

new/usr/src/head/locale.h

1

```
*****
3046 Mon Jun  2 23:06:27 2014
new/usr/src/head/locale.h
Fix compile errors, code review feedback, and add basic libc test suite.
*****
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, Version 1.0 only
6  * (the "License"). You may not use this file except in compliance
7  * with the License.
8  *
9  * You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE
10 * or http://www.opensolaris.org/os/licensing.
11 * See the License for the specific language governing permissions
12 * and limitations under the License.
13 *
14 * When distributing Covered Code, include this CDDL HEADER in each
15 * file and include the License file at usr/src/OPENSOLARIS.LICENSE.
16 * If applicable, add the following below this CDDL HEADER, with the
17 * fields enclosed by brackets "[]" replaced with your own identifying
18 * information: Portions Copyright [yyyy] [name of copyright owner]
19 *
20 * CDDL HEADER END
21 */
22 /*
23  * Copyright 2005 Sun Microsystems, Inc. All rights reserved.
24  * Use is subject to license terms.
25 */
26
27 /*
28  * Copyright 2013 Garrett D'Amore <garrett@damore.org>
29  *
30  * Portions of this file developed by Garrett D'Amore are licensed
31  * under the terms of the Common Development and Distribution License (CDDL)
32  * version 1.0 only. The use of subsequent versions of the License are
33  * is specifically prohibited unless those terms are not in conflict with
34  * version 1.0 of the License. You can find this license on-line at
35  * http://www.illumos.org/license/CDDL
36 */
37
38 #ifndef _LOCALE_H
39 #define _LOCALE_H
40
41 #include <iso/locale_iso.h>
42
43 #if (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX)) || \
44     defined(__EXTENSIONS__)
45 #include <libintl.h>
46 #endif
47
48 /*
49  * Allow global visibility for symbols defined in
50  * C++ "std" namespace in <iso/locale_iso.h>.
51  */
52 #if __cplusplus >= 199711L
53 using std::lconv;
54 using std::setlocale;
55 using std::localeconv;
56 #endif
57
58 #ifdef __cplusplus
59 extern "C" {
60 #endif
```

new/usr/src/head/locale.h

2

```
62 #define _LastCategory    LC_MESSAGES    /* This must be last category */
63
64 #define _ValidCategory(c) \
65     (((int)(c) >= LC_CTYPE) && ((int)(c) <= _LastCategory) || \
66     ((int)c == LC_ALL))
67
68 #if defined(_XPG7) || !defined(_STRICT_SYMBOLS)
69
70 /*
71  * These were added in POSIX 2008 as part of the newlocale() specification.
72  */
73 #define LC_CTYPE_MASK      (1 << LC_CTYPE)
74 #define LC_NUMERIC_MASK    (1 << LC_NUMERIC)
75 #define LC_TIME_MASK       (1 << LC_TIME)
76 #define LC_COLLATE_MASK    (1 << LC_COLLATE)
77 #define LC_MONETARY_MASK   (1 << LC_MONETARY)
78 #define LC_MESSAGES_MASK   (1 << LC_MESSAGES)
79 #define LC_ALL_MASK        (0x3f)
80
81 #ifndef _LOCALE_T
82 #define _LOCALE_T
83 typedef struct locale *locale_t;
84 #endif
85
86 #if defined(_STDC__)
87 extern locale_t duplocale(locale_t);
88 extern void freelocale(locale_t);
89 extern locale_t newlocale(int, const char *, locale_t);
90 extern locale_t uselocale(locale_t);
91 locale_t duplocale(locale_t);
92 void freelocale(locale_t);
93 locale_t newlocale(int, const char *, locale_t);
94 locale_t uselocale(locale_t);
95 #else /* __STDC__ */
96 extern locale_t duplocale();
97 extern void freelocale();
98 extern locale_t newlocale();
99 extern locale_t uselocale();
100 locale_t duplocale();
101 void freelocale();
102 locale_t newlocale();
103 locale_t uselocale();
104 #endif /* __STDC__ */
105
106 #define LC_GLOBAL_LOCALE    (__global_locale())
107 extern locale_t __global_locale(void);
108 #define LC_GLOBAL_LOCALE    __global_locale
109 extern locale_t __global_locale;
110
111 #endif /* defined(_XPG7) || !defined(_STRICT_SYMBOLS) */
112
113 #ifdef __cplusplus
114 }
115 #endif
116
117 unchanged_portion_omitted
```

