::ostreambuf\_iterator<char, std::char\_traits<char>>> class is described by Table 9-329

**Table 9-329 Primary vtable for time\_put\_byname<char, ostreambuf\_iterator<char, char\_traits<char> >>**

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

The Run Time Type Information for the std::time\_put\_byname<char, std::ostreambuf\_iterator<char, std::char\_traits<char> >> class is described by Table 9-330

**Table 9-330 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> >>

### 9.1.115.2 Interfaces for Class time\_put\_byname<char, ostreambuf\_iterator<char, char\_traits<char> >>

An LSB conforming implementation shall provide the generic methods for Class std::time\_put\_byname<char, std::ostreambuf\_iterator<char, std::char\_traits<char> >> specified in Table 9-331, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-331 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()(GLIBCXX_3.4) [ISO CXX]
time_put_byname<char, ostreambuf_iterator<char, char_traits<char> >>::~time_put_byname()(GLIBCXX_3.4) [ISO CXX]

<code>time_put_byname&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~time_put_byname()(GLIBCXX_3.4) [ISO CXX]</code>
---

An LSB conforming implementation shall provide the generic data interfaces for Class `std::time_put_byname<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` specified in Table 9-332, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-332 libstdcxx - Class `time_put_byname<char, ostreambuf_iterator<char, char_traits<char> > >` Data Interfaces**

typeinfo for <code>time_put_byname&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;(GLIBCXX_3.4) [CXXABI]</code>
typeinfo name for <code>time_put_byname&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;(GLIBCXX_3.4) [CXXABI]</code>
vtable for <code>time_put_byname&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;(GLIBCXX_3.4) [CXXABI]</code>

### **9.1.116 Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`**

#### **9.1.116.1 Class data for `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`**

The virtual table for the `std::time_put_byname<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described by Table 9-333

**Table 9-333 Primary vtable for `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`**

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

	char) const
--	-------------

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 9-334

**Table 9-334 typeinfo for `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`**

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

### **9.1.116.2 Interfaces for Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`**

An LSB conforming implementation shall provide the generic methods for Class `std::time_put_byname<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 9-335, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-335 libstdcxx - Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces**

<code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~time_put_byname()</code> (GLIBCXX_3.4) [ISO CXX]
<code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~time_put_byname()</code> (GLIBCXX_3.4) [ISO CXX]
<code>time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~time_put_byname()</code> (GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::time_put_byname<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 9-336, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-336 libstdcxx - Class `time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Data Interfaces**

<code>typeinfo for time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>typeinfo name for time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]
<code>vtable for time_put_byname&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;(GLIBCXX_3.4)</code> [CXXABI]

### 9.1.117 Class `time_get<char, istreambuf_iterator<char, char_traits<char> > >`

#### 9.1.117.1 Class data for `time_get<char, istreambuf_iterator<char, char_traits<char> > >`

The virtual table for the `std::time_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 9-337

**Table 9-337 Primary vtable for `time_get<char, istreambuf_iterator<char, char_traits<char> > >`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;</code>
vfunc[0]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~time_get()</code>
vfunc[1]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~time_get()</code>
vfunc[2]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_date_order() const</code>
vfunc[3]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_get_time(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
vfunc[4]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_get_date(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
vfunc[5]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_get_weekday(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>

	<code>_Ios_Iostate&amp;, tm*) const</code>
vfunc[6]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::do_get_monthname(istreambuf_it erator&lt;char, char_traits&lt;char&gt;&gt;, istreambuf_iterator&lt;char,  char_traits&lt;char&gt;&gt;, ios_base&amp;,  _Ios_Iostate&amp;, tm*) const</code>
vfunc[7]:	<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::do_get_year(istreambuf_iterator&lt;c har, char_traits&lt;char&gt;&gt;, istreambuf_iterator&lt;char,  char_traits&lt;char&gt;&gt;, ios_base&amp;,  _Ios_Iostate&amp;, tm*) const</code>

### 9.1.117.2 Interfaces for Class `time_get<char, istreambuf_iterator<char, char_traits<char>>`

An LSB conforming implementation shall provide the generic methods for Class `std::time_get<char, std::istreambuf_iterator<char, std::char_traits<char>>` specified in Table 9-338, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-338 libstdcxx - Class `time_get<char, istreambuf_iterator<char, char_traits<char>>` Function Interfaces**

<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::date_order() const(GLIBCXX_3.4) [ISO CXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::do_get_date(istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::do_get_time(istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::do_get_year(istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::get_weekday(istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; &gt;::do_date_order() const(GLIBCXX_3.4) [ISO CXX]</code>
<code>time_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code>

>::get_monthname(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::do_get_weekday(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::do_get_monthname(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::_M_extract_via_format(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*, char const*) const(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::get_date(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::get_time(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::get_year(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, tm*) const(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::~time_get() (GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::~time_get() (GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::~time_get() (GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::time\_get<char, std::istreambuf\_iterator<char, std::char\_traits<char> > specified in Table 9-339, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-339 libstdcxx - Class time\_get<char, istreambuf\_iterator<char, char\_traits<char> > Data Interfaces**

guard variable for time_get<char, istreambuf_iterator<char, char_traits<char> > >::id(GLIBCXX_3.4) [CXXABI]
time_get<char, istreambuf_iterator<char, char_traits<char> > >::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for time_get<char, istreambuf_iterator<char, char_traits<char> > >(GLIBCXX_3.4) [CXXABI]

typeinfo name for time_get<char, istreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]
vtable for time_get<char, istreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]

### 9.1.118 Class time\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

#### 9.1.118.1 Class data for time\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

The virtual table for the std::time\_get<wchar\_t, std::istreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> class is described by Table 9-340

Table 9-340 Primary vtable for time\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>
vfunc[0]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_get()
vfunc[1]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_get()
vfunc[2]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_date_order() const
vfunc[3]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_get_time(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, _Ios_Iostate&, tm*) const
vfunc[4]:	time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_get_date(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&,

	<code>_Ios_Iostate&amp;, tm*) const</code>
vfunc[5]:	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt; &gt;::do_get_weekday(istreambuf_iterator or&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
vfunc[6]:	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt; &gt;::do_get_monthname(istreambuf_it erator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>
vfunc[7]:	<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt; &gt;::do_get_year(istreambuf_iterator&lt; wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const</code>

### 9.1.118.2 Interfaces for Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>`

An LSB conforming implementation shall provide the generic methods for Class `std::time_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 9-341, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-341 libstdc++ - Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces**

<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt; &gt;::date_order() const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt; &gt;::do_get_date(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt; &gt;::do_get_time(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt; &gt;::do_get_year(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>

<code>_Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::get_weekday(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_date_order() const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::get_monthname(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get_weekday(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get_monthname(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::_M_extract_via_format(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*, wchar_t const*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::get_date(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::get_time(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::get_year(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, tm*) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~time_get()(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~time_get()(GLIBCXX_3.4) [ISOcxx]</code>
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~time_get()(GLIBCXX_3.4) [ISOcxx]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::time_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 9-342, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-342 libstdc++ - Class `time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>` > Data Interfaces**

guard variable for <code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> >::id(GLIBCXX_3.4) [CXXABI]
<code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> >::id(GLIBCXX_3.4) [ISOCXX]
typeinfo for <code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> >(GLIBCXX_3.4) [CXXABI]
vtable for <code>time_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;</code> >(GLIBCXX_3.4) [CXXABI]

**9.1.119 Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>` >****9.1.119.1 Interfaces for Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>` >**

An LSB conforming implementation shall provide the generic methods for Class `std::time_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>` > specified in Table 9-343, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-343 libstdc++ - Class `time_put<char, ostreambuf_iterator<char, char_traits<char>>` > Function Interfaces**

<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> >::put( <code>ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> , <code>ios_base&amp;</code> , <code>char</code> , <code>tm const*</code> , <code>char const*</code> , <code>char const*</code> ) const(GLIBCXX_3.4) [ISOCXX]
<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> >::put( <code>ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> , <code>ios_base&amp;</code> , <code>char</code> , <code>tm const*</code> , <code>char</code> , <code>char</code> ) const(GLIBCXX_3.4) [ISOCXX]
<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> >::do_put( <code>ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> , <code>ios_base&amp;</code> , <code>char</code> , <code>tm const*</code> , <code>char</code> , <code>char</code> ) const(GLIBCXX_3.4) [ISOCXX]
<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> >::~ <code>time_put()</code> (GLIBCXX_3.4) [ISOCXX]
<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> >::~ <code>time_put()</code> (GLIBCXX_3.4) [ISOCXX]
<code>time_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> >::~ <code>time_put()</code> (GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::time_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>` > specified in Table 9-344, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-344 libstdcxx - Class time\_put<char, ostreambuf\_iterator<char, char\_traits<char>>> Data Interfaces**

guard variable for time_put<char, ostreambuf_iterator<char, char_traits<char>>>::id(GLIBCXX_3.4) [CXXABI]
time_put<char, ostreambuf_iterator<char, char_traits<char>>>::id(GLIBCXX_3.4) [ISOCXX]
typeinfo for time_put<char, ostreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for time_put<char, ostreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]
vtable for time_put<char, ostreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]

