

DRAFT INTERNATIONAL STANDARD

ISO/IEC DIS 23360-5-2

ISO/IEC JTC 1/SC 22

Secretariat: ANSI

Voting begins on:
2020-02-14

Voting terminates on:
2020-05-08

Linux Standard Base (LSB) — Part 5-2: Core specification for PowerPC 32 architecture

ICS: 35.080

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/IEC DIS 23360-5-2](#)

<https://standards.iteh.ai/catalog/standards/sist/5f767340-8922-4c24-b84c-212c4eae5acf/iso-iec-dis-23360-5-2>

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

This document is circulated as received from the committee secretariat.



Reference number
ISO/IEC DIS 23360-5-2:2020(E)

© ISO/IEC 2020

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/IEC DIS 23360-5-2](#)

<https://standards.iteh.ai/catalog/standards/sist/5f767340-8922-4c24-b84c-212c4eae5acf/iso-iec-dis-23360-5-2>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Contents.....	iii
List of Figures	v
List of Tables	vi
Foreword	xiv
Status of this Document.....	xvi
Introduction.....	xvii
I Introductory Elements	1
1 Scope.....	2
1.1 General	2
1.2 Module Specific Scope	2
2 References	3
2.1 Normative References	3
2.2 Informative References/Bibliography.....	5
3 Requirements	8
3.1 Relevant Libraries	8
3.2 LSB Implementation Conformance.....	8
3.3 LSB Application Conformance	9
4 Terms and Definitions.....	11
5 Documentation Conventions	13
II Executable And Linking Format (ELF).....	14
6 Introduction	15
7 Low Level System Information	16
7.1 Machine Interface	16
7.2 Function Calling Sequence	17
7.3 Operating System Interface.....	18
7.4 Process Initialization.....	18
7.5 Coding Examples.....	20
7.6 C Stack Frame.....	21
7.7 Debug Information.....	21
8 Object Format.....	22
8.1 Introduction.....	22
8.2 ELF Header	22
8.3 Sections	22
8.4 Symbol Table	24
8.5 Relocation	24
9 Program Loading and Dynamic Linking	25
9.1 Introduction.....	25
9.2 Program Header.....	25
9.3 Program Loading	25
9.4 Dynamic Linking	25
III Base Libraries	27
10 Libraries	28
10.1 Program Interpreter/Dynamic Linker	28
10.2 Interfaces for libc	28
10.3 Data Definitions for libc	50
10.4 Interfaces for libm	68
10.5 Data Definitions for libm	75
10.6 Interface Definitions for libm	76
10.7 Interfaces for libpthread.....	77
10.8 Data Definitions for libpthread.....	83
10.9 Interfaces for libgcc_s.....	84
10.10 Data Definitions for libgcc_s	85
10.11 Interface Definitions for libgcc_s	85
10.12 Interfaces for libdl	86

ISO/IEC DIS 23360-5-2:2020(E)

10.13 Data Definitions for libdl.....	87
10.14 Interfaces for libcrypt	87
10.15 Data Definitions for libcrypt.....	88
IV Utility Libraries	89
11 Libraries	90
11.1 Interfaces for libz	90
11.2 Data Definitions for libz	90
11.3 Interfaces for libncurses	91
11.4 Data Definitions for libncurses	91
11.5 Interfaces for libncursesw	91
11.6 Data Definitions for libncursesw	92
11.7 Interfaces for libutil	93
V Base Libraries.....	94
12 Libraries	95
12.1 Interfaces for libstdcxx	95
12.2 Interface Definitions for libstdcxx.....	231
VI Package Format and Installation	232
13 Software Installation.....	233
13.1 Package Dependencies	233
13.2 Package Architecture Considerations	233
Annex A Alphabetical Listing of Interfaces by Library	234
A.1 libc	234
A.2 libcrypt	250
A.3 libdl	251
A.4 libgcc_s.....	251
A.5 libm	251
A.6 libpthread.....	258
A.7 librt.....	261
A.8 libutil	261
Annex B GNU Free Documentation License (Informative).....	263
B.1 PREAMBLE.....	263
B.2 APPLICABILITY AND DEFINITIONS.....	263
B.3 VERBATIM COPYING	264
B.4 COPYING IN QUANTITY.....	264
B.5 MODIFICATIONS.....	265
B.6 COMBINING DOCUMENTS	267
B.7 COLLECTIONS OF DOCUMENTS	267
B.8 AGGREGATION WITH INDEPENDENT WORKS	267
B.9 TRANSLATION.....	267
B.10 TERMINATION.....	268
B.11 FUTURE REVISIONS OF THIS LICENSE	268
B.12 How to use this License for your documents	268