new/usr/src/head/xlocale.h

1

```
*****
3743 Mon Jun  2 23:06:27 2014
new/usr/src/head/xlocale.h
Fix compile errors, code review feedback, and add basic libc test suite.
*****
1 /*
2  * This file and its contents are supplied under the terms of the
3  * Common Development and Distribution License ("CDDL"), version 1.0.
4  * You may only use this file in accordance with the terms of version
5  * 1.0 of the CDDL.
6  *
7  * A full copy of the text of the CDDL should have accompanied this
8  * source.  A copy of the CDDL is also available via the Internet at
9  * http://www.illumos.org/license/CDDL.
10 */

12 /*
13  * Copyright 2014 Garrett D'Amore <garrett@damore.org>
14 */

16 #ifndef _XLOCALE_H
17 #define _XLOCALE_H

19 /*
20  * This file supplies declarations for extended locale routines, as
21  * originally delivered by MacOS X.  Many of these things are now
22  * officially part of XPG7.  (Note that while the interfaces are the
23  * same as MacOS X, there is no shared implementation.)
24  *
25  * Those declarations that are part of XPG7 are provided for the in the
26  * XPG7-specified location.  This file lists just the declarations that
27  * were not part of the standard.  These will be useful in their own right,
28  * and will aid porting programs that don't strictly follow the standard.
29  *
30  * Note that it is an error to include this file in a program with strict
31  * symbol visibility rules (under strict ANSI or POSIX_C_SOURCE rules.)
32  * If this is done, the symbols defined here will indeed be exposed to your
33  * program, but those symbols that are part of the related standards might
34  * not be.
35 */

37 #include <sys/feature_tests.h>
38 #include <wchar.h>
39 #include <locale.h>
40 #include <stdio.h>

42 #ifdef __cplusplus
43 extern "C" {
44 #endif

46 #ifndef _LOCALE_T
47 #define _LOCALE_T
48 typedef struct locale *locale_t;
49 #endif

51 extern int mbsinit_l(const mbstate_t *, locale_t);
52 int mbsinit_l(const mbstate_t *, locale_t);

53 extern size_t mbsrtowcs_l(wchar_t * _RESTRICT_KYWD, const char ** _RESTRICT_KYWD,
54 size_t mbsrtowcs_l(wchar_t * _RESTRICT_KYWD, const char ** _RESTRICT_KYWD,
size_t, mbstate_t * _RESTRICT_KYWD, locale_t);

56 extern size_t mbsnrtowcs_l(wchar_t * _RESTRICT_KYWD, const char ** _RESTRICT_KYWD,
57 size_t mbsnrtowcs_l(wchar_t * _RESTRICT_KYWD, const char ** _RESTRICT_KYWD,
size_t, size_t, mbstate_t * _RESTRICT_KYWD, locale_t);
```

new/usr/src/head/xlocale.h

2

```
59 extern char *strptime_l(const char * _RESTRICT_KYWD, const char * _RESTRICT_KYWD,
59 char *strptime_l(const char * _RESTRICT_KYWD, const char * _RESTRICT_KYWD,
60 struct tm * _RESTRICT_KYWD, locale_t);

62 extern int wcwidth_l(wchar_t, locale_t);
62 int wcwidth_l(wchar_t, locale_t);

64 extern int wcswidth_l(const wchar_t *, size_t, locale_t);
64 int wcswidth_l(const wchar_t *, size_t, locale_t);

66 extern int iswspecial_l(wint_t, locale_t);
67 extern int iswnumber_l(wint_t, locale_t);
68 extern int iswhexnumber_l(wint_t, locale_t);
69 extern int iswideogram_l(wint_t, locale_t);
70 extern int iswphonogram_l(wint_t, locale_t);
66 int iswspecial_l(wint_t, locale_t);
67 int iswnumber_l(wint_t, locale_t);
68 int iswhexnumber_l(wint_t, locale_t);
69 int iswideogram_l(wint_t, locale_t);
70 int iswphonogram_l(wint_t, locale_t);

72 extern wint_t btowc_l(int, locale_t);
73 extern int wctob_l(wint_t, locale_t);
74 extern size_t mbrtowc_l(wchar_t * _RESTRICT_KYWD, const char * _RESTRICT_KYWD,
75 size_t, mbstate_t * _RESTRICT_KYWD, locale_t);
76 extern size_t mbstowcs_l(wchar_t * _RESTRICT_KYWD, const char * _RESTRICT_KYWD,
77 size_t, locale_t);
78 extern int mblen_l(const char *, size_t, locale_t);
79 extern size_t mbrlen_l(const char * _RESTRICT_KYWD, size_t,
72 wint_t btowc_l(int, locale_t);
73 int wctob_l(wint_t, locale_t);
74 size_t mbrtowc_l(wchar_t * _RESTRICT_KYWD, const char * _RESTRICT_KYWD, size_t,
mbstate_t * _RESTRICT_KYWD, locale_t);
81 extern int mbtowc_l(wchar_t * _RESTRICT_KYWD, const char * _RESTRICT_KYWD, size_t,
76 size_t mbstowcs_l(wchar_t * _RESTRICT_KYWD, const char * _RESTRICT_KYWD, size_t,
locale_t);
82 locale_t);
83 extern size_t wcsrtombs_l(char * _RESTRICT_KYWD, const wchar_t ** _RESTRICT_KYWD,
78 int mblen_l(const char *, size_t, locale_t);
79 size_t mbrlen_l(const char * _RESTRICT_KYWD, size_t, mbstate_t * _RESTRICT_KYWD,
locale_t);
81 int mbtowc_l(wchar_t * _RESTRICT_KYWD, const char * _RESTRICT_KYWD, size_t,
locale_t);
82 size_t wcsrtombs_l(char * _RESTRICT_KYWD, const wchar_t ** _RESTRICT_KYWD,
size_t len, mbstate_t * _RESTRICT_KYWD, locale_t);
84 size_t len, mbstate_t * _RESTRICT_KYWD, locale_t);
85 extern size_t wcrctomb_l(char * _RESTRICT_KYWD, wchar_t,
mbstate_t * _RESTRICT_KYWD, locale_t);
86 mbstate_t * _RESTRICT_KYWD, locale_t);
87 extern size_t wcstombs_l(char * _RESTRICT_KYWD, const wchar_t * _RESTRICT_KYWD,
size_t, locale_t);
88 size_t, locale_t);
89 extern int wctomb_l(char *, wchar_t, locale_t);
85 size_t wcrctomb_l(char * _RESTRICT_KYWD, wchar_t, mbstate_t * _RESTRICT_KYWD,
locale_t);
86 size_t, locale_t);
87 size_t wcstombs_l(char * _RESTRICT_KYWD, const wchar_t * _RESTRICT_KYWD, size_t,
locale_t);
88 int wctomb_l(char *, wchar_t, locale_t);

91 extern unsigned char __mb_cur_max_l(locale_t);
91 unsigned char __mb_cur_max_l(locale_t);
92 #ifndef MB_CUR_MAX_L
92 #define MB_CUR_MAX_L(l) (__mb_cur_max_l(l))
93 #define MB_CUR_MAX_L(l) (__mb_cur_max_l(l))
94 #endif

97 #if defined(_XPG4) && !defined(_FILEDEFED) || __cplusplus >= 199711L
98 #define _FILEDEFED
99 typedef __FILE FILE;
100 #endif
```

```
102 extern wint_t fgetwc_l(FILE *, locale_t);
103 extern wint_t getwc_l(FILE *, locale_t);
102 wint_t fgetwc_l(FILE *, locale_t);
103 wint_t getwc_l(FILE *, locale_t);

105 #ifndef getwchar_l
106 #define getwchar_l(l) fgetwc_l(stdin, (l))
107 #endif

109 #ifdef __cplusplus
110 }
_____unchanged_portion_omitted_____
```