### 9.1.120 Class time\_put<wchar\_t, ostreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

#### 9.1.120.1 Interfaces for Class time\_put<wchar\_t, ostreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

An LSB conforming implementation shall provide the generic methods for Class std::time\_put<wchar\_t, std::ostreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> specified in Table 9-345, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-345 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>>>::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, wchar_t, tm const*, wchar_t const*, wchar_t const*) const(GLIBCXX_3.4) [ISOCXX]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, wchar_t, tm const*, char, char) const(GLIBCXX_3.4) [ISOCXX]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, wchar_t, tm const*, char, char) const(GLIBCXX_3.4) [ISOCXX]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_put()(GLIBCXX_3.4) [ISOCXX]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_put()(GLIBCXX_3.4) [ISOCXX]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~time_put()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::time\_put<wchar\_t, std::ostreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> specified in Table 9-346, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-346 libstdc++ - Class time\_put<wchar\_t, ostreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>> > Data Interfaces**

guard variable for time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::id(GLIBCXX_3.4) [CXXABI]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::id(GLIBCXX_3.4) [ISOCXX]
typeinfo for time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::(GLIBCXX_3.4) [CXXABI]
typeinfo name for time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::(GLIBCXX_3.4) [CXXABI]
vtable for time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::(GLIBCXX_3.4) [CXXABI]

### 9.1.121 Class moneypunct<char, false>

#### 9.1.121.1 Class data for moneypunct<char, false>

The virtual table for the std::moneypunct<char, false> class is described by Table 9-347

**Table 9-347 Primary vtable for moneypunct<char, false>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for moneypunct<char, false>
vfunc[0]:	moneypunct<char, false>::~moneypunct()
vfunc[1]:	moneypunct<char, false>::~moneypunct()
vfunc[2]:	moneypunct<char, false>::do_decimal_point() const
vfunc[3]:	moneypunct<char, false>::do_thousands_sep() const
vfunc[4]:	moneypunct<char, false>::do_grouping() const
vfunc[5]:	moneypunct<char, false>::do_curr_symbol() const
vfunc[6]:	moneypunct<char, false>::do_positive_sign() const
vfunc[7]:	moneypunct<char, false>::do_negative_sign() const
vfunc[8]:	moneypunct<char, false>::do_frac_digits() const
vfunc[9]:	moneypunct<char,

	false>::do_pos_format() const
vfunc[10]:	moneypunct<char, false>::do_neg_format() const

### 9.1.121.2 Interfaces for Class moneypunct<char, false>

An LSB conforming implementation shall provide the generic methods for Class std::moneypunct<char, false> specified in Table 9-348, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-348 libstdc++ - Class moneypunct<char, false> Function Interfaces**

moneypunct<char, false>::neg_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::pos_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::curr_symbol() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_grouping() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::frac_digits() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::decimal_point() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_neg_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_pos_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::negative_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::positive_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_curr_symbol() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_frac_digits() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_decimal_point() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_negative_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_positive_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::do_thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::grouping() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::_M_initialize_moneypunct(__locale_struct*, char const*)(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]
moneypunct<char, false>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::moneypunct<char, false> specified in Table 9-349, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-349 libstdc++ - Class `moneypunct<char, false>` Data Interfaces**

guard variable for <code>moneypunct&lt;char, false&gt;</code> :: <code>id(GLIBCXX_3.4)</code> [CXXABI]
<code>moneypunct&lt;char, false&gt;</code> :: <code>id(GLIBCXX_3.4)</code> [ISOCXX]
<code>moneypunct&lt;char, false&gt;</code> :: <code>intl(GLIBCXX_3.4)</code> [ISOCXX]
typeinfo for <code>moneypunct&lt;char, false&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>moneypunct&lt;char, false&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>moneypunct&lt;char, false&gt;</code> (GLIBCXX_3.4) [CXXABI]

## 9.1.122 Class `moneypunct<char, true>`

### 9.1.122.1 Class data for `moneypunct<char, true>`

The virtual table for the `std::moneypunct<char, true>` class is described by Table 9-350

**Table 9-350 Primary vtable for `moneypunct<char, true>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>moneypunct&lt;char, true&gt;</code>
vfunc[0]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>~moneypunct()</code>
vfunc[1]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>~moneypunct()</code>
vfunc[2]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_decimal_point()</code> const
vfunc[3]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_thousands_sep()</code> const
vfunc[4]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_grouping()</code> const
vfunc[5]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_curr_symbol()</code> const
vfunc[6]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_positive_sign()</code> const
vfunc[7]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_negative_sign()</code> const
vfunc[8]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_frac_digits()</code> const
vfunc[9]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_pos_format()</code> const
vfunc[10]:	<code>moneypunct&lt;char, true&gt;</code> :: <code>do_neg_format()</code> const

### 9.1.122.2 Interfaces for Class `moneypunct<char, true>`

An LSB conforming implementation shall provide the generic methods for Class `std::moneypunct<char, true>` specified in Table 9-351, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-351 libstdc++ - Class `moneypunct<char, true>` Function Interfaces**

<code>moneypunct&lt;char, true&gt;::neg_format()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::pos_format()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::curr_symbol()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_grouping()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::frac_digits()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::decimal_point()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_neg_format()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_pos_format()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::negative_sign()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::positive_sign()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::thousands_sep()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_curr_symbol()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_frac_digits()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_decimal_point()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_negative_sign()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_positive_sign()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::do_thousands_sep()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::grouping()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::_M_initialize_moneypunct(_locale_struct*, char const*)</code> (GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::~moneypunct()</code> (GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::~moneypunct()</code> (GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::~moneypunct()</code> (GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::moneypunct<char, true>` specified in Table 9-352, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-352 libstdc++ - Class `moneypunct<char, true>` Data Interfaces**

guard variable for <code>moneypunct&lt;char, true&gt;::id</code> (GLIBCXX_3.4) [CXXABI]
<code>moneypunct&lt;char, true&gt;::id</code> (GLIBCXX_3.4) [ISO CXX]
<code>moneypunct&lt;char, true&gt;::intl</code> (GLIBCXX_3.4) [ISO CXX]
typeinfo for <code>moneypunct&lt;char, true&gt;(GLIBCXX_3.4)</code> [CXXABI]

typeinfo name for moneypunct<char, true>(GLIBCXX_3.4) [CXXABI]
vtable for moneypunct<char, true>(GLIBCXX_3.4) [CXXABI]

### 9.1.123 Class `moneypunct<wchar_t, false>`

#### 9.1.123.1 Class data for `moneypunct<wchar_t, false>`

The virtual table for the `std::moneypunct<wchar_t, false>` class is described by Table 9-353

**Table 9-353 Primary vtable for `moneypunct<wchar_t, false>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>moneypunct&lt;wchar_t, false&gt;</code>
vfunc[0]:	<code>moneypunct&lt;wchar_t, false&gt;::~moneypunct()</code>
vfunc[1]:	<code>moneypunct&lt;wchar_t, false&gt;::~moneypunct()</code>
vfunc[2]:	<code>moneypunct&lt;wchar_t, false&gt;::do_decimal_point() const</code>
vfunc[3]:	<code>moneypunct&lt;wchar_t, false&gt;::do_thousands_sep() const</code>
vfunc[4]:	<code>moneypunct&lt;wchar_t, false&gt;::do_grouping() const</code>
vfunc[5]:	<code>moneypunct&lt;wchar_t, false&gt;::do_curr_symbol() const</code>
vfunc[6]:	<code>moneypunct&lt;wchar_t, false&gt;::do_positive_sign() const</code>
vfunc[7]:	<code>moneypunct&lt;wchar_t, false&gt;::do_negative_sign() const</code>
vfunc[8]:	<code>moneypunct&lt;wchar_t, false&gt;::do_frac_digits() const</code>
vfunc[9]:	<code>moneypunct&lt;wchar_t, false&gt;::do_pos_format() const</code>
vfunc[10]:	<code>moneypunct&lt;wchar_t, false&gt;::do_neg_format() const</code>

#### 9.1.123.2 Interfaces for Class `moneypunct<wchar_t, false>`

An LSB conforming implementation shall provide the generic methods for Class `std::moneypunct<wchar_t, false>` specified in Table 9-354, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-354 libstdcxx - Class `moneypunct<wchar_t, false>` Function Interfaces**