List of Figures

Figure 7-1 Initial Process Stack	19
--	----

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/IEC DIS 23360-5-2](#)
<https://standards.iteh.ai/catalog/standards/sist/5f767340-8922-4c24-b84c-212c4eae5acf/iso-iec-dis-23360-5-2>

List of Tables

Table 2-1 Normative References	3
Table 2-2 Other References.....	5
Table 3-1 Standard Library Names.....	8
Table 7-1 Scalar Types.....	17
Table 7-2 Extra Auxiliary Types.....	19
Table 8-1 ELF Special Sections	22
Table 8-2 Additional Special Sections.....	23
Table 10-1 libc Definition.....	28
Table 10-2 libc - RPC Function Interfaces.....	28
Table 10-3 libc - RPC Deprecated Function Interfaces	30
Table 10-4 libc - System Calls Function Interfaces	30
Table 10-5 libc - System Calls Deprecated Function Interfaces	32
Table 10-6 libc - Standard I/O Function Interfaces.....	32
Table 10-7 libc - Standard I/O Deprecated Function Interfaces.....	34
Table 10-8 libc - Standard I/O Data Interfaces.....	34
Table 10-9 libc - Signal Handling Function Interfaces	35
Table 10-10 libc - Signal Handling Deprecated Function Interfaces	35
Table 10-11 libc - Signal Handling Data Interfaces.....	35
Table 10-12 libc - Localization Functions Function Interfaces	36
Table 10-13 libc - Localization Functions Data Interfaces	36
Table 10-14 libc - Posix Spawn Option Function Interfaces.....	36
Table 10-15 libc - Posix Advisory Option Function Interfaces	37
Table 10-16 libc - Socket Interface Function Interfaces.....	37
Table 10-17 libc - Socket Interface Data Interfaces.....	38
Table 10-18 libc - Wide Characters Function Interfaces.....	38
Table 10-19 libc - Wide Characters Deprecated Function Interfaces.....	40
Table 10-20 libc - String Functions Function Interfaces	40
Table 10-21 libc - String Functions Deprecated Function Interfaces	41
Table 10-22 libc - IPC Functions Function Interfaces.....	41
Table 10-23 libc - Regular Expressions Function Interfaces	42
Table 10-24 libc - Character Type Functions Function Interfaces	42
Table 10-25 libc - Time Manipulation Function Interfaces.....	43
Table 10-26 libc - Time Manipulation Data Interfaces.....	43
Table 10-27 libc - Terminal Interface Functions Function Interfaces	43
Table 10-28 libc - System Database Interface Function Interfaces	44
Table 10-29 libc - System Database Interface Deprecated Function Interfaces	45
Table 10-30 libc - Language Support Function Interfaces	45
Table 10-31 libc - Large File Support Function Interfaces	45
Table 10-32 libc - Large File Support Deprecated Function Interfaces	46
Table 10-33 libc - Standard Library Function Interfaces.....	46
Table 10-34 libc - Standard Library Deprecated Function Interfaces	49
Table 10-35 libc - Standard Library Data Interfaces.....	49
Table 10-36 libc - GNU Extensions for libc Function Interfaces	49
Table 10-37 libm Definition	68
Table 10-38 libm - Math Function Interfaces	68
Table 10-39 libm - Math Deprecated Function Interfaces	73
Table 10-40 libm - Math Data Interfaces.....	75
Table 10-41 libpthread Definition	77
Table 10-42 libpthread - Realtime Threads Function Interfaces	78
Table 10-43 libpthread - Advanced Realtime Threads Function Interfaces	78
Table 10-44 libpthread - Posix Threads Function Interfaces.....	78
Table 10-45 libpthread - Posix Threads Deprecated Function Interfaces	80
Table 10-46 libpthread - Thread aware versions of libc interfaces Function Interfaces	80

