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*****
9823 Mon May 21 20:57:34 2018
new/usr/src/head/stdlib.h
9545 Global visibility of C11 functions in C++11 and C++17
*****
1 /*
2  * CDDL HEADER START
3  *
4  * The contents of this file are subject to the terms of the
5  * Common Development and Distribution License (the "License").
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15 * If applicable, add the following below this CDDL HEADER, with the
16 * fields enclosed by brackets "[]" replaced with your own identifying
17 * information: Portions Copyright [yyyy] [name of copyright owner]
18 *
19 * CDDL HEADER END
20 */

22 /*
23  * Copyright 2014 Garrett D'Amore <garrett@damore.org>
24  * Copyright (c) 2013 Gary Mills
25  *
26  * Copyright (c) 1989, 2010, Oracle and/or its affiliates. All rights reserved.
27  */

29 /* Copyright (c) 2013, OmniTI Computer Consulting, Inc. All rights reserved. */

31 /*      Copyright (c) 1988 AT&T */
32 /*      All Rights Reserved      */

34 #ifndef _STDLIB_H
35 #define _STDLIB_H

37 #include <iso/stdlib_iso.h>
38 #include <iso/stdlib_c99.h>
39 #include <iso/stdlib_c11.h>

41 #if defined(__EXTENSIONS__) || defined(_XPG4)
42 #include <sys/wait.h>
43 #endif

45 /*
46  * Allow global visibility for symbols defined in
47  * C++ "std" namespace in <iso/stdlib_iso.h>.
48  */
49 #if __cplusplus >= 199711L
50 using std::div_t;
51 using std::ldiv_t;
52 using std::size_t;
53 using std::abort;
54 using std::abs;
55 using std::atexit;
56 using std::atof;
57 using std::atoi;
58 using std::atol;
59 using std::bsearch;
60 using std::calloc;
61 using std::div;

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62 using std::exit;
63 using std::free;
64 using std::getenv;
65 using std::labs;
66 using std::ldiv;
67 using std::malloc;
68 using std::mblen;
69 using std::mbstowcs;
70 using std::mbtowc;
71 using std::qsort;
72 using std::rand;
73 using std::realloc;
74 using std::srand;
75 using std::strtod;
76 using std::strtol;
77 using std::strtoul;
78 using std::system;
79 using std::wcstombs;
80 using std::wctomb;
81 #endif

83 /*
84  * Allow global visibility for symbols defined in
85  * C++ "std" namespace in <iso/stdlib_c11.h>.
86  */
87 #if __cplusplus >= 201103L
88 using std::at_quick_exit;
89 using std::quick_exit;
90 #endif
91 #if __cplusplus >= 201703L
92 using std::aligned_alloc;
93 #endif

95 #endif /* ! codereview */
96 #ifndef __cplusplus
97 extern "C" {
98 #endif

100 #ifndef _UID_T
101 #define _UID_T
102 typedef unsigned int    uid_t;          /* UID type          */
103 #endif /* !_UID_T */

105 /* large file compilation environment setup */
106 #if !defined(_LP64) && _FILE_OFFSET_BITS == 64

108 #ifdef __PRAGMA_REDEFINE_EXTNAME
109 #pragma redefine_extname    mkstemp      mkstemp64
110 #pragma redefine_extname    mkstemps     mkstemps64
111 #pragma redefine_extname    mkostemp     mkostemp64
112 #pragma redefine_extname    mkostemps    mkostemps64
113 #else /* __PRAGMA_REDEFINE_EXTNAME */
114 #define mkstemp              mkstemp64
115 #define mkstemps             mkstemps64
116 #define mkostemp             mkostemp64
117 #define mkostemps            mkostemps64
118 #endif /* __PRAGMA_REDEFINE_EXTNAME */

120 #endif /* _FILE_OFFSET_BITS == 64 */

122 /* In the LP64 compilation environment, all APIs are already large file */
123 #if defined(_LP64) && defined(_LARGEFILE64_SOURCE)

125 #ifdef __PRAGMA_REDEFINE_EXTNAME
126 #pragma redefine_extname    mkstemp64    mkstemp
127 #pragma redefine_extname    mkstemps64   mkstemps