<code>moneypunct&lt;wchar_t, false&gt;::neg_format() const(GLIBCXX_3.4) [ISOCXX]</code>
---

moneypunct<wchar_t, false>::pos_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::curr_symbol() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_grouping() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::frac_digits() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::decimal_point() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_neg_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_pos_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::negative_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::positive_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_curr_symbol() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_frac_digits() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_decimal_point() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_negative_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_positive_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::do_thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::grouping() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::_M_initialize_moneypunct(__locale_struct*, char const*)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::moneypunct<wchar\_t, false> specified in Table 9-355, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-355 libstdc++ - Class moneypunct<wchar\_t, false> Data Interfaces**

guard variable for moneypunct<wchar_t, false>::id(GLIBCXX_3.4) [CXXABI]
moneypunct<wchar_t, false>::id(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, false>::intl(GLIBCXX_3.4) [ISOCXX]
typeinfo for moneypunct<wchar_t, false>(GLIBCXX_3.4) [CXXABI]

typeinfo name for moneypunct<wchar_t, false>(GLIBCXX_3.4) [CXXABI]
vtable for moneypunct<wchar_t, false>(GLIBCXX_3.4) [CXXABI]

### 9.1.124 Class `moneypunct<wchar_t, true>`

#### 9.1.124.1 Class data for `moneypunct<wchar_t, true>`

The virtual table for the `std::moneypunct<wchar_t, true>` class is described by Table 9-356

**Table 9-356 Primary vtable for `moneypunct<wchar_t, true>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>moneypunct&lt;wchar_t, true&gt;</code>
vfunc[0]:	<code>moneypunct&lt;wchar_t, true&gt;::~moneypunct()</code>
vfunc[1]:	<code>moneypunct&lt;wchar_t, true&gt;::~moneypunct()</code>
vfunc[2]:	<code>moneypunct&lt;wchar_t, true&gt;::do_decimal_point() const</code>
vfunc[3]:	<code>moneypunct&lt;wchar_t, true&gt;::do_thousands_sep() const</code>
vfunc[4]:	<code>moneypunct&lt;wchar_t, true&gt;::do_grouping() const</code>
vfunc[5]:	<code>moneypunct&lt;wchar_t, true&gt;::do_curr_symbol() const</code>
vfunc[6]:	<code>moneypunct&lt;wchar_t, true&gt;::do_positive_sign() const</code>
vfunc[7]:	<code>moneypunct&lt;wchar_t, true&gt;::do_negative_sign() const</code>
vfunc[8]:	<code>moneypunct&lt;wchar_t, true&gt;::do_frac_digits() const</code>
vfunc[9]:	<code>moneypunct&lt;wchar_t, true&gt;::do_pos_format() const</code>
vfunc[10]:	<code>moneypunct&lt;wchar_t, true&gt;::do_neg_format() const</code>

#### 9.1.124.2 Interfaces for Class `moneypunct<wchar_t, true>`

An LSB conforming implementation shall provide the generic methods for Class `std::moneypunct<wchar_t, true>` specified in Table 9-357, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-357 libstdc++ - Class `moneypunct<wchar_t, true>` Function Interfaces**

<code>moneypunct&lt;wchar_t, true&gt;::neg_format() const(GLIBCXX_3.4) [ISO CXX]</code>
---

moneypunct<wchar_t, true>::pos_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::curr_symbol() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_grouping() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::frac_digits() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::decimal_point() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_neg_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_pos_format() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::negative_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::positive_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_curr_symbol() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_frac_digits() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_decimal_point() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_negative_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_positive_sign() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::do_thousands_sep() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::grouping() const(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::__M_initialize_moneypunct(__locale_struct*, char const*)(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::~moneypunct()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::moneypunct<wchar\_t, true> specified in Table 9-358, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-358 libstdc++ - Class moneypunct<wchar\_t, true> Data Interfaces**

guard variable for moneypunct<wchar_t, true>::id(GLIBCXX_3.4) [CXXABI]
moneypunct<wchar_t, true>::id(GLIBCXX_3.4) [ISOCXX]
moneypunct<wchar_t, true>::intl(GLIBCXX_3.4) [ISOCXX]
typeinfo for moneypunct<wchar_t, true>(GLIBCXX_3.4) [CXXABI]

typeinfo name for moneypunct<wchar_t, true>(GLIBCXX_3.4) [CXXABI]
vtable for moneypunct<wchar_t, true>(GLIBCXX_3.4) [CXXABI]

### 9.1.125 Class `moneypunct_byname<char, false>`

#### 9.1.125.1 Class data for `moneypunct_byname<char, false>`

The virtual table for the `std::moneypunct_byname<char, false>` class is described by Table 9-359

**Table 9-359 Primary vtable for `moneypunct_byname<char, false>`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>moneypunct_byname&lt;char, false&gt;</code>
vfunc[0]:	<code>moneypunct_byname&lt;char, false&gt;::~moneypunct_byname()</code>
vfunc[1]:	<code>moneypunct_byname&lt;char, false&gt;::~moneypunct_byname()</code>
vfunc[2]:	<code>moneypunct&lt;char, false&gt;::do_decimal_point() const</code>
vfunc[3]:	<code>moneypunct&lt;char, false&gt;::do_thousands_sep() const</code>
vfunc[4]:	<code>moneypunct&lt;char, false&gt;::do_grouping() const</code>
vfunc[5]:	<code>moneypunct&lt;char, false&gt;::do_curr_symbol() const</code>
vfunc[6]:	<code>moneypunct&lt;char, false&gt;::do_positive_sign() const</code>
vfunc[7]:	<code>moneypunct&lt;char, false&gt;::do_negative_sign() const</code>
vfunc[8]:	<code>moneypunct&lt;char, false&gt;::do_frac_digits() const</code>
vfunc[9]:	<code>moneypunct&lt;char, false&gt;::do_pos_format() const</code>
vfunc[10]:	<code>moneypunct&lt;char, false&gt;::do_neg_format() const</code>

The Run Time Type Information for the `std::moneypunct_byname<char, false>` class is described by Table 9-360

**Table 9-360 typeinfo for `moneypunct_byname<char, false>`**

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

Name	typeinfo name for moneypunct_byname<char, false>
------	---

### 9.1.125.2 Interfaces for Class moneypunct\_byname<char, false>

An LSB conforming implementation shall provide the generic methods for Class std::moneypunct\_byname<char, false> specified in Table 9-361, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-361 libstdc++ - Class moneypunct\_byname<char, false> Function Interfaces**

moneypunct_byname<char, false>::~moneypunct_byname()(GLIBCXX_3.4) [ISO CXX]
moneypunct_byname<char, false>::~moneypunct_byname()(GLIBCXX_3.4) [ISO CXX]
moneypunct_byname<char, false>::~moneypunct_byname()(GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::moneypunct\_byname<char, false> specified in Table 9-362, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-362 libstdc++ - Class moneypunct\_byname<char, false> Data Interfaces**

moneypunct_byname<char, false>::intl(GLIBCXX_3.4) [ISO CXX]
typeinfo for moneypunct_byname<char, false>(GLIBCXX_3.4) [CXXABI]
typeinfo name for moneypunct_byname<char, false>(GLIBCXX_3.4) [CXXABI]
vtable for moneypunct_byname<char, false>(GLIBCXX_3.4) [CXXABI]

## 9.1.126 Class moneypunct\_byname<char, true>

### 9.1.126.1 Class data for moneypunct\_byname<char, true>

The virtual table for the std::moneypunct\_byname<char, true> class is described by Table 9-363

**Table 9-363 Primary vtable for moneypunct\_byname<char, true>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for moneypunct_byname<char, true>
vfunc[0]:	moneypunct_byname<char, true>::~moneypunct_byname()
vfunc[1]:	moneypunct_byname<char, true>::~moneypunct_byname()

vfunc[2]:	moneypunct<char, true>::do_decimal_point() const
vfunc[3]:	moneypunct<char, true>::do_thousands_sep() const
vfunc[4]:	moneypunct<char, true>::do_grouping() const
vfunc[5]:	moneypunct<char, true>::do_curr_symbol() const
vfunc[6]:	moneypunct<char, true>::do_positive_sign() const
vfunc[7]:	moneypunct<char, true>::do_negative_sign() const
vfunc[8]:	moneypunct<char, true>::do_frac_digits() const
vfunc[9]:	moneypunct<char, true>::do_pos_format() const
vfunc[10]:	moneypunct<char, true>::do_neg_format() const

The Run Time Type Information for the std::moneypunct\_byname<char, true> class is described by Table 9-364

**Table 9-364 typeinfo for moneypunct\_byname<char, true>**

Base Vtable	vtable for __cxxabiv1::__si_class_type_info
Name	typeinfo name for moneypunct_byname<char, true>