Table 10-47 libpthread - GNU Extensions for libpthread Function Interfaces	81
Table 10-48 libpthread - System Calls Function Interfaces	81
Table 10-49 libpthread - Standard I/O Function Interfaces	81
Table 10-50 libpthread - Signal Handling Function Interfaces	82
Table 10-51 libpthread - Standard Library Function Interfaces	82
Table 10-52 libpthread - Socket Interface Function Interfaces	82
Table 10-53 libpthread - Terminal Interface Functions Function Interfaces	83
Table 10-54 libgcc_s Definition	84
Table 10-55 libgcc_s - Unwind Library Function Interfaces	84
Table 10-56 libdl Definition	86
Table 10-57 libdl - Dynamic Loader Function Interfaces	87
Table 10-58 libcrypt Definition	87
Table 10-59 libcrypt - Encryption Function Interfaces	88
Table 11-1 libz Definition	90
Table 11-2 libcurses Definition	91
Table 11-3 libcursesw Definition	91
Table 11-4 libutil Definition	93
Table 11-5 libutil - Utility Functions Function Interfaces	93
Table 12-1 libstdcxx Definition	95
Table 12-2 libstdcxx - C++ Runtime Support Function Interfaces	95
Table 12-3 typeinfo for type_info	96
Table 12-4 typeinfo for __cxxabiv1::__enum_type_info	96
Table 12-5 typeinfo for __cxxabiv1::__array_type_info	97
Table 12-6 Primary vtable for __cxxabiv1::__class_type_info	97
Table 12-7 typeinfo for __cxxabiv1::__class_type_info	98
Table 12-8 libstdcxx - Class __cxxabiv1::__class_type_info Function Interfaces	98
Table 12-9 typeinfo for __cxxabiv1::__pbase_type_info	99
Table 12-10 typeinfo for __cxxabiv1::__pointer_type_info	99
Table 12-11 typeinfo for __cxxabiv1::__function_type_info	99
Table 12-12 Primary vtable for __cxxabiv1::__si_class_type_info	100
Table 12-13 typeinfo for __cxxabiv1::__si_class_type_info	101
Table 12-14 libstdcxx - Class __cxxabiv1::__si_class_type_info Function Interfaces	101
Table 12-15 Primary vtable for __cxxabiv1::__vmi_class_type_info	101
Table 12-16 typeinfo for __cxxabiv1::__vmi_class_type_info	102
Table 12-17 libstdcxx - Class __cxxabiv1::__vmi_class_type_info Function Interfaces	103
Table 12-18 typeinfo for __cxxabiv1::__fundamental_type_info	103
Table 12-19 typeinfo for __cxxabiv1::__pointer_to_member_type_info	103
Table 12-20 libstdcxx - Class __gnu_cxx::__pool_alloc_base Function Interfaces	104
Table 12-21 Primary vtable for __gnu_cxx::stdio_sync_filebuf<char, char_traits<char> >	105
Table 12-22 Primary vtable for __gnu_cxx::stdio_sync_filebuf<wchar_t, char_traits<wchar_t> >	106
Table 12-23 typeinfo for exception	107
Table 12-24 typeinfo for bad_typeid	108
Table 12-25 typeinfo for logic_error	108
Table 12-26 typeinfo for range_error	108
Table 12-27 typeinfo for domain_error	109
Table 12-28 typeinfo for length_error	109
Table 12-29 typeinfo for out_of_range	110
Table 12-30 typeinfo for bad_exception	110
Table 12-31 typeinfo for runtime_error	110
Table 12-32 typeinfo for overflow_error	111
Table 12-33 typeinfo for underflow_error	111
Table 12-34 typeinfo for invalid_argument	111
Table 12-35 typeinfo for bad_cast	112

