```
**********************************************************
    1566 Tue Aug 12 07:52:08 2014
new/usr/src/cmd/cmd-inet/sbin/ifparse/Makefile
UNIX98 requires unistd.h for getopt, and requires -D_XOPEN_SOURCE=500.
**********************************************************
```

```
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#
# Makefile for "ifparse"
#
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#
# Copyright 2014 Garrett D'Amore <garrett@damore.org>
# ident "%Z%%M% %I%     %E% SMI"
#

PROG =          ifparse
ROOTFS_PROG =   $(PROG)
OBJS=           ifparse.o
SRCS=           $(OBJS:%.o=%.c)

include ../../../Makefile.cmd
include ../../Makefile.cmd-inet

CPPFLAGS += -I$(CMDINETCOMMONDIR)
LINTFLAGS +=    -m

# these #defines are required to use UNIX 98 interfaces
$(OBJS)         := CPPFLAGS +=-D_XOPEN_SOURCE=500
LINTFLAGS       += -D_XOPEN_SOURCE=500 -I$(CMDINETCOMMONDIR)
$(OBJS)         := CPPFLAGS +=-D_POSIX_C_SOURCE
LINTFLAGS       += -D_POSIX_C_SOURCE -I$(CMDINETCOMMONDIR)

.KEEP_STATE:

all:    $(ROOTFS_PROG)

$(PROG):        $(OBJS)
        $(LINK.c) $(OBJS) -o $@ $(LDLIBS)
        $(POST_PROCESS)

install:        all $(ROOTSBINPROG)

clean:
        $(RM) $(OBJS)
```



```
lint:   lint_SRCS

include ../../../Makefile.targ
```

```
**********************************************************
   15289 Tue Aug 12 07:52:08 2014
new/usr/src/cmd/cmd-inet/sbin/ifparse/ifparse.c
UNIX98 requires unistd.h for getopt, and requires -D_XOPEN_SOURCE=500.
**********************************************************
```

```
/*
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 */
/*
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 * specifies the terms and conditions for redistribution.
 */

/*
 * Ifparse splits up an ifconfig command line, and was written for use
 * with the networking boot scripts; see $SRC/cmd/svc/shell/net_include.sh
 *
 * Ifparse can extract selected parts of the ifconfig command line,
 * such as failover address configuration ("ifparse -f"), or everything
 * except failover address configuration ("ifparse -s").  By default,
 * all parts of the command line are extracted (equivalent to ("ifparse -fs").
 *
 * Examples:
 *
 * The command:
 *
 *      ifparse inet 1.2.3.4 up group two addif 1.2.3.5 up addif 1.2.3.6 up
 *
 * Produces the following on standard output:
 *
 *      set 1.2.3.4 up
 *      group two
 *      addif 1.2.3.5 up
 *      addif 1.2.3.6 up
 *
 * The optional "set" and "destination" keywords are added to make the
 * output easier to process by a script or another command.
 *
 * The command:
 *
 *      ifparse -f inet 1.2.3.4 -failover up group two addif 1.2.3.5 up
 *
 * Produces:
 *
 *      addif 1.2.3.5  up
 *
 * Only failover address configuration has been requested.  Address
 * 1.2.3.4 is a non-failover address, and so isn't output.
 *
 * The "failover" and "-failover" commands can occur several times for
 * a given logical interface.  Only the last one counts.  For example:
 *
 *      ifparse -f inet 1.2.3.4 -failover failover -failover failover up
 *
 * Produces:
 *
 *      set 1.2.3.4 -failover failover -failover failover up
 *
 * No attempt is made to clean up such "pathological" command lines, by
 * removing redundant "failover" and "-failover" commands.
 */

#include        <sys/types.h>
#include        <stdlib.h>
```



```
#include        <stdio.h>
#include        <string.h>
#include        <assert.h>
#include        <unistd.h>

/*
 * Parser flags:
 *
 *      PARSEFIXED
 *              Command should only appear if non-failover commands
 *              are requested.
 *      PARSEMOVABLE
 *              Command should only appear if failover commands are
 *              requested.
 *      PARSENOW
 *              Don't buffer the command, dump it to output immediately.
 *      PARSEADD
 *              Indicates processing has moved on to additional
 *              logical interfaces.
 *              Dump the buffer to output and clear buffer contents.
 *      PARSESET
 *              The "set" and "destination" keywords are optional.
 *              This flag indicates that the next address not prefixed
 *              with a keyword will be a destination address.
 *      PARSELOG0
 *              Command not valid on additional logical interfaces.
 */

#define PARSEFIXED      0x01
#define PARSEMOVABLE    0x02
#define PARSENOW        0x04
#define PARSEADD        0x08
#define PARSESET        0x10
#define PARSELOG0       0x20

typedef enum { AF_UNSPEC, AF_INET, AF_INET6, AF_ANY } ac_t;

#define NEXTARG         (-1)    /* command takes an argument */
#define OPTARG          (-2)    /* command takes an optional argument */

#define END_OF_TABLE    (-1)

/* Parsemode, the type of commands requested by the user. */
int     parsemode = 0;

/* Parsetype, the type of the command currently in the buffer. */
int     parsetype = PARSEFIXED | PARSEMOVABLE;

/* Parsebuf, pointer to the buffer. */
char    *parsebuf = NULL;

/* Parsebuflen, the size of the buffer area. */
unsigned parsebuflen = 0;

/* Parsedumplen, the amount of the buffer currently in use. */
unsigned parsedumplen = 0;

/*
 * Setaddr, used to decide whether an address without a keyword
 * prefix is a source or destination address.
 */
boolean_t setaddr = _B_FALSE;

/*
 * Some ifconfig commands are only valid on the first logical interface.
 * As soon as an "addif" command is seen, "addint" is set.
```

```
 128  */
 129 boolean_t addint = _B_FALSE;

 131 /*
 132  * The parser table is based on that in ifconfig.  A command may or
 133  * may not have an argument, as indicated by whether NEXTARG/OPTARG is
 134  * in the second column.  Some commands can only be used with certain
 135  * address families, as indicated in the third column.  The fourth column
 136  * contains flags that control parser action.
 137  *
 138  * Ifparse buffers logical interface configuration commands such as "set",
 139  * "netmask" and "broadcast".  This buffering continues until an "addif"
 140  * command is seen, at which point the buffer is emptied, and the process
 141  * starts again.
 142  *
 143  * Some commands do not relate to logical interface configuration and are
 144  * dumped to output as soon as they are seen, such as "group" and "standby".
 145  *
 146  */

 148 struct  cmd {
 149         char    *c_name;
 150         int     c_parameter;            /* NEXTARG means next argv */
 151         int     c_af;                   /* address family restrictions */
 152         int     c_parseflags;           /* parsing flags */
 153 } cmds[] = {
______unchanged_portion_omitted_
```

```
**********************************************************
    8525 Tue Aug 12 07:52:08 2014
new/usr/src/cmd/mandoc/mdoc.h
Various tweaks -- add our sections, etc.
**********************************************************
______unchanged_portion_omitted_

 189 /*
 190  * Section (named/unnamed) of 'Sh'.   Note that these appear in the
 191  * conventional order imposed by mdoc.7.  In the case of SEC_NONE, no
 192  * section has been invoked (this shouldn't happen).  SEC_CUSTOM refers
 193  * to other sections.
 194  */
 195 enum    mdoc_sec {
 196         SEC_NONE = 0,
 197         SEC_NAME, /* NAME */
 198         SEC_LIBRARY, /* LIBRARY */
 199         SEC_SYNOPSIS, /* SYNOPSIS */
 200         SEC_DESCRIPTION, /* DESCRIPTION */
 201         SEC_IMPLEMENTATION, /* IMPLEMENTATION NOTES */
 202         SEC_RETURN_VALUES, /* RETURN VALUES */
 203         SEC_ENVIRONMENT,  /* ENVIRONMENT */
 204         SEC_FILES, /* FILES */
 205         SEC_EXIT_STATUS, /* EXIT STATUS */
 206         SEC_EXAMPLES, /* EXAMPLES */
 207         SEC_DIAGNOSTICS, /* DIAGNOSTICS */
 208         SEC_COMPATIBILITY, /* COMPATIBILITY */
 209         SEC_ERRORS, /* ERRORS */
 210         SEC_ARCHITECTURE,
 211         SEC_CODE_SET_INDEPENDENCE,
 212         SEC_INTERFACE_STABILITY,
 213         SEC_MULTITHREADING_LEVEL,
 214         SEC_SEE_ALSO, /* SEE ALSO */
 215         SEC_STANDARDS, /* STANDARDS */
 216         SEC_HISTORY, /* HISTORY */
 217         SEC_AUTHORS, /* AUTHORS */
 218         SEC_CAVEATS, /* CAVEATS */
 219         SEC_BUGS, /* BUGS */
 220         SEC_SECURITY, /* SECURITY */
 221         SEC_CUSTOM,
 222         SEC__MAX
 223 };
______unchanged_portion_omitted_
```

****
52026 Tue Aug 12 07:52:08 2014
new/usr/src/cmd/mandoc/mdoc_validate.c
Various tweaks -- add our sections, etc.
****
_____***unchanged_portion_omitted_***

```
 325 static  const char * const secnames[SEC__MAX] = {
 326         NULL,
 327         "NAME",
 328         "LIBRARY",
 329         "SYNOPSIS",
 330         "DESCRIPTION",
 331         "IMPLEMENTATION NOTES",
 332         "RETURN VALUES",
 333         "ENVIRONMENT",
 334         "FILES",
 335         "EXIT STATUS",
 336         "EXAMPLES",
 337         "DIAGNOSTICS",
 338         "COMPATIBILITY",
 339         "ERRORS",
 340         "ARCHITECTURE",
 341         "CODE SET INDEPENDENCE",
 342         "INTERFACE STABILITY",
 343         "MULTITHREADING LEVEL",
 344         "SEE ALSO",
 345         "STANDARDS",
 346         "HISTORY",
 347         "AUTHORS",
 348         "CAVEATS",
 349         "BUGS",
 350         "SECURITY CONSIDERATIONS",
 351         NULL
 352 };
```

_____***unchanged_portion_omitted_***

```
**********************************************************
    6641 Tue Aug 12 07:52:08 2014
new/usr/src/head/dirent.h
reorder rewinddir prototype/define
Build fixes.
opendir, dirfd are in XPG7
alphasort and scandir are new in XPG7
**********************************************************
```

```
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 */

/*
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 */

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

#ifndef _DIRENT_H
#define _DIRENT_H

#pragma ident   "%Z%%M% %I%     %E% SMI"        /* SVr4.0 1.6.1.5   */

#include <sys/feature_tests.h>

#include <sys/types.h>
#include <sys/dirent.h>

#ifdef  __cplusplus
extern "C" {
#endif

#if !defined(_STRICT_SYMBOLS)
#if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)

#define MAXNAMLEN       512             /* maximum filename length */
#define DIRBUF          8192            /* buffer size for fs-indep. dirs */
#endif

#endif /* defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) */

#if !defined(__XOPEN_OR_POSIX)
```



```
typedef struct {
        int     dd_fd;          /* file descriptor */
        int     dd_loc;         /* offset in block */
        int     dd_size;        /* amount of valid data */
        char    *dd_buf;        /* directory block */
} DIR;                          /* stream data from opendir() */
```

*_____unchanged_portion_omitted_*

```
#endif /* !defined(__XOPEN_OR_POSIX) */

#if defined(__STDC__)

/* large file compilation environment setup */
#if !defined(_LP64) && _FILE_OFFSET_BITS == 64
#ifdef __PRAGMA_REDEFINE_EXTNAME
#pragma redefine_extname        readdir readdir64
#pragma redefine_extname        scandir scandir64
#pragma redefine_extname        alphasort alphasort64
#else
#define readdir                 readdir64
#define scandir                 scandir64
#define alphasort               alphasort64
#endif
#endif  /* _FILE_OFFSET_BITS == 64 */

/* In the LP64 compilation environment, all APIs are already large file */
#if defined(_LP64) && defined(_LARGEFILE64_SOURCE)
#ifdef __PRAGMA_REDEFINE_EXTNAME
#pragma redefine_extname        readdir64       readdir
#pragma redefine_extname        scandir64       scandir
#pragma redefine_extname        alphasort64     alphasort
#else
#define readdir64               readdir
#define scandir64               scandir
#define alphsort64              alphasort
#endif
#endif  /* _LP64 && _LARGEFILE64_SOURCE */

extern DIR              *opendir(const char *);
#if defined(_XPG7) || defined(_ATFILE_SOURCE) || !defined(_STRICT_SYMBOLS)
#if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
        defined(_ATFILE_SOURCE)
extern DIR              *fdopendir(int);
extern int              dirfd(DIR *);
#endif

#if defined(_XPG7) || !defined(_STRICT_SYMBOLS)
extern int              scandir(const char *, struct dirent ***,
#endif /* defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) ... */
#if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
extern int              scandir(const char *, struct dirent *(*[]),
                                int (*)(const struct dirent *),
                                int (*)(const struct dirent **,
                                        const struct dirent **));
extern int              alphasort(const struct dirent **,
                                  const struct dirent **);
#endif

#endif /* defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) */
extern struct dirent    *readdir(DIR *);
#if defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE) || \
        defined(_XOPEN_SOURCE)
extern long             telldir(DIR *);
extern void             seekdir(DIR *, long);
#endif /* defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE) ... */
extern void             rewinddir(DIR *);
```

```
115 extern int              closedir(DIR *);

117 #if defined(_XOPEN_SOURCE) || !defined(_STRICT_SYMBOLS)
118 extern long             telldir(DIR *);
119 extern void             seekdir(DIR *, long);
120 #define rewinddir(dirp) seekdir(dirp, 0L)
121 #endif

123 /* transitional large file interface */
124 #if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
125             !defined(__PRAGMA_REDEFINE_EXTNAME))
126 extern struct dirent64  *readdir64(DIR *);
127 #if !defined(_STRICT_SYMBOLS)
128 extern int      scandir64(const char *, struct dirent64 ***,
127 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
128 extern int      scandir64(const char *, struct dirent64 *(*[]),
129                         int (*)(const struct dirent64 *),
130                         int (*)(const struct dirent64 **,
131                                 const struct dirent64 **));
132 extern int      alphasort64(const struct dirent64 **, const struct dirent64 **);
133 #endif /* !_STRICT_SYMBOLS */
133 #endif /* defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) */
134 #endif

136 #else

138 extern DIR              *opendir();
139 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
140         defined(_ATFILE_SOURCE)
141 extern DIR              *fdopendir();
142 extern int              dirfd();
143 #endif /* defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) ... */
144 extern struct dirent    *readdir();
145 #if defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE) || \
146         defined(_XOPEN_SOURCE)
147 extern long             telldir();
148 extern void             seekdir();
149 #endif /* defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE) ... */
150 extern void             rewinddir();
151 extern int              closedir();

153 /* transitional large file interface */
154 #if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
155             !defined(__PRAGMA_REDEFINE_EXTNAME))
156 extern struct dirent64  *readdir64();
157 #endif

159 #endif

161 #if defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE) || \
162         defined(_XOPEN_SOURCE)
163 #define rewinddir(dirp) seekdir(dirp, 0L)
164 #endif

136 /*
137  * readdir_r() prototype is defined here.
138  *
139  * There are several variations, depending on whether compatibility with old
140  * POSIX draft specifications or the final specification is desired and on
141  * whether the large file compilation environment is active.  To combat a
142  * combinatorial explosion, enabling large files implies using the final
143  * specification (since the definition of the large file environment
144  * considerably postdates that of the final readdir_r specification).
145  *
146  * In the LP64 compilation environment, all APIs are already large file,
147  * and since there are no 64-bit applications that can have seen the
```



```
148  * draft implementation, again, we use the final POSIX specification.
149  */

151 #if     defined(__EXTENSIONS__) || defined(_REENTRANT) || \
152         !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE - 0 >= 199506L) || \
153         defined(_POSIX_PTHREAD_SEMANTICS)

185 #if     defined(__STDC__)

155 #if     !defined(_LP64) && _FILE_OFFSET_BITS == 32

157 #if     (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_POSIX_PTHREAD_SEMANTICS)

159 #ifdef  __PRAGMA_REDEFINE_EXTNAME
160 #pragma redefine_extname readdir_r      __posix_readdir_r
161 extern int readdir_r(DIR *_RESTRICT_KYWD, struct dirent *_RESTRICT_KYWD,
162                 struct dirent **_RESTRICT_KYWD);
163 #else   /* __PRAGMA_REDEFINE_EXTNAME */

165 extern int __posix_readdir_r(DIR *_RESTRICT_KYWD,
166     struct dirent *_RESTRICT_KYWD, struct dirent **_RESTRICT_KYWD);

168 #ifdef  __lint
169 #define readdir_r       __posix_readdir_r
170 #else   /* !__lint */

172 static int
173 readdir_r(DIR *_RESTRICT_KYWD __dp, struct dirent *_RESTRICT_KYWD __ent,
174                 struct dirent **_RESTRICT_KYWD __res) {
175         return (__posix_readdir_r(__dp, __ent, __res));
176 }

178 #endif /* !__lint */
179 #endif /* __PRAGMA_REDEFINE_EXTNAME */

181 #else  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

183 extern struct dirent *readdir_r(DIR *__dp, struct dirent *__ent);

185 #endif  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

187 #else   /* !_LP64 && _FILE_OFFSET_BITS == 32 */

189 #if defined(_LP64)
190 #ifdef  __PRAGMA_REDEFINE_EXTNAME
191 #pragma redefine_extname readdir64_r    readdir_r
192 #else
193 #define readdir64_r             readdir_r
194 #endif
195 #else   /* _LP64 */
196 #ifdef  __PRAGMA_REDEFINE_EXTNAME
197 #pragma redefine_extname readdir_r      readdir64_r
198 #else
199 #define readdir_r               readdir64_r
200 #endif
201 #endif  /* _LP64 */
202 extern int readdir_r(DIR *_RESTRICT_KYWD, struct dirent *_RESTRICT_KYWD,
203         struct dirent **_RESTRICT_KYWD);

205 #endif  /* !_LP64 && _FILE_OFFSET_BITS == 32 */

207 #if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
208             !defined(__PRAGMA_REDEFINE_EXTNAME))
209 /* transitional large file interface */
210 extern int readdir64_r(DIR *_RESTRICT_KYWD, struct dirent64 *_RESTRICT_KYWD,
211         struct dirent64 **_RESTRICT_KYWD);
```

```
 212 #endif

 246 #else  /* __STDC__ */

 248 #if     !defined(_LP64) && _FILE_OFFSET_BITS == 32

 250 #if     (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_POSIX_PTHREAD_SEMANTICS)

 252 #ifdef __PRAGMA_REDEFINE_EXTNAME
 253 #pragma redefine_extname readdir_r __posix_readdir_r
 254 extern int readdir_r();
 255 #else  /* __PRAGMA_REDEFINE_EXTNAME */

 257 extern int __posix_readdir_r();

 259 #ifdef  __lint
 260 #define readdir_r __posix_readdir_r
 261 #else   /* !__lint */

 263 static int
 264 readdir_r(DIR *_RESTRICT_KYWD __dp, struct dirent *_RESTRICT_KYWD __ent,
 265         struct dirent **_RESTRICT_KYWD __res)
 266 {
 267         return (__posix_readdir_r(__dp, __ent, __res));
 268 }

 270 #endif /* !__lint */
 271 #endif /* __PRAGMA_REDEFINE_EXTNAME */

 273 #else  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

 275 extern struct dirent *readdir_r();

 277 #endif /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

 279 #else   /* !_LP64 && _FILE_OFFSET_BITS == 32 */

 281 #if defined(_LP64)
 282 #ifdef  __PRAGMA_REDEFINE_EXTNAME
 283 #pragma redefine_extname readdir64_r    readdir_r
 284 #else
 285 #define readdir64_r     readdir
 286 #endif
 287 #else   /* _LP64 */
 288 #ifdef  __PRAGMA_REDEFINE_EXTNAME
 289 #pragma redefine_extname readdir_r readdir64_r
 290 #else
 291 #define readdir_r readdir64_r
 292 #endif
 293 #endif  /* _LP64 */
 294 extern int      readdir_r();

 296 #endif  /* !_LP64 && _FILE_OFFSET_BITS == 32 */

 298 #if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
 299             !defined(__PRAGMA_REDEFINE_EXTNAME))
 300 /* transitional large file interface */
 301 extern int      readdir64_r();
 302 #endif

 304 #endif /* __STDC__ */

 214 #endif /* defined(__EXTENSIONS__) || defined(_REENTRANT)... */

 216 #ifdef  __cplusplus
 217 }
```

_____unchanged_portion_omitted_

```
**********************************************************
   14989 Tue Aug 12 07:52:08 2014
new/usr/src/head/iso/wchar_iso.h
Fixes for wcstok.
**********************************************************
______unchanged_portion_omitted_
 274 #else /* __cplusplus >= 199711L */
 275 extern wchar_t *wcschr(const wchar_t *, wchar_t);
 276 extern wchar_t *wcspbrk(const wchar_t *, const wchar_t *);
 277 extern wchar_t *wcsrchr(const wchar_t *, wchar_t);
 278 #endif /* __cplusplus >= 199711L */

 280 #if (!defined(_MSE_INT_H))
 281 #if defined(_XPG4) && !defined(_XPG5) /* XPG4 or XPG4v2 */
 282 extern wchar_t *wcstok(wchar_t *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD);
 282 extern wchar_t *wcstok(wchar_t *, const wchar_t *);
 283 extern size_t wcsftime(wchar_t *, size_t, const char *, const struct tm *);
 284 #else   /* XPG4 or XPG4v2 */
 285 #ifdef __PRAGMA_REDEFINE_EXTNAME
 286 #pragma redefine_extname wcstok __wcstok_xpg5
 287 #pragma redefine_extname wcsftime       __wcsftime_xpg5
 288 extern wchar_t *wcstok(wchar_t *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD,
 289         wchar_t **_RESTRICT_KYWD);
 290 extern size_t wcsftime(wchar_t *_RESTRICT_KYWD, size_t,
 291         const wchar_t *_RESTRICT_KYWD, const struct tm *_RESTRICT_KYWD);
 292 #else   /* __PRAGMA_REDEFINE_EXTNAME */
 293 extern wchar_t *__wcstok_xpg5(wchar_t *_RESTRICT_KYWD,
 294         const wchar_t *_RESTRICT_KYWD, wchar_t **_RESTRICT_KYWD);
 295 extern size_t __wcsftime_xpg5(wchar_t *_RESTRICT_KYWD, size_t,
 296         const wchar_t *_RESTRICT_KYWD, const struct tm *_RESTRICT_KYWD);
 297 #define wcstok  __wcstok_xpg5
 298 #define wcsftime        __wcsftime_xpg5
 299 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
 300 #endif  /* XPG4 or XPG4v2 */
 301 #endif  /* !defined(_MSE_INT_H) */

 303 /* not XPG4 and not XPG4v2 */
 304 #if !defined(_XPG4) || defined(_XPG5)
 305 extern wint_t   btowc(int);
 306 extern int      fwprintf(__FILE *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD,
 307                         ...);
 308 extern int      fwscanf(__FILE *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD,
 309                         ...);
 310 extern int      fwide(__FILE *, int);
 311 extern int      mbsinit(const mbstate_t *);
 312 extern size_t   mbrlen(const char *_RESTRICT_KYWD, size_t,
 313                         mbstate_t *_RESTRICT_KYWD);
 314 extern size_t   mbrtowc(wchar_t *_RESTRICT_KYWD, const char *_RESTRICT_KYWD,
 315                         size_t, mbstate_t *_RESTRICT_KYWD);
 316 extern size_t   mbsrtowcs(wchar_t *_RESTRICT_KYWD, const char **_RESTRICT_KYWD,
 317                         size_t, mbstate_t *_RESTRICT_KYWD);
 318 extern int      swprintf(wchar_t *_RESTRICT_KYWD, size_t,
 319                         const wchar_t *_RESTRICT_KYWD, ...);
 320 extern int      swscanf(const wchar_t *_RESTRICT_KYWD,
 321                         const wchar_t *_RESTRICT_KYWD, ...);
 322 extern int      vfwprintf(__FILE *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD,
 323                         __va_list);
 324 extern int      vwprintf(const wchar_t *_RESTRICT_KYWD, __va_list);
 325 extern int      vswprintf(wchar_t *_RESTRICT_KYWD, size_t,
 326                         const wchar_t *_RESTRICT_KYWD, __va_list);
 327 extern size_t   wcrtomb(char *_RESTRICT_KYWD, wchar_t,
 328                         mbstate_t *_RESTRICT_KYWD);
 329 extern size_t   wcsrtombs(char *_RESTRICT_KYWD, const wchar_t **_RESTRICT_KYWD,
 330                         size_t, mbstate_t *_RESTRICT_KYWD);
 331 #if defined(_XPG7) || !defined(_STRICT_SYMBOLS)
 332 extern size_t   wcsnrtombs(char *_RESTRICT_KYWD, const wchar_t **_RESTRICT_KYWD,
```



```
 333                         size_t, size_t, mbstate_t *_RESTRICT_KYWD);
 334 #endif
 335 extern int      wctob(wint_t);
 336 extern int      wmemcmp(const wchar_t *, const wchar_t *, size_t);
 337 extern wchar_t  *wmemcpy(wchar_t *_RESTRICT_KYWD,
 338                         const wchar_t *_RESTRICT_KYWD, size_t);
 339 extern wchar_t  *wmemmove(wchar_t *, const wchar_t *, size_t);
 340 extern wchar_t  *wmemset(wchar_t *, wchar_t, size_t);
 341 extern int      wprintf(const wchar_t *_RESTRICT_KYWD, ...);
 342 extern int      wscanf(const wchar_t *_RESTRICT_KYWD, ...);
 343 #if __cplusplus >= 199711L
 344 extern const wchar_t *wcsstr(const wchar_t *, const wchar_t *);
 345 extern "C++" {
 346         inline wchar_t *wcsstr(wchar_t *__ws1, const wchar_t *__ws2) {
 347                 return (wchar_t *)wcsstr((const wchar_t *)__ws1, __ws2);
 348         }
 349 }
______unchanged_portion_omitted_
```

```
**********************************************************
   14456 Tue Aug 12 07:52:09 2014
new/usr/src/head/netdb.h
Finished obsoleting interfaces for XPG7.
**********************************************************
______unchanged_portion_omitted_

 232 #ifdef  __STDC__
 232 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
 233 struct hostent  *gethostbyname_r
 234         (const char *, struct hostent *, char *, int, int *h_errnop);
 235 struct hostent  *gethostbyaddr_r
 236         (const char *, int, int, struct hostent *, char *, int, int *h_errnop);
 237 struct hostent  *getipnodebyname(const char *, int, int, int *);
 238 struct hostent  *getipnodebyaddr(const void *, size_t, int, int *);
 239 void            freehostent(struct hostent *);
 240 struct hostent  *gethostent_r(struct hostent *, char *, int, int *h_errnop);

 242 struct servent  *getservbyname_r
 243         (const char *name, const char *, struct servent *, char *, int);
 244 struct servent  *getservbyport_r
 245         (int port, const char *, struct servent *, char *, int);
 246 struct servent  *getservent_r(struct    servent *, char *, int);

 248 struct netent   *getnetbyname_r
 249         (const char *, struct netent *, char *, int);
 250 struct netent   *getnetbyaddr_r(long, int, struct netent *, char *, int);
 251 struct netent   *getnetent_r(struct netent *, char *, int);

 253 struct protoent *getprotobyname_r
 254         (const char *, struct protoent *, char *, int);
 255 struct protoent *getprotobynumber_r
 256         (int, struct protoent *, char *, int);
 257 struct protoent *getprotoent_r(struct protoent *, char *, int);

 259 int getnetgrent_r(char **, char **, char **, char *, int);
 260 int innetgr(const char *, const char *, const char *, const char *);
 261 #endif /* !defined(_XPG4_2) || defined(__EXTENSIONS__) */

 263 /* Old interfaces that return a pointer to a static area;  MT-unsafe */
 264 #ifndef _STRICT_XPG7
 265 struct hostent  *gethostbyname(const char *);
 266 #endif
 267 struct hostent  *gethostent(void);
 268 struct netent   *getnetbyaddr(in_addr_t, int);
 269 struct netent   *getnetbyname(const char *);
 270 struct netent   *getnetent(void);
 271 struct protoent *getprotobyname(const char *);
 272 struct protoent *getprotobynumber(int);
 273 struct protoent *getprotoent(void);
 274 struct servent  *getservbyname(const char *, const char *);
 275 struct servent  *getservbyport(int, const char *);
 276 struct servent  *getservent(void);

 278 /*
 279  * gethostbyaddr() second argument is a size_t only in unix95/unix98,
 280  * removed in XPG issue 7
 281  */
 282 #if !defined(_STRICT_XPG7)
 277 /* gethostbyaddr() second argument is a size_t only in unix95/unix98 */
 283 #if !defined(_XPG4_2) || defined(_XPG6) || defined(__EXTENSIONS__)
 284 struct hostent  *gethostbyaddr(const void *, socklen_t, int);
 285 #else
 286 struct hostent  *gethostbyaddr(const void *, size_t, int);
 287 #endif /* !defined(_XPG4_2) || defined(_XPG6) || defined(__EXTENSIONS__) */
 288 #endif  /* !defined(_STRICT_XPG7) */
```



```
 290 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
 291 int endhostent(void);
 292 int endnetent(void);
 293 int endprotoent(void);
 294 int endservent(void);
 295 int sethostent(int);
 296 int setnetent(int);
 297 int setprotoent(int);
 298 int setservent(int);
 299 #else
 300 void endhostent(void);
 301 void endnetent(void);
 302 void endprotoent(void);
 303 void endservent(void);
 304 void sethostent(int);
 305 void setnetent(int);
 306 void setprotoent(int);
 307 void setservent(int);
 308 #endif /* !defined(_XPG4_2) || defined(__EXTENSIONS__) */

 310 #if !defined(_XPG4_2) || defined(_XPG6) || defined(__EXTENSIONS__)

 312 #ifdef  _XPG6
 313 #ifdef  __PRAGMA_REDEFINE_EXTNAME
 314 #pragma redefine_extname getaddrinfo __xnet_getaddrinfo
 315 #else   /* __PRAGMA_REDEFINE_EXTNAME */
 316 #define getaddrinfo __xnet_getaddrinfo
 317 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
 318 #endif  /* _XPG6 */

 320 int             getaddrinfo(const char *_RESTRICT_KYWD,
 321                         const char *_RESTRICT_KYWD,
 322                         const struct addrinfo *_RESTRICT_KYWD,
 323                         struct addrinfo **_RESTRICT_KYWD);
 324 void            freeaddrinfo(struct addrinfo *);
 325 const char      *gai_strerror(int);
 326 int             getnameinfo(const struct sockaddr *_RESTRICT_KYWD,
 327                         socklen_t, char *_RESTRICT_KYWD, socklen_t,
 328                         char *_RESTRICT_KYWD, socklen_t, int);
 329 #endif /* !defined(_XPG4_2) || defined(_XPG6) || defined(__EXTENSIONS__) */

 331 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
 332 int getnetgrent(char **, char **, char **);
 333 int setnetgrent(const char *);
 334 int endnetgrent(void);
 335 int rcmd(char **, unsigned short,
 336         const char *, const char *, const char *, int *);
 337 int rcmd_af(char **, unsigned short,
 338         const char *, const char *, const char *, int *, int);
 339 int rresvport_af(int *, int);
 340 int rresvport_addr(int *, struct sockaddr_storage *);
 341 int rexec(char **, unsigned short,
 342         const char *, const char *, const char *, int *);
 343 int rexec_af(char **, unsigned short,
 344         const char *, const char *, const char *, int *, int);
 345 int rresvport(int *);
 346 int ruserok(const char *, int, const char *, const char *);
 347 /* BIND */
 348 struct hostent  *gethostbyname2(const char *, int);
 349 void            herror(const char *);
 350 const char      *hstrerror(int);
 351 /* End BIND */

 353 /* IPsec algorithm prototype definitions */
 354 struct ipsecalgent *getipsecalgbyname(const char *, int, int *);
```

```
355 struct ipsecalgent *getipsecalgbynum(int, int, int *);
356 int getipsecprotobyname(const char *doi_name);
357 char *getipsecprotobynum(int doi_domain);
358 void freeipsecalgent(struct ipsecalgent *ptr);
359 /* END IPsec algorithm prototype definitions */

361 #endif /* !defined(_XPG4_2) || defined(__EXTENSIONS__) */
356 #else   /* __STDC__ */
357 struct hostent  *gethostbyname_r();
358 struct hostent  *gethostbyaddr_r();
359 struct hostent  *getipnodebyname();
360 struct hostent  *getipnodebyaddr();
361 void            freehostent();
362 struct hostent  *gethostent_r();
363 struct servent  *getservbyname_r();
364 struct servent  *getservbyport_r();
365 struct servent  *getservent_r();
366 struct netent   *getnetbyname_r();
367 struct netent   *getnetbyaddr_r();
368 struct netent   *getnetent_r();
369 struct protoent *getprotobyname_r();
370 struct protoent *getprotobynumber_r();
371 struct protoent *getprotoent_r();
372 int             getnetgrent_r();
373 int             innetgr();

375 /* Old interfaces that return a pointer to a static area;  MT-unsafe */
376 struct hostent  *gethostbyname();
377 struct hostent  *gethostbyaddr();
378 struct hostent  *gethostent();
379 struct netent   *getnetbyname();
380 struct netent   *getnetbyaddr();
381 struct netent   *getnetent();
382 struct servent  *getservbyname();
383 struct servent  *getservbyport();
384 struct servent  *getservent();
385 struct protoent *getprotobyname();
386 struct protoent *getprotobynumber();
387 struct protoent *getprotoent();
388 int             getnetgrent();

390 int sethostent();
391 int endhostent();
392 int setnetent();
393 int endnetent();
394 int setservent();
395 int endservent();
396 int setprotoent();
397 int endprotoent();
398 int setnetgrent();
399 int endnetgrent();
400 int rcmd();
401 int rcmd_af();
402 int rexec();
403 int rexec_af();
404 int rresvport();
405 int rresvport_af();
406 int rresvport_addr();
407 int ruserok();
408 /* BIND */
409 struct hostent  *gethostbyname2();
410 void            herror();
411 char            *hstrerror();
412 /* IPv6 prototype definitons */
413 int             getaddrinfo();
414 void            freeaddrinfo();
```



```
415 const char      *gai_strerror();
416 int             getnameinfo();
417 /* END IPv6 prototype definitions */
418 /* End BIND */

420 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
421 /* IPsec algorithm prototype definitions */
422 struct ipsecalgent *getalgbyname();
423 struct ipsecalgent *getalgbydoi();
424 int getdoidomainbyname();
425 const char *getdoidomainbynum();
426 void freealgent();
427 /* END IPsec algorithm prototype definitions */
428 #endif /* !defined(_XPG4_2) || defined(__EXTENSIONS__) */

430 #endif  /* __STDC__ */

363 /*
364  * Error return codes from gethostbyname() and gethostbyaddr()
365  * (when using the resolver)
366  */

368 /* h_errno was removed in Issue 7 */
369 #if !defined(_STRICT_XPG7)
370 extern  int h_errno;

372 #ifdef  _REENTRANT
440 #ifdef  __STDC__
373 extern int      *__h_errno(void);
442 #else
443 extern int      *__h_errno();
444 #endif  /* __STDC__ */

375 /* Only #define h_errno if there is no conflict with other use */
376 #ifdef  H_ERRNO_IS_FUNCTION
377 #define h_errno (*__h_errno())
378 #endif  /* NO_H_ERRNO_DEFINE */
379 #endif  /* _REENTRANT */

381 /*
382  * Error return codes from gethostbyname() and gethostbyaddr()
383  * (left in extern int h_errno).
384  */
385 #define HOST_NOT_FOUND  1 /* Authoritive Answer Host not found */
386 #define TRY_AGAIN       2 /* Non-Authoritive Host not found, or SERVERFAIL */
387 #define NO_RECOVERY     3 /* Non recoverable errors, FORMERR, REFUSED, NOTIMP */
388 #define NO_DATA         4 /* Valid name, no data record of requested type */

390 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
391 #define NO_ADDRESS      NO_DATA         /* no address, look for MX record */

393 /* BIND */
394 #define NETDB_INTERNAL  -1      /* see errno */
395 #define NETDB_SUCCESS   0       /* no problem */
396 /* End BIND */

398 #endif  /* !defined(_STRICT_XPG7) */

400 #define MAXHOSTNAMELEN  256

402 #define MAXALIASES      35
403 #define MAXADDRS        35
404 #endif /* !defined(_XPG4_2) || defined(__EXTENSIONS__) */

406 #ifdef  __cplusplus
407 }
```

*unchanged_portion_omitted_*

```
**********************************************************
   13842 Tue Aug 12 07:52:09 2014
new/usr/src/head/pthread.h
code review feeback, close open comment
pthread_attr_setstackaddr removed in XPG7
**********************************************************
```

```
/*
 * CDDL HEADER START
 *
 * The contents of this file are subject to the terms of the
 * Common Development and Distribution License (the "License").
 * You may not use this file except in compliance with the License.
 *
 * You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE
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 * If applicable, add the following below this CDDL HEADER, with the
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 * information: Portions Copyright [yyyy] [name of copyright owner]
 *
 * CDDL HEADER END
 */

/*
 * Copyright 2008 Sun Microsystems, Inc.  All rights reserved.
 * Use is subject to license terms.
 */

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

#ifndef _PTHREAD_H
#define _PTHREAD_H

#include <sys/feature_tests.h>

#ifndef _ASM
#include <sys/types.h>
#include <time.h>
#include <sched.h>
#endif  /* _ASM */

#ifdef __cplusplus
extern "C" {
#endif

/*
 * Thread related attribute values defined as in thread.h.
 * These are defined as bit pattern in thread.h.
 * Any change here should be reflected in thread.h.
 */
/* detach */
#define PTHREAD_CREATE_DETACHED         0x40    /* = THR_DETACHED */
#define PTHREAD_CREATE_JOINABLE         0
/* scope */
#define PTHREAD_SCOPE_SYSTEM            0x01    /* = THR_BOUND */
#define PTHREAD_SCOPE_PROCESS           0

/*
 * Other attributes which are not defined in thread.h
 */
```



```
/* inherit */
#define PTHREAD_INHERIT_SCHED           1
#define PTHREAD_EXPLICIT_SCHED          0

/*
 * Value of process-shared attribute
 * These are defined as values defined in sys/synch.h
 * Any change here should be reflected in sys/synch.h.
 */
#define PTHREAD_PROCESS_SHARED          1       /* = USYNC_PROCESS */
#define PTHREAD_PROCESS_PRIVATE         0       /* = USYNC_THREAD */

#define _DEFAULT_TYPE                   PTHREAD_PROCESS_PRIVATE
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
#define DEFAULT_TYPE                    _DEFAULT_TYPE
#endif

/*
 * mutex types
 * keep these in synch which sys/synch.h lock flags
 */
#define PTHREAD_MUTEX_NORMAL            0x0
#define PTHREAD_MUTEX_ERRORCHECK        0x2
#define PTHREAD_MUTEX_RECURSIVE         0x4
#define PTHREAD_MUTEX_DEFAULT           PTHREAD_MUTEX_NORMAL

/*
 * Mutex protocol values. Keep these in synch with sys/synch.h lock types.
 */
#define PTHREAD_PRIO_NONE               0x0
#define PTHREAD_PRIO_INHERIT            0x10
#define PTHREAD_PRIO_PROTECT            0x20

/*
 * Mutex robust attribute values.
 * Keep these in synch with sys/synch.h lock types.
 */
#define PTHREAD_MUTEX_STALLED           0x0
#define PTHREAD_MUTEX_ROBUST            0x40
/*
 * Historical solaris-specific names,
 * from before pthread_mutexattr_getrobust() became standardized
 */
#define PTHREAD_MUTEX_STALL_NP          PTHREAD_MUTEX_STALLED
#define PTHREAD_MUTEX_ROBUST_NP         PTHREAD_MUTEX_ROBUST

/*
 * macros - default initializers defined as in synch.h
 * Any change here should be reflected in synch.h.
 *
 * NOTE:
 * Make sure that any change in the macros is consistent with the definition
 * of the corresponding types in sys/types.h (e.g. PTHREAD_MUTEX_INITIALIZER
 * should be consistent with the definition for pthread_mutex_t).
 */
#define PTHREAD_MUTEX_INITIALIZER               /* = DEFAULTMUTEX */    \
        {{0, 0, 0, _DEFAULT_TYPE, _MUTEX_MAGIC}, {{{0}}}, 0}

#define PTHREAD_COND_INITIALIZER                /* = DEFAULTCV */       \
        {{{0, 0, 0, 0}, _DEFAULT_TYPE, _COND_MAGIC}, 0}

#define PTHREAD_RWLOCK_INITIALIZER              /* = DEFAULTRWLOCK */   \
        {0, _DEFAULT_TYPE, _RWL_MAGIC, PTHREAD_MUTEX_INITIALIZER,       \
        PTHREAD_COND_INITIALIZER, PTHREAD_COND_INITIALIZER}

/* cancellation type and state */
```

```
 127 #define PTHREAD_CANCEL_ENABLE           0x00
 128 #define PTHREAD_CANCEL_DISABLE          0x01
 129 #define PTHREAD_CANCEL_DEFERRED         0x00
 130 #define PTHREAD_CANCEL_ASYNCHRONOUS     0x02
 131 #define PTHREAD_CANCELED                (void *)-19

 133 /* pthread_once related values */
 134 #define PTHREAD_ONCE_NOTDONE    0
 135 #define PTHREAD_ONCE_DONE       1
 136 #define PTHREAD_ONCE_INIT       { {0, 0, 0, PTHREAD_ONCE_NOTDONE} }

 138 /*
 139  * The key to be created by pthread_key_create_once_np()
 140  * must be statically initialized with PTHREAD_ONCE_KEY_NP.
 141  * This must be the same as THR_ONCE_KEY in <thread.h>
 142  */
 143 #define PTHREAD_ONCE_KEY_NP     (pthread_key_t)(-1)

 145 /* barriers */
 146 #define PTHREAD_BARRIER_SERIAL_THREAD   -2

 148 #ifndef _ASM

 150 /*
 151  * cancellation cleanup structure
 152  */
 153 typedef struct _cleanup {
 154         uintptr_t       pthread_cleanup_pad[4];
 155 } _cleanup_t;
```

unchanged_portion_omitted_

```
 186 #ifdef  __STDC__

 190 /*
 191  * function prototypes - thread related calls
 192  */

 194 /*
 195  * pthread_atfork() is also declared in <unistd.h> as per SUSv2. The
 196  * declarations are identical. A change to either one may also require
 197  * appropriate namespace updates in order to avoid redeclaration
 198  * warnings in the case where both prototypes are exposed via inclusion
 199  * of both <pthread.h> and <unistd.h>.
 200  */
 201 extern int pthread_atfork(void (*) (void), void (*) (void), void (*) (void));
 202 extern int pthread_attr_init(pthread_attr_t *);
 203 extern int pthread_attr_destroy(pthread_attr_t *);
 204 extern int pthread_attr_setstack(pthread_attr_t *, void *, size_t);
 205 extern int pthread_attr_getstack(const pthread_attr_t *_RESTRICT_KYWD,
 206                 void **_RESTRICT_KYWD, size_t *_RESTRICT_KYWD);
 207 extern int pthread_attr_setstacksize(pthread_attr_t *, size_t);
 208 extern int pthread_attr_getstacksize(const pthread_attr_t *_RESTRICT_KYWD,
 209                 size_t *_RESTRICT_KYWD);

 211 #if !defined(_STRICT_XPG7)
 212 extern int pthread_attr_setstackaddr(pthread_attr_t *, void *);
 213 extern int pthread_attr_getstackaddr(const pthread_attr_t *_RESTRICT_KYWD,
 214                 void **_RESTRICT_KYWD);
 215 #endif

 217 extern int pthread_attr_setdetachstate(pthread_attr_t *, int);
 218 extern int pthread_attr_getdetachstate(const pthread_attr_t *, int *);
 219 extern int pthread_attr_setscope(pthread_attr_t *, int);
 220 extern int pthread_attr_getscope(const pthread_attr_t *_RESTRICT_KYWD,
 221         int *_RESTRICT_KYWD);
 222 extern int pthread_attr_setinheritsched(pthread_attr_t *, int);
```



```
 223 extern int pthread_attr_getinheritsched(const pthread_attr_t *_RESTRICT_KYWD,
 224         int *_RESTRICT_KYWD);
 225 extern int pthread_attr_setschedpolicy(pthread_attr_t *, int);
 226 extern int pthread_attr_getschedpolicy(const pthread_attr_t *_RESTRICT_KYWD,
 227         int *_RESTRICT_KYWD);
 228 extern int pthread_attr_setschedparam(pthread_attr_t *_RESTRICT_KYWD,
 229                 const struct sched_param *_RESTRICT_KYWD);
 230 extern int pthread_attr_getschedparam(const pthread_attr_t *_RESTRICT_KYWD,
 231                 struct sched_param *_RESTRICT_KYWD);
 232 extern int pthread_create(pthread_t *_RESTRICT_KYWD,
 233                 const pthread_attr_t *_RESTRICT_KYWD, void * (*)(void *),
 234                 void *_RESTRICT_KYWD);
 235 extern int pthread_once(pthread_once_t *, void (*)(void));
 236 extern int pthread_join(pthread_t, void **);
 237 extern int pthread_detach(pthread_t);
 238 extern void pthread_exit(void *) __NORETURN;
 239 extern int pthread_cancel(pthread_t);
 240 extern int pthread_setschedparam(pthread_t, int, const struct sched_param *);
 241 extern int pthread_getschedparam(pthread_t, int *_RESTRICT_KYWD,
 242                 struct sched_param *_RESTRICT_KYWD);
 243 extern int pthread_setschedprio(pthread_t, int);
 244 extern int pthread_setcancelstate(int, int *);
 245 extern int pthread_setcanceltype(int, int *);
 246 extern void pthread_testcancel(void);
 247 extern int pthread_equal(pthread_t, pthread_t);
 248 extern int pthread_key_create(pthread_key_t *, void (*)(void *));
 249 extern int pthread_key_create_once_np(pthread_key_t *, void (*)(void *));
 250 extern int pthread_key_delete(pthread_key_t);
 251 extern int pthread_setspecific(pthread_key_t, const void *);
 252 extern void *pthread_getspecific(pthread_key_t);
 253 extern pthread_t pthread_self(void);

 255 /*
 256  * function prototypes - synchronization related calls
 257  */
 258 extern int pthread_mutexattr_init(pthread_mutexattr_t *);
 259 extern int pthread_mutexattr_destroy(pthread_mutexattr_t *);
 260 extern int pthread_mutexattr_setpshared(pthread_mutexattr_t *, int);
 261 extern int pthread_mutexattr_getpshared(
 262         const pthread_mutexattr_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
 263 extern int pthread_mutexattr_setprotocol(pthread_mutexattr_t *, int);
 264 extern int pthread_mutexattr_getprotocol(
 265         const pthread_mutexattr_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
 266 extern int pthread_mutexattr_setprioceiling(pthread_mutexattr_t *, int);
 267 extern int pthread_mutexattr_getprioceiling(
 268         const pthread_mutexattr_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
 269 extern int pthread_mutexattr_setrobust(pthread_mutexattr_t *, int);
 270 extern int pthread_mutexattr_getrobust(
 271         const pthread_mutexattr_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
 272 extern int pthread_mutex_init(pthread_mutex_t *_RESTRICT_KYWD,
 273         const pthread_mutexattr_t *_RESTRICT_KYWD);
 274 extern int pthread_mutex_consistent(pthread_mutex_t *);
 275 extern int pthread_mutex_destroy(pthread_mutex_t *);
 276 extern int pthread_mutex_lock(pthread_mutex_t *);
 277 extern int pthread_mutex_timedlock(pthread_mutex_t *_RESTRICT_KYWD,
 278         const struct timespec *_RESTRICT_KYWD);
 279 extern int pthread_mutex_reltimedlock_np(pthread_mutex_t *_RESTRICT_KYWD,
 280         const struct timespec *_RESTRICT_KYWD);
 281 extern int pthread_mutex_unlock(pthread_mutex_t *);
 282 extern int pthread_mutex_trylock(pthread_mutex_t *);
 283 extern int pthread_mutex_setprioceiling(pthread_mutex_t *_RESTRICT_KYWD,
 284         int, int *_RESTRICT_KYWD);
 285 extern int pthread_mutex_getprioceiling(const pthread_mutex_t *_RESTRICT_KYWD,
 286         int *_RESTRICT_KYWD);
 287 extern int pthread_condattr_init(pthread_condattr_t *);
 288 extern int pthread_condattr_destroy(pthread_condattr_t *);
```

```
289 extern int pthread_condattr_setclock(pthread_condattr_t *, clockid_t);
290 extern int pthread_condattr_getclock(const pthread_condattr_t *_RESTRICT_KYWD,
291         clockid_t *_RESTRICT_KYWD);
292 extern int pthread_condattr_setpshared(pthread_condattr_t *, int);
293 extern int pthread_condattr_getpshared(const pthread_condattr_t *_RESTRICT_KYWD,
294         int *_RESTRICT_KYWD);
295 extern int pthread_cond_init(pthread_cond_t *_RESTRICT_KYWD,
296         const pthread_condattr_t *_RESTRICT_KYWD);
297 extern int pthread_cond_destroy(pthread_cond_t *);
298 extern int pthread_cond_broadcast(pthread_cond_t *);
299 extern int pthread_cond_signal(pthread_cond_t *);
300 extern int pthread_cond_wait(pthread_cond_t *_RESTRICT_KYWD,
301         pthread_mutex_t *_RESTRICT_KYWD);
302 extern int pthread_cond_timedwait(pthread_cond_t *_RESTRICT_KYWD,
303         pthread_mutex_t *_RESTRICT_KYWD, const struct timespec *_RESTRICT_KYWD);
304 extern int pthread_cond_reltimedwait_np(pthread_cond_t *_RESTRICT_KYWD,
305         pthread_mutex_t *_RESTRICT_KYWD, const struct timespec *_RESTRICT_KYWD);
306 extern int pthread_attr_getguardsize(const pthread_attr_t *_RESTRICT_KYWD,
307         size_t *_RESTRICT_KYWD);
308 extern int pthread_attr_setguardsize(pthread_attr_t *, size_t);
309 extern int pthread_getconcurrency(void);
310 extern int pthread_setconcurrency(int);
311 extern int pthread_mutexattr_settype(pthread_mutexattr_t *, int);
312 extern int pthread_mutexattr_gettype(const pthread_mutexattr_t *_RESTRICT_KYWD,
313         int *_RESTRICT_KYWD);
314 extern int pthread_rwlock_init(pthread_rwlock_t *_RESTRICT_KYWD,
315         const pthread_rwlockattr_t *_RESTRICT_KYWD);
316 extern int pthread_rwlock_destroy(pthread_rwlock_t *);
317 extern int pthread_rwlock_rdlock(pthread_rwlock_t *);
318 extern int pthread_rwlock_timedrdlock(pthread_rwlock_t *_RESTRICT_KYWD,
319         const struct timespec *_RESTRICT_KYWD);
320 extern int pthread_rwlock_reltimedrdlock_np(pthread_rwlock_t *_RESTRICT_KYWD,
321         const struct timespec *_RESTRICT_KYWD);
322 extern int pthread_rwlock_tryrdlock(pthread_rwlock_t *);
323 extern int pthread_rwlock_wrlock(pthread_rwlock_t *);
324 extern int pthread_rwlock_timedwrlock(pthread_rwlock_t *_RESTRICT_KYWD,
325         const struct timespec *_RESTRICT_KYWD);
326 extern int pthread_rwlock_reltimedwrlock_np(pthread_rwlock_t *_RESTRICT_KYWD,
327         const struct timespec *_RESTRICT_KYWD);
328 extern int pthread_rwlock_trywrlock(pthread_rwlock_t *);
329 extern int pthread_rwlock_unlock(pthread_rwlock_t *);
330 extern int pthread_rwlockattr_init(pthread_rwlockattr_t *);
331 extern int pthread_rwlockattr_destroy(pthread_rwlockattr_t *);
332 extern int pthread_rwlockattr_getpshared(
333         const pthread_rwlockattr_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
334 extern int pthread_rwlockattr_setpshared(pthread_rwlockattr_t *, int);
335 extern int pthread_spin_init(pthread_spinlock_t *, int);
336 extern int pthread_spin_destroy(pthread_spinlock_t *);
337 extern int pthread_spin_lock(pthread_spinlock_t *);
338 extern int pthread_spin_trylock(pthread_spinlock_t *);
339 extern int pthread_spin_unlock(pthread_spinlock_t *);
340 extern int pthread_barrierattr_init(pthread_barrierattr_t *);
341 extern int pthread_barrierattr_destroy(pthread_barrierattr_t *);
342 extern int pthread_barrierattr_setpshared(pthread_barrierattr_t *, int);
343 extern int pthread_barrierattr_getpshared(
344         const pthread_barrierattr_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
345 extern int pthread_barrier_init(pthread_barrier_t *_RESTRICT_KYWD,
346         const pthread_barrierattr_t *_RESTRICT_KYWD, uint_t);
347 extern int pthread_barrier_destroy(pthread_barrier_t *);
348 extern int pthread_barrier_wait(pthread_barrier_t *);

350 /* Historical names -- present only for binary compatibility */
351 extern int pthread_mutex_consistent_np(pthread_mutex_t *);
352 extern int pthread_mutexattr_setrobust_np(pthread_mutexattr_t *, int);
353 extern int pthread_mutexattr_getrobust_np(
354         const pthread_mutexattr_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
```



```
350 #else   /* __STDC__ */

352 /*
353  * function prototypes - thread related calls
354  */
355 extern int pthread_atfork();
356 extern int pthread_attr_init();
357 extern int pthread_attr_destroy();
358 extern int pthread_attr_setstack();
359 extern int pthread_attr_getstack();
360 extern int pthread_attr_setstacksize();
361 extern int pthread_attr_getstacksize();
362 extern int pthread_attr_setstackaddr();
363 extern int pthread_attr_getstackaddr();
364 extern int pthread_attr_setdetachstate();
365 extern int pthread_attr_getdetachstate();
366 extern int pthread_attr_setscope();
367 extern int pthread_attr_getscope();
368 extern int pthread_attr_setinheritsched();
369 extern int pthread_attr_getinheritsched();
370 extern int pthread_attr_setschedpolicy();
371 extern int pthread_attr_getschedpolicy();
372 extern int pthread_attr_setschedparam();
373 extern int pthread_attr_getschedparam();
374 extern int pthread_create();
375 extern int pthread_once();
376 extern int pthread_join();
377 extern int pthread_detach();
378 extern void pthread_exit();
379 extern int pthread_cancel();
380 extern int pthread_setschedparam();
381 extern int pthread_getschedparam();
382 extern int pthread_setschedprio();
383 extern int pthread_setcancelstate();
384 extern int pthread_setcanceltype();
385 extern void pthread_testcancel();
386 extern int pthread_equal();
387 extern int pthread_key_create();
388 extern int pthread_key_create_once_np();
389 extern int pthread_key_delete();
390 extern int pthread_setspecific();
391 extern void *pthread_getspecific();
392 extern pthread_t pthread_self();
393 /*
394  * function prototypes - synchronization related calls
395  */
396 extern int pthread_mutexattr_init();
397 extern int pthread_mutexattr_destroy();
398 extern int pthread_mutexattr_setpshared();
399 extern int pthread_mutexattr_getpshared();
400 extern int pthread_mutexattr_setprotocol();
401 extern int pthread_mutexattr_getprotocol();
402 extern int pthread_mutexattr_setprioceiling();
403 extern int pthread_mutexattr_getprioceiling();
404 extern int pthread_mutexattr_setrobust();
405 extern int pthread_mutexattr_getrobust();
406 extern int pthread_mutex_init();
407 extern int pthread_mutex_consistent();
408 extern int pthread_mutex_destroy();
409 extern int pthread_mutex_lock();
410 extern int pthread_mutex_timedlock();
411 extern int pthread_mutex_reltimedlock_np();
412 extern int pthread_mutex_unlock();
413 extern int pthread_mutex_trylock();
414 extern int pthread_mutex_setprioceiling();
```

```
415 extern int pthread_mutex_getprioceiling();
416 extern int pthread_condattr_init();
417 extern int pthread_condattr_destroy();
418 extern int pthread_condattr_setclock();
419 extern int pthread_condattr_getclock();
420 extern int pthread_condattr_setpshared();
421 extern int pthread_condattr_getpshared();
422 extern int pthread_cond_init();
423 extern int pthread_cond_destroy();
424 extern int pthread_cond_broadcast();
425 extern int pthread_cond_signal();
426 extern int pthread_cond_wait();
427 extern int pthread_cond_timedwait();
428 extern int pthread_cond_reltimedwait_np();
429 extern int pthread_attr_getguardsize();
430 extern int pthread_attr_setguardsize();
431 extern int pthread_getconcurrency();
432 extern int pthread_setconcurrency();
433 extern int pthread_mutexattr_settype();
434 extern int pthread_mutexattr_gettype();
435 extern int pthread_rwlock_init();
436 extern int pthread_rwlock_destroy();
437 extern int pthread_rwlock_rdlock();
438 extern int pthread_rwlock_tryrdlock();
439 extern int pthread_rwlock_wrlock();
440 extern int pthread_rwlock_trywrlock();
441 extern int pthread_rwlock_unlock();
442 extern int pthread_rwlockattr_init();
443 extern int pthread_rwlockattr_destroy();
444 extern int pthread_rwlockattr_getpshared();
445 extern int pthread_rwlockattr_setpshared();
446 extern int pthread_spin_init();
447 extern int pthread_spin_destroy();
448 extern int pthread_spin_lock();
449 extern int pthread_spin_trylock();
450 extern int pthread_spin_unlock();
451 extern int pthread_barrierattr_init();
452 extern int pthread_barrierattr_destroy();
453 extern int pthread_barrierattr_setpshared();
454 extern int pthread_barrierattr_getpshared();
455 extern int pthread_barrier_init();
456 extern int pthread_barrier_destroy();
457 extern int pthread_barrier_wait();

459 /* Historical names -- present only for binary compatibility */
460 extern int pthread_mutex_consistent_np();
461 extern int pthread_mutexattr_setrobust_np();
462 extern int pthread_mutexattr_getrobust_np();

464 #endif  /* __STDC__ */

356 #endif  /* _ASM */

358 #ifdef  __cplusplus
359 }
```