### 9.1.126.2 Interfaces for Class moneypunct\_byname<char, true>

An LSB conforming implementation shall provide the generic methods for Class std::moneypunct\_byname<char, true> specified in Table 9-365, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-365 libstdc++ - Class moneypunct\_byname<char, true> Function Interfaces**

moneypunct_byname<char, true>::~moneypunct_byname()(GLIBCXX_3.4) [ISOCXX]
moneypunct_byname<char, true>::~moneypunct_byname()(GLIBCXX_3.4) [ISOCXX]
moneypunct_byname<char, true>::~moneypunct_byname()(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::moneypunct\_byname<char, true> specified in Table 9-366, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-366 libstdcxx - Class moneypunct\_byname<char, true> Data Interfaces**

moneypunct_byname<char, true>::intl(GLIBCXX_3.4) [ISO CXX]
typeinfo for moneypunct_byname<char, true>(GLIBCXX_3.4) [CXXABI]
typeinfo name for moneypunct_byname<char, true>(GLIBCXX_3.4) [CXXABI]
vtable for moneypunct_byname<char, true>(GLIBCXX_3.4) [CXXABI]

**9.1.127 Class moneypunct\_byname<wchar\_t, false>****9.1.127.1 Class data for moneypunct\_byname<wchar\_t, false>**

The virtual table for the std::moneypunct\_byname<wchar\_t, false> class is described by Table 9-367

**Table 9-367 Primary vtable for moneypunct\_byname<wchar\_t, false>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for moneypunct_byname<wchar_t, false>
vfunc[0]:	moneypunct_byname<wchar_t, false>::~moneypunct_byname()
vfunc[1]:	moneypunct_byname<wchar_t, false>::~moneypunct_byname()
vfunc[2]:	moneypunct<wchar_t, false>::do_decimal_point() const
vfunc[3]:	moneypunct<wchar_t, false>::do_thousands_sep() const
vfunc[4]:	moneypunct<wchar_t, false>::do_grouping() const
vfunc[5]:	moneypunct<wchar_t, false>::do_curr_symbol() const
vfunc[6]:	moneypunct<wchar_t, false>::do_positive_sign() const
vfunc[7]:	moneypunct<wchar_t, false>::do_negative_sign() const
vfunc[8]:	moneypunct<wchar_t, false>::do_frac_digits() const
vfunc[9]:	moneypunct<wchar_t, false>::do_pos_format() const
vfunc[10]:	moneypunct<wchar_t, false>::do_neg_format() const

The Run Time Type Information for the `std::moneypunct_byname<wchar_t, false>` class is described by Table 9-368

**Table 9-368 typeinfo for moneypunct\_byname<wchar\_t, false>**

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

### 9.1.127.2 Interfaces for Class `moneypunct_byname<wchar_t, false>`

An LSB conforming implementation shall provide the generic methods for Class `std::moneypunct_byname<wchar_t, false>` specified in Table 9-369, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-369 libstdc++ - Class `moneypunct_byname<wchar_t, false>` Function Interfaces**

<code>moneypunct_byname&lt;wchar_t, false&gt;::~moneypunct_byname()</code> (GLIBCXX_3.4) [ISO CXX]
<code>moneypunct_byname&lt;wchar_t, false&gt;::~moneypunct_byname()</code> (GLIBCXX_3.4) [ISO CXX]
<code>moneypunct_byname&lt;wchar_t, false&gt;::~moneypunct_byname()</code> (GLIBCXX_3.4) [ISO CXX]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::moneypunct_byname<wchar_t, false>` specified in Table 9-370, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-370 libstdc++ - Class `moneypunct_byname<wchar_t, false>` Data Interfaces**

<code>moneypunct_byname&lt;wchar_t, false&gt;::intl()</code> (GLIBCXX_3.4) [ISO CXX]
typeinfo for <code>moneypunct_byname&lt;wchar_t, false&gt;</code> (GLIBCXX_3.4) [CXXABI]
typeinfo name for <code>moneypunct_byname&lt;wchar_t, false&gt;</code> (GLIBCXX_3.4) [CXXABI]
vtable for <code>moneypunct_byname&lt;wchar_t, false&gt;</code> (GLIBCXX_3.4) [CXXABI]

### 9.1.128 Class `moneypunct_byname<wchar_t, true>`

#### 9.1.128.1 Class data for `moneypunct_byname<wchar_t, true>`

The virtual table for the `std::moneypunct_byname<wchar_t, true>` class is described by Table 9-371

**Table 9-371 Primary vtable for `moneypunct_byname<wchar_t, true>`**

Base Offset	0
Virtual Base Offset	0

RTTI	typeinfo for moneypunct_byname<wchar_t, true>
vfunc[0]:	moneypunct_byname<wchar_t, true>::~moneypunct_byname()
vfunc[1]:	moneypunct_byname<wchar_t, true>::~moneypunct_byname()
vfunc[2]:	moneypunct<wchar_t, true>::do_decimal_point() const
vfunc[3]:	moneypunct<wchar_t, true>::do_thousands_sep() const
vfunc[4]:	moneypunct<wchar_t, true>::do_grouping() const
vfunc[5]:	moneypunct<wchar_t, true>::do_curr_symbol() const
vfunc[6]:	moneypunct<wchar_t, true>::do_positive_sign() const
vfunc[7]:	moneypunct<wchar_t, true>::do_negative_sign() const
vfunc[8]:	moneypunct<wchar_t, true>::do_frac_digits() const
vfunc[9]:	moneypunct<wchar_t, true>::do_pos_format() const
vfunc[10]:	moneypunct<wchar_t, true>::do_neg_format() const

The Run Time Type Information for the `std::moneypunct_byname<wchar_t, true>` class is described by Table 9-372

**Table 9-372 typeinfo for moneypunct\_byname<wchar\_t, true>**

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

### 9.1.128.2 Interfaces for Class `moneypunct_byname<wchar_t, true>`

An LSB conforming implementation shall provide the generic methods for Class `std::moneypunct_byname<wchar_t, true>` specified in Table 9-373, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-373 libstdc++ - Class `moneypunct_byname<wchar_t, true>` Function Interfaces**

<code>moneypunct_byname&lt;wchar_t, true&gt;::~moneypunct_byname() (GLIBCXX_3.4) [ISOCXX]</code>
--

moneypunct_byname<wchar_t, true>::~moneypunct_byname()(GLIBCXX_3.4) [ISOcxx]
moneypunct_byname<wchar_t, true>::~moneypunct_byname()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::moneypunct\_byname<wchar\_t, true> specified in Table 9-374, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-374 libstdcxx - Class moneypunct\_byname<wchar\_t, true> Data Interfaces**

moneypunct_byname<wchar_t, true>::intl(GLIBCXX_3.4) [ISOcxx]
typeinfo for moneypunct_byname<wchar_t, true>(GLIBCXX_3.4) [Cxxabi]
typeinfo name for moneypunct_byname<wchar_t, true>(GLIBCXX_3.4) [Cxxabi]
vtable for moneypunct_byname<wchar_t, true>(GLIBCXX_3.4) [Cxxabi]

### 9.1.129 Class money\_base

#### 9.1.129.1 Class data for money\_base

The Run Time Type Information for the std::money\_base class is described by Table 9-375

**Table 9-375 typeinfo for money\_base**

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

#### 9.1.129.2 Interfaces for Class money\_base

An LSB conforming implementation shall provide the generic methods for Class std::money\_base specified in Table 9-376, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-376 libstdcxx - Class money\_base Function Interfaces**

money_base::__S_construct_pattern(char, char, char)(GLIBCXX_3.4) [ISOcxx]
---

An LSB conforming implementation shall provide the generic data interfaces for Class std::money\_base specified in Table 9-377, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-377 libstdcxx - Class money\_base Data Interfaces**

money_base::__S_default_pattern(GLIBCXX_3.4) [ISOcxx]
money_base::__S_atoms(GLIBCXX_3.4) [ISOcxx]
typeinfo for money_base(GLIBCXX_3.4) [Cxxabi]
typeinfo name for money_base(GLIBCXX_3.4) [Cxxabi]

### 9.1.130 Class `money_get<char, istreambuf_iterator<char, char_traits<char> > >`

#### 9.1.130.1 Class data for `money_get<char, istreambuf_iterator<char, char_traits<char> > >`

The virtual table for the `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 9-378

**Table 9-378 Primary vtable for `money_get<char, istreambuf_iterator<char, char_traits<char> > >`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;</code>
vfunc[0]:	<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~money_get()</code>
vfunc[1]:	<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~money_get()</code>
vfunc[2]:	<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_get(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, _Ios_Iostate&amp;, long double&amp;) const</code>
vfunc[3]:	<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_get(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, _Ios_Iostate&amp;, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;&amp;) const</code>

The Run Time Type Information for the `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 9-379

**Table 9-379 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 money_get<char, istreambuf_iterator<char, char_traits<char> >
------	---

### 9.1.130.2 Interfaces for Class `money_get<char, istreambuf_iterator<char, char_traits<char> >`

An LSB conforming implementation shall provide the generic methods for Class `std::money_get<char, std::istreambuf_iterator<char, std::char_traits<char> >` specified in Table 9-380, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-380 libstdcxx - Class `money_get<char, istreambuf_iterator<char, char_traits<char> >` Function Interfaces**