Table 12-36 typeinfo for bad_alloc	112
Table 12-37 libstdcxx - struct numeric_limits<_float128> Data Interfaces	115
Table 12-38 typeinfo for ctype_base	116
Table 12-39 libstdcxx - Class ctype<char> Function Interfaces	117
Table 12-40 typeinfo for ctype<wchar_t>	117
Table 12-41 libstdcxx - Class ctype<wchar_t> Function Interfaces	117
Table 12-42 typeinfo for ctype_byname<char>	118
Table 12-43 libstdcxx - Class ctype_byname<char> Function Interfaces	118
Table 12-44 typeinfo for ctype_byname<wchar_t>	118
Table 12-45 libstdcxx - Class ctype_byname<wchar_t> Function Interfaces	119
Table 12-46 libstdcxx - Class basic_string<char, char_traits<char>, allocator<char> > Function Interfaces	119
Table 12-47 libstdcxx - Class basic_string<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces	124
Table 12-48 Primary vtable for basic_stringstream<char, char_traits<char>, allocator<char> >	129
Table 12-49 Secondary vtable for basic_stringstream<char, char_traits<char>, allocator<char> >	129
Table 12-50 Secondary vtable for basic_stringstream<char, char_traits<char>, allocator<char> >	130
Table 12-51 VTT for basic_stringstream<char, char_traits<char>, allocator<char> >	130
Table 12-52 libstdcxx - Class basic_stringstream<char, char_traits<char>, allocator<char> > Function Interfaces	131
Table 12-53 Primary vtable for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	131
Table 12-54 Secondary vtable for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	131
Table 12-55 Secondary vtable for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	132
Table 12-56 VTT for basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	132
Table 12-57 libstdcxx - Class basic_stringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces	133
Table 12-58 Primary vtable for basic_istream<char, char_traits<char>, allocator<char> >	133
Table 12-59 Secondary vtable for basic_istream<char, char_traits<char>, allocator<char> >	133
Table 12-60 VTT for basic_istream<char, char_traits<char>, allocator<char> >	134
Table 12-61 libstdcxx - Class basic_istream<char, char_traits<char>, allocator<char> > Function Interfaces	134
Table 12-62 Primary vtable for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	134
Table 12-63 Secondary vtable for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	135
Table 12-64 VTT for basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	135
Table 12-65 libstdcxx - Class basic_istream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces	136
Table 12-66 Primary vtable for basic_ostringstream<char, char_traits<char>, allocator<char> >	136
Table 12-67 Secondary vtable for basic_ostringstream<char, char_traits<char>, allocator<char> >	136
Table 12-68 VTT for basic_ostringstream<char, char_traits<char>, allocator<char> >	137

Table 12-69 libstdc++ - Class basic_ostringstream<char, char_traits<char>, allocator<char> > Function Interfaces	137
Table 12-70 Primary vtable for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	137
Table 12-71 Secondary vtable for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	138
Table 12-72 VTT for basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	138
Table 12-73 libstdc++ - Class basic_ostringstream<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces	139
Table 12-74 Primary vtable for basic_stringbuf<char, char_traits<char>, allocator<char> >	139
Table 12-75 typeinfo for basic_stringbuf<char, char_traits<char>, allocator<char> >	140
Table 12-76 libstdc++ - Class basic_stringbuf<char, char_traits<char>, allocator<char> > Function Interfaces	140
Table 12-77 Primary vtable for basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	141
Table 12-78 typeinfo for basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> >	142
Table 12-79 libstdc++ - Class basic_stringbuf<wchar_t, char_traits<wchar_t>, allocator<wchar_t> > Function Interfaces	143
Table 12-80 Primary vtable for basic_iostream<char, char_traits<char> >	143
Table 12-81 Secondary vtable for basic_iostream<char, char_traits<char> >	143
Table 12-82 Secondary vtable for basic_iostream<char, char_traits<char> >	144
Table 12-83 VTT for basic_iostream<char, char_traits<char> >	144
Table 12-84 libstdc++ - Class basic_iostream<char, char_traits<char> > Function Interfaces	144
Table 12-85 Primary vtable for basic_iostream<wchar_t, char_traits<wchar_t> > ..	145
Table 12-86 Secondary vtable for basic_iostream<wchar_t, char_traits<wchar_t> > ..	145
ISO/IEC DIS 23360-5-2	
Table 12-87 Secondary vtable for basic_iostream<wchar_t, char_traits<wchar_t> > ..	145
Table 12-88 VTT for basic_iostream<wchar_t, char_traits<wchar_t> >	146
Table 12-89 libstdc++ - Class basic_iostream<wchar_t, char_traits<wchar_t> > Function Interfaces	146
Table 12-90 Primary vtable for basic_istream<char, char_traits<char> >	146
Table 12-91 Secondary vtable for basic_istream<char, char_traits<char> >	146
Table 12-92 VTT for basic_istream<char, char_traits<char> >	147
Table 12-93 libstdc++ - Class basic_istream<char, char_traits<char> > Function Interfaces	147
Table 12-94 Primary vtable for basic_istream<wchar_t, char_traits<wchar_t> >	148
Table 12-95 Secondary vtable for basic_istream<wchar_t, char_traits<wchar_t> > ..	148
Table 12-96 VTT for basic_istream<wchar_t, char_traits<wchar_t> >	149
Table 12-97 libstdc++ - Class basic_istream<wchar_t, char_traits<wchar_t> > Function Interfaces	149
Table 12-98 Primary vtable for basic_ostream<char, char_traits<char> >	150
Table 12-99 Secondary vtable for basic_ostream<char, char_traits<char> >	150
Table 12-100 VTT for basic_ostream<char, char_traits<char> >	151
Table 12-101 libstdc++ - Class basic_ostream<char, char_traits<char> > Function Interfaces	151
Table 12-102 Primary vtable for basic_ostream<wchar_t, char_traits<wchar_t> > .	152
Table 12-103 Secondary vtable for basic_ostream<wchar_t, char_traits<wchar_t> > ..	152
Table 12-104 VTT for basic_ostream<wchar_t, char_traits<wchar_t> >	152
Table 12-105 libstdc++ - Class basic_ostream<wchar_t, char_traits<wchar_t> >	