_____unchanged_portion_omitted_

```
**********************************************************
    5482 Tue Aug 12 07:52:09 2014
new/usr/src/head/signal.h
first round of POSIX 2008 stuff
**********************************************************
```

```
/*
 * CDDL HEADER START
 *
 * The contents of this file are subject to the terms of the
 * Common Development and Distribution License, Version 1.0 only
 * (the "License").  You may not use this file except in compliance
 * with the License.
 *
 * You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE
 * or http://www.opensolaris.org/os/licensing.
 * See the License for the specific language governing permissions
 * and limitations under the License.
 *
 * When distributing Covered Code, include this CDDL HEADER in each
 * file and include the License file at usr/src/OPENSOLARIS.LICENSE.
 * If applicable, add the following below this CDDL HEADER, with the
 * fields enclosed by brackets "[]" replaced with your own identifying
 * information: Portions Copyright [yyyy] [name of copyright owner]
 *
 * CDDL HEADER END
 */
/*      Copyright (c) 1988 AT&T */
/*        All Rights Reserved   */


/*
 * Copyright 2004 Sun Microsystems, Inc.  All rights reserved.
 * Use is subject to license terms.
 */

#ifndef _SIGNAL_H
#define _SIGNAL_H

#pragma ident   "%Z%%M% %I%     %E% SMI"        /* SVr4.0 1.5.3.4 */

#include <sys/feature_tests.h>

#if defined(__EXTENSIONS__) || !defined(_STRICT_STDC) || \
        defined(__XOPEN_OR_POSIX)
#include <sys/types.h>  /* need pid_t/uid_t/size_t/clock_t/caddr_t/pthread_t */
#endif

#include <iso/signal_iso.h>
#include <sys/signal.h>

/*
 * Allow global visibility for symbols defined in
 * C++ "std" namespace in <iso/signal_iso.h>.
 */
#if __cplusplus >= 199711L
using std::sig_atomic_t;
using std::signal;
using std::raise;
#endif

#ifdef  __cplusplus
extern "C" {
#endif


#if defined(__STDC__)
```



```
extern const char       **_sys_siglistp;        /* signal descriptions */
extern const int        _sys_siglistn;          /* # of signal descriptions */

#if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
#define _sys_siglist    _sys_siglistp
#define _sys_nsig       _sys_siglistn
#endif

#if defined(__EXTENSIONS__) || !defined(_STRICT_STDC) || \
        defined(__XOPEN_OR_POSIX)
extern int kill(pid_t, int);
extern int sigaction(int, const struct sigaction *_RESTRICT_KYWD,
        struct sigaction *_RESTRICT_KYWD);
#ifndef _KERNEL
extern int sigaddset(sigset_t *, int);
extern int sigdelset(sigset_t *, int);
extern int sigemptyset(sigset_t *);
extern int sigfillset(sigset_t *);
extern int sigismember(const sigset_t *, int);
#endif
extern int sigpending(sigset_t *);
extern int sigprocmask(int, const sigset_t *_RESTRICT_KYWD,
        sigset_t *_RESTRICT_KYWD);
extern int sigsuspend(const sigset_t *);
#endif /* defined(__EXTENSIONS__) || !defined(_STRICT_STDC)... */

#if defined(__EXTENSIONS__) || (!defined(_STRICT_STDC) && \
        !defined(__XOPEN_OR_POSIX))
#include <sys/procset.h>
extern int gsignal(int);
extern int (*ssignal(int, int (*)(int)))(int);
extern int sigsend(idtype_t, id_t, int);
extern int sigsendset(const procset_t *, int);
extern int sig2str(int, char *);
extern int str2sig(const char *, int *);
#define SIG2STR_MAX     32
#endif /* defined(__EXTENSIONS__) || (!defined(_STRICT_STDC)... */

/* Added in Issue 4 version 2, obsoleted in Issue 6 and removed in Issue 7 */
#if (!defined(_STRICT_SYMBOLS)) || (defined(_XPG4_2) && !defined(_XPG7))
/* bsd_signal removed from Issue 7 */
#if defined(__EXTENSIONS__) || (!defined(_STRICT_STDC) && \
        !defined(__XOPEN_OR_POSIX)) || defined(_XPG4_2)
extern void (*bsd_signal(int, void (*)(int)))(int);
#endif

/* Added in Issue 4 version 2 */
#if (!defined(_STRICT_SYMBOLS)) || defined(_XPG4_2)
extern int killpg(pid_t, int);
extern int siginterrupt(int, int);
extern int sigaltstack(const stack_t *_RESTRICT_KYWD, stack_t *_RESTRICT_KYWD);
extern int sighold(int);
extern int sigignore(int);
extern int sigpause(int);
extern int sigrelse(int);
extern void (*sigset(int, void (*)(int)))(int);
#endif
#endif /* defined(__EXTENSIONS__) || (!defined(_STRICT_STDC) && ... */

/* Added in Issue 4 version 2, obsoleted in SUSv2 and removed in SUSv3 */
#if (!defined(_STRICT_SYMBOLS)) || (defined(_XPG4_2) && !defined(_XPG6))
/* Marked as LEGACY in SUSv2 and removed in SUSv3 */
#if defined(__EXTENSIONS__) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX)) || \
        (defined(_XPG4_2) && !defined(_XPG6))
```

```
117 extern int sigstack(struct sigstack *, struct sigstack *);
118 #endif

120 #if defined(__EXTENSIONS__) || (!defined(_STRICT_STDC) && \
121         !defined(__XOPEN_OR_POSIX)) || (_POSIX_C_SOURCE > 2)
122 #include <sys/siginfo.h>
123 #include <time.h>
124 extern int pthread_kill(pthread_t, int);
125 extern int pthread_sigmask(int, const sigset_t *_RESTRICT_KYWD,
126         sigset_t *_RESTRICT_KYWD);
127 extern int sigwaitinfo(const sigset_t *_RESTRICT_KYWD,
128         siginfo_t *_RESTRICT_KYWD);
129 extern int sigtimedwait(const sigset_t *_RESTRICT_KYWD,
130         siginfo_t *_RESTRICT_KYWD, const struct timespec *_RESTRICT_KYWD);
131 extern int sigqueue(pid_t, int, const union sigval);
132 #endif /* defined(__EXTENSIONS__) || (!defined(_STRICT_STDC) && */

135 #else   /* __STDC__ */

137 extern char     **_sys_siglistp;        /* signal descriptions */
138 extern int      _sys_siglistn;          /* # of signal descriptions */

140 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
141 #define _sys_siglist    _sys_siglistp
142 #define _sys_nsig       _sys_siglistn
143 #endif

145 #if defined(__EXTENSIONS__) || defined(__XOPEN_OR_POSIX)
146 extern int kill();
147 extern int sigaction();
148 #ifndef _KERNEL
149 extern int sigaddset();
150 extern int sigdelset();
151 extern int sigemptyset();
152 extern int sigfillset();
153 extern int sigismember();
154 #endif
155 extern int sigpending();
156 extern int sigprocmask();
157 extern int sigsuspend();
158 #endif /* defined(__EXTENSIONS__)... */

160 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
161         defined(_XPG4_2)
162 extern void (*bsd_signal())();
163 extern int killpg();
164 extern int siginterrupt();
165 #endif /* defined(__EXTENSIONS__) ... */

167 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
168         (defined(_XPG4_2) && !defined(_XPG6))
169 extern int sigstack();
170 #endif

172 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
173 extern int gsignal();
174 extern int (*ssignal)();
175 extern int sigsend();
176 extern int sigsendset();
177 extern int sig2str();
178 extern int str2sig();
179 #define SIG2STR_MAX     32
180 #endif

182 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
183         defined(_XPG4_2)
```



```
184 extern int sigaltstack();
185 extern int sighold();
186 extern int sigignore();
187 extern int sigpause();
188 extern int sigrelse();
189 extern void (*sigset())();
190 #endif

192 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
193         (_POSIX_C_SOURCE > 2)
194 #include <sys/siginfo.h>
195 #include <sys/time.h>
196 extern int pthread_kill();
197 extern int pthread_sigmask();
198 extern int sigwaitinfo();
199 extern int sigtimedwait();
200 extern int sigqueue();
201 #endif

203 #endif  /* __STDC__ */

134 /*
135  * sigwait() prototype is defined here.
136  */

138 #if     defined(__EXTENSIONS__) || (!defined(_STRICT_STDC) && \
139         !defined(__XOPEN_OR_POSIX)) || (_POSIX_C_SOURCE - 0 >= 199506L) || \
140         defined(_POSIX_PTHREAD_SEMANTICS)

213 #if     defined(__STDC__)

142 #if     (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_POSIX_PTHREAD_SEMANTICS)

144 #ifdef __PRAGMA_REDEFINE_EXTNAME
145 #pragma redefine_extname sigwait __posix_sigwait
146 extern int sigwait(const sigset_t *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
147 #else  /* __PRAGMA_REDEFINE_EXTNAME */

149 extern int __posix_sigwait(const sigset_t *_RESTRICT_KYWD,
150     int *_RESTRICT_KYWD);

152 #ifdef  __lint
153 #define sigwait __posix_sigwait
154 #else   /* !__lint */

156 static int
157 sigwait(const sigset_t *_RESTRICT_KYWD __setp, int *_RESTRICT_KYWD __signo)
158 {
159         return (__posix_sigwait(__setp, __signo));
160 }

162 #endif /* !__lint */
163 #endif /* __PRAGMA_REDEFINE_EXTNAME */

165 #else  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

167 extern int sigwait(sigset_t *);

169 #endif  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

245 #else  /* __STDC__ */


248 #if     (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_POSIX_PTHREAD_SEMANTICS)
```

```
250 #ifdef __PRAGMA_REDEFINE_EXTNAME
251 #pragma redefine_extname sigwait __posix_sigwait
252 extern int sigwait();
253 #else  /* __PRAGMA_REDEFINE_EXTNAME */

255 extern int __posix_sigwait();

257 #ifdef  __lint
258 #define sigwait __posix_sigwait
259 #else   /* !__lint */

261 static int
262 sigwait(__setp, __signo)
263         sigset_t *__setp;
264         int *__signo;
265 {
266         return (__posix_sigwait(__setp, __signo));
267 }

269 #endif /* !__lint */
270 #endif /* __PRAGMA_REDEFINE_EXTNAME */

272 #else  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

274 extern int sigwait();

276 #endif /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

278 #endif /* __STDC__ */

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

173 #ifdef  __cplusplus
174 }
```

_____unchanged_portion_omitted_

```
**********************************************************
   10249 Tue Aug 12 07:52:09 2014
new/usr/src/head/stdio.h
oops!
getdelim.3c should list p1003.1-2008.
more ifdef cleanups, expose getline and getdelim
**********************************************************
______unchanged_portion_omitted_
  79 #endif

  81 #include <iso/stdio_iso.h>

  83 /*
  84  * If feature test macros are set that enable interfaces that use types
  85  * defined in <sys/types.h>, get those types by doing the include.
  86  *
  87  * Note that in asking for the interfaces associated with this feature test
  88  * macro one also asks for definitions of the POSIX types.
  89  */

  91 /*
  92  * Allow global visibility for symbols defined in
  93  * C++ "std" namespace in <iso/stdio_iso.h>.
  94  */
  95 #if __cplusplus >= 199711L
  96 using std::FILE;
  97 using std::size_t;
  98 using std::fpos_t;
  99 using std::remove;
 100 using std::rename;
 101 using std::tmpfile;
 102 using std::tmpnam;
 103 using std::fclose;
 104 using std::fflush;
 105 using std::fopen;
 106 using std::freopen;
 107 using std::setbuf;
 108 using std::setvbuf;
 109 using std::fprintf;
 110 using std::fscanf;
 111 using std::printf;
 112 using std::scanf;
 113 using std::sprintf;
 114 using std::sscanf;
 115 using std::vfprintf;
 116 using std::vprintf;
 117 using std::vsprintf;
 118 using std::fgetc;
 119 using std::fgets;
 120 using std::fputc;
 121 using std::fputs;
 122 using std::getc;
 123 using std::getchar;
 124 using std::gets;
 125 using std::putc;
 126 using std::putchar;
 127 using std::puts;
 128 using std::ungetc;
 129 using std::fread;
 130 using std::fwrite;
 131 using std::fgetpos;
 132 using std::fseek;
 133 using std::fsetpos;
 134 using std::ftell;
 135 using std::rewind;
 136 using std::clearerr;
```



```
 137 using std::feof;
 138 using std::ferror;
 139 using std::perror;
 140 #ifndef _LP64
 141 using std::__filbuf;
 142 using std::__flsbuf;
 143 #endif  /* _LP64 */
 144 #endif  /*  __cplusplus >= 199711L */

 146 /*
 147  * This header needs to be included here because it relies on the global
 148  * visibility of FILE and size_t in the C++ environment.
 149  */
 150 #include <iso/stdio_c99.h>

 152 #ifdef  __cplusplus
 153 extern "C" {
 154 #endif

 156 #if defined(_LARGEFILE_SOURCE) || defined(_XPG5)
 157 #ifndef _OFF_T
 158 #define _OFF_T
 159 #if defined(_LP64) || _FILE_OFFSET_BITS == 32
 160 typedef long            off_t;
 161 #else
 162 typedef __longlong_t    off_t;
 163 #endif
 164 #ifdef  _LARGEFILE64_SOURCE
 165 #ifdef _LP64
 166 typedef off_t           off64_t;
 167 #else
 168 typedef __longlong_t    off64_t;
 169 #endif
 170 #endif /* _LARGEFILE64_SOURCE */
 171 #endif /* _OFF_T */
 172 #endif /* _LARGEFILE_SOURCE */

 174 #ifdef _LARGEFILE64_SOURCE
 175 #ifdef _LP64
 176 typedef fpos_t          fpos64_t;
 177 #else
 178 typedef __longlong_t    fpos64_t;
 179 #endif
 180 #endif /* _LARGEFILE64_SOURCE */

 182 /*
 183  * XPG4 requires that va_list be defined in <stdio.h> "as described in
 184  * <stdarg.h>".  ANSI-C and POSIX require that the namespace of <stdio.h>
 185  * not be polluted with this name.
 186  */
 187 #if defined(_XPG4) && !defined(_VA_LIST)
 188 #define _VA_LIST
 189 typedef __va_list va_list;
 190 #endif  /* defined(_XPG4 && !defined(_VA_LIST) */

 192 #if defined(__EXTENSIONS__) || !defined(_STRICT_STDC) || \
 193                 defined(__XOPEN_OR_POSIX)

 195 #define L_ctermid       9

 197 /* Marked LEGACY in SUSv2 and removed in SUSv3 */
 198 #if !defined(_XPG6) || defined(__EXTENSIONS__)
 199 #define L_cuserid       9
 200 #endif

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

```
#if defined(__EXTENSIONS__) || \
        (!defined(_STRICT_STDC) && !defined(_POSIX_C_SOURCE)) || \
        defined(_XOPEN_SOURCE)

#define P_tmpdir        "/var/tmp/"
#endif /* defined(__EXTENSIONS__) || (!defined(_STRICT_STDC) ... */

#ifndef _STDIO_ALLOCATE
extern unsigned char     _sibuf[], _sobuf[];
#endif

/* large file compilation environment setup */
#if !defined(_LP64) && _FILE_OFFSET_BITS == 64
#if !defined(__PRAGMA_REDEFINE_EXTNAME)
#if defined(__STDC__)
extern FILE     *fopen64(const char *, const char *);
extern FILE     *freopen64(const char *, const char *, FILE *);
extern FILE     *tmpfile64(void);
extern int      fgetpos64(FILE *, fpos_t *);
extern int      fsetpos64(FILE *, const fpos_t *);
#else   /* defined(__STDC__) */
extern FILE     *fopen64();
extern FILE     *freopen64();
extern FILE     *tmpfile64();
extern int      fgetpos64();
extern int      fsetpos64();
#endif  /* defined(__STDC__) */
#define fopen                   fopen64
#define freopen                 freopen64
#define tmpfile                 tmpfile64
#define fgetpos                 fgetpos64
#define fsetpos                 fsetpos64
#ifdef  _LARGEFILE_SOURCE
#define fseeko                  fseeko64
#define ftello                  ftello64
#endif
#endif  /* !__PRAGMA_REDEFINE_EXTNAME */
#endif  /* !_LP64 && _FILE_OFFSET_BITS == 64 */

#ifndef _LP64
extern unsigned char    *_bufendtab[];
extern FILE             *_lastbuf;
#endif

/* In the LP64 compilation environment, all APIs are already large file */
#if defined(_LP64) && defined(_LARGEFILE64_SOURCE)
#if !defined(__PRAGMA_REDEFINE_EXTNAME)
#define fopen64         fopen
#define freopen64       freopen
#define tmpfile64       tmpfile
#define fgetpos64       fgetpos
#define fsetpos64       fsetpos
#ifdef  _LARGEFILE_SOURCE
#define fseeko64        fseeko
#define ftello64        ftello
#endif
#endif  /* !__PRAGMA_REDEFINE_EXTNAME */
#endif  /* _LP64 && _LARGEFILE64_SOURCE */

#ifndef _SSIZE_T
#define _SSIZE_T
#if defined(_LP64) || defined(_I32LPx)
typedef long    ssize_t;        /* size of something in bytes or -1 */
#else
typedef int     ssize_t;        /* (historical version) */
```



```
#endif
#endif  /* !_SSIZE_T */

#if defined(_REENTRANT) || !defined(_STRICT_SYMBOLS)
#if defined(__STDC__)

#if defined(__EXTENSIONS__) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX)) || \
        defined(_REENTRANT)
extern char     *tmpnam_r(char *);
#endif

#if !defined(_STRICT_SYMBOLS)
#if defined(__EXTENSIONS__) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX))
extern int fcloseall(void);
extern void setbuffer(FILE *, char *, size_t);
extern int setlinebuf(FILE *);
/* PRINTFLIKE2 */
extern int asprintf(char **, const char *, ...);
/* PRINTFLIKE2 */
extern int vasprintf(char **, const char *, __va_list);
#endif

#if defined(_XPG7) || !defined(_STRICT_SYMBOLS)
#if defined(__EXTENSIONS__) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX))
        /* || defined(_XPG7) */
extern ssize_t getdelim(char **_RESTRICT_KYWD, size_t *_RESTRICT_KYWD,
        int, FILE *_RESTRICT_KYWD);
extern ssize_t getline(char **_RESTRICT_KYWD, size_t *_RESTRICT_KYWD,
        FILE *_RESTRICT_KYWD);
#endif
#endif  /* __EXTENSIONS__ ... */

/*
 * The following are known to POSIX and XOPEN, but not to ANSI-C.
 */
#if defined(__XOPEN_OR_POSIX) || !defined(_STRICT_SYMBOLS)
#if defined(__EXTENSIONS__) || \
        !defined(_STRICT_STDC) || defined(__XOPEN_OR_POSIX)

extern FILE     *fdopen(int, const char *);
extern char     *ctermid(char *);
extern int      fileno(FILE *);
#endif

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

/*
 * The following are known to POSIX.1c, but not to ANSI-C or older XOPEN.
 * The following are known to POSIX.1c, but not to ANSI-C or XOPEN.
 */
#if defined(_REENTRANT) || !defined(_STRICT_SYMBOLS) || \
#if defined(__EXTENSIONS__) || defined(_REENTRANT) || \
        (_POSIX_C_SOURCE - 0 >= 199506L)
extern void     flockfile(FILE *);
extern int      ftrylockfile(FILE *);
extern void     funlockfile(FILE *);
extern int      getc_unlocked(FILE *);
extern int      getchar_unlocked(void);
extern int      putc_unlocked(int, FILE *);
extern int      putchar_unlocked(int);
#endif

#endif  /* defined(__EXTENSIONS__) || defined(_REENTRANT).. */
```

```
308 /*
309  * The following are known to XOPEN, but not to ANSI-C or POSIX.
310  */
311 #if defined(_XOPEN_SOURCE) || !defined(_STRICT_SYMBOLS)

330 #if defined(__EXTENSIONS__) || !defined(_STRICT_STDC) || \
331         defined(_XOPEN_SOURCE)
313 extern FILE     *popen(const char *, const char *);
314 extern char     *tempnam(const char *, const char *);
315 extern int      pclose(FILE *);

317 #if !defined(_XOPEN_SOURCE)
318 /* XOPEN puts this in stdlib.h */
319 extern int      getsubopt(char **, char *const *, char **);
320 #endif
337 #endif /* !defined(_XOPEN_SOURCE) */

322 /* Marked LEGACY in SUSv2 and removed in SUSv3 */
323 #if !defined(_STRICT_XPG6)
340 #if !defined(_XPG6) || defined(__EXTENSIONS__)
324 extern char     *cuserid(char *);
325 extern int      getopt(int, char *const *, const char *);
326 extern char     *optarg;
327 extern int      optind, opterr, optopt;
328 extern int      getw(FILE *);
329 extern int      putw(int, FILE *);
330 #endif
347 #endif /* !defined(_XPG6) || defined(__EXTENSIONS__) */

332 #endif  /* defined(_XOPEN_SOURCE) || !defined(_STRICT_SYMBOLS) */
349 #endif  /* defined(__EXTENSIONS__) || !defined(_STRICT_STDC) ... */

334 /*
335  * The following are defined as part of the Large File Summit interfaces.
336  */
337 #if defined(_LARGEFILE_SOURCE) || defined(_XPG5)
338 extern int      fseeko(FILE *, off_t, int);
339 extern off_t    ftello(FILE *);
340 #endif

342 /*
343  * The following are defined as part of the transitional Large File Summit
344  * interfaces.
345  */
346 #if defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
347             !defined(__PRAGMA_REDEFINE_EXTNAME))
348 extern FILE     *fopen64(const char *, const char *);
349 extern FILE     *freopen64(const char *, const char *, FILE *);
350 extern FILE     *tmpfile64(void);
351 extern int      fgetpos64(FILE *, fpos64_t *);
352 extern int      fsetpos64(FILE *, const fpos64_t *);
353 extern int      fseeko64(FILE *, off64_t, int);
354 extern off64_t  ftello64(FILE *);
355 #endif

374 #else   /* !defined __STDC__ */

376 #ifndef _LP64
377 #define _bufend(p)      ((fileno(p) < _NFILE) ? _bufendtab[fileno(p)] : \
378                         (unsigned char *)_realbufend(p))
379 #define _bufsiz(p)      (_bufend(p) - (p)->_base)
380 #endif  /*      _LP64   */

382 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
383         defined(_REENTRANT)
```



```
384 extern char     *tmpnam_r();
385 #endif

387 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
388 extern int fcloseall();
389 extern void setbuffer();
390 extern int setlinebuf();
391 extern int asprintf();
392 extern int vasprintf();
393 #endif

395 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
396         /* || defined(_XPG7) */
397 extern ssize_t getdelim();
398 extern ssize_t getline();
399 #endif  /* __EXTENSIONS__ ... */

401 #if defined(__EXTENSIONS__) || defined(__XOPEN_OR_POSIX)
402 extern FILE     *fdopen();
403 extern char     *ctermid();
404 extern int      fileno();
405 #endif  /* defined(__EXTENSIONS__) || defined(__XOPEN_OR_POSIX) */

407 #if defined(__EXTENSIONS__) || defined(_REENTRANT) || \
408             (_POSIX_C_SOURCE - 0 >= 199506L)
409 extern void     flockfile();
410 extern int      ftrylockfile();
411 extern void     funlockfile();
412 extern int      getc_unlocked();
413 extern int      getchar_unlocked();
414 extern int      putc_unlocked();
415 extern int      putchar_unlocked();
416 #endif  /* defined(__EXTENSIONS__) || defined(_REENTRANT).. */

418 #if defined(__EXTENSIONS__) || defined(_XOPEN_SOURCE)
419 extern FILE     *popen();
420 extern char     *tempnam();
421 extern int      pclose();

423 #if !defined(_XOPEN_SOURCE)
424 extern int      getsubopt();
425 #endif /* !defined(_XOPEN_SOURCE) */

427 #if !defined(_XPG6) || defined(__EXTENSIONS__)
428 extern char     *cuserid();
429 extern int      getopt();
430 extern char     *optarg;
431 extern int      optind, opterr, optopt;
432 extern int      getw();
433 extern int      putw();
434 #endif /* !defined(_XPG6) || defined(__EXTENSIONS__) */

436 #endif  /* defined(__EXTENSIONS__) || defined(_XOPEN_SOURCE) */

438 #if defined(_LARGEFILE_SOURCE) || defined(_XPG5)
439 extern int      fseeko();
440 extern off_t    ftello();
441 #endif

443 #if defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
444             !defined(__PRAGMA_REDEFINE_EXTNAME))
445 extern FILE     *fopen64();
446 extern FILE     *freopen64();
447 extern FILE     *tmpfile64();
448 extern int      fgetpos64();
449 extern int      fsetpos64();
```

```
450 extern int      fseeko64();
451 extern off64_t  ftello64();
452 #endif

454 #endif  /* __STDC__ */

357 #if !defined(__lint)

359 #if defined(_REENTRANT) || !defined(_STRICT_SYMBOLS) || \
458 #if defined(__EXTENSIONS__) || defined(_REENTRANT) || \
360             (_POSIX_C_SOURCE - 0 >= 199506L)
361 #ifndef _LP64
461 #ifdef  __STDC__
362 #define getc_unlocked(p)        (--(p)->_cnt < 0 \
363                                         ? __filbuf(p) \
364                                         : (int)*(p)->_ptr++)
365 #define putc_unlocked(x, p)     (--(p)->_cnt < 0 \
366                                         ? __flsbuf((x), (p)) \
367                                         : (int)(*(p)->_ptr++ = \
368                                         (unsigned char) (x)))
469 #else
470 #define getc_unlocked(p)        (--(p)->_cnt < 0 \
471                                         ? _filbuf(p) \
472                                         : (int)*(p)->_ptr++)
473 #define putc_unlocked(x, p)     (--(p)->_cnt < 0 \
474                                         ? _flsbuf((x), (p)) \
475                                         : (int)(*(p)->_ptr++ = \
476                                         (unsigned char) (x)))
477 #endif  /* __STDC__ */
369 #endif  /* _LP64 */
370 #define getchar_unlocked()      getc_unlocked(stdin)
371 #define putchar_unlocked(x)     putc_unlocked((x), stdout)
372 #endif  /* defined(_REENTRANT).. */
481 #endif  /* defined(__EXTENSIONS__) || defined(_REENTRANT).. */

374 #endif  /* !defined(__lint) */

376 #ifdef  __cplusplus
377 }
```

*_____unchanged_portion_omitted_*

```
**********************************************************
    8367 Tue Aug 12 07:52:09 2014
new/usr/src/head/stdlib.h
first round of POSIX 2008 stuff
**********************************************************
```

```
/*
 * CDDL HEADER START
 *
 * The contents of this file are subject to the terms of the
 * Common Development and Distribution License (the "License").
 * You may not use this file except in compliance with the License.
 *
 * You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE
 * or http://www.opensolaris.org/os/licensing.
 * See the License for the specific language governing permissions
 * and limitations under the License.
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 * When distributing Covered Code, include this CDDL HEADER in each
 * file and include the License file at usr/src/OPENSOLARIS.LICENSE.
 * If applicable, add the following below this CDDL HEADER, with the
 * fields enclosed by brackets "[]" replaced with your own identifying
 * information: Portions Copyright [yyyy] [name of copyright owner]
 *
 * CDDL HEADER END
 */

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

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

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

#ifndef _STDLIB_H
#define _STDLIB_H

#include <iso/stdlib_iso.h>
#include <iso/stdlib_c99.h>

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

/*
 * Allow global visibility for symbols defined in
 * C++ "std" namespace in <iso/stdlib_iso.h>.
 */
#if __cplusplus >= 199711L
using std::div_t;
using std::ldiv_t;
using std::size_t;
using std::abort;
using std::abs;
using std::atexit;
using std::atof;
using std::atoi;
using std::atol;
using std::bsearch;
using std::calloc;
using std::div;
using std::exit;
```



```
using std::free;
using std::getenv;
using std::labs;
using std::ldiv;
using std::malloc;
using std::mblen;
using std::mbstowcs;
using std::mbtowc;
using std::qsort;
using std::rand;
using std::realloc;
using std::srand;
using std::strtod;
using std::strtol;
using std::strtoul;
using std::system;
using std::wcstombs;
using std::wctomb;
#endif

#ifdef  __cplusplus
extern "C" {
#endif

#ifndef _UID_T
#define _UID_T
typedef unsigned int    uid_t;          /* UID type             */
#endif  /* !_UID_T */

#if defined(__STDC__)

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

#ifdef  __PRAGMA_REDEFINE_EXTNAME
#pragma redefine_extname        mkstemp         mkstemp64
#pragma redefine_extname        mkstemps        mkstemps64
#else   /* __PRAGMA_REDEFINE_EXTNAME */
#define mkstemp                 mkstemp64
#define mkstemps                mkstemps64
#endif  /* __PRAGMA_REDEFINE_EXTNAME */

#endif  /* _FILE_OFFSET_BITS == 64 */

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

#ifdef  __PRAGMA_REDEFINE_EXTNAME
#pragma redefine_extname        mkstemp64       mkstemp
#pragma redefine_extname        mkstemps64      mkstemps
#else   /* __PRAGMA_REDEFINE_EXTNAME */
#define mkstemp64               mkstemp
#define mkstemps64              mkstemps
#endif  /* __PRAGMA_REDEFINE_EXTNAME */

#endif  /* _LP64 && _LARGEFILE64_SOURCE */

#if defined(__EXTENSIONS__) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX)) || \
        (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_REENTRANT)
extern int rand_r(unsigned int *);
#endif

extern void _exithandle(void);

#if defined(__EXTENSIONS__) || \
```

```
126         (!defined(_STRICT_STDC) && !defined(_POSIX_C_SOURCE)) || \
127         defined(_XPG4)
128 extern double drand48(void);
129 extern double erand48(unsigned short *);
130 extern long jrand48(unsigned short *);
131 extern void lcong48(unsigned short *);
132 extern long lrand48(void);
133 extern long mrand48(void);
134 extern long nrand48(unsigned short *);
135 extern unsigned short *seed48(unsigned short *);
136 extern void srand48(long);
137 extern int putenv(char *);
138 extern void setkey(const char *);
139 #endif /* defined(__EXTENSIONS__) || !defined(_STRICT_STDC) ... */

141 /*
142  * swab() has historically been in <stdlib.h> as delivered from AT&T
143  * and continues to be visible in the default compilation environment.
144  * As of Issue 4 of the X/Open Portability Guides, swab() was declared
145  * in <unistd.h>. As a result, with respect to X/Open namespace the
146  * swab() declaration in this header is only visible for the XPG3
147  * environment.
148  */
149 #if (defined(__EXTENSIONS__) || \
150         (!defined(_STRICT_STDC__) && !defined(_POSIX_C_SOURCE))) && \
151         (!defined(_XOPEN_SOURCE) || (defined(_XPG3) && !defined(_XPG4)))
152 #ifndef _SSIZE_T
153 #define _SSIZE_T
154 #if defined(_LP64) || defined(_I32LPx)
155 typedef long    ssize_t;        /* size of something in bytes or -1 */
156 #else
157 typedef int     ssize_t;        /* (historical version) */
158 #endif
159 #endif  /* !_SSIZE_T */

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

164 #if defined(__EXTENSIONS__) || \
165         !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || \
166         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64)
167 extern int      mkstemp(char *);
168 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
169 extern int      mkstemps(char *, int);
170 #endif
171 #endif /* defined(__EXTENSIONS__) ... */

173 #if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
174             !defined(__PRAGMA_REDEFINE_EXTNAME))
175 extern int      mkstemp64(char *);
176 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
177 extern int      mkstemps64(char *, int);
178 #endif
179 #endif  /* _LARGEFILE64_SOURCE... */

181 /* Added in XPG4.2, obsoleted in Issue 6, removed in Issue 7 */
182 #if !defined(_STRICT_SYMBOLS) || (defined(_XPG4_2) && !defined(_XPG7))
183 extern char *ecvt(double, int, int *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
184 extern char *fcvt(double, int, int *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
185 extern char *gcvt(double, int, char *);
186 #endif

188 #if defined(__EXTENSIONS__) || \
189         (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX)) || \
190         defined(_XPG4_2)
191 extern long a64l(const char *);
```



```
186 extern char *ecvt(double, int, int *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
187 extern char *fcvt(double, int, int *_RESTRICT_KYWD, int *_RESTRICT_KYWD);
188 extern char *gcvt(double, int, char *);
192 extern int getsubopt(char **, char *const *, char **);
193 extern int  grantpt(int);
194 extern char *initstate(unsigned, char *, size_t);
195 extern char *l64a(long);
196 extern char *mktemp(char *);
197 extern char *ptsname(int);
198 extern long random(void);
199 extern char *realpath(const char *_RESTRICT_KYWD, char *_RESTRICT_KYWD);
200 extern char *setstate(const char *);
201 extern void srandom(unsigned);
202 extern int  unlockpt(int);
203 /* Marked LEGACY in SUSv2 and removed in SUSv3 */
204 #if !defined(_XPG6) || defined(__EXTENSIONS__)
205 extern int ttyslot(void);
206 extern void *valloc(size_t);
207 #endif /* !defined(_XPG6) || defined(__EXTENSIONS__) */
208 #endif /* defined(__EXTENSIONS__) || ... || defined(_XPG4_2) */

210 #if defined(__EXTENSIONS__) || \
211         (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX)) || \
212         defined(_XPG6)
213 extern int posix_memalign(void **, size_t, size_t);
214 extern int posix_openpt(int);
215 extern int setenv(const char *, const char *, int);
216 extern int unsetenv(const char *);
217 #endif

219 #if defined(__EXTENSIONS__) || \
220         (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX))
221 extern char *canonicalize_file_name(const char *);
222 extern int clearenv(void);
223 extern void closefrom(int);
224 extern int daemon(int, int);
225 extern int dup2(int, int);
226 extern int dup3(int, int, int);
227 extern int fdwalk(int (*)(void *, int), void *);
228 extern char *qecvt(long double, int, int *, int *);
229 extern char *qfcvt(long double, int, int *, int *);
230 extern char *qgcvt(long double, int, char *);
231 extern char *getcwd(char *, size_t);
232 extern const char *getexecname(void);

234 #ifndef __GETLOGIN_DEFINED      /* Avoid duplicate in unistd.h */
235 #define __GETLOGIN_DEFINED
236 #ifndef __USE_LEGACY_LOGNAME__
237 #ifdef  __PRAGMA_REDEFINE_EXTNAME
238 #pragma redefine_extname getlogin getloginx
239 #else   /* __PRAGMA_REDEFINE_EXTNAME */
240 extern char *getloginx(void);
241 #define getlogin        getloginx
242 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
243 #endif  /* __USE_LEGACY_LOGNAME__ */
244 extern char *getlogin(void);
245 #endif  /* __GETLOGIN_DEFINED */

247 extern int getopt(int, char *const *, const char *);
248 extern char *optarg;
249 extern int optind, opterr, optopt;
250 extern char *getpass(const char *);
251 extern char *getpassphrase(const char *);
252 extern int getpw(uid_t, char *);
253 extern int isatty(int);
254 extern void *memalign(size_t, size_t);
```

```
255 extern char *ttyname(int);
256 extern char *mkdtemp(char *);
257 extern const char *getprogname(void);
258 extern void setprogname(const char *);

260 #if !defined(_STRICT_STDC) && defined(_LONGLONG_TYPE)
261 extern char *lltostr(long long, char *);
262 extern char *ulltostr(unsigned long long, char *);
263 #endif  /* !defined(_STRICT_STDC) && defined(_LONGLONG_TYPE) */

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

264 #else /* not __STDC__ */

266 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || \
267         (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_REENTRANT)
268 extern int rand_r();
269 #endif  /* defined(__EXTENSIONS__) || defined(_REENTRANT) ... */

271 extern void _exithandle();

273 #if defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE) || defined(_XPG4)
274 extern double drand48();
275 extern double erand48();
276 extern long jrand48();
277 extern void lcong48();
278 extern long lrand48();
279 extern long mrand48();
280 extern long nrand48();
281 extern unsigned short *seed48();
282 extern void srand48();
283 extern int putenv();
284 extern void setkey();
285 #endif /* defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE) ... */

287 #if (defined(__EXTENSIONS__) || !defined(_POSIX_C_SOURCE)) && \
288         (!defined(_XOPEN_SOURCE) || (defined(_XPG3) && !defined(_XPG4)))
289 extern void swab();
290 #endif

292 #if defined(__EXTENSIONS__) || \
293         !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || \
294         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64)
295 extern int      mkstemp();
296 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
297 extern int      mkstemps();
298 #endif
299 #endif  /* defined(__EXTENSIONS__) ... */

301 #if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
302             !defined(__PRAGMA_REDEFINE_EXTNAME))
303 extern int      mkstemp64();
304 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
305 extern int      mkstemps64();
306 #endif
307 #endif  /* _LARGEFILE64_SOURCE... */

309 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)
310 extern long a64l();
311 extern char *ecvt();
312 extern char *fcvt();
313 extern char *gcvt();
314 extern int getsubopt();
315 extern int grantpt();
316 extern char *initstate();
317 extern char *l64a();
```



```
318 extern char *mktemp();
319 extern char *ptsname();
320 extern long random();
321 extern char *realpath();
322 extern char *setstate();
323 extern void srandom();
324 /* Marked LEGACY in SUSv2 and removed in SUSv3 */
325 #if !defined(_XPG6) || defined(__EXTENSIONS__)
326 extern int ttyslot();
327 extern void *valloc();
328 #endif /* !defined(_XPG6) || defined(__EXTENSIONS__) */
329 #endif /* defined(__EXTENSIONS__) || ... || defined(_XPG4_2) */

331 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) || defined(_XPG6)
332 extern int posix_memalign();
333 extern int posix_openpt();
334 extern int setenv();
335 extern int unsetenv();
336 #endif

338 #if defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX)
339 extern char *canonicalize_file_name();
340 extern int clearenv();
341 extern void closefrom();
342 extern int daemon();
343 extern int dup2();
344 extern int dup3();
345 extern int fdwalk();
346 extern char *qecvt();
347 extern char *qfcvt();
348 extern char *qgcvt();
349 extern char *getcwd();
350 extern char *getexecname();

352 #ifndef __GETLOGIN_DEFINED      /* Avoid duplicate in unistd.h */
353 #define __GETLOGIN_DEFINED
354 #ifndef __USE_LEGACY_LOGNAME__
355 #ifdef  __PRAGMA_REDEFINE_EXTNAME
356 #pragma redefine_extname getlogin getloginx
357 #else   /* __PRAGMA_REDEFINE_EXTNAME */
358 extern char *getloginx();
359 #define getlogin        getloginx
360 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
361 #endif  /* __USE_LEGACY_LOGNAME__ */
362 extern char *getlogin();
363 #endif  /* __GETLOGIN_DEFINED */

365 extern int getopt();
366 extern char *optarg;
367 extern int optind, opterr, optopt;
368 extern char *getpass();
369 extern char *getpassphrase();
370 extern int getpw();
371 extern int isatty();
372 extern void *memalign();
373 extern char *ttyname();
374 extern char *mkdtemp();
375 extern char *getprogname();
376 extern void setprogname();

378 #if defined(_LONGLONG_TYPE)
379 extern char *lltostr();
380 extern char *ulltostr();
381 #endif  /* defined(_LONGLONG_TYPE) */
382 #endif  /* defined(__EXTENSIONS__) || !defined(__XOPEN_OR_POSIX) ... */
```

```
 384 #endif  /* __STDC__ */

 267 #ifdef  __cplusplus
 268 }
______unchanged_portion_omitted_
```

```
**********************************************************
    2572 Tue Aug 12 07:52:09 2014
new/usr/src/head/strings.h
code review feeback, close open comment
first round of POSIX 2008 stuff
**********************************************************
```

```
   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
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  25  */
  26 /*
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  28  */

  30 #ifndef _STRINGS_H
  31 #define _STRINGS_H

  33 #include <sys/types.h>
  34 #include <sys/feature_tests.h>

  36 #if !defined(_XOPEN_SOURCE) || defined(__EXTENSIONS__)
  37 #include <string.h>
  38 #endif

  40 #ifdef  __cplusplus
  41 extern "C" {
  42 #endif

  44 /* These symbols were replaced with mem* in XPG7 */
  45 #if !defined(_STRICT_XPG7)
  44 #if defined(__STDC__)

  46 extern int bcmp(const void *, const void *, size_t);
  47 extern void bcopy(const void *, void *, size_t);
  48 extern void bzero(void *, size_t);

  49 extern char *index(const char *, int);
  50 extern char *rindex(const char *, int);
  51 #endif

  53 /*
  54  * X/Open System Interfaces and Headers, Issue 4, Version 2, defines
  55  * both <string.h> and <strings.h>.  The namespace requirements
  56  * do not permit the visibility of anything other than what is
```



```
  57  * specifically defined for each of these headers.  As a result,
  58  * inclusion of <string.h> would result in declarations not allowed
  59  * in <strings.h>, and making the following prototypes visible for
  60  * anything other than X/Open UNIX Extension would result in
  61  * conflicts with what is now in <string.h>.
  62  */
  63 #if defined(_XPG4_2) && !defined(__EXTENSIONS__)
  64 extern int ffs(int);
  65 extern int strcasecmp(const char *, const char *);
  66 extern int strncasecmp(const char *, const char *, size_t);
  67 #if defined(_XPG7)
  68 #ifndef _LOCALE_T
  69 #define _LOCALE_T
  70 typedef struct _locale *locale_t;
  71 #endif
  72 extern int strcasecmp_l(const char *, const char *, locale_t);
  73 extern int strncasecmp_l(const char *, const char *, size_t, locale_t);
  74 #endif  /* defined(_XPG7) */
  75 #endif  /* defined(_XPG4_2) && !defined(__EXTENSIONS__) */

  77 #else

  79 extern int bcmp();
  80 extern void bcopy();
  81 extern void bzero();

  83 extern char *index();
  84 extern char *rindex();

  86 #if defined(_XPG4_2) && !defined(__EXTENSIONS__)
  87 extern int ffs();
  88 extern int strcasecmp();
  89 extern int strncasecmp();
  90 #if defined(_XPG7)
  91 extern int strcasecmp_l();
  92 extern int strncasecmp_l();
  93 #endif
  94 #endif /* defined(_XPG4_2) && !defined(__EXTENSIONS__) */

  96 #endif  /* __STDC__ */

  77 #ifdef  __cplusplus
  78 }
```

_____*unchanged_portion_omitted_*

```
**********************************************************
    2651 Tue Aug 12 07:52:09 2014
new/usr/src/head/ucontext.h
code review feeback, close open comment
first round of POSIX 2008 stuff
**********************************************************
```

```
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  19  * CDDL HEADER END
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  28  */
  29 /*
  30  * Copyright 2014 Garrett D'Amore <garrett@damore.org>
  31  */

  33 #ifndef _UCONTEXT_H
  34 #define _UCONTEXT_H

  36 #include <sys/ucontext.h>

  38 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
  39 #include <sys/siginfo.h>
  40 #endif

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

  46 /*
  47  * Arguably, under _XPG7, applications should not even include this
  48  * header, since it isn't part of Issue 7.  We apply some paranoia for
  49  * the functions that were explicity removed, although we could likely
  50  * just ignore the darn thing altogether.
  51  */
  52 #if (!defined(_STRICT_SYMBOLS)) || (defined(_XPG4_2) && !defined(_XPG7))

  54 #ifdef __sparc
  55 #ifdef __PRAGMA_REDEFINE_EXTNAME
  56 #pragma redefine_extname        makecontext     __makecontext_v2
  57 #else
  58 #define makecontext     __makecontext_v2
  59 #endif
  60 #endif
```



```
  51 #if defined(__STDC__)

  62 extern int getcontext(ucontext_t *) __RETURNS_TWICE;
  63 #pragma unknown_control_flow(getcontext)
  64 extern int setcontext(const ucontext_t *) __NORETURN;
  65 extern int swapcontext(ucontext_t *_RESTRICT_KYWD,
  66                 const ucontext_t *_RESTRICT_KYWD);
  67 extern void makecontext(ucontext_t *, void(*)(), int, ...);
  68 #endif /* !_STRICT_SYMBOLS || _XGP4_2 && ! _XPG7 */

  70 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
  71 extern int walkcontext(const ucontext_t *, int (*)(uintptr_t, int, void *),
  72     void *);
  73 extern int printstack(int);
  74 extern int addrtosymstr(void *, char *, int);
  75 extern int getustack(stack_t **);
  76 extern int setustack(stack_t *);

  78 extern int stack_getbounds(stack_t *);
  79 extern int stack_setbounds(const stack_t *);
  80 extern int stack_inbounds(void *);
  81 extern int stack_violation(int, const siginfo_t *, const ucontext_t *);

  83 extern void *_stack_grow(void *);
  84 #endif
  74 #else

  76 extern int getcontext() __RETURNS_TWICE;
  77 #pragma unknown_control_flow(getcontext)
  78 extern int setcontext();
  79 extern int swapcontext();
  80 extern void makecontext();
  81 #if !defined(_XPG4_2) || defined(__EXTENSIONS__)
  82 extern int walkcontext();
  83 extern int printstack();
  84 extern int addrtosymstr();
  85 extern int getustack();
  86 extern int setustack();

  88 extern int stack_getbounds();
  89 extern int stack_setbounds();
  90 extern int stack_inbounds();
  91 extern int stack_violation();

  93 extern void *_stack_grow();
  94 #endif
  95 #endif

  86 #ifdef  __cplusplus
  87 }
______unchanged_portion_omitted_
```

```
**********************************************************
   22832 Tue Aug 12 07:52:10 2014
new/usr/src/head/unistd.h
Build fixes.
code review feeback, close open comment
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
first round of POSIX 2008 stuff
**********************************************************
```

```
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 *
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 */

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 */

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#ifndef _UNISTD_H
#define _UNISTD_H

#include <sys/feature_tests.h>

#include <sys/types.h>
#include <sys/unistd.h>

#ifdef  __cplusplus
extern "C" {
#endif

/* Symbolic constants for the "access" routine: */
#define R_OK    4       /* Test for Read permission */
#define W_OK    2       /* Test for Write permission */
#define X_OK    1       /* Test for eXecute permission */
#define F_OK    0       /* Test for existence of File */

#if defined(_XPG4_2) || !defined(_STRICT_SYMBOLS)
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
#define F_ULOCK 0       /* Unlock a previously locked region */
#define F_LOCK  1       /* Lock a region for exclusive use */
#define F_TLOCK 2       /* Test and lock a region for exclusive use */
```



```
#define F_TEST  3       /* Test a region for other processes locks */
#endif
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */

/* Symbolic constants for the "lseek" routine: */

#ifndef SEEK_SET
#define SEEK_SET        0       /* Set file pointer to "offset" */
#endif

#ifndef SEEK_CUR
#define SEEK_CUR        1       /* Set file pointer to current plus "offset" */
#endif

#ifndef SEEK_END
#define SEEK_END        2       /* Set file pointer to EOF plus "offset" */
#endif

#if !defined(_STRICT_SYMBOLS)
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
#ifndef SEEK_DATA
#define SEEK_DATA       3       /* Set file pointer to next data past offset */
#endif

#ifndef SEEK_HOLE
#define SEEK_HOLE       4       /* Set file pointer to next hole past offset */
#endif
#endif /* !defined(_STRICT_SYMBOLS) */
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */

#if !defined(_STRICT_SYMBOLS)
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
/* Path names: */
#define GF_PATH "/etc/group"    /* Path name of the "group" file */
#define PF_PATH "/etc/passwd"   /* Path name of the "passwd" file */
#endif
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */

/*
 * compile-time symbolic constants,
 * Support does not mean the feature is enabled.
 * Use pathconf/sysconf to obtain actual configuration value.
 */

/* Values unchanged in UNIX 03 */
#define _POSIX_ASYNC_IO                 1
#define _POSIX_JOB_CONTROL              1
#define _POSIX_SAVED_IDS                1
#define _POSIX_SYNC_IO                  1

/*
 * POSIX.1b compile-time symbolic constants.
 */
#if defined(_XPG6)
#define _POSIX_ASYNCHRONOUS_IO          200112L
#define _POSIX_FSYNC                    200112L
#define _POSIX_MAPPED_FILES             200112L
#define _POSIX_MEMLOCK                  200112L
#define _POSIX_MEMLOCK_RANGE            200112L
#define _POSIX_MEMORY_PROTECTION        200112L
#define _POSIX_MESSAGE_PASSING          200112L
#define _POSIX_PRIORITY_SCHEDULING      200112L
#define _POSIX_REALTIME_SIGNALS         200112L
#define _POSIX_SEMAPHORES               200112L
#define _POSIX_SHARED_MEMORY_OBJECTS    200112L
#define _POSIX_SYNCHRONIZED_IO          200112L
```

```
117 #else
118 #define _POSIX_ASYNCHRONOUS_IO          1
119 #define _POSIX_FSYNC                    1
120 #define _POSIX_MAPPED_FILES             1
121 #define _POSIX_MEMLOCK                  1
122 #define _POSIX_MEMLOCK_RANGE            1
123 #define _POSIX_MEMORY_PROTECTION        1
124 #define _POSIX_MESSAGE_PASSING          1
125 #define _POSIX_PRIORITY_SCHEDULING      1
126 #define _POSIX_REALTIME_SIGNALS         1
127 #define _POSIX_SEMAPHORES               1
128 #define _POSIX_SHARED_MEMORY_OBJECTS    1
129 #define _POSIX_SYNCHRONIZED_IO          1
130 #endif

132 /*
133  * POSIX.1c compile-time symbolic constants.
134  */
135 #if defined(_XPG6)
136 #define _POSIX_THREAD_SAFE_FUNCTIONS            200112L
137 #define _POSIX_THREADS                          200112L
138 #define _POSIX_THREAD_ATTR_STACKADDR            200112L
139 #define _POSIX_THREAD_ATTR_STACKSIZE            200112L
140 #define _POSIX_THREAD_PROCESS_SHARED            200112L
141 #define _POSIX_THREAD_PRIORITY_SCHEDULING       200112L
142 #define _POSIX_TIMERS                           200112L
143 #else
144 #define _POSIX_THREAD_SAFE_FUNCTIONS            1
145 #define _POSIX_THREADS                          1
146 #define _POSIX_THREAD_ATTR_STACKADDR            1
147 #define _POSIX_THREAD_ATTR_STACKSIZE            1
148 #define _POSIX_THREAD_PROCESS_SHARED            1
149 #define _POSIX_THREAD_PRIORITY_SCHEDULING       1
150 #define _POSIX_TIMERS                           1
151 #endif

153 /* New in UNIX 03 */
154 #define _POSIX_ADVISORY_INFO                    200112L
155 #define _POSIX_BARRIERS                         200112L
156 #define _POSIX_CLOCK_SELECTION                  200112L
157 #define _POSIX_IPV6                             200112L
158 #define _POSIX_MONOTONIC_CLOCK                  200112L
159 #define _POSIX_RAW_SOCKETS                      200112L
160 #define _POSIX_READER_WRITER_LOCKS              200112L
161 #define _POSIX_SPAWN                            200112L
162 #define _POSIX_SPIN_LOCKS                       200112L
163 #define _POSIX_TIMEOUTS                         200112L

165 /*
166  * Support for the POSIX.1 mutex protocol attribute. For realtime applications
167  * which need mutexes to support priority inheritance/ceiling.
168  */
169 #if defined(_XPG6)
170 #define _POSIX_THREAD_PRIO_INHERIT              200112L
171 #define _POSIX_THREAD_PRIO_PROTECT              200112L
172 #else
173 #define _POSIX_THREAD_PRIO_INHERIT              1
174 #define _POSIX_THREAD_PRIO_PROTECT              1
175 #endif

177 #ifndef _POSIX_VDISABLE
178 #define _POSIX_VDISABLE         0
179 #endif

181 #ifndef NULL
182 #if defined(_LP64)
```



```
183 #define NULL    0L
184 #else
185 #define NULL    0
186 #endif
187 #endif

189 #define STDIN_FILENO    0
190 #define STDOUT_FILENO   1
191 #define STDERR_FILENO   2

193 /*
194  * Large File Summit-related announcement macros.  The system supports both
195  * the additional and transitional Large File Summit interfaces.  (The final
196  * two macros provide a finer granularity breakdown of _LFS64_LARGEFILE.)
197  */
198 #define _LFS_LARGEFILE          1
199 #define _LFS64_LARGEFILE        1
200 #define _LFS64_STDIO            1
201 #define _LFS64_ASYNCHRONOUS_IO  1

203 /* large file compilation environment setup */
204 #if !defined(_LP64) && _FILE_OFFSET_BITS == 64
205 #ifdef  __PRAGMA_REDEFINE_EXTNAME
206 #pragma redefine_extname        ftruncate       ftruncate64
207 #pragma redefine_extname        lseek           lseek64
208 #pragma redefine_extname        pread           pread64
209 #pragma redefine_extname        pwrite          pwrite64
210 #pragma redefine_extname        truncate        truncate64
211 #pragma redefine_extname        lockf           lockf64
212 #pragma redefine_extname        tell            tell64
213 #else   /* __PRAGMA_REDEFINE_EXTNAME */
214 #define ftruncate                       ftruncate64
215 #define lseek                           lseek64
216 #define pread                           pread64
217 #define pwrite                          pwrite64
218 #define truncate                        truncate64
219 #define lockf                           lockf64
220 #define tell                            tell64
221 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
222 #endif  /* !_LP64 && _FILE_OFFSET_BITS == 64 */

224 /* In the LP64 compilation environment, the APIs are already large file */
225 #if defined(_LP64) && defined(_LARGEFILE64_SOURCE)
226 #ifdef  __PRAGMA_REDEFINE_EXTNAME
227 #pragma redefine_extname        ftruncate64     ftruncate
228 #pragma redefine_extname        lseek64         lseek
229 #pragma redefine_extname        pread64         pread
230 #pragma redefine_extname        pwrite64        pwrite
231 #pragma redefine_extname        truncate64      truncate
232 #pragma redefine_extname        lockf64         lockf
233 #pragma redefine_extname        tell64          tell
234 #else   /* __PRAGMA_REDEFINE_EXTNAME */
235 #define ftruncate64                     ftruncate
236 #define lseek64                         lseek
237 #define pread64                         pread
238 #define pwrite64                        pwrite
239 #define truncate64                      truncate
240 #define lockf64                         lockf
241 #define tell64                          tell
242 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
243 #endif  /* _LP64 && _LARGEFILE64_SOURCE */

244 #if defined(__STDC__)

245 extern int access(const char *, int);
246 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
```

```
247 extern int acct(const char *);
248 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
249 extern unsigned alarm(unsigned);

251 /* Marked as LEGACY in SUSv2 and removed in SUSv3 */
252 #if (!defined(_STRICT_SYMBOLS)) || (defined(_XPG4_2) && !defined(_XPG6))
252 #if !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2) && !defined(_XPG6)) || \
253         defined(__EXTENSIONS__)
253 extern int brk(void *);
254 extern void *sbrk(intptr_t);
255 #endif

255 #endif /* !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2)... */
257 extern int chdir(const char *);
258 extern int chown(const char *, uid_t, gid_t);

260 /* Marked as LEGACY in SUSv2 and removed in SUSv3 */
261 #if (!defined(_STRICT_SYMBOLS)) || (defined(_XOPEN_SOURCE) && !defined(_XPG6))
259 #if !defined(_POSIX_C_SOURCE) || (defined(_XOPEN_SOURCE) && \
260         !defined(_XPG6)) || defined(__EXTENSIONS__)
262 extern int chroot(const char *);
263 #endif

262 #endif /* !defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE))... */
265 extern int close(int);

267 #if defined(_XPG4) || defined(__EXTENSIONS__)
268 extern size_t confstr(int, char *, size_t);
269 extern char *crypt(const char *, const char *);
270 extern void encrypt(char *, int);
271 #endif

267 #endif /* defined(_XPG4) || defined(__EXTENSIONS__) */
273 #if !defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE) || \
274         defined(__EXTENSIONS__)
275 extern char *ctermid(char *);
276 #endif

271 #endif /* (!defined(_POSIX_C_SOURCE) ... */
278 #if !defined(__XOPEN_OR_POSIX) || defined(_REENTRANT) || defined(__EXTENSIONS__)
279 extern char *ctermid_r(char *);
280 #endif

274 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_REENTRANT) ... */
282 /* Marked as LEGACY in SUSv2 and removed in SUSv3 */
283 #if !defined(_XPG6) || defined(__EXTENSIONS__)
284 extern char *cuserid(char *);
285 #endif

287 extern int dup(int);
288 extern int dup2(int, int);
289 extern int dup3(int, int, int);

282 #if defined(_XPG4) || defined(__EXTENSIONS__)
283 extern void encrypt(char *, int);
284 #endif /* defined(XPG4) || defined(__EXTENSIONS__) */
285 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
286 extern void endusershell(void);
287 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
291 extern int execl(const char *, const char *, ...);
292 extern int execle(const char *, const char *, ...);
293 extern int execlp(const char *, const char *, ...);
294 extern int execv(const char *, char *const *);
295 extern int execve(const char *, char *const *, char *const *);
296 extern int execvp(const char *, char *const *);
297 extern void _exit(int)
```



```
298         __NORETURN;
299 /*
300  * The following fattach & fdetach prototypes are duplicated in <stropts.h>.
301  * The duplication is necessitated by XPG4.2 which requires the prototype
297  * The following fattach prototype is duplicated in <stropts.h>. The
298  * duplication is necessitated by XPG4.2 which requires the prototype
302  * be defined in <stropts.h>.
303  */
304 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
305 extern int fattach(int, const char *);
303 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
304 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
305 extern int fchdir(int);
306 extern int fchown(int, uid_t, gid_t);
307 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
308 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
306 extern int fchroot(int);
307 extern int fdetach(const char *);
308 #endif

310 #if !defined(_STRICT_SYMBOLS) || (_POSIX_C_SOURCE > 2)
310 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
311 #if !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2) || \
312         defined(__EXTENSIONS__)
311 extern int fdatasync(int);
312 extern int fsync(int);
313 #endif

314 #endif /* !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2)... */
315 /*
316  * The following fdetach prototype is duplicated in <stropts.h>. The
317  * duplication is necessitated by XPG4.2 which requires the prototype
318  * be defined in <stropts.h>.
319  */
320 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
321 extern int fdetach(const char *);
322 #endif /* !defined(__XOPEN_OR_POSIX)... */
315 extern pid_t fork(void);
324 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
325 extern pid_t fork1(void);
326 extern pid_t forkall(void);
327 #endif /* !defined(__XOPEN_OR_POSIX)... */
316 extern long fpathconf(int, int);

329 #if !defined(_POSIX_C_SOURCE) || (_POSIX_C_SOURCE > 2) || \
330         defined(__EXTENSIONS__)
331 extern int fsync(int);
332 #endif /* !defined(_POSIX_C_SOURCE) || (_POSIX_C_SOURCE > 2)... */
318 #if !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2) || defined(_XPG4_2) || \
319         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
320         defined(__EXTENSIONS__)
321 extern int ftruncate(int, off_t);
322 #endif

337 #endif /* !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2)... */
324 extern char *getcwd(char *, size_t);
339 #if !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2) && !defined(_XPG6)) || \
340         defined(__EXTENSIONS__)
341 extern int getdtablesize(void);
342 #endif
325 extern gid_t getegid(void);
326 extern uid_t geteuid(void);
327 extern gid_t getgid(void);
328 extern int getgroups(int, gid_t *);

330 #if (!defined(_STRICT_SYMBOLS)) || defined(_XPG4_2)
```

```
extern int fchdir(int);
extern int fchown(int, uid_t, gid_t);
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern long gethostid(void);
#endif

#if defined(_XPG4_2)
extern int gethostname(char *, size_t);
#elif  !defined(_STRICT_SYMBOLS)
#elif  !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int gethostname(char *, int);
#endif

#ifndef __GETLOGIN_DEFINED      /* Avoid duplicate in stdlib.h */
#define __GETLOGIN_DEFINED
#ifndef __USE_LEGACY_LOGNAME__
#ifdef  __PRAGMA_REDEFINE_EXTNAME
#pragma redefine_extname getlogin getloginx
#else   /* __PRAGMA_REDEFINE_EXTNAME */
extern char *getloginx(void);
#define getlogin        getloginx
#endif  /* __PRAGMA_REDEFINE_EXTNAME */
#endif  /* __USE_LEGACY_LOGNAME__ */
extern char *getlogin(void);
#endif  /* __GETLOGIN_DEFINED */

#if defined(_XPG4) || defined(__EXTENSIONS__)
extern int  getopt(int, char *const *, const char *);
extern char *optarg;
extern int  opterr, optind, optopt;
/* Marked as LEGACY in SUSv2 and removed in SUSv3 */
#if !defined(_XPG6) || defined(__EXTENSIONS__)
extern char *getpass(const char *);
#endif
#endif /* defined(_XPG4) || defined(__EXTENSIONS__) */