new/usr/src/lib/libc/port/locale/localeimpl.c

1

```
*****
11634 Mon Jun  2 23:06:27 2014
new/usr/src/lib/libc/port/locale/localeimpl.c
Fix compile errors, code review feedback, and add basic libc test suite.
*****
```

unchanged portion omitted

```
117 locale_t __global_locale = &posix_locale;
117 locale_t __global_locale = &posix_locale;
```

```
119 locale_t
120 __global_locale(void)
121 {
122     return (__global_locale);
123 }
```

```
125 /*
126  * Category names for getenv(). Note that this was modified
127  * for Solaris. See <iso/locale_iso.h>.
128  */
129 #define NUM_CATS 7
130 static char *categories[7] = {
131     "LC_CTYPE",
132     "LC_NUMERIC",
133     "LC_TIME",
134     "LC_COLLATE",
135     "LC_MONETARY",
136     "LC_MESSAGES",
137     "LC_ALL",
138 };
139
```

unchanged portion omitted

```
395 locale_t
396 newlocale(int catmask, const char *locname, locale_t base)
397 {
398     locale_t loc;
399     int i, e;
400
401     if (catmask & ~(LC_ALL_MASK)) {
402         errno = EINVAL;
403         return (NULL);
404     }
405     loc = duplocale(base != NULL ? base : __global_locale);
399     loc = duplocale(base != NULL ? base : __global_locale);
406     if (loc == NULL) {
407         return (NULL);
408     }
409
410     for (i = 0; i < LC_ALL; i++) {
411         struct locdata *ldata;
412         loc->loaded[i] = 0;
413         if (((1 << i) & catmask) == 0) {
414             /* Default to base locale if not overriding */
415             continue;
416         }
417         ldata = locdata_get(i, locname);
418         if (ldata == NULL) {
419             e = errno;
420             freelocale(loc);
421             errno = e;
422             return (NULL);
423         }
424         _locdata_release(loc->locdata[i]);
425         loc->locdata[i] = ldata;
426     }
427     if (base && base != __global_locale) {
```