Function Interfaces	153
Table 12-106 Primary vtable for basic_fstream<char, char_traits<char> >	153
Table 12-107 Secondary vtable for basic_fstream<char, char_traits<char> >	153
Table 12-108 Secondary vtable for basic_fstream<char, char_traits<char> >	154
Table 12-109 VTT for basic_fstream<char, char_traits<char> >	154
Table 12-110 libstdc++ - Class basic_fstream<char, char_traits<char> > Function Interfaces	154
Table 12-111 Primary vtable for basic_fstream<wchar_t, char_traits<wchar_t> > ..	155
Table 12-112 Secondary vtable for basic_fstream<wchar_t, char_traits<wchar_t> >	155
Table 12-113 Secondary vtable for basic_fstream<wchar_t, char_traits<wchar_t> >	155
Table 12-114 VTT for basic_fstream<wchar_t, char_traits<wchar_t> >	156
Table 12-115 libstdc++ - Class basic_fstream<wchar_t, char_traits<wchar_t> >	
Function Interfaces	156
Table 12-116 Primary vtable for basic_ifstream<char, char_traits<char> >	157
Table 12-117 Secondary vtable for basic_ifstream<char, char_traits<char> >	157
Table 12-118 VTT for basic_ifstream<char, char_traits<char> >	157
Table 12-119 libstdc++ - Class basic_ifstream<char, char_traits<char> > Function Interfaces	157
Table 12-120 Primary vtable for basic_ifstream<wchar_t, char_traits<wchar_t> > .	158
Table 12-121 Secondary vtable for basic_ifstream<wchar_t, char_traits<wchar_t> >	158
Table 12-122 VTT for basic_ifstream<wchar_t, char_traits<wchar_t> >	158
Table 12-123 libstdc++ - Class basic_ifstream<wchar_t, char_traits<wchar_t> >	
Function Interfaces	159
Table 12-124 Primary vtable for basic_ofstream<char, char_traits<char> >	159
Table 12-125 Secondary vtable for basic_ofstream<char, char_traits<char> >	159
Table 12-126 VTT for basic_ofstream<char, char_traits<char> >	160
Table 12-127 libstdc++ - Class basic_ofstream<char, char_traits<char> > Function Interfaces	160
ISO/IEC DIS 23360-5-2	
Table 12-128 Primary vtable for basic_ofstream<wchar_t, char_traits<wchar_t> > ..	160
Table 12-129 Secondary vtable for basic_ofstream<wchar_t, char_traits<wchar_t> >	161
Table 12-130 VTT for basic_ofstream<wchar_t, char_traits<wchar_t> >	161
Table 12-131 libstdc++ - Class basic_ofstream<wchar_t, char_traits<wchar_t> >	
Function Interfaces	161
Table 12-132 Primary vtable for basic_streampbuf<char, char_traits<char> >	162
Table 12-133 typeinfo for basic_streampbuf<char, char_traits<char> >	163
Table 12-134 libstdc++ - Class basic_streampbuf<char, char_traits<char> > Function Interfaces	163
Table 12-135 Primary vtable for basic_streampbuf<wchar_t, char_traits<wchar_t> >	164
Table 12-136 typeinfo for basic_streampbuf<wchar_t, char_traits<wchar_t> >	165
Table 12-137 libstdc++ - Class basic_streampbuf<wchar_t, char_traits<wchar_t> >	
Function Interfaces	165
Table 12-138 Primary vtable for basic_filebuf<char, char_traits<char> >	166
Table 12-139 typeinfo for basic_filebuf<char, char_traits<char> >	167
Table 12-140 libstdc++ - Class basic_filebuf<char, char_traits<char> > Function Interfaces	167
Table 12-141 Primary vtable for basic_filebuf<wchar_t, char_traits<wchar_t> > ..	168
Table 12-142 typeinfo for basic_filebuf<wchar_t, char_traits<wchar_t> >	169
Table 12-143 libstdc++ - Class basic_filebuf<wchar_t, char_traits<wchar_t> > Function Interfaces	169
Table 12-144 typeinfo for ios_base.....	170
Table 12-145 typeinfo for basic_ios<wchar_t, char_traits<wchar_t> >	171