<code>istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::_M_extract&lt;false&gt;(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::_M_extract&lt;true&gt;(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::get(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, _Ios_Iostate&amp;, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::get(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, _Ios_Iostate&amp;, long double&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_get(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, _Ios_Iostate&amp;, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_get(istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, _Ios_Iostate&amp;, long double&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~money_get()(GLIBCXX_3.4) [ISOcxx]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~money_get()(GLIBCXX_3.4) [ISOcxx]</code>
<code>money_get&lt;char, istreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;</code>

>::~money_get()(GLIBCXX_3.4) [ISOcxx]
---------------------------------------

An LSB conforming implementation shall provide the generic data interfaces for Class std::money\_get<char, std::istreambuf\_iterator<char, std::char\_traits<char>>> specified in Table 9-381, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-381 libstdc++ - Class money\_get<char, istreambuf\_iterator<char, char\_traits<char>>> Data Interfaces**

guard variable for money_get<char, istreambuf_iterator<char, char_traits<char>>>::id(GLIBCXX_3.4) [CXXABI]
money_get<char, istreambuf_iterator<char, char_traits<char>>>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for money_get<char, istreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for money_get<char, istreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]
vtable for money_get<char, istreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]

### 9.1.131 Class money\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

#### 9.1.131.1 Class data for money\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

The virtual table for the std::money\_get<wchar\_t, std::istreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> class is described by Table 9-382

**Table 9-382 Primary vtable for money\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>
vfunc[0]:	money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_get()
vfunc[1]:	money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_get()
vfunc[2]:	money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>

	>::do_get(istreambuf_iterator<wchar_t>, char_traits<wchar_t> >, istreambuf_iterator<wchar_t>, char_traits<wchar_t> >, bool, ios_base&, _Ios_Iostate&, long double&) const
vfunc[3]:	money_get<wchar_t, istreambuf_iterator<wchar_t>, char_traits<wchar_t> >::do_get(istreambuf_iterator<wchar_t>, char_traits<wchar_t> >, istreambuf_iterator<wchar_t>, char_traits<wchar_t> >, bool, ios_base&, _Ios_Iostate&, basic_string<wchar_t>, char_traits<wchar_t>, allocator<wchar_t> >&) const

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 9-383

**Table 9-383 typeinfo for `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>`**

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

### 9.1.131.2 Interfaces for Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>`

An LSB conforming implementation shall provide the generic methods for Class `std::money_get<wchar_t, std::istreambuf_iterator<wchar_t>, std::char_traits<wchar_t> >>` specified in Table 9-384, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-384 libstdc++ - Class `money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>` Function Interfaces**

istreambuf_iterator<wchar_t, char_traits<wchar_t> > money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >; M_extract<false>(istreambuf_iterator<wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, basic_string<char, char_traits<char>, allocator<char> >&) const(GLIBCXX_3.4) [ISOCXX]
istreambuf_iterator<wchar_t, char_traits<wchar_t> > money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >; M_extract<true>(istreambuf_iterator<wchar_t, char_traits<wchar_t> >, istreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, _Ios_Iostate&, basic_string<char, char_traits<char>, allocator<char> >&)

const(GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_Iostate&, basic_string<wchar_t, char_traits<wchar_t>>, allocator<wchar_t>>&) const(GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_Iostate&, long double&) const(GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_Iostate&, basic_string<wchar_t, char_traits<wchar_t>>, allocator<wchar_t>>&) const(GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::do_get(istreambuf_iterator<wchar_t, char_traits<wchar_t>>, istreambuf_iterator<wchar_t, char_traits<wchar_t>>, bool, ios_base&, _Ios_Iostate&, long double&) const(GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_get() (GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_get() (GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_get() (GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::money\_get<wchar\_t, std::istreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> specified in Table 9-385, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-385 libstdcxx - Class money\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>> Data Interfaces**

guard variable for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::id(GLIBCXX_3.4) [CXXABI]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]
vtable for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]

### **9.1.132 Class `money_put<char, ostreambuf_iterator<char, char_traits<char> > >`**

#### **9.1.132.1 Class data for `money_put<char, ostreambuf_iterator<char, char_traits<char> > >`**

The virtual table for the `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 9-386

**Table 9-386 Primary vtable for `money_put<char, ostreambuf_iterator<char, char_traits<char> > >`**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for <code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;</code>
vfunc[0]:	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~money_put()</code>
vfunc[1]:	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::~money_put()</code>
vfunc[2]:	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, char, long double) const</code>
vfunc[3]:	<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;::do_put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt;, bool, ios_base&amp;, char, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt; const&amp;) const</code>

The Run Time Type Information for the `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char> > >` class is described by Table 9-387

**Table 9-387 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&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt; &gt; &gt;</code>

### 9.1.132.2 Interfaces for Class `money_put<char, ostreambuf_iterator<char, char_traits<char>>`

An LSB conforming implementation shall provide the generic methods for Class `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>` specified in Table 9-388, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-388 libstdc++ - Class `money_put<char, ostreambuf_iterator<char, char_traits<char>>` Function Interfaces**

<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, bool, ios_base&amp;, char,</code> <code>basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt; const&amp;)</code> <code>const(GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, bool, ios_base&amp;, char,</code> <code>long double) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::do_put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, bool, ios_base&amp;,</code> <code>char, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt; const&amp;)</code> <code>const(GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::do_put(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;, bool, ios_base&amp;,</code> <code>char, long double) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; money_put&lt;char,</code> <code>ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::_M_insert&lt;false&gt;(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;,</code> <code>ios_base&amp;, char, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt;</code> <code>const&amp;) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt; money_put&lt;char,</code> <code>ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::_M_insert&lt;true&gt;(ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;,</code> <code>ios_base&amp;, char, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt;&gt;</code> <code>const&amp;) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::~money_put() (GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::~money_put() (GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;char, ostreambuf_iterator&lt;char, char_traits&lt;char&gt;&gt;</code> <code>&gt;::~money_put() (GLIBCXX_3.4) [ISO CXX]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::money_put<char, std::ostreambuf_iterator<char, std::char_traits<char>>` specified in Table 9-389, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-389 libstdc++ - Class `money_put<char, ostreambuf_iterator<char, char_traits<char>>` Data Interfaces**

guard variable for <code>money_put&lt;char, ostreambuf_iterator&lt;char,</code>
---

char_traits<char> > >::id(GLIBCXX_3.4) [CXXABI]
money_put<char, ostreambuf_iterator<char, char_traits<char> > >::id(GLIBCXX_3.4) [ISOCXX]
typeinfo for money_put<char, ostreambuf_iterator<char, char_traits<char> > >(GLIBCXX_3.4) [CXXABI]
typeinfo name for money_put<char, ostreambuf_iterator<char, char_traits<char> > >(GLIBCXX_3.4) [CXXABI]
vtable for money_put<char, ostreambuf_iterator<char, char_traits<char> > >(GLIBCXX_3.4) [CXXABI]

### 9.1.133 Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

#### 9.1.133.1 Class data for `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

The virtual table for the `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` class is described by Table 9-390

Table 9-390 Primary vtable for `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >`

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >
vfunc[0]:	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::~money_put()</code>
vfunc[1]:	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::~money_put()</code>
vfunc[2]:	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::do_put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, bool, ios_base&amp;, wchar_t, long double) const</code>
vfunc[3]:	<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::do_put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, bool, ios_base&amp;, wchar_t,</code>

	basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > const&) const
--	--

The Run Time Type Information for the `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` class is described by Table 9-391

**Table 9-391 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&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;</code>

### **9.1.133.2 Interfaces for Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>`**

An LSB conforming implementation shall provide the generic methods for Class `std::money_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 9-392, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-392 libstdc++ - Class `money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>` Function Interfaces**

<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, bool, ios_base&amp;, wchar_t, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, bool, ios_base&amp;, wchar_t, long double) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, bool, ios_base&amp;, wchar_t, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_put(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, bool, ios_base&amp;, wchar_t, long double) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt; money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::_M_insert&lt;false&gt;(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, wchar_t, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;, allocator&lt;wchar_t&gt; &gt; const&amp;) const(GLIBCXX_3.4) [ISO CXX]</code>
<code>ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt; money_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::_M_insert&lt;true&gt;(ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, wchar_t, basic_string&lt;wchar_t, char_traits&lt;wchar_t&gt;,</code>

allocator<wchar_t> > const&) const(GLIBCXX_3.4) [ISOcxx]
money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_put()(GLIBCXX_3.4) [ISOcxx]
money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_put()(GLIBCXX_3.4) [ISOcxx]
money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::~money_put()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::money\_put<wchar\_t, std::ostreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> specified in Table 9-393, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-393 libstdcxx - Class money\_put<wchar\_t, ostreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>> Data Interfaces**

guard variable for money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::id(GLIBCXX_3.4) [CXXABI]
money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]
vtable for money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>(GLIBCXX_3.4) [CXXABI]