new/usr/src/lib/libc/port/locale/localeimpl.c

2

```
421     if (base && base != __global_locale) {
422         freelocale(base);
423     }
424     loc->collate = loc->locdata[LC_COLLATE]->l_data[0];
425     loc->ctype = loc->locdata[LC_CTYPE]->l_data[0];
426     loc->runelocale = loc->locdata[LC_CTYPE]->l_data[1];
427     loc->messages = loc->locdata[LC_MESSAGES]->l_data[0];
428     loc->monetary = loc->locdata[LC_MONETARY]->l_data[0];
429     loc->numeric = loc->locdata[LC_NUMERIC]->l_data[0];
430     loc->time = loc->locdata[LC_TIME]->l_data[0];
431     return (loc);
432 }
433
440 locale_t
441 uselocale(locale_t loc)
442 {
443     locale_t lastloc = __global_locale;
444     locale_t *locptr;
445
446     locptr = tsdalloc(_T_SETLOCALE, sizeof (locale_t), freelocptr);
447     /* Should never occur */
448     if (locptr == NULL) {
449         errno = EINVAL;
450         return (NULL);
451     }
452
453     if (*locptr != NULL)
454         lastloc = *locptr;
455
456     /* Argument loc is NULL if we are just querying. */
457     if (loc != NULL) {
458         /*
459          * Set it to LC_GLOBAL_LOCALE to return to using
460          * the global locale (setlocale).
461          */
462         if (loc == __global_locale) {
463             if (loc == __global_locale) {
464                 *locptr = NULL;
465             } else {
466                 /* No validation of the provided locale at present */
467                 *locptr = loc;
468             }
469         }
470         /*
471          * The caller is responsible for freeing, of course it would be
472          * gross error to call freelocale() on a locale object that is still
473          * in use.
474          */
475         return (lastloc);
476     }
477     unchanged portion omitted
```

new/usr/src/lib/libc/port/locale/localeimpl.h

1

```
*****
3359 Mon Jun  2 23:06:28 2014
new/usr/src/lib/libc/port/locale/localeimpl.h
Fix compile errors, code review feedback, and add basic libc test suite.
*****
_____unchanged_portion_omitted____

83 struct locdata *__locdata_alloc(const char *, size_t);
84 struct locdata *__locdata_hold(struct locdata *);
85 void __locdata_release(struct locdata *);
86 struct locdata *__locdata_get_cache(int, const char *);
87 void __locdata_set_cache(int, struct locdata *);

89 struct locdata *__lc_numeric_load(const char *name);
90 struct locdata *__lc_monetary_load(const char *name);
91 struct locdata *__lc_messages_load(const char *name);
92 struct locdata *__lc_time_load(const char *name);
93 struct locdata *__lc_ctype_load(const char *name);
94 struct locdata *__lc_collate_load(const char *name);

96 extern struct locdata __posix_numeric_locdata;
97 extern struct locdata __posix_monetary_locdata;
98 extern struct locdata __posix_messages_locdata;
99 extern struct locdata __posix_time_locdata;
100 extern struct locdata __posix_ctype_locdata;
101 extern struct locdata __posix_collate_locdata;
102 extern locale_t __global_locale;

104 #endif /* _LOCALEIMPL_H_ */
```

new/usr/src/lib/libc/port/locale/setlocale.c

1

```
*****
5358 Mon Jun  2 23:06:28 2014
new/usr/src/lib/libc/port/locale/setlocale.c
Fix compile errors, code review feedback, and add basic libc test suite.
*****

1 /*
2  * Copyright 2014 Garrett D'Amore <garrett@damore.org>
3  * Copyright 2010 Nexenta Systems, Inc.  All rights reserved.
4  * Copyright (c) 1996 - 2002 FreeBSD Project
5  * Copyright (c) 1991, 1993
6  *   The Regents of the University of California.  All rights reserved.
7  *
8  * This code is derived from software contributed to Berkeley by
9  * Paul Borman at Krystal Technologies.
10 *
11 * Redistribution and use in source and binary forms, with or without
12 * modification, are permitted provided that the following conditions
13 * are met:
14 * 1. Redistributions of source code must retain the above copyright
15 *   notice, this list of conditions and the following disclaimer.
16 * 2. Redistributions in binary form must reproduce the above copyright
17 *   notice, this list of conditions and the following disclaimer in the
18 *   documentation and/or other materials provided with the distribution.
19 * 4. Neither the name of the University nor the names of its contributors
20 *   may be used to endorse or promote products derived from this software
21 *   without specific prior written permission.
22 *
23 * THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS 'AS IS' AND
24 * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
25 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
26 * ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
27 * FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
28 * DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
29 * OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
30 * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
31 * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
32 * OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
33 * SUCH DAMAGE.
34 */

36 #include "lint.h"
37 #include <sys/types.h>
38 #include <sys/stat.h>
39 #include <errno.h>
40 #include <limits.h>
41 #include <locale.h>
42 #include <stdlib.h>
43 #include <string.h>
44 #include <unistd.h>
45 #include <stdio.h>
46 #include "collate.h"
47 #include "lnumeric.h" /* for struct lc_numeric */
48 #include "lctype.h" /* for struct lc_ctype */
49 #include "setlocale.h"
50 #include "../i18n/_loc_path.h"
51 #include "localeimpl.h"
52 #include "../i18n/_locale.h"

54 /*
55  * Path to locale storage directory.  See ../i18n/_loc_path.h
56  */
57 char *_PathLocale = _DFLT_LOC_PATH;

59 static char *_current_locale(locale_t, int);
60 static void install_legacy(locale_t, int);
```