#if (!defined(_STRICT_SYMBOLS)) || (defined(_XPG4_2) && !defined(_XPG6))
extern int getdtablesize(void);
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
/* Marked as LEGACY in SUSv2 and removed in SUSv3 */
#if !defined(_XPG6) || defined(__EXTENSIONS__)
extern int getpagesize(void);
#endif

extern pid_t getpgid(pid_t);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
extern pid_t getpid(void);
extern pid_t getppid(void);
extern pid_t getpgrp(void);

#if !defined(_STRICT_SYMBOLS) || defined(_XPG4_2)
extern pid_t getpgid(pid_t);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
char *gettxt(const char *, const char *);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern pid_t getsid(pid_t);
extern int lchown(const char *, uid_t, gid_t);
#endif

#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
extern uid_t getuid(void);
extern int isatty(int);

#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern char *getusershell(void);
```



```
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern char *getwd(char *);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
/*
 * The following ioctl prototype is duplicated in <stropts.h>. The
 * duplication is necessitated by XPG4.2 which requires the prototype
 * be defined in <stropts.h>.
 */
#if !defined(_STRICT_SYMBOLS)
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int ioctl(int, int, ...);
extern int isaexec(const char *, char *const *, char *const *);
extern int issetugid(void);
#endif


extern int isatty(int);
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern int lchown(const char *, uid_t, gid_t);
#endif
extern int link(const char *, const char *);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern offset_t llseek(int, offset_t, int);
#endif
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || \
        (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
        defined(__EXTENSIONS__)
extern int lockf(int, int, off_t);
#endif
extern off_t lseek(int, off_t, int);
#if !defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE) || \
        defined(__EXTENSIONS__)
extern int nice(int);
#endif /* !defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE)... */
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int mincore(caddr_t, size_t, char *);
#endif
extern long pathconf(const char *, int);
extern int pause(void);
extern int pipe(int *);
extern int pipe2(int *, int);
#if !defined(_POSIX_C_SOURCE) || defined(_XPG5) || \
        (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
        defined(__EXTENSIONS__)
extern ssize_t pread(int, void *, size_t, off_t);
#endif
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern void profil(unsigned short *, size_t, unsigned long, unsigned int);
#endif
/*
 * pthread_atfork() is also declared in <pthread.h> as per SUSv3. The
 * declarations are identical. A change to either one may also require
 * appropriate namespace updates in order to avoid redeclaration
 * warnings in the case where both prototypes are exposed via inclusion
 * of both <pthread.h> and <unistd.h>.
 */
#if !defined(__XOPEN_OR_POSIX) || \
        ((_POSIX_C_SOURCE > 2) && !defined(_XPG6)) || \
        defined(__EXTENSIONS__)
extern int pthread_atfork(void (*) (void), void (*) (void), void (*) (void));
#endif /* !defined(__XOPEN_OR_POSIX) || ((_POSIX_C_SOURCE > 2) ... */
#if !defined(_LP64) && \
        (!defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__))
extern int ptrace(int, pid_t, int, int);
#endif
```

```
#if !defined(_POSIX_C_SOURCE) || defined(_XPG5) || \
        (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
        defined(__EXTENSIONS__)
extern ssize_t pwrite(int, const void *, size_t, off_t);
#endif
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
/* per RFC 3542; This is also defined in netdb.h */
extern int rcmd_af(char **, unsigned short, const char *, const char *,
        const char *, int *, int);
#endif
extern ssize_t read(int, void *, size_t);
#if !defined(__XOPEN_OR_POSIX) || \
        defined(_XPG4_2) || defined(__EXTENSIONS__)
extern ssize_t readlink(const char *_RESTRICT_KYWD, char *_RESTRICT_KYWD,
        size_t);
#endif
#if (!defined(__XOPEN_OR_POSIX) || (defined(_XPG3) && !defined(_XPG4))) || \
        defined(__EXTENSIONS__)
#if __cplusplus >= 199711L
namespace std {
#endif
extern int rename(const char *, const char *);
#if __cplusplus >= 199711L
} /* end of namespace std */

using std::rename;
#endif /* __cplusplus >= 199711L */
#endif /* (!defined(__XOPEN_OR_POSIX) || (defined(_XPG3)... */
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int resolvepath(const char *, char *, size_t);
/* per RFC 3542; This is also defined in netdb.h */
extern int rexec_af(char **, unsigned short, const char *, const char *,
        const char *, int *, int);
#endif /* !defined(__XOPEN_OR_POSIX)|| defined(__EXTENSIONS__) */
extern int rmdir(const char *);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
/* per RFC 3542; This is also defined in netdb.h */
extern int rresvport_af(int *, int);
#endif

#if !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2) && !defined(_XPG6)) || \
        defined(__EXTENSIONS__)
extern void *sbrk(intptr_t);
#endif /* !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2)... */
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG6) || defined(__EXTENSIONS__)
extern int setegid(gid_t);
extern int seteuid(uid_t);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG6) ... */
extern int setgid(gid_t);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int setgroups(int, const gid_t *);
extern int sethostname(char *, int);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
extern int setpgid(pid_t, pid_t);
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern pid_t setpgrp(void);
extern int setregid(gid_t, gid_t);
extern int setreuid(uid_t, uid_t);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
extern pid_t setsid(void);
extern int setuid(uid_t);
extern unsigned sleep(unsigned);

#if !defined(_STRICT_SYMBOLS)
extern char *gettxt(const char *, const char *);
extern void endusershell(void);
```



```
extern pid_t fork1(void);
extern pid_t forkall(void);
extern char *getusershell(void);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern void setusershell(void);
#endif /* !defined(__XOPEN_OR_POSIX)|| defined(__EXTENSIONS__) */
extern unsigned sleep(unsigned);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int stime(const time_t *);
#endif

#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
#if defined(_XPG4)
/* __EXTENSIONS__ makes the SVID Third Edition prototype in stdlib.h visible */
extern void swab(const void *_RESTRICT_KYWD, void *_RESTRICT_KYWD, ssize_t);
#endif /* defined(_XPG4) */

#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern int symlink(const char *, const char *);
extern void sync(void);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) */
#if defined(_XPG5) && !defined(_XPG6)
#ifdef __PRAGMA_REDEFINE_EXTNAME
#pragma redefine_extname sysconf __sysconf_xpg5
#else /* __PRAGMA_REDEFINE_EXTNAME */
#define sysconf __sysconf_xpg5
#endif  /* __PRAGMA_REDEFINE_EXTNAME */
#endif /* defined(_XPG5) && !defined(_XPG6) */

extern long sysconf(int);
extern pid_t tcgetpgrp(int);
extern int tcsetpgrp(int, pid_t);
#if !defined(__XOPEN_OR_POSIX) || \
        (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
        defined(__EXTENSIONS__)
extern off_t tell(int);
#endif

#endif /* !defined(__XOPEN_OR_POSIX)... */
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || \
        (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
        defined(__EXTENSIONS__)
extern int truncate(const char *, off_t);
#endif

extern long sysconf(int);
extern pid_t tcgetpgrp(int);
extern int tcsetpgrp(int, pid_t);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
extern char *ttyname(int);
extern int unlink(const char *);
extern ssize_t write(int, const void *, size_t);

#if (defined(_XPG4_2) && !defined(_XPG7)) || !defined(_STRICT_SYMBOLS)
extern char *getwd(char *);
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern useconds_t ualarm(useconds_t, useconds_t);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
extern int unlink(const char *);
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern int usleep(useconds_t);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern pid_t vfork(void) __RETURNS_TWICE;
#pragma unknown_control_flow(vfork)
#endif
```

```
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern void vhangup(void);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
extern ssize_t write(int, const void *, size_t);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern void yield(void);
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */

#if defined(_XPG7) || defined(_ATFILE_SOURCE) || !defined(_STRICT_SYMBOLS)
#if !defined(__XOPEN_OR_POSIX) || defined(_ATFILE_SOURCE) || \
        defined(__EXTENSIONS__)
        /* || defined(_XPG7) */
extern int faccessat(int, const char *, int, int);
extern int fchownat(int, const char *, uid_t, gid_t, int);
extern int linkat(int, const char *, int, const char *, int);
extern ssize_t readlinkat(int, const char *_RESTRICT_KYWD,
        char *_RESTRICT_KYWD, size_t);
extern int renameat(int, const char *, int, const char *);
extern int symlinkat(const char *, int, const char *);
extern int unlinkat(int, const char *, int);
#endif

#if !defined(_STRICT_SYMBOLS)
#endif  /* !defined(__XOPEN_OR_POSIX) || defined(_ATFILE_SOURCE)... */
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int get_nprocs(void);
extern int get_nprocs_conf(void);
extern void vhangup(void);
extern void yield(void);
#endif
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */

/* transitional large file interface versions */
#if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
            !defined(__PRAGMA_REDEFINE_EXTNAME))
extern int ftruncate64(int, off64_t);
extern off64_t lseek64(int, off64_t, int);
extern ssize_t  pread64(int, void *, size_t, off64_t);
extern ssize_t  pwrite64(int, const void *, size_t, off64_t);
extern off64_t  tell64(int);
extern int      truncate64(const char *, off64_t);
extern int      lockf64(int, int, off64_t);
#endif  /* _LARGEFILE64_SOURCE */

#else  /* __STDC__ */

extern int access();
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int acct();
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
extern unsigned alarm();
#if !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2) && !defined(_XPG6)) || \
        defined(__EXTENSIONS__)
extern int brk();
#endif /* !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2)... */
extern int chdir();
extern int chown();
#if !defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE) || \
        defined(__EXTENSIONS__)
extern int chroot();
#endif /* (!defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE)... */
extern int close();
#if defined(_XPG4) || defined(__EXTENSIONS__)
extern size_t confstr();
extern char *crypt();
```



```
#endif /* defined(XPG4) || defined(__EXTENSIONS__) */
#if !defined(_POSIX_C_SOURCE) || defined(_XPG3) || defined(__EXTENSIONS__)
extern char *ctermid();
#endif /* (!defined(_POSIX_C_SOURCE) || defined(_XPG3)... */
#if !defined(__XOPEN_OR_POSIX) || defined(_REENTRANT) || defined(__EXTENSIONS__)
extern char *ctermid_r();
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_REENTRANT) ... */
#if !defined(_XPG6) || defined(__EXTENSIONS__)
extern char *cuserid();
#endif
extern int dup();
extern int dup2();
extern int dup3();
#if defined(_XPG4) || defined(__EXTENSIONS__)
extern void encrypt();
#endif /* defined(_XPG4) || defined(__EXTENSIONS__) */
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern void endusershell();
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
extern int execl();
extern int execle();
extern int execlp();
extern int execv();
extern int execve();
extern int execvp();
extern void _exit();
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int fattach();
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
#if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
extern int fchdir();
extern int fchown();
#endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern int fchroot();
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
#if !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2) || \
        defined(__EXTENSIONS__)
extern int fdatasync();
#endif /* !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2)... */
#if !defined(__XOPEN_OR_POSIX)
extern int fdetach();
#endif /* !defined(__XOPEN_OR_POSIX) */
extern pid_t fork();
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
extern pid_t fork1();
extern pid_t forkall();
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
extern long fpathconf();
#if !defined(_POSIX_C_SOURCE) || (_POSIX_C_SOURCE > 2) || \
        defined(__EXTENSIONS__)
extern int fsync();
#endif /* !defined(_POSIX_C_SOURCE) || (_POSIX_C_SOURCE > 2)... */
#if !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2) || defined(_XPG4_2) || \
        (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
        defined(__EXTENSIONS__)
extern int ftruncate();
#endif /* !defined(__XOPEN_OR_POSIX) (_POSIX_C_SOURCE > 2)... */
extern char *getcwd();
#if !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2) && !defined(_XPG6)) || \
        defined(__EXTENSIONS__)
extern int getdtablesize();
#endif
extern gid_t getegid();
extern uid_t geteuid();
extern gid_t getgid();
```

```
692 extern int getgroups();
693 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
694 extern long gethostid();
695 #endif
696 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
697 extern int gethostname();
698 #endif

700 #ifndef __GETLOGIN_DEFINED      /* Avoid duplicate in stdlib.h */
701 #define __GETLOGIN_DEFINED
702 #ifndef __USE_LEGACY_LOGNAME__
703 #ifdef __PRAGMA_REDEFINE_EXTNAME
704 #pragma redefine_extname getlogin       getloginx
705 #else   /* __PRAGMA_REDEFINE_EXTNAME */
706 extern char *getloginx();
707 #define getlogin        getloginx
708 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
709 #endif  /* __USE_LEGACY_LOGNAME__ */
710 extern char *getlogin();
711 #endif  /* __GETLOGIN_DEFINED */

713 #if defined(_XPG4) || defined(__EXTENSIONS__)
714 extern int  getopt();
715 extern char *optarg;
716 extern int  opterr, optind, optopt;
717 #if !defined(_XPG6) || defined(__EXTENSIONS__)
718 extern char *getpass();
719 #endif
720 #endif /* defined(_XPG4) || defined(__EXTENSIONS__) */
721 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
722 #if !defined(_XPG6) || defined(__EXTENSIONS__)
723 extern int getpagesize();
724 #endif
725 extern pid_t getpgid();
726 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
727 extern pid_t getpid();
728 extern pid_t getppid();
729 extern pid_t getpgrp();
730 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
731 char *gettxt();
732 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
733 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
734 extern pid_t getsid();
735 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) */
736 extern uid_t getuid();
737 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
738 extern char *getusershell();
739 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
740 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
741 extern char *getwd();
742 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
743 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
744 extern int ioctl();
745 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
746 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
747 extern int isaexec();
748 extern int issetugid();
749 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
750 extern int isatty();
751 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
752 extern int lchown();
753 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) */
754 extern int link();
755 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
756 extern offset_t llseek();
757 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
```



```
758 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || \
759         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
760         defined(__EXTENSIONS__)
761 extern int lockf();
762 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
763 extern off_t lseek();
764 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
765 extern int mincore();
766 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
767 #if !defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE) || \
768         defined(__EXTENSIONS__)
769 extern int nice();
770 #endif /* !defined(_POSIX_C_SOURCE) || defined(_XOPEN_SOURCE)... */
771 extern long pathconf();
772 extern int pause();
773 extern int pipe();
774 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG5) || \
775         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
776         defined(__EXTENSIONS__)
777 extern ssize_t pread();
778 #endif
779 #if !defined(_LP64) && \
780         (!defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__))
781 extern void profil();
782 extern int ptrace();
783 #endif
784 #if !defined(__XOPEN_OR_POSIX) || \
785         ((_POSIX_C_SOURCE > 2) && !defined(_XPG6)) || \
786         defined(__EXTENSIONS__)
787 extern int pthread_atfork();
788 #endif /* !defined(__XOPEN_OR_POSIX) || ((_POSIX_C_SOURCE > 2) ...  */
789 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG5) || \
790         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
791         defined(__EXTENSIONS__)
792 extern ssize_t pwrite();
793 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG5) */
794 extern ssize_t read();
795 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
796 /* per RFC 3542; This is also defined in netdb.h */
797 extern int rcmd_af();
798 #endif
799 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
800 extern ssize_t readlink();
801 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
802 #if (!defined(__XOPEN_OR_POSIX) || (defined(_XPG3) && !defined(_XPG4))) || \
803         defined(__EXTENSIONS__)
804 extern int rename();
805 #endif /* (!defined(__XOPEN_OR_POSIX) || (defined(_XPG3)... */
806 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
807 extern int resolvepath();
808 /* per RFC 3542; This is also defined in netdb.h */
809 extern int rexec_af();
810 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
811 extern int rmdir();
812 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
813 /* per RFC 3542; This is also defined in netdb.h */
814 extern int rresvport_af();
815 #endif
816 #if !defined(__XOPEN_OR_POSIX) || (defined(_XPG4_2) && !defined(_XPG6)) || \
817         defined(__EXTENSIONS__)
818 extern void *sbrk();
819 #endif /* !defined(__XOPEN_OR_POSIX)|| (defined(_XPG4_2)... */
820 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG6) || defined(__EXTENSIONS__)
821 extern int setegid();
822 extern int seteuid();
823 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG6) ... */
```

```
824 extern int setgid();
825 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
826 extern int setgroups();
827 extern int sethostname();
828 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
829 extern int setpgid();
830 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
831 extern pid_t setpgrp();
832 extern int setregid();
833 extern int setreuid();
834 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
835 extern pid_t setsid();
836 extern int setuid();
837 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
838 extern void setusershell();
839 #endif /* !defined(__XOPEN_OR_POSIX)|| defined(__EXTENSIONS__) */
840 extern unsigned sleep();
841 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
842 extern int stime();
843 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
844 #if defined(_XPG4)
845 /* __EXTENSIONS__ makes the SVID Third Edition prototype in stdlib.h visible */
846 extern void swab();
847 #endif /* defined(_XPG4) */
848 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
849 extern int symlink();
850 extern void sync();
851 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
852 #if defined(_XPG5)
853 #ifdef __PRAGMA_REDEFINE_EXTNAME
854 #pragma redefine_extname sysconf __sysconf_xpg5
855 extern long sysconf();
856 #else /* __PRAGMA_REDEFINE_EXTNAME */
857 extern long __sysconf_xpg5();
858 #define sysconf __sysconf_xpg5
859 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
860 #endif  /* defined(_XPG5) */
861 extern pid_t tcgetpgrp();
862 extern int tcsetpgrp();
863 #if !defined(__XOPEN_OR_POSIX) || \
864         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
865         defined(__EXTENSIONS__)
866 extern off_t tell();
867 #endif /* !defined(__XOPEN_OR_POSIX)... */
868 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || \
869         (defined(_LARGEFILE_SOURCE) && _FILE_OFFSET_BITS == 64) || \
870         defined(__EXTENSIONS__)
871 extern int truncate();
872 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
873 extern char *ttyname();
874 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
875 extern useconds_t ualarm();
876 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
877 extern int unlink();
878 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
879 extern int usleep();
880 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
881 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
882 extern pid_t vfork();
883 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
884 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
885 extern void vhangup();
886 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */
887 extern ssize_t write();
888 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
889 extern void yield();
```



```
890 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */

892 #if !defined(__XOPEN_OR_POSIX) || defined(_ATFILE_SOURCE) || \
893         defined(__EXTENSIONS__)
894         /* || defined(_XPG7) */
895 extern int faccessat();
896 extern int fchownat();
897 extern int linkat();
898 extern ssize_t readlinkat();
899 extern int renameat();
900 extern int symlinkat();
901 extern int unlinkat();
902 #endif  /* !defined(__XOPEN_OR_POSIX) || defined(_ATFILE_SOURCE)... */
903 #if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
904 extern int get_nprocs();
905 extern int get_nprocs_conf();
906 #endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */

908 /* transitional large file interface versions */
909 #if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
910             !defined(__PRAGMA_REDEFINE_EXTNAME))
911 extern int ftruncate64();
912 extern off64_t lseek64();
913 extern ssize_t pread64();
914 extern ssize_t pwrite64();
915 extern off64_t tell64();
916 extern int truncate64();
917 extern int lockf64();
918 #endif  /* _LARGEFILE64_SOURCE */

920 #endif /* __STDC__ */

922 #if !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2) || defined(__EXTENSIONS__)
923 #pragma unknown_control_flow(vfork)
924 #endif /* !defined(__XOPEN_OR_POSIX) || defined(_XPG4_2)... */
```

```
584 /*
585  * getlogin_r() & ttyname_r() prototypes are defined here.
586  */

588 /*
589  * Previous releases of Solaris, starting at 2.3, provided definitions of
590  * various functions as specified in POSIX.1c, Draft 6.  For some of these
591  * functions, the final POSIX 1003.1c standard had a different number of
592  * arguments and return values.
593  *
594  * The following segment of this header provides support for the standard
595  * interfaces while supporting applications written under earlier
596  * releases.  The application defines appropriate values of the feature
597  * test macros _POSIX_C_SOURCE and _POSIX_PTHREAD_SEMANTICS to indicate
598  * whether it was written to expect the Draft 6 or standard versions of
599  * these interfaces, before including this header.  This header then
600  * provides a mapping from the source version of the interface to an
601  * appropriate binary interface.  Such mappings permit an application
602  * to be built from libraries and objects which have mixed expectations
603  * of the definitions of these functions.
604  *
605  * For applications using the Draft 6 definitions, the binary symbol is the
606  * same as the source symbol, and no explicit mapping is needed.  For the
607  * standard interface, the function func() is mapped to the binary symbol
608  * _posix_func().  The preferred mechanism for the remapping is a compiler
609  * #pragma.  If the compiler does not provide such a #pragma, the header file
610  * defines a static function func() which calls the _posix_func() version;
611  * this has to be done instead of #define since POSIX specifies that an
612  * application can #undef the symbol and still be bound to the correct
613  * implementation.  Unfortunately, the statics confuse lint so we fallback to
```

```
 614  * #define in that case.
 615  *
 616  * NOTE: Support for the Draft 6 definitions is provided for compatibility
 617  * only.  New applications/libraries should use the standard definitions.
 618  */

 620 #if     defined(__EXTENSIONS__) || defined(_REENTRANT) || \
 621         !defined(_XOPEN_OR_POSIX) || (_POSIX_C_SOURCE - 0 >= 199506L) || \
 622         defined(_POSIX_PTHREAD_SEMANTICS)

 966 #if     defined(__STDC__)

 624 #if     (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_POSIX_PTHREAD_SEMANTICS)

 626 #ifndef __USE_LEGACY_LOGNAME__
 627 #ifdef  __PRAGMA_REDEFINE_EXTNAME
 628 #pragma redefine_extname getlogin_r __posix_getloginx_r
 629 extern int getlogin_r(char *, int);
 630 #else   /* __PRAGMA_REDEFINE_EXTNAME */
 631 extern int __posix_getloginx_r(char *, int);
 632 #define getlogin_r      __posix_getloginx_r
 633 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
 634 #else   /* __USE_LEGACY_LOGNAME__ */
 635 #ifdef __PRAGMA_REDEFINE_EXTNAME
 636 #pragma redefine_extname getlogin_r __posix_getlogin_r
 637 extern int getlogin_r(char *, int);
 638 #else  /* __PRAGMA_REDEFINE_EXTNAME */
 639 extern int __posix_getlogin_r(char *, int);

 641 #ifdef __lint

 643 #define getlogin_r      __posix_getlogin_r

 645 #else /* !__lint */

 647 static int
 648 getlogin_r(char *__name, int __len)
 649 {
 650         return (__posix_getlogin_r(__name, __len));
 651 }
______unchanged_portion_omitted_

 675 #endif /* !__lint */
 676 #endif /* __PRAGMA_REDEFINE_EXTNAME */

 678 #else  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

 680 #ifndef __USE_LEGACY_LOGNAME__
 681 #ifdef  __PRAGMA_REDEFINE_EXTNAME
 682 #pragma redefine_extname getlogin_r getloginx_r
 683 #else   /* __PRAGMA_REDEFINE_EXTNAME */
 684 extern char *getloginx_r(char *, int);
 685 #define getlogin_r      getloginx_r
 686 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
 687 #endif  /* __USE_LEGACY_LOGNAME__ */
 688 extern char *getlogin_r(char *, int);

 690 extern char *ttyname_r(int, char *, int);

 692 #endif /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

1038 #else  /* __STDC__ */

1040 #if (_POSIX_C_SOURCE - 0 >= 199506L) || defined(_POSIX_PTHREAD_SEMANTICS)

1042 #ifndef __USE_LEGACY_LOGNAME__
```



```
1043 #ifdef  __PRAGMA_REDEFINE_EXTNAME
1044 #pragma redefine_extname getlogin_r __posix_getloginx_r
1045 extern int getlogin_r();
1046 #else   /* __PRAGMA_REDEFINE_EXTNAME */
1047 extern int __posix_getloginx_r();
1048 #define getlogin_r      __posix_getloginx_r
1049 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
1050 #else   /* __USE_LEGACY_LOGNAME__ */
1051 #ifdef __PRAGMA_REDEFINE_EXTNAME
1052 #pragma redefine_extname getlogin_r __posix_getlogin_r
1053 extern int getlogin_r();
1054 #else  /* __PRAGMA_REDEFINE_EXTNAME */
1055 extern int __posix_getlogin_r();

1057 #ifdef  __lint

1059 #define getlogin_r      __posix_getlogin_r

1061 #else /* !__lint */

1063 static int
1064 getlogin_r(__name, __len)
1065         char *__name;
1066         int __len;
1067 {
1068         return (__posix_getlogin_r(__name, __len));
1069 }
1070 #endif /* !__lint */
1071 #endif /* __PRAGMA_REDEFINE_EXTNAME */
1072 #endif  /* __USE_LEGACY_LOGNAME__ */

1074 #ifdef __PRAGMA_REDEFINE_EXTNAME
1075 #pragma redefine_extname ttyname_r __posix_ttyname_r
1076 extern int ttyname_r();
1077 #else  /* __PRAGMA_REDEFINE_EXTNAME */

1079 extern int __posix_ttyname_r();

1081 #ifdef  __lint

1083 #define ttyname_r       __posix_ttyname_r

1085 #else /* !__lint */

1087 ttyname_r(__fildes, __buf, __size)
1088         int __fildes;
1089         char *__buf;
1090         size_t __size;
1091 {
1092         return (__posix_ttyname_r(__fildes, __buf, __size));
1093 }
1094 #endif /* !__lint */
1095 #endif /* __PRAGMA_REDEFINE_EXTNAME */

1097 #else  /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

1099 #ifndef __USE_LEGACY_LOGNAME__
1100 #ifdef __PRAGMA_REDEFINE_EXTNAME
1101 #pragma redefine_extname getlogin_r     getloginx_r
1102 #else   /* __PRAGMA_REDEFINE_EXTNAME */
1103 extern char *getloginx_r();
1104 #define getlogin_r      getloginx_r
1105 #endif  /* __PRAGMA_REDEFINE_EXTNAME */
1106 #endif  /* __USE_LEGACY_LOGNAME__ */
1107 extern char *getlogin_r();
```

```
1109 extern char *ttyname_r();

1111 #endif /* (_POSIX_C_SOURCE - 0 >= 199506L) || ... */

1113 #endif /* __STDC__ */

 694 #endif /* defined(__EXTENSIONS__) || defined(_REENTRANT)... */

 696 #ifdef  __cplusplus
 697 }
```

_____unchanged_portion_omitted_

```
**********************************************************
    5440 Tue Aug 12 07:52:10 2014
new/usr/src/head/wchar.h
Finished obsoleting interfaces for XPG7.
**********************************************************
```

```
/*
 * CDDL HEADER START
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 *
 * CDDL HEADER END
 */

/*
 * Copyright 2014 Garrett D'Amore <garrett@damore.org>
 * Copyright (c) 1993, 2010, Oracle and/or its affiliates. All rights reserved.
 */

#ifndef _WCHAR_H
#define _WCHAR_H

#include <sys/feature_tests.h>
#include <iso/wchar_iso.h>
#include <iso/wchar_c99.h>

/*
 * Allow global visibility for symbols defined in
 * C++ "std" namespace in <iso/wchar_iso.h>.
 */
#if __cplusplus >= 199711L
using std::FILE;
using std::wint_t;
using std::clock_t;
using std::size_t;
using std::time_t;
using std::tm;
using std::mbstate_t;
using std::fgetwc;
using std::fgetws;
using std::fputwc;
using std::fputws;
using std::ungetwc;
using std::getwc;
using std::getwchar;
using std::putwc;
using std::putwchar;
using std::wcstod;
using std::wcstol;
using std::wcstoul;
using std::wcscat;
using std::wcschr;
using std::wcscmp;
using std::wcscoll;
```



```
using std::wcscpy;
using std::wcscspn;
using std::wcslen;
using std::wcsncat;
using std::wcsncmp;
using std::wcsncpy;
using std::wcspbrk;
using std::wcsrchr;
using std::wcsspn;
using std::wcsxfrm;
using std::wcstok;
using std::wcsftime;
/* not XPG4 and not XPG4v2 */
#if (!defined(_XPG4) && !defined(_XPG4_2) || defined(_XPG5))
using std::btowc;
using std::fwprintf;
using std::fwscanf;
using std::fwide;
using std::mbsinit;
using std::mbrlen;
using std::mbrtowc;
using std::mbsrtowcs;
using std::swprintf;
using std::swscanf;
using std::vfwprintf;
using std::vwprintf;
using std::vswprintf;
using std::wcrtomb;
using std::wcsrtombs;
using std::wcsstr;
using std::wctob;
using std::wmemchr;
using std::wmemcmp;
using std::wmemcpy;
using std::wmemmove;
using std::wmemset;
using std::wprintf;
using std::wscanf;
#endif /* not XPG4 and not XPG4v2 */
#endif /* __cplusplus >= 199711L */

#ifdef  __cplusplus
extern "C" {
#endif

#if !defined(_STRICT_STDC) || defined(_XOPEN_SOURCE) || defined(__EXTENSIONS__)
#if !defined(_WCTYPE_T) || __cplusplus >= 199711L
#define _WCTYPE_T
typedef int     wctype_t;
#endif
#endif /* !defined(_STRICT_STDC) || defined(_XOPEN_SOURCE)... */

/*
 * XPG6 requires that va_list be defined as defined in <stdarg.h>,
 * however, inclusion of <stdarg.h> breaks Standard C namespace.
 */
#if defined(_XPG6) && !defined(_VA_LIST)
#define _VA_LIST
typedef __va_list va_list;
#endif  /* defined(_XPG6) && !defined(_VA_LIST) */

#ifdef __STDC__

#if !defined(_STRICT_STDC) || defined(_XOPEN_SOURCE) || defined(__EXTENSIONS__)
#if __cplusplus >= 199711L
namespace std {
```

```
126 #endif
127 extern int iswalpha(wint_t);
128 extern int iswupper(wint_t);
129 extern int iswlower(wint_t);
130 extern int iswdigit(wint_t);
131 extern int iswxdigit(wint_t);
132 extern int iswalnum(wint_t);
133 extern int iswspace(wint_t);
134 extern int iswpunct(wint_t);
135 extern int iswprint(wint_t);
136 extern int iswgraph(wint_t);
137 extern int iswcntrl(wint_t);
138 extern int iswctype(wint_t, wctype_t);
139 extern wint_t towlower(wint_t);
140 extern wint_t towupper(wint_t);
141 #ifndef _STRICT_XPG7
142 extern wchar_t *wcswcs(const wchar_t *, const wchar_t *);
143 #endif
144 extern int wcswidth(const wchar_t *, size_t);
145 extern int wcwidth(wchar_t);
146 extern wctype_t wctype(const char *);
147 #if __cplusplus >= 199711L
148 } /* namespace std */

150 using std::iswalpha;
151 using std::iswupper;
152 using std::iswlower;
153 using std::iswdigit;
154 using std::iswxdigit;
155 using std::iswalnum;
156 using std::iswspace;
157 using std::iswpunct;
158 using std::iswprint;
159 using std::iswgraph;
160 using std::iswcntrl;
161 using std::iswctype;
162 using std::towlower;
163 using std::towupper;
164 #ifndef _STRICT_XPG7
165 using std::wcswcs;
166 #endif
167 using std::wcswidth;
168 using std::wcwidth;
169 using std::wctype;
170 #endif
171 #endif /* !defined(_STRICT_STDC) || defined(_XOPEN_SOURCE)... */

173 #if defined(_XPG7) || !defined(_STRICT_SYMBOLS)

175 #ifndef _LOCALE_T
176 #define _LOCALE_T
177 typedef struct _locale *locale_t;
178 #endif

180 extern size_t wcsnlen(const wchar_t *, size_t);
181 extern wchar_t *wcpcpy(wchar_t *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD);
182 extern wchar_t *wcpncpy(wchar_t *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD,
183     size_t);
184 extern size_t wcsxfrm_l(wchar_t *_RESTRICT_KYWD, const wchar_t *_RESTRICT_KYWD,
185     size_t, locale_t);
186 extern int wcscoll_l(const wchar_t *, const wchar_t *, locale_t);
187 extern wchar_t *wcsdup(const wchar_t *);
188 extern int wcscasecmp(const wchar_t *, const wchar_t *);
189 extern int wcscasecmp_l(const wchar_t *, const wchar_t *, locale_t);
190 extern int wcsncasecmp(const wchar_t *, const wchar_t *, size_t);
191 extern int wcsncasecmp_l(const wchar_t *, const wchar_t *, size_t, locale_t);
```



```
192 extern size_t mbsnrtowcs(wchar_t *_RESTRICT_KYWD, const char **_RESTRICT_KYWD,
193     size_t, size_t, mbstate_t *_RESTRICT_KYWD);

195 #endif  /* defined(_XPG7) || !defined(_STRICT_SYMBOLS) */

195 #else /* __STDC__ */

197 #if !defined(_STRICT_STDC) || defined(_XOPEN_SOURCE) || defined(__EXTENSIONS__)
198 extern  int iswalpha();
199 extern  int iswupper();
200 extern  int iswlower();
201 extern  int iswdigit();
202 extern  int iswxdigit();
203 extern  int iswalnum();
204 extern  int iswspace();
205 extern  int iswpunct();
206 extern  int iswprint();
207 extern  int iswgraph();
208 extern  int iswcntrl();
209 extern  int iswctype();
210 extern  wint_t towlower();
211 extern  wint_t towupper();
212 extern wchar_t *wcswcs();
213 extern int wcswidth();
214 extern int wcwidth();
215 extern wctype_t wctype();
216 #endif /* !defined(_STRICT_STDC) || defined(_XOPEN_SOURCE)... */

218 #if defined(_XGP7) || !defined(_STRICT_SYMBOLS)
219 extern size_t wcsnlen();
220 extern wchar_t *wcpcpy();
221 extern wchar_t *wcpncpy();
222 extern size_t wcsxfrm_l();
223 extern int wcscoll_l();
224 extern wchar_t *wcsdup();
225 extern int wcscasecmp();
226 extern int wcscasecmp_l();
227 extern int wcsncasecmp();
228 extern int wcsncasecmp_l();
229 extern size_t mbsnrtowcs();
230 #endif

232 #endif /* __STDC__ */

197 #ifdef  __cplusplus
198 }
```

_____***unchanged_portion_omitted_***

```
**********************************************************
    1290 Tue Aug 12 07:52:10 2014
new/usr/src/man/Makefile.man
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

```
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   9 # at http://www.illumos.org/license/CDDL.
  10 #

  12 #
  13 # Copyright 2011, Richard Lowe
  14 # Copyright 2014 Nexenta Systems, Inc.  All rights reserved.
  15 #

  17 MANDOC=         $(ONBLD_TOOLS)/bin/${MACH}/mandoc
  18 ROOTMAN=        $(ROOT)/usr/share/man
  19 ROOTHASMAN=     $(ROOT)/usr/has/man
  20 FILEMODE=       0444

  22 # The manual section being built, client Makefiles must set this to, for e.g.
  23 # "3perl", with case matching that of the section name as installed.
  24 #
  25 # MANSECT=

  27 MANCHECKS=      $(MANFILES:%=%.check)
  28 ROOTMANFILES=   $(MANFILES:%=$(ROOTMAN)/man$(MANSECT)/%)
  29 ROOTMANLINKS=   $(MANLINKS:%=$(ROOTMAN)/man$(MANSECT)/%)

  31 all:

  33 $(ROOTMAN)/man$(MANSECT)/% $(ROOTHASMAN)/man$(MANSECT)/%: %
  34                 $(INS.file)

  36 $(MANCHECKS):
  37                 @$(ECHO) "checking $(@:%.check=%)"; \
  38                 $(MANDOC) -Tlint $(@:%.check=%)

  40 $(MANLINKS):
  41                 $(RM) $@; $(SYMLINK) $(LINKSRC) $@

  43 $(ROOTMANLINKS): $(MANLINKS)
  44                 $(RM) $@; $(CP) -RP $(@F) $(@D)

  44 all:

  46 check:          $(MANCHECKS)

  48 clean:

  50 clobber:
  51                 $(RM) $(MANLINKS)

  53 .PARALLEL:

  55 FRC:
```

```
**********************************************************
    1574 Tue Aug 12 07:52:10 2014
new/usr/src/man/man1m/catman.1m
manlint and minor markup fixes
**********************************************************
```

```
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   9 .\" http://www.illumos.org/license/CDDL.
  10 .\"
  11 .\"
  12 .\" Copyright 2014 Garrett D'Amore <garrett@damore.org>
  13 .\"
  14 .Dd Jul 19, 2014
  15 .Dt CATMAN 1M
  16 .Os
  17 .Sh NAME
  18 .Nm catman
  19 .Nd generate
  20 .Nm whatis
  21 database files
  22 .Sh SYNOPSIS
  23 .Nm
  24 .Op Fl M Ar path
  25 .Op Fl w
  26 .Sh DESCRIPTION
  27 The
  28 .Nm
  29 utility generates a set of
  30 .Nm whatis
  31 database files suitable for use with
  32 .Xr apropos 1
  33 and
  34 .Xr whatis 1 .
  35 It is supplied for compatibility reasons.  The same databases can
  36 be generated using the
  37 .Fl w
  38 option with
  39 .Xr man 1 ,
  40 and that command should be used instead.
  41 .Sh OPTIONS
  42 .Bl -tag -width Fl
  42 .Bl -tag -width ".Fl d"
  43 .It Fl M Ar path
  44 Generate the
  45 .Nm whatis
  46 database files within the specified colon separated manual paths.
  47 Overrides the
  48 .Ev MANPATH
  49 environment variable.
  50 .It Fl w
  51 This option is present for backwards compatibility, and is ignored.
  52 .El
  53 .Sh ENVIRONMENT
  54 The following environment variables affect the execution of
  55 .Nm :
  56 .Bl -tag -width Ev
  56 .Bl -tag -width ".Ev MANPATH"
  57 .It Ev MANPATH
  58 Used to specify a colon seperated list of manual paths within
  59 which to generate
```



```
  60 .Nm whatis
  61 database files.
  62 .El
  63 .Sh EXIT STATUS
  64 .Ex -std
  65 .Sh CODE SET INDEPENDENCE
  66 Enabled.
  67 .Sh INTERFACE STABILITY
  68 .Nm "Obsolete Committed" .
  67 .Sh CODE SET INDEPENDENCE
  68 Enabled.
  69 .Sh SEE ALSO
  70 .Xr apropos 1 ,
  71 .Xr man 1 ,
  72 .Xr whatis 1
```

```
**********************************************************
    7863 Tue Aug 12 07:52:10 2014
new/usr/src/man/man2/access.2
markup tweaks per mandoc author
fcntl.h only needed for faccessat
copyright
document standards for access, faccess
**********************************************************
```

```
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'\" te
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.\" the fields enclosed by brackets "[]" replaced with your own identifying info
.Dd "Jul 24, 2014"
.Dt ACCESS 2
.Os
.Sh NAME
.Nm access ,
.Nm faccessat
.Nd determine accessibility of a file
.Sh SYNOPSIS
.In unistd.h
.Ft int
.Fo access
.Fa "const char *path"
.Fa "int amode"
.Fc
.
.In unistd.h
.In fcntl.h
.Ft int
.Fo faccessat
.Fa "int fd"
.Fa "const char *path"
.Fa "int amode"
.Fa "int flag"
.Fc
.Sh DESCRIPTION
The
.Fn access
function checks the file named by the pathname pointed to by
the
.Fa path
argument for accessibility according to the bit pattern
contained in
.Fa amode ,
using the real user ID in place of the
effective user ID and the real group IDR in place of the effective
.TH ACCESS 2 "Jun 16, 2009"
.SH NAME
access, faccessat \- determine accessibility of a file
.SH SYNOPSIS
.LP
.nf
#include <unistd.h>
#include <sys/fcntl.h>

\fBint\fR \fBaccess\fR(\fBconst char *\fR\fIpath\fR, \fBint\fR \fIamode\fR);
```



```
.fi

.LP
.nf
\fBint\fR \fBfaccessat\fR(\fBint\fR \fIfd\fR, \fBconst char *\fR\fIpath\fR, \fBi
.fi

.SH DESCRIPTION
.sp
.LP
The \fBaccess()\fR function checks the file named by the pathname pointed to by
the \fIpath\fR argument for accessibility according to the bit pattern
contained in \fIamode\fR, using the real user \fBID\fR in place of the
effective user \fBID\fR and the real group \fBID\fR in place of the effective
group ID. This allows a setuid process to verify that the user running it would
have had permission to access this file.
.Lp
The value of
.Fa amode
is either the bitwise inclusive
.Sy OR
of the access
permissions to be checked
.Po
.Dv R_OK ,
.Dv W_OK ,
.Dv X_OK
.Pc
or the existence
test,
.Dv F_OK .
.Lp
These constants are defined in
.In unistd.h
as follows:
.Bl -tag -offset indent -width Dv
.It Dv R_OK
.sp
.LP
The value of \fIamode\fR is either the bitwise inclusive \fBOR\fR of the access
permissions to be checked (\fBR_OK\fR, \fBW_OK\fR, \fBX_OK\fR) or the existence
test, \fBF_OK\fR.
.sp
.LP
These constants are defined in <\fBunistd.h\fR> as follows:
.sp
.ne 2
.na
\fB\fBR_OK\fR\fR
.ad
.RS 8n
Test for read permission.
.It Dv W_OK
.RE

.sp
.ne 2
.na
\fB\fBW_OK\fR\fR
.ad
.RS 8n
Test for write permission.
.It Dv X_OK
.RE

.sp
```

```
.ne 2
.na
\fB\fBX_OK\fR\fR
.ad
.RS 8n
Test for execute or search permission.
.It Dv F_OK
.RE

.sp
.ne 2
.na
\fB\fBF_OK\fR\fR
.ad
.RS 8n
Check existence of file
.El
.Lp
See
.Xr Intro 2
for additional information about "File Access Permission".
.Lp
.RE

.sp
.LP
See \fBIntro\fR(2) for additional information about "File Access Permission".
.sp
.LP
If any access permissions are to be checked, each will be checked individually,
as described in
.Xr Intro 2 .
If the process has appropriate privileges, an
implementation may indicate success for
.Dv X_OK
even if none of the execute file permission bits are set.
.Lp
The
.Fn faccessat
function is equivalent to the
.Fn access
function,
except in the case where
.Fa path
specifies a relative path. In this case the
as described in \fBIntro\fR(2). If the process has appropriate privileges, an
implementation may indicate success for \fBX_OK\fR even if none of the execute
file permission bits are set.
.sp
.LP
The \fBfaccessat()\fR function is equivalent to the \fBaccess()\fR function,
except in the case where \fIpath\fR specifies a relative path. In this case the
file whose accessibility is to be determined is located relative to the
directory associated with the file descriptor
.Fa fd
instead of the current working directory.
.Lp
If
.Fn faccessat
is passed in the
.Fa fd
parameter the special value
.Dv AT_FDCWD ,
defined in
.In fcntl.h ,
the current working directory is
```



```
used and the behavior is identical to a call to
.Fn access .
.Lp
Values for
.Fa flag
are constructed by a bitwise-inclusive OR of flags from
the following list, defined in
.In fcntl.h :
.Bl -tag -offset indent -width Dv
.It Dv AT_EACCESS
directory associated with the file descriptor \fIfd\fR instead of the current
working directory.
.sp
.LP
If \fBfaccessat()\fR is passed in the \fIfd\fR parameter the special value
\fBAT_FDCWD\fR, defined in \fB<fcntl.h>\fR, the current working directory is
used and the behavior is identical to a call to \fBaccess()\fR.
.sp
.LP
Values for \fIflag\fR are constructed by a bitwise-inclusive OR of flags from
the following list, defined in \fB<fcntl.h>\fR:
.sp
.ne 2
.na
\fB\fBAT_EACCESS\fR\fR
.ad
.RS 14n
The checks for accessibility are performed using the effective user and group
IDs instead of the real user and group ID as required in a call to
.Fn access .
.El
.Sh RETURN VALUES
If the requested access is permitted,
.Fn access
and
.Fn faccessat
succeed and return 0. Otherwise, \(mi1 is returned
and
.Va errno
is set to indicate the error.
.Sh ERRORS
The
.Fn access
and
.Fn faccessat
functions will fail if:
.Bl -tag -width Er
.It Er EACCES
\fBaccess()\fR.
.RE

.SH RETURN VALUES
.sp
.LP
If the requested access is permitted, \fBaccess()\fR and
\fBfaccessat()\fRsucceed and return \fB0\fR. Otherwise, \fB\(mi1\fR is returned
and \fBerrno\fR is set to indicate the error.
.SH ERRORS
.sp
.LP
The \fBaccess()\fR and \fBfaccessat()\fR functions will fail if:
.sp
.ne 2
.na
\fB\fBEACCES\fR\fR
.ad
```

```
.RS 16n
Permission bits of the file mode do not permit the requested access, or search
permission is denied on a component of the path prefix.
.
.It Er EFAULT
The
.Fa path
argument points to an illegal address.
.
.It Er EINTR
A signal was caught during the
.Fn access
function.
.
.It Er ELOOP
Too many symbolic links were encountered in resolving
.Fa path ,
or loop exists in symbolic links encountered during resolution of the
.Fa path
.RE

.sp
.ne 2
.na
\fB\fBEFAULT\fR\fR
.ad
.RS 16n
The \fIpath\fR argument points to an illegal address.
.RE

.sp
.ne 2
.na
\fB\fBEINTR\fR\fR
.ad
.RS 16n
A signal was caught during the \fBaccess()\fR function.
.RE

.sp
.ne 2
.na
\fB\fBELOOP\fR\fR
.ad
.RS 16n
Too many symbolic links were encountered in resolving \fIpath\fR, or loop
exists in symbolic links encountered during resolution of the \fIpath\fR
argument.
.
.It Er ENAMETOOLONG
The length of the
.Fa path
argument exceeds
.Brq Dv PATH_MAX ,
or a pathname
component is longer than
.Brq Dv NAME_MAX
while
.Dv _POSIX_NO_TRUNC
is in effect.
.
.It Er ENOENT
A component of
.Fa path
does not name an existing file or
.Fa path
```



```
is an empty string.
.
.It Er ENOLINK
The
.Fa path
argument points to a remote machine and the link to that machine
.RE

.sp
.ne 2
.na
\fB\fBENAMETOOLONG\fR\fR
.ad
.RS 16n
The length of the \fIpath\fR argument exceeds {\fBPATH_MAX\fR}, or a pathname
component is longer than {\fBNAME_MAX\fR} while \fB_POSIX_NO_TRUNC\fR is in
effect.
.RE

.sp
.ne 2
.na
\fB\fBENOENT\fR\fR
.ad
.RS 16n
A component of \fIpath\fR does not name an existing file or \fIpath\fR is an
empty string.
.RE

.sp
.ne 2
.na
\fB\fBENOLINK\fR\fR
.ad
.RS 16n
The \fIpath\fR argument points to a remote machine and the link to that machine
is no longer active.
.
.It Er ENOTDIR
.RE

.sp
.ne 2
.na
\fB\fBENOTDIR\fR\fR
.ad
.RS 16n
A component of the path prefix is not a directory.
.
.It Er ENXIO
The
.Fa path
argument points to a character or block device special file and
.RE

.sp
.ne 2
.na
\fB\fBENXIO\fR\fR
.ad
.RS 16n
The \fIpath\fR argument points to a character or block device special file and
the corresponding device has been retired by the fault management framework.
.
.It Er EROFS
.RE
```

```
.sp
.ne 2
.na
\fB\fBEROFS\fR\fR
.ad
.RS 16n
Write access is requested for a file on a read-only file system.
.
.El
.Lp
The
.Fn faccessat
function will fail if:
.Bl -tag -width Er
.It Er EBADF
The
.Fa path
argument does not specify an absolute path and the
.Fa fd
argument is neither
.Dv AT_FDCWD
nor a valid file descriptor open for reading or searching.
.El
.Lp
The
.Fn access
and
.Fn faccessat
functions may fail if:
.Bl -tag -width Er
.
.It Er EINVAL
The value of the
.Fa amode
argument is invalid.
.
.It Er ENAMETOOLONG
.RE

.sp
.LP
The \fBfaccessat()\fR function will fail if:
.sp
.ne 2
.na
\fB\fBEBADF\fR\fR
.ad
.RS 9n
The \fIpath\fR argument does not specify an absolute path and the \fIfd\fR
argument is neither \fBAT_FDCWD\fR nor a valid file descriptor open for reading
or searching.
.RE

.sp
.LP
The \fBaccess()\fR and \fBfaccessat()\fR functions may fail if:
.sp
.ne 2
.na
\fB\fBEINVAL\fR\fR
.ad
.RS 16n
The value of the \fIamode\fR argument is invalid.
.RE
```



```
.sp
.ne 2
.na
\fB\fBENAMETOOLONG\fR\fR
.ad
.RS 16n
Pathname resolution of a symbolic link produced an intermediate result whose
length exceeds
.Brq Dv PATH_MAX .
.
.It Er ETXTBSY
length exceeds {\fBPATH_MAX\fR}.
.RE

.sp
.ne 2
.na
\fB\fBETXTBSY\fR\fR
.ad
.RS 16n
Write access is requested for a pure procedure (shared text) file that is being
executed.
.El
.Lp
The
.Fn faccessat
function may fail if:
.Bl -tag -width Er
.
.It Er BEINVAL
The value of the
.Fa flag
argument is not valid.
.
.It Er ENOTDIR
The
.Fa path
argument is not an absolute path and
.Fa fd
is neither
.Dv AT_FDCWD
nor a file descriptor associated with a directory.
.El
.Sh USAGE
Additional values of
.Fa amode
other than the set defined in the description
.RE

.sp
.LP
The \fBfaccessat()\fR function may fail if:
.sp
.ne 2
.na
\fB\fBEINVAL\fR\fR
.ad
.RS 11n
The value of the \fIflag\fR argument is not valid.
.RE

.sp
.ne 2
.na
\fB\fBENOTDIR\fR\fR
.ad
```

```
.RS 11n
The \fIpath\fR argument is not an absolute path and \fIfd\fR is neither
\fBAT_FDCWD\fR nor a file descriptor associated with a directory.
.RE

.SH USAGE
.sp
.LP
Additional values of \fIamode\fR other than the set defined in the description
might be valid, for example, if a system has extended access controls.
.Lp
The purpose of the
.Fn faccessat
function is to enable the checking of the
.sp
.LP
The purpose of the \fBfaccessat()\fR function is to enable the checking of the
accessibility of files in directories other than the current working directory
without exposure to race conditions. Any part of the path of a file could be
changed in parallel to a call to
.Fn access ,
resulting in unspecified
changed in parallel to a call to \fBaccess()\fR, resulting in unspecified
behavior. By opening a file descriptor for the target directory and using the
.Fn faccessat
function, it can be guaranteed that the file tested for
\fBfaccessat()\fR function, it can be guaranteed that the file tested for
accessibility is located relative to the desired directory.
.Sh INTERFACE STABILITY
.Sy Standard .
.Sh MT-LEVEL
.Sy Async-Signal-Safe .
.Sh SEE ALSO
.Xr Intro 2 ,
.Xr chmod 2 ,
.Xr stat 2 ,
.Xr standards 5
.Sh STANDARDS
The
.Fn access
function is defined in
.St -p1003.1 .
The
.Fn faccessat
function was introduced in
.St -p1003.1-2008 .
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Committed
_
MT-Level        Async-Signal-Safe
_
Standard        See below.
.TE
```



```
.sp
.LP
For \fBaccess()\fR, see \fBstandards\fR(5).
.SH SEE ALSO
.sp
.LP
\fBIntro\fR(2), \fBchmod\fR(2), \fBstat\fR(2), \fBattributes\fR(5),
\fBstandards\fR(5)
```

```
**********************************************************
   13317 Tue Aug 12 07:52:10 2014
new/usr/src/man/man2/chmod.2
fchmod is standard
added fchmodat, etc.
**********************************************************
.\" Copyright 2014 Garrett D'Amore <garrett@damore.org>
'\" te
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.Dd "Sep 12, 2005"
.Dt CHMOD 2
.Os
.
.Sh NAME
.
.Nm chmod ,
.Nm fchmod ,
.Nm fchmodat
.Nd change access permission mode of file
.Sh SYNOPSIS
.In sys/stat.h
.
.Ft int
.Fo chmod
.Fa "const char *path"
.Fa "mode_t mode"
.Fc
.
.Ft int
.Fo fchmod
.Fa "int fildes"
.Fa "mode_t mode"
.Fc
.Ft int
.Fo fchmodat
.Fa "int dirfd"
.Fa "const char *path"
.Fa "mode_t mode"
.Fa "int flag"
.Fc
.
.Sh DESCRIPTION
.
The
.Fn chmod ,
.Fn fchmod ,
and
.Fn fchmodat
functions set the access permission
portion of the mode of the file whose name is given by
.Fa path
or referenced by the open file descriptor
.Fa fildes
to the bit pattern contained in
.Fa mode .
.Lp
Access permission bits are interpreted as follows:
```



```
.Bl -column -offset indent "S_IXOTH" "XXXXX" infinity
.It Dv S_ISUID Ta 04000 Ta Set user ID on execution.
.It Dv S_ISGID Ta 020#0 Ta Set group ID on execution if # is
7, 5, 3, or 1. Enable mandatory file/record locking if # is
6, 4, 2, or 0.
.It Dv S_ISVTX Ta 01000 Ta Sticky bit.
.It Dv S_IRWXU Ta 00700 Ta Read, write, execute by owner.
.It Dv S_IRUSR Ta 00400 Ta Read by owner.
.It Dv S_IWUSR Ta 00200 Ta Write by owner.
.It Dv S_IXUSR Ta 00100 Ta Execute (search if a directory) by owner.
.It Dv S_IRWXG Ta 00070 Ta Read, write, execute by group.
.It Dv S_IRGRP Ta 00040 Ta Read by group.
.It Dv S_IWGRP Ta 00020 Ta Write by group.
.It Dv S_IXGRP Ta 00010 Ta Execute by group.
.It Dv S_IRWXO Ta 00007 Ta Read, write, execute (search) by others.
.It Dv S_IROTH Ta 00004 Ta  Read by others.
.It Dv S_IWOTH Ta 00002 Ta Write by others.
.It Dv S_IXOTH Ta 00001 Ta Execute by others.
.El
.Lp
.TH CHMOD 2 "Sep 12, 2005"
.SH NAME
chmod, fchmod \- change access permission mode of file
.SH SYNOPSIS
.LP
.nf
#include <sys/types.h>
#include <sys/stat.h>

\fBint\fR \fBchmod\fR(\fBconst char *\fR\fIpath\fR, \fBmode_t\fR \fImode\fR);
.fi

.LP
.nf
\fBint\fR \fBfchmod\fR(\fBint\fR \fIfildes\fR, \fBmode_t\fR \fImode\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBchmod()\fR and \fBfchmod()\fR functions set the access permission
portion of the mode of the file whose name is given by \fIpath\fR or referenced
by the open file descriptor \fIfildes\fR to the bit pattern contained in
\fImode\fR. Access permission bits are interpreted as follows:
.sp

.sp
.TS
l l l
l l l .
\fBS_ISUID\fR   04000   Set user ID on execution.
\fBS_ISGID\fR   020#0   T{
Set group ID on execution if # is \fB7\fR, \fB5\fR, \fB3\fR, or \fB1\fR. Enable
T}
\fBS_ISVTX\fR   01000   Sticky bit.
\fBS_IRWXU\fR   00700   Read, write, execute by owner.
\fBS_IRUSR\fR   00400   Read by owner.
\fBS_IWUSR\fR   00200   Write by owner.
\fBS_IXUSR\fR   00100   T{
Execute (search if a directory) by owner.
T}
\fBS_IRWXG\fR   00070   Read, write, execute by group.
\fBS_IRGRP\fR   00040   Read by group.
\fBS_IWGRP\fR   00020   Write by group.
\fBS_IXGRP\fR   00010   Execute by group.
\fBS_IRWXO\fR   00007   Read, write, execute (search) by others.
```

```
\fBS_IROTH\fR   00004   Read by others.
\fBS_IWOTH\fR   00002   Write by others.
\fBS_IXOTH\fR   00001   Execute by others.
.TE

.sp
.LP
Modes are constructed by the bitwise OR operation of the access permission
bits.
.Lp
.sp
.LP
The effective user ID of the process must match the owner of the file or the
process must have the appropriate privilege to change the mode of a file.
.Lp
.sp
.LP
If the process is not a privileged process and the file is not a directory,
mode bit 01000 (save text image on execution) is cleared.
.Lp
.sp
.LP
If neither the process is privileged nor the file's group is a member of the
process's  supplementary group list, and the effective group ID of the process
does not match the group ID of the file, mode bit 02000 (set group ID on
execution) is cleared.
.Lp
If a directory is writable and has
.Dv S_ISVTX
(the sticky bit) set, files
.sp
.LP
If a directory is writable and has \fBS_ISVTX\fR (the sticky bit) set, files
within that directory can be removed or renamed only if one or more of the
following is true (see
.Xr unlink 2
and
.Xr rename 2 :
.Bl -bullet -offset indent
.It
following is true (see \fBunlink\fR(2) and \fBrename\fR(2)):
.RS +4
.TP
.ie t \(bu
.el o
the user owns the file
.It
.RE
.RS +4
.TP
.ie t \(bu
.el o
the user owns the directory
.It
.RE
.RS +4
.TP
.ie t \(bu
.el o
the file is writable by the user
.It
.RE
.RS +4
.TP
.ie t \(bu
.el o
```



```
the user is a privileged user
.El
.Lp
If a regular file is not executable and has
.Dv S_ISVTX
set, the file is
.RE
.sp
.LP
If a regular file is not executable and has \fBS_ISVTX\fR set, the file is
assumed to be a swap file. In this case, the system's page cache will not be
used to hold the file's data. If the
.Dv S_ISVTX
bit is set on any other file, the results are unspecified.
.Lp
used to hold the file's data. If the \fBS_ISVTX\fR bit is set on any other
file, the results are unspecified.
.sp
.LP
If the mode bit 02000 (set group ID on execution) is set and the mode bit 00010
(execute or search by group) is not set, mandatory file/record locking will
exist on a regular file, possibly affecting future calls to
.Xr open 2 ,
.Xr create 2 ,
.Xr read 2 ,
and
.Xr write 2
on this file.
.Lp
If
.Fa fildes
references a shared memory object,
.Fn fchmod
need only
affect the
.Dv S_IRUSR , S_IRGRP , S_IROTH , S_IWUSR, S_IWGRP , S_IWOTH , S_IXUSR ,
.Dv S_IXGRP ,
and
.Dv S_IXOTH
exist on a regular file, possibly affecting future calls to \fBopen\fR(2),
\fBcreat\fR(2), \fBread\fR(2), and \fBwrite\fR(2) on this file.
.sp
.LP
If \fIfildes\fR references a shared memory object, \fBfchmod()\fR need only
affect the \fBS_IRUSR\fR, \fBS_IRGRP\fR, \fBS_IROTH\fR, \fBS_IWUSR\fR,
\fBS_IWGRP\fR, \fBS_IWOTH\fR, \fBS_IXUSR\fR, \fBS_IXGRP\fR, and \fBS_IXOTH\fR
file permission bits.
.Lp
If
.Fa fildes
refers to a socket, or to a stream that is attached to an object in
the filesystem name space with
.Xr fattach 3C ,
.Fn fchmod
takes no action and returns successfully.
.Lp
Upon successful completion,
.Fn chmod
.Fn fchmod
```

```
and
.Fn fchmodat
mark for update the
.Vt st_ctime
field of the file.
.Lp
The
.Fn fchmodat
function operates like
.Fn chmod
except that if
.Fa path
is relative, then the file to be changed is determined relative to
the open directory presented by
.Fa dirfd ,
instead of the current working directory.  The special value
.Dv AT_FDCWD can be supplied for
.Fa dirfd
to indicate the current working directory.
.Lp
If
.Fa dirfd
was opened without
.Dv O_SEARCH ,
the
.Fn fchmodat
function checks whether directory searches are permitted using the current
permissions of the underlying directory.
.Lp
The
.Fa flag
argument is bitwise
.Sy OR
of the following flags:
.Bl -tag -width Dv -offset indent
.It Dv AT_SYMLINK_NOFOLLOW
If
.Fa path
is a symbolic link, then the mode of the link is changed instead of the
target.
.El
.
.Sh RETURN VALUES
.
Upon successful completion, 0 is returned. Otherwise, \(mi1 is
returned, the file mode is unchanged, and
.Va errno
is set to indicate the error.
.
.Sh EXAMPLES
.
.Ss Example 1 No Set Read Permissions for User, Group, and Others
.sp
.LP
If \fIfildes\fR refers to a socket, \fBfchmod()\fR does not fail but no action
is taken.
.sp
.LP
If \fIfildes\fR refers to a stream that is attached to an object in the file
system name space with \fBfattach\fR(3C), the \fBfchmod()\fR call performs no
action and returns successfully.
.sp
.LP
Upon successful completion, \fBchmod()\fR and \fBfchmod()\fR mark for update
the \fBst_ctime\fR field of the file.
.SH RETURN VALUES
```



```
.sp
.LP
Upon successful completion, \fB0\fR is returned. Otherwise, \fB\(mi1\fR is
returned, the file mode is unchanged, and \fBerrno\fR is set to indicate the
error.
.SH ERRORS
.sp
.LP
The \fBchmod()\fR and \fBfchmod()\fR functions will fail if:
.sp
.ne 2
.na
\fB\fBEIO\fR\fR
.ad
.RS 9n
An I/O error occurred while reading from or writing to the file system.
.RE

.sp
.ne 2
.na
\fB\fBEPERM\fR\fR
.ad
.RS 9n
The effective user ID does not match the owner of the file and the process does
not have appropriate privilege.
.sp
The {\fBPRIV_FILE_OWNER\fR} privilege overrides constraints on ownership when
changing permissions on a file.
.sp
The {\fBPRIV_FILE_SETID\fR} privilege overrides constraints on ownership when
adding the setuid or setgid bits to an executable file or a directory.  When
adding the setuid bit to a root owned executable, additional restrictions
apply. See \fBprivileges\fR(5).
.RE

.sp
.LP
The \fBchmod()\fR function will fail if:
.sp
.ne 2
.na
\fB\fBEACCES\fR\fR
.ad
.RS 16n
Search permission is denied on a component of the path prefix of \fIpath\fR.
The privilege {\fBFILE_DAC_SEARCH\fR} overrides file permissions restrictions
in that case.
.RE

.sp
.ne 2
.na
\fB\fBEFAULT\fR\fR
.ad
.RS 16n
The \fIpath\fR argument points to an illegal address.
.RE

.sp
.ne 2
.na
\fB\fBELOOP\fR\fR
.ad
.RS 16n
A loop exists in symbolic links encountered during the resolution of the
```

```
\fIpath\fR argument.
.RE

.sp
.ne 2
.na
\fB\fBENAMETOOLONG\fR\fR
.ad
.RS 16n
The length of the \fIpath\fR argument exceeds \fBPATH_MAX\fR, or the length of
a \fIpath\fR component exceeds \fBNAME_MAX\fR while \fB_POSIX_NO_TRUNC\fR is in
effect.
.RE

.sp
.ne 2
.na
\fB\fBENOENT\fR\fR
.ad
.RS 16n
Either a component of the path prefix or the file referred to by \fIpath\fR
does not exist or is a null pathname.
.RE

.sp
.ne 2
.na
\fB\fBENOLINK\fR\fR
.ad
.RS 16n
The \fIfildes\fR argument points to a remote machine and the link to that
machine is no longer active.
.RE

.sp
.ne 2
.na
\fB\fBENOTDIR\fR\fR
.ad
.RS 16n
A component of the prefix of \fIpath\fR is not a directory.
.RE

.sp
.ne 2
.na
\fB\fBEROFS\fR\fR
.ad
.RS 16n
The file referred to by \fIpath\fR resides on a read-only file system.
.RE

.sp
.LP
The \fBfchmod()\fR function will fail if:
.sp
.ne 2
.na
\fB\fBEBADF\fR\fR
.ad
.RS 11n
The \fIfildes\fR argument is not an open file descriptor
.RE

.sp
.ne 2
```



```
.na
\fB\fBENOLINK\fR\fR
.ad
.RS 11n
The \fIpath\fR argument points to a remote machine and the link to that machine
is no longer active.
.RE

.sp
.ne 2
.na
\fB\fBEROFS\fR\fR
.ad
.RS 11n
The file referred to by \fIfildes\fR resides on a read-only file system.
.RE

.sp
.LP
The \fBchmod()\fR and \fBfchmod()\fR functions may fail if:
.sp
.ne 2
.na
\fB\fBEINTR\fR\fR
.ad
.RS 10n
A signal was caught during execution of the function.
.RE

.sp
.ne 2
.na
\fB\fBEINVAL\fR\fR
.ad
.RS 10n
The value of the \fImode\fR argument is invalid.
.RE

.sp
.LP
The \fBchmod()\fR function may fail if:
.sp
.ne 2
.na
\fB\fBELOOP\fR\fR
.ad
.RS 16n
More than {\fBSYMLOOP_MAX\fR} symbolic links were encountered during the
resolution of the \fIpath\fR argument.
.RE

.sp
.ne 2
.na
\fB\fBENAMETOOLONG\fR\fR
.ad
.RS 16n
As a result of encountering a symbolic link in resolution of the\fIpath\fR
argument, the length of the substituted pathname strings exceeds
{\fBPATH_MAX\fR}.
.RE

.sp
.LP
The \fBfchmod()\fR function may fail if:
.sp
```

```
.ne 2
.na
\fB\fBEINVAL\fR\fR
.ad
.RS 10n
The \fIfildes\fR argument refers to a pipe and the system disallows execution
of this function on a pipe.
.RE

.SH EXAMPLES
.LP
\fBExample 1 \fRSet Read Permissions for User, Group, and Others
.sp
.LP
The following example sets read permissions for the owner, group, and others.
.Bd -literal -offset indent

.sp
.in +2
.nf
#include <sys/stat.h>
const char *path;
\&...
chmod(path, S_IRUSR|S_IRGRP|S_IROTH);
.Ed
.
.Ss Example 2 No Set Read, Write, and Execute Permissions for the Owner Only
.fi
.in -2

.LP
\fBExample 2 \fRSet Read, Write, and Execute Permissions for the Owner Only
.sp
.LP
The following example sets read, write, and execute permissions for the owner,
and no permissions for group and others.
.Bd -literal -offset indent

.sp
.in +2
.nf
#include <sys/stat.h>
const char *path;
\&...
chmod(path, S_IRWXU);
.Ed
.
.Ss Example 3 No Set Different Permissions for Owner, Group, and Other
.fi
.in -2

.LP
\fBExample 3 \fRSet Different Permissions for Owner, Group, and Other
.sp
.LP
The following example sets owner permissions for CHANGEFILE to read, write, and
execute, group permissions to read and execute, and other permissions to read.
.Bd -literal -offset indent

.sp
.in +2
.nf
#include <sys/stat.h>
#define CHANGEFILE "/etc/myfile"
\&...
chmod(CHANGEFILE, S_IRWXU|S_IRGRP|S_IXGRP|S_IROTH);
```



```
.Ed
.Ss Example 4 No Set and Checking File Permissions
.fi
.in -2

.LP
\fBExample 4 \fRSet and Checking File Permissions
.sp
.LP
The following example sets the file permission bits for a file named
.Pa /home/cnd/mod1 ,
then calls the
.Xr stat 2
function to verify the permissions.
.Bd -literal -offset indent
\fB/home/cnd/mod1\fR, then calls the \fBstat\fR(2) function to verify the
permissions.

.sp
.in +2
.nf
#include <sys/types.h>
#include <sys/stat.h>
int status;
struct stat buffer
\&...
chmod("home/cnd/mod1", S_IRWXU|S_IRWXG|S_IROTH|S_IWOTH);
status = stat("home/cnd/mod1", &buffer;);
.Ed
.
.Sh ERRORS
.
The
.Fn chmod ,
.Fn fchmod
and
.Fn fchmodat
functions will fail if:
.Bl -tag -width Er
.It Er EIO
An I/O error occurred while reading from or writing to the file system.
.It Er EPERM
The effective user ID does not match the owner of the file and the process does
not have appropriate privilege.
.Lp
The
.Brq Dv PRIV_FILE_OWNER
privilege overrides constraints on ownership when
changing permissions on a file.
.Lp
The
.Brq Dv PRIV_FILE_SETID
privilege overrides constraints on ownership when
adding the setuid or setgid bits to an executable file or a directory.  When
adding the setuid bit to a root owned executable, additional restrictions
apply. See
.Xr privileges 5 .
.El
.Lp
The
.Fn chmod
and
.Fn fchmodat
functions will fail if:
.Bl -tag -width Er
.
```

```
.It Er EACCES
Search permission is denied on a component of the path prefix of
.Fa path .
The privilege
.Brq Dv FILE_DAC_SEARCH
overrides file permissions restrictions in that case.
.
.It Er EFAULT
The
.Fa path
argument points to an illegal address.
.
.It Er ELOOP
A loop exists in symbolic links encountered during the resolution of the
.Fa path
argument.
.
.It Er ENAMETOOLONG
The length of the
.Fa path
argument exceeds
.Brq Dv PATH_MAX .
.
.It Er NOENT
Either a component of the path prefix or the file referred to by
.Fa path
does not exist or is a null pathname.
.
.It Er ENOLINK
The
.Fa path
argument points to a remote machine and the link to that
machine is no longer active.
.
.It Er ENOTDIR
A component of the prefix of
.Fa path
is not a directory.
.
.It Er EROFS
The file referred to by
.Fa path
resides on a read-only file system.
.El
.Lp
The
.Fn fchmod
function will fail if:
.Bl -tag -width Er
.
.It Er EBADF
The
.Fa filedes
argument is not an open file descriptor
.
.It Er ENOLINK
The file referred to by
.Fa filedes
argument points to a remote machine and the link to that machine
is no longer active.
.
.It Er EROFS
The file referred to by
.Fa fildes
resides on a read-only file system.
.El
```



```
.Lp
The
.Fn fchmodat
function will fail if:
.Bl -tag -width Er
.
.It Er EBADF
The
.Fa path
argument does not specify an absolute path, and
.Fa dirfd
is neither
.Dv AT_FDCWD
nor a file descriptor open for reading or searching.
.
.It Er EACCES
The
.Fa dirfd
descriptor was opened without
.Dv O_SEARCH
and the underlying directory permissions do not allow directory
searches.
.El
.
.Lp
The
.Fn chmod ,
.Fn fchmod ,
and
.Fn fchmodat
functions may fail if:
.Bl -tag -width Er
.
.It Er EINTR
A signal was caught during execution of the function.
.
.It Er EINVAL
The value of the
.Fa mode
argument is invalid.
.El
.Lp
The
.Fn chmod
and
.Fn fchmodat
functions may fail if:
.Bl -tag -width Er
.
.It Er ELOOP
More than
.Brq Dv SYMLOOP_MAX
symbolic links were encountered during the
resolution of the
.Fa path
argument.
.
.It Er ENAMETOOLONG
As a result of encountering a symbolic link in resolution of the
.Fa path
argument, the length of the substituted pathname exceed
.Brq Dv PATH_MAX .
.El
.Lp
The
.Fn fchmod
```

```
422 function may fail if:
423 .Bl -tag -width Er
424 .It EINVAL
425 The
426 .Fa fildes
427 argument refers to a pipe and the system disallows execution
428 of this function on a pipe.
429 .El
430 .
431 .Lp
432 The
433 .Fn fchmodat
434 function may fail if:
435 .Bl -tag -width Er
436 .It Er EINVAL
437 The value of
438 .Fa flag
439 is invalid.
440 .It Er ENOTDIR
441 The
442 .Fa dirfd
443 argument is not a file descriptor opened on a directory or
444 the special value
445 .Dv AT_CWDFD ,
446 and
447 .Fa path
448 is not an absolute directory name.
449 .It Er EOPNOTSUPP
450 The
451 .Fa flag
452 argument contains the bit
453 .Dv AT_SYMLINK_NOFOLLOW ,
454 the
455 .Fa path
456 is a symbolic link, and the underlying filesystem does not support
457 changing the mode of symbolic links.
458 .El
459 .
460 .Sh USAGE
461 If
462 .Fn chmod ,
463 .Fn fchmod ,
464 or
465 .Fn fchmodat
466 are used to change the file group owner
424 .fi
425 .in -2

427 .SH USAGE
428 .sp
429 .LP
430 If \fBchmod()\fR or \fBfchmod()\fR is used to change the file group owner
467 permissions on a file with non-trivial ACL entries, only the ACL mask is set to
468 the new permissions and the group owner permission bits in the file's mode
469 field (defined in
470 .Xr mknod 2 )
471 are unchanged.  A non-trivial ACL entry is
433 field (defined in \fBmknod\fR(2)) are unchanged.  A non-trivial ACL entry is
472 one whose meaning cannot be represented in the file's mode field alone. The new
473 ACL mask permissions  might change the effective permissions for additional
474 users and groups that have ACL entries on the file.
475 .Lp
476 The
477 .Fn fchmodat
478 function is intended to enable changing permissions in directories other than
479 the current working directory without race conditions.
```



```
480 .
481 .Sh INTERFACE STABILITY
482 .
483 .Sy Standard .
484 .
485 .Sh MT-LEVEL
486 .
487 .Sy Async-Signal-Safe .
488 .
489 .Sh SEE ALSO
490 .
491 .Xr chmod 1 ,
492 .Xr chown 2 ,
493 .Xr creat 2 ,
494 .Xr fcntl 2 ,
495 .Xr mknod 2 ,
496 .Xr open 2 ,
497 .Xr read 2 ,
498 .Xr rename 2 ,
499 .Xr stat 2 ,
500 .Xr write 2 ,
501 .Xr fattach 3C ,
502 .Xr mkfifo 3C ,
503 .Xr stat.h 3HEAD ,
504 .Xr privileges 5 ,
505 .Xr standards 5
506 .Rs
507 .%T Programming Interfaces Guide
508 .Re
509 .
510 .Sh STANDARDS
511 .
512 The
513 .Fn chmod
514 function was introduced in
515 .At
516 and is specified in
517 .St -p1003.1 .
518 The
519 .Fn fchmod
520 function was introduced in
521 .St -xpg4.2 .
522 The
523 .Fn fchmodat
524 function was introduced in
525 .St -p1003.1-2008 .
437 .SH ATTRIBUTES
438 .sp
439 .LP
440 See \fBattributes\fR(5) for descriptions of the following attributes:
441 .sp

443 .sp
444 .TS
445 box;
446 c | c
447 l | l .
448 ATTRIBUTE TYPE  ATTRIBUTE VALUE
449 _
450 Interface Stability     Standard
451 _
452 MT-Level        Async-Signal-Safe
453 .TE

455 .SH SEE ALSO
456 .sp
```

```
457 .LP
458 \fBchmod\fR(1), \fBchown\fR(2), \fBcreat\fR(2), \fBfcntl\fR(2), \fBmknod\fR(2),
459 \fBopen\fR(2), \fBread\fR(2), \fBrename\fR(2), \fBstat\fR(2), \fBwrite\fR(2),
460 \fBfattach\fR(3C), \fBmkfifo\fR(3C), \fBstat.h\fR(3HEAD), \fBattributes\fR(5),
461 \fBprivileges\fR(5), \fBstandards\fR(5)
462 .sp
463 .LP
464 \fIProgramming Interfaces Guide\fR
```

```
**********************************************************
    5470 Tue Aug 12 07:52:10 2014
new/usr/src/man/man2/getcontext.2
Minor markup tweaks (Sy instead of Nm).
first round of POSIX 2008 stuff
**********************************************************
```

```
'\" te
.\"  Copyright 1989 AT&T  Copyright (c) 2001, Sun Microsystems, Inc.  All Rights
.\" Sun Microsystems, Inc. gratefully acknowledges The Open Group for permission
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.\" The Institute of Electrical and Electronics Engineers and The Open Group, ha
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.\" You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE or http:
.\" When distributing Covered Code, include this CDDL HEADER in each file and in
.Dd "Jul 20, 2014"
.Dt GETCONTEXT 2
.Os
.Sh NAME
.Nm getcontext, setcontext
.Nd get and set current user context
.Sh SYNOPSIS
.In ucontext.h
.Ft int
.Fn getcontext "ucontext_t *ucp"
.Ft int
.Fn setcontext "const ucontext_t *ucp"
.Sh DESCRIPTION
The
.Fn getcontext
function initializes the structure pointed to by
.Fa ucp
to the current user context of the calling process.  The
.Fa ucontext_t
type that
.Fa ucp
points to defines the user context and
.TH GETCONTEXT 2 "Feb 5, 2001"
.SH NAME
getcontext, setcontext \- get and set current user context
.SH SYNOPSIS
.LP
.nf
#include <ucontext.h>

\fBint\fR \fBgetcontext\fR(\fBucontext_t *\fR\fIucp\fR);
.fi

.LP
.nf
\fBint\fR \fBsetcontext\fR(\fBconst ucontext_t *\fR\fIucp\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBgetcontext()\fR function initializes the structure pointed to by
\fIucp\fR to the current user context of the calling process.  The
\fBucontext_t\fR type that \fIucp\fR points to defines the user context and
includes the contents of the calling process' machine registers, the signal
mask, and the current execution stack.
.Lp
The
.Fn setcontext
function restores the user context pointed to by
.Fa ucp .
```



```
A successful call to
.Fn setcontext
does not return; program
execution resumes at the point specified by the
.Fa ucp
argument passed to
.Fn setcontext .
The
.Fa ucp
argument should be created either by a prior
call to
.Fn getcontext ,
or by being passed as an argument to a signal
handler.
.Lp
If the
.Fa ucp
argument was created with
.Fn getcontext ,
program execution continues as if the corresponding call of
.Fn getcontext
had just returned.
.Lp
If the
.Fa ucp
argument was created with
.Xr makecontext 3C ,
program execution continues with the function passed to
.Xr makecontext 3C .
.sp
.LP
The \fBsetcontext()\fR function restores the user context pointed to by
\fIucp\fR.  A successful call to \fBsetcontext()\fR does not return; program
execution resumes at the point specified by the \fIucp\fR argument passed to
\fBsetcontext()\fR. The \fIucp\fR argument should be created either by a prior
call to \fBgetcontext()\fR, or by being passed as an argument to a signal
handler. If the \fIucp\fR argument was created with \fBgetcontext()\fR, program
execution continues as if the corresponding call of \fBgetcontext()\fR had just
returned.  If the \fIucp\fR argument was created with \fBmakecontext\fR(3C),
program execution continues with the function passed to \fBmakecontext\fR(3C).
When that function returns, the process continues as if after a call to
.Fn setcontext
with the
.Fa ucp
argument that was input to
.Xr makecontext 3C .
.Lp
If the
.Fa ucp
argument was passed to a signal
\fBsetcontext()\fR with the \fIucp\fR argument that was input to
\fBmakecontext\fR(3C). If the \fIucp\fR argument was passed to a signal
handler, program execution continues with the program instruction following the
instruction interrupted by the signal.
.Lp
If the
.Fa uc_link
member of the
.Ft ucontext_t
structure pointed to by the
.Fa ucp
argument is equal to 0,
instruction interrupted by the signal.  If the \fBuc_link\fR member of the
\fBucontext_t\fR structure pointed to by the \fIucp\fR argument is equal to 0,
then this context is the main context, and the process will exit when this
context returns.  The effects of passing a
```

```
 89 .Fa ucp
 90 argument obtained from any other source are unspecified.
 91 .Sh RETURN VALUES
 92 On successful completion,
 93 .Fn setcontext
 94 does not return and
 95 .Fn getcontext()
 96 returns 0. Otherwise, -1 is returned.
 97 .Sh ERRORS
 52 context returns.  The effects of passing a \fIucp\fR argument obtained from any
 53 other source are unspecified.
 54 .SH RETURN VALUES
 55 .sp
 56 .LP
 57 On successful completion, \fBsetcontext()\fR does not return and
 58 \fBgetcontext()\fR returns \fB0\fR. Otherwise, \fB\(mi1\fR is returned.
 59 .SH ERRORS
 60 .sp
 61 .LP
 98 No errors are defined.
 99 .Sh USAGE
 63 .SH USAGE
 64 .sp
 65 .LP
100 When a signal handler is executed, the current user context is saved and a new
101 context is created.  If the thread leaves the signal handler via
102 .Xr longjmp 3C ,
103 then it is unspecified whether the context at the time of
104 the corresponding
105 .Xr setjmp 3C
106 call is restored and thus whether future
107 calls to
108 .Fn getcontext
109 will provide an accurate representation of the
110 current context, since the context restored by
111 .Xr longjmp 3C
112 may not contain all the information that
113 .Fn setcontext
114 requires.  Signal handlers
115 should use
116 .Xr siglongjmp 3C
117 instead.
118 .Lp
119 Portable applications should not modify or access the
120 .Fa uc_mcontext
121 member
122 of
123 .Ft ucontext_t .
124 A portable application cannot assume that context
125 includes any process-wide static data, possibly including
126 .Va errno .
127 Users manipulating contexts should take care to handle these explicitly when
 68 \fBlongjmp\fR(3UCB), then it is unspecified whether the context at the time of
 69 the corresponding \fBsetjmp\fR(3UCB) call is restored and thus whether future
 70 calls to \fBgetcontext()\fR will provide an accurate representation of the
 71 current context, since the context restored by \fBlongjmp\fR(3UCB) may not
 72 contain all the information that \fBsetcontext()\fR requires.  Signal handlers
 73 should use \fBsiglongjmp\fR(3C) instead.
 74 .sp
 75 .LP
 76 Portable applications should not modify or access the \fBuc_mcontext\fR member
 77 of \fBucontext_t\fR.  A portable application cannot assume that context
 78 includes any process-wide static data, possibly including \fBerrno\fR. Users
 79 manipulating contexts should take care to handle these explicitly when
128 required.
129 .Lp
```



```
130 Portable applications should make use of the
131 .Xr pthreads 5
132 routines for co-processing instead of these routines.
133 .Sh INTERFACE STABILITY
134 .Sy Obsolete Standard .
135 .Sh SEE ALSO
136 .Xr sigaction 2 ,
137 .Xr sigaltstack 2 ,
138 .Xr sigprocmask 2 ,
139 .Xr bsd_signal 3C ,
140 .Xr makecontext 3C ,
141 .Xr setjmp 3C ,
142 .Xr sigsetjmp 3C ,
143 .Xr ucontext.h 3HEAD ,
144 .Xr pthreads 5 ,
145 .Xr standards 5
146 .Sh STANDARDS
147 These routines were introduced in
148 .St -xpg4.2
149 and subsequently removed in
150 .St -p1003.1-2008 .
 81 .SH ATTRIBUTES
 82 .sp
 83 .LP
 84 See \fBattributes\fR(5) for descriptions of the following attributes:
 85 .sp

 87 .sp
 88 .TS
 89 box;
 90 c | c
 91 l | l .
 92 ATTRIBUTE TYPE  ATTRIBUTE VALUE
 93 _
 94 Interface Stability     Standard
 95 .TE

 97 .SH SEE ALSO
 98 .sp
 99 .LP
100 \fBsigaction\fR(2), \fBsigaltstack\fR(2), \fBsigprocmask\fR(2),
101 \fBbsd_signal\fR(3C), \fBmakecontext\fR(3C), \fBsetjmp\fR(3UCB),
102 \fBsigsetjmp\fR(3C), \fBucontext.h\fR(3HEAD), \fBattributes\fR(5),
103 \fBstandards\fR(5)
```

```
**********************************************************
   64477 Tue Aug 12 07:52:11 2014
new/usr/src/man/man3c/Makefile
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