## 9.1.134 Class locale

### 9.1.134.1 Interfaces for Class locale

An LSB conforming implementation shall provide the generic methods for Class std::locale specified in Table 9-394, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-394 libstdcxx - Class locale Function Interfaces**

locale::id::_M_id() const(GLIBCXX_3.4) [ISOcxx]
locale::name() const(GLIBCXX_3.4) [ISOcxx]
locale::operator==(locale const&) const(GLIBCXX_3.4) [ISOcxx]
locale::_M_coalesce(locale const&, locale const&, int)(GLIBCXX_3.4) [ISOcxx]
locale::_S_normalize_category(int)(GLIBCXX_3.4) [ISOcxx]
locale::_Impl::_M_install_facet(locale::id const*, locale::facet const*)(GLIBCXX_3.4) [LSB]
locale::_Impl::_M_replace_facet(locale::_Impl const*, locale::id const*)(GLIBCXX_3.4) [LSB]

locale::Impl::~Impl()(GLIBCXX_3.4) [LSB]
locale::Impl::~Impl()(GLIBCXX_3.4) [LSB]
locale::global(locale const&)(GLIBCXX_3.4) [ISOCXX]
locale::classic()(GLIBCXX_3.4) [ISOCXX]
locale::locale(char const*)(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale::Impl*)(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale const&)(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale const&, locale const&, int)(GLIBCXX_3.4) [ISOCXX]
locale::locale()(GLIBCXX_3.4) [ISOCXX]
locale::locale(char const*)(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale::Impl*)(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale const&)(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale const&, char const*, int)(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale const&, locale const&, int)(GLIBCXX_3.4) [ISOCXX]
locale::locale()(GLIBCXX_3.4) [ISOCXX]
locale::~locale()(GLIBCXX_3.4) [ISOCXX]
locale::~locale()(GLIBCXX_3.4) [ISOCXX]
locale::operator=(locale const&)(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::locale specified in Table 9-395, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-395 libstdc++ - Class locale Data Interfaces**

locale::all(GLIBCXX_3.4) [ISOCXX]
locale::none(GLIBCXX_3.4) [ISOCXX]
locale::time(GLIBCXX_3.4) [ISOCXX]
locale::ctype(GLIBCXX_3.4) [ISOCXX]
locale::collate(GLIBCXX_3.4) [ISOCXX]
locale::numeric(GLIBCXX_3.4) [ISOCXX]
locale::messages(GLIBCXX_3.4) [ISOCXX]
locale::monetary(GLIBCXX_3.4) [ISOCXX]

## 9.1.135 Class locale::facet

### 9.1.135.1 Class data for locale::facet

The virtual table for the std::locale::facet class is described by Table 9-396

**Table 9-396 Primary vtable for locale::facet**

Base Offset	0
Virtual Base Offset	0
RTTI	typeinfo for locale::facet
vfunc[0]:	locale::facet::~facet()
vfunc[1]:	locale::facet::~facet()

The Run Time Type Information for the std::locale::facet class is described by Table 9-397

**Table 9-397 typeinfo for locale::facet**

Base Vtable	vtable for __cxxabiv1::__class_type_info
Name	typeinfo name for locale::facet

### 9.1.135.2 Interfaces for Class locale::facet

An LSB conforming implementation shall provide the generic methods for Class std::locale::facet specified in Table 9-398, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-398 libstdc++ - Class locale::facet Function Interfaces**

locale::facet::_S_get_c_locale()(GLIBCXX_3.4) [ISOCXX]
locale::facet::_S_clone_c_locale(__locale_struct*&)(GLIBCXX_3.4) [ISOCXX]
locale::facet::_S_create_c_locale(__locale_struct*&, char const*, __locale_struct*)(GLIBCXX_3.4) [ISOCXX]
locale::facet::_S_destroy_c_locale(__locale_struct*&)(GLIBCXX_3.4) [ISOCXX]
locale::facet::~facet()(GLIBCXX_3.4) [ISOCXX]
locale::facet::~facet()(GLIBCXX_3.4) [ISOCXX]
locale::facet::~facet()(GLIBCXX_3.4) [ISOCXX]
locale::locale(locale const&, char const*, int)(GLIBCXX_3.4) [ISOCXX]

An LSB conforming implementation shall provide the generic data interfaces for Class std::locale::facet specified in Table 9-399, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-399 libstdc++ - Class locale::facet Data Interfaces**

__timepunct_cache<char>::_S_timezones(GLIBCXX_3.4) [ISOCXX]
__timepunct_cache<wchar_t>::_S_timezones(GLIBCXX_3.4) [ISOCXX]
typeinfo for locale::facet(GLIBCXX_3.4) [CXXABI]
typeinfo name for locale::facet(GLIBCXX_3.4) [CXXABI]
vtable for locale::facet(GLIBCXX_3.4) [CXXABI]

## 9.1.136 facet functions

### 9.1.136.1 Interfaces for facet functions

An LSB conforming implementation shall provide the generic methods for facet functions specified in Table 9-400, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-400 libstdc++ - facet functions Function Interfaces**

void __convert_to_v<double>(char const*, double&, _Ios_Iostate&, __locale_struct* const&)(GLIBCXX_3.4) [ISO CXX]
void __convert_to_v<long double>(char const*, long double&, _Ios_Iostate&, __locale_struct* const&)(GLIBCXX_3.4) [ISO CXX]
void __convert_to_v<float>(char const*, float&, _Ios_Iostate&, __locale_struct* const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<moneypunct<char, false>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<moneypunct<wchar_t, false>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<ctype<wchar_t>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<codecvt<char, char, __mbstate_t>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<codecvt<wchar_t, char, __mbstate_t>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<collate<char>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<collate<wchar_t>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<num_get<char, istreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<num_put<char, ostreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<messages<char>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<messages<wchar_t>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<numpunct<char>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<numpunct<wchar_t>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<time_get<char, istreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISO CXX]

char_traits<wchar_t> >> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<time_put<char, ostreambuf_iterator<char, char_traits<char> > >(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<money_get<char, istreambuf_iterator<char, char_traits<char> > >>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<money_put<char, ostreambuf_iterator<char, char_traits<char> > >>(locale const&)(GLIBCXX_3.4) [ISO CXX]
bool has_facet<money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >>(locale const&)(GLIBCXX_3.4) [ISO CXX]
moneypunct<char, false> const& use_facet<moneypunct<char, false> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
moneypunct<char, true> const& use_facet<moneypunct<char, true> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
moneypunct<wchar_t, false> const& use_facet<moneypunct<wchar_t, false> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
moneypunct<wchar_t, true> const& use_facet<moneypunct<wchar_t, true> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
__timepunct<char> const& use_facet<__timepunct<char> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
__timepunct<wchar_t> const& use_facet<__timepunct<wchar_t> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
ctype<char> const& use_facet<ctype<char> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
ctype<wchar_t> const& use_facet<ctype<wchar_t> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
codecvt<char, char, __mbstate_t> const& use_facet<codecvt<char, char, __mbstate_t> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
codecvt<wchar_t, char, __mbstate_t> const& use_facet<codecvt<wchar_t, char, __mbstate_t> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
collate<char> const& use_facet<collate<char> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
collate<wchar_t> const& use_facet<collate<wchar_t> >(locale const&)(GLIBCXX_3.4) [ISO CXX]
num_get<char, istreambuf_iterator<char, char_traits<char> > > const& use_facet<num_get<char, istreambuf_iterator<char, char_traits<char> > >>(locale const&)(GLIBCXX_3.4) [ISO CXX]
num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > > const& use_facet<num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> > >>(locale const&)(GLIBCXX_3.4) [ISO CXX]

num_put<char, ostreambuf_iterator<char, char_traits<char>>> const& use_facet<num_put<char, ostreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>> const& use_facet<num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
messages<char> const& use_facet<messages<char>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
messages<wchar_t> const& use_facet<messages<wchar_t>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
numpunct<char> const& use_facet<numpunct<char>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
numpunct<wchar_t> const& use_facet<numpunct<wchar_t>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
time_get<char, istreambuf_iterator<char, char_traits<char>>> const& use_facet<time_get<char, istreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>> const& use_facet<time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
time_put<char, ostreambuf_iterator<char, char_traits<char>>> const& use_facet<time_put<char, ostreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>> const& use_facet<time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
money_get<char, istreambuf_iterator<char, char_traits<char>>> const& use_facet<money_get<char, istreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>> const& use_facet<money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
money_put<char, ostreambuf_iterator<char, char_traits<char>>> const& use_facet<money_put<char, ostreambuf_iterator<char, char_traits<char>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]
money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>> const& use_facet<money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>(locale const&)(GLIBCXX_3.4) [ISOcxx]