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128 #pragma redefine_extname      mkostemp64      mkostemp
129 #pragma redefine_extname      mkostemps64     mkostemps
130 #else /* __PRAGMA_REDEFINE_EXTNAME */
131 #define mkstemp64              mkstemp
132 #define mkstemps64            mkstemps
133 #define mkostemp64            mkostemp
134 #define mkostemps64          mkostemps
135 #endif /* __PRAGMA_REDEFINE_EXTNAME */

137 #endif /* _LP64 && _LARGEFILE64_SOURCE */

139 #if defined(__EXTENSIONS__) || \
140     (!defined(_STRICT_STDC) && !defined(_XOPEN_OR_POSIX)) || \
141     (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_REENTRANT)
142 extern int rand_r(unsigned int *);
143 #endif

145 extern void _exithandle(void);

147 #if defined(__EXTENSIONS__) || \
148     (!defined(_STRICT_STDC) && !defined(_POSIX_C_SOURCE)) || \
149     defined(_XPG4)
150 extern double drand48(void);
151 extern double erand48(unsigned short *);
152 extern long jrand48(unsigned short *);
153 extern void lcong48(unsigned short *);
154 extern long lrand48(void);
155 extern long mrand48(void);
156 extern long nrand48(unsigned short *);
157 extern unsigned short *seed48(unsigned short *);
158 extern void srand48(long);
159 extern int putenv(char *);
160 extern void setkey(const char *);
161 #endif /* defined(__EXTENSIONS__) || !defined(_STRICT_STDC) ... */

163 /*
164  * swab() has historically been in <stdlib.h> as delivered from AT&T
165  * and continues to be visible in the default compilation environment.
166  * As of Issue 4 of the X/Open Portability Guides, swab() was declared
167  * in <unistd.h>. As a result, with respect to X/Open namespace the
168  * swab() declaration in this header is only visible for the XPG3
169  * environment.
170  */
171 #if (defined(__EXTENSIONS__) || \
172     (!defined(_STRICT_STDC) && !defined(_POSIX_C_SOURCE))) && \
173     (!defined(_XOPEN_SOURCE) || (defined(_XPG3) && !defined(_XPG4)))
174 #ifndef _SSIZE_T
175 #define _SSIZE_T
176 #if defined(_LP64) || defined(_I32LPx)
177 typedef long ssize_t; /* size of something in bytes or -1 */
178 #else
179 typedef int ssize_t; /* (historical version) */
180 #endif
181 #endif /* !_SSIZE_T */

183 extern void swab(const char *, char *, ssize_t);
184 #endif /* defined(__EXTENSIONS__) || !defined(_STRICT_STDC) ... */

186 #if defined(__EXTENSIONS__) || \
187     (!defined(_XOPEN_OR_POSIX) || defined(_XPG4_2) || \
188     (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64))
189 extern int mkstemp(char *);
190 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
191 extern int mkstemps(char *, int);
192 #endif
193 #endif /* defined(__EXTENSIONS__) ... */

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195 #if defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
196     !defined(__PRAGMA_REDEFINE_EXTNAME))
197 extern int mkstemp64(char *);
198 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
199 extern int mkstemps64(char *, int);
200 #endif
201 #endif /* _LARGEFILE64_SOURCE... */

203 #if !defined(_STRICT_SYMBOLS) || defined(_XPG7)
204 extern char *mkdtemp(char *);
205 #endif /* !defined(_STRICT_SYMBOLS) || defined(_XPG7) */

207 #if !defined(_STRICT_SYMBOLS)
208 extern int mkostemp(char *, int);
209 extern int mkostemps(char *, int, int);
210 #if defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
211     !defined(__PRAGMA_REDEFINE_EXTNAME))
212 extern int mkostemp64(char *, int);
213 extern int mkostemps64(char *, int, int);
214 #endif /* defined(_LARGEFILE64_SOURCE) || !((_FILE_OFFSET_BITS == 64) ... */
215 #endif /* !defined(_STRICT_SYMBOLS) */