```
#
# This file and its contents are supplied under the terms of the
# Common Development and Distribution License ("CDDL"), version 1.0.
# You may only use this file in accordance with the terms of version
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#

include         $(SRC)/Makefile.master

MANSECT=        3c

MANFILES=       __fbufsize.3c                                   \
                _longjmp.3c                                     \
                _stack_grow.3c                                  \
                a64l.3c                                         \
                abort.3c                                        \
                abs.3c                                          \
                addsev.3c                                       \
                addseverity.3c                                  \
                aio_cancel.3c                                   \
                aio_error.3c                                    \
                aio_fsync.3c                                    \
                aio_read.3c                                     \
                aio_return.3c                                   \
                aio_suspend.3c                                  \
                aio_waitn.3c                                    \
                aio_write.3c                                    \
                aiocancel.3c                                    \
                aioread.3c                                      \
                aiowait.3c                                      \
                assert.3c                                       \
                atexit.3c                                       \
                atomic_add.3c                                   \
                atomic_and.3c                                   \
                atomic_bits.3c                                  \
                atomic_cas.3c                                   \
                atomic_dec.3c                                   \
                atomic_inc.3c                                   \
                atomic_ops.3c                                   \
                atomic_or.3c                                    \
                atomic_swap.3c                                  \
                attropen.3c                                     \
                basename.3c                                     \
                bsd_signal.3c                                   \
                bsearch.3c                                      \
                bstring.3c                                      \
                btowc.3c                                        \
                catgets.3c                                      \
```



```
                catopen.3c                                      \
                cfgetispeed.3c                                  \
                cfsetispeed.3c                                  \
                clock.3c                                        \
                clock_nanosleep.3c                              \
                clock_settime.3c                                \
                closedir.3c                                     \
                closefrom.3c                                    \
                cond_init.3c                                    \
                confstr.3c                                      \
                crypt.3c                                        \
                crypt_genhash_impl.3c                           \
                crypt_gensalt.3c                                \
                crypt_gensalt_impl.3c                           \
                cset.3c                                         \
                ctermid.3c                                      \
                ctime.3c                                        \
                ctype.3c                                        \
                cuserid.3c                                      \
                daemon.3c                                       \
                decimal_to_floating.3c                          \
                difftime.3c                                     \
                directio.3c                                     \
                dirfd.3c                                        \
                dirname.3c                                      \
                div.3c                                          \
                dladdr.3c                                       \
                dlclose.3c                                      \
                dldump.3c                                       \
                dlerror.3c                                      \
                dlinfo.3c                                       \
                dlopen.3c                                       \
                dlsym.3c                                        \
                door_bind.3c                                    \
                door_call.3c                                    \
                door_create.3c                                  \
                door_cred.3c                                    \
                door_getparam.3c                                \
                door_info.3c                                    \
                door_return.3c                                  \
                door_revoke.3c                                  \
                door_server_create.3c                           \
                door_ucred.3c                                   \
                drand48.3c                                      \
                dup2.3c                                         \
                econvert.3c                                     \
                ecvt.3c                                         \
                enable_extended_FILE_stdio.3c                   \
                encrypt.3c                                      \
                end.3c                                          \
                err.3c                                          \
                euclen.3c                                       \
                exit.3c                                         \
                fattach.3c                                      \
                fclose.3c                                       \
                fdatasync.3c                                    \
                fdetach.3c                                      \
                fdopen.3c                                       \
                ferror.3c                                       \
                fflush.3c                                       \
                ffs.3c                                          \
                fgetattr.3c                                     \
                fgetc.3c                                        \
                fgetpos.3c                                      \
                fgetwc.3c                                       \
                floating_to_decimal.3c                          \
```

```
126                flockfile.3c                        \
127                fmtmsg.3c                           \
128                fnmatch.3c                          \
129                fopen.3c                            \
130                fpgetround.3c                       \
131                fputc.3c                            \
132                fputwc.3c                           \
133                fputws.3c                           \
134                fread.3c                            \
135                freopen.3c                          \
136                fseek.3c                            \
137                fsetpos.3c                          \
138                fsync.3c                            \
139                ftell.3c                            \
140                ftime.3c                            \
141                ftok.3c                             \
142                ftw.3c                              \
143                fwide.3c                            \
144                fwprintf.3c                         \
145                fwrite.3c                           \
146                fwscanf.3c                          \
147                getcpuid.3c                         \
148                getcwd.3c                           \
149                getdate.3c                          \
150                getdtablesize.3c                    \
151                getenv.3c                           \
152                getexecname.3c                      \
153                getgrnam.3c                         \
154                gethostid.3c                        \
155                gethostname.3c                      \
156                gethrtime.3c                        \
157                getline.3c                          \
158                getloadavg.3c                       \
159                getlogin.3c                         \
160                getmntent.3c                        \
161                getnetgrent.3c                      \
162                getopt.3c                           \
163                getpagesize.3c                      \
164                getpagesizes.3c                     \
165                getpass.3c                          \
166                getpeerucred.3c                     \
167                getpriority.3c                      \
168                getpw.3c                            \
169                getpwnam.3c                         \
170                getrusage.3c                        \
171                gets.3c                             \
172                getspnam.3c                         \
173                getsubopt.3c                        \
174                gettext.3c                          \
175                gettimeofday.3c                     \
176                gettxt.3c                           \
177                getusershell.3c                     \
178                getutent.3c                         \
179                getutxent.3c                        \
180                getvfsent.3c                        \
181                getwc.3c                            \
182                getwchar.3c                         \
183                getwd.3c                            \
184                getwidth.3c                         \
185                getws.3c                            \
186                getzoneid.3c                        \
187                glob.3c                             \
188                grantpt.3c                          \
189                hsearch.3c                          \
190                iconv.3c                            \
191                iconv_close.3c                      \
```



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192                iconv_open.3c                       \
193                imaxabs.3c                          \
194                imaxdiv.3c                          \
195                index.3c                            \
196                initgroups.3c                       \
197                insque.3c                           \
198                is_system_labeled.3c                \
199                isaexec.3c                          \
200                isastream.3c                        \
201                isatty.3c                           \
202                isnand.3c                           \
203                iswalpha.3c                         \
204                iswctype.3c                         \
205                killpg.3c                           \
206                lckpwdf.3c                          \
207                lfmt.3c                             \
208                lio_listio.3c                       \
209                localeconv.3c                       \
210                lockf.3c                            \
211                lsearch.3c                          \
212                madvise.3c                          \
213                makecontext.3c                      \
214                makedev.3c                          \
215                malloc.3c                           \
216                mblen.3c                            \
217                mbrlen.3c                           \
218                mbrtowc.3c                          \
219                mbsinit.3c                          \
220                mbsrtowcs.3c                        \
221                mbtowc.3c                           \
222                membar_ops.3c                       \
223                memory.3c                           \
224                mkfifo.3c                           \
225                mkstemp.3c                          \
226                mktemp.3c                           \
227                mktime.3c                           \
228                mlock.3c                            \
229                mlockall.3c                         \
230                monitor.3c                          \
231                mq_close.3c                         \
232                mq_getattr.3c                       \
233                mq_notify.3c                        \
234                mq_open.3c                          \
235                mq_receive.3c                       \
236                mq_send.3c                          \
237                mq_setattr.3c                       \
238                mq_unlink.3c                        \
239                msync.3c                            \
240                mutex_init.3c                       \
241                nanosleep.3c                        \
242                ndbm.3c                             \
243                newlocale.3c                        \
244                nl_langinfo.3c                      \
245                offsetof.3c                         \
246                opendir.3c                          \
247                perror.3c                           \
248                pfmt.3c                             \
249                plock.3c                            \
250                popen.3c                            \
251                port_alert.3c                       \
252                port_associate.3c                   \
253                port_create.3c                      \
254                port_get.3c                         \
255                port_send.3c                        \
256                posix_fadvise.3c                    \
257                posix_fallocate.3c                  \
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258                posix_madvise.3c                        \
259                posix_memalign.3c                       \
260                posix_openpt.3c                         \
261                posix_spawn.3c                          \
262                posix_spawn_file_actions_addclose.3c    \
263                posix_spawn_file_actions_addclosefrom_np.3c     \
264                posix_spawn_file_actions_adddup2.3c     \
265                posix_spawn_file_actions_destroy.3c     \
266                posix_spawn_pipe_np.3c                  \
267                posix_spawnattr_destroy.3c              \
268                posix_spawnattr_getflags.3c             \
269                posix_spawnattr_getpgroup.3c            \
270                posix_spawnattr_getschedparam.3c        \
271                posix_spawnattr_getschedpolicy.3c       \
272                posix_spawnattr_getsigdefault.3c        \
273                posix_spawnattr_getsigignore_np.3c      \
274                posix_spawnattr_getsigmask.3c           \
275                printf.3c                               \
276                priv_addset.3c                          \
277                priv_set.3c                             \
278                priv_str_to_set.3c                      \
279                pset_getloadavg.3c                      \
280                psignal.3c                              \
281                pthread_atfork.3c                       \
282                pthread_attr_getdetachstate.3c          \
283                pthread_attr_getguardsize.3c            \
284                pthread_attr_getinheritsched.3c         \
285                pthread_attr_getschedparam.3c           \
286                pthread_attr_getschedpolicy.3c          \
287                pthread_attr_getscope.3c                \
288                pthread_attr_getstack.3c                \
289                pthread_attr_getstackaddr.3c            \
290                pthread_attr_getstacksize.3c            \
291                pthread_attr_init.3c                    \
292                pthread_barrier_destroy.3c              \
293                pthread_barrier_wait.3c                 \
294                pthread_barrierattr_destroy.3c          \
295                pthread_barrierattr_getpshared.3c       \
296                pthread_cancel.3c                       \
297                pthread_cleanup_pop.3c                  \
298                pthread_cleanup_push.3c                 \
299                pthread_cond_init.3c                    \
300                pthread_cond_signal.3c                  \
301                pthread_cond_wait.3c                    \
302                pthread_condattr_getclock.3c            \
303                pthread_condattr_getpshared.3c          \
304                pthread_condattr_init.3c                \
305                pthread_create.3c                       \
306                pthread_detach.3c                       \
307                pthread_equal.3c                        \
308                pthread_exit.3c                         \
309                pthread_getconcurrency.3c               \
310                pthread_getschedparam.3c                \
311                pthread_getspecific.3c                  \
312                pthread_join.3c                         \
313                pthread_key_create.3c                   \
314                pthread_key_delete.3c                   \
315                pthread_kill.3c                         \
316                pthread_mutex_getprioceiling.3c         \
317                pthread_mutex_init.3c                   \
318                pthread_mutex_lock.3c                   \
319                pthread_mutex_timedlock.3c              \
320                pthread_mutexattr_getprioceiling.3c     \
321                pthread_mutexattr_getprotocol.3c        \
322                pthread_mutexattr_getpshared.3c         \
323                pthread_mutexattr_gettype.3c            \
```



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324                pthread_mutexattr_init.3c               \
325                pthread_once.3c                         \
326                pthread_rwlock_init.3c                  \
327                pthread_rwlock_rdlock.3c                \
328                pthread_rwlock_timedrdlock.3c           \
329                pthread_rwlock_timedwrlock.3c           \
330                pthread_rwlock_unlock.3c                \
331                pthread_rwlock_wrlock.3c                \
332                pthread_rwlockattr_getpshared.3c        \
333                pthread_rwlockattr_init.3c              \
334                pthread_self.3c                         \
335                pthread_setcancelstate.3c               \
336                pthread_setcanceltype.3c                \
337                pthread_setschedprio.3c                 \
338                pthread_sigmask.3c                      \
339                pthread_spin_destroy.3c                 \
340                pthread_spin_lock.3c                    \
341                pthread_spin_unlock.3c                  \
342                pthread_testcancel.3c                   \
343                ptrace.3c                               \
344                ptsname.3c                              \
345                putenv.3c                               \
346                putpwent.3c                             \
347                puts.3c                                 \
348                putspent.3c                             \
349                putws.3c                                \
350                qsort.3c                                \
351                raise.3c                                \
352                rand.3c                                 \
353                random.3c                               \
354                rctl_walk.3c                            \
355                rctlblk_set_value.3c                    \
356                re_comp.3c                              \
357                readdir.3c                              \
358                realpath.3c                             \
359                reboot.3c                               \
360                regcmp.3c                               \
361                regcomp.3c                              \
362                remove.3c                               \
363                rewind.3c                               \
364                rewinddir.3c                            \
365                rwlock.3c                               \
366                scandir.3c                              \
367                scanf.3c                                \
368                sched_get_priority_max.3c               \
369                sched_getparam.3c                       \
370                sched_getscheduler.3c                   \
371                sched_rr_get_interval.3c                \
372                sched_setparam.3c                       \
373                sched_setscheduler.3c                   \
374                sched_yield.3c                          \
375                schedctl_init.3c                        \
376                seekdir.3c                              \
377                select.3c                               \
378                sem_close.3c                            \
379                sem_destroy.3c                          \
380                sem_getvalue.3c                         \
381                sem_init.3c                             \
382                sem_open.3c                             \
383                sem_post.3c                             \
384                sem_timedwait.3c                        \
385                sem_unlink.3c                           \
386                sem_wait.3c                             \
387                semaphore.3c                            \
388                setbuf.3c                               \
389                setbuffer.3c                            \
```

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390                 setcat.3c                                   \
391                 setenv.3c                                   \
392                 setjmp.3c                                   \
393                 setkey.3c                                   \
394                 setlabel.3c                                 \
395                 setlocale.3c                                \
396                 shm_open.3c                                 \
397                 shm_unlink.3c                               \
398                 sigfpe.3c                                   \
399                 siginterrupt.3c                             \
400                 signal.3c                                   \
401                 sigqueue.3c                                 \
402                 sigsetops.3c                                \
403                 sigstack.3c                                 \
404                 sigwaitinfo.3c                              \
405                 sleep.3c                                    \
406                 ssignal.3c                                  \
407                 stack_getbounds.3c                          \
408                 stack_inbounds.3c                           \
409                 stack_setbounds.3c                          \
410                 stack_violation.3c                          \
411                 stdio.3c                                    \
412                 str2sig.3c                                  \
413                 strcoll.3c                                  \
414                 strerror.3c                                 \
415                 strfmon.3c                                  \
416                 strftime.3c                                 \
417                 string.3c                                   \
418                 string_to_decimal.3c                        \
419                 strptime.3c                                 \
420                 strsignal.3c                                \
421                 strtod.3c                                   \
422                 strtoimax.3c                                \
423                 strtol.3c                                   \
424                 strtoul.3c                                  \
425                 strtows.3c                                  \
426                 strxfrm.3c                                  \
427                 swab.3c                                     \
428                 sync_instruction_memory.3c                  \
429                 sysconf.3c                                  \
430                 syslog.3c                                   \
431                 system.3c                                   \
432                 tcdrain.3c                                  \
433                 tcflow.3c                                   \
434                 tcflush.3c                                  \
435                 tcgetattr.3c                                \
436                 tcgetpgrp.3c                                \
437                 tcgetsid.3c                                 \
438                 tcsendbreak.3c                              \
439                 tcsetattr.3c                                \
440                 tcsetpgrp.3c                                \
441                 tell.3c                                     \
442                 telldir.3c                                  \
443                 termios.3c                                  \
444                 thr_create.3c                               \
445                 thr_exit.3c                                 \
446                 thr_getconcurrency.3c                       \
447                 thr_getprio.3c                              \
448                 thr_join.3c                                 \
449                 thr_keycreate.3c                            \
450                 thr_kill.3c                                 \
451                 thr_main.3c                                 \
452                 thr_min_stack.3c                            \
453                 thr_self.3c                                 \
454                 thr_sigsetmask.3c                           \
455                 thr_stksegment.3c                           \
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456                 thr_suspend.3c                              \
457                 thr_yield.3c                                \
458                 timer_create.3c                             \
459                 timer_delete.3c                             \
460                 timer_settime.3c                            \
461                 timeradd.3c                                 \
462                 tmpfile.3c                                  \
463                 tmpnam.3c                                   \
464                 toascii.3c                                  \
465                 tolower.3c                                  \
466                 toupper.3c                                  \
467                 towlower.3c                                 \
468                 towupper.3c                                 \
469                 truncate.3c                                 \
470                 tsearch.3c                                  \
471                 ttyname.3c                                  \
472                 ttyslot.3c                                  \
473                 u8_strcmp.3c                                \
474                 u8_textprep_str.3c                          \
475                 u8_validate.3c                              \
476                 ualarm.3c                                   \
477                 uconv_u16tou32.3c                           \
478                 ucred_get.3c                                \
479                 ungetc.3c                                   \
480                 ungetwc.3c                                  \
481                 unlockpt.3c                                 \
482                 unsetenv.3c                                 \
483                 uselocale.3c                                \
484                 usleep.3c                                   \
485                 vfwprintf.3c                                \
486                 vlfmt.3c                                    \
487                 vpfmt.3c                                    \
488                 vprintf.3c                                  \
489                 vsyslog.3c                                  \
490                 wait.3c                                     \
491                 wait3.3c                                    \
492                 waitpid.3c                                  \
493                 walkcontext.3c                              \
494                 wcrtomb.3c                                  \
495                 wcscasecmp.3c                               \
496                 wcscoll.3c                                  \
497                 wcsdup.3c                                   \
498                 wcsftime.3c                                 \
499                 wcslen.3c                                   \
500                 wcsrtombs.3c                                \
501                 wcsstr.3c                                   \
502                 wcstod.3c                                   \
503                 wcstoimax.3c                                \
504                 wcstol.3c                                   \
505                 wcstoul.3c                                  \
506                 wcstring.3c                                 \
507                 wcswidth.3c                                 \
508                 wcsxfrm.3c                                  \
509                 wctob.3c                                    \
510                 wctomb.3c                                   \
511                 wctrans.3c                                  \
512                 wctype.3c                                   \
513                 wcwidth.3c                                  \
514                 wmemchr.3c                                  \
515                 wmemcmp.3c                                  \
516                 wmemcpy.3c                                  \
517                 wmemmove.3c                                 \
518                 wmemset.3c                                  \
519                 wordexp.3c                                  \
520                 wsprintf.3c                                 \
521                 wsscanf.3c                                  \
```

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522                 wstring.3c                                      \

524 MANLINKS=       FD_CLR.3c                                       \
525                 FD_ISSET.3c                                     \
526                 FD_SET.3c                                       \
527                 FD_ZERO.3c                                      \
528                 __flbf.3c                                       \
529                 __fpending.3c                                   \
530                 __fpurge.3c                                     \
531                 __freadable.3c                                  \
532                 __freading.3c                                   \
533                 __fsetlocking.3c                                \
534                 __fwritable.3c                                  \
535                 __fwriting.3c                                   \
536                 _edata.3c                                       \
537                 _end.3c                                         \
538                 _etext.3c                                       \
539                 _exithandle.3c                                  \
540                 _flushlbf.3c                                    \
541                 _setjmp.3c                                      \
542                 addrtosymstr.3c                                 \
543                 aiowrite.3c                                     \
544                 alloca.3c                                       \
545                 alphasort.3c                                    \
546                 ascftime.3c                                     \
547                 asctime.3c                                      \
548                 asctime_r.3c                                    \
549                 asprintf.3c                                     \
550                 atof.3c                                         \
551                 atoi.3c                                         \
552                 atol.3c                                         \
553                 atoll.3c                                        \
554                 atomic_add_16.3c                                \
555                 atomic_add_16_nv.3c                             \
556                 atomic_add_32.3c                                \
557                 atomic_add_32_nv.3c                             \
558                 atomic_add_64.3c                                \
559                 atomic_add_64_nv.3c                             \
560                 atomic_add_8.3c                                 \
561                 atomic_add_8_nv.3c                              \
562                 atomic_add_char.3c                              \
563                 atomic_add_char_nv.3c                           \
564                 atomic_add_int.3c                               \
565                 atomic_add_int_nv.3c                            \
566                 atomic_add_long.3c                              \
567                 atomic_add_long_nv.3c                           \
568                 atomic_add_ptr.3c                               \
569                 atomic_add_ptr_nv.3c                            \
570                 atomic_add_short.3c                             \
571                 atomic_add_short_nv.3c                          \
572                 atomic_and_16.3c                                \
573                 atomic_and_16_nv.3c                             \
574                 atomic_and_32.3c                                \
575                 atomic_and_32_nv.3c                             \
576                 atomic_and_64.3c                                \
577                 atomic_and_64_nv.3c                             \
578                 atomic_and_8.3c                                 \
579                 atomic_and_8_nv.3c                              \
580                 atomic_and_uchar.3c                             \
581                 atomic_and_uchar_nv.3c                          \
582                 atomic_and_uint.3c                              \
583                 atomic_and_uint_nv.3c                           \
584                 atomic_and_ulong.3c                             \
585                 atomic_and_ulong_nv.3c                          \
586                 atomic_and_ushort.3c                            \
587                 atomic_and_ushort_nv.3c                         \
```



```
588                 atomic_cas_16.3c                                \
589                 atomic_cas_32.3c                                \
590                 atomic_cas_64.3c                                \
591                 atomic_cas_8.3c                                 \
592                 atomic_cas_ptr.3c                               \
593                 atomic_cas_uchar.3c                             \
594                 atomic_cas_uint.3c                              \
595                 atomic_cas_ulong.3c                             \
596                 atomic_cas_ushort.3c                            \
597                 atomic_clear_long_excl.3c                       \
598                 atomic_dec_16.3c                                \
599                 atomic_dec_16_nv.3c                             \
600                 atomic_dec_32.3c                                \
601                 atomic_dec_32_nv.3c                             \
602                 atomic_dec_64.3c                                \
603                 atomic_dec_64_nv.3c                             \
604                 atomic_dec_8.3c                                 \
605                 atomic_dec_8_nv.3c                              \
606                 atomic_dec_ptr.3c                               \
607                 atomic_dec_ptr_nv.3c                            \
608                 atomic_dec_uchar.3c                             \
609                 atomic_dec_uchar_nv.3c                          \
610                 atomic_dec_uint.3c                              \
611                 atomic_dec_uint_nv.3c                           \
612                 atomic_dec_ulong.3c                             \
613                 atomic_dec_ulong_nv.3c                          \
614                 atomic_dec_ushort.3c                            \
615                 atomic_dec_ushort_nv.3c                         \
616                 atomic_inc_16.3c                                \
617                 atomic_inc_16_nv.3c                             \
618                 atomic_inc_32.3c                                \
619                 atomic_inc_32_nv.3c                             \
620                 atomic_inc_64.3c                                \
621                 atomic_inc_64_nv.3c                             \
622                 atomic_inc_8.3c                                 \
623                 atomic_inc_8_nv.3c                              \
624                 atomic_inc_ptr.3c                               \
625                 atomic_inc_ptr_nv.3c                            \
626                 atomic_inc_uchar.3c                             \
627                 atomic_inc_uchar_nv.3c                          \
628                 atomic_inc_uint.3c                              \
629                 atomic_inc_uint_nv.3c                           \
630                 atomic_inc_ulong.3c                             \
631                 atomic_inc_ulong_nv.3c                          \
632                 atomic_inc_ushort.3c                            \
633                 atomic_inc_ushort_nv.3c                         \
634                 atomic_or_16.3c                                 \
635                 atomic_or_16_nv.3c                              \
636                 atomic_or_32.3c                                 \
637                 atomic_or_32_nv.3c                              \
638                 atomic_or_64.3c                                 \
639                 atomic_or_64_nv.3c                              \
640                 atomic_or_8.3c                                  \
641                 atomic_or_8_nv.3c                               \
642                 atomic_or_uchar.3c                              \
643                 atomic_or_uchar_nv.3c                           \
644                 atomic_or_uint.3c                               \
645                 atomic_or_uint_nv.3c                            \
646                 atomic_or_ulong.3c                              \
647                 atomic_or_ulong_nv.3c                           \
648                 atomic_or_ushort.3c                             \
649                 atomic_or_ushort_nv.3c                          \
650                 atomic_set_long_excl.3c                         \
651                 atomic_swap_16.3c                               \
652                 atomic_swap_32.3c                               \
653                 atomic_swap_64.3c                               \
```

```
654                 atomic_swap_8.3c                    \
655                 atomic_swap_ptr.3c                  \
656                 atomic_swap_uchar.3c                \
657                 atomic_swap_uint.3c                 \
658                 atomic_swap_ulong.3c                \
659                 atomic_swap_ushort.3c               \
660                 backtrace.3c                        \
661                 backtrace_symbols.3c                \
662                 backtrace_symbols_fd.3c             \
663                 bcmp.3c                             \
664                 bcopy.3c                            \
665                 bind_textdomain_codeset.3c          \
666                 bindtextdomain.3c                   \
667                 btowc_l.3c                          \
668                 bzero.3c                            \
669                 calloc.3c                           \
670                 catclose.3c                         \
671                 cfgetospeed.3c                      \
672                 cfsetospeed.3c                      \
673                 cftime.3c                           \
674                 clearerr.3c                         \
675                 clock_getres.3c                     \
676                 clock_gettime.3c                    \
677                 closelog.3c                         \
678                 cond_broadcast.3c                   \
679                 cond_destroy.3c                     \
680                 cond_reltimedwait.3c                \
681                 cond_signal.3c                      \
682                 cond_timedwait.3c                   \
683                 cond_wait.3c                        \
684                 csetcol.3c                          \
685                 csetlen.3c                          \
686                 csetno.3c                           \
687                 ctermid_r.3c                        \
688                 ctime_r.3c                          \
689                 dbm_clearerr.3c                     \
690                 dbm_close.3c                        \
691                 dbm_delete.3c                       \
692                 dbm_error.3c                        \
693                 dbm_fetch.3c                        \
694                 dbm_firstkey.3c                     \
695                 dbm_nextkey.3c                      \
696                 dbm_open.3c                         \
697                 dbm_store.3c                        \
698                 dcgettext.3c                        \
699                 dcngettext.3c                       \
700                 decimal_to_double.3c                \
701                 decimal_to_extended.3c              \
702                 decimal_to_quadruple.3c             \
703                 decimal_to_single.3c                \
704                 dgettext.3c                         \
705                 dladdr1.3c                          \
706                 dlmopen.3c                          \
707                 dngettext.3c                        \
708                 door_setparam.3c                    \
709                 door_unbind.3c                      \
710                 double_to_decimal.3c                \
711                 dup3.3c                             \
712                 duplocale.3c                        \
713                 edata.3c                            \
714                 endgrent.3c                         \
715                 endnetgrent.3c                      \
716                 endpwent.3c                         \
717                 endspent.3c                         \
718                 endusershell.3c                     \
719                 endutent.3c                         \
```



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720                 endutxent.3c                        \
721                 erand48.3c                          \
722                 errno.3c                            \
723                 errx.3c                             \
724                 etext.3c                            \
725                 euccol.3c                           \
726                 eucscol.3c                          \
727                 extended_to_decimal.3c              \
728                 fconvert.3c                         \
729                 fcvt.3c                             \
730                 fdopendir.3c                        \
731                 fdwalk.3c                           \
732                 feof.3c                             \
733                 fgetgrent.3c                        \
734                 fgetgrent_r.3c                      \
735                 fgetpwent.3c                        \
736                 fgetpwent_r.3c                      \
737                 fgets.3c                            \
738                 fgetspent.3c                        \
739                 fgetspent_r.3c                      \
740                 fgetwc_l.3c                         \
741                 fgetws.3c                           \
742                 file_to_decimal.3c                  \
743                 fileno.3c                           \
744                 finite.3c                           \
745                 fpclass.3c                          \
746                 fpgetmask.3c                        \
747                 fpgetsticky.3c                      \
748                 fprintf.3c                          \
749                 fpsetmask.3c                        \
750                 fpsetround.3c                       \
751                 fpsetsticky.3c                      \
752                 fputs.3c                            \
753                 free.3c                             \
754                 freelocale.3c                       \
755                 fscanf.3c                           \
756                 fseeko.3c                           \
757                 fsetattr.3c                         \
758                 ftello.3c                           \
759                 ftruncate.3c                        \
760                 ftrylockfile.3c                     \
761                 func_to_decimal.3c                  \
762                 funlockfile.3c                      \
763                 gconvert.3c                         \
764                 gcvt.3c                             \
765                 getattrat.3c                        \
766                 getc.3c                             \
767                 getc_unlocked.3c                    \
768                 getchar.3c                          \
769                 getchar_unlocked.3c                 \
770                 getdelim.3c                         \
771                 getextmntent.3c                     \
772                 getgrent.3c                         \
773                 getgrent_r.3c                       \
774                 getgrgid.3c                         \
775                 getgrgid_r.3c                       \
776                 getgrnam_r.3c                       \
777                 gethomelgroup.3c                    \
778                 gethrvtime.3c                       \
779                 getlogin_r.3c                       \
780                 getmntany.3c                        \
781                 getnetgrent_r.3c                    \
782                 getpassphrase.3c                    \
783                 getpwent.3c                         \
784                 getpwent_r.3c                       \
785                 getpwnam_r.3c                       \
```

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786                 getpwuid.3c                         \
787                 getpwuid_r.3c                       \
788                 getspent.3c                         \
789                 getspent_r.3c                       \
790                 getspnam_r.3c                       \
791                 getutid.3c                          \
792                 getutline.3c                        \
793                 getutmp.3c                          \
794                 getutmpx.3c                         \
795                 getutxid.3c                         \
796                 getutxline.3c                       \
797                 getvfsany.3c                        \
798                 getvfsfile.3c                       \
799                 getvfsspec.3c                       \
800                 getw.3c                             \
801                 getwc_l.3c                          \
802                 getwchar_l.3c                       \
803                 getzoneidbyname.3c                  \
804                 getzonenamebyid.3c                  \
805                 globfree.3c                         \
806                 gmtime.3c                           \
807                 gmtime_r.3c                         \
808                 gsignal.3c                          \
809                 hasmntopt.3c                        \
810                 hcreate.3c                          \
811                 hdestroy.3c                         \
812                 initstate.3c                        \
813                 innetgr.3c                          \
814                 isalnum.3c                          \
815                 isalnum_l.3c                        \
816                 isalpha.3c                          \
817                 isalpha_l.3c                        \
818                 isascii.3c                          \
819                 isblank.3c                          \
820                 isblank_l.3c                        \
821                 iscntrl.3c                          \
822                 iscntrl_l.3c                        \
823                 isdigit.3c                          \
824                 isdigit_l.3c                        \
825                 isenglish.3c                        \
826                 isgraph.3c                          \
827                 isgraph_l.3c                        \
828                 isideogram.3c                       \
829                 islower.3c                          \
830                 islower_l.3c                        \
831                 isnanf.3c                           \
832                 isnumber.3c                         \
833                 isphonogram.3c                      \
834                 isprint.3c                          \
835                 isprint_l.3c                        \
836                 ispunct.3c                          \
837                 ispunct_l.3c                        \
838                 isspace.3c                          \
839                 isspace_l.3c                        \
840                 isspecial.3c                        \
841                 isupper.3c                          \
842                 isupper_l.3c                        \
843                 iswalnum.3c                         \
844                 iswalnum_l.3c                       \
845                 iswalpha_l.3c                       \
846                 iswascii.3c                         \
847                 iswblank.3c                         \
848                 iswblank_l.3c                       \
849                 iswcntrl.3c                         \
850                 iswcntrl_l.3c                       \
851                 iswctype_l.3c                       \
```



```
852                 iswdigit.3c                         \
853                 iswdigit_l.3c                       \
854                 iswgraph.3c                         \
855                 iswgraph_l.3c                       \
856                 iswideogram.3c                      \
857                 iswideogram_l.3c                    \
858                 iswhexnumber.3c                     \
859                 iswhexnumber_l.3c                   \
860                 iswlower.3c                         \
861                 iswlower_l.3c                       \
862                 iswnumber.3c                        \
863                 iswnumber_l.3c                      \
864                 iswphonogram.3c                     \
865                 iswphonogram_l.3c                   \
866                 iswprint.3c                         \
867                 iswprint_l.3c                       \
868                 iswpunct.3c                         \
869                 iswpunct_l.3c                       \
870                 iswspace.3c                         \
871                 iswspace_l.3c                       \
872                 iswspecial.3c                       \
873                 iswspecial_l.3c                     \
874                 iswupper.3c                         \
875                 iswupper_l.3c                       \
876                 iswxdigit.3c                        \
877                 iswxdigit_l.3c                      \
878                 isxdigit.3c                         \
879                 isxdigit_l.3c                       \
880                 jrand48.3c                          \
881                 l64a.3c                             \
882                 labs.3c                             \
883                 lcong48.3c                          \
884                 ldiv.3c                             \
885                 lfind.3c                            \
886                 llabs.3c                            \
887                 lldiv.3c                            \
888                 lltostr.3c                          \
889                 localtime.3c                        \
890                 localtime_r.3c                      \
891                 longjmp.3c                          \
892                 lrand48.3c                          \
893                 major.3c                            \
894                 mblen_l.3c                          \
895                 mbrlen_l.3c                         \
896                 mbrtowc_l.3c                        \
897                 mbsinit_l.3c                        \
898                 mbsnrtowcs.3c                       \
899                 mbsnrtowcs_l.3c                     \
900                 mbsrtowcs_l.3c                      \
901                 mbstowcs.3c                         \
902                 mbstowcs_l.3c                       \
903                 mbtowc_l.3c                         \
904                 memalign.3c                         \
905                 membar_consumer.3c                  \
906                 membar_enter.3c                     \
907                 membar_exit.3c                      \
908                 membar_producer.3c                  \
909                 memccpy.3c                          \
910                 memchr.3c                           \
911                 memcmp.3c                           \
912                 memcpy.3c                           \
913                 memmove.3c                          \
914                 memset.3c                           \
915                 minor.3c                            \
916                 mkdtemp.3c                          \
917                 mkostemp.3c                         \
```

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 918                mkostemps.3c                          \
 919                mkstemps.3c                           \
 920                mq_reltimedreceive_np.3c              \
 921                mq_reltimedsend_np.3c                 \
 922                mq_timedreceive.3c                    \
 923                mq_timedsend.3c                       \
 924                mrand48.3c                            \
 925                munlock.3c                            \
 926                munlockall.3c                         \
 927                mutex_consistent.3c                   \
 928                mutex_destroy.3c                      \
 929                mutex_lock.3c                         \
 930                mutex_trylock.3c                      \
 931                mutex_unlock.3c                       \
 932                nl_langinfo_l.3c                      \
 933                nftw.3c                               \
 934                ngettext.3c                           \
 935                nrand48.3c                            \
 936                openlog.3c                            \
 937                pclose.3c                             \
 938                port_dissociate.3c                    \
 939                port_getn.3c                          \
 940                port_sendn.3c                         \
 941                posix_spawn_file_actions_addopen.3c   \
 942                posix_spawn_file_actions_init.3c      \
 943                posix_spawnattr_init.3c               \
 944                posix_spawnattr_setflags.3c           \
 945                posix_spawnattr_setpgroup.3c          \
 946                posix_spawnattr_setschedparam.3c      \
 947                posix_spawnattr_setschedpolicy.3c     \
 948                posix_spawnattr_setsigdefault.3c      \
 949                posix_spawnattr_setsigignore_np.3c    \
 950                posix_spawnattr_setsigmask.3c         \
 951                posix_spawnp.3c                       \
 952                printstack.3c                         \
 953                priv_allocset.3c                      \
 954                priv_basicset.3c                      \
 955                priv_copyset.3c                       \
 956                priv_delset.3c                        \
 957                priv_emptyset.3c                      \
 958                priv_fillset.3c                       \
 959                priv_freeset.3c                       \
 960                priv_getbyname.3c                     \
 961                priv_getbynum.3c                      \
 962                priv_getsetbyname.3c                  \
 963                priv_getsetbynum.3c                   \
 964                priv_gettext.3c                       \
 965                priv_ineffect.3c                      \
 966                priv_intersect.3c                     \
 967                priv_inverse.3c                       \
 968                priv_isemptyset.3c                    \
 969                priv_isequalset.3c                    \
 970                priv_isfullset.3c                     \
 971                priv_ismember.3c                      \
 972                priv_issubset.3c                      \
 973                priv_set_to_str.3c                    \
 974                priv_union.3c                         \
 975                pselect.3c                            \
 976                psiginfo.3c                           \
 977                pthread_attr_destroy.3c               \
 978                pthread_attr_setdetachstate.3c        \
 979                pthread_attr_setguardsize.3c          \
 980                pthread_attr_setinheritsched.3c       \
 981                pthread_attr_setschedparam.3c         \
 982                pthread_attr_setschedpolicy.3c        \
 983                pthread_attr_setscope.3c              \
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 984                pthread_attr_setstack.3c              \
 985                pthread_attr_setstackaddr.3c          \
 986                pthread_attr_setstacksize.3c          \
 987                pthread_barrier_init.3c               \
 988                pthread_barrierattr_init.3c           \
 989                pthread_barrierattr_setpshared.3c     \
 990                pthread_cond_broadcast.3c             \
 991                pthread_cond_destroy.3c               \
 992                pthread_cond_reltimedwait_np.3c       \
 993                pthread_cond_timedwait.3c             \
 994                pthread_condattr_destroy.3c           \
 995                pthread_condattr_setclock.3c          \
 996                pthread_condattr_setpshared.3c        \
 997                pthread_key_create_once_np.3c         \
 998                pthread_mutex_destroy.3c              \
 999                pthread_mutex_reltimedlock_np.3c      \
1000                pthread_mutex_setprioceiling.3c       \
1001                pthread_mutex_trylock.3c              \
1002                pthread_mutex_unlock.3c               \
1003                pthread_mutexattr_destroy.3c          \
1004                pthread_mutexattr_setprioceiling.3c   \
1005                pthread_mutexattr_setprotocol.3c      \
1006                pthread_mutexattr_setpshared.3c       \
1007                pthread_mutexattr_settype.3c          \
1008                pthread_rwlock_destroy.3c             \
1009                pthread_rwlock_reltimedrdlock_np.3c   \
1010                pthread_rwlock_reltimedwrlock_np.3c   \
1011                pthread_rwlock_tryrdlock.3c           \
1012                pthread_rwlock_trywrlock.3c           \
1013                pthread_rwlockattr_destroy.3c         \
1014                pthread_rwlockattr_setpshared.3c      \
1015                pthread_setconcurrency.3c             \
1016                pthread_setschedparam.3c              \
1017                pthread_setspecific.3c                \
1018                pthread_spin_init.3c                  \
1019                pthread_spin_trylock.3c               \
1020                putc.3c                               \
1021                putc_unlocked.3c                      \
1022                putchar.3c                            \
1023                putchar_unlocked.3c                   \
1024                putmntent.3c                          \
1025                pututline.3c                          \
1026                pututxline.3c                         \
1027                putw.3c                               \
1028                putwc.3c                              \
1029                putwchar.3c                           \
1030                qeconvert.3c                          \
1031                qfconvert.3c                          \
1032                qgconvert.3c                          \
1033                quadruple_to_decimal.3c               \
1034                rand_r.3c                             \
1035                rctlblk_get_enforced_value.3c         \
1036                rctlblk_get_firing_time.3c            \
1037                rctlblk_get_global_action.3c          \
1038                rctlblk_get_global_flags.3c           \
1039                rctlblk_get_local_action.3c           \
1040                rctlblk_get_local_flags.3c            \
1041                rctlblk_get_privilege.3c              \
1042                rctlblk_get_recipient_pid.3c          \
1043                rctlblk_get_value.3c                  \
1044                rctlblk_set_local_action.3c           \
1045                rctlblk_set_local_flags.3c            \
1046                rctlblk_set_privilege.3c              \
1047                rctlblk_set_recipient_pid.3c          \
1048                rctlblk_size.3c                       \
1049                re_exec.3c                            \
```