### 9.1.137 Class \_\_num\_base

#### 9.1.137.1 Class data for \_\_num\_base

The Run Time Type Information for the std::\_\_num\_base class is described by Table 9-401

**Table 9-401**

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

**9.1.137.2 Interfaces for Class \_\_num\_base**

An LSB conforming implementation shall provide the generic methods for Class std::\_\_num\_base specified in Table 9-402, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-402 libstdcxx - Class \_\_num\_base Function Interfaces**

__num_base::__S_format_float(ios_base const&, char*, char)(GLIBCXX_3.4) [ISO CXX]
--

An LSB conforming implementation shall provide the generic data interfaces for Class std::\_\_num\_base specified in Table 9-403, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-403 libstdcxx - Class \_\_num\_base Data Interfaces**

__num_base::__S_atoms_in(GLIBCXX_3.4) [ISO CXX]
__num_base::__S_atoms_out(GLIBCXX_3.4) [ISO CXX]

**9.1.138 Class num\_get<char, istreambuf\_iterator<char, char\_traits<char>>>****9.1.138.1 Interfaces for Class num\_get<char, istreambuf\_iterator<char, char\_traits<char>>>**

An LSB conforming implementation shall provide the generic methods for Class std::num\_get<char, std::istreambuf\_iterator<char, std::char\_traits<char>>> specified in Table 9-404, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-404 libstdcxx - Class num\_get<char, istreambuf\_iterator<char, char\_traits<char>>> Function Interfaces**

istreambuf_iterator<char, char_traits<char>> num_get<char, istreambuf_iterator<char, char_traits<char>>>::__M_extract_int<unsigned int>(istreambuf_iterator<char, char_traits<char>>, istreambuf_iterator<char, char_traits<char>>, ios_base&, _Ios_Iostate&, unsigned int&) const(GLIBCXX_3.4) [ISO CXX]
istreambuf_iterator<char, char_traits<char>> num_get<char, istreambuf_iterator<char, char_traits<char>>>::__M_extract_int<long>(istreambuf_iterator<char, char_traits<char>>, istreambuf_iterator<char, char_traits<char>>, ios_base&, _Ios_Iostate&, long&) const(GLIBCXX_3.4) [ISO CXX]
istreambuf_iterator<char, char_traits<char>> num_get<char, istreambuf_iterator<char, char_traits<char>>>::__M_extract_int<unsigned long>(istreambuf_iterator<char, char_traits<char>>, istreambuf_iterator<char, char_traits<char>>, ios_base&, _Ios_Iostate&,

unsigned long&) const(GLIBCXX_3.4) [ISOcxx]
istreambuf_iterator<char, char_traits<char> > num_get<char, istreambuf_iterator<char, char_traits<char> > ::_M_extract_int<unsigned short>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned short&) const(GLIBCXX_3.4) [ISOcxx]
istreambuf_iterator<char, char_traits<char> > num_get<char, istreambuf_iterator<char, char_traits<char> > ::_M_extract_int<long long>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, long long&) const(GLIBCXX_3.4) [ISOcxx]
istreambuf_iterator<char, char_traits<char> > num_get<char, istreambuf_iterator<char, char_traits<char> > ::_M_extract_int<unsigned long long>(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned long long&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::_M_extract_float(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, basic_string<char, char_traits<char>, allocator<char> >&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, void*&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, bool&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, double&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, long double&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, float&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned int&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> > > ::get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&,



istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned long&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> >>::do_get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned short&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> >>::do_get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, long long&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> >>::do_get(istreambuf_iterator<char, char_traits<char> >, istreambuf_iterator<char, char_traits<char> >, ios_base&, _Ios_Iostate&, unsigned long long&) const(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> >>::~num_get()(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> >>::~num_get()(GLIBCXX_3.4) [ISOcxx]
num_get<char, istreambuf_iterator<char, char_traits<char> >>::~num_get()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::num\_get<char, std::istreambuf\_iterator<char, std::char\_traits<char> >> specified in Table 9-405, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-405 libstdcxx - Class num\_get<char, istreambuf\_iterator<char, char\_traits<char> >> Data Interfaces**

guard variable for num_get<char, istreambuf_iterator<char, char_traits<char> >>::id(GLIBCXX_3.4) [CXXABI]
num_get<char, istreambuf_iterator<char, char_traits<char> >>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for num_get<char, istreambuf_iterator<char, char_traits<char> >>(GLIBCXX_3.4) [CXXABI]
typeinfo name for num_get<char, istreambuf_iterator<char, char_traits<char> >>(GLIBCXX_3.4) [CXXABI]
vtable for num_get<char, istreambuf_iterator<char, char_traits<char> >>(GLIBCXX_3.4) [CXXABI]

### 9.1.139 Class num\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t> >>

#### 9.1.139.1 Interfaces for Class num\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t> >>

An LSB conforming implementation shall provide the generic methods for Class std::num\_get<wchar\_t, std::istreambuf\_iterator<wchar\_t,

`std::char_traits<wchar_t> > >` specified in Table 9-406, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-406 libstdc++ - Class `num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >` Function Interfaces**

<pre>istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::_M_extract_int&lt;unsigned int&gt;(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned int&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::_M_extract_int&lt;long&gt;(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, long&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::_M_extract_int&lt;unsigned long&gt;(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned long&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::_M_extract_int&lt;unsigned short&gt;(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned short&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::_M_extract_int&lt;long long&gt;(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, long long&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::_M_extract_int&lt;unsigned long long&gt;(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned long long&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::_M_extract_float(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, basic_string&lt;char, char_traits&lt;char&gt;, allocator&lt;char&gt; &gt;&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, void*&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>
<pre>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt;, ios_base&amp;, _Ios_Iostate&amp;, bool&amp;) const(GLIBCXX_3.4) [ISOcxx]</pre>



<code>_Ios_Iostate&amp;, double&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, long double&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, float&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned int&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, long&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned long&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned short&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, long long&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::do_get(istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;, ios_base&amp;, _Ios_Iostate&amp;, unsigned long long&amp;) const(GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~num_get() (GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~num_get() (GLIBCXX_3.4) [ISOcxx]</code>
<code>num_get&lt;wchar_t, istreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt;&gt;&gt;::~num_get() (GLIBCXX_3.4) [ISOcxx]</code>

An LSB conforming implementation shall provide the generic data interfaces for Class `std::num_get<wchar_t, std::istreambuf_iterator<wchar_t, std::char_traits<wchar_t>>>` specified in Table 9-407, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-407 libstdc++ - Class num\_get<wchar\_t, istreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>> > Data Interfaces**

guard variable for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> >::id(GLIBCXX_3.4) [CXXABI]
num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> >::id(GLIBCXX_3.4) [ISO CXX]
typeinfo for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> >(GLIBCXX_3.4) [CXXABI]
typeinfo name for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> >(GLIBCXX_3.4) [CXXABI]
vtable for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> >(GLIBCXX_3.4) [CXXABI]

### 9.1.140 Class num\_put<char, ostreambuf\_iterator<char, char\_traits<char>> >

#### 9.1.140.1 Interfaces for Class num\_put<char, ostreambuf\_iterator<char, char\_traits<char>> >

An LSB conforming implementation shall provide the generic methods for Class std::num\_put<char, std::ostreambuf\_iterator<char, std::char\_traits<char>> > specified in Table 9-408, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-408 libstdc++ - Class num\_put<char, ostreambuf\_iterator<char, char\_traits<char>> > Function Interfaces**

ostreambuf_iterator<char, char_traits<char>> num_put<char, ostreambuf_iterator<char, char_traits<char>> >::_M_insert_int<long>(ostreambuf_iterator<char, char_traits<char>>, ios_base&, char, long) const(GLIBCXX_3.4) [ISO CXX]
ostreambuf_iterator<char, char_traits<char>> num_put<char, ostreambuf_iterator<char, char_traits<char>> >::_M_insert_int<unsigned long>(ostreambuf_iterator<char, char_traits<char>>, ios_base&, char, unsigned long) const(GLIBCXX_3.4) [ISO CXX]
ostreambuf_iterator<char, char_traits<char>> num_put<char, ostreambuf_iterator<char, char_traits<char>> >::_M_insert_int<long long>(ostreambuf_iterator<char, char_traits<char>>, ios_base&, char, long long) const(GLIBCXX_3.4) [ISO CXX]
ostreambuf_iterator<char, char_traits<char>> num_put<char, ostreambuf_iterator<char, char_traits<char>> >::_M_insert_int<unsigned long long>(ostreambuf_iterator<char, char_traits<char>>, ios_base&, char, unsigned long long) const(GLIBCXX_3.4) [ISO CXX]
ostreambuf_iterator<char, char_traits<char>> num_put<char, ostreambuf_iterator<char, char_traits<char>> >::_M_insert_float<double>(ostreambuf_iterator<char, char_traits<char>>, ios_base&, char, char, double) const(GLIBCXX_3.4) [ISO CXX]
ostreambuf_iterator<char, char_traits<char>> num_put<char, ostreambuf_iterator<char, char_traits<char>> >::_M_insert_float<long>