Table 12-146 typeinfo for ios_base::failure	171
Table 12-147 typeinfo for _timepunct<char>	171
Table 12-148 libstdcxx - Class _timepunct<char> Function Interfaces	172
Table 12-149 typeinfo for _timepunct<wchar_t>	172
Table 12-150 libstdcxx - Class _timepunct<wchar_t> Function Interfaces	173
Table 12-151 typeinfo for messages_base.....	173
Table 12-152 libstdcxx - Class messages<char> Function Interfaces	173
Table 12-153 libstdcxx - Class messages<wchar_t> Function Interfaces	174
Table 12-154 typeinfo for messages_byname<char>.....	174
Table 12-155 libstdcxx - Class messages_byname<char> Function Interfaces.....	175
Table 12-156 typeinfo for messages_byname<wchar_t>.....	175
Table 12-157 libstdcxx - Class messages_byname<wchar_t> Function Interfaces	175
Table 12-158 typeinfo for numpunct<char>	175
Table 12-159 libstdcxx - Class numpunct<char> Function Interfaces.....	176
Table 12-160 typeinfo for numpunct<wchar_t>.....	176
Table 12-161 libstdcxx - Class numpunct<wchar_t> Function Interfaces	176
Table 12-162 typeinfo for numpunct_byname<char>	177
Table 12-163 libstdcxx - Class numpunct_byname<char> Function Interfaces	177
Table 12-164 typeinfo for numpunct_byname<wchar_t>	177
Table 12-165 libstdcxx - Class numpunct_byname<wchar_t> Function Interfaces..	178
Table 12-166 typeinfo for codecvt_base.....	178
Table 12-167 Primary vtable for codecvt<char, char, __mbstate_t>	179
Table 12-168 typeinfo for codecvt<char, char, __mbstate_t>.....	180
Table 12-169 libstdcxx - Class codecvt<char, char, __mbstate_t> Function Interfaces	180
Table 12-170 Primary vtable for codecvt<wchar_t, char, __mbstate_t>	180
Table 12-171 typeinfo for codecvt<wchar_t, char, __mbstate_t>	181
Table 12-172 libstdcxx - Class codecvt<wchar_t, char, __mbstate_t> Function Interfaces	181
Table 12-173 Primary vtable for codecvt_byname<char, char, __mbstate_t>	182
Table 12-174 typeinfo for codecvt_byname<char, char, __mbstate_t>	183
Table 12-175 libstdcxx - Class codecvt_byname<char, char, __mbstate_t> Function Interfaces	183
Table 12-176 Primary vtable for codecvt_byname<wchar_t, char, __mbstate_t>	183
Table 12-177 typeinfo for codecvt_byname<wchar_t, char, __mbstate_t>	184
Table 12-178 libstdcxx - Class codecvt_byname<wchar_t, char, __mbstate_t> Function Interfaces	185
Table 12-179 typeinfo for collate<char>.....	185
Table 12-180 libstdcxx - Class collate<char> Function Interfaces	185
Table 12-181 typeinfo for collate<wchar_t>	186
Table 12-182 libstdcxx - Class collate<wchar_t> Function Interfaces	186
Table 12-183 typeinfo for collate_byname<char>	186
Table 12-184 libstdcxx - Class collate_byname<char> Function Interfaces.....	186
Table 12-185 typeinfo for collate_byname<wchar_t>.....	187
Table 12-186 libstdcxx - Class collate_byname<wchar_t> Function Interfaces	187
Table 12-187 typeinfo for time_base	187
Table 12-188 typeinfo for time_get_byname<char, istreambuf_iterator<char, char_traits<char> >>	188
Table 12-189 libstdcxx - Class time_get_byname<char, istreambuf_iterator<char, char_traits<char> >> Function Interfaces.....	188
Table 12-190 typeinfo for time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >>	189
Table 12-191 libstdcxx - Class time_get_byname<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t> >> Function Interfaces ...	189
Table 12-192 typeinfo for time_put_byname<char, ostreambuf_iterator<char, char_traits<char> >>	189