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1050                    readdir_r.3c                    \
1051                    realloc.3c                      \
1052                    regerror.3c                     \
1053                    regex.3c                        \
1054                    regexec.3c                      \
1055                    regfree.3c                      \
1056                    remque.3c                       \
1057                    resetmnttab.3c                  \
1058                    rindex.3c                       \
1059                    rw_rdlock.3c                    \
1060                    rw_tryrdlock.3c                 \
1061                    rw_trywrlock.3c                 \
1062                    rw_unlock.3c                    \
1063                    rw_wrlock.3c                    \
1064                    rwlock_destroy.3c               \
1065                    rwlock_init.3c                  \
1066                    sched_get_priority_min.3c       \
1067                    schedctl_exit.3c                \
1068                    schedctl_lookup.3c              \
1069                    schedctl_start.3c               \
1070                    schedctl_stop.3c                \
1071                    seconvert.3c                    \
1072                    seed48.3c                       \
1073                    sem_reltimedwait_np.3c          \
1074                    sem_trywait.3c                  \
1075                    sema_destroy.3c                 \
1076                    sema_init.3c                    \
1077                    sema_post.3c                    \
1078                    sema_trywait.3c                 \
1079                    sema_wait.3c                    \
1080                    setattrat.3c                    \
1081                    setgrent.3c                     \
1082                    sethostname.3c                  \
1083                    setlinebuf.3c                   \
1084                    setlogmask.3c                   \
1085                    setnetgrent.3c                  \
1086                    setpriority.3c                  \
1087                    setpwent.3c                     \
1088                    setspent.3c                     \
1089                    setstate.3c                     \
1090                    settimeofday.3c                 \
1091                    setusershell.3c                 \
1092                    setutent.3c                     \
1093                    setutxent.3c                    \
1094                    setvbuf.3c                      \
1095                    sfconvert.3c                    \
1096                    sgconvert.3c                    \
1097                    sig2str.3c                      \
1098                    sigaddset.3c                    \
1099                    sigdelset.3c                    \
1100                    sigemptyset.3c                  \
1101                    sigfillset.3c                   \
1102                    sighold.3c                      \
1103                    sigignore.3c                    \
1104                    sigismember.3c                  \
1105                    siglongjmp.3c                   \
1106                    sigpause.3c                     \
1107                    sigrelse.3c                     \
1108                    sigset.3c                       \
1109                    sigsetjmp.3c                    \
1110                    sigtimedwait.3c                 \
1111                    single_to_decimal.3c            \
1112                    snprintf.3c                     \
1113                    sprintf.3c                      \
1114                    srand.3c                        \
1115                    srand48.3c                      \
```



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1116                    srandom.3c                      \
1117                    sscanf.3c                       \
1118                    stderr.3c                       \
1119                    stdin.3c                        \
1120                    stdout.3c                       \
1121                    strcasecmp.3c                   \
1122                    strcasecmp_l.3c                 \
1123                    strcat.3c                       \
1124                    strchr.3c                       \
1125                    strcmp.3c                       \
1126                    strcoll_l.3c                    \
1127                    strcpy.3c                       \
1128                    strcspn.3c                      \
1129                    strdup.3c                       \
1130                    strerror_r.3c                   \
1131                    strfmon_l.3c                    \
1132                    strftime_l.3c                   \
1133                    strlcat.3c                      \
1134                    strlcpy.3c                      \
1135                    strlen.3c                       \
1136                    strncasecmp.3c                  \
1137                    strncasecmp_l.3c                \
1138                    strncat.3c                      \
1139                    strncmp.3c                      \
1140                    strncpy.3c                      \
1141                    strnlen.3c                      \
1142                    strpbrk.3c                      \
1143                    strptime_l.3c                   \
1144                    strrchr.3c                      \
1145                    strsep.3c                       \
1146                    strspn.3c                       \
1147                    strstr.3c                       \
1148                    strtof.3c                       \
1149                    strtok.3c                       \
1150                    strtok_r.3c                     \
1151                    strtold.3c                      \
1152                    strtoll.3c                      \
1153                    strtoull.3c                     \
1154                    strtoumax.3c                    \
1155                    strxfrm_l.3c                    \
1156                    swapcontext.3c                  \
1157                    swprintf.3c                     \
1158                    swscanf.3c                      \
1159                    tdelete.3c                      \
1160                    tempnam.3c                      \
1161                    textdomain.3c                   \
1162                    tfind.3c                        \
1163                    thr_continue.3c                 \
1164                    thr_getspecific.3c              \
1165                    thr_keycreate_once.3c           \
1166                    thr_setconcurrency.3c           \
1167                    thr_setprio.3c                  \
1168                    thr_setspecific.3c              \
1169                    timer_getoverrun.3c             \
1170                    timer_gettime.3c                \
1171                    timerclear.3c                   \
1172                    timercmp.3c                     \
1173                    timerisset.3c                   \
1174                    timersub.3c                     \
1175                    tmpnam_r.3c                     \
1176                    tolower_l.3c                    \
1177                    toupper_l.3c                    \
1178                    towctrans.3c                    \
1179                    towctrans_l.3c                  \
1180                    towlower_l.3c                   \
1181                    towupper_l.3c                   \
```

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1182                ttyname_r.3c                        \
1183                twalk.3c                            \
1184                tzset.3c                            \
1185                uconv_u16tou8.3c                    \
1186                uconv_u32tou16.3c                   \
1187                uconv_u32tou8.3c                    \
1188                uconv_u8tou16.3c                    \
1189                uconv_u8tou32.3c                    \
1190                ucred_free.3c                       \
1191                ucred_getegid.3c                    \
1192                ucred_geteuid.3c                    \
1193                ucred_getgroups.3c                  \
1194                ucred_getlabel.3c                   \
1195                ucred_getpflags.3c                  \
1196                ucred_getpid.3c                     \
1197                ucred_getprivset.3c                 \
1198                ucred_getprojid.3c                  \
1199                ucred_getrgid.3c                    \
1200                ucred_getruid.3c                    \
1201                ucred_getsgid.3c                    \
1202                ucred_getsuid.3c                    \
1203                ucred_getzoneid.3c                  \
1204                ucred_size.3c                       \
1205                ulckpwdf.3c                         \
1206                ulltostr.3c                         \
1207                unordered.3c                        \
1208                updwtmp.3c                          \
1209                updwtmpx.3c                         \
1210                utmpname.3c                         \
1211                utmpxname.3c                        \
1212                valloc.3c                           \
1213                vasprintf.3c                        \
1214                verr.3c                             \
1215                verrx.3c                            \
1216                vfprintf.3c                         \
1217                vfscanf.3c                          \
1218                vfwscanf.3c                         \
1219                vscanf.3c                           \
1220                vsnprintf.3c                        \
1221                vsprintf.3c                         \
1222                vsscanf.3c                          \
1223                vswprintf.3c                        \
1224                vswscanf.3c                         \
1225                vwarn.3c                            \
1226                vwarnx.3c                           \
1227                vwprintf.3c                         \
1228                vwscanf.3c                          \
1229                wait4.3c                            \
1230                warn.3c                             \
1231                warnx.3c                            \
1232                watof.3c                            \
1233                watoi.3c                            \
1234                watol.3c                            \
1235                watoll.3c                           \
1236                wcrtomb_l.3c                        \
1237                wcscasecmp_l.3c                     \
1238                wcscat.3c                           \
1239                wcschr.3c                           \
1240                wcscmp.3c                           \
1241                wcscoll_l.3c                        \
1242                wcscpy.3c                           \
1243                wcscspn.3c                          \
1244                wcsetno.3c                          \
1241                wcslen.3c                           \
1245                wcsncat.3c                          \
1246                wcsncmp.3c                          \
```



```
1247                wcsncpy.3c                          \
1248                wcsncasecmp.3c                      \
1249                wcsncasecmp_l.3c                    \
1250                wcsnlen.3c                          \
1251                wcsnrtombs.3c                       \
1252                wcsnrtombs_l.3c                     \
1253                wcspbrk.3c                          \
1254                wcsrchr.3c                          \
1255                wcsrtombs_l.3c                      \
1256                wcsspn.3c                           \
1257                wcstof.3c                           \
1258                wcstok.3c                           \
1259                wcstold.3c                          \
1260                wcstoll.3c                          \
1261                wcstoull.3c                         \
1262                wcstoumax.3c                        \
1263                wcswcs.3c                           \
1264                wcswidth_l.3c                       \
1265                wctob_l.3c                          \
1266                wctomb_l.3c                         \
1267                wctrans_l.3c                        \
1268                wctype_l.3c                         \
1269                wcwidth_l.3c                        \
1270                windex.3c                           \
1271                wordfree.3c                         \
1272                wprintf.3c                          \
1273                wrindex.3c                          \
1274                wscanf.3c                           \
1275                wscasecmp.3c                        \
1276                wscat.3c                            \
1277                wschr.3c                            \
1278                wscmp.3c                            \
1279                wscol.3c                            \
1280                wscoll.3c                           \
1281                wscpy.3c                            \
1282                wscspn.3c                           \
1283                wsdup.3c                            \
1284                wslen.3c                            \
1285                wsncasecmp.3c                       \
1286                wsncat.3c                           \
1287                wsncmp.3c                           \
1288                wsncpy.3c                           \
1289                wspbrk.3c                           \
1290                wsrchr.3c                           \
1291                wsspn.3c                            \
1292                wstod.3c                            \
1293                wstok.3c                            \
1294                wstol.3c                            \
1295                wstostr.3c                          \
1296                wsxfrm.3c

1298 __flbf.3c                          := LINKSRC = __fbufsize.3c
1299 __fpending.3c                      := LINKSRC = __fbufsize.3c
1300 __fpurge.3c                        := LINKSRC = __fbufsize.3c
1301 __freadable.3c                     := LINKSRC = __fbufsize.3c
1302 __freading.3c                      := LINKSRC = __fbufsize.3c
1303 __fsetlocking.3c                   := LINKSRC = __fbufsize.3c
1304 __fwritable.3c                     := LINKSRC = __fbufsize.3c
1305 __fwriting.3c                      := LINKSRC = __fbufsize.3c
1306 _flushlbf.3c                       := LINKSRC = __fbufsize.3c

1308 _setjmp.3c                         := LINKSRC = _longjmp.3c

1310 l64a.3c                            := LINKSRC = a64l.3c

1312 labs.3c                            := LINKSRC = abs.3c
```

```
1313 llabs.3c                          := LINKSRC = abs.3c

1315 aiowrite.3c                       := LINKSRC = aioread.3c

1317 atomic_add_16.3c                  := LINKSRC = atomic_add.3c
1318 atomic_add_16_nv.3c               := LINKSRC = atomic_add.3c
1319 atomic_add_32.3c                  := LINKSRC = atomic_add.3c
1320 atomic_add_32_nv.3c               := LINKSRC = atomic_add.3c
1321 atomic_add_64.3c                  := LINKSRC = atomic_add.3c
1322 atomic_add_64_nv.3c               := LINKSRC = atomic_add.3c
1323 atomic_add_8.3c                   := LINKSRC = atomic_add.3c
1324 atomic_add_8_nv.3c                := LINKSRC = atomic_add.3c
1325 atomic_add_char.3c                := LINKSRC = atomic_add.3c
1326 atomic_add_char_nv.3c             := LINKSRC = atomic_add.3c
1327 atomic_add_int.3c                 := LINKSRC = atomic_add.3c
1328 atomic_add_int_nv.3c              := LINKSRC = atomic_add.3c
1329 atomic_add_long.3c                := LINKSRC = atomic_add.3c
1330 atomic_add_long_nv.3c             := LINKSRC = atomic_add.3c
1331 atomic_add_ptr.3c                 := LINKSRC = atomic_add.3c
1332 atomic_add_ptr_nv.3c              := LINKSRC = atomic_add.3c
1333 atomic_add_short.3c               := LINKSRC = atomic_add.3c
1334 atomic_add_short_nv.3c            := LINKSRC = atomic_add.3c
1335 atomic_and_16.3c                  := LINKSRC = atomic_and.3c
1336 atomic_and_16_nv.3c               := LINKSRC = atomic_and.3c
1337 atomic_and_32.3c                  := LINKSRC = atomic_and.3c
1338 atomic_and_32_nv.3c               := LINKSRC = atomic_and.3c
1339 atomic_and_64.3c                  := LINKSRC = atomic_and.3c
1340 atomic_and_64_nv.3c               := LINKSRC = atomic_and.3c
1341 atomic_and_8.3c                   := LINKSRC = atomic_and.3c
1342 atomic_and_8_nv.3c                := LINKSRC = atomic_and.3c
1343 atomic_and_uchar.3c               := LINKSRC = atomic_and.3c
1344 atomic_and_uchar_nv.3c            := LINKSRC = atomic_and.3c
1345 atomic_and_uint.3c                := LINKSRC = atomic_and.3c
1346 atomic_and_uint_nv.3c             := LINKSRC = atomic_and.3c
1347 atomic_and_ulong.3c               := LINKSRC = atomic_and.3c
1348 atomic_and_ulong_nv.3c            := LINKSRC = atomic_and.3c
1349 atomic_and_ushort.3c              := LINKSRC = atomic_and.3c
1350 atomic_and_ushort_nv.3c           := LINKSRC = atomic_and.3c

1352 atomic_clear_long_excl.3c         := LINKSRC = atomic_bits.3c
1353 atomic_set_long_excl.3c           := LINKSRC = atomic_bits.3c

1355 atomic_cas_16.3c                  := LINKSRC = atomic_cas.3c
1356 atomic_cas_32.3c                  := LINKSRC = atomic_cas.3c
1357 atomic_cas_64.3c                  := LINKSRC = atomic_cas.3c
1358 atomic_cas_8.3c                   := LINKSRC = atomic_cas.3c
1359 atomic_cas_ptr.3c                 := LINKSRC = atomic_cas.3c
1360 atomic_cas_uchar.3c               := LINKSRC = atomic_cas.3c
1361 atomic_cas_uint.3c                := LINKSRC = atomic_cas.3c
1362 atomic_cas_ulong.3c               := LINKSRC = atomic_cas.3c
1363 atomic_cas_ushort.3c              := LINKSRC = atomic_cas.3c

1365 atomic_dec_16.3c                  := LINKSRC = atomic_dec.3c
1366 atomic_dec_16_nv.3c               := LINKSRC = atomic_dec.3c
1367 atomic_dec_32.3c                  := LINKSRC = atomic_dec.3c
1368 atomic_dec_32_nv.3c               := LINKSRC = atomic_dec.3c
1369 atomic_dec_64.3c                  := LINKSRC = atomic_dec.3c
1370 atomic_dec_64_nv.3c               := LINKSRC = atomic_dec.3c
1371 atomic_dec_8.3c                   := LINKSRC = atomic_dec.3c
1372 atomic_dec_8_nv.3c                := LINKSRC = atomic_dec.3c
1373 atomic_dec_ptr.3c                 := LINKSRC = atomic_dec.3c
1374 atomic_dec_ptr_nv.3c              := LINKSRC = atomic_dec.3c
1375 atomic_dec_uchar.3c               := LINKSRC = atomic_dec.3c
1376 atomic_dec_uchar_nv.3c            := LINKSRC = atomic_dec.3c
1377 atomic_dec_uint.3c                := LINKSRC = atomic_dec.3c
1378 atomic_dec_uint_nv.3c             := LINKSRC = atomic_dec.3c
```



```
1379 atomic_dec_ulong.3c              := LINKSRC = atomic_dec.3c
1380 atomic_dec_ulong_nv.3c           := LINKSRC = atomic_dec.3c
1381 atomic_dec_ushort.3c             := LINKSRC = atomic_dec.3c
1382 atomic_dec_ushort_nv.3c          := LINKSRC = atomic_dec.3c

1384 atomic_inc_16.3c                 := LINKSRC = atomic_inc.3c
1385 atomic_inc_16_nv.3c              := LINKSRC = atomic_inc.3c
1386 atomic_inc_32.3c                 := LINKSRC = atomic_inc.3c
1387 atomic_inc_32_nv.3c              := LINKSRC = atomic_inc.3c
1388 atomic_inc_64.3c                 := LINKSRC = atomic_inc.3c
1389 atomic_inc_64_nv.3c              := LINKSRC = atomic_inc.3c
1390 atomic_inc_8.3c                  := LINKSRC = atomic_inc.3c
1391 atomic_inc_8_nv.3c               := LINKSRC = atomic_inc.3c
1392 atomic_inc_ptr.3c                := LINKSRC = atomic_inc.3c
1393 atomic_inc_ptr_nv.3c             := LINKSRC = atomic_inc.3c
1394 atomic_inc_uchar.3c              := LINKSRC = atomic_inc.3c
1395 atomic_inc_uchar_nv.3c           := LINKSRC = atomic_inc.3c
1396 atomic_inc_uint.3c               := LINKSRC = atomic_inc.3c
1397 atomic_inc_uint_nv.3c            := LINKSRC = atomic_inc.3c
1398 atomic_inc_ulong.3c              := LINKSRC = atomic_inc.3c
1399 atomic_inc_ulong_nv.3c           := LINKSRC = atomic_inc.3c
1400 atomic_inc_ushort.3c             := LINKSRC = atomic_inc.3c
1401 atomic_inc_ushort_nv.3c          := LINKSRC = atomic_inc.3c

1403 atomic_or_16.3c                  := LINKSRC = atomic_or.3c
1404 atomic_or_16_nv.3c               := LINKSRC = atomic_or.3c
1405 atomic_or_32.3c                  := LINKSRC = atomic_or.3c
1406 atomic_or_32_nv.3c               := LINKSRC = atomic_or.3c
1407 atomic_or_64.3c                  := LINKSRC = atomic_or.3c
1408 atomic_or_64_nv.3c               := LINKSRC = atomic_or.3c
1409 atomic_or_8.3c                   := LINKSRC = atomic_or.3c
1410 atomic_or_8_nv.3c                := LINKSRC = atomic_or.3c
1411 atomic_or_uchar.3c               := LINKSRC = atomic_or.3c
1412 atomic_or_uchar_nv.3c            := LINKSRC = atomic_or.3c
1413 atomic_or_uint.3c                := LINKSRC = atomic_or.3c
1414 atomic_or_uint_nv.3c             := LINKSRC = atomic_or.3c
1415 atomic_or_ulong.3c               := LINKSRC = atomic_or.3c
1416 atomic_or_ulong_nv.3c            := LINKSRC = atomic_or.3c
1417 atomic_or_ushort.3c              := LINKSRC = atomic_or.3c
1418 atomic_or_ushort_nv.3c           := LINKSRC = atomic_or.3c

1420 atomic_swap_16.3c                := LINKSRC = atomic_swap.3c
1421 atomic_swap_32.3c                := LINKSRC = atomic_swap.3c
1422 atomic_swap_64.3c                := LINKSRC = atomic_swap.3c
1423 atomic_swap_8.3c                 := LINKSRC = atomic_swap.3c
1424 atomic_swap_ptr.3c               := LINKSRC = atomic_swap.3c
1425 atomic_swap_uchar.3c             := LINKSRC = atomic_swap.3c
1426 atomic_swap_uint.3c              := LINKSRC = atomic_swap.3c
1427 atomic_swap_ulong.3c             := LINKSRC = atomic_swap.3c
1428 atomic_swap_ushort.3c            := LINKSRC = atomic_swap.3c

1430 bcmp.3c                          := LINKSRC = bstring.3c
1431 bcopy.3c                         := LINKSRC = bstring.3c
1432 bzero.3c                         := LINKSRC = bstring.3c

1434 btowc_l.3c                       := LINKSRC = btowc.3c

1436 catclose.3c                      := LINKSRC = catopen.3c

1438 cfgetospeed.3c                   := LINKSRC = cfgetispeed.3c

1440 cfsetospeed.3c                   := LINKSRC = cfsetispeed.3c

1442 clock_getres.3c                  := LINKSRC = clock_settime.3c
1443 clock_gettime.3c                 := LINKSRC = clock_settime.3c
```

```
1445 fdwalk.3c                          := LINKSRC = closefrom.3c

1447 cond_broadcast.3c                  := LINKSRC = cond_init.3c
1448 cond_destroy.3c                    := LINKSRC = cond_init.3c
1449 cond_reltimedwait.3c               := LINKSRC = cond_init.3c
1450 cond_signal.3c                     := LINKSRC = cond_init.3c
1451 cond_timedwait.3c                  := LINKSRC = cond_init.3c
1452 cond_wait.3c                       := LINKSRC = cond_init.3c

1454 csetcol.3c                         := LINKSRC = cset.3c
1455 csetlen.3c                         := LINKSRC = cset.3c
1456 csetno.3c                          := LINKSRC = cset.3c
1457 wcsetno.3c                         := LINKSRC = cset.3c

1459 ctermid_r.3c                       := LINKSRC = ctermid.3c

1461 asctime.3c                         := LINKSRC = ctime.3c
1462 asctime_r.3c                       := LINKSRC = ctime.3c
1463 ctime_r.3c                         := LINKSRC = ctime.3c
1464 gmtime.3c                          := LINKSRC = ctime.3c
1465 gmtime_r.3c                        := LINKSRC = ctime.3c
1466 localtime.3c                       := LINKSRC = ctime.3c
1467 localtime_r.3c                     := LINKSRC = ctime.3c
1468 tzset.3c                           := LINKSRC = ctime.3c

1470 isalnum.3c                         := LINKSRC = ctype.3c
1471 isalnum_l.3c                       := LINKSRC = ctype.3c
1472 isalpha.3c                         := LINKSRC = ctype.3c
1473 isalpha_l.3c                       := LINKSRC = ctype.3c
1474 isascii.3c                         := LINKSRC = ctype.3c
1475 isblank.3c                         := LINKSRC = ctype.3c
1476 isblank_l.3c                       := LINKSRC = ctype.3c
1477 iscntrl.3c                         := LINKSRC = ctype.3c
1478 iscntrl_l.3c                       := LINKSRC = ctype.3c
1479 isdigit.3c                         := LINKSRC = ctype.3c
1480 isdigit_l.3c                       := LINKSRC = ctype.3c
1481 isgraph.3c                         := LINKSRC = ctype.3c
1482 isgraph_l.3c                       := LINKSRC = ctype.3c
1483 islower.3c                         := LINKSRC = ctype.3c
1484 islower_l.3c                       := LINKSRC = ctype.3c
1485 isprint.3c                         := LINKSRC = ctype.3c
1486 isprint_l.3c                       := LINKSRC = ctype.3c
1487 ispunct.3c                         := LINKSRC = ctype.3c
1488 ispunct_l.3c                       := LINKSRC = ctype.3c
1489 isspace.3c                         := LINKSRC = ctype.3c
1490 isspace_l.3c                       := LINKSRC = ctype.3c
1491 isupper.3c                         := LINKSRC = ctype.3c
1492 isupper_l.3c                       := LINKSRC = ctype.3c
1493 isxdigit.3c                        := LINKSRC = ctype.3c
1494 isxdigit_l.3c                      := LINKSRC = ctype.3c

1496 decimal_to_double.3c               := LINKSRC = decimal_to_floating.3c
1497 decimal_to_extended.3c             := LINKSRC = decimal_to_floating.3c
1498 decimal_to_quadruple.3c            := LINKSRC = decimal_to_floating.3c
1499 decimal_to_single.3c               := LINKSRC = decimal_to_floating.3c

1501 ldiv.3c                           := LINKSRC = div.3c
1502 lldiv.3c                          := LINKSRC = div.3c

1504 dladdr1.3c                        := LINKSRC = dladdr.3c

1506 dlmopen.3c                        := LINKSRC = dlopen.3c

1508 door_unbind.3c                    := LINKSRC = door_bind.3c

1510 door_setparam.3c                  := LINKSRC = door_getparam.3c
```



```
1512 erand48.3c                        := LINKSRC = drand48.3c
1513 jrand48.3c                        := LINKSRC = drand48.3c
1514 lcong48.3c                        := LINKSRC = drand48.3c
1515 lrand48.3c                        := LINKSRC = drand48.3c
1516 mrand48.3c                        := LINKSRC = drand48.3c
1517 nrand48.3c                        := LINKSRC = drand48.3c
1518 seed48.3c                         := LINKSRC = drand48.3c
1519 srand48.3c                        := LINKSRC = drand48.3c

1521 dup3.3c                           := LINKSRC = dup2.3c

1523 fconvert.3c                       := LINKSRC = econvert.3c
1524 gconvert.3c                       := LINKSRC = econvert.3c
1525 qeconvert.3c                      := LINKSRC = econvert.3c
1526 qfconvert.3c                      := LINKSRC = econvert.3c
1527 qgconvert.3c                      := LINKSRC = econvert.3c
1528 seconvert.3c                      := LINKSRC = econvert.3c
1529 sfconvert.3c                      := LINKSRC = econvert.3c
1530 sgconvert.3c                      := LINKSRC = econvert.3c

1532 fcvt.3c                           := LINKSRC = ecvt.3c
1533 gcvt.3c                           := LINKSRC = ecvt.3c

1535 _edata.3c                         := LINKSRC = end.3c
1536 _end.3c                           := LINKSRC = end.3c
1537 _etext.3c                         := LINKSRC = end.3c
1538 edata.3c                          := LINKSRC = end.3c
1539 etext.3c                          := LINKSRC = end.3c

1541 errx.3c                           := LINKSRC = err.3c
1542 verr.3c                           := LINKSRC = err.3c
1543 verrx.3c                          := LINKSRC = err.3c
1544 vwarn.3c                          := LINKSRC = err.3c
1545 vwarnx.3c                         := LINKSRC = err.3c
1546 warn.3c                           := LINKSRC = err.3c
1547 warnx.3c                          := LINKSRC = err.3c

1549 euccol.3c                         := LINKSRC = euclen.3c
1550 eucscol.3c                        := LINKSRC = euclen.3c

1552 _exithandle.3c                    := LINKSRC = exit.3c

1554 clearerr.3c                       := LINKSRC = ferror.3c
1555 feof.3c                           := LINKSRC = ferror.3c
1556 fileno.3c                         := LINKSRC = ferror.3c

1558 fsetattr.3c                       := LINKSRC = fgetattr.3c
1559 getattrat.3c                      := LINKSRC = fgetattr.3c
1560 setattrat.3c                      := LINKSRC = fgetattr.3c

1562 getc.3c                           := LINKSRC = fgetc.3c
1563 getc_unlocked.3c                  := LINKSRC = fgetc.3c
1564 getchar.3c                        := LINKSRC = fgetc.3c
1565 getchar_unlocked.3c               := LINKSRC = fgetc.3c
1566 getw.3c                           := LINKSRC = fgetc.3c

1568 fgetwc_l.3c                       := LINKSRC = fgetwc.3c

1570 double_to_decimal.3c              := LINKSRC = floating_to_decimal.3c
1571 extended_to_decimal.3c            := LINKSRC = floating_to_decimal.3c
1572 quadruple_to_decimal.3c           := LINKSRC = floating_to_decimal.3c
1573 single_to_decimal.3c              := LINKSRC = floating_to_decimal.3c

1575 ftrylockfile.3c                   := LINKSRC = flockfile.3c
1576 funlockfile.3c                    := LINKSRC = flockfile.3c
```

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1578 fpgetmask.3c                    := LINKSRC = fpgetround.3c
1579 fpgetsticky.3c                  := LINKSRC = fpgetround.3c
1580 fpsetmask.3c                    := LINKSRC = fpgetround.3c
1581 fpsetround.3c                   := LINKSRC = fpgetround.3c
1582 fpsetsticky.3c                  := LINKSRC = fpgetround.3c

1584 putc.3c                         := LINKSRC = fputc.3c
1585 putc_unlocked.3c                := LINKSRC = fputc.3c
1586 putchar.3c                      := LINKSRC = fputc.3c
1587 putchar_unlocked.3c             := LINKSRC = fputc.3c
1588 putw.3c                         := LINKSRC = fputc.3c

1590 putwc.3c                        := LINKSRC = fputwc.3c
1591 putwchar.3c                     := LINKSRC = fputwc.3c

1593 fseeko.3c                       := LINKSRC = fseek.3c

1595 ftello.3c                       := LINKSRC = ftell.3c

1597 nftw.3c                         := LINKSRC = ftw.3c

1599 swprintf.3c                     := LINKSRC = fwprintf.3c
1600 wprintf.3c                      := LINKSRC = fwprintf.3c

1602 swscanf.3c                      := LINKSRC = fwscanf.3c
1603 vfwscanf.3c                     := LINKSRC = fwscanf.3c
1604 vswscanf.3c                     := LINKSRC = fwscanf.3c
1605 vwscanf.3c                      := LINKSRC = fwscanf.3c
1606 wscanf.3c                       := LINKSRC = fwscanf.3c

1608 gethomelgroup.3c                := LINKSRC = getcpuid.3c

1610 endgrent.3c                     := LINKSRC = getgrnam.3c
1611 fgetgrent.3c                    := LINKSRC = getgrnam.3c
1612 fgetgrent_r.3c                  := LINKSRC = getgrnam.3c
1613 getgrent.3c                     := LINKSRC = getgrnam.3c
1614 getgrent_r.3c                   := LINKSRC = getgrnam.3c
1615 getgrgid.3c                     := LINKSRC = getgrnam.3c
1616 getgrgid_r.3c                   := LINKSRC = getgrnam.3c
1617 getgrnam_r.3c                   := LINKSRC = getgrnam.3c
1618 setgrent.3c                     := LINKSRC = getgrnam.3c

1620 sethostname.3c                  := LINKSRC = gethostname.3c

1622 gethrvtime.3c                   := LINKSRC = gethrtime.3c

1624 getdelim.3c                     := LINKSRC = getline.3c

1626 getlogin_r.3c                   := LINKSRC = getlogin.3c

1628 getextmntent.3c                 := LINKSRC = getmntent.3c
1629 getmntany.3c                    := LINKSRC = getmntent.3c
1630 hasmntopt.3c                    := LINKSRC = getmntent.3c
1631 putmntent.3c                    := LINKSRC = getmntent.3c
1632 resetmnttab.3c                  := LINKSRC = getmntent.3c

1634 endnetgrent.3c                  := LINKSRC = getnetgrent.3c
1635 getnetgrent_r.3c                := LINKSRC = getnetgrent.3c
1636 innetgr.3c                      := LINKSRC = getnetgrent.3c
1637 setnetgrent.3c                  := LINKSRC = getnetgrent.3c

1639 getpassphrase.3c                := LINKSRC = getpass.3c

1641 setpriority.3c                  := LINKSRC = getpriority.3c
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1643 endpwent.3c                     := LINKSRC = getpwnam.3c
1644 fgetpwent.3c                    := LINKSRC = getpwnam.3c
1645 fgetpwent_r.3c                  := LINKSRC = getpwnam.3c
1646 getpwent.3c                     := LINKSRC = getpwnam.3c
1647 getpwent_r.3c                   := LINKSRC = getpwnam.3c
1648 getpwnam_r.3c                   := LINKSRC = getpwnam.3c
1649 getpwuid.3c                     := LINKSRC = getpwnam.3c
1650 getpwuid_r.3c                   := LINKSRC = getpwnam.3c
1651 setpwent.3c                     := LINKSRC = getpwnam.3c

1653 fgets.3c                        := LINKSRC = gets.3c

1655 endspent.3c                     := LINKSRC = getspnam.3c
1656 fgetspent.3c                    := LINKSRC = getspnam.3c
1657 fgetspent_r.3c                  := LINKSRC = getspnam.3c
1658 getspent.3c                     := LINKSRC = getspnam.3c
1659 getspent_r.3c                   := LINKSRC = getspnam.3c
1660 getspnam_r.3c                   := LINKSRC = getspnam.3c
1661 setspent.3c                     := LINKSRC = getspnam.3c

1663 bind_textdomain_codeset.3c      := LINKSRC = gettext.3c
1664 bindtextdomain.3c               := LINKSRC = gettext.3c
1665 dcgettext.3c                    := LINKSRC = gettext.3c
1666 dcngettext.3c                   := LINKSRC = gettext.3c
1667 dgettext.3c                     := LINKSRC = gettext.3c
1668 dngettext.3c                    := LINKSRC = gettext.3c
1669 ngettext.3c                     := LINKSRC = gettext.3c
1670 textdomain.3c                   := LINKSRC = gettext.3c

1672 settimeofday.3c                 := LINKSRC = gettimeofday.3c

1674 endusershell.3c                 := LINKSRC = getusershell.3c
1675 setusershell.3c                 := LINKSRC = getusershell.3c

1677 endutent.3c                     := LINKSRC = getutent.3c
1678 getutid.3c                      := LINKSRC = getutent.3c
1679 getutline.3c                    := LINKSRC = getutent.3c
1680 pututline.3c                    := LINKSRC = getutent.3c
1681 setutent.3c                     := LINKSRC = getutent.3c
1682 utmpname.3c                     := LINKSRC = getutent.3c

1684 endutxent.3c                    := LINKSRC = getutxent.3c
1685 getutmp.3c                      := LINKSRC = getutxent.3c
1686 getutmpx.3c                     := LINKSRC = getutxent.3c
1687 getutxid.3c                     := LINKSRC = getutxent.3c
1688 getutxline.3c                   := LINKSRC = getutxent.3c
1689 pututxline.3c                   := LINKSRC = getutxent.3c
1690 setutxent.3c                    := LINKSRC = getutxent.3c
1691 updwtmp.3c                      := LINKSRC = getutxent.3c
1692 updwtmpx.3c                     := LINKSRC = getutxent.3c
1693 utmpxname.3c                    := LINKSRC = getutxent.3c

1695 getvfsany.3c                    := LINKSRC = getvfsent.3c
1696 getvfsfile.3c                   := LINKSRC = getvfsent.3c
1697 getvfsspec.3c                   := LINKSRC = getvfsent.3c

1699 getwc_l.3c                      := LINKSRC = getwc.3c

1701 getwchar_l.3c                   := LINKSRC = getwchar.3c

1703 fgetws.3c                       := LINKSRC = getws.3c

1705 getzoneidbyname.3c              := LINKSRC = getzoneid.3c
1706 getzonenamebyid.3c              := LINKSRC = getzoneid.3c

1708 globfree.3c                     := LINKSRC = glob.3c
```

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1710 hcreate.3c                          := LINKSRC = hsearch.3c
1711 hdestroy.3c                         := LINKSRC = hsearch.3c

1713 rindex.3c                           := LINKSRC = index.3c

1715 remque.3c                           := LINKSRC = insque.3c

1717 finite.3c                           := LINKSRC = isnand.3c
1718 fpclass.3c                         := LINKSRC = isnand.3c
1719 isnanf.3c                          := LINKSRC = isnand.3c
1720 unordered.3c                       := LINKSRC = isnand.3c

1722 isenglish.3c                       := LINKSRC = iswalpha.3c
1723 isideogram.3c                      := LINKSRC = iswalpha.3c
1724 isnumber.3c                        := LINKSRC = iswalpha.3c
1725 isphonogram.3c                     := LINKSRC = iswalpha.3c
1726 isspecial.3c                       := LINKSRC = iswalpha.3c
1727 iswalnum.3c                        := LINKSRC = iswalpha.3c
1728 iswalnum_l.3c                      := LINKSRC = iswalpha.3c
1729 iswalpha_l.3c                      := LINKSRC = iswalpha.3c
1730 iswascii.3c                        := LINKSRC = iswalpha.3c
1731 iswblank.3c                        := LINKSRC = iswalpha.3c
1732 iswblank_l.3c                      := LINKSRC = iswalpha.3c
1733 iswcntrl.3c                        := LINKSRC = iswalpha.3c
1734 iswcntrl_l.3c                      := LINKSRC = iswalpha.3c
1735 iswdigit.3c                        := LINKSRC = iswalpha.3c
1736 iswdigit_l.3c                      := LINKSRC = iswalpha.3c
1737 iswgraph.3c                        := LINKSRC = iswalpha.3c
1738 iswgraph_l.3c                      := LINKSRC = iswalpha.3c
1739 iswhexnumber.3c                    := LINKSRC = iswalpha.3c
1740 iswhexnumber_l.3c                  := LINKSRC = iswalpha.3c
1741 iswideogram.3c                     := LINKSRC = iswalpha.3c
1742 iswideogram_l.3c                   := LINKSRC = iswalpha.3c
1743 iswlower.3c                        := LINKSRC = iswalpha.3c
1744 iswlower_l.3c                      := LINKSRC = iswalpha.3c
1745 iswnumber.3c                       := LINKSRC = iswalpha.3c
1746 iswnumber_l.3c                     := LINKSRC = iswalpha.3c
1747 iswphonogram.3c                    := LINKSRC = iswalpha.3c
1748 iswphonogram_l.3c                  := LINKSRC = iswalpha.3c
1749 iswprint.3c                        := LINKSRC = iswalpha.3c
1750 iswprint_l.3c                      := LINKSRC = iswalpha.3c
1751 iswpunct.3c                        := LINKSRC = iswalpha.3c
1752 iswpunct_l.3c                      := LINKSRC = iswalpha.3c
1753 iswspace.3c                        := LINKSRC = iswalpha.3c
1754 iswspace_l.3c                      := LINKSRC = iswalpha.3c
1755 iswspecial.3c                      := LINKSRC = iswalpha.3c
1756 iswspecial_l.3c                    := LINKSRC = iswalpha.3c
1757 iswupper.3c                        := LINKSRC = iswalpha.3c
1758 iswupper_l.3c                      := LINKSRC = iswalpha.3c
1759 iswxdigit.3c                       := LINKSRC = iswalpha.3c
1760 iswxdigit_l.3c                     := LINKSRC = iswalpha.3c

1762 iswctype_l.3c                      := LINKSRC = iswctype.3c

1764 ulckpwdf.3c                        := LINKSRC = lckpwdf.3c

1766 lfind.3c                           := LINKSRC = lsearch.3c

1768 swapcontext.3c                     := LINKSRC = makecontext.3c

1770 major.3c                          := LINKSRC = makedev.3c
1771 minor.3c                          := LINKSRC = makedev.3c

1773 alloca.3c                         := LINKSRC = malloc.3c
1774 calloc.3c                         := LINKSRC = malloc.3c
```



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1775 free.3c                           := LINKSRC = malloc.3c
1776 memalign.3c                       := LINKSRC = malloc.3c
1777 realloc.3c                        := LINKSRC = malloc.3c
1778 valloc.3c                         := LINKSRC = malloc.3c

1780 mblen_l.3c                        := LINKSRC = mblen.3c

1782 mbrlen_l.3c                       := LINKSRC = mbrlen.3c

1784 mbrtowc_l.3c                      := LINKSRC = mbrtowc.3c

1786 mbsinit_l.3c                      := LINKSRC = mbsinit.3c

1788 mbsnrtowcs.3c                     := LINKSRC = mbsrtowcs.3c
1789 mbsnrtowcs_l.3c                   := LINKSRC = mbsrtowcs.3c
1790 mbsrtowcs_l.3c                    := LINKSRC = mbsrtowcs.3c
1791 mbstowcs.3c                       := LINKSRC = mbsrtowcs.3c
1792 mbstowcs_l.3c                     := LINKSRC = mbsrtowcs.3c

1794 mbtowc_l.3c                       := LINKSRC = mbtowc.3c

1796 membar_consumer.3c                := LINKSRC = membar_ops.3c
1797 membar_enter.3c                   := LINKSRC = membar_ops.3c
1798 membar_exit.3c                    := LINKSRC = membar_ops.3c
1799 membar_producer.3c                := LINKSRC = membar_ops.3c

1801 memccpy.3c                        := LINKSRC = memory.3c
1802 memchr.3c                         := LINKSRC = memory.3c
1803 memcmp.3c                         := LINKSRC = memory.3c
1804 memcpy.3c                         := LINKSRC = memory.3c
1805 memmove.3c                        := LINKSRC = memory.3c
1806 memset.3c                         := LINKSRC = memory.3c

1808 mkdtemp.3c                        := LINKSRC = mkstemp.3c
1809 mkostemp.3c                       := LINKSRC = mkstemp.3c
1810 mkostemps.3c                      := LINKSRC = mkstemp.3c
1811 mkstemps.3c                       := LINKSRC = mkstemp.3c

1813 munlock.3c                        := LINKSRC = mlock.3c

1815 munlockall.3c                     := LINKSRC = mlockall.3c

1817 mq_reltimedreceive_np.3c          := LINKSRC = mq_receive.3c
1818 mq_timedreceive.3c                := LINKSRC = mq_receive.3c

1820 mq_reltimedsend_np.3c             := LINKSRC = mq_send.3c
1821 mq_timedsend.3c                   := LINKSRC = mq_send.3c

1823 mutex_consistent.3c               := LINKSRC = mutex_init.3c
1824 mutex_destroy.3c                  := LINKSRC = mutex_init.3c
1825 mutex_lock.3c                     := LINKSRC = mutex_init.3c
1826 mutex_trylock.3c                  := LINKSRC = mutex_init.3c
1827 mutex_unlock.3c                   := LINKSRC = mutex_init.3c

1829 dbm_clearerr.3c                   := LINKSRC = ndbm.3c
1830 dbm_close.3c                      := LINKSRC = ndbm.3c
1831 dbm_delete.3c                     := LINKSRC = ndbm.3c
1832 dbm_error.3c                      := LINKSRC = ndbm.3c
1833 dbm_fetch.3c                      := LINKSRC = ndbm.3c
1834 dbm_firstkey.3c                   := LINKSRC = ndbm.3c
1835 dbm_nextkey.3c                    := LINKSRC = ndbm.3c
1836 dbm_open.3c                       := LINKSRC = ndbm.3c
1837 dbm_store.3c                      := LINKSRC = ndbm.3c

1839 duplocale.3c                     := LINKSRC = newlocale.3c
1840 freelocale.3c                     := LINKSRC = newlocale.3c
```

```
1842 nl_langinfo_l.3c                        := LINKSRC = nl_langinfo.3c

1844 fdopendir.3c                            := LINKSRC = opendir.3c

1846 errno.3c                                := LINKSRC = perror.3c

1848 pclose.3c                               := LINKSRC = popen.3c

1850 port_dissociate.3c                       := LINKSRC = port_associate.3c

1852 port_getn.3c                            := LINKSRC = port_get.3c

1854 port_sendn.3c                           := LINKSRC = port_send.3c

1856 posix_spawnp.3c                         := LINKSRC = posix_spawn.3c

1858 posix_spawn_file_actions_addopen.3c     := LINKSRC = posix_spawn_file_actions_ad
1859 posix_spawn_file_actions_init.3c       := LINKSRC = posix_spawn_file_actions_de

1861 posix_spawnattr_init.3c                := LINKSRC = posix_spawnattr_destroy.3c

1863 posix_spawnattr_setflags.3c            := LINKSRC = posix_spawnattr_getflags.3c

1865 posix_spawnattr_setpgroup.3c           := LINKSRC = posix_spawnattr_getpgroup.3

1867 posix_spawnattr_setschedparam.3c       := LINKSRC = posix_spawnattr_getschedpar

1869 posix_spawnattr_setschedpolicy.3c      := LINKSRC = posix_spawnattr_getschedpol

1871 posix_spawnattr_setsigdefault.3c       := LINKSRC = posix_spawnattr_getsigdefau

1873 posix_spawnattr_setsigignore_np.3c     := LINKSRC = posix_spawnattr_getsigignor

1875 posix_spawnattr_setsigmask.3c          := LINKSRC = posix_spawnattr_getsigmask.

1877 asprintf.3c                            := LINKSRC = printf.3c
1878 fprintf.3c                             := LINKSRC = printf.3c
1879 snprintf.3c                            := LINKSRC = printf.3c
1880 sprintf.3c                             := LINKSRC = printf.3c

1882 priv_allocset.3c                       := LINKSRC = priv_addset.3c
1883 priv_basicset.3c                       := LINKSRC = priv_addset.3c
1884 priv_copyset.3c                        := LINKSRC = priv_addset.3c
1885 priv_delset.3c                         := LINKSRC = priv_addset.3c
1886 priv_emptyset.3c                       := LINKSRC = priv_addset.3c
1887 priv_fillset.3c                        := LINKSRC = priv_addset.3c
1888 priv_freeset.3c                        := LINKSRC = priv_addset.3c
1889 priv_intersect.3c                      := LINKSRC = priv_addset.3c
1890 priv_inverse.3c                        := LINKSRC = priv_addset.3c
1891 priv_isemptyset.3c                     := LINKSRC = priv_addset.3c
1892 priv_isequalset.3c                     := LINKSRC = priv_addset.3c
1893 priv_isfullset.3c                      := LINKSRC = priv_addset.3c
1894 priv_ismember.3c                       := LINKSRC = priv_addset.3c
1895 priv_issubset.3c                       := LINKSRC = priv_addset.3c
1896 priv_union.3c                          := LINKSRC = priv_addset.3c

1898 priv_ineffect.3c                       := LINKSRC = priv_set.3c

1900 priv_getbyname.3c                      := LINKSRC = priv_str_to_set.3c
1901 priv_getbynum.3c                       := LINKSRC = priv_str_to_set.3c
1902 priv_getsetbyname.3c                   := LINKSRC = priv_str_to_set.3c
1903 priv_getsetbynum.3c                    := LINKSRC = priv_str_to_set.3c
1904 priv_gettext.3c                        := LINKSRC = priv_str_to_set.3c
1905 priv_set_to_str.3c                     := LINKSRC = priv_str_to_set.3c
```



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1907 psiginfo.3c                            := LINKSRC = psignal.3c

1909 pthread_attr_setdetachstate.3c         := LINKSRC = pthread_attr_getdetachstate

1911 pthread_attr_setguardsize.3c           := LINKSRC = pthread_attr_getguardsize.3

1913 pthread_attr_setinheritsched.3c        := LINKSRC = pthread_attr_getinheritsche

1915 pthread_attr_setschedparam.3c          := LINKSRC = pthread_attr_getschedparam.

1917 pthread_attr_setschedpolicy.3c         := LINKSRC = pthread_attr_getschedpolicy

1919 pthread_attr_setscope.3c              := LINKSRC = pthread_attr_getscope.3c
1920 pthread_attr_setstack.3c              := LINKSRC = pthread_attr_getstack.3c

1922 pthread_attr_setstackaddr.3c          := LINKSRC = pthread_attr_getstackaddr.3

1924 pthread_attr_setstacksize.3c          := LINKSRC = pthread_attr_getstacksize.3

1926 pthread_attr_destroy.3c               := LINKSRC = pthread_attr_init.3c

1928 pthread_barrier_init.3c               := LINKSRC = pthread_barrier_destroy.3c

1930 pthread_barrierattr_init.3c           := LINKSRC = pthread_barrierattr_destroy

1932 pthread_barrierattr_setpshared.3c     := LINKSRC = pthread_barrierattr_getpsha

1934 pthread_cond_destroy.3c               := LINKSRC = pthread_cond_init.3c

1936 pthread_cond_broadcast.3c             := LINKSRC = pthread_cond_signal.3c

1938 pthread_cond_reltimedwait_np.3c       := LINKSRC = pthread_cond_wait.3c
1939 pthread_cond_timedwait.3c             := LINKSRC = pthread_cond_wait.3c

1941 pthread_condattr_setclock.3c          := LINKSRC = pthread_condattr_getclock.3

1943 pthread_condattr_setpshared.3c        := LINKSRC = pthread_condattr_getpshared

1945 pthread_condattr_destroy.3c           := LINKSRC = pthread_condattr_init.3c

1947 pthread_setconcurrency.3c             := LINKSRC = pthread_getconcurrency.3c

1949 pthread_setschedparam.3c              := LINKSRC = pthread_getschedparam.3c

1951 pthread_setspecific.3c                := LINKSRC = pthread_getspecific.3c

1953 pthread_key_create_once_np.3c         := LINKSRC = pthread_key_create.3c

1955 pthread_mutex_setprioceiling.3c       := LINKSRC = pthread_mutex_getprioceilin

1957 pthread_mutex_destroy.3c              := LINKSRC = pthread_mutex_init.3c

1959 pthread_mutex_trylock.3c              := LINKSRC = pthread_mutex_lock.3c
1960 pthread_mutex_unlock.3c               := LINKSRC = pthread_mutex_lock.3c

1962 pthread_mutex_reltimedlock_np.3c      := LINKSRC = pthread_mutex_timedlock.3c

1964 pthread_mutexattr_setprioceiling.3c   := LINKSRC = pthread_mutexattr_getprioce

1966 pthread_mutexattr_setprotocol.3c      := LINKSRC = pthread_mutexattr_getprotoc

1968 pthread_mutexattr_setpshared.3c       := LINKSRC = pthread_mutexattr_getpshare

1970 pthread_mutexattr_settype.3c          := LINKSRC = pthread_mutexattr_gettype.3

1972 pthread_mutexattr_destroy.3c          := LINKSRC = pthread_mutexattr_init.3c
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1974 pthread_rwlock_destroy.3c               := LINKSRC = pthread_rwlock_init.3c

1976 pthread_rwlock_tryrdlock.3c             := LINKSRC = pthread_rwlock_rdlock.3c

1978 pthread_rwlock_reltimedrdlock_np.3c     := LINKSRC = pthread_rwlock_timedrdlock.

1980 pthread_rwlock_reltimedwrlock_np.3c     := LINKSRC = pthread_rwlock_timedwrlock.