long long) const(GLIBCXX_3.4) [ISOcxx]
num_put<char, ostreambuf_iterator<char, char_traits<char>> >::do_put(ostreambuf_iterator<char, char_traits<char>>, ios_base&, char, unsigned long long) const(GLIBCXX_3.4) [ISOcxx]
num_put<char, ostreambuf_iterator<char, char_traits<char>> >::~num_put()(GLIBCXX_3.4) [ISOcxx]
num_put<char, ostreambuf_iterator<char, char_traits<char>> >::~num_put()(GLIBCXX_3.4) [ISOcxx]
num_put<char, ostreambuf_iterator<char, char_traits<char>> >::~num_put()(GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class std::num\_put<char, std::ostreambuf\_iterator<char, std::char\_traits<char>>> specified in Table 9-409, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-409 libstdc++ - Class num\_put<char, ostreambuf\_iterator<char, char\_traits<char>>> Data Interfaces**

guard variable for num_put<char, ostreambuf_iterator<char, char_traits<char>>>::id(GLIBCXX_3.4) [CXXABI]
num_put<char, ostreambuf_iterator<char, char_traits<char>>>::id(GLIBCXX_3.4) [ISOcxx]
typeinfo for num_put<char, ostreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]
typeinfo name for num_put<char, ostreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]
vtable for num_put<char, ostreambuf_iterator<char, char_traits<char>>>(GLIBCXX_3.4) [CXXABI]

### 9.1.141 Class num\_put<wchar\_t, ostreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

#### 9.1.141.1 Interfaces for Class num\_put<wchar\_t, ostreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>>

An LSB conforming implementation shall provide the generic methods for Class std::num\_put<wchar\_t, std::ostreambuf\_iterator<wchar\_t, std::char\_traits<wchar\_t>>> specified in Table 9-410, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-410 libstdc++ - Class num\_put<wchar\_t, ostreambuf\_iterator<wchar\_t, char\_traits<wchar\_t>>> Function Interfaces**

ostreambuf_iterator<wchar_t, char_traits<wchar_t>> num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>> >::_M_insert_int<long>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>>, ios_base&, wchar_t, long) const(GLIBCXX_3.4) [ISOcxx]
ostreambuf_iterator<wchar_t, char_traits<wchar_t>> num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>

>::_M_insert_int<unsigned long>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&, wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
ostreambuf_iterator<wchar_t, char_traits<wchar_t>> num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::_M_insert_int<long long>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, long long) const(GLIBCXX_3.4) [ISOCXX]
ostreambuf_iterator<wchar_t, char_traits<wchar_t>> num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::_M_insert_int<unsigned long long>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&, wchar_t, unsigned long long) const(GLIBCXX_3.4) [ISOCXX]
ostreambuf_iterator<wchar_t, char_traits<wchar_t>> num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::_M_insert_float<double>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&, wchar_t, char, double) const(GLIBCXX_3.4) [ISOCXX]
ostreambuf_iterator<wchar_t, char_traits<wchar_t>> num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::_M_insert_float<long double>(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&, wchar_t, char, long double) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, void const*) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, bool) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, double) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, long double) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, long) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, long long) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >::put(ostreambuf_iterator<wchar_t, char_traits<wchar_t>, ios_base&,br/>wchar_t, unsigned long long) const(GLIBCXX_3.4) [ISOCXX]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>

>::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, void const*) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, bool) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, double) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, long double) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, long) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, unsigned long) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, long long) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::do_put(ostreambuf_iterator<wchar_t, char_traits<wchar_t> >, ios_base&, wchar_t, unsigned long long) const(GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~num_put() (GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~num_put() (GLIBCXX_3.4) [ISOcxx]
num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >::~num_put() (GLIBCXX_3.4) [ISOcxx]

An LSB conforming implementation shall provide the generic data interfaces for Class `std::num_put<wchar_t, std::ostreambuf_iterator<wchar_t, std::char_traits<wchar_t> > >` specified in Table 9-411, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-411 libstdc++ - Class `num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t> > >` Data Interfaces**

guard variable for <code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::id(GLIBCXX_3.4)</code> [CXXABI]
<code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;::id(GLIBCXX_3.4)</code> [ISOcxx]
typeinfo for <code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;(GLIBCXX_3.4)</code> [CXXABI]
typeinfo name for <code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t, char_traits&lt;wchar_t&gt; &gt; &gt;(GLIBCXX_3.4)</code> [CXXABI]
vtable for <code>num_put&lt;wchar_t, ostreambuf_iterator&lt;wchar_t,</code>

char_traits<wchar_t> >>(GLIBCXX_3.4) [CXXABI]
---

### 9.1.142 Class `gslice`

#### 9.1.142.1 Class data for `gslice`

#### 9.1.142.2 Interfaces for Class `gslice`

No external methods are defined for libstdcxx - Class `std::gslice` in this part of the specification. See also the relevant architecture specific part of this specification.

### 9.1.143 Class `__basic_file<char>`

#### 9.1.143.1 Class data for `__basic_file<char>`

#### 9.1.143.2 Interfaces for Class `__basic_file<char>`

An LSB conforming implementation shall provide the generic methods for Class `std::__basic_file<char>` specified in Table 9-412, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-412 libstdcxx - Class `__basic_file<char>` Function Interfaces**

<code>__basic_file&lt;char&gt;::is_open()</code> const(GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::fd()</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::file()</code> (GLIBCXX_3.4.1) [ISO CXX]
<code>__basic_file&lt;char&gt;::open(char const*, _Ios_Openmode, int)</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::sync()</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::close()</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::sys_open(_IO_FILE*, _Ios_Openmode)</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::sys_open(int, _Ios_Openmode)</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::showmany()</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::__basic_file(pthread_mutex_t*)</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::__basic_file(pthread_mutex_t*)</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::__~__basic_file()</code> (GLIBCXX_3.4) [ISO CXX]
<code>__basic_file&lt;char&gt;::__~__basic_file()</code> (GLIBCXX_3.4) [ISO CXX]

### 9.1.144 Class `_List_node_base`

#### 9.1.144.1 Interfaces for Class `_List_node_base`

An LSB conforming implementation shall provide the generic methods for Class `std::_List_node_base` specified in Table 9-413, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-413 libstdc++ - Class `_List_node_base` Function Interfaces**

<code>_List_node_base::hook(_List_node_base*)(GLIBCXX_3.4) [LSB]</code>
<code>_List_node_base::swap(_List_node_base&amp;, _List_node_base&amp;)(GLIBCXX_3.4) [LSB]</code>
<code>_List_node_base::unhook()(GLIBCXX_3.4) [LSB]</code>
<code>_List_node_base::reverse()(GLIBCXX_3.4) [LSB]</code>
<code>_List_node_base::transfer(_List_node_base*, _List_node_base*)(GLIBCXX_3.4) [LSB]</code>

**9.1.145 Class `valarray<unsigned int>`****9.1.145.1 Class data for `valarray<unsigned int>`****9.1.145.2 Interfaces for Class `valarray<unsigned int>`**

No external methods are defined for libstdc++ - Class `std::valarray<unsigned int>` in this part of the specification. See also the relevant architecture specific part of this specification.

**9.1.146 Class `allocator<char>`****9.1.146.1 Interfaces for Class `allocator<char>`**

An LSB conforming implementation shall provide the generic methods for Class `std::allocator<char>` specified in Table 9-414, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-414 libstdc++ - Class `allocator<char>` Function Interfaces**

<code>allocator&lt;char&gt;::allocator()(GLIBCXX_3.4) [ISO CXX]</code>
<code>allocator&lt;char&gt;::~allocator()(GLIBCXX_3.4) [ISO CXX]</code>

**9.1.147 Class `allocator<wchar_t>`****9.1.147.1 Interfaces for Class `allocator<wchar_t>`**

An LSB conforming implementation shall provide the generic methods for Class `std::allocator<wchar_t>` specified in Table 9-415, with the full mandatory functionality as described in the referenced underlying specification.

**Table 9-415 libstdc++ - Class `allocator<wchar_t>` Function Interfaces**

<code>allocator&lt;wchar_t&gt;::allocator()(GLIBCXX_3.4) [ISO CXX]</code>
<code>allocator&lt;wchar_t&gt;::~allocator()(GLIBCXX_3.4) [ISO CXX]</code>

**9.2 Interface Definitions for libstdc++**

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

Other interfaces listed in Section 9.1 shall behave as described in the referenced base document.

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