Table 12-193 libstdc++ - Class time_put_byname<char, ostreambuf_iterator<char, char_traits<char>>> Function Interfaces.....	190
Table 12-194 typeinfo for time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>	190
Table 12-195 libstdc++ - Class time_put_byname<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>> Function Interfaces ..	191
Table 12-196 libstdc++ - Class time_get<char, istreambuf_iterator<char, char_traits<char>>> Function Interfaces.....	191
Table 12-197 libstdc++ - Class time_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>> Function Interfaces	192
Table 12-198 typeinfo for time_put<char, ostreambuf_iterator<char, char_traits<char>>>	193
Table 12-199 libstdc++ - Class time_put<char, ostreambuf_iterator<char, char_traits<char>>> Function Interfaces.....	193
Table 12-200 typeinfo for time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>	194
Table 12-201 libstdc++ - Class time_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>> Function Interfaces	194
Table 12-202 libstdc++ - Class moneypunct<char, false> Function Interfaces	194
Table 12-203 libstdc++ - Class moneypunct<char, true> Function Interfaces	195
Table 12-204 libstdc++ - Class moneypunct<wchar_t, false> Function Interfaces....	196
Table 12-205 libstdc++ - Class moneypunct<wchar_t, true> Function Interfaces....	196
Table 12-206 typeinfo for moneypunct_byname<char, false>	197
Table 12-207 libstdc++ - Class moneypunct_byname<char, false> Function Interfaces	197
Table 12-208 typeinfo for moneypunct_byname<char, true>	197
Table 12-209 libstdc++ - Class moneypunct_byname<char, true> Function Interfaces	198
Table 12-210 typeinfo for moneypunct_byname<wchar_t, false>	198
Table 12-211 libstdc++ - Class moneypunct_byname<wchar_t, false> Function Interfaces	198
Table 12-212 typeinfo for moneypunct_byname<wchar_t, true>	199
Table 12-213 libstdc++ - Class moneypunct_byname<wchar_t, true> Function Interfaces	199
Table 12-214 typeinfo for money_base	199
Table 12-215 typeinfo for money_get<char, istreambuf_iterator<char, char_traits<char>>>	200
Table 12-216 libstdc++ - Class money_get<char, istreambuf_iterator<char, char_traits<char>>> Function Interfaces.....	200
Table 12-217 libstdc++ - Class money_get<char, istreambuf_iterator<char, char_traits<char>>> Data Interfaces.....	201
Table 12-218 typeinfo for money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>>	201
Table 12-219 libstdc++ - Class money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>> Function Interfaces	202
Table 12-220 libstdc++ - Class money_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>>> Data Interfaces	203
Table 12-221 typeinfo for money_put<char, ostreambuf_iterator<char, char_traits<char>>>	203
Table 12-222 libstdc++ - Class money_put<char, ostreambuf_iterator<char, char_traits<char>>> Function Interfaces	204
Table 12-223 libstdc++ - Class money_put<char, ostreambuf_iterator<char, char_traits<char>>> Data Interfaces.....	205
Table 12-224 typeinfo for money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>>>	205
Table 12-225 libstdc++ - Class money_put<wchar_t, ostreambuf_iterator<wchar_t,	

ISO/IEC DIS 23360-5-2 STANDARD PREVIEW (standards item at)