1982 pthread_rwlock_trywrlock.3c             := LINKSRC = pthread_rwlock_wrlock.3c

1984 pthread_rwlockattr_setpshared.3c        := LINKSRC = pthread_rwlockattr_getpshar

1986 pthread_rwlockattr_destroy.3c          := LINKSRC = pthread_rwlockattr_init.3c

1988 pthread_spin_init.3c                   := LINKSRC = pthread_spin_destroy.3c

1990 pthread_spin_trylock.3c                := LINKSRC = pthread_spin_lock.3c

1992 fputs.3c                               := LINKSRC = puts.3c

1994 rand_r.3c                              := LINKSRC = rand.3c
1995 srand.3c                              := LINKSRC = rand.3c

1997 initstate.3c                           := LINKSRC = random.3c
1998 setstate.3c                           := LINKSRC = random.3c
1999 srandom.3c                            := LINKSRC = random.3c

2001 rctlblk_get_enforced_value.3c          := LINKSRC = rctlblk_set_value.3c
2002 rctlblk_get_firing_time.3c             := LINKSRC = rctlblk_set_value.3c
2003 rctlblk_get_global_action.3c           := LINKSRC = rctlblk_set_value.3c
2004 rctlblk_get_global_flags.3c            := LINKSRC = rctlblk_set_value.3c
2005 rctlblk_get_local_action.3c            := LINKSRC = rctlblk_set_value.3c
2006 rctlblk_get_local_flags.3c             := LINKSRC = rctlblk_set_value.3c
2007 rctlblk_get_privilege.3c               := LINKSRC = rctlblk_set_value.3c
2008 rctlblk_get_recipient_pid.3c           := LINKSRC = rctlblk_set_value.3c
2009 rctlblk_get_value.3c                   := LINKSRC = rctlblk_set_value.3c
2010 rctlblk_set_local_action.3c            := LINKSRC = rctlblk_set_value.3c
2011 rctlblk_set_local_flags.3c             := LINKSRC = rctlblk_set_value.3c
2012 rctlblk_set_privilege.3c               := LINKSRC = rctlblk_set_value.3c
2013 rctlblk_set_recipient_pid.3c           := LINKSRC = rctlblk_set_value.3c
2014 rctlblk_size.3c                        := LINKSRC = rctlblk_set_value.3c

2016 re_exec.3c                             := LINKSRC = re_comp.3c

2018 readdir_r.3c                           := LINKSRC = readdir.3c

2020 regex.3c                               := LINKSRC = regcmp.3c

2022 regerror.3c                            := LINKSRC = regcomp.3c
2023 regexec.3c                             := LINKSRC = regcomp.3c
2024 regfree.3c                             := LINKSRC = regcomp.3c

2026 rw_rdlock.3c                           := LINKSRC = rwlock.3c
2027 rw_tryrdlock.3c                        := LINKSRC = rwlock.3c
2028 rw_trywrlock.3c                        := LINKSRC = rwlock.3c
2029 rw_unlock.3c                           := LINKSRC = rwlock.3c
2030 rw_wrlock.3c                           := LINKSRC = rwlock.3c
2031 rwlock_destroy.3c                      := LINKSRC = rwlock.3c
2032 rwlock_init.3c                         := LINKSRC = rwlock.3c

2034 alphasort.3c                           := LINKSRC = scandir.3c

2036 fscanf.3c                             := LINKSRC = scanf.3c
2037 sscanf.3c                             := LINKSRC = scanf.3c
2038 vfscanf.3c                            := LINKSRC = scanf.3c
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2039 vscanf.3c                            := LINKSRC = scanf.3c
2040 vsscanf.3c                           := LINKSRC = scanf.3c

2042 sched_get_priority_min.3c            := LINKSRC = sched_get_priority_max.3c

2044 schedctl_exit.3c                     := LINKSRC = schedctl_init.3c
2045 schedctl_lookup.3c                   := LINKSRC = schedctl_init.3c
2046 schedctl_start.3c                    := LINKSRC = schedctl_init.3c
2047 schedctl_stop.3c                     := LINKSRC = schedctl_init.3c

2049 FD_CLR.3c                            := LINKSRC = select.3c
2050 FD_ISSET.3c                          := LINKSRC = select.3c
2051 FD_SET.3c                            := LINKSRC = select.3c
2052 FD_ZERO.3c                           := LINKSRC = select.3c
2053 pselect.3c                           := LINKSRC = select.3c

2055 sem_reltimedwait_np.3c               := LINKSRC = sem_timedwait.3c

2057 sem_trywait.3c                       := LINKSRC = sem_wait.3c

2059 sema_destroy.3c                      := LINKSRC = semaphore.3c
2060 sema_init.3c                         := LINKSRC = semaphore.3c
2061 sema_post.3c                         := LINKSRC = semaphore.3c
2062 sema_trywait.3c                      := LINKSRC = semaphore.3c
2063 sema_wait.3c                         := LINKSRC = semaphore.3c

2065 setvbuf.3c                           := LINKSRC = setbuf.3c

2067 setlinebuf.3c                        := LINKSRC = setbuffer.3c

2069 longjmp.3c                           := LINKSRC = setjmp.3c
2070 siglongjmp.3c                        := LINKSRC = setjmp.3c
2071 sigsetjmp.3c                         := LINKSRC = setjmp.3c

2073 sighold.3c                           := LINKSRC = signal.3c
2074 sigignore.3c                         := LINKSRC = signal.3c
2075 sigpause.3c                          := LINKSRC = signal.3c
2076 sigrelse.3c                          := LINKSRC = signal.3c
2077 sigset.3c                            := LINKSRC = signal.3c

2079 sigaddset.3c                         := LINKSRC = sigsetops.3c
2080 sigdelset.3c                         := LINKSRC = sigsetops.3c
2081 sigemptyset.3c                       := LINKSRC = sigsetops.3c
2082 sigfillset.3c                        := LINKSRC = sigsetops.3c
2083 sigismember.3c                       := LINKSRC = sigsetops.3c

2085 sigtimedwait.3c                      := LINKSRC = sigwaitinfo.3c

2087 gsignal.3c                           := LINKSRC = ssignal.3c

2089 stderr.3c                            := LINKSRC = stdio.3c
2090 stdin.3c                             := LINKSRC = stdio.3c
2091 stdout.3c                            := LINKSRC = stdio.3c

2093 sig2str.3c                           := LINKSRC = str2sig.3c

2095 strcoll_l.3c                         := LINKSRC = strcoll.3c

2097 strerror_r.3c                        := LINKSRC = strerror.3c

2099 strfmon_l.3c                         := LINKSRC = strfmon.3c

2101 ascftime.3c                          := LINKSRC = strftime.3c
2102 cftime.3c                            := LINKSRC = strftime.3c
2103 strftime_l.3c                        := LINKSRC = strftime.3c
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2105 strcasecmp.3c                       := LINKSRC = string.3c
2106 strcasecmp_l.3c                     := LINKSRC = string.3c
2107 strcat.3c                           := LINKSRC = string.3c
2108 strchr.3c                           := LINKSRC = string.3c
2109 strcmp.3c                           := LINKSRC = string.3c
2110 strcpy.3c                           := LINKSRC = string.3c
2111 strcspn.3c                          := LINKSRC = string.3c
2112 strdup.3c                           := LINKSRC = string.3c
2113 strlcat.3c                          := LINKSRC = string.3c
2114 strlcpy.3c                          := LINKSRC = string.3c
2115 strlen.3c                           := LINKSRC = string.3c
2116 strncasecmp.3c                      := LINKSRC = string.3c
2117 strncasecmp_l.3c                    := LINKSRC = string.3c
2118 strncat.3c                          := LINKSRC = string.3c
2119 strncmp.3c                          := LINKSRC = string.3c
2120 strncpy.3c                          := LINKSRC = string.3c
2121 strnlen.3c                          := LINKSRC = string.3c
2122 strpbrk.3c                          := LINKSRC = string.3c
2123 strrchr.3c                          := LINKSRC = string.3c
2124 strsep.3c                           := LINKSRC = string.3c
2125 strspn.3c                           := LINKSRC = string.3c
2126 strstr.3c                           := LINKSRC = string.3c
2127 strtok.3c                           := LINKSRC = string.3c
2128 strtok_r.3c                         := LINKSRC = string.3c

2130 file_to_decimal.3c                  := LINKSRC = string_to_decimal.3c
2131 func_to_decimal.3c                  := LINKSRC = string_to_decimal.3c

2133 strptime_l.3c                       := LINKSRC = strptime.3c

2135 atof.3c                            := LINKSRC = strtod.3c
2136 strtof.3c                           := LINKSRC = strtod.3c
2137 strtold.3c                          := LINKSRC = strtod.3c

2139 strtoumax.3c                        := LINKSRC = strtoimax.3c

2141 atoi.3c                            := LINKSRC = strtol.3c
2142 atol.3c                            := LINKSRC = strtol.3c
2143 atoll.3c                           := LINKSRC = strtol.3c
2144 lltostr.3c                         := LINKSRC = strtol.3c
2145 strtoll.3c                         := LINKSRC = strtol.3c
2146 ulltostr.3c                        := LINKSRC = strtol.3c

2148 strtoull.3c                        := LINKSRC = strtoul.3c

2150 wstostr.3c                         := LINKSRC = strtows.3c

2152 strxfrm_l.3c                       := LINKSRC = strxfrm.3c

2154 closelog.3c                        := LINKSRC = syslog.3c
2155 openlog.3c                         := LINKSRC = syslog.3c
2156 setlogmask.3c                      := LINKSRC = syslog.3c

2158 thr_setconcurrency.3c              := LINKSRC = thr_getconcurrency.3c

2160 thr_setprio.3c                     := LINKSRC = thr_getprio.3c

2162 thr_getspecific.3c                 := LINKSRC = thr_keycreate.3c
2163 thr_keycreate_once.3c              := LINKSRC = thr_keycreate.3c
2164 thr_setspecific.3c                 := LINKSRC = thr_keycreate.3c

2166 thr_continue.3c                    := LINKSRC = thr_suspend.3c

2168 timer_getoverrun.3c                := LINKSRC = timer_settime.3c
2169 timer_gettime.3c                   := LINKSRC = timer_settime.3c
```



```
2171 timerclear.3c                      := LINKSRC = timeradd.3c
2172 timercmp.3c                        := LINKSRC = timeradd.3c
2173 timerisset.3c                      := LINKSRC = timeradd.3c
2174 timersub.3c                        := LINKSRC = timeradd.3c

2176 tempnam.3c                         := LINKSRC = tmpnam.3c
2177 tmpnam_r.3c                        := LINKSRC = tmpnam.3c

2179 tolower_l.3c                       := LINKSRC = tolower.3c

2181 toupper_l.3c                       := LINKSRC = toupper.3c

2183 towlower_l.3c                      := LINKSRC = towlower.3c

2185 towupper_l.3c                      := LINKSRC = towupper.3c

2187 ftruncate.3c                       := LINKSRC = truncate.3c

2189 tdelete.3c                         := LINKSRC = tsearch.3c
2190 tfind.3c                           := LINKSRC = tsearch.3c
2191 twalk.3c                           := LINKSRC = tsearch.3c

2193 ttyname_r.3c                       := LINKSRC = ttyname.3c

2195 uconv_u16tou8.3c                   := LINKSRC = uconv_u16tou32.3c
2196 uconv_u32tou16.3c                  := LINKSRC = uconv_u16tou32.3c
2197 uconv_u32tou8.3c                   := LINKSRC = uconv_u16tou32.3c
2198 uconv_u8tou16.3c                   := LINKSRC = uconv_u16tou32.3c
2199 uconv_u8tou32.3c                   := LINKSRC = uconv_u16tou32.3c

2201 ucred_free.3c                      := LINKSRC = ucred_get.3c
2202 ucred_getegid.3c                   := LINKSRC = ucred_get.3c
2203 ucred_geteuid.3c                   := LINKSRC = ucred_get.3c
2204 ucred_getgroups.3c                 := LINKSRC = ucred_get.3c
2205 ucred_getlabel.3c                  := LINKSRC = ucred_get.3c
2206 ucred_getpflags.3c                 := LINKSRC = ucred_get.3c
2207 ucred_getpid.3c                    := LINKSRC = ucred_get.3c
2208 ucred_getprivset.3c                := LINKSRC = ucred_get.3c
2209 ucred_getprojid.3c                 := LINKSRC = ucred_get.3c
2210 ucred_getrgid.3c                   := LINKSRC = ucred_get.3c
2211 ucred_getruid.3c                   := LINKSRC = ucred_get.3c
2212 ucred_getsgid.3c                   := LINKSRC = ucred_get.3c
2213 ucred_getsuid.3c                   := LINKSRC = ucred_get.3c
2214 ucred_getzoneid.3c                 := LINKSRC = ucred_get.3c
2215 ucred_size.3c                      := LINKSRC = ucred_get.3c

2217 vswprintf.3c                       := LINKSRC = vfwprintf.3c
2218 vwprintf.3c                        := LINKSRC = vfwprintf.3c

2220 vasprintf.3c                       := LINKSRC = vprintf.3c
2221 vfprintf.3c                        := LINKSRC = vprintf.3c
2222 vsnprintf.3c                       := LINKSRC = vprintf.3c
2223 vsprintf.3c                        := LINKSRC = vprintf.3c

2225 wait4.3c                           := LINKSRC = wait3.3c

2227 addrtosymstr.3c                    := LINKSRC = walkcontext.3c
2228 backtrace.3c                       := LINKSRC = walkcontext.3c
2229 backtrace_symbols.3c               := LINKSRC = walkcontext.3c
2230 backtrace_symbols_fd.3c            := LINKSRC = walkcontext.3c
2231 printstack.3c                      := LINKSRC = walkcontext.3c

2233 wcrtomb_l.3c                       := LINKSRC = wcrtomb.3c

2235 wcscasecmp_l.3c                    := LINKSRC = wcscasecmp.3c
2236 wcsncasecmp.3c                     := LINKSRC = wcscasecmp.3c
```

```
2237 wcsncasecmp_l.3c                        := LINKSRC = wcscasecmp.3c

2239 wcscoll_l.3c                            := LINKSRC = wcscoll.3c
2240 wscoll.3c                               := LINKSRC = wcscoll.3c

2242 wcsnlen.3c                              := LINKSRC = wcslen.3c

2244 wcsnrtombs.3c                           := LINKSRC = wcsrtombs.3c
2245 wcsnrtombs_l.3c                         := LINKSRC = wcsrtombs.3c
2246 wcsrtombs_l.3c                          := LINKSRC = wcsrtombs.3c

2248 watof.3c                               := LINKSRC = wcstod.3c
2249 wcstof.3c                               := LINKSRC = wcstod.3c
2250 wcstold.3c                              := LINKSRC = wcstod.3c
2251 wstod.3c                                := LINKSRC = wcstod.3c

2253 wcstoumax.3c                           := LINKSRC = wcstoimax.3c

2255 watoi.3c                               := LINKSRC = wcstol.3c
2256 watol.3c                               := LINKSRC = wcstol.3c
2257 watoll.3c                              := LINKSRC = wcstol.3c
2258 wcstoll.3c                             := LINKSRC = wcstol.3c
2259 wstol.3c                               := LINKSRC = wcstol.3c

2261 wcstoull.3c                           := LINKSRC = wcstoul.3c

2263 wcscat.3c                              := LINKSRC = wcstring.3c
2264 wcschr.3c                              := LINKSRC = wcstring.3c
2265 wcscmp.3c                              := LINKSRC = wcstring.3c
2266 wcscpy.3c                              := LINKSRC = wcstring.3c
2267 wcscspn.3c                             := LINKSRC = wcstring.3c
2256 wcslen.3c                              := LINKSRC = wcstring.3c
2268 wcsncat.3c                             := LINKSRC = wcstring.3c
2269 wcsncmp.3c                             := LINKSRC = wcstring.3c
2270 wcsncpy.3c                             := LINKSRC = wcstring.3c
2271 wcspbrk.3c                             := LINKSRC = wcstring.3c
2272 wcsrchr.3c                             := LINKSRC = wcstring.3c
2273 wcsspn.3c                              := LINKSRC = wcstring.3c
2274 wcstok.3c                              := LINKSRC = wcstring.3c
2275 wcswcs.3c                              := LINKSRC = wcstring.3c
2276 windex.3c                              := LINKSRC = wcstring.3c
2277 wrindex.3c                             := LINKSRC = wcstring.3c
2278 wscat.3c                               := LINKSRC = wcstring.3c
2279 wschr.3c                               := LINKSRC = wcstring.3c
2280 wscmp.3c                               := LINKSRC = wcstring.3c
2281 wscpy.3c                               := LINKSRC = wcstring.3c
2282 wscspn.3c                              := LINKSRC = wcstring.3c
2283 wslen.3c                               := LINKSRC = wcstring.3c
2284 wsncat.3c                              := LINKSRC = wcstring.3c
2285 wsncmp.3c                              := LINKSRC = wcstring.3c
2286 wsncpy.3c                              := LINKSRC = wcstring.3c
2287 wspbrk.3c                              := LINKSRC = wcstring.3c
2288 wsrchr.3c                              := LINKSRC = wcstring.3c
2289 wsspn.3c                               := LINKSRC = wcstring.3c
2290 wstok.3c                               := LINKSRC = wcstring.3c
2291 wscasecmp.3c                           := LINKSRC = wstring.3c
2292 wscol.3c                               := LINKSRC = wstring.3c
2293 wsdup.3c                               := LINKSRC = wstring.3c
2294 wsncasecmp.3c                          := LINKSRC = wstring.3c

2296 wcswidth_l.3c                          := LINKSRC = wcswidth.3c

2298 wsxfrm.3c                              := LINKSRC = wcsxfrm.3c

2300 wctob_l.3c                             := LINKSRC = wctob.3c
```



```
2302 wctomb_l.3c                            := LINKSRC = wctomb.3c

2304 towctrans.3c                          := LINKSRC = wctrans.3c
2305 towctrans_l.3c                        := LINKSRC = wctrans.3c
2306 wctrans_l.3c                          := LINKSRC = wctrans.3c

2308 wctype_l.3c                           := LINKSRC = wctype.3c

2310 wcwidth_l.3c                          := LINKSRC = wcwidth.3c

2312 wordfree.3c                           := LINKSRC = wordexp.3c

2314 .KEEP_STATE:

2316 include         $(SRC)/man/Makefile.man

2318 install:        $(ROOTMANFILES) $(ROOTMANLINKS)
```

```
**********************************************************
    4160 Tue Aug 12 07:52:11 2014
new/usr/src/man/man3c/bsd_signal.3c
Minor markup tweaks (Sy instead of Nm).
fix incorrect standard citations
first round of POSIX 2008 stuff
**********************************************************
```

```
'\" te
.\"  Copyright (c) 1992, X/Open Company Limited All Rights Reserved  Portions Co
.\" Sun Microsystems, Inc. gratefully acknowledges The Open Group for permission
.\" http://www.opengroup.org/bookstore/.
.\" The Institute of Electrical and Electronics Engineers and The Open Group, ha
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.\" When distributing Covered Code, include this CDDL HEADER in each file and in
.Dd "Jul 19, 2014"
.Dt BSD_SIGNAL 3C
.Os
.Sh NAME
.Nm bsd_signal
.Nd simplified signal facilities
.Sh SYNOPSIS
.In signal.h
.Ft void
.Fn \*(lp*bsd_signal "int sig" "void \*(lp*func\*(rp\*(lpint\*(rp\*(rp\*(rp\*(lp
.\" \fBvoid\fR (\fB*bsd_signal(int\fR \fIsig\fR, \fBvoid\fR (*\fIfunc\fR)(\fBint
.Sh DESCRIPTION
The
.Fn bsd_signal
function provides a partially compatible interface for
programs written to historical system interfaces (see
.Sx USAGE
below).
.Lp
The function call
.Fn bsd_signal sig func
has an effect as if implemented as:
.Bd -literal -offset indent
.TH BSD_SIGNAL 3C "Jul 24, 2002"
.SH NAME
bsd_signal \- simplified signal facilities
.SH SYNOPSIS
.LP
.nf
#include <signal.h>

\fBvoid\fR (\fB*bsd_signal(int\fR \fIsig\fR, \fBvoid\fR (*\fIfunc\fR)(\fBint\fR)
.fi

.SH DESCRIPTION
.sp
.LP
The \fBbsd_signal()\fR function provides a partially compatible interface for
programs written to historical system interfaces (see \fBUSAGE\fR below).
.sp
.LP
The function call \fBbsd_signal\fR(\fIsig\fR, \fIfunc\fR) has an effect as if
implemented as:
.sp
.in +2
.nf
void (*bsd_signal(int sig, void (*func)\|(int)))\|(int)
{
     struct sigaction act, oact;
```



```
     act.sa_handler = func;
     act.sa_handler = \fIfunc\fR;
     act.sa_flags = SA_RESTART;
     sigemptyset(&act.sa_mask);
     sigaddset(&act.sa_mask, sig);
     if (sigaction(sig, &act, &oact) == \(mi1)
          return(SIG_ERR);
     sigaddset(&act.sa_mask, \fIsig\fR);
     if (sigaction(\fIsig\fR, &act, &oact) == \(mi1)
          return(\fBSIG_ERR\fR);
     return(oact.sa_handler);
}
.Ed
.Lp
.fi
.in -2

.sp
.LP
The handler function should be declared:
.Lp
.Dl Ft void Fn handler "int sig" ;
.Lp
where
.Fa sig
is the signal number.  The behavior is undefined if
.Fa func
.sp
.in +2
.nf
void handler(int \fIsig\fR);
.fi
.in -2

.sp
.LP
where \fIsig\fR is the signal number.  The behavior is undefined if \fIfunc\fR
is a function that takes more than one argument, or an argument of a different
type.
.Sh RETURN VALUES
Upon successful completion,
.Fn bsd_signal
returns the previous action for
.Fa sig .
Otherwise,
.Dv SIG_ERR
is returned and
.Va errno
is set to indicate the error.
.Sh ERRORS
Refer to
.Xr sigaction 2 .
.Sh USAGE
This function is a direct replacement for the
.Bx
.Fn signal
.SH RETURN VALUES
.sp
.LP
Upon successful completion, \fBbsd_signal()\fR returns the previous action for
\fIsig\fR. Otherwise, \fBSIG_ERR\fR is returned and \fBerrno\fR is set to
indicate the error.
.SH ERRORS
.sp
.LP
Refer to \fBsigaction\fR(2).
```

```
 73 .SH USAGE
 74 .sp
 75 .LP
 76 This function is a direct replacement for the \fBBSD\fR \fBsignal\fR(3UCB)
 73 function for simple applications that are installing a single-argument signal
 74 handler function.  If a
 75 .Bx
 76 signal handler function is being installed
 78 handler function.  If a \fBBSD\fR signal handler function is being installed
 77 that expects more than one argument, the application has to be modified to use
 78 .Xr sigaction 2 .
 79 .Lp
 80 Portable applications should use
 81 .Xr sigaction 2
 82 instead of this function.
 83 .Sh INTERFACE STABILITY
 84 .Sy Obsolete Standard .
 85 .Sh SEE ALSO
 86 .Xr sigaction 2 ,
 87 .Xr sigaddset 3C ,
 88 .Xr sigemptyset 3C ,
 89 .Xr standards 5
 90 .Sh STANDARDS
 91 The
 92 .Fn bsd_signal
 93 function was added in
 94 .St -xpg4.2 .
 95 It was subsequently obsoleted in
 96 .St -p1003.1-2001
 97 and removed from
 98 .St -p1003.1-2008 .
 80 \fBsigaction\fR(2). The \fBbsd_signal()\fR function differs from
 81 \fBsignal\fR(3UCB) in that the \fBSA_RESTART\fR flag is set and the
 82 \fBSA_RESETHAND\fR will be clear when \fBbsd_signal()\fR is used.  The state of
 83 these flags is not specified for \fBsignal\fR(3UCB).
 84 .SH ATTRIBUTES
 85 .sp
 86 .LP
 87 See \fBattributes\fR(5) for descriptions of the following attributes:
 88 .sp

 90 .sp
 91 .TS
 92 box;
 93 c | c
 94 l | l .
 95 ATTRIBUTE TYPE  ATTRIBUTE VALUE
 96 _
 97 Interface Stability     Standard
 98 .TE

100 .SH SEE ALSO
101 .sp
102 .LP
103 \fBsigaction\fR(2), \fBsigaddset\fR(3C), \fBsigemptyset\fR(3C),
104 \fBsignal\fR(3UCB), \fBattributes\fR(5), \fBstandards\fR(5)
```

```
**********************************************************
    2284 Tue Aug 12 07:52:11 2014
new/usr/src/man/man3c/bstring.3c
Minor markup tweaks (Sy instead of Nm).
first round of POSIX 2008 stuff
**********************************************************
```

```
.\" Copyright 2014 Garett D'Amore <garrett@damore.org>
'\" te
.\"  Copyright (c) 2002, Sun Microsystems, Inc. All Rights Reserved
.\" The contents of this file are subject to the terms of the Common Development
.\" You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE or http:
.\" When distributing Covered Code, include this CDDL HEADER in each file and in
.Dd "Jul 19, 2014"
.Dt BSTRING 3C
.Os
.Sh NAME
.Nm bstring, bcopy, bcmp, bzero
.Nd memory operations
.Sh SYNOPSIS
.In strings.h
.Ft void
.Fn bcopy "const void *s1" "void *s2" "size_t n"
.Ft int
.Fn bcmp "const void *s1" "const void *s2" "size_t n"
.Ft void
.Fn bzero "void *s" "size_t n"
.Sh DESCRIPTION
The
.Fn bcopy ,
.Fn bcmp ,
and
.Fn bzero
functions operate as
.TH BSTRING 3C "Apr 15, 2002"
.SH NAME
bstring, bcopy, bcmp, bzero \- memory operations
.SH SYNOPSIS
.LP
.nf
#include <strings.h>

\fBvoid\fR \fBbcopy\fR(\fBconst void *\fR\fIs1\fR, \fBvoid *\fR\fIs2\fR, \fBsize
.fi

.LP
.nf
\fBint\fR \fBbcmp\fR(\fBconst void *\fR\fIs1\fR, \fBconst void *\fR\fIs2\fR, \fB
.fi

.LP
.nf
\fBvoid\fR \fBbzero\fR(\fBvoid *\fR\fIs\fR, \fBsize_t\fR \fIn\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The  \fBbcopy()\fR, \fBbcmp()\fR, and \fBbzero()\fR functions operate as
efficiently as possible on memory areas (arrays of bytes bounded by a count,
not terminated by a null character).  They do not check for the overflow  of
any receiving memory area.  These functions are similar to the
.Xr memcpy 3C ,
.Xr memcmp 3C ,
and
.Xr memset 3C
functions.
```



```
.Lp
The
.Fn bcopy
function copies
.Fa n
bytes from memory area
.Fa s1
to
.Fa s2 .
Copying between objects that overlap will take place correctly.
.Lp
The
.Fn bcmp
function compares the first
.Fa n
bytes of its arguments, returning 0 if they are identical and 1 otherwise. The
.Fn bcmp
function always returns 0 when
.Fa n
is 0.
.Lp
The
.Fn bzero
function sets the first
.Fa n
bytes in memory area
.Fn s
.sp
.LP
The \fBbcopy()\fR function copies \fIn\fR bytes from memory area \fIs1\fR to
\fIs2\fR. Copying between objects that overlap will take place correctly.
.sp
.LP
The \fBbcmp()\fR function compares the first \fIn\fR bytes of its arguments,
returning 0 if they are identical and 1 otherwise. The \fBbcmp()\fR function
always returns 0 when \fIn\fR is 0.
.sp
.LP
The \fBbzero()\fR function sets the first \fIn\fR bytes in memory area \fIs\fR
to 0.
.Sh WARNINGS
The
.Fn bcopy
function takes parameters backwards from
.Fn memcmp .
See
.Xr memory 3C
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh MT-LEVEL
.Sy MT-Safe .
.Sh SEE ALSO
.Xr memory 3C ,
.Xr standards 5
.Sh STANDARDS
These interfaces were removed in
.St -p1003.1-2008 .  The standard memory routines documented in
.Xr memory 3C
should be used instead.
.SH WARNINGS
.sp
.LP
The \fBbcopy()\fR function takes parameters backwards from \fBmemcmp()\fR.  See
```

```
\fBmemory\fR(3C).
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
_
MT-Level        MT-Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBmemory\fR(3C), \fBattributes\fR(5), \fBstandards\fR(5)
```

```
**********************************************************
    2790 Tue Aug 12 07:52:11 2014
new/usr/src/man/man3c/dirfd.3c
opendir, dirfd are in XPG7
**********************************************************
```

```
.\" Copyrigh 2014 Garrett D'Amore <garrett@damore.org>
'\" te
.\" Copyright (c) 2007, Sun Microsystems Inc. All Rights Reserved.
.\" Portions of this manual page are derived from documentation obtained from li
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.\" When distributing Covered Code, include this CDDL HEADER in each file and in
.Dd "Jul 22, 2014"
.Dt DIRFD 3C
.Os
.Sh NAME
.Nm dirfd
.Nd get directory stream file descriptor
.Sh SYNOPSIS
.In dirent.h
.Ft int
.Fn dirfd "DIR *dir"
.Sh DESCRIPTION
The
.Fn dirfd
function returns the file descriptor associated with the
directory stream
.Fa dir .
.Lp
.TH DIRFD 3C "Oct 24, 2007"
.SH NAME
dirfd \- get directory stream file descriptor
.SH SYNOPSIS
.LP
.nf
#include <dirent.h>

\fBint\fR \fBdirfd\fR(\fBDIR *\fR\fIdir\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBdirfd()\fR function returns the file descriptor associated with the
directory stream \fIdir\fR.
.sp
.LP
This file descriptor is the one used internally by the directory stream
operations. See
.Xr opendir 3C ,
.Xr closedir 3C ,
.Xr readdir 3C ,
.Xr rewinddir 3C ,
.Xr seekdir 3C ,
and
.Xr telldir 3C .
The file descriptor
is automatically closed when
.Xr closedir 3C
is called for the directory stream
.Fa dir
or when one of the
.Xr exec 2
functions is called.
.Lp
operations. See \fBopendir\fR(3C), \fBclosedir\fR(3C), \fBreaddir\fR(3C),
```



```
\fBrewinddir\fR(3C), \fBseekdir\fR(3C), \fBtelldir\fR(3C).  The file descriptor
is automatically closed when \fBclosedir()\fR is called for the directory
stream \fIdir\fR or when one of the \fBexec\fR functions is called.  See
\fBexec\fR(2).
.sp
.LP
The file descriptor can safely be used only by functions that do not depend on
or alter the file position, such as
.Xr fstat 2
and
.Xr fchdir .
Closing the file descriptor with
.Xr close 2
or modifying the file position
or alter the file position, such as \fBfstat\fR(2) and \fBfchdir\fR(2).
Closing the file descriptor with \fBclose\fR(2) or modifying the file position
by means other than the directory stream operations listed above causes
undefined behavior to occur when one of the directory stream operations is
subsequently called with the directory stream
.Fa dir .
.Sh RETURN VALUES
Upon successful completion, the
.Fn dirfd
function returns an open file
descriptor for the directory associated with the directory stream
.Fa dir .
.Sh ERRORS
subsequently called with the directory stream \fIdir\fR.
.SH RETURN VALUES
.sp
.LP
Upon successful completion, the \fBdirfd()\fR function returns an open file
descriptor for the directory associated with the directory stream \fIdir\fR.
.SH ERRORS
.sp
.LP
There are no defined error returns.  Passing an invalid directory stream as an
argument to the
.Fn dirfd
function results in undefined behavior.
.Sh USAGE
The
.Fn dirfd
function is intended to be used to obtain a file descriptor
for use with the
.Xr fchdir
function.
.
.Sh INTERFACE STABILITY
.Sy Standard .
.
.Sh MT-LEVEL
.Sy Safe .
.
.Sh SEE ALSO
.Xr close 2 ,
.Xr exec 2 ,
.Xr fchdir 2 ,
.Xr fstat 2 ,
.Xr closedir 3C ,
.Xr opendir 3C ,
.Xr readdir 3C ,
.Xr rewinddir 3C ,
.Xr seekdir 3C ,
.Xr telldir 3C ,
.Xr standards 5
```

```
 91 .
 92 .Sh STANDARDS
 93 The
 94 .Fn dirfd
 95 function was introduced in
 96 .St -p1003.1-2008 .
 48 argument to the \fBdirfd()\fR function results in undefined behavior.
 49 .SH USAGE
 50 .sp
 51 .LP
 52 The \fBdirfd()\fR function is intended to be used to obtain a file descriptor
 53 for use with the \fBfchdir()\fR function.
 54 .SH ATTRIBUTES
 55 .sp
 56 .LP
 57 See \fBattributes\fR(5) for descriptions of the following attributes:
 58 .sp

 60 .sp
 61 .TS
 62 box;
 63 c | c
 64 l | l .
 65 ATTRIBUTE TYPE  ATTRIBUTE VALUE
 66 _
 67 Interface Stability     Committed
 68 _
 69 MT-Level        Safe
 70 .TE

 72 .SH SEE ALSO
 73 .sp
 74 .LP
 75 \fBclose\fR(2), \fBexec\fR(2), \fBfchdir\fR(2), \fBfstat\fR(2),
 76 \fBclosedir\fR(3C), \fBopendir\fR(3C), \fBreaddir\fR(3C), \fBrewinddir\fR(3C),
 77 \fBseekdir\fR(3C), \fBtelldir\fR(3C), \fBattributes\fR(5)
```

```
**********************************************************
    5314 Tue Aug 12 07:52:11 2014
new/usr/src/man/man3c/ecvt.3c
Minor markup tweaks (Sy instead of Nm).
fix incorrect standard citations
first round of POSIX 2008 stuff
**********************************************************
```

```
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'\" te
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.Dd "Jul 19, 2014"
.Dt ECVT 3C
.Os
.Sh NAME
.Nm ecvt, fcvt, gcvt
.Nd convert floating-point number to string
.Sh SYNOPSIS
.In stdlib.h
.Ft "char *"
.Fn ecvt "double value" "int ndigit" "int *restrict decpt" "int *restrict sign"
.Ft "char *"
.Fn fcvt "double value" "int ndigit" "int *restrict decpt" "int *restrict sign"
.Ft "char *"
.Fn gcvt "double value" "int ndigit" "char *buf"
.Sh DESCRIPTION
The
.Fn ecvt ,
.Fn fcvt ,
and
.Fn gcvt
functions convert floating-point numbers to null-terminated strings.
.Ss Fn ecvt
The
.Fn ecvt
function converts
.Fa value
to a null-terminated string of
.Fa ndigit
digits (where
.Fa ndigit
is reduced to an unspecified limit determined by the precision of a
.Ft double
and returns a pointer to the
.TH ECVT 3C "May 18, 2004"
.SH NAME
ecvt, fcvt, gcvt \- convert floating-point number to string
.SH SYNOPSIS
.LP
.nf
#include <stdlib.h>

\fBchar *\fR\fBecvt\fR(\fBdouble\fR \fIvalue\fR, \fBint\fR \fIndigit\fR, \fBint
.fi

.LP
.nf
\fBchar *\fR\fBfcvt\fR(\fBdouble\fR \fIvalue\fR, \fBint\fR \fIndigit\fR, \fBint
.fi
```



```
.LP
.nf
\fBchar *\fR\fBgcvt\fR(\fBdouble\fR \fIvalue\fR, \fBint\fR \fIndigit\fR, \fBchar
.fi

.SH DESCRIPTION
.sp
.LP
The \fBecvt()\fR, \fBfcvt()\fR and \fBgcvt()\fR functions convert
floating-point numbers to null-terminated strings.
.SS "\fBecvt()\fR"
.sp
.LP
The \fBecvt()\fR function converts \fIvalue\fR to a null-terminated string of
\fIndigit\fR digits (where \fIndigit\fR is reduced to an unspecified limit
determined by the precision of a \fBdouble\fR) and returns a pointer to the
string.  The high-order digit is non-zero, unless the value is 0.  The
low-order digit is rounded.  The position of the radix character relative to
the beginning of the string is stored in the integer pointed to by
.Fa decpt
the beginning of the string is stored in the integer pointed to by \fIdecpt\fR
(negative means to the left of the returned digits). The radix character is not
included in the returned string. If the sign of the result is negative, the
integer pointed to by
.Fa sign
is non-zero, otherwise it is 0.
.Lp
integer pointed to by \fIsign\fR is non-zero, otherwise it is 0.
.sp
.LP
If the converted value is out of range or is not representable, the contents of
the returned string are unspecified.
.Ss Fn fcvt
The
.Fn fcvt
function is identical to
.Fn ecvt
except that
.Fa ndigit
.SS "\fBfcvt()\fR"
.sp
.LP
The \fBfcvt()\fR function is identical to \fBecvt()\fR except that \fIndigit\fR
specifies the number of digits desired after the radix point.  The total number
of digits in the result string is restricted to an unspecified limit as
determined by the precision of a
.Ft double .
.Ss Fn gcvt
The
.Fn gcvt
function converts
.Fa value
to a null-terminated string
(similar to that of the
.Em %g
format of
.Xr printf 3C
in the array pointed to by
.Fa buf
and returns
.Fa buf .
It produces
.Fa ndigit
determined by the precision of a \fBdouble\fR.
.SS "\fBgcvt()\fR"
.sp
```

```
.LP
The \fBgcvt()\fR function converts \fIvalue\fR to a null-terminated string
(similar to that of the \fB%g\fR format of \fBprintf\fR(3C)) in the array
pointed to by \fIbuf\fR and returns \fIbuf\fR. It produces \fIndigit\fR
significant digits (limited to an unspecified value determined by the precision
of a
.Ft double )
in
.Em %f
if possible, or
.Em %e
(scientific notation)
otherwise.  A minus sign is included in the returned string if
.Fa value
is less than 0.  A radix character is included in the returned string if
.Fa value
is not a whole number.  Trailing zeros are suppressed where
.Fa value
is not a whole number.  The radix character is determined by the
.Dv LC_NUMERIC
category of the current locale.  In the default, POSIX, locale, the period
.Pq Em \&.
is used for the radix character.
default locale, POSIX, is used.
.Sh RETURN VALUES
The
.Fn ecvt
and
.Fn fcvt
functions return a pointer to a null-terminated string of digits.
.Lp
The
.Fn gcvt
function returns
.Fa buf .
.Sh ERRORS
of a \fBdouble\fR) in \fB%f\fR if possible, or \fB%e\fR (scientific notation)
otherwise.  A minus sign is included in the returned string if \fIvalue\fR is
less than 0.  A radix character is included in the returned string if
\fIvalue\fR is not a whole number.  Trailing zeros are suppressed where
\fIvalue\fR is not a whole number.  The radix character is determined by the
current locale. If \fBsetlocale\fR(3C) has not been called successfully, the
default locale, POSIX, is used.  The default locale specifies a period
(\fB\&.\fR) as the radix character.  The \fBLC_NUMERIC\fR category determines
the value of the radix character within the current locale.
.SH RETURN VALUES
.sp
.LP
The \fBecvt()\fR and \fBfcvt()\fR functions return a pointer to a
null-terminated string of digits.
.sp
.LP
The \fBgcvt()\fR function returns \fIbuf\fR.
.SH ERRORS
.sp
.LP
No errors are defined.
.Sh USAGE
The return values from
.Fn ecvt
and
.Fn fcvt
might point to
.SH USAGE
.sp
.LP
```



```
The return values from \fBecvt()\fR and \fBfcvt()\fR might point to
thread-specific data that can be overwritten by subsequent calls to these
functions by the same thread.
.Lp
Portable applications should use
.Xr sprintf 3C ,
which is mandated by
.St -isoC .
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh MT-LEVEL
.Sy Safe .
.Sh SEE ALSO
.Xr printf 3C ,
.Xr setlocale 3C
.Xr sprintf 3C ,
.Xr standards 5
.Sh STANDARDS
These functions were introduced in
.St -xpg4.2 .
They were obsoleted in
.St -p1003.1-2001
and removed from
.St -p1003.1-2008 .
.sp
.LP
For portability to implementations conforming to earlier versions of Solaris,
\fBsprintf\fR(3C) is preferred over this function.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
_
MT-Level        Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBprintf\fR(3C), \fBsetlocale\fR(3C), \fBsprintf\fR(3C), \fBattributes\fR(5),
\fBstandards\fR(5)
```

```
**********************************************************
    3956 Tue Aug 12 07:52:11 2014
new/usr/src/man/man3c/ftime.3c
Minor markup tweaks (Sy instead of Nm).
fix incorrect standard citations
first round of POSIX 2008 stuff
**********************************************************
```

```
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.Dd "Jul 19, 2014"
.Dt FTIME 3C
.Os
.Sh NAME
.Nm ftime
.Nd get date and time
.Sh SYNOPSIS
.In sys/timeb.h
.Ft int
.Fn ftime "struct timeb *tp"
.Sh DESCRIPTION
The
.Fn ftime
function sets the
.Fa time
and
.Fa millitm
members of the
.Ft timeb
structure pointed to by
.Fa tp .
The structure is defined in
.In sys/timeb.h
and contains the following members:
.Bl -column "unsigned short" "timezone" -offset indent
.It Ft time_t Ta Fa time ;
.It Ft unsigned short Ta Fa millitim ;
.It Ft short Ta Fa timezone ;
.It Ft short Ta Fa dstflag ;
.El
.Lp
The
.Fa time
and
.Fa millitm
members contain the seconds and milliseconds
.TH FTIME 3C "Jul 24, 2002"
.SH NAME
ftime \- get date and time
.SH SYNOPSIS
.LP
.nf
#include <sys/timeb.h>

\fBint\fR \fBftime\fR(\fBstruct timeb *\fR\fItp\fR);
.fi

.SH DESCRIPTION
.sp
```



```
.LP
The \fBftime()\fR function sets the \fBtime\fR and \fBmillitm\fR members of the
\fBtimeb\fR structure pointed to by \fItp\fR. The structure is defined in
<\fBsys/timeb.h\fR> and contains the following members:
.sp
.in +2
.nf
time_t           time;
unsigned short   millitm;
short            timezone;
short            dstflag;
.fi
.in -2

.sp
.LP
The \fBtime\fR and \fBmillitm\fR members contain the seconds and milliseconds
portions, respectively, of the current time in seconds since 00:00:00 UTC
(Coordinated Universal Time), January 1, 1970.
.Lp
The
.Fa timezone
member contains the local time zone. The
.Fa dstflag
member contains a flag that, if non-zero, indicates that Daylight Saving Time
.sp
.LP
The \fBtimezone\fR member contains the local time zone. The \fBdstflag\fR
member contains a flag that, if non-zero, indicates that Daylight Saving time
applies locally during the appropriate part of the year.
.Lp
The contents of the
.Fa timezone
and
.Fa dstflag
members of
.Fa tp
after a call to
.Fn ftime
are unspecified.
.Sh RETURN VALUES
.Rv -std
.Sh ERRORS
.sp
.LP
The contents of the \fBtimezone\fR and \fBdstflag\fR members of \fItp\fR after
a call to \fBftime()\fR are unspecified.
.SH RETURN VALUES
.sp
.LP
Upon successful completion, the \fBftime()\fR function returns \fB0\fR.
Otherwise \fB\(mi1\fR is returned.
.SH ERRORS
.sp
.LP
No errors are defined.
.Sh USAGE
Portable applications should use either
.Xr time 2 ,
or, if sub-second precision is required,
.Xr clock_gettime 3C .
.Lp
.SH USAGE
.sp
.LP
For portability to implementations conforming to earlier versions of this
```

```
document, \fBtime\fR(2) is preferred over this function.
.sp
.LP
The millisecond value usually has a granularity greater than one due to the
resolution of the system clock.  Depending on any granularity (particularly a
granularity of one) renders code non-portable.
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh MT-LEVEL
.Sy Safe .
.Sh SEE ALSO
.Xr date 1 ,
.Xr time 2 ,
.Xr clock_gettime 3C ,
.Xr ctime 3C ,
.Xr gettimeofday 3C ,
.Xr timezone 4 ,
.Xr standards 5
.Sh STANDARDS
The
.Fn ftime
function was introduced in
.St -xpg4.2 .
It was subsequently obsoleted in
.St -p1003.1-2001
and removed from
.St -p1003.1-2008 .
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
.TE

.SH SEE ALSO
.sp
.LP
\fBdate\fR(1), \fBtime\fR(2), \fBctime\fR(3C), \fBgettimeofday\fR(3C),
\fBtimezone\fR(4), \fBattributes\fR(5), \fBstandards\fR(5)
```

```
**********************************************************
    3183 Tue Aug 12 07:52:11 2014
new/usr/src/man/man3c/getline.3c
Whoops!  Wrong file modified!
**********************************************************
'\" t
.\"
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.\"
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.\"
.Dd "Apr 24, 2013"
.Dt GETLINE 3C
.Os
.Sh NAME
.Nm getline ,
.Nm getdelim
.Nd read delimited input from streams
.Sh SYNOPSIS
.In stdio.h
.Ft ssize_t
.Fo getline
.Fa "char **restrict ptr"
.Fa "size_t *restrict cap"
.Fa "FILE *restrict stream"
.Fc
.
.Ft ssize_t
.Fo getdelim
.Fa "char **restrict ptr"
.Fa "size_t *restrict cap"
.Fa "int delimiter"
.Fa "FILE *restrict stream"
.Fc
.
.Sh DESCRIPTION
The
.Fn getdelim
function reads bytes from the
.Fa stream
into the the
array pointed to by
.Fa ptr ,
until the
.Fa delimiter
byte or an end-of-file condition is encountered. The
.Fa getline
function is identical in
.TH GETLINE 3C "Apr 24, 2013"
.SH NAME
getline, getdelim \- read delimited input from streams
.SH SYNOPSIS
.LP
.nf
#include <stdio.h>
.fi
```



```
.LP
.nf
\fBssize_t\fR \fBgetline\fR(\fBchar **restrict\fR \fIptr\fR, \
\fBsize_t *restrict\fR \fIcap\fR,
    \fBFILE *restrict\fR \fIstream\fR);
.fi

.LP
.nf
\fBssize_t\fR \fBgetdelim\fR(\fBchar **restrict\fR \fIptr\fR, \
\fBsize_t *restrict\fR \fIcap\fR,
    \fBint\fR \fIdelimiter\fR, \fBFILE *restrict\fR \fIstream\fR);
.fi

.SH DESCRIPTION
The \fBgetdelim\fR() function reads bytes from the \fIstream\fR into the the
array pointed to by \fIptr\fR, until the \fIdelimiter\fR byte or an end-of-file
condition is encountered.  The \fBgetline\fR() function is identical in
behaviour, but uses the newline character as the delimiter.  The delimiter
character is included in the string (unless end-of-file was reached first) and
the string is terminated with a null byte.
.Lp
The caller may pass a buffer pre-allocated with
.Xr malloc 3C
as
.Fa *ptr ,
along with the capacity of that buffer as
.Fa *cap .
It is also valid to pass
.Dv NULL
for
.Fa *ptr
and 0 for
.Fa *cap ,
at which point memory

The caller may pass a pre-allocated \fBmalloc\fR(3C) buffer as \fI*ptr\fR,
along with the capacity of that buffer as \fI*cap\fR.  It is also valid to pass
\fBNULL\fR for \fI*ptr\fR and \fB0\fR for \fI*cap\fR, at which point memory
will be allocated automatically.  If the buffer provided is not large enough to
hold the string it will be expanded, as if via
.Xr realloc 3C .
The caller should
.Xr free 3C
the buffer when it is no longer required.
.Sh RETURN VALUES
If successful,
.Fn getdelim
and
.Fn getline
return the number of bytes
hold the string it will be expanded, as if via \fBrealloc(3C)\fR.  The caller
must \fBfree(3C)\fR the buffer when it is no longer required.

.SH RETURN VALUES
.sp
.LP
If successful, \fBgetdelim\fR() and \fBgetline\fR() return the number of bytes
written into the buffer, excluding the terminating null byte.  If an error
occurs, or if end-of-file is reached prior to reading any bytes, the value
\(mi1 is returned and
.Va errno
is set to indicate the error.
.Sh EXAMPLES
.Ss Example 1 Read a line from Va stdin
The following example uses
```

```
 89 .Fn getline
 90 to read a line from
 91 .Va stdin .
 92 .Bd -literal -offset indent
 59 \fB\(mi1\fR is returned and \fIerrno\fR is set to indicate the error.

 61 .SH ERRORS
 62 .sp
 63 .LP
 64 The \fBgetline\fR() and \fBgetdelim\fR() functions may fail due to the
 65 following errors:

 67 .sp
 68 .ne 2
 69 .na
 70 \fBEINVAL\fR
 71 .ad
 72 .RS 13n
 73 Either \fIptr\fR or \fIcap\fR are \fBNULL\fR, or the \fIdelimiter\fR is
 74 not a valid character.
 75 .RE

 77 .sp
 78 .ne 2
 79 .na
 80 \fBEOVERFLOW\fR
 81 .ad
 82 .RS 13n
 83 More than \fBSSIZE_MAX\fR characters were read from the stream without
 84 encountering the \fIdelimiter\fR.
 85 .RE

 87 .sp
 88 .LP
 89 The \fBgetline\fR() and \fBgetdelim\fR() functions may also fail and set
 90 \fIerrno\fR for any of the errors specified for the library routines
 91 \fBrealloc\fR(3C) or \fBfgetc\fR(3C).

 93 .SH EXAMPLES
 94 .LP
 95 \fBExample 1\fR Read a line from \fBstdin\fR.
 96 .sp
 97 .LP
 98 The following example uses \fBgetline\fR to read a line from stdin.

100 .sp
101 .in +2
102 .nf
 93 #include <stdio.h>
 94 \&...
 95 char *ptr = NULL;
 96 size_t cap = 0;

 98 if (getline(&ptr, &cap, stdin) == -1) {
 99     perror("getline");
100     exit(1);
101 }
102 fprintf(stdout, "input line: %s", ptr);

104 free(ptr);
105 .Ed
106 .Sh ERRORS
107 The
108 .Fn getline
109 and
110 .Fn getdelim
```



```
111 functions may fail due to the following errors:
112 .Bl -tag -width Er
113 .It Er EINVAL
114 Either
115 .Fa ptr
116 or
117 .Fa cap are
118 .Dv NULL , or th
119 .Fa delimiter
120 is not a valid character.
121 .It Er EOVERFLOW
122 More than
123 .Dv SSIZE_MAX
124 characters were read from the stream without
125 encountering the
126 .Fa delimiter .
127 .El
128 .Lp
129 The
130 .Fn getline
131 and
132 .Fn getdelim
133 functions may also fail and set
134 .Va errno
135 for any of the errors specified for the library routines
136 .Xr realloc 3C
137 or
138 .Xr fgetc 3C .
139 .Sh INTERFACE STABILITY
140 .Sy Standard .
141 .Sh MT-LEVEL
142 .Sy MT-Safe .
143 .Sh SEE ALSO
144 .Xr fgetc 3C ,
145 .Xr fgets 3C ,
146 .Xr free 3C ,
147 .Xr malloc 3C ,
148 .Xr realloc 3C ,
149 .Xr standards 5
150 .Sh STANDARDS
151 These functions were introduced in
152 .St -p1003.1-2008 .
115 .
116 .fi
117 .in -2

119 .SH ATTRIBUTES
120 .sp
121 .TS
122 box;
123 c | c
124 l | l .
125 ATTRIBUTE TYPE  ATTRIBUTE VALUE
126 _
127 Interface Stability     Committed
128 _
129 MT-Level        MT-Safe
130 .TE

132 .SH SEE ALSO
133 .sp
134 .LP
135 \fBfgetc\fR(3C), \fBfgets\fR(3C), \fBfree\fR(3C), \fBmalloc\fR(3C),
136 \fBrealloc\fR(3C), \fBattributes\fR(5)
```

```
**********************************************************
    3392 Tue Aug 12 07:52:12 2014
new/usr/src/man/man3c/getwd.3c
Minor markup tweaks (Sy instead of Nm).
first round of POSIX 2008 stuff
**********************************************************
```

```
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'\" te
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.Dd "Jul 21, 2014"
.Dt GETWD 3C
.Os
.Sh NAME
.Nm getwd
.Nd get current working directory pathname
.Sh SYNOPSIS
.In unistd.h
.Ft "char *"
.Fn getwd "char *path_name"
.Sh DESCRIPTION
The
.Fn getwd
function determines an absolute pathname of the current
.TH GETWD 3C "Jul 24, 2002"
.SH NAME
getwd \- get current working directory pathname
.SH SYNOPSIS
.LP
.nf
#include <unistd.h>

\fBchar *\fR\fBgetwd\fR(\fBchar *\fR\fIpath_name\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBgetwd()\fR function determines an absolute pathname of the current
working directory of the calling process, and copies that pathname into the
array pointed to by the
.Fa path_name
argument.
.Lp
array pointed to by the \fIpath_name\fR argument.
.sp
.LP
If the length of the pathname of the current working directory is greater than
.Pq Dv PATH_MAX + 1
including the null byte,
.Fn getwd
fails and returns a null pointer.
.Sh RETURN VALUES
(\fIPATH_MAX\fR + 1) including the null byte, \fBgetwd()\fR fails and returns a
null pointer.
.SH RETURN VALUES
.sp
.LP
Upon successful completion, a pointer to the string containing the absolute
pathname of the current working directory is returned.  Otherwise,
```



```
.Fn getwd
returns a null pointer and the contents of the array pointed to by
.Fa path_name
are undefined.
.Sh ERRORS
\fBgetwd()\fR returns a null pointer and the contents of the array pointed to
by \fIpath_name\fR are undefined.
.SH ERRORS
.sp
.LP
No errors are defined.
.Sh USAGE
.SH USAGE
.sp
.LP
For portability to implementations conforming to versions of the X/Open
Portability Guide prior to
.St -xpg4.2
or after
.St -p1003.1-2008 ,
.Xr getcwd 3C
is preferred over this function.
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh SEE ALSO
getcwd 3C ,
standards 5
.Sh STANDARDS
The
.Fn getwd
interface was introduced in
.Bx 4.0
and
.St -xpg4.2 .
It was removed in
.St -p1003.1-2008 .
Portability Guide prior to SUS, \fBgetcwd\fR(3C) is preferred over this
function.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
.TE

.SH SEE ALSO
.sp
.LP
\fBgetcwd\fR(3C), \fBattributes\fR(5), \fBstandards\fR(5)
```

```
**********************************************************
    3229 Tue Aug 12 07:52:12 2014
new/usr/src/man/man3c/index.3c
Minor markup tweaks (Sy instead of Nm).
first round of POSIX 2008 stuff
**********************************************************
'\" te
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.Dd "Jul 20, 2014"
.Dt INDEX 3C
.Os
.Sh NAME
.Nm index, rindex
.Nd locate character in string
.Sh SYNOPSIS
.In strings.h
.Ft char *
.Fn index "const char *s" "int c"
.Ft char *
.Fn rindex "const char *s" "int c"
.Sh DESCRIPTION
The
.Fn index
and
.Fn rindex
functions operate on null-terminated strings.
.Lp
The
.Fn index
function returns a pointer to the first occurrence of
character
.Fa c
in string
.Fa s .
.Lp
The
.Fn rindex
function returns a pointer to the last occurrence of
character
.Fa c
in string
.Fa s .
.Lp
Both
.Fn index
and
.Fa rindex
return a null pointer if
.Fa c
does
.TH INDEX 3C "Jul 24, 2002"
.SH NAME
index, rindex \- string operations
.SH SYNOPSIS
.LP
.nf
#include <strings.h>

\fBchar *\fR\fBindex\fR(\fBconst char *\fR\fIs\fR, \fBint\fR \fIc\fR);
```



```
.fi

.LP
.nf
\fBchar *\fR\fBrindex\fR(\fBconst char *\fR\fIs\fR, \fBint\fR \fIc\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBindex()\fR and \fBrindex()\fR functions operate on null-terminated
strings.
.sp
.LP
The \fBindex()\fR function returns a pointer to the first occurrence of
character \fIc\fR in string \fIs\fR.
.sp
.LP
The \fBrindex()\fR function returns a pointer to the last occurrence of
character \fIc\fR in string \fIs\fR.
.sp
.LP
Both \fBindex()\fR and  \fBrindex()\fR return a null pointer if \fIc\fR does
not occur in the string. The null character terminating a string is considered
to be part of the string.
.Sh USAGE
The
.Xr strchr 3C
and
.Xr strrchr 3C
should be used in portable applications; those functions are specified in
.St -isoC
whereas these are not.
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh MT-LEVEL
.Sy Async-Signal-Safe .
.Sh SEE ALSO
.Xr bstring 3C ,
.Xr malloc 3C ,
.Xr string 3C ,
.Xr standards 5
.Sh STANDARDS
These functions were part of
.At v6 ,
were added in
.St -p1003.1-2001 ,
and subsequently removed from
.St -p1003.1-2008 .
.SH USAGE
.sp
.LP
On most modern computer systems, you can \fInot\fR use a null pointer to
indicate a null string.  A null pointer is an error and results in an abort of
the program.  If you wish to indicate a null string, you must use a pointer
that points to an explicit null string.  On some machines and with some
implementations of the C programming language, a null pointer, if dereferenced,
would yield a null string.  Though often used, this practice is not always
portable. Programmers using a null pointer to represent an empty string should
be aware of this portability issue.  Even on machines where dereferencing a
null pointer does not cause an abort of the program, it does not necessarily
yield a null string.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
```

```
 61 .sp

 63 .sp
 64 .TS
 65 box;
 66 c | c
 67 l | l .
 68 ATTRIBUTE TYPE  ATTRIBUTE VALUE
 69 _
 70 Interface Stability     Standard
 71 .TE

 73 .SH SEE ALSO
 74 .sp
 75 .LP
 76 \fBbstring\fR(3C), \fBmalloc\fR(3C), \fBstring\fR(3C), \fBattributes\fR(5),
 77 \fBstandards\fR(5)
```

```
**********************************************************
    6656 Tue Aug 12 07:52:12 2014
new/usr/src/man/man3c/makecontext.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
Update libraries and sections.
More markup tweaks.
Minor markup tweaks (Sy instead of Nm).
fix incorrect standard citations
first round of POSIX 2008 stuff
**********************************************************
```

```
.\" Copyright 2014 Garrett D'Amore <garrett@damore.org>
'\" te
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.Dd "Jul 14, 2014"
.Dt MAKECONTEXT 3C
.Os
.Sh NAME
.Nm makecontext, swapcontext
.Nd manipulate user contexts
.Sh SYNOPSIS
.In ucontext.h
.Ft void
.Fn makecontext "ucontext_t *ucp" "void \*(lp*func\*(rp\*(lp\*(rp, int argc, ...
.Ft int
.Fn swapcontext "ucontext_t *restrict oucp" "const ucontext_t *restrict ucp"
.Sh DESCRIPTION
The
.Fn makecontext
function modifies the context specified by
.Fa ucp ,
which has been initialized using
.Xr getcontext 2 .
When this context is
resumed using
.Fn swapcontext
or
.Xr setcontext 2 ,
execution continues by calling the function
.Fa func ,
passing it the arguments that follow
.Fa argc
in the
.Fn makecontext
call. The value of
.Fa argc
must match the number of pointer-sized integer arguments passed to
.Fn func ,
otherwise the behavior is undefined.
.Lp
Before a call is made to
.Fn makecontext ,
the context being modified should
.TH MAKECONTEXT 3C "Mar 8, 2004"
.SH NAME
makecontext, swapcontext \- manipulate user contexts
.SH SYNOPSIS
.LP
```



```
.nf
#include <ucontext.h>

\fBvoid\fR \fBmakecontext\fR(\fBucontext_t *\fR\fIucp\fR, \fBvoid (*\fR\fIfunc\f
.fi

.LP
.nf
\fBint\fR \fBswapcontext\fR(\fBucontext_t *restrict\fR \fIoucp\fR,
     \fBconst ucontext_t *restrict\fR \fIucp\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBmakecontext()\fR function modifies the context specified by \fIucp\fR,
which has been initialized using \fBgetcontext\fR(2). When this context is
resumed using \fBswapcontext()\fR or \fBsetcontext\fR(2), execution continues
by calling the function \fIfunc\fR, passing it the arguments that follow
\fIargc\fR in the \fBmakecontext()\fR call. The value of \fIargc\fR must match
the number of pointer-sized integer arguments passed to \fIfunc\fR, otherwise
the behavior is undefined.
.sp
.LP
Before a call is made to \fBmakecontext()\fR, the context being modified should
have a stack allocated for it. The stack is assigned to the context by
initializing the
.Fa uc_stack
member.
.Lp
The
.Fa uc_link
member is used to determine the context that will be resumed
when the context being modified by
.Fn makecontext
returns.  The
.Fa uc_link
member should be initialized prior to the call to
.Fn makecontext .
If the
.Fa uc_link
member is initialized to
.Dv NULL ,
the thread executing
.Fa func
will exit when
.Fa func
returns. See
.Xr pthread_exit 3C .
.Lp
The
.Fn swapcontext
function saves the current context in the context
structure pointed to by
.Fa oucp
and sets the context to the context
structure pointed to by
.Fa ucp .
.Lp
If the
.Fa ucp
or
.Fa oucp
argument points to an invalid address, the
behavior is undefined and
.Va errno
```

```
 90 may be set to
 91 .Er EFAULT .
 92 .Sh RETURN VALUES
 93 .Rv -std swapcontext
 94 .Sh EXAMPLES
 95 .Ss Example 1
 96 The following example illustrates execution context on a stack whose memory was
 97 allocated using
 98 .Xr  mmap 2 :
 99 .Bd -literal -offset indent
 41 initializing the \fBuc_stack\fR member.
 42 .sp
 43 .LP
 44 The \fBuc_link\fR member is used to determine the context that will be resumed
 45 when the context being modified by \fBmakecontext()\fR returns.  The
 46 \fBuc_link\fR member should be initialized prior to the call to
 47 \fBmakecontext()\fR. If the \fBuc_link\fR member is initialized to \fINULL\fR,
 48 the thread executing \fIfunc\fR will exit when \fIfunc\fR returns. See
 49 \fBpthread_exit\fR(3C).
 50 .sp
 51 .LP
 52 The \fBswapcontext()\fR function saves the current context in the context
 53 structure pointed to by \fIoucp\fR and sets the context to the context
 54 structure pointed to by \fIucp\fR.
 55 .sp
 56 .LP
 57 If the \fIucp\fR or \fIoucp\fR argument points to an invalid address, the
 58 behavior is undefined and \fBerrno\fR may be set to \fBEFAULT\fR.
 59 .SH RETURN VALUES
 60 .sp
 61 .LP
 62 On successful completion, \fBswapcontext()\fR returns \fB0\fR. Otherwise,
 63 \fB\(mi1\fR is returned and \fBerrno\fR is set to indicate the error.
 64 .SH ERRORS
 65 .sp
 66 .LP
 67 The \fBswapcontext()\fR function will fail if:
 68 .sp
 69 .ne 2
 70 .na
 71 \fB\fBENOMEM\fR\fR
 72 .ad
 73 .RS 10n
 74 The \fIucp\fR argument does not have enough stack left to complete the
 75 operation.
 76 .RE

 78 .sp
 79 .LP
 80 The \fBswapcontext()\fR function may fail if:
 81 .sp
 82 .ne 2
 83 .na
 84 \fB\fBEFAULT\fR\fR
 85 .ad
 86 .RS 10n
 87 The \fIucp\fR or \fIoucp\fR argument points to an invalid address.
 88 .RE

 90 .SH EXAMPLES
 91 .LP
 92 \fBExample 1 \fRAlternate execution context on a stack whose memory was
 93 allocated using \fBmmap()\fR.
 94 .sp
 95 .in +2
 96 .nf
```



```
100 #include <stdio.h>
101 #include <ucontext.h>
102 #include <sys/mman.h>

104 void
105 assign(long a, int *b)
106 {
107         *b = (int)a;
108 }
_____unchanged_portion_omitted_
134 .Ed
135 .Sh ERRORS
136 The
137 .Fn swapcontext
138 function will fail if:
139 .Bl -tag -width Er
140 .It Er ENOMEM
141 The
142 .Fa ucp
143 argument does not have enough stack left to complete the operation.
144 .El
145 .Lp
146 The
147 .Fn swapcontext
148 function may fail if:
149 .Bl -tag -width Er
150 .It Er EFAULT
151 The
152 .Fa ucp
153 or
154 .Fa oucp
155 argument points to an invalid address.
156 .El
157 .Sh USAGE
131 .fi
132 .in -2

134 .SH USAGE
135 .sp
136 .LP
158 These functions are useful for implementing user-level context switching
159 between multiple threads of control within a process (co-processing). More
160 effective multiple threads of control can be obtained by using native support
161 for multithreading. See
162 .Xr pthreads 5 .
163 .Sh INTERFACE STABILITY
164 .Sy Obsolete Standard .
165 .Sh MT-LEVEL
166 .Sy MT-Safe .
167 .Sh SEE ALSO
168 .Xr mmap 2 ,
169 .Xr getcontext 2 ,
170 .Xr sigaction 2 ,
171 .Xr sigprocmask 2 ,
172 .Xr pthread_exit 3C ,
173 .Xr ucontext.h 3HEAD ,
174 .Xr standards 5 ,
175 .Xr pthreads 5
176 .Sh NOTES
177 The semantics of the
178 .Fa uc_stack
179 member of the
180 .Ft ucontext_t
181 structure have changed as they apply to inputs to
182 .Fn makecontex .
183 Prior to Solaris 10, the
```

```
.Fa ss_sp
member of the
.Fa uc_stack
structure represented the high
for multithreading. See \fBthreads\fR(5).
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
_
MT-Level        MT-Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBmmap\fR(2), \fBgetcontext\fR(2), \fBsigaction\fR(2), \fBsigprocmask\fR(2),
\fBpthread_exit\fR(3C), \fBucontext.h\fR(3HEAD), \fBattributes\fR(5),
\fBstandards\fR(5), \fBthreads\fR(5)
.SH NOTES
.sp
.LP
The semantics of the \fBuc_stack\fR member of the \fBucontext_t\fR structure
have changed as they apply to inputs to \fBmakecontext()\fR. Prior to Solaris
10, the \fBss_sp\fR member of the \fBuc_stack\fR structure represented the high
memory address of the area reserved for the stack. The \fBss_sp\fR member now
represents the base (low memory address), in keeping with other uses of
.Fa ss_sp .
.Lp
This change in the meaning of
.Fa ss_sp
is now the default behavior. The
.Dv -D__MAKECONTEXT_V2_SOURCE
compilation flag used in Solaris 9 update
\fBss_sp\fR.
.sp
.LP
This change in the meaning of \fBss_sp\fR is now the default behavior. The
\fB-D__MAKECONTEXT_V2_SOURCE\fR compilation flag used in Solaris 9 update
releases to access this behavior is obsolete.
.Lp
.sp
.LP
Binary compatibility has been preserved with releases prior to Solaris 10.
Before recompiling, applications that use
.Fn makecontext
must be updated
to reflect this behavior change.
.Lp
Portable applications should not use this function. Instead, applications
should use
.Xr pthreads 5
routines.
.Lp
Note that the definition of
.Fn makecontext
```