new/usr/src/lib/libc/port/locale/setlocale.c

2

```
62 char *
63 setlocale(int category, const char *locname)
64 {
65     locale_t oldloc;
66     locale_t newloc;
67     int mask;

69     if (category < 0 || category > LC_ALL) {
70         errno = EINVAL;
71         return (NULL);
72     }

74     if (locname == NULL)
75         return (current_locale(__global_locale, category));
75     return (current_locale(__global_locale, category));

77     if ((oldloc = duplocale(__global_locale)) == NULL)
77     if ((oldloc = duplocale(__global_locale)) == NULL)
78         return (NULL);

80     mask = (category == LC_ALL ? LC_ALL_MASK : (1 << category));

82     newloc = newlocale(mask, locname, oldloc);
83     if (newloc == NULL) {
84         freelocale(oldloc);
85         return (NULL);
86     }

88     oldloc = __global_locale;
89     __global_locale = newloc;
88     oldloc = __global_locale;
89     __global_locale = newloc;

91     install_legacy(newloc, mask);

93     freelocale(oldloc);
94     return (current_locale(newloc, category));
95 }
__unchanged_portion_omitted__
```

new/usr/src/lib/libc/port/mapfile-vers

1

```
*****
56290 Mon Jun  2 23:06:28 2014
new/usr/src/lib/libc/port/mapfile-vers
Fix compile errors, code review feedback, and add basic libc test suite.
*****
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").
6 # You may not use this file except in compliance with the License.
7 #
8 # You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE
9 # or http://www.opensolaris.org/os/licensing.
10 # See the License for the specific language governing permissions
11 # and limitations under the License.
12 #
13 # When distributing Covered Code, include this CDDL HEADER in each
14 # file and include the License file at usr/src/OPENSOLARIS.LICENSE.
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 #
21 #
22 # Copyright (c) 2006, 2010, Oracle and/or its affiliates. All rights reserved.
23 #
24 # Copyright 2010 Nexenta Systems, Inc. All rights reserved.
25 # Use is subject to license terms.
26 #
27 # Copyright (c) 2012 by Delphix. All rights reserved.
28 # Copyright (c) 2012, Joyent, Inc. All rights reserved.
29 # Copyright (c) 2013, OmniTI Computer Consulting, Inc. All rights reserved.
30 # Copyright (c) 2013 Gary Mills
31 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
32 #
33 #
34 # MAPFILE HEADER START
35 #
36 # WARNING: STOP NOW. DO NOT MODIFY THIS FILE.
37 # Object versioning must comply with the rules detailed in
38 #
39 #     usr/src/lib/README.mapfiles
40 #
41 # You should not be making modifications here until you've read the most current
42 # copy of that file. If you need help, contact a gatekeeper for guidance.
43 #
44 # MAPFILE HEADER END
45 #
46 #
47 $mapfile_version 2
48 #
49 #
50 # All function names added to this or any other libc mapfile
51 # must be placed under the 'protected:' designation.
52 # The 'global:' designation is used *only* for data
53 # items and for the members of the malloc() family.
54 #
55 #
56 #
57 # README README README README README README: how to update this file
58 # 1) each version of Solaris/OpenSolaris gets a version number.
59 # (Actually since Solaris is actually a series of OpenSolaris releases
60 # we'll just use OpenSolaris for this exercise.)
61 # OpenSolaris 2008.11 gets 1.23
```

new/usr/src/lib/libc/port/mapfile-vers

2

```
62 # OpenSolaris 2009.04 gets 1.24
63 # etc.
64 # 2) each project integration uses a unique version number.
65 # PSARC/2008/123 gets 1.24.1
66 # PSARC/2008/456 gets 1.24.2
67 # etc.
68 #
69 #
70 #
71 # Mnemonic conditional input identifiers:
72 #
73 # - amd64, i386, sparc32, sparcv9: Correspond to ISA subdirectories used to
74 # hold per-platform code. Note however that we use 'sparc32' instead of
75 # 'sparc'. Since '_sparc' is predefined to apply to, all sparc platforms,
76 # naming the 32-bit version 'sparc' would be too likely to cause errors.
77 #
78 # - lf64: Defined on platforms that offer the 32-bit largefile APIs
79 #
80 $if _ELF32
81 $add lf64
82 $endif
83 $if _sparc && _ELF32
84 $add sparc32
85 $endif
86 $if _sparc && _ELF64
87 $add sparcv9
88 $endif
89 $if _x86 && _ELF32
90 $add i386
91 $endif
92 $if _x86 && _ELF64
93 $add amd64
94 $endif
95 #
96 SYMBOL_VERSION ILLUMOS_0.8 { # POSIX 2008 newlocale and friends
97     protected:
98         __global_locale;
99         __mb_cur_max;
100         __mb_cur_max_l;
101         btowc_l;
102         duplocale;
103         fgetwc_l;
104         freelocale;
105         getwc_l;
106         isalnum_l;
107         isalpha_l;
108         isblank_l;
109         iscntrl_l;
110         isdigit_l;
111         isgraph_l;
112         islower_l;
113         isprint_l;
114         ispunct_l;
115         isspace_l;
116         isupper_l;
117         iswideogram;
118         iswideogram_l;
119         iswnumber;
120         iswnumber_l;
121         iswhexnumber;
122         iswhexnumber_l;
123         iswphonogram;
124         iswphonogram_l;
125         iswspecial;
126         iswspecial_l;
127         iswalnum_l;
```

```
128     iswalpha_l;  
129     iswblank_l;  
130     iswcntrl_l;  
131     iswctype_l;  
132     iswdigit_l;  
133     iswgraph_l;  
134     iswlower_l;  
135     iswprint_l;  
136     iswpunct_l;  
137     iswspace_l;  
138     iswupper_l;  
139     mblen_l;  
140     mbrlen_l;  
141     mbsinit_l;  
142     mbsnrtowcs;  
143     mbsnrtowcs_l;  
144     mbsrtowcs_l;  
145     mbstowcs_l;  
146     mbtowc_l;  
147     newlocale;  
148     nl_langinfo_l;  
149     strcasecmp_l;  
150     strcasestr_l;  
151     strcoll_l;  
152     strfmon_l;  
153     strptime_l;  
154     strncasecmp_l;  
155     strptime_l;  
156     strxfrm_l;  
157     tolower_l;  
158     toupper_l;  
159     towlower_l;  
160     towupper_l;  
161     towctrans_l;  
162    uselocale;  
163     wctomb_l;  
164     wcscasecmp_l;  
165     wcscoll_l;  
166     wcsncasecmp_l;  
167     wcsrtombs_l;  
168     wcstombs_l;  
169     wcswidth_l;  
170     wcsxfrm_l;  
171     wctob_l;  
172     wctomb_l;  
173     wctrans_l;  
174     wctype_l;  
175     wcwidth_l;  
176 } ILLUMOS_0.7;  
    unchanged_portion_omitted
```