ISO/IEC DIS 23360-5-2

char_traits<wchar_t> > > Function Interfaces	205
Table 12-226 libstdcxx - Class money_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> > Data Interfaces	207
Table 12-227 libstdcxx - Class locale Function Interfaces.....	207
Table 12-228 typeinfo for locale::facet	208
Table 12-229 libstdcxx - facet functions Function Interfaces.....	208
Table 12-230 typeinfo for num_get<char, istreambuf_iterator<char, char_traits<char> > >.....	210
Table 12-231 libstdcxx - Class num_get<char, istreambuf_iterator<char, char_traits<char>> > Function Interfaces.....	210
Table 12-232 libstdcxx - Class num_get<char, istreambuf_iterator<char, char_traits<char>> > Data Interfaces.....	214
Table 12-233 typeinfo for num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> >	214
Table 12-234 libstdcxx - Class num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> > Function Interfaces	214
Table 12-235 libstdcxx - Class num_get<wchar_t, istreambuf_iterator<wchar_t, char_traits<wchar_t>> > Data Interfaces	218
Table 12-236 typeinfo for num_put<char, ostreambuf_iterator<char, char_traits<char>> >	219
Table 12-237 libstdcxx - Class num_put<char, ostreambuf_iterator<char, char_traits<char>> > Function Interfaces.....	219
Table 12-238 libstdcxx - Class num_put<char, ostreambuf_iterator<char, char_traits<char>> > Data Interfaces.....	222
Table 12-239 typeinfo for num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> >	222
Table 12-240 libstdcxx - Class num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> > Function Interfaces	223
Table 12-241 libstdcxx - Class num_put<wchar_t, ostreambuf_iterator<wchar_t, char_traits<wchar_t>> > Data Interfaces	226
Table 12-242 libstdcxx - Class gslice Function Interfaces	228
Table 12-243 libstdcxx - Class __basic_file<char> Function Interfaces.....	228
Table 12-244 libstdcxx - Class valarray<unsigned int> Function Interfaces	229
Table 12-245 libstdcxx - Class __gnu_cxx::__pool<true> Function Interfaces	230
Table 12-246 libstdcxx - Class __gnu_cxx::__pool<false> Function Interfaces	230
Table 12-247 libstdcxx - Class __gnu_cxx::free_list Function Interfaces	230
Table 12-248 libstdcxx - Class locale::Impl Function Interfaces	231
Table 12-249 libstdcxx - Namespace std Functions Function Interfaces	231
Table A-1 libc Function Interfaces	234
Table A-2 libc Data Interfaces	250
Table A-3 libcrypt Function Interfaces.....	250
Table A-4 libdl Function Interfaces	251
Table A-5 libgcc_s Function Interfaces	251
Table A-6 libm Function Interfaces	251
Table A-7 libm Data Interfaces	258
Table A-8 libpthread Function Interfaces	258
Table A-9 librt Function Interfaces.....	261
Table A-10 libutil Function Interfaces.....	262

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

THE STANDARD PREVIEW
The committee responsible for this document is Joint Technical Committee ISO/IEC JTC 1, Information technology, Subcommittee SC 22, Programming languages, their environments and system software interfaces.

This document is a direct adoption of the Linux Standard Base (LSB) 5.0 Common Definitions, issued by the Linux Foundation. The previous release of these standards, ISO/IEC 23360-1 through ISO/IEC 23360-8:2006 were international standards published under the ISO/IEC/JTC 1 Publicly Available Specification process. This document, and others in the series, are published under the GNU Free Documentation License (See Annex B).

This is version 1.0 of the Linux Standard Base (LSB) core specification for the PowerPC 32 architecture. This standard replaces the core specification portion of ISO/IEC 23360-5:2006 Linux Standard Base, which is cancelled and replaced by ISO/IEC 23360-5-2 through ISO/IEC 23360-5-3. The general parts and the processor specific parts of the original Linux Standard Base are also subdivided as follows:

- The common definitions ISO/IEC 23360-1-1;
- The core specification generic part ISO/IEC 23360-1-2;
- The desktop specification generic part ISO/IEC 23360-1-3;
- The languages specification generic part ISO/IEC 23360-1-4;
- The imaging specification generic part ISO/IEC 23360-1-5;
- The Intel X86-32 architecture core and desktop specification in ISO/IEC 23360-2-2 and ISO/IEC 23360-2-3 respectively;

- The Intel IA64 (Itanium) architecture core and desktop specification in ISO/IEC 23360-3-2 and ISO/IEC 23360-3-3 respectively;
- The AMD64 (X86-64) architecture core and desktop specification in ISO/IEC 23360-4-2 and ISO/IEC 23360-4-3 respectively;
- The PowerPC 32 architecture core and desktop specification in ISO/IEC 23360-5-2 (this document) and ISO/IEC 23360-5-3 respectively;
- The PowerPC 64 architecture core and desktop specification in ISO/IEC 23360-6-2 and ISO/IEC 23360-6-3 respectively;
- The IBM S390 architecture core and desktop specification in ISO/IEC 23360-7-2 and ISO/IEC 23360-7-3 respectively; and
- The IBM S390X architecture core and desktop specification in ISO/IEC 23360-8-2 and ISO/IEC 23360-8-3 respectively.

Throughout this document, there are many clauses where the generic specification of the component being specified is in ISO/IEC 23360-1-2. To find the corresponding generic text, a search of ISO/IEC 23360-1-2 with the clause title as text will take you to the corresponding generic clause.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/IEC DIS 23360-5-2](#)
<https://standards.iteh.ai/catalog/standards/sist/5f767340-8922-4c24-b84c-212c4eae5acf/iso-iec-dis-23360-5-2>