```
violates
.St -isoC .
There is no way to declare this function that does not violate that
standard.
.Sh STANDARDS
This function  was introduced in
.St -xpg4.2 ,
and subsequently removed from
.St -p1003.1-2008 .
Before recompiling, applications that use \fBmakecontext()\fR must be updated
to reflect this behavior change. The example below demonstates a typical change
that must be applied:
.sp
.in +2
.nf
--- example1_s9.c       Thu Oct  3 11:58:17 2002
+++ example1.c  Thu Jun 27 13:28:16 2002
@@ -27,12 +27,9 @@
        uc.uc_stack.ss_sp = mmap(0, sz,
            PROT_READ | PROT_WRITE | PROT_EXEC,
            MAP_PRIVATE | MAP_ANON, -1, 0);
-       uc.uc_stack.ss_sp = (char *)uc.uc_stack.ss_sp + sz - 8;
        uc.uc_stack.ss_size = sz;
        uc.uc_stack.ss_flags = 0;

        uc.uc_link = &back

        makecontext(&uc, assign, 2, 100L, &value);
.fi
.in -2
```

```
**********************************************************
    3972 Tue Aug 12 07:52:12 2014
new/usr/src/man/man3c/mktemp.3c
fix incorrect standard citations
**********************************************************
```

```
.\" Copyright 2014 Garrett D'Amore <garrett@damore.org>
'\" te
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.Dd "Jul 21, 2014"
.Dt MKTEMP 3C
.Os
.Sh NAME
.Nm mktemp
.Nd make a unique file name  from a template
.Sh SYNOPSIS
.In stdlib.h
.Ft "char *"
.Fn mktemp "char *template"
.Sh DESCRIPTION
The
.Fn mktemp
function replaces the contents of the string pointed to by
.Fa template
with a unique file name, and returns
.Fa template .
The string in
.Fa template
should look like a file name with six trailing
.So X Sc Ns s ;
.Fn mktemp
will replace the
.So X Sc Ns s
with a character string that can be used
.TH MKTEMP 3C "Sep 15, 2004"
.SH NAME
mktemp \- make a unique file name  from a template
.SH SYNOPSIS
.LP
.nf
#include <stdlib.h>

\fBchar *\fR\fBmktemp\fR(\fBchar *\fR\fItemplate\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBmktemp()\fR function replaces the contents of the string pointed to by
\fItemplate\fR with a unique file name, and returns \fItemplate\fR. The string
in \fItemplate\fR should look like a file name with six trailing 'X's;
\fBmktemp()\fR will replace the 'X's with a character string that can be used
to create a unique file name. Only 26 unique file names per thread can be
created for each unique
.Fa template .
.Sh RETURN VALUES
The
.Fn mktemp
```



```
function returns a pointer to the
.Fa template
on success and
.Dv NULL
if unique name cannot be created.
.Sh EXAMPLES
.Ss Example 1 Generate a filename.
.sp
.LP
The \fBmktemp()\fR function returns a pointer to the \fItemplate\fR on success
and \fBNULL\fR if unique name cannot be created.
.SH ERRORS
.sp
.LP
No errors are defined.
.SH EXAMPLES
.LP
\fBExample 1 \fRGenerate a filename.
.sp
.LP
The following example replaces the contents of the "template" string with a
10-character filename beginning with the characters "file" and returns a
pointer to the "template" string that contains the new filename.
.Bd -literal -offset indent

.sp
.in +2
.nf
#include <stdlib.h>
\&...
char template[] = "/tmp/fileXXXXXX";
char *ptr;
ptr = mktemp(template);
.Ed
.Sh ERRORS
No errors are defined.
.Sh SECURITY
.fi
.in -2

.SH USAGE
.sp
.LP
Between the time a pathname is created and the file opened, it is possible for
some other process to create a file with the same name. The
.Xr mkstemp 3C
some other process to create a file with the same name. The \fBmkstemp\fR(3C)
function avoids this problem and is preferred over this function.
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh MT-LEVEL
.Sy Safe .
.Sh SEE ALSO
.Xr mkstemp 3C ,
.Xr tmpfile 3C ,
.Xr tmpnam 3C ,
.Xr standards 5
.Sh STANDARDS
The
.Fn mktemp
function was introduced in
.At v7
and subsequently standardized in
.St -xpg4.2 .
```

```
 83 It was obsoleted in
 84 .St -p1003.1-2001 ,
 85 and removed from
 86 .St -p1003.1-2008 .
 67 .SH ATTRIBUTES
 68 .sp
 69 .LP
 70 See \fBattributes\fR(5) for descriptions of the following attributes:
 71 .sp

 73 .sp
 74 .TS
 75 box;
 76 c | c
 77 l | l .
 78 ATTRIBUTE TYPE  ATTRIBUTE VALUE
 79 _
 80 Interface Stability     Standard
 81 _
 82 MT-Level        Safe
 83 .TE

 85 .SH SEE ALSO
 86 .sp
 87 .LP
 88 \fBmkstemp\fR(3C), \fBtmpfile\fR(3C), \fBtmpnam\fR(3C), \fBattributes\fR(5),
 89 \fBstandards\fR(5)
```

```
**********************************************************
    4466 Tue Aug 12 07:52:12 2014
new/usr/src/man/man3c/newlocale.3c
Add locale.h ref
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
Note standards conformance for newlocale, convert to mdocml.
**********************************************************
```

```
'\" te
.\"
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.\"
.Dd "Jul 23, 2014"
.Dt NEWLOCALE 3C
.Os
.Sh NAME
.Nm duplocale ,
.Nm freelocale ,
.Nm newlocale
.Nd create, duplicate, and destroy locale objects
.Sh SYNOPSIS
.In locale.h
.
.Ft locale_t
.Fo newlocale
.Fa "int category_mask"
.Fa "const char *locale"
.Fa "locale_t base"
.Fc
.
.Ft locale_t
.Fo duplocale
.Fa "locale_t loc"
.Fc
.
.Ft void
.Fo freelocale
.Fa "locale_t loc"
.Fc
.Sh DESCRIPTION
These functions manipulate locale objects that can be used with
.Xr uselocale 3C
.TH NEWLOCALE 3C "Jun 23, 2014"
.SH NAME
duplocale, freelocale, newlocale \- create, duplicate, and destroy locale object
.SH SYNOPSIS
.LP
.nf
#include <locale.h>

\fBlocale_t\fR \fBnewlocale\fR(\fBint\fR \fIcategory_mask\fR, \fBconst char *\fR
    \fBlocale_t\fR \fIbase\fR);
.fi
.LP
```



```
.nf
\fBlocale_t\fR \fBduplocale\fR(\fBlocale_t\fR \fIloc\fR);
.fi
.LP
.nf
\fBvoid\fR \fBfreelocale\fR(\fBlocale_t\fR \fIloc\fR);
.fi
.SH DESCRIPTION
.LP
These functions manipulate locale objects that can be used
.BR uselocale (3C)
and functions that take arguments of type
.Vt locale_t .
.Lp
The
.Fn newlocale
function
.BR locale_t .
.LP
The function
.B newlocale()
can be used to create a new locale object. It can also be used to modify an
existing locale object; the new locale object will be a replacement for the
existing locale object, the new locale object will be a replacement for the
modified locale object. To create a new locale, the argument
.Fa base
.I base
should be passed the special argument
.Po Vt locale_t Pc 0.
.RB ( locale_t )0.
This will use a copy of the current global locale as a starting point. To modify
an existing locale object, it should be passed in as the argument
.Fa base .
.IR base .
The new locale object is constructed by taking the categories specified in
.Fa category_mask
.I category_mask
from the locale specified by the string
.Fa locale ,
.IR locale ,
and filling in the remaining categories from the locale
.Fa base .
.IR base .
When
.Fn newlocale
.B newlocale()
returns, callers must no longer use
.Fa base .
They should assume that
.Fn freelocale
has been called on it.
.Lp
In addition to locales defined on the system, the
.IR base
and assume that
.BR freelocale (3C)
has been called on it. In addition to locales defined on the system, the
following three locales may always be passed in as the string
.Fa locale :
.Bl -tag -offset indent -width Dq
.It \\"C\\"
.IR locale :
.TP
"C"
Specifies the traditional UNIX system behavior.
.It \\"POSIX\\"
```

```
.TP
"POSIX"
An alternate name fo the locale "C".
.It \\"\\"
.TP
""
Indicates that the locale should be processed based in the values in the
environment. See
.Xr setlocale 3C
.BR setlocale (3C)
and
.Xr environ 5
.BR environ (5)
for more information.
.El
.Lp
.LP
The value of
.Fa category_mask
.I category_mask
is a bitwise-inclusive or of the following macros which correspond to categories
as defined in
.Xr locale 5
.BR locale (5)
and
.Xr environ 5 :
.Bl -tag -offset indent -width Dv
.It Dv LC_CTYPE_MASK
.BR environ (5):
.TP
.B LC_CTYPE_MASK
Character classification and case conversion.
.It Dv LC_NUMERIC_MASK
.TP
.B LC_NUMERIC_MASK
Numeric formatting.
.It Dv LC_TIME_MASK
.TP
.B LC_TIME_MASK
Date and time formatting.
.It Dv LC_COLLATE_MASK
.TP
.B LC_COLLATE_MASK
Collation order.
.It Dv LC_MONETARY_MASK
.TP
.B LC_MONETARY_MASK
Monetary formatting.
.It Dv LC_MESSAGES_MASK
.TP
.B LC_MESSAGES_MASK
Formats of informative and diagnostic messages and interactive responses.
.It Dv LC_ALL_MASK
.TP
.B LC_ALL_MASK
Mask of all categories.
.El
.Lp
The
.Fn duplocale
function duplicates the locale object specified by
.Fa loc .
.LP
The function
.B duplocale()
duplicates the locale object specified by
```



```
.IR loc .
If the locale object passed is
.Dv LC_GLOBAL_LOCALE ,
.Fn duplocale
.BR LC_GLOBAL_LOCALE ,
.B duplocale()
creates a copy of the current global locale as defined through calls to
.Xr setlocale 3C .
.Lp
The
.Fn freelocale
function removes and releases all resources associated with the locale object
.Fa loc .
.BR setlocale (3C).
.LP
The function
.B freelocale()
removes and releases all resources associated with the locale object
.IR loc .
Programs must not call
.Fn freelocale
.B freelocale()
on
.Dv LC_GLOBAL_LOCALE .
.Sh RETURN VALUES
.BR LC_GLOBAL_LOCALE .
.SH RETURN VALUES
.LP
On success, the functions
.Fn newlocale
.B newlocale()
and
.Fn duplocale
.B duplocale()
return a new locale object that can be used with functions that take a
.Vt locale_t .
.BR locale_t .
Locale objects created this way should be freed with
.Fn freelocale .
.BR freelocale() .
On error, the functions
.Fn newlocale
.B newlocale()
and
.Fn duplocale
.B duplocale()
return
.Po Vt locale_t Pc 0
.BR (locale_t) 0
and
.Va errno
.B errno
is set to indicate the error. The
.Fn freelocale
.B freelocale()
function does not set
.Va errno .
.Sh ERRORS
.B errno.
.SH ERRORS
.LP
The
.Fn newlocale
.B newlocale()
and
.Fn duplocale
```

```
157 .B duplocale()
159 functions will fail if:
160 .Bl -tag -width Er
161 .It Er ENOMEM
159 .TP
160 .B ENOMEM
162 Insufficient memory was available to create the locale object or to load the
163 requested locale data.
164 .El
165 .Lp
163 .LP
166 The
167 .Fn newlocale
165 .B newlocale()
168 function will fail if:
169 .Bl -tag -width Er
170 .It Er EINVAL
167 .TP
168 .B EINVAL
171 An unknown bit is specified in
172 .Fa category_mask .
173 .It Er ENOENT
170 .IR category_mask .
171 .TP
172 .B ENOENT
174 Locale data was not found for a category specified in
175 .Fa category_mask .
176 .El
177 .Sh INTERFACE STABILITY
178 .Sy Standard .
179 .Sh MT-LEVEL
180 .Sy MT-Safe .
181 .Sh SEE ALSO
182 .Xr locale 1 ,
183 .Xr setlocale 3C ,
184 .Xr uselocale 3C ,
185 .Xr locale.h 3HEAD  ,
186 .Xr environ 5 ,
187 .Xr locale 5
188 .Sh STANDARDS
189 The
190 .Fn newlocale ,
191 .Fn duplocale ,
192 and
193 .Fn freelocale
194 functions were introduced in
195 .St -p1003.1-2008 .
174 .SH ATTRIBUTES
175 .TS
176 box;
177 c | c
178 l | l .
179 ATTRIBUTE TYPE  ATTRIBUTE VALUE
180 _
181 Interface Stability     Standard
182 _
183 MT-Level        Safe
184 .TE

186 .SH SEE ALSO
187 .BR locale (1),
188 .BR setlocale (3C),
189 .BR uselocale (3C),
190 .BR environ (5),
191 .BR locale (5)
```

```
**********************************************************
    5186 Tue Aug 12 07:52:12 2014
new/usr/src/man/man3c/opendir.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
opendir, dirfd are in XPG7
**********************************************************
```

```
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.Dd "Jul 22, 2014"
.Dt OPENDIR 3C
.Os
.Sh NAME
.Nm opendir ,
.Nm fdopendir
.Nd open directory
.Sh SYNOPSIS
.In dirent.h
.
.Ft "DIR *"
.Fn opendir "const char *dirname"
.
.Ft "DIR *"
.Fn fdopendir "int fildes"
.
.Sh DESCRIPTION
The
.Fn opendir
function opens a directory stream corresponding to the
directory named by the
.Fa dirname
argument.
.Lp
The
.Fn fdopendir
function opens a directory stream for the directory file
descriptor
.Fa fildes .
The directory file descriptor should not be used or
.TH OPENDIR 3C "Jun 26, 2007"
.SH NAME
opendir, fdopendir \- open directory
.SH SYNOPSIS
.LP
.nf
#include <sys/types.h>
#include <dirent.h>

\fBDIR *\fR\fBopendir\fR(\fBconst char *\fR\fIdirname\fR);
.fi

.LP
.nf
\fBDIR *\fR\fBfdopendir\fR(\fBint\fR \fIfildes\fR);
.fi
```



```
.SH DESCRIPTION
.sp
.LP
The \fBopendir()\fR function opens a directory stream corresponding to the
directory named by the \fIdirname\fR argument.
.sp
.LP
The \fBfdopendir()\fR function opens a directory stream for the directory file
descriptor \fIfildes\fR. The directory file descriptor should not be used or
closed following a successful function call, as this might cause undefined
results from future operations on the directory stream obtained from the call.
Use
.Xr closedir 3C
to close a directory stream.
.Lp
The directory stream is positioned at the first entry. If the type
.Ft DIR
is
Use \fBclosedir\fR(3C) to close a directory stream.
.sp
.LP
The directory stream is positioned at the first entry. If the type \fBDIR\fR is
implemented using a file descriptor, applications will only be able to open up
to a total of
.Bq OPEN_MAX
files and directories. A successful call to any
of the
.Xr exec 2
functions will close any directory streams that are open in
the calling process.
.Sh RETURN VALUES
Upon successful completion,
.Fn opendir
and
.Fn fdopendir
return a
pointer to an object of type
.Ft DIR .
Otherwise, a null pointer is returned
and
.Va errno
is set to indicate the error.
.Sh ERRORS
The
.Fn opendir
function will fail if:
.Bl -tag -width Er
.It Er EACCES
to a total of {\fBOPEN_MAX\fR} files and directories. A successful call to any
of the \fBexec\fR functions will close any directory streams that are open in
the calling process.  See \fBexec\fR(2).
.SH RETURN VALUES
.sp
.LP
Upon successful completion, \fBopendir()\fR and \fBfdopendir()\fR return a
pointer to an object of type \fBDIR\fR. Otherwise, a null pointer is returned
and \fBerrno\fR is set to indicate the error.
.SH ERRORS
.sp
.LP
The \fBopendir()\fR function will fail if:
.sp
.ne 2
.na
\fB\fBEACCES\fR\fR
.ad
```

```
.RS 16n
Search permission is denied for the component of the path prefix of
.Fa dirname
or read permission is denied for
.Fa dirname .
.It Er ELOOP
Too many symbolic links were encountered in resolving
.Fa path .
.It Er ENAMETOOLONG
The length of the
.Fa dirname
argument exceeds
.Brq PATH_MAX ,
or a path name component is longer than
.Brq NAME_MAX
while
.Brq _POSIX_NO_TRUNC
is
\fIdirname\fR or read permission is denied for \fIdirname\fR.
.RE

.sp
.ne 2
.na
\fB\fBELOOP\fR\fR
.ad
.RS 16n
Too many symbolic links were encountered in resolving \fIpath\fR.
.RE

.sp
.ne 2
.na
\fB\fBENAMETOOLONG\fR\fR
.ad
.RS 16n
The length of the \fIdirname\fR argument exceeds {\fBPATH_MAX\fR}, or a path
name component is longer than {\fBNAME_MAX\fR} while {\fB_POSIX_NO_TRUNC\fR} is
in effect.
.It Er ENOENT
A component of
.Fa dirname
does not name an existing directory or
.Fa dirname
is an empty string.
.It Er ENOTDIR
A component of
.Fa dirname
is not a directory.
.El
.Lp
The
.Fn fdopendir
function will fail if:
.Bl -tag -width Er
.It Er ENOTDIR
The file descriptor
.Fa fildes
does not reference a directory.
.El
.Lp
The
.Fn opendir
function may fail if:
.Bl -tag -width Er
.It Er EMFILE
```



```
There are
.Brq OPEN_MAX
file descriptors currently open in the calling process.
.It Er ENAMETOOLONG
.RE

.sp
.ne 2
.na
\fB\fBENOENT\fR\fR
.ad
.RS 16n
A component of \fIdirname\fR does not name an existing directory or
\fIdirname\fR is an empty string.
.RE

.sp
.ne 2
.na
\fB\fBENOTDIR\fR\fR
.ad
.RS 16n
A component of \fIdirname\fR is not a directory.
.RE

.sp
.LP
The \fBfdopendir()\fR function will fail if:
.sp
.ne 2
.na
\fB\fBENOTDIR\fR\fR
.ad
.RS 11n
The file descriptor \fIfildes\fR does not reference a directory.
.RE

.sp
.LP
The \fBopendir()\fR function may fail if:
.sp
.ne 2
.na
\fB\fBEMFILE\fR\fR
.ad
.RS 16n
There are {\fBOPEN_MAX\fR} file descriptors currently open in the calling
process.
.RE

.sp
.ne 2
.na
\fB\fBENAMETOOLONG\fR\fR
.ad
.RS 16n
Pathname resolution of a symbolic link produced an intermediate result whose
length exceeds
.Brq PATH_MAX .
.It Er ENFILE
length exceeds \fBPATH_MAX\fR.
.RE

.sp
.ne 2
.na
```

```
\fB\fBENFILE\fR\fR
.ad
.RS 16n
Too many files are currently open on the system.
.El
.Sh USAGE
The
.Fn opendir
and
.Fn fdopendir
functions should be used in conjunction with
.Xr readdir 3C ,
.Xr closedir 3C
and
.Xr rewinddir 3C
to examine the contents of the directory
.Po see the
.Sx EXAMPLES
section in
.Xr readdir 3C Pc .
This method is recommended for portability.
.Sh INTERFACE STABILITY
.Sy Standard .
.Sh MT-LEVEL
.Sy Safe .
.Sh SEE ALSO
.Xr exec 2 ,
.Xr lstat 2 ,
.Xr symlink 2 ,
.Xr closedir 3C ,
.Xr readdir 3C ,
.Xr rewinddir 3C ,
.Xr scandir 3C ,
.Xr standards 5
.Sh STANDARDS
The
.Fn opendir
function was introduced in
.Bx 4.2 .
and standardized in
.St -p1003.1 .
The
.Fn fdopendir
function was introduced in
.St -p1003.1-2008 .
.RE

.SH USAGE
.sp
.LP
The \fBopendir()\fR and \fBfdopendir()\fR functions should be used in
conjunction with \fBreaddir\fR(3C), \fBclosedir\fR(3C) and \fBrewinddir\fR(3C)
to examine the contents of the directory (see the \fBEXAMPLES\fR section in
\fBreaddir\fR(3C)). This method is recommended for portability.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
```



```
_
Interface Stability     T{
\fBopendir()\fR is Standard; \fBfdopendir()\fR is Evolving
T}
_
MT-Level        Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBlstat\fR(2), \fBsymlink\fR(2), \fBclosedir\fR(3C), \fBreaddir\fR(3C),
\fBrewinddir\fR(3C), \fBscandir\fR(3C), \fBattributes\fR(5)
```

```
**********************************************************
    4402 Tue Aug 12 07:52:12 2014
new/usr/src/man/man3c/pthread_attr_getstackaddr.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
Update libraries and sections.
More markup tweaks.
no need to use -lpthread anymore
pthread_attr_setstackaddr removed in XPG7
**********************************************************
```

```
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.Dd "Jul 22, 2014"
.Dt PTHREAD_ATTR_GETSTACKADDR 3C
.Os
.Sh NAME
.Nm pthread_attr_getstackaddr ,
.Nm pthread_attr_setstackaddr
.Nd get or set stackaddr attribute
.Sh SYNOPSIS
.In pthread.h
.Ft int
.Fo pthread_attr_getstackaddr
.Fa "const pthread_attr_t *restrict attr"
.Fa "void **restrict stackaddr"
.Fc
.Ft int
.Fn pthread_attr_setstackaddr "pthread_attr_t *attr" "void **stackaddr"
.Sh DESCRIPTION
The functions
.Fn pthread_attr_setstackaddr
and
.Fn pthread_attr_getstackaddr ,
respectively, set and get the thread creation
.Fa stackaddr
attribute in the
.Fa attr
object. The
.Fa stackaddr
default is
.Dv NULL .
See
.Xr pthread_create 3C .
.Lp
The
.Fa stackaddr
attribute specifies the location of storage to be used for
.TH PTHREAD_ATTR_GETSTACKADDR 3C "Mar 23, 2005"
.SH NAME
pthread_attr_getstackaddr, pthread_attr_setstackaddr \- get or set stackaddr
attribute
.SH SYNOPSIS
.LP
.nf
cc -mt [ \fIflag\fR... ] \fIfile\fR... -lpthread [ \fIlibrary\fR... ]
```



```
#include <pthread.h>

\fBint\fR \fBpthread_attr_getstackaddr\fR(\fBconst pthread_attr_t *restrict\fR \
    \fBvoid **restrict\fR \fIstackaddr\fR);
.fi

.LP
.nf
\fBint\fR \fBpthread_attr_setstackaddr\fR(\fBpthread_attr_t *\fR\fIattr\fR, \fBv
.fi

.SH DESCRIPTION
.sp
.LP
The functions \fBpthread_attr_setstackaddr()\fR and
\fBpthread_attr_getstackaddr()\fR, respectively, set and get the thread
creation \fIstackaddr\fR attribute in the \fIattr\fR object. The
\fIstackaddr\fR default is \fINULL\fR. See \fBpthread_create\fR(3C).
.sp
.LP
The \fIstackaddr\fR attribute specifies the location of storage to be used for
the created thread's stack. The size of the storage is at least
.Dv PTHREAD_STACK_MIN .
.Sh RETURN VALUES
Upon successful completion,
.Fn pthread_attr_setstackaddr
and
pthread_attr_getstackaddr
return 0. Otherwise, an
\fBPTHREAD_STACK_MIN.\fR
.SH RETURN VALUES
.sp
.LP
Upon successful completion, \fBpthread_attr_setstackaddr()\fR and
\fBpthread_attr_getstackaddr()\fR return a value of  \fB0\fR. Otherwise, an
error number is returned to indicate the error.
.Lp
If successful, the
.Fn pthread_attr_getstackaddr
function stores the
.Sy stackaddr
attribute value in
.Fa stackaddr .
.Sh ERRORS
The
.Fn pthread_attr_setstackaddr
function may fail if:
.Bl -tag -width Er
.It Er EINVAL
The
.Fa attr
argument is invalid.
.El
.Lp
The
.Fn pthread_attr_getstackaddr
function may fail if:
.Bl -tag -width Er
.It Er EINVAL
Either the
.Fa attr
or
.Fa stackaddr
arguments are invalid.
.El
.Sh USAGE
```

```
Due to ambiguities in the standard for these functions, their use is
discouraged.  Instead, the
.Xr pthread_attr_setstack 3C
and
.Xr pthread_attr_getstack 3C
functions, which were introduced in
.St -p1003.1-2001 ,
should be used instead.
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh MT-LEVEL
.Sy MT-Safe .
.Sh SEE ALSO
.Xr pthread_attr_getstack 3C ,
.Xr pthread_attr_init 3C ,
.Xr pthread_attr_setdetachstate 3C ,
.Xr pthread_attr_setstack 3C ,
.Xr pthread_attr_setstacksize 3C ,
.Xr pthread_create 3C ,
.Xr standards 5
.Sh STANDARDS
The
.Fn pthread_attr_setstackaddr
and
.Fn pthread_attr_getstackaddr
functions were introduced in
.St -p1003.1c-95 .
They were obsoleted in
.St -p1003.1-2001
and removed from
.St -p1003.1-2008 .
.sp
.LP
If successful, the \fBpthread_attr_getstackaddr()\fR function stores the
\fIstackaddr\fR attribute value in \fIstackaddr\fR.
.SH ERRORS
.sp
.LP
The \fBpthread_attr_setstackaddr()\fR function may fail if:
.sp
.ne 2
.na
\fB\fBEINVAL\fR\fR
.ad
.RS 10n
\fIattr\fR is invalid.
.RE

.sp
.LP
The  \fBpthread_attr_getstackaddr()\fR function may fail if:
.sp
.ne 2
.na
\fB\fBEINVAL\fR\fR
.ad
.RS 10n
\fIattr\fR or \fIstackaddr\fR is invalid.
.RE

.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp
```



```
.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
_
MT-Level        MT-Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBpthread_attr_init\fR(3C), \fBpthread_attr_setdetachstate\fR(3C),
\fBpthread_attr_setstacksize\fR(3C), \fBpthread_create\fR(3C),
\fBattributes\fR(5), \fBstandards\fR(5)
```

```
**********************************************************
    3450 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/scandir.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
Various tweaks -- add our sections, etc.
Update libraries and sections.
More markup tweaks.
alphasort and scandir are new in XPG7
**********************************************************
```

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.Dd "Jul 22, 2014"
.Dt SCANDIR 3C
.Os
.Sh NAME
.Nm scandir ,
.Nm alphasort
.Nd scan a directory
.Sh SYNOPSIS
.In dirent.h
.
.Ft int
.Fo scandir
.Fa "const char *dirname"
.Fa "struct dirent ***namelist"
.Fa "int \*(lp*select\*(rp\*(lpconst struct dirent *\*(rp"
.Fa "int \*(lp*dcomp\*(rp\*(lpconst struct dirent  **, const struct dirent **\*(
.Fc
.
.Ft int
.Fn alphasort "const struct dirent **d1" "const struct dirent **d2"
.
.Sh DESCRIPTION
The
.Fn scandir
function reads the directory
.Fa dirname
using
.Xr readdir 3C
and builds an array of pointers to directory entries using
.Xr malloc 3C .
The
.Fa namelist
argument is a pointer to an array of
structure pointers. The
.Fa select
argument is a pointer to a routine that is
.TH SCANDIR 3C "May 4, 2004"
.SH NAME
scandir, alphasort \- scan a directory
.SH SYNOPSIS
.LP
.nf
#include <sys/types.h>
#include <dirent.h>

\fBint\fR \fBscandir\fR(\fBconst char *\fR\fIdirname\fR, \fBstruct dirent *\fR(*
     \fBint\fR (*\fIselect\fR)(const struct dirent *),
     \fBint\fR (*\fIdcomp\fR)(\fBconst struct dirent  **\fR,
     \fBconst struct dirent **\fR));
```



```
.fi

.LP
.nf
\fBint\fR \fBalphasort\fR(\fBconst struct dirent **\fR\fId1\fR,
     \fBconst struct dirent **\fR\fId2\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBscandir()\fR function reads the directory \fIdirname\fR using
\fBreaddir\fR(3C) and builds an array of pointers to directory entries using
\fBmalloc\fR(3C). The \fInamelist\fR argument is a pointer to an array of
structure pointers. The \fIselect\fR argument is a pointer to a routine that is
called with a pointer to a directory entry and returns a non-zero value if the
directory entry is included in the array. If this pointer is
.Dv NULL ,
then
all the directory entries are included. The
.Fa dcomp
argument is a pointer
to a routine that is passed to
.Xr qsort 3C ,
which sorts the completed array. If this pointer is
.Dv NULL ,
the array is not sorted.
.Lp
The
.Fn alphasort
function can be used as the
.Fn dcomp
function parameter for the
.Fn scandir
function to sort the directory entries into
alphabetical order, as if by the
.Xr strcoll 3C
function. Its arguments are
directory entry is included in the array. If this pointer is \fINULL\fR, then
all the directory entries are included. The \fIdcomp\fR argument is a pointer
to a routine that is passed to \fBqsort\fR(3C), which sorts the completed
array. If this pointer is \fINULL\fR, the array is not sorted.
.sp
.LP
The \fBalphasort()\fR function can be used as the \fIdcomp\fR() function
parameter for the \fBscandir()\fR function to sort the directory entries into
alphabetical order, as if by the \fBstrcoll\fR(3C) function. Its arguments are
the two directory entries to compare.
.Sh RETURN VALUES
The
.Fn scandir
function returns the number of entries in the array and a
pointer to the array through the
.Fa namelist
argument. When an error is
encountered,
.Fn scandir
returns -1 and
.Va errno
is set to indicate the error.
.Lp
The
.Fn alphasort
function returns an integer greater than, equal to, or
less than 0 if the directory entry name pointed to by
.Fa d1
```

```
 84 is greater than, equal to, or less than the directory entry name pointed to by
 85 .Fa d2
 86 when
 45 .SH RETURN VALUES
 46 .sp
 47 .LP
 48 The \fBscandir()\fR function returns the number of entries in the array and a
 49 pointer to the array through the \fInamelist\fR argument. When an error is
 50 encountered, \fBscandir()\fR returns -1 and \fBerrno\fR is set to indicate the
 51 error.
 52 .sp
 53 .LP
 54 The \fBalphasort()\fR function returns an integer greater than, equal to, or
 55 less than 0 if the directory entry name pointed to by \fId1\fR is greater than,
 56 equal to, or less than the directory entry name pointed to by \fId2\fR when
 87 both are interpreted as appropriate to the current locale. There is no return
 88 value reserved to indicate an error.
 89 .Sh ERRORS
 90 The
 91 .Fn scandir
 92 function will fail if:
 93 .Bl -tag -width Er
 94 .It Er EOVERFLOW
 59 .SH ERRORS
 60 .sp
 61 .LP
 62 The \fBscandir()\fR function will fail if:
 63 .sp
 64 .ne 2
 65 .na
 66 \fB\fBEOVERFLOW\fR\fR
 67 .ad
 68 .RS 13n
 95 The number of directory entries exceeds the number that can be represented by
 96 an
 97 .Vt int .
 98 .El
 99 .Sh USAGE
100 The
101 .Fn scandir
102 and
103 .Fn alphasort
104 functions have transitional interfaces for 64-bit file offsets. See
105 .Xr lf64 5 .
106 .Sh INTERFACE STABILITY
107 .Sy Standard .
108 .Sh MT-LEVEL
109 The
110 .Fn scandir
111 function is
112 .Sy Unsafe .
113 The
114 .Fn alphasort
115 function is
116 .Sy Safe .
117 .Sh SEE ALSO
118 .Xr malloc 3C ,
119 .Xr qsort 3C ,
120 .Xr readdir 3C ,
121 .Xr strcoll 3C ,
122 .Xr lf64 5 ,
123 .Xr standards 5
124 .Sh STANDARDS
125 The
126 .Fn alphasort
127 and
```



```
128 .Fn scandir
129 functions were introduced in
130 .St -p1003.1-2008 .
 70 an \fBint\fR.
 71 .RE

 73 .SH USAGE
 74 .sp
 75 .LP
 76 The \fBscandir()\fR and \fBalphasort()\fR functions have transitional
 77 interfaces for 64-bit file offsets. See \fBlf64\fR(5).
 78 .SH ATTRIBUTES
 79 .sp
 80 .LP
 81 See \fBattributes\fR(5) for descriptions of the following attributes:
 82 .sp

 84 .sp
 85 .TS
 86 box;
 87 c | c
 88 l | l .
 89 ATTRIBUTE TYPE  ATTRIBUTE VALUE
 90 _
 91 Interface Stability     Stable
 92 _
 93 MT-Level        See below.
 94 .TE

 96 .sp
 97 .LP
 98 The \fBscandir()\fR function is Unsafe. The \fBalphasort()\fR function is Safe.
 99 .SH SEE ALSO
100 .sp
101 .LP
102 \fBmalloc\fR(3C), \fBqsort\fR(3C), \fBreaddir\fR(3C), \fBstrcoll\fR(3C),
103 \fBattributes\fR(5), \fBlf64\fR(5)
```

```
**********************************************************
    3265 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/ualarm.3c
Document obsolescence of ualarm.
**********************************************************
```

```
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.Dd "Jul 22, 2014"
.Dt UALARM 3C
.Os
.Sh NAME
.Nm ualarm
.Nd schedule signal after interval in microseconds
.Sh SYNOPSIS
.In unistd.h
.Ft useconds_t
.Fn ualarm "Buseconds_t useconds" "useconds_t interval"
.Sh DESCRIPTION
The
.Fn ualarm
function causes the
.Dv SIGALRM
signal to be generated for
.TH UALARM 3C "Aug 14, 2002"
.SH NAME
ualarm \- schedule signal after interval in microseconds
.SH SYNOPSIS
.LP
.nf
#include <unistd.h>

\fBuseconds_t\fR \fBualarm\fR(\fBuseconds_t\fR \fIuseconds\fR, \fBuseconds_t\fR
.fi

.SH DESCRIPTION
.sp
.LP
The \fBualarm()\fR function causes the \fBSIGALRM\fR signal to be generated for
the calling process after the number of real-time microseconds specified by the
.Fa useconds argument has elapsed.  When the
.Fa interval
argument is
\fIuseconds\fR argument has elapsed.  When the \fIinterval\fR argument is
non-zero, repeated timeout notification occurs with a period in microseconds
specified by the \fIinterval\fR argument. If the notification signal,
.Dv SIGALRM ,
is not caught or ignored, the calling process is terminated.
.Lp
\fBSIGALRM\fR, is not caught or ignored, the calling process is terminated.
.sp
.LP
Because of scheduling delays, resumption of execution when the signal is caught
may be delayed an arbitrary amount of time.
.Lp
Interactions between
.Fn ualarm
and either
.Xr alarm 2
or
.Xr sleep 3C
are unspecified.
```



```
.Sh RETURN VALUES
The
.Fn ualarm
function returns the number of microseconds remaining from
the previous
.Fn ualarm
call.  If no timeouts are pending or if
.Fn ualarm
has not previously been called,
.Fn ualarm
returns 0.
.Sh ERRORS
.sp
.LP
Interactions between \fBualarm()\fR and either \fBalarm\fR(2) or
\fBsleep\fR(3C) are unspecified.
.SH RETURN VALUES
.sp
.LP
The \fBualarm()\fR function returns the number of microseconds remaining from
the previous \fBualarm()\fR call.  If no timeouts are pending or if
\fBualarm()\fR has not previously been called, \fBualarm()\fR returns \fB0\fR.
.SH ERRORS
.sp
.LP
No errors are defined.
.Sh USAGE
The
.Fn ualarm
function is a simplified interface to
.Xr setitimer 2 ,
and uses the
.Dv ITIMER_REAL
interval timer. It's use has been deprecated in favor of the
.Xr timer_create 3C
family of functions.
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh SEE ALSO
.Xr alarm 2 ,
.Xr setitimer(2),
.Xr sighold 3C ,
.Xr signal 3C ,
.Xr sleep 3C ,
.Xr timer_create 3C ,
.Xr usleep 3C ,
.Xr standards 5
.Sh STANDARDS
The
.Fn ualarm
function was introduced in
.Bx 4.3
and standardized in
.St -xpg4.2 .
It was subsequently obsoleted in
.St -p1003.1-2001
and removed from
.St -p1003.1-2008 .
.SH USAGE
.sp
.LP
The \fBualarm()\fR function is a simplified interface to \fBsetitimer\fR(2),
and uses the \fBITIMER_REAL\fR interval timer.
.SH ATTRIBUTES
.sp
.LP
```

```
54 See \fBattributes\fR(5) for descriptions of the following attributes:
55 .sp

57 .sp
58 .TS
59 box;
60 c | c
61 l | l .
62 ATTRIBUTE TYPE  ATTRIBUTE VALUE
63 _
64 Interface Stability     Standard
65 .TE

67 .SH SEE ALSO
68 .sp
69 .LP
70 \fBalarm\fR(2), \fBsetitimer\fR(2), \fBsighold\fR(3C), \fBsignal\fR(3C),
71 \fBsleep\fR(3C), \fBusleep\fR(3C), \fBattributes\fR(5), \fBstandards\fR(5)
```

```
**********************************************************
    2989 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/usleep.3c
oops, dropped leading 'f'
Minor markup tweaks (Sy instead of Nm).
fix incorrect standard citations
first round of POSIX 2008 stuff
**********************************************************
```

```
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.Dd "Jul 20, 2014"
.Dt USLEEP 3C
.Os
.Sh NAME
.Nm usleep
.Nd suspend execution for interval in microseconds
.Sh SYNOPSIS
.In unistd.h
.Ft int
.Fn usleep "useconds_t useconds"
.Sh DESCRIPTION
The
.Fn usleep
function suspends the caller from execution for the number
of microseconds specified by the
.Fa useconds
argument. The actual suspension
.TH USLEEP 3C "Feb 5, 2008"
.SH NAME
usleep \- suspend execution for interval in microseconds
.SH SYNOPSIS
.LP
.nf
#include <unistd.h>

\fBint\fR \fBusleep\fR(\fBuseconds_t\fR \fIuseconds\fR);
.fi

.SH DESCRIPTION
.sp
.LP
The \fBusleep()\fR function suspends the caller from execution for the number
of microseconds specified by the \fIuseconds\fR argument. The actual suspension
time might be less than requested because any caught signal will terminate
.Fn usleep
following execution of that signal's catching routine. The
\fBusleep()\fR following execution of that signal's catching routine. The
suspension time might be longer than requested by an arbitrary amount because
of the scheduling of other activity in the system.
.Lp
If the value of
.Fa useconds
is 0, then the call has no effect.
.Lp
The use of the
usleep
function has no effect on the action or blockage
.sp
.LP
If the value of \fIuseconds\fR is 0, then the call has no effect.
```



```
.sp
.LP
The use of the \fBusleep()\fR function has no effect on the action or blockage
of any signal. In a multithreaded process, only the invoking thread is
suspended from execution.
.Sh RETURN VALUES
On completion,
.Fn usleep
returns 0. There are no error returns.
.Sh ERRORS
.SH RETURN VALUES
.sp
.LP
On completion, \fBusleep()\fR returns \fB0\fR. There are no error returns.
.SH ERRORS
.sp
.LP
No errors are returned.
.Sh USAGE
The
.Fn usleep
function is included for its historical usage and is Obsolete.  The
.Xr nanosleep 3C
function is preferred over this function.
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh MT-LEVEL
.Sy Safe .
.Sh SEE ALSO
.Xr nanosleep 3C ,
.Xr sleep 3C ,
.Xr standards 5
.Sh STANDARDS
The
.Fn usleep
function was introduced in
.Bx 4.3 ,
and then standardized in
.St -xpg4.2 .
It was subsequently obsoleted in
.St -p1003.1-2001 ,
and removed from
.St -p1003.1-2008 .
.SH USAGE
.sp
.LP
The \fBusleep()\fR function is included for its historical usage.  The
\fBnanosleep\fR(3C) function is preferred over this function.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Committed
_
MT-Level        Safe
_
Standard        See \fBstandards\fR(5).
```

```
 68 .TE

 70 .SH SEE ALSO
 71 .sp
 72 .LP
 73 \fBnanosleep\fR(3C), \fBsleep\fR(3C), \fBattributes\fR(5), \fBstandards\fR(5)
```

```
**********************************************************
    3100 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/wcscasecmp.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

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.\"
.Dd "Jul 27, 2014"
.Dt WCSCASECMP 3C
.Os
.Sh NAME
.Nm wcscasecmp ,
.Nm wcscasecmp_l ,
.Nm wcsncasecmp ,
.Nm wcsncasecmp_l
.Nd case-insensitive wide-character string comparision
.Sh SYNOPSIS
.In wchar.h
.
.Ft int
.Fo wcscasecmp
.Fa "const wchar_t *ws1"
.Fa "const wchar_t *ws2"
.Fc
.
.Ft int
.Fo wcscasecmp_l
.Fa "const wchar_t *ws1"
.Fa "const wchar_t *ws2"
.Fa "locale_t loc"
.Fc
.
.Ft int
.Fo wcsncasecmp
.Fa "const wchar_t *ws1"
.Fa "const wchar_t *ws2"
.Fa "size_t n"
.Fc
.
.Ft int
.Fo wcsncasecmp_l
.Fa "const wchar_t *ws1"
.Fa "const wchar_t *ws2"
.Fa "size_t n"
.Fa "locale_t loc"
.Fc
.Sh DESCRIPTION
These functions perform case-insensitive comparison of wide-character
strings
.Fa ws1
and
.Fa ws2 .
Pairs of wide-characters from each of
```



```
.Fa ws1
and
.Fa ws2
are compared consecutively, ignoring differences in case (in the
.\"POSIX\." upper case characters are treated as lower case).  If
the two values are different, the comparision stops and either
a negative value is returned if the character from
.Fa ws1
is less than that from
.Fa ws2 ,
or a positive is returned if the character from
.Fa ws1
is greater than that from
.Fa ws2 .
The comparison also stops if both characters are null wide-characters,
or, in the case of
.Fn wcsncasecmp
and
.Fn wcsncasecmp_l ,
after
.Fa n
comparisons have been made without finding a difference.  In either of
these two cases, 0 is returned.
.Lp
The
.Fn wcscasecmp
and
.Fn wcsncasecmp
functions use the
.Dv LC_CTYPE
category of the current locale to determine case.  The
.Fn wcscasecmp_l
and
.Fn wcsncasecmp_l
functions use the
.Dv LC_CTYPE
category of the locale pointed to by
.Fa loc
to determine case.
.Lp
Passing
.Dv LC_GLOBAL_LOCALE
for
.Fa loc
results in undefined behavior.
.Lp
The
.Fn wcscasecmp ,
.Fn wcsncasecmp ,
.Fn wcscasecmp_l ,
and
.Fn wcsncasecmp_l
functions are the wide-character equivalents of the
.Fn strcasecmp ,
.Fn strncasecmp ,
.Fn strcasemp_l ,
and
.Fn strncasecmp_l
functions, respectively.
.Sh RETURN VALUES
These functions return a negative value if, ignoring case,
.Fa ws1
is less than
.Fa ws1 ,
or a positive value  if
.Fa ws1
```

```
126 is greater than
127 .Fa ws2 ,
128 or 0 if the both
129 .Fa ws1
130 and
131 .Fa ws2
132 are the same.
133 .Sh ERRORS
134 None.
135 .Sh INTERFACE STABILITY
136 .Sy Standard .
137 .Sh MT-LEVEL
138 .Sy MT-Safe .
139 .Sh SEE ALSO
140 .Xr newlocale 3C ,
141 .Xr setlocale 3C ,
142 .Xr strcasecmp 3C ,
143 .Xr strcasecmp_l 3C ,
144 .Xr strncasecmp 3C ,
145 .Xr strncasecmp_l 3C ,
146 .Xr uselocale 3C ,
147 .Xr wchar.h 3HEAD ,
148 .Xr locale 5 ,
149 .Xr standards 5
150 .Sh STANDARDS
151 The
152 .Fn wcscasecmp ,
153 .Fn wcsncasecmp ,
154 .Fn wcscasecmp_l ,
155 and
156 .Fn wcsncasecmp_l
157 functions were introduced in
158 .St -p1003.1-2008 .
```

```
**********************************************************
    1543 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/wcsdup.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

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.\"
.\"
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.\"
.Dd "Jul 27, 2014"
.Dt WCSDUP 3C
.Os
.Sh NAME
.Nm wcsdup
.Nd duplicate wide character string
.Sh SYNOPSIS
.In wchar.h
.
.Ft wchar_t
.Fo wcsdup
.Fa "const wchar_t *string"
.Fc
.
.Sh DESCRIPTION
The
.Fn wcsdup
function duplicates a wide-character
.Fa string ,
allocating sufficient memory to store the copy, and then
copying from
.Fa string .
The resulting copy is returned.  It may be deallocated with
.Xr free 3C
when it is no longer needed.  The
.Fn wcsdup
is the wide-character equivalent of
.Xr strdup 3C .
.Sh RETURN VALUES
On success, the functions
.Fn wcsdup
returns the newly allocated copy of the string; on failure it
returns
.Dv NULL
and sets
.Va errno .
.Sh ERRORS
The
.Fn wcsdup
function will fail if:
.Bl -tag -width Er
.It Er ENOMEM
Insufficient memory was available to create the copy.
.El
.Sh INTERFACE STABILITY
.Sy Standard .
```



```
.Sh MT-LEVEL
.Sy MT-Safe .
.Sh SEE ALSO
.Xr free 3C ,
.Xr strdup 3C ,
.Xr wcslen 3C ,
.Xr wchar.h 3HEAD ,
.Xr locale 5 ,
.Xr standards 5
.Sh STANDARDS
The
.Fn wcsdup
function was introduced in
.St -p1003.1-2008 .
```

```
**********************************************************
    1760 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/wcslen.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

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.\"
.Dd "Jul 27, 2014"
.Dt WCSLEN 3C
.Os
.Sh NAME
.Nm wcslen ,
.Nm wcsnlen
.Nd get length of wide-character string
.Sh SYNOPSIS
.In wchar.h
.
.Ft wchar_t
.Fo wcslen
.Fa "const wchar_t *string"
.Fc
.
.Ft wchar_t
.Fo wcsnlen
.Fa "const wchar_t *string"
.Fa "size_t maxlen"
.Fc
.
.Sh DESCRIPTION
The
.Fn wcslen
and
.Fn wcsnlen
functions count the number of wide-characters that are present
.Fa string .
They stop counting when they encounter a null wide-character.
The terminating null wide-character is not included in the NULL.
.Lp
Additionally,
.Fn wcsnlen
stops counting after it has counted
.Fa maxlen
wide-characters.
.Lp
The
.Fn wcslen
and
.Fn wcsnlen
functions are the wide-character equivalents of
.Xr strlen 3C
and
.Xr strnlen 3C ,
respectively.
```



```
.Sh RETURN VALUES
The
.Fn wcslen
function returns the length of
.Fa string .
The
.Fn wcsnlen
function returns the smaller of the length of
.Fa string
and
.Fa maxlen .
.Sh ERRORS
None.
.Sh INTERFACE STABILITY
.Sy Standard .
.Sh MT-LEVEL
.Sy MT-Safe .
.Sh SEE ALSO
.Xr free 3C ,
.Xr strlen 3C ,
.Xr strnlen 3C ,
.Xr wchar.h 3HEAD ,
.Xr locale 5 ,
.Xr standards 5
.Sh STANDARDS
The
.Fn wcslen
function was introduced in
.St -xpg4
and standardized in
.St -isoC-99 .
The
.Fn wcsnlen
function was introduced in
.St -p1003.1-2008 .
```

```
**********************************************************
   15293 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/wcstring.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
Various tweaks -- add our sections, etc.
Fixes for wcstok.
Finished obsoleting interfaces for XPG7.
**********************************************************
```

```
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.Dd "Jul 22, 2014"
.Dt WCSTRING 3C
.Os
.Sh NAME
.Nm wcstring ,
.Nm wcscat ,
.Nm wscat ,
.Nm wcsncat ,
.Nm wsncat ,
.Nm wcscmp ,
.Nm wscmp ,
.Nm wcsncmp ,
.Nm wsncmp ,
.Nm wcscpy ,
.Nm wscpy ,
.Nm wcsncpy ,
.Nm wsncpy ,
.Nm wcschr ,
.Nm wschr ,
.Nm wcsrchr ,
.Nm wsrchr ,
.Nm windex ,
.Nm wrindex ,
.Nm wcspbrk ,
.Nm wspbrk ,
.Nm wcswcs ,
.Nm wcsspn ,
.Nm wsspn ,
.Nm wcscspn ,
.Nm wscspn ,
.Nm wcstok ,
.Nm wstok
.Nd wide-character string operations
.
.Sh SYNOPSIS
.In wchar.h
.
.Ft "wchar_t *"
.Fn wcscat "wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn wcsncat "wchar_t *restrict ws1" "const wchar_t *restrict ws2" "size_t n"
.
.Ft int
.Fn wcscmp "const wchar_t *ws1" "const wchar_t *ws2"
.
```



```
.Ft int
.Fn wcsncmp "const wchar_t *ws1" "const wchar_t *ws2" "size_t n"
.
.Ft "wchar_t *"
.Fn wcscpy "wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn wcsncpy "wchar_t *restrict ws1" "const wchar_t *restrict ws2" "size_t n"
.
.Ft "wchar_t *"
.Fn wcschr "const wchar_t *ws" "wchar_t wc"
.
.Ft "wchar_t *"
.Fn wcsrchr "const wchar_t *ws" "wchar_t wc"
.
.Ft "wchar_t *"
.Fn wcspbrk "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn wcswcs "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft size_t
.Fn wcsspn "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft size_t
.Fn wcscspn "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ss "XPG4 and SUS"
.
.Ft "wchar_t *"
.Fn wcstok "wchar_t *restrict ws1" "const wchar_t *restrict ws2"
.
.Ss "Default and other standards"
.
.Ft "wchar_t *"
.Fo wcstok
.Fa "wchar_t *restrict ws1"
.Fa "const wchar_t *restrict ws2"
.Fa "wchar_t **restrict ptr"
.Fc
.
.In widec.h
.
.Ft wchar_t *
.Fn wscat "wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn wsncat "wchar_t *ws1" "const wchar_t *ws2" "size_t n"
.
.Ft int
.Fn wscmp "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft int
.Fn wsncmp "const wchar_t *ws1" "const wchar_t *ws2" "size_t n"
.
.Ft "wchar_t *"
.Fn wscpy "wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn wsncpy "wchar_t *ws1" "const wchar_t *ws2" "size_t n"
.
.Ft "wchar_t *"
.Fn wschr "const wchar_t *ws" "wchat_t wc"
.
.Ft "wchar_t *"
.Fn wsrchr "const wchar_t *ws" "wchar_t wc"
```

```
.
.Ft "wchar_t *"
.Fn wspbrk "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft size_t
.Fn wsspn "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft size_t
.Fn wscspn "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn wstok "wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn windex "const wchar_t *ws" "wchar_t wc"
.
.Ft "wchar_t *"
.Fn wrindex "const wchar_t *ws" "wchar_t wc"
.
.Ss "ISO C++"
.
.In wchar.h
.
.Ft "const wchar_t *"
.Fn wcschr "const wchar_t *ws" "wchar_t wc"
.
.Ft "const wchar_t *"
.Fn wcspbrk "const wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "const wchar_t *"
.Fn wcsrchr "const wchar_t *ws" "wchar_t wc"
.
.In cwchar
.
.Ft wchar_t *
.Fn std::wcschr "wchar_t *ws" "wchar_t wc"
.
.Ft "wchar_t *"
.Fn std::wcspbrk "wchar_t *ws1" "const wchar_t *ws2"
.
.Ft "wchar_t *"
.Fn std::wcsrchr "wchar_t *ws" "wchar_t wc"
.
.Sh DESCRIPTION
.
These functions operate on wide-character strings terminated by
.Ft wchar_t
null characters. During appending or copying, these routines do not check
for an overflow condition of the receiving string. In the following,
.Fa ws ,
.Fa ws1 ,
and
.Fa ws2
point to wide-character strings terminated by a
.Ft wchar_t
null, that is
.Pq Vt wchar_t
0.
.
.Ss Fn wcscat , wscat
.
The
.Fn wcscat and
.Fn wscat
functions append a copy of the
wide-character string pointed to by
```



```
.Fa ws2
(including the terminating null
.TH WCSTRING 3C "Aug 14, 2002"
.SH NAME
wcstring, wcscat, wscat, wcsncat, wsncat, wcscmp, wscmp, wcsncmp, wsncmp,
wcscpy, wscpy, wcsncpy, wsncpy, wcslen, wslen, wcschr, wschr, wcsrchr, wsrchr,
windex, wrindex, wcspbrk, wspbrk, wcswcs, wcsspn, wsspn, wcscspn, wscspn,
wcstok, wstok \- wide-character string operations
.SH SYNOPSIS
.LP
.nf
#include <wchar.h>

\fBwchar_t *\fR\fBwcscat\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws
.fi

.LP
.nf
\fBwchar_t *\fR\fBwcsncat\fR(\fBwchar_t *restrict\fR \fIws1\fR, \fBconst wchar_t
     \fBsize_t\fR \fIn\fR);
.fi

.LP
.nf
\fBint\fR \fBwcscmp\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIw
.fi

.LP
.nf
\fBint\fR \fBwcsncmp\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fI
.fi

.LP
.nf
\fBwchar_t *\fR\fBwcscpy\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws
.fi

.LP
.nf
\fBwchar_t *\fR\fBwcsncpy\fR(\fBwchar_t *restrict\fR \fIws1\fR, \fBconst wchar_t
     \fBsize_t\fR \fIn\fR);
.fi

.LP
.nf
\fBsize_t\fR \fBwcslen\fR(\fBconst wchar_t *\fR\fIws\fR);
.fi

.LP
.nf
\fBwchar_t *\fR\fBwcschr\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchar_t\fR \fIwc\f
.fi

.LP
.nf
\fBwchar_t *\fR\fBwcsrchr\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchar_t\fR \fIwc\
.fi

.LP
.nf
\fBwchar_t *\fR\fBwcspbrk\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\
.fi

.LP
.nf
\fBwchar_t *\fR\fBwcswcs\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\f
```

```
 74 .fi

 76 .LP
 77 .nf
 78 \fBsize_t\fR \fBwcsspn\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\
 79 .fi

 81 .LP
 82 .nf
 83 \fBsize_t\fR \fBwcscspn\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR
 84 .fi

 86 .SS "XPG4, SUS, SUSv2, SUSv3"
 87 .LP
 88 .nf
 89 \fBwchar_t *\fR\fBwcstok\fR(\fBwchar_t *restrict\fR \fIws1\fR, \fBconst wchar_t
 90 .fi

 92 .SS "Default and other standards"
 93 .LP
 94 .nf
 95 \fBwchar_t *\fR\fBwcstok\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws
 96 .fi

 98 .LP
 99 .nf
100 #include <widec.h>

102 \fBwchar_t *\fR\fBwscat\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws2
103 .fi

105 .LP
106 .nf
107 \fBwchar_t *\fR\fBwsncat\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws
108 .fi

110 .LP
111 .nf
112 \fBint\fR \fBwscmp\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws
113 .fi

115 .LP
116 .nf
117 \fBint\fR \fBwsncmp\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIw
118 .fi

120 .LP
121 .nf
122 \fBwchar_t *\fR\fBwscpy\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws2
123 .fi

125 .LP
126 .nf
127 \fBwchar_t *\fR\fBwsncpy\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws
128 .fi

130 .LP
131 .nf
132 \fBsize_t\fR \fBwslen\fR(\fBconst wchar_t *\fR\fIws\fR);
133 .fi

135 .LP
136 .nf
137 \fBwchar_t *\fR\fBwschr\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchat_t\fR \fIwc\fR
138 .fi
```



```
140 .LP
141 .nf
142 \fBwchar_t *\fR\fBwsrchr\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchat_t\fR \fIwc\f
143 .fi

145 .LP
146 .nf
147 \fBwchar_t *\fR\fBwspbrk\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\f
148 .fi

150 .LP
151 .nf
152 \fBsize_t\fR \fBwsspn\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\f
153 .fi

155 .LP
156 .nf
157 \fBsize_t\fR \fBwscspn\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\
158 .fi

160 .LP
161 .nf
162 \fBwchar_t *\fR\fBwstok\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\fR\fIws2
163 .fi

165 .LP
166 .nf
167 \fBwchar_t *\fR\fBwindex\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchar_t\fR \fIwc\f
168 .fi

170 .LP
171 .nf
172 \fBwchar_t *\fR\fBwrindex\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchar_t\fR \fIwc\
173 .fi

175 .SS "ISO C++"
176 .LP
177 .nf
178 #include <wchar.h>

180 \fBconst wchar_t *\fR\fBwcschr\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchar_t\fR \
181 .fi

183 .LP
184 .nf
185 \fBconst wchar_t *\fR\fBwcspbrk\fR(\fBconst wchar_t *\fR\fIws1\fR, \fBconst wcha
186 .fi

188 .LP
189 .nf
190 \fBconst wchar_t *\fR\fBwcsrchr\fR(\fBconst wchar_t *\fR\fIws\fR, \fBwchar_t\fR
191 .fi

193 .LP
194 .nf
195 #include <cwchar>

197 \fBwchar_t *std::\fR\fBwcschr\fR(\fBwchar_t *\fR\fIws\fR, \fBwchar_t\fR \fIwc\fR
198 .fi

200 .LP
201 .nf
202 \fBwchar_t *std::\fR\fBwcspbrk\fR(\fBwchar_t *\fR\fIws1\fR, \fBconst wchar_t *\f
203 .fi

205 .LP
```

```
.nf
\fBwchar_t *std::\fR\fBwcsrchr\fR(\fBwchar_t *\fR\fIws\fR, \fBwchar_t\fR \fIwc\f
.fi

.SH DESCRIPTION
.sp
.LP
These functions operate on wide-character strings terminated by \fBwchar_t\fR
\fINULL\fR characters. During appending or copying, these routines do not check
for an overflow condition of the receiving string. In the following, \fIws\fR,
\fIws1\fR, and \fIws2\fR point to wide-character strings terminated by a
\fBwchar_t NULL\fR.
.SS "wcscat(\|), wscat(\|)"
.sp
.LP
The \fBwcscat()\fR and \fBwscat()\fR functions append a copy of the
wide-character string pointed to by \fIws2\fR (including the terminating null
wide-character code) to the end of the wide-character string pointed to by
.Fa ws1 .
The initial wide-character code of
.Fa ws2
overwrites the null wide-character code at the end of
.Fa ws1 .
If copying takes place between
\fIws1\fR. The initial wide-character code of \fIws2\fR overwrites the null
wide-character code at the end of \fIws1\fR. If copying takes place between
objects that overlap, the behavior is undefined. Both functions return
.Fa ws1 ;
no return value is reserved to indicate an error.
.
.Ss Fn wcsncat , wsncat
.
The
.Fn wcsncat
and
.Fn wsncat
functions append not more than
.Fa n
\fIs1\fR; no return value is reserved to indicate an error.
.SS "wcsncat(\|), wsncat(\|)"
.sp
.LP
The \fBwcsncat()\fR and \fBwsncat()\fR functions append not more than \fIn\fR
wide-character codes (a null wide-character code and wide-character codes that
follow it are not appended) from the array pointed to by
.Fa ws2
to the end of the wide-character string pointed to by
.Fa ws1 .
The initial wide-character code of
.Fa ws2
overwrites the null wide-character code at the
end of
.Fa ws1 .
A terminating null wide-character code is always appended to
the result. Both functions return
.Fa ws1 ;
no return value is reserved to indicate an error.
.
.Ss Fn wcscmp , wscmp
.
The
.Fn wcscmp
and
.Fn wscmp
functions compare the wide-character string pointed to by
.Fa ws1
```



```
to the wide-character string pointed to by
.Fa ws2 .
The sign of a non-zero return value is determined by the sign of the
follow it are not appended) from the array pointed to by \fIws2\fR to the end
of the wide-character string pointed to by \fIws1\fR. The initial
wide-character code of \fIws2\fR overwrites the null wide-character code at the
end of \fIws1\fR. A terminating null wide-character code is always appended to
the result. Both functions return \fIws1\fR; no return value is reserved to
indicate an error.
.SS "wcscmp(\|), wscmp(\|)"
.sp
.LP
The \fBwcscmp()\fR and \fBwscmp()\fR functions compare the wide-character
string pointed to by \fIws1\fR to the wide-character string pointed to by
\fIws2\fR. The sign of a non-zero return value is determined by the sign of the
difference between the values of the first pair of wide-character codes that
differ in the objects being compared. Upon completion, both functions return an
integer greater than, equal to, or less than zero, if the wide-character string
pointed to by
.Fa ws1
is greater than, equal to, or less than the
wide-character string pointed to by
.Fa ws2 .
.
.Ss Fn wcsncmp , wsncmp
.
The
.Fn wcsncmp
and
.Fn wsncmp
functions compare not more than
.Fa n
pointed to by \fIws1\fR is greater than, equal to, or less than the
wide-character string pointed to by \fIws2\fR.
.SS "wcsncmp(\|), wsncmp(\|)"
.sp
.LP
The \fBwcsncmp()\fR and \fBwsncmp()\fR functions compare not more than \fIn\fR
wide-character codes (wide-character codes that follow a null wide character
code are not compared) from the array pointed to by
.Fa ws1
to the array pointed to by
.Fa ws2 .
The sign of a non-zero return value is determined by
code are not compared) from the array pointed to by \fIws1\fR to the array
pointed to by \fIws2\fR. The sign of a non-zero return value is determined by
the sign of the difference between the values of the first pair of
wide-character codes that differ in the objects being compared. Upon successful
completion, both functions return an integer greater than, equal to, or less
than zero, if the possibly null-terminated array pointed to by
.Fa ws1
is
than zero, if the possibly null-terminated array pointed to by \fIws1\fR is
greater than, equal to, or less than the possibly null-terminated array pointed
to by
.Fa ws2 .
.
.Ss Fn wcscpy , wscpy
.
The
.Fn wcscpy
and
.Fn wscpy
functions copy the wide-character string
pointed to by
.Fa ws2
```

```
(including the terminating null wide-character code)
into the array pointed to by
.Fa ws1 .
If copying takes place between objects
that overlap, the behavior is undefined. Both functions return
.Fa ws1 ;
no return value is reserved to indicate an error.
.
.Ss Fn wcsncpy , wsncpy
.
The
.Fn wcsncpy
and
.Fn wsncpy
functions copy not more than
.Fa n
to by \fIws2\fR.
.SS "wcscpy(\|), wscpy(\|)"
.sp
.LP
The \fBwcscpy()\fR and \fBwscpy()\fR functions copy the wide-character string
pointed to by \fIws2\fR (including the terminating null wide-character code)
into the array pointed to by \fIws1\fR. If copying takes place between objects
that overlap, the behavior is undefined. Both functions return \fIws1\fR; no
return value is reserved to indicate an error.
.SS "wcsncpy(\|), wsncpy(\|)"
.sp
.LP
The \fBwcsncpy()\fR and \fBwsncpy()\fR functions  copy not more than \fIn\fR
wide-character codes (wide-character codes that follow a null wide character
code are not copied) from the array pointed to by
.Fa ws2
to the array pointed to by
.Fa ws1 .
If copying takes place between objects that overlap,
the behavior is undefined. If the array pointed to by
.Fa ws2
is a wide-character string that is shorter than
.Fa n
wide-character codes, null
code are not copied) from the array pointed to by \fIws2\fR to the array
pointed to by \fIws1\fR. If copying takes place between objects that overlap,
the behavior is undefined. If the array pointed to by \fIws2\fR is a
wide-character string that is shorter than \fIn\fR wide-character codes, null
wide-character codes are appended to the copy in the array pointed to by
.Fa ws1 ,
until a total
.Fa n
wide-character codes are written. Both
functions return
.Fa ws1 ;
no return value is reserved to indicate an error.
.
.Ss Fn wcschr , wschr , windex
.
The
.Fn wcschr ,
.Fn wschr
and
.Fn windex
functions locate the first occurrence of
.Fa wc
in the wide-character string pointed to by
.Fa ws .
The value of
.Fa wc
```



```
must be a character representable as a type
.Vt wchar_t
and must be
\fIws1\fR, until a total \fIn\fR wide-character codes are written. Both
functions return \fI ws1\fR; no return value is reserved to indicate an error.
.SS "wcslen(\|), wslen(\|)"
.sp
.LP
The \fBwcslen()\fR and \fBwslen()\fR functions compute the number of
wide-character codes in the wide-character string to which \fIws\fR points, not
including the terminating null wide-character code. Both functions return
\fIws\fR; no return value is reserved to indicate an error.
.SS "wcschr(\|), wschr(\|)"
.sp
.LP
The \fBwcschr()\fR and \fBwschr()\fR functions locate the first occurrence of
\fIwc\fR in the wide-character string pointed to by \fIws\fR. The value of
\fIwc\fR must be a character representable as a type \fBwchar_t\fR and must be
a wide-character code corresponding to a valid character in the current locale.
The terminating null wide-character code is considered to be part of the
wide-character string. Upon completion, both functions return a pointer to the
wide-character code, or a null pointer if the wide-character code is not found.
.
.Ss Fn wcsrchr , wsrchr , wrindex
.
The
.Fn wcsrchr ,
.Fn wsrchr
and
.Fn wrindex
functions locate the last occurrence of
.Fa wc
in the wide-character string pointed to by
.Fa ws .
The value of
.Fa wc
must be a character representable as a type
.Vt wchar_t
and must be
.SS "wcsrchr(\|), wsrchr(\|)"
.sp
.LP
The \fBwcsrchr()\fR and \fBwsrchr()\fR functions locate the last occurrence of
\fIwc\fR in the wide-character string pointed to by \fIws\fR. The value of
\fIwc\fR must be a character representable as a type \fBwchar_t\fR and must be
a wide-character code corresponding to a valid character in the current locale.
The terminating null wide-character code is considered to be part of the
wide-character string. Upon successful completion, both functions return a
pointer to the wide-character code, or a null pointer if
.Fa wc
does not occur in the wide-character string.
.
.Ss Fn wcspbrk , wspbrk
.
The
.Fn wcspbrk
and
.Fn wspbrk
functions locate the first occurrence in
the wide character string pointed to by
.Fa ws1
of any wide-character code
from the wide-character string pointed to by
.Fa ws2 .
Upon successful
pointer to the wide-character code, or a null pointer if \fIwc\fR does not
```

```
occur in the wide-character string.
.SS "windex(\|), wrindex(\|)"
.sp
.LP
The \fBwindex()\fR and \fBwrindex()\fR functions behave the same as
\fBwschr()\fR and \fBwsrchr()\fR, respectively.
.SS "wcspbrk(\|), wspbrk(\|)"
.sp
.LP
The \fBwcspbrk()\fR and \fBwspbrk()\fR functions locate the first occurrence in
the wide character string pointed to by \fIws1\fR of any wide-character code
from the wide-character string pointed to by \fIws2\fR. Upon successful
completion, the function returns a pointer to the wide-character code, or a
null pointer if no wide-character code from
.Fa ws2
occurs in
.Fa ws1 .
.
.Ss "wcswcs(\|)"
.
The
.Fn wcswcs
function locates the first occurrence in the wide-character
string pointed to by
.Fa ws1
of the sequence of wide-character codes
null pointer if no wide-character code from \fIws2\fR occurs in \fIws1\fR.
.SS "wcswcs(\|)"
.sp
.LP
The \fBwcswcs()\fR function locates the first occurrence in the wide-character
string pointed to by \fIws1\fR of the sequence of wide-character codes
(excluding the terminating null wide-character code) in the wide-character
string pointed to by
.Fa ws2 .
Upon successful completion, the function
string pointed to by \fIws2\fR. Upon successful completion, the function
returns a pointer to the located wide-character string, or a null pointer if
the wide-character string is not found. If
.Fa ws2
points to a wide-character
string with zero length, the function returns
.Fa ws1 .
.
.Ss Fn wcsspn , wsspn
.
The
.Fn wcsspn
and
.Fn wsspn
functions return the length of the
maximum initial segment of the wide-character string pointed to by
.Fa ws1
the wide-character string is not found. If \fIws2\fR points to a wide-character
string with zero length, the function returns \fIws1\fR.
.SS "wcsspn(\|), wsspn(\|)"
.sp
.LP
The \fBwcsspn()\fR and \fBwsspn()\fR functions compute the length of the
maximum initial segment of the wide-character string pointed to by \fIws1\fR
which consists entirely of wide-character codes from the wide-character string
pointed to by
.Fa ws2 .
No return value is reserved to indicate an error.
.
.Ss wcscspn , wscspn
```



```
.
The
.Fn wcscspn
and
.Fn wscspn
functions return the length of the
maximum initial segment of the wide-character string pointed to by
.Fa ws1
which consists entirely of wide-character codes
.Em not
from the
wide-character string pointed to by
.Fa ws2 .
No return value is reserved to indicate an error.
.
.Ss wcstok , wstok
.
A sequence of calls to the
.Fn wcstok
and
.Fn wstok
functions break the wide-character string pointed to by
.Fa ws1
into a sequence of tokens, each
pointed to by \fIws2\fR. Both functions return the length \fIws1\fR; no return
value is reserved to indicate an error.
.SS "wcscspn(\|), wscspn(\|)"
.sp
.LP
The \fBwcscspn()\fR and \fBwscspn()\fR functions compute the length of the
maximum initial segment of the wide-character string pointed to by \fIws1\fR
which consists entirely of wide-character codes \fInot\fR from the
wide-character string pointed to by \fIws2\fR. Both functions return the length
of the initial substring of \fIws1\fR; no return value is reserved to indicate
an error.
.SS "wcstok(\|), wstok(\|)"
.sp
.LP
A sequence of calls to the \fBwcstok()\fR and \fBwstok()\fR functions break the
wide-character string pointed to by \fIws1\fR into a sequence of tokens, each
of which is delimited by a wide-character code from the wide-character string
pointed to by
.Fa ws2 .
The third argument points to a caller-provided
.Ft wchar_t
pointer into which
the
.Fn wcstok
function stores information necessary for it to continue
pointed to by \fIws2\fR.
.SS "Default and other standards"
.sp
.LP
The third argument points to a caller-provided \fBwchar_t\fR pointer into which
the \fBwcstok()\fR function stores information necessary for it to continue
scanning the same wide-character string. This argument is not available with
the XPG4 legacy version of
.Fn wcstok ,
nor is it available with the
.Fn wstok
function.  See
.Xr standards 5 .
.Lp
The first call in the sequence has
.Fa ws1
as its first argument, and is
```