new/usr/src/pkg/manifests/system-test-libctest.mf

1

1423 Mon Jun 2 23:06:28 2014

new/usr/src/pkg/manifests/system-test-libctest.mf

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright (c) 2012 by Delphix. All rights reserved.
14 # Copyright 2014, OmniTI Computer Consulting, Inc. All rights reserved.
15 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
16 #
17 #
18 set name=pkg.fmri value=pkg:/system/test/libctest@$(PKGVERS)
19 set name=pkg.description value="C Library Unit Tests"
20 set name=pkg.summary value="C Library Unit Test Suite"
21 set name=info.classification \
22     value=org.openSolaris.category.2008:Development/System
23 set name=variant.arch value=$(ARCH)
24 dir path=opt/libc-tests
25 dir path=opt/libc-tests/bin
26 dir path=opt/libc-tests/runfiles
27 dir path=opt/libc-tests/tests
28 file path=opt/libc-tests/README mode=0444
29 file path=opt/libc-tests/bin/libctest mode=0555
30 file path=opt/libc-tests/runfiles/default.run mode=0444
31 file path=opt/libc-tests/tests/newlocale_test mode=0555
32 license lic_CDDL license=lic_CDDL
33 depend fmri=locale/de type=require
34 depend fmri=locale/en type=require
35 depend fmri=locale/ja type=require
36 depend fmri=locale/ru type=require
37 depend fmri=system/test/testrunner type=require
```

new/usr/src/test/libc-tests/Makefile

1

606 Mon Jun 2 23:06:28 2014

new/usr/src/test/libc-tests/Makefile

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright (c) 2012 by Delphix. All rights reserved.
14 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
15 #
16 #
17 .PARALLEL: $(SUBDIRS)
18 #
19 SUBDIRS = cmd runfiles tests doc
20 #
21 include $(SRC)/test/Makefile.com
```

new/usr/src/test/libc-tests/cmd/Makefile

1

847 Mon Jun 2 23:06:28 2014

new/usr/src/test/libc-tests/cmd/Makefile

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
14 # Copyright (c) 2012 by Delphix. All rights reserved.
15 #
16 #
17 include $(SRC)/Makefile.master
18 include $(SRC)/test/Makefile.com
19 #
20 ROOTOPTPKG = $(ROOT)/opt/libc-tests
21 ROOTBIN = $(ROOTOPTPKG)/bin
22 #
23 PROGS = libctest
24 #
25 CMDS = $(PROGS:%=$(ROOTBIN)/%)
26 $(CMDS) := FILEMODE = 0555
27 #
28 all lint clean clobber:
29 #
30 install: $(CMDS)
31 #
32 $(CMDS): $(ROOTBIN)
33 #
34 $(ROOTBIN):
35     $(INS.dir)
36 #
37 $(ROOTBIN)/%: %.ksh
38     $(INS.rename)
```

new/usr/src/test/libc-tests/cmd/libctest.ksh

1

1480 Mon Jun 2 23:06:28 2014
new/usr/src/test/libc-tests/cmd/libctest.ksh
Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #!/usr/bin/ksh
3 #
4 # This file and its contents are supplied under the terms of the
5 # Common Development and Distribution License ("CDDL"), version 1.0.
6 # You may only use this file in accordance with the terms of version
7 # 1.0 of the CDDL.
8 #
9 # A full copy of the text of the CDDL should have accompanied this
10 # source. A copy of the CDDL is also available via the Internet at
11 # http://www.illumos.org/license/CDDL.
12 #
14 #
15 # Copyright (c) 2012 by Delphix. All rights reserved.
16 # Copyright 2014, OmniTI Computer Consulting, Inc. All rights reserved.
17 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
18 #
20 export MY_TESTS="/opt/libc-tests"
21 runner="/opt/test-runner/bin/run"
23 function fail
24 {
25     echo $1
26     exit ${2:-1}
27 }
29 function find_runfile
30 {
31     typeset distro=
32     if [[ -d /opt/delphix && -h /etc/delphix/version ]]; then
33         distro=delphix
34     elif [[ 0 -ne $(grep -c OpenIndiana /etc/release 2>/dev/null) ]]; then
35         distro=openindiana
36     elif [[ 0 -ne $(grep -c OmniOS /etc/release 2>/dev/null) ]]; then
37         distro=omnios
38     fi
39
40     if [[ ! -f $MY_TESTS/runfiles/$distro.run ]] && \
41         [[ -f $MY_TESTS/runfiles/default.run ]]; then
42         distro=default
43     fi
44
45     [[ -n $distro ]] && echo $MY_TESTS/runfiles/$distro.run
46 }
48 while getopts c: c; do
49     case $c in
50         'c')
51             runfile=$OPTARG
52             [[ -f $runfile ]] || fail "Cannot read file: $runfile"
53             ;;
54         esac
55     done
56     shift $((OPTIND - 1))
58 [[ -z $runfile ]] && runfile=$(find_runfile)
59 [[ -z $runfile ]] && fail "Couldn't determine distro"
61 $runner -c $runfile
```