217 #if defined(__EXTENSIONS__) || \
218     (!defined(_STRICT_STDC) && !defined(_XOPEN_OR_POSIX)) || \
219     defined(_XPG4_2)
220 extern long a64l(const char *);
221 extern char *ecvt(double, int, int *RESTRICT_KYWD, int *RESTRICT_KYWD);
222 extern char *fcvt(double, int, int *RESTRICT_KYWD, int *RESTRICT_KYWD);
223 extern char *gcvt(double, int, char *);
224 extern int getsuopt(char **, char *const *, char **);
225 extern int grantpt(int);
226 extern char *initstate(unsigned, char *, size_t);
227 extern char *l64a(long);
228 extern char *mktemp(char *);
229 extern char *ptsname(int);
230 extern long random(void);
231 extern char *realpath(const char *RESTRICT_KYWD, char *RESTRICT_KYWD);
232 extern char *setstate(const char *);
233 extern void srand(unsigned);
234 extern int unlockpt(int);
235 /* Marked LEGACY in SUSv2 and removed in SUSv3 */
236 #if !defined(_XPG6) || defined(__EXTENSIONS__)
237 extern int tty slot(void);
238 extern void *valloc(size_t);
239 #endif /* !defined(_XPG6) || defined(__EXTENSIONS__) */
240 #endif /* defined(__EXTENSIONS__) || ... || defined(_XPG4_2) */

242 #if defined(__EXTENSIONS__) || \
243     (!defined(_STRICT_STDC) && !defined(_XOPEN_OR_POSIX)) || \
244     defined(_XPG6)
245 extern int posix_memalign(void **, size_t, size_t);
246 extern int posix_openpt(int);
247 extern int setenv(const char *, const char *, int);
248 extern int unsetenv(const char *);
249 #endif

251 #if defined(__EXTENSIONS__) || \
252     (!defined(_STRICT_STDC) && !defined(_XOPEN_OR_POSIX))
253 extern char *canonicalize_file_name(const char *);
254 extern int clearenv(void);
255 extern void closefrom(int);
256 extern int daemon(int, int);
257 extern int dup2(int, int);
258 extern int dup3(int, int, int);
259 extern int fdwalk(int (*)(void *, int), void *);

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260 extern char *qecvt(long double, int, int *, int *);
261 extern char *qfcvt(long double, int, int *, int *);
262 extern char *qgcvt(long double, int, char *);
263 extern char *getcwd(char *, size_t);
264 extern const char *getexecname(void);

266 #ifndef __GETLOGIN_DEFINED /* Avoid duplicate in unistd.h */
267 #define __GETLOGIN_DEFINED
268 #ifndef __USE_LEGACY_LOGNAME__
269 #ifdef __PRAGMA_REDEFINE_EXTNAME
270 #pragma redefine_extname getlogin getloginx
271 #else /* __PRAGMA_REDEFINE_EXTNAME */
272 extern char *getloginx(void);
273 #define getlogin getloginx
274 #endif /* __PRAGMA_REDEFINE_EXTNAME */
275 #endif /* __USE_LEGACY_LOGNAME__ */
276 extern char *getlogin(void);
277 #endif /* __GETLOGIN_DEFINED */

279 extern int getopt(int, char *const *, const char *);
280 extern char *optarg;
281 extern int optind, opterr, optopt;
282 extern char *getpass(const char *);
283 extern char *getpassphrase(const char *);
284 extern int getpw(uid_t, char *);
285 extern int isatty(int);
286 extern void *memalign(size_t, size_t);
287 extern char *ttyname(int);
288 extern char *mkdtemp(char *);
289 extern const char *getprogname(void);
290 extern void setprogname(const char *);

292 #if !defined(_STRICT_STDC) && defined(_LONGLONG_TYPE)
293 extern char *lltostr(long long, char *);
294 extern char *ulltostr(unsigned long long, char *);
295 #endif /* !defined(_STRICT_STDC) && defined(_LONGLONG_TYPE) */

297 #endif /* defined(__EXTENSIONS__) || !defined(_STRICT_STDC) ... */

299 /* OpenBSD compatibility functions */
300 #if !defined(_STRICT_SYMBOLS)

302 #include <inttypes.h>
303 extern uint32_t arc4random(void);
304 extern void arc4random_buf(void *, size_t);
305 extern uint32_t arc4random_uniform(uint32_t);
306 extern void freezero(void *, size_t);
307 extern void *reallocarray(void *, size_t, size_t);
308 extern void *reallocarray(void *, size_t, size_t, size_t);
309 extern long long strtonum(const char *, long long, long long, const char **);

311 #endif /* !_STRICT_SYMBOLS */

314 #ifdef __cplusplus
315 }
316 #endif

318 #endif /* _STDLIB_H */
```