new/usr/src/test/libc-tests/cmd/libctest.ksh

2

63 exit \$?

new/usr/src/test/libc-tests/doc/Makefile

1

800 Mon Jun 2 23:06:28 2014

new/usr/src/test/libc-tests/doc/Makefile

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
14 # Copyright (c) 2012 by Delphix. All rights reserved.
15 #
16 #
17 include $(SRC)/Makefile.master
18 #
19 README = README
20 #
21 ROOTOPTPKG = $(ROOT)/opt/libc-tests
22 #
23 FILES = $(README:%=$(ROOTOPTPKG)/%)
24 $(FILES) := FILEMODE = 0444
25 #
26 all: $(README)
27 #
28 install: $(ROOTOPTPKG) $(FILES)
29 #
30 clean lint clobber:
31 #
32 $(ROOTOPTPKG):
33     $(INS.dir)
34 #
35 $(ROOTOPTPKG)/%: %
36     $(INS.file)
```

2351 Mon Jun 2 23:06:28 2014
 new/usr/src/test/libc-tests/doc/README
 Fix compile errors, code review feedback, and add basic libc test suite.

```

1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #

12 #
13 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
14 # Copyright (c) 2012 by Delphix. All rights reserved.
15 #

17 libc Unit Test Suite README

19 1. What this Unit Test Suite tests
20 2. Building and installing this Unit Test Suite
21 3. Running this Unit Test Suite
22 4. Test results

24 -----

26 1. What this Unit Test Suite tests

28 This Unit Test Suite is for testing various libc interfaces.

30 2. Building and installing this Unit Test Suite

32 This Test Suite runs under the testrunner framework (which can be installed
33 as pkg:/system/test/testrunner). To build both this Unit Test Suite and the
34 testrunner without running a full nightly:

36     build_machine$ bldenv [-d] <your_env_file>
37     build_machine$ cd $SRC/test
38     build_machine$ dmake install
39     build_machine$ cd $SRC/pkg
40     build_machine$ dmake install

42 Then set the publisher on the test machine to point to your repository and
43 install the Utils Unit Test Suite.

45     test_machine# pkg install pkg:/system/test/libctest

47 Note, the framework will be installed automatically, as this test suite
48 depends on it.

50 Additionally some text locales are required, specifically, en_US.UTF-8,
51 de_DE.UTF-8, ja_JP.UTF-8, and ru_RU.UTF-8. Again, these are listed as
52 dependencies and will be automatically installed.

54 3. Running this Unit Test Suite

56 The pre-requisites for running the this Unit Test Suite are:
57 - Any user may perform these tests.
58 - The en_US.UTF-8, ja_JP.UTF-8, de_DE.UTF-8, and ru_RU.UTF-8 locales
59   must be installed.

61 Once the pre-requisites are satisfied, simply run the otest script:

```

```

63     test_machine$ /opt/util-tests/bin/libctest

```

65 4. Test results

```

67 While the Unit Test Suite is running, one informational line is printed at
68 the end of each test, and a results summary is printed at the end of the run.
69 The results summary includes the location of the complete logs, which is of the
70 form /var/tmp/test_results/<ISO 8601 date>.

```

new/usr/src/test/libc-tests/runfiles/Makefile

1

909 Mon Jun 2 23:06:28 2014

new/usr/src/test/libc-tests/runfiles/Makefile

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright (c) 2012 by Delphix. All rights reserved.
14 # Copyright 2014, OmniTI Computer Consulting, Inc. All rights reserved.
15 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
16 #
17 #
18 include $(SRC)/Makefile.master
19 #
20 SRCS = default.run
21 #
22 ROOTOPTPKG = $(ROOT)/opt/libc-tests
23 RUNFILES = $(ROOTOPTPKG)/runfiles
24 #
25 CMDS = $(SRCS:%=$(RUNFILES)/%)
26 $(CMDS) := FILEMODE = 0444
27 #
28 all: $(SRCS)
29 #
30 install: $(CMDS)
31 #
32 clean lint clobber:
33 #
34 $(CMDS): $(RUNFILES) $(SRCS)
35 #
36 $(RUNFILES):
37     $(INS.dir)
38 #
39 $(RUNFILES)/%: %
40     $(INS.file)
```

new/usr/src/test/libc-tests/runfiles/default.run

1

656 Mon Jun 2 23:06:28 2014

new/usr/src/test/libc-tests/runfiles/default.run

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright (c) 2012 by Delphix. All rights reserved.
14 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
15 #
16 #
17 [DEFAULT]
18 pre =
19 verbose = False
20 quiet = False
21 timeout = 60
22 post =
23 outputdir = /var/tmp/test_results
24 #
25 [/opt/libc-tests/tests/newlocale_test]
```


new/usr/src/test/libc-tests/tests/Makefile

1

570 Mon Jun 2 23:06:28 2014

new/usr/src/test/libc-tests/tests/Makefile

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
```

```
12 #
13 # Copyright (c) 2012 by Delphix. All rights reserved.
14 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
15 #
```

```
17 SUBDIRS = newlocale
```

```
19 include $(SRC)/test/Makefile.com
```

new/usr/src/test/libc-tests/tests/newlocale/Makefile

1

1108 Mon Jun 2 23:06:29 2014

new/usr/src/test/libc-tests/tests/newlocale/Makefile

Fix compile errors, code review feedback, and add basic libc test suite.

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright (c) 2012 by Delphix. All rights reserved.
14 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
15 #
16 #
17 include $(SRC)/cmd/Makefile.cmd
18 include $(SRC)/test/Makefile.com
19 #
20 PROG = newlocale_test
21 OBJS = $(PROG:%=%.o)
22 SRCS = $(OBJS:%=%.c)
23 #
24 LDLIBS += -lpthread
25 C99MODE = -xc99=%all
26 #
27 ROOTOPTPKG = $(ROOT)/opt/libc-tests
28 TESTDIR = $(ROOTOPTPKG)/tests
29 #
30 CMDS = $(PROG:%=$(TESTDIR)/%)
31 $(CMDS) := FILEMODE = 0555
32 #
33 all: $(PROG)
34 #
35 $(PROG): $(OBJS)
36     $(LINK.c) $(OBJS) -o $@ $(LDLIBS)
37     $(POST_PROCESS)
38 #
39 %.o: ../%.c
40     $(COMPILE.c) $<
41 #
42 install: all $(CMDS)
43 #
44 lint: lint_SRCS
45 #
46 clobber: clean
47     -$(RM) $(PROG)
48 #
49 clean:
50     -$(RM) $(OBJS)
51 #
52 $(CMDS): $(TESTDIR) $(PROG)
53 #
54 $(TESTDIR):
55     $(INS.dir)
56 #
57 $(TESTDIR)/%: %
58     $(INS.file)
```



```

128     (void) uselocale(loc);
129     day = nl_langinfo(DAY_1);
130     if (strcmp(day, l->day1) != 0) {
131         test_failed(tname, "uselocale data mismatch (%s != %s)",
132                     day, l->day1);
133     }
134
135     lc = localeconv();
136     if (strcmp(lc->currency_symbol, l->cursym) != 0) {
137         test_failed(tname, "uselocal cursym %s != %s",
138                     lc->currency_symbol, l->cursym);
139     }
140     if (debug)
141         (void) printf("CSYM: %s\n", lc->currency_symbol);
142
143     /* we sleep a random bit to mix it up */
144     (void) usleep(rand() % 10);
145
146     if (uselocale(cloc) != loc) {
147         test_failed(tname, "revert old locale mismatch");
148     }
149     freelocale(loc);
150     if (uselocale(LC_GLOBAL_LOCALE) != cloc) {
151         test_failed(tname, "revert GLOBAL_LOCALE mismatch");
152     }
153 }
154 return (NULL);
155 }

```

```

158 void
159 testlocale(void)
160 {
161     char          *tname = "newlocale/uselocale";
162     pthread_t      tid[NUMTHR];
163
164     test_start(tname, "running %d threads %d iterations\n", NUMTHR, NUMITR);
165
166     for (int i = 0; i < NUMTHR; i++) {
167         (void) pthread_create(&tid[i], NULL, testlocale_thr, tname);
168     }
169
170     for (int i = 0; i < NUMTHR; i++) {
171         (void) pthread_join(tid[i], NULL);
172     }
173     test_passed(tname);
174 }

```

```

176 int
177 main(int argc, char **argv)
178 {
179     int optc;
180
181     while ((optc = getopt(argc, argv, "d")) != EOF) {
182         switch (optc) {
183             case 'd':
184                 debug++;
185                 break;
186             default:
187                 (void) fprintf(stderr, "Usage: %s [-d]\n", argv[0]);
188                 exit(1);
189         }
190     }
191
192     testlocale();

```

```

194         exit(0);
195     }

```