the XPG4 and SUS versions of \fBwcstok()\fR, nor is it available with the
\fBwstok()\fR function. See \fBstandards\fR(5).
.sp
.LP
The first call in the sequence has \fIws1\fR as its first argument, and is
followed by calls with a null pointer as their first argument. The separator
string pointed to by
.Fa ws2
may be different from call to call.
.Lp
string pointed to by \fIws2\fR may be different from call to call.
.sp
.LP
The first call in the sequence searches the wide-character string pointed to by
.Fa ws1
for the first wide-character code that is
.Em not
contained in the current separator string pointed to by
.Fa ws2 .
If no such wide-character
\fIws1\fR for the first wide-character code that is \fInot\fR contained in the
current separator string pointed to by \fIws2\fR. If no such wide-character
code is found, then there are no tokens in the wide-character string pointed to
by
.Fa ws1 ,
and
.Fn wcstok
and
.Fn wstok
return a null pointer. If
by \fIws1\fR, and \fBwcstok()\fR and \fBwstok()\fR return a null pointer. If
such a wide-character code is found, it is the start of the first token.
.Lp
The
.Fn wcstok
and
.Fn wstok
functions then search from that point for
a wide-character code that
.Em is
contained in the current separator string.
.sp
.LP
The \fBwcstok()\fR and \fBwstok()\fR functions then search from that point for
a wide-character code that \fIis\fR contained in the current separator string.
If no such wide-character code is found, the current token extends to the end
of the wide-character string pointed to by
.Fa ws1 ,
and subsequent searches
of the wide-character string pointed to by \fIws1\fR, and subsequent searches
for a token will return a null pointer. If such a wide-character code is found,
it is overwritten by a null wide character, which terminates the current token.
The
.Fn wcstok
and
.Fn wstok
functions save a pointer to the following
wide-character code into thread-specific storage, from which the next
search for a token will start.
.Lp
The \fBwcstok()\fR and \fBwstok()\fR functions save a pointer to the following
wide-character code, from which the next search for a token will start.
.sp
.LP
Each subsequent call, with a null pointer as the value of the first argument,
starts searching from the saved pointer and behaves as described above.

.Lp
.sp
.LP
Upon successful completion, both functions return a pointer to the first
wide-character code of a token. Otherwise, if there is no token, a null pointer
is returned.
.Sh CODE SET INDEPENDENCE
.Sy Enabled .
.Sh INTERFACE STABILITY
The
.Fn wcscat ,
.Fn wcsncat ,
.Fn wcscmp ,
.Fn wcsncmp ,
.Fn wcscpy ,
.Fn wcsncpy ,
.Fn wcschr ,
.Fn wcsrchr ,
.Fn wcspbrk ,
.Fn wcsspn ,
.Fn wcscspn ,
and
.Fn wcstok
functions are
.Sy Standard .
.Lp
The
.Fn wcswcs
function is
.Sy Obsolete Standard .
.Lp
The
.Fn wscat ,
.Fn wsncat ,
.Fn wscmp ,
.Fn wsncmp ,
.Fn wscpy ,
.Fn wsncpy ,
.Fn wslen ,
.Fn wschr ,
.Fn wsrchr ,
.Fn wspbrk ,
.Fn wsspn ,
.Fn wstok ,
.Fn windex ,
and
.Fn wrindex
functions are
.Sy Obsolete Committed .
.
.Sh MT-LEVEL
.Sy MT-Safe .
Note however that the legacy version of
.Fn wcstok ,
as well as
.Fn wstok ,
use thread-specific storage to store the tokenizer state. As a result,
the tokenizer state will not be visible to other threads.
.Sh SEE ALSO
.Xr malloc 3C ,
.Xr string 3C ,
.Xr wcsdup 3C ,
.Xr wcslen 3C ,
.Xr wcsstr 3C ,
.Xr wcswidth 3C ,
.Xr wcwidth 3C ,

```
.Xr standards 5
.Sh STANDARDS
The
.Fn wcscat ,
.Fn wcsncat ,
.Fn wcscmp ,
.Fn wcsncmp ,
.Fn wcscpy ,
.Fn wcsncpy ,
.Fn wcschr ,
.Fn wcsrchr ,
.Fn wcspbrk ,
.Fn wcsspn ,
.Fn wcscspn ,
.Fn wcstok
and
.Fn wcswcs
functions were introduced in
.St -xpg4 .
The
.Fn wcstok
function was modified to take a third argument in
.St -xbd5 .
The
.Fn wcswcs
function was removed from
.St -p1003.1-2008 ;
the
.Xr wcsstr 3C
function specified by
.St -isoC-99
is preferred.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
CSI     Enabled
_
Interface Stability     See NOTES.
_
MT-Level        MT-Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBmalloc\fR(3C), \fBstring\fR(3C), \fBwcswidth\fR(3C), \fBwcwidth\fR(3C),
\fBattributes\fR(5), \fBstandards\fR(5)
.SH NOTES
.sp
.LP
The \fBwcscat()\fR, \fBwcsncat()\fR, \fBwcscmp()\fR, \fBwcsncmp()\fR,
\fBwcscpy()\fR, \fBwcsncpy()\fR, \fBwcslen()\fR, \fBwcschr()\fR,
\fBwcsrchr()\fR, \fBwcspbrk()\fR, \fBwcswcs()\fR, \fBwcsspn()\fR,
\fBwcscspn()\fR, and \fBwcstok()\fR functions are Standard. The \fBwscat()\fR,
\fBwsncat()\fR, \fBwscmp()\fR, \fBwsncmp()\fR, \fBwscpy()\fR, \fBwsncpy()\fR,
\fBwslen()\fR, \fBwschr()\fR, \fBwsrchr()\fR, \fBwspbrk()\fR, \fBwsspn()\fR,
```



```
\fBwstok()\fR, \fBwindex()\fR, and \fBwrindex()\fR functions are Stable.
```

```
**********************************************************
    3381 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3c/wstring.3c
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

```
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.Dd "Jul 27, 2014"
.Dt WSTRING 3C
.Os
.Sh NAME
.Nm wstring ,
.Nm wscasecmp ,
.Nm wsncasecmp ,
.Nm wsdup ,
.Nm wslen ,
.Nm wscol
.Nd legacy wide-character string handling
.Sh SYNOPSIS
.In widec.h
.Ft int
.Fo wscasecmp
.Fa "const wchar_t *s1"
.Fa "const wchar_t *s2"
.Fc
.
.Ft int
.Fo wsncasecmp
.Fa "const wchar_t *s1"
.Fa "const wchar_t *s2"
.Fa int n"
.Fc
.
.Ft "wchar_t *"
.Fo wsdup
.Fa "const wchar_t *s"
.Fc
.
.Ft int
.Fo wscol
.Fa "const wchar_t *s"
.Fc
.
.Ft int
.Fo wslen
.Fa "const wchar_t *s"
.Fc
.
.Sh DESCRIPTION
These functions operate on wide-character strings. They are the historical
functions for performing operation on such strings, and have been superseded
by newer functions by various standards bodies.  As such, their use is
deprecated and should be avoided in new applications.
.Lp
Wide-character strings
.Fa s1 ,
.Fa s2 ,
and
.Fa s
used in these functions are terminated by
```



```
null wide-characters.  None of these functions check for overflow
conditions when appending to or copying strings.
.
.Ss Fn wscasecmp , wsncasecmp
The
.Fn wscasecmp
and
.Fn wsncasecmp
functions compares their arguments, ignoring differences in case according
to the current locale.  Whereas
.Fn wscasecmp
continues comparing the strings until either a difference is found,
or the end of either string is reached, the
.Fn wcsncasecmp
function compares at most
.Fa n
wide-characters.
.Lp
The
.Fn wscasecmp
and
.Fn wsncasecmp
functions have been superseded by
.Xr wcscasecmp 3C
and
.Xr wcsncasecmp 3C ,
respectively, and behave identically to them.
.Lp
Note that for lexigraphic comparisions, the four Extended Unix Code (EUC)
character sets are ordered from lowest to highest.
.
.Ss Fn wscol
.
The
.Fn wscol
function returns the width in screen columns required to display the
wide-character string
.Fa s .
This function has been superseded by
.Xr wcswidth
and behaves similarily to it.
.
.Ss Fn wsdup
.
The
.Fn wsdup
returns a duplicate copy of the wide-character string
.Fa s .
This function has been superseded by
.Xr wcsdup 3C ,
and behaves identically to it.
.
.Ss Fn wslen
.
The
.Fn wslen
function returns the number of wide-characters in
.Fa s ,
excluding the terminating null wide-character code.  This function has been
superseded by
.Xr wcslen 3C ,
and behaves identically to it.
.
.Sh INTERFACE STABILITY
.Sy Obsolete Committed .
.Sh MT-LEVEL
```

```
.Sy MT-Safe .
.Sh SEE ALSO
.Xr malloc 3C ,
.Xr string 3C ,
.Xr wcstring 3C ,
.Xr wcscasecmp 3C ,
.Xr wcsdup 3C ,
.Xr wcslen 3C ,
.Xr wcsncasecmp 3C ,
.Xr wcswidth 3C
.TH WSTRING 3C "Dec 29, 1996"
.SH NAME
wstring, wscasecmp, wsncasecmp, wsdup, wscol \- Process Code string operations
.SH SYNOPSIS
.LP
.nf
#include <widec.h>

\fBint\fR \fBwscasecmp\fR(\fBconst wchar_t *\fR\fIs1\fR, \fBconst wchar_t *\fR\f
.fi

.LP
.nf
\fBint\fR \fBwsncasecmp\fR(\fBconst wchar_t *\fR\fIs1\fR, \fBconst wchar_t *\fR\
.fi

.LP
.nf
\fBwchar_t *\fR\fBwsdup\fR(\fBconst wchar_t *\fR\fIs\fR);
.fi

.LP
.nf
\fBint\fR \fBwscol\fR(\fBconst wchar_t *\fR\fIs\fR);
.fi

.SH DESCRIPTION
.sp
.LP
These functions operate on Process Code strings terminated by \fBwchar_t\fR
null characters.  During appending or copying, these routines do not check for
an overflow condition of the receiving string. In the following, \fIs\fR,
\fIs1\fR, and \fIs2\fR point to Process Code strings terminated by a
\fBwchar_t\fR null.
.SS "wscasecmp(\|), wsncasecmp(\|)"
.sp
.LP
The \fBwscasecmp()\fR function compares its arguments, ignoring case, and
returns an integer greater than, equal to, or less than 0, depending upon
whether \fIs1\fR is lexicographically greater than, equal to, or less than
\fIs2\fR. It makes the same comparison but compares at most \fIn\fR Process
Code characters. The four Extended Unix Code (EUC) codesets are ordered from
lowest to highest as 0, 2, 3, 1 when characters from different codesets are
compared.
.SS "wsdup(\|)"
.sp
.LP
The \fBwsdup()\fR function returns a pointer to a new Process Code string,
which is a duplicate of the string pointed to by \fIs\fR. The space for the new
string is obtained using \fBmalloc\fR(3C). If the new string cannot be created,
a null pointer is returned.
.SS "wscol(\|)"
.sp
.LP
The \fBwscol()\fR function returns the screen display width (in columns) of the
Process Code string \fIs\fR.
```



```
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
MT-Level        MT-Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBmalloc\fR(3C), \fBstring\fR(3C), \fBwcstring\fR(3C), \fBattributes\fR(5)
```

```
**********************************************************
    3041 Tue Aug 12 07:52:13 2014
new/usr/src/man/man3head/timeb.h.3head
Minor markup tweaks (Sy instead of Nm).
first round of POSIX 2008 stuff
**********************************************************
```

```
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.Dd "Jul 20, 2014"
.Dt TIMEB.H 3HEAD
.Os
.Sh NAME
.Nm timeb.h, timeb
.Nd additional definitions for date and time
.Sh SYNOPSIS
.In sys/timeb.h
.Sh DESCRIPTION
The
.In sys/timeb.h
header defines the
.Ft timeb
structure, which includes the following members:
.Bl -column -offset indent "unsigned short" "timezone" "more"
.It Ft time_t   Ft time ;       seconds portion of current time
.It Ft unsigned short   Ft millitm ;    milliseconds portion of current time
.It Ft short    Ft timezone ;   local timezone in minutes west of Greenwich
.It Ft short    Ft dstflag ;    TRUE if Daylight Savings Time is in effect
.El
.Lp
The
.Ft time_t
type is defined as described in
.In sys/types.h .
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh SEE ALSO
.Xr time.h 3HEAD ,
.Xr types.h 3HEAD ,
.Xr standards 5
.Sh STANDARDS
The
.In sys/timeb.h
header was introduced in
.St -xpg4.2 ,
and subsequently removed in
.St -p1003.1-2008 .
.TH TIMEB.H 3HEAD "Sep 10, 2004"
.SH NAME
timeb.h, timeb \- additional definitions for date and time
.SH SYNOPSIS
.LP
.nf
#include <\fBsys/timeb.h\fR>
.fi

.SH DESCRIPTION
.sp
.LP
```



```
The <\fBsys/timeb.h\fR> header defines the \fBtimeb\fR structure, which
includes the following members:
.sp
.in +2
.nf
time_t         time        /* the seconds portion of the current time */
unsigned short millitm     /* the milliseconds portion of the current time */
short          timezone    /* the local timezone in minutes west  of Greenwich *
short          dstflag     /* TRUE if Daylight Savings Time is in effect */
.fi
.in -2

.sp
.LP
The \fBtime_t\fR type is defined as described in <\fBsys/types.h\fR>.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
.TE

.SH SEE ALSO
.sp
.LP
\fBtime.h\fR(3HEAD), \fBtypes.h\fR(3HEAD), \fBattributes\fR(5),
\fBstandards\fR(5)
```

```
**********************************************************
    2285 Tue Aug 12 07:52:14 2014
new/usr/src/man/man3head/ucontext.h.3head
Minor markup tweaks (Sy instead of Nm).
fix incorrect standard citations
first round of POSIX 2008 stuff
**********************************************************
```

```
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.Dd "Jul 20, 2014"
.Dt UCONTEXT.H 3HEAD
.Os
.Sh NAME
.Nm ucontext.h, ucontext
.Nd user context
.Sh SYNOPSIS
.In ucontext.h
.Sh DESCRIPTION
The
.In ucontext.h
header defines the
.Ft ucontext_t
type as a structure that includes at least the following members:
.Bl -column -offset indent "ucontext_t" "uc_mcontext"
.It Ft ucontext_t       Fa uc_link ;
.It Ft sigset_t Fa uc_sigmask ;
.It Ft stack_t  Fa uc_stack ;
.It Ft mcontext_t       Fa uc_mcontext ;
.El
.Lp
The
.Fa uc_link
member is a pointer to the context that to be resumed when
this context returns. If
.Fa uc_link
is equal to 0, this context is the main
.TH UCONTEXT.H 3HEAD "Aug 30, 2002"
.SH NAME
ucontext.h, ucontext \- user context
.SH SYNOPSIS
.LP
.nf
#include <\fBucontext.h\fR>
.fi

.SH DESCRIPTION
.sp
.LP
The  <\fBucontext.h\fR> header defines the \fBucontext_t\fR type as a structure
that includes at least the following members:
.sp
.in +2
.nf
ucontext_t  uc_link
sigset_t    uc_sigmask
stack_t     uc_stack
mcontext_t  uc_mcontext
.fi
.in -2

.sp
.LP
```



```
The \fBuc_link\fR member is a pointer to the context that to be resumed when
this context returns. If \fBuc_link\fR is equal to 0, this context is the main
context and the process exits when this context returns.
.Lp
The
.Fa uc_sigmask
member defines the set of signals that are blocked when
this context is active. See
.Xr sigprocmask 2 .
.Lp
The
.Fa uc_stack
member defines the stack used by this context. See
.Xr sigaltstack 2 .
.Lp
The
.Fa uc_mcontext
member contains the saved set of machine registers and
.sp
.LP
The \fBuc_sigmask\fR member defines the set of signals that are blocked when
this context is active. See \fBsigprocmask\fR(2).
.sp
.LP
The \fBuc_stack\fR member defines the stack used by this context. See
\fBsigaltstack\fR(2).
.sp
.LP
The \fBuc_mcontext\fR member contains the saved set of machine registers and
any implementation-specific context data. Portable applications should not
modify or access
.Fa uc_mcontext .
.Sh INTERFACE STABILITY
.Sy Obsolete Standard .
.Sh SEE ALSO
.Xr getcontext 2 ,
.Xr sigaction 2 ,
.Xr sigaltstack 2 ,
.Xr sigprocmask 2 ,
.Xr makecontext 3C ,
.Xr standards 5
.Sh STANDARDS
The
.In ucontext.h
header was introduced in
.St -xpg4.2 .
It was subsequently obsoleted in
.St -p1003.1-2001 ,
and removed in
.St -p1003.1-2008 .
modify or access \fBuc_mcontext\fR.
.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
Interface Stability     Standard
.TE
```

```
64 .SH SEE ALSO
65 .sp
66 .LP
67 \fBgetcontext\fR(2), \fBsigaction\fR(2), \fBsigaltstack\fR(2),
68 \fBsigprocmask\fR(2), \fBmakecontext\fR(3C), \fBattributes\fR(5),
69 \fBstandards\fR(5)
```

```
**********************************************************
    5201 Tue Aug 12 07:52:14 2014
new/usr/src/man/man3head/wchar.h.3head
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

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.Dd "Jul 27, 2014"
.Dt WCHAR.H 3HEAD
.Os
.Sh NAME
.Nm wchar.h ,
.Nm wchar
.Nd wide-character handling
.Sh SYNOPSIS
.In wchar.h
.Sh DESCRIPTION
The
.In wchar.h
header defines the following types:
.Bl -tag -width Vt
.
.It Vt wchar_t
As described in
.In stddef.h .
.
.It Vt wint_t
An integer type capable of storing any valid value of
.Vt wchar_t
or
.Dv WEOF .
.
.It Vt wctype_t
.TH WCHAR.H 3HEAD "Sep 10, 2004"
.SH NAME
wchar.h, wchar \- wide-character handling
.SH SYNOPSIS
.LP
.nf
#include <\fBwchar.h\fR>
.fi

.SH DESCRIPTION
.sp
.LP
The <\fBwchar.h\fR> header defines the following types:
.sp
.ne 2
.na
\fB\fBwchar_t\fR\fR
.ad
.RS 13n
As described in <\fBstddef.h\fR>.
.RE

.sp
.ne 2
.na
\fB\fBwint_t\fR\fR
.ad
.RS 13n
An integer type capable of storing any valid value of \fBwchar_t\fR or
\fBWEOF\fR.
.RE

.sp
.ne 2
.na
\fB\fBwctype_t\fR\fR
.ad
.RS 13n
A scalar type of a data object that can hold values which represent
locale-specific character classification.
.
.It Vt locale_t
As described in
.In locale.h .
.
.It Vt mbstate_t
.RE

.sp
.ne 2
.na
\fB\fBmbstate_t\fR\fR
.ad
.RS 13n
An object type other than an array type that can hold the conversion state
information necessary to convert between sequences of (possibly multi-byte)
characters and wide characters.  If a codeset is being used such that an
.Vt mbstate_t
needs to preserve more than two levels of reserved state, the
\fBmbstate_t\fR needs to preserve more than two levels of reserved state, the
results are unspecified.
.
.It Vt FILE
As described in
.In stdio.h .
.
.It Vt size_t
As described in
.In stddef.h .
.
.It Vt va_list
As described in
.In stdarg.h .
.El
.
.Lp
.RE

.sp
.ne 2
.na
\fB\fBFILE\fR\fR
.ad
.RS 13n
As described in <\fBstdio.h\fR>.
.RE

.sp
.ne 2
```

```
 76 .na
 77 \fB\fBsize_t\fR\fR
 78 .ad
 79 .RS 13n
 80 As described in <\fBstddef.h\fR>.
 81 .RE

 83 .sp
 84 .ne 2
 85 .na
 86 \fB\fBva_list\fR\fR
 87 .ad
 88 .RS 13n
 89 As described in <\fBstdarg.h\fR>.
 90 .RE

 92 .sp
 93 .LP
 65 The implementation supports one or more programming environments in which the
 66 width of
 67 .Vt wint_t
 68 is no greater than the width of type
 69 .Vt long .
 70 The names of these programming environments can be obtained using the
 71 .Xr confstr 3C
 72 function or the
 73 .Xr getconf 1
 74 utility.
 75 .Lp
 76 The
 77 .In wchar.h
 78 header defines the following macros:
 79 .Bl -tag -width Dv
 80 .
 81 .It Dv WCHAR_MAX
 82 The maximum value representable by an object of type
 83 .Vt wchar_t .
 84 .
 85 .It Dv WCHAR_MIN
 86 The minimum value representable by an object of type
 87 .Vt wchar_t .
 88 .
 89 .It Dv WEOF
 90 Constant expression of type
 91 .Vt wint_t
 92 that is returned by certain wide-character functions to indicate end-of-file.
 93 .
 94 .It Dv NULL
 95 As described in
 96 .In stddef.h .
 97 .El
 98 .Lp
 99 The tag
100 .Vt tm
101 is declared as naming an incomplete structure type, the
102 contents of which are described in the header
103 .In time.h .
104 .Lp
105 Inclusion of the
106 .In wchar.h
107 header can make visible all symbols from the headers
108 .In ctype.h ,
109 .In string.h ,
110 .In stdarg.h ,
111 .In stddef.h ,
112 .In stdio.h ,
```



```
113 .In stdlib.h ,
114 and
115 .In time.h .
116 .Sh INTERFACE STABILITY
117 .Sy Standard .
118 .Sh SEE ALSO
119 .Xr getconf 1 ,
120 .Xr btowc 3C ,
121 .Xr confstr 3C ,
122 .Xr fgetwc 3C ,
123 .Xr getws 3C ,
124 .Xr fputwc 3C ,
125 .Xr fputws 3C ,
126 .Xr fwide 3C ,
127 .Xr fwprintf 3C ,
128 .Xr fwscanf 3C ,
129 .Xr getwc 3C ,
130 .Xr getwchar 3C ,
131 .Xr iswalpha 3C ,
132 .Xr iswctype 3C ,
133 .Xr mbsinit 3C ,
134 .Xr mbrlen 3C ,
135 .Xr mbrtowc 3C ,
136 .Xr mbsrtowcs 3C ,
137 .Xr towlower 3C ,
138 .Xr towupper 3C ,
139 .Xr ungetwc 3C ,
140 .Xr vfwprintf 3C ,
141 .Xr wcrtomb 3C ,
142 .Xr wcsrtombs 3C ,
143 .Xr wcstring 3C ,
144 .Xr wcsstr 3C ,
145 .Xr wcstod 3C ,
146 .Xr wcscoll 3C ,
147 .Xr wcsdup 3C ,
148 .Xr wcsftime 3C ,
149 .Xr wcslen 3C ,
150 .Xr wcstol 3C ,
151 .Xr wcstoul 3C ,
152 .Xr wcswidth 3C ,
153 .Xr wcsxfrm 3C ,
154 .Xr wctob 3C ,
155 .Xr wctype 3C ,
156 .Xr wcwidth 3C ,
157 .Xr wmemchr 3C ,
158 .Xr wmemcmp 3C ,
159 .Xr wmemcpy 3C ,
160 .Xr wmemmove 3C ,
161 .Xr wmemset 3C ,
162 .Xr stdarg 3EXT ,
163 .Xr stddef.h 3HEAD ,
164 .Xr stdio.h 3HEAD ,
165 .Xr stdlib.h 3HEAD ,
166 .Xr string.h 3HEAD ,
167 .Xr time.h 3HEAD ,
168 .Xr wctype.h 3HEAD ,
169 .Xr standards 5)
170 .Sh STANDARDS
171 The
172 .In wchar.h
173 header was introduced in
174 .St -xpg4 .
 95 width of \fBwint_t\fR is no greater than the width of type \fBlong\fR. The
 96 names of these programming environments can be obtained using the
 97 \fBconfstr\fR(3C) function or the \fBgetconf\fR(1) utility.
 98 .sp
```

```
 99 .LP
100 The <\fBwchar.h\fR> header defines the following macros:
101 .sp
102 .ne 2
103 .na
104 \fB\fBWCHAR_MAX\fR\fR
105 .ad
106 .RS 13n
107 The maximum value representable by an object of type \fBwchar_t\fR.
108 .RE

110 .sp
111 .ne 2
112 .na
113 \fB\fBWCHAR_MIN\fR\fR
114 .ad
115 .RS 13n
116 The minimum value representable by an object of type \fBwchar_t\fR.
117 .RE

119 .sp
120 .ne 2
121 .na
122 \fB\fBWEOF\fR\fR
123 .ad
124 .RS 13n
125 Constant expression of type \fBwint_t\fR that is returned by several WP
126 functions to indicate end-of-file.
127 .RE

129 .sp
130 .ne 2
131 .na
132 \fB\fBNULL\fR\fR
133 .ad
134 .RS 13n
135 As described in <\fBstddef.h\fR>.
136 .RE

138 .sp
139 .LP
140 The tag \fBtm\fR is declared as naming an incomplete structure type, the
141 contents of which are described in the header <\fBtime.h\fR>.
142 .sp
143 .LP
144 Inclusion of the <\fBwchar.h\fR> header can make visible all symbols from the
145 headers <\fBctype.h\fR>,  <\fBstring.h\fR>, <\fBstdarg.h\fR>, <\fBstddef.h\fR>,
146 <\fBstdio.h\fR>, <\fBstdlib.h\fR>, and <\fBtime.h\fR>.
147 .SH ATTRIBUTES
148 .sp
149 .LP
150 See \fBattributes\fR(5) for descriptions of the following attributes:
151 .sp

153 .sp
154 .TS
155 box;
156 c | c
157 l | l .
158 ATTRIBUTE TYPE  ATTRIBUTE VALUE
159 _
160 Interface Stability     Standard
161 .TE

163 .SH SEE ALSO
164 .sp
```



```
165 .LP
166 \fBgetconf\fR(1), \fBbtowc\fR(3C), \fBconfstr\fR(3C), \fBfgetwc\fR(3C),
167 \fBgetws\fR(3C), \fBfputwc\fR(3C), \fBfputws\fR(3C), \fBfwide\fR(3C),
168 \fBfwprintf\fR(3C), \fBfwscanf\fR(3C), \fBgetwc\fR(3C), \fBgetwchar\fR(3C),
169 \fBiswalpha\fR(3C), \fBiswctype\fR(3C), \fBmbsinit\fR(3C), \fBmbrlen\fR(3C),
170 \fBmbrtowc\fR(3C), \fBmbsrtowcs\fR(3C), \fBtowlower\fR(3C), \fBtowupper\fR(3C),
171 \fBungetwc\fR(3C), \fBvfwprintf\fR(3C), \fBwcrtomb\fR(3C), \fBwcsrtombs\fR(3C),
172 \fBwcstring\fR(3C), \fBwcsstr\fR(3C), \fBwcstod\fR(3C), \fBwcscoll\fR(3C),
173 \fBwcsftime\fR(3C), \fBwcstol\fR(3C), \fBwcstoul\fR(3C), \fBwcswidth\fR(3C),
174 \fBwcsxfrm\fR(3C), \fBwctob\fR(3C), \fBwctype\fR(3C), \fBwcwidth\fR(3C),
175 \fBwmemchr\fR(3C), \fBwmemcmp\fR(3C), \fBwmemcpy\fR(3C), \fBwmemmove\fR(3C),
176 \fBwmemset\fR(3C), \fBstdarg\fR(3EXT), \fBstddef.h\fR(3HEAD),
177 \fBstdio.h\fR(3HEAD), \fBstdlib.h\fR(3HEAD), \fBstring.h\fR(3HEAD),
178 \fBtime.h\fR(3HEAD), \fBwctype.h\fR(3HEAD), \fBattributes\fR(5),
179 \fBstandards\fR(5)
```

```
**********************************************************
   30348 Tue Aug 12 07:52:14 2014
new/usr/src/man/man3lib/libc.3lib
Add getdelim, getline to libc symbols.
add wcscasecmp & friends
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
'\" te
.\" Copyright 2014 Garrett D'Amore <garrett@damore.org>
.\" Copyright (c) 2009, Sun Microsystems, Inc.  All rights reserved.
.\" The contents of this file are subject to the terms of the Common Development
.\"  See the License for the specific language governing permissions and limitat
.\" the fields enclosed by brackets "[]" replaced with your own identifying info
.\" Copyright 2011 by Delphix.  All rights reserved.
.Dd "Jul 27, 2014"
.Dt LIBC 3LIB
.Os
.Sh NAME
.Nm libc
.Nd C library
.Sh DESCRIPTION
.TH LIBC 3LIB "Jul 1, 2014"
.SH NAME
libc \- C library
.SH DESCRIPTION
.sp
.LP
Functions in this library provide various facilities defined by System V, ANSI
C, POSIX, and so on.  See
.Xr standards 5 .
In addition, those facilities
C, POSIX, and so on.  See \fBstandards\fR(5). In addition, those facilities
previously defined in the internationalization and the wide-character libraries
are now defined in this library, as are the facilities previously defined in
the multithreading libraries,
.Xr libthread 3LIB
and
.Xr libpthread 3LIB .
.Sh INTERFACES
The shared object
.Pa libc.so.1
provides the public interfaces defined below.
See
.Xr Intro 3
for additional information on shared object interfaces.
.Lp
.Bl -column -offset indent -compact
.Sy ___loc1
.Sy ___errno
.Sy __builtin_alloca
.Sy __ctype
.Sy __fbufsize
.Sy __flbf
.Sy __flt_rounds
.Sy __fpending
.Sy __fpurge
.Sy __freadable
.Sy __freading
.Sy __fsetlocking
.Sy __fwritable
.Sy __fwriting
.Sy __huge_val
.Sy __iob
.Sy __loc1
```



```
.Sy __major
.Sy __makedev
.Sy __mb_cur_max_l
.Sy __minor
.Sy __nsw_extended_action
.Sy __nsw_freeconfig
.Sy __nsw_getconfig
.Sy __posix_asctime_r
.Sy __posix_ctime_r
.Sy __posix_getgrgid_r
.Sy __posix_getgrnam_r
.Sy __posix_getlogin_r
.Sy __posix_getpwnam_r
.Sy __posix_getpwuid_r
.Sy __posix_sigwait
.Sy __posix_ttyname_r
.Sy __priocntl
.Sy __priocntlset
.Sy __pthread_cleanup_pop
.Sy __pthread_cleanup_push
.Sy __sysconf_xpg5
.Sy __xpg4
.Sy __xpg4_putmsg
.Sy __xpg4_putpmsg
.Sy _Exit
.Sy _altzone
.Sy _assert
.Sy _cleanup
.Sy _ctype
.Sy _daylight
.Sy _environ
.Sy _exit
.Sy _exithandle
.Sy _filbuf
.Sy _flsbuf
.Sy _flushlbf
.Sy _getdate_err
.Sy _getdate_err_addr
.Sy _iob
.Sy _isnan
.Sy _isnand
.Sy _lwp_cond_broadcast
.Sy _lwp_cond_reltimedwait
.Sy _lwp_cond_signal
.Sy _lwp_cond_timedwait
.Sy _lwp_cond_wait
.Sy _lwp_continue
.Sy _lwp_info
.Sy _lwp_kill
.Sy _lwp_mutex_lock
.Sy _lwp_mutex_trylock
.Sy _lwp_mutex_unlock
.Sy _lwp_self
.Sy _lwp_sema_init
.Sy _lwp_sema_post
.Sy _lwp_sema_trywait
.Sy _lwp_sema_wait
.Sy _lwp_suspend
.Sy _lwp_suspend2
.Sy _modf
.Sy _nextafter
.Sy _nsc_trydoorcall
.Sy _nss_XbyY_buf_alloc
.Sy _nss_XbyY_buf_free
.Sy _nss_netdb_aliases
.Sy _numeric
```

```
.Sy _scalb
.Sy _sibuf
.Sy _sobuf
.Sy _stack_grow
.Sy _sys_buslist
.Sy _sys_cldlist
.Sy _sys_fpelist
.Sy _sys_illlist
.Sy _sys_segvlist
.Sy _sys_siginfolistp
.Sy _sys_siglist
.Sy _sys_siglistn
.Sy _sys_siglistp
.Sy _sys_traplist
.Sy _timezone
.Sy _tolower
.Sy _toupper
.Sy _tzname
.Sy _xftw
.Sy a64l
.Sy abort
.Sy abs
.Sy access
.Sy acct
.Sy acl
.Sy addrtosymstr
.Sy addsev
.Sy addseverity
.Sy adjtime
.Sy aio_cancel
.Sy aio_error
.Sy aio_fsync
.Sy aio_read
.Sy aio_return
.Sy aio_suspend
.Sy aio_waitn
.Sy aio_write
.Sy aiocancel
.Sy aioread
.Sy aiowait
.Sy aiowrite
.Sy alarm
.Sy alphasort
.Sy altzone
.Sy ascftime
.Sy asctime
.Sy asctime_r
.Sy asprintf
.Sy atexit
.Sy atof
.Sy atoi
.Sy atol
.Sy atoll
.Sy atomic_add_16
.Sy atomic_add_16_nv
.Sy atomic_add_32
.Sy atomic_add_32_nv
.Sy atomic_add_64
.Sy atomic_add_64_nv
.Sy atomic_add_8
.Sy atomic_add_8_nv
.Sy atomic_add_char
.Sy atomic_add_char_nv
.Sy atomic_add_int
.Sy atomic_add_int_nv
.Sy atomic_add_long
```



```
.Sy atomic_add_long_nv
.Sy atomic_add_ptr
.Sy atomic_add_ptr_nv
.Sy atomic_add_short
.Sy atomic_add_short_nv
.Sy atomic_and_16
.Sy atomic_and_16_nv
.Sy atomic_and_32
.Sy atomic_and_32_nv
.Sy atomic_and_64
.Sy atomic_and_64_nv
.Sy atomic_and_8
.Sy atomic_and_8_nv
.Sy atomic_and_uchar
.Sy atomic_and_uchar_nv
.Sy atomic_and_uint
.Sy atomic_and_uint_nv
.Sy atomic_and_ulong
.Sy atomic_and_ulong_nv
.Sy atomic_and_ushort
.Sy atomic_and_ushort_nv
.Sy atomic_cas_16
.Sy atomic_cas_32
.Sy atomic_cas_64
.Sy atomic_cas_8
.Sy atomic_cas_ptr
.Sy atomic_cas_uchar
.Sy atomic_cas_uint
.Sy atomic_cas_ulong
.Sy atomic_cas_ushort
.Sy atomic_clear_long_excl
.Sy atomic_dec_16
.Sy atomic_dec_16_nv
.Sy atomic_dec_32
.Sy atomic_dec_32_nv
.Sy atomic_dec_64
.Sy atomic_dec_64_nv
.Sy atomic_dec_8
.Sy atomic_dec_8_nv
.Sy atomic_dec_ptr
.Sy atomic_dec_ptr_nv
.Sy atomic_dec_uchar
.Sy atomic_dec_uchar_nv
.Sy atomic_dec_uint
.Sy atomic_dec_uint_nv
.Sy atomic_dec_ulong
.Sy atomic_dec_ulong_nv
.Sy atomic_dec_ushort
.Sy atomic_dec_ushort_nv
.Sy atomic_inc_16
.Sy atomic_inc_16_nv
.Sy atomic_inc_32
.Sy atomic_inc_32_nv
.Sy atomic_inc_64
.Sy atomic_inc_64_nv
.Sy atomic_inc_8
.Sy atomic_inc_8_nv
.Sy atomic_inc_ptr
.Sy atomic_inc_ptr_nv
.Sy atomic_inc_uchar
.Sy atomic_inc_uchar_nv
.Sy atomic_inc_uint
.Sy atomic_inc_uint_nv
.Sy atomic_inc_ulong
.Sy atomic_inc_ulong_nv
.Sy atomic_inc_ushort
```

```
.Sy atomic_inc_ushort_nv
.Sy atomic_or_16
.Sy atomic_or_16_nv
.Sy atomic_or_32
.Sy atomic_or_32_nv
.Sy atomic_or_64
.Sy atomic_or_64_nv
.Sy atomic_or_8
.Sy atomic_or_8_nv
.Sy atomic_or_uchar
.Sy atomic_or_uchar_nv
.Sy atomic_or_uint
.Sy atomic_or_uint_nv
.Sy atomic_or_ulong
.Sy atomic_or_ulong_nv
.Sy atomic_or_ushort
.Sy atomic_or_ushort_nv
.Sy atomic_set_long_excl
.Sy atomic_swap_16
.Sy atomic_swap_32
.Sy atomic_swap_64
.Sy atomic_swap_8
.Sy atomic_swap_ptr
.Sy atomic_swap_uchar
.Sy atomic_swap_uint
.Sy atomic_swap_ulong
.Sy atomic_swap_ushort
.Sy attropen
.Sy backtrace
.Sy backtrace_symbols
.Sy backtrace_symbols_fd
.Sy basename
.Sy bcmp
.Sy bcopy
.Sy bindtextdomain
.Sy bind_textdomain_codeset
.Sy brk
.Sy bsd_signal
.Sy bsearch
.Sy btowc
.Sy btowc_l
.Sy bzero
.Sy calloc
.Sy catclose
.Sy catgets
.Sy catopen
.Sy cfgetispeed
.Sy cfgetospeed
.Sy cfsetispeed
.Sy cfsetospeed
.Sy cftime
.Sy chdir
.Sy chmod
.Sy chown
.Sy chroot
.Sy clearerr
.Sy clock
.Sy clock_getres
.Sy clock_gettime
.Sy clock_nanosleep
.Sy clock_settime
.Sy close
.Sy closedir
.Sy closefrom
.Sy closelog
.Sy cond_broadcast
```



```
.Sy cond_destroy
.Sy cond_init
.Sy cond_reltimedwait
.Sy cond_signal
.Sy cond_timedwait
.Sy cond_wait
.Sy confstr
.Sy creat
.Sy crypt
.Sy crypt_genhash_impl
.Sy crypt_gensalt
.Sy crypt_gensalt_impl
.Sy csetcol
.Sy csetlen
.Sy ctermid
.Sy ctermid_r
.Sy ctime
.Sy ctime_r
.Sy cuserid
.Sy daemon
.Sy daylight
.Sy dbm_clearerr
.Sy dbm_close
.Sy dbm_delete
.Sy dbm_error
.Sy dbm_fetch
.Sy dbm_firstkey
.Sy dbm_nextkey
.Sy dbm_open
.Sy dbm_store
.Sy dcgettext
.Sy dcngettext
.Sy decimal_to_double
.Sy decimal_to_extended
.Sy decimal_to_quadruple
.Sy decimal_to_single
.Sy dgettext
.Sy difftime
.Sy directio
.Sy dirfd
.Sy dirname
.Sy div
.Sy dladdr
.Sy dladdr1
.Sy dlclose
.Sy dldump
.Sy dlerror
.Sy dlinfo
.Sy dlmopen
.Sy dlopen
.Sy dlsym
.Sy dngettext
.Sy door_bind
.Sy door_call
.Sy door_create
.Sy door_cred
.Sy door_getparam
.Sy door_info
.Sy door_return
.Sy door_revoke
.Sy door_server_create
.Sy door_setparam
.Sy door_ucred
.Sy door_unbind
.Sy double_to_decimal
.Sy drand48
```

```
.Sy dup
.Sy dup2
.Sy duplocale
.Sy econvert
.Sy ecvt
.Sy enable_extended_FILE_stdio
.Sy encrypt
.Sy endgrent
.Sy endnetgrent
.Sy endpwent
.Sy endspent
.Sy endusershell
.Sy endutent
.Sy endutxent
.Sy environ
.Sy erand48
.Sy err
.Sy errno
.Sy errx
.Sy euccol
.Sy euclen
.Sy eucscol
.Sy execl
.Sy execle
.Sy execlp
.Sy execv
.Sy execve
.Sy execvp
.Sy exit
.Sy extended_to_decimal
.Sy faccessat
.Sy facl
.Sy fattach
.Sy fchdir
.Sy fchmod
.Sy fchmodat
.Sy fchown
.Sy fchownat
.Sy fchroot
.Sy fclose
.Sy fcntl
.Sy fconvert
.Sy fcvt
.Sy fdatasync
.Sy fdetach
.Sy fdopen
.Sy fdopendir
.Sy fdwalk
.Sy feof
.Sy ferror
.Sy fflush
.Sy ffs
.Sy fgetattr
.Sy fgetc
.Sy fgetgrent
.Sy fgetgrent_r
.Sy fgetpos
.Sy fgetpwent
.Sy fgetpwent_r
.Sy fgets
.Sy fgetspent
.Sy fgetspent_r
.Sy fgetwc
.Sy fgetwc_l
.Sy fgetws
.Sy file_to_decimal
```



```
.Sy fileno
.Sy finite
.Sy flockfile
.Sy fmtmsg
.Sy fnmatch
.Sy fopen
.Sy fork
.Sy fork1
.Sy forkall
.Sy forkallx
.Sy forkx
.Sy fpathconf
.Sy fpclass
.Sy fpgetmask
.Sy fpgetround
.Sy fpgetsticky
.Sy fprintf
.Sy fpsetmask
.Sy fpsetround
.Sy fpsetsticky
.Sy fputc
.Sy fputs
.Sy fputwc
.Sy fputws
.Sy fread
.Sy free
.Sy freelocale
.Sy freopen
.Sy frexp
.Sy fscanf
.Sy fseek
.Sy fseeko
.Sy fsetattr
.Sy fsetpos
.Sy fstat
.Sy fstatat
.Sy fstatfs
.Sy fstatvfs
.Sy fsync
.Sy ftell
.Sy ftello
.Sy ftime
.Sy ftok
.Sy ftruncate
.Sy ftrylockfile
.Sy ftw
.Sy func_to_decimal
.Sy funlockfile
.Sy futimens
.Sy futimesat
.Sy fwide
.Sy fwprintf
.Sy fwrite
.Sy fwscanf
.Sy gconvert
.Sy gcvt
.Sy getacct
.Sy getattrat
.Sy getc
.Sy getc_unlocked
.Sy getchar
.Sy getchar_unlocked
.Sy getcontext
.Sy getcpuid
.Sy getcwd
.Sy getdate
```

```
.Sy getdate_err
.Sy getdelim
.Sy getdents
.Sy getdtablesize
.Sy getegid
.Sy getenv
.Sy geteuid
.Sy getexecname
.Sy getextmntent
.Sy getgid
.Sy getgrent
.Sy getgrent_r
.Sy getgrgid
.Sy getgrgid_r
.Sy getgrnam
.Sy getgrnam_r
.Sy getgroups
.Sy gethomelgroup
.Sy gethostid
.Sy gethostname
.Sy gethrtime
.Sy gethrvtime
.Sy getisax
.Sy getitimer
.Sy getline
.Sy getloadavg
.Sy getlogin
.Sy getlogin_r
.Sy getmntany
.Sy getmntent
.Sy getmsg
.Sy getnetgrent
.Sy getnetgrent_r
.Sy getopt
.Sy getopt_clip
.Sy getopt_long
.Sy getopt_long_only
.Sy getpagesize
.Sy getpagesizes
.Sy getpass
.Sy getpassphrase
.Sy getpeerucred
.Sy getpflags
.Sy getpgid
.Sy getpgrp
.Sy getpid
.Sy getpmsg
.Sy getppid
.Sy getppriv
.Sy getpriority
.Sy getprojid
.Sy getpw
.Sy getpwent
.Sy getpwent_r
.Sy getpwnam
.Sy getpwnam_r
.Sy getpwuid
.Sy getpwuid_r
.Sy getrctl
.Sy getrlimit
.Sy getrusage
.Sy gets
.Sy getsid
.Sy getspent
.Sy getspent_r
.Sy getspnam
```



```
.Sy getspnam_r
.Sy getsubopt
.Sy gettaskid
.Sy gettext
.Sy gettimeofday
.Sy gettxt
.Sy getuid
.Sy getusershell
.Sy getustack
.Sy getutent
.Sy getutid
.Sy getutline
.Sy getutmp
.Sy getutmpx
.Sy getutxent
.Sy getutxid
.Sy getutxline
.Sy getvfsany
.Sy getvfsent
.Sy getvfsfile
.Sy getvfsspec
.Sy getw
.Sy getwc
.Sy getwc_l
.Sy getwchar
.Sy getwchar_l
.Sy getwd
.Sy getwidth
.Sy getws
.Sy getzoneid
.Sy getzoneidbyname
.Sy getzonenamebyid
.Sy glob
.Sy globfree
.Sy gmtime
.Sy gmtime_r
.Sy grantpt
.Sy gsignal
.Sy hasmntopt
.Sy hcreate
.Sy hdestroy
.Sy hsearch
.Sy iconv
.Sy iconv_close
.Sy iconv_open
.Sy imaxabs
.Sy imaxdiv
.Sy index
.Sy initgroups
.Sy initstate
.Sy innetgr
.Sy insque
.Sy ioctl
.Sy is_system_labeled
.Sy isaexec
.Sy isalnum
.Sy isalnum_l
.Sy isalpha
.Sy isalpha_l
.Sy isascii
.Sy isastream
.Sy isatty
.Sy isblank
.Sy isblank_l
.Sy iscntrl
.Sy iscntrl_l
```

```
644 .Sy isdigit
645 .Sy isdigit_l
646 .Sy isenglish
647 .Sy isgraph
648 .Sy isgraph_l
649 .Sy isideogram
650 .Sy islower
651 .Sy islower_l
652 .Sy isnan
653 .Sy isnand
654 .Sy isnanf
655 .Sy isnumber
656 .Sy isphonogram
657 .Sy isprint
658 .Sy isprint_l
659 .Sy ispunct
660 .Sy ispunct_l
661 .Sy issetugid
662 .Sy isspace
663 .Sy isspace_l
664 .Sy isspecial
665 .Sy isupper
666 .Sy isupper_l
667 .Sy iswalnum
668 .Sy iswalnum_l
669 .Sy iswalpha
670 .Sy iswalpha_l
671 .Sy iswblank
672 .Sy iswblank_l
673 .Sy iswcntrl
674 .Sy iswcntrl_l
675 .Sy iswctype
676 .Sy iswctype_l
677 .Sy iswdigit
678 .Sy iswdigit_l
679 .Sy iswideogram
680 .Sy iswideogram_l
681 .Sy iswgraph
682 .Sy iswgraph_l
683 .Sy iswhexnumber
684 .Sy iswhexnumber_l
685 .Sy iswlower
686 .Sy iswlower_l
687 .Sy iswnumber
688 .Sy iswnumber_l
689 .Sy iswphonogram
690 .Sy iswphonogram_l
691 .Sy iswprint
692 .Sy iswprint_l
693 .Sy iswpunct
694 .Sy iswpunct_l
695 .Sy iswspace
696 .Sy iswspace_l
697 .Sy iswspecial
698 .Sy iswspecial_l
699 .Sy iswupper
700 .Sy iswupper_l
701 .Sy iswxdigit
702 .Sy iswxdigit_l
703 .Sy isxdigit
704 .Sy isxdigit_l
705 .Sy jrand48
706 .Sy kill
707 .Sy killpg
708 .Sy l64a
709 .Sy labs
```



```
710 .Sy ladd
711 .Sy lchown
712 .Sy lckpwdf
713 .Sy lcong48
714 .Sy ldexp
715 .Sy ldivide
716 .Sy lexp10
717 .Sy lfind
718 .Sy lfmt
719 .Sy link
720 .Sy lio_listio
721 .Sy llabs
722 .Sy lldiv
723 .Sy llog10
724 .Sy llseek
725 .Sy lltostr
726 .Sy localeconv
727 .Sy localtime
728 .Sy localtime_r
729 .Sy lockf
730 .Sy logb
731 .Sy lone
732 .Sy longjmp
733 .Sy lrand48
734 .Sy lsearch
735 .Sy lseek
736 .Sy lshiftl
737 .Sy lstat
738 .Sy lsub
739 .Sy lten
740 .Sy lzero
741 .Sy madvise
742 .Sy makecontext
743 .Sy makeutx
744 .Sy malloc
745 .Sy mblen
746 .Sy mblen_l
747 .Sy mbrlen
748 .Sy mbrlen_l
749 .Sy mbrtowc
750 .Sy mbrtowc_l
751 .Sy mbsinit
752 .Sy mbsinit_l
753 .Sy mbsnrtowcs
754 .Sy mbsnrtowcs_l
755 .Sy mbsrtowcs
756 .Sy mbsrtowcs_l
757 .Sy mbstowcs
758 .Sy mbstowcs_l
759 .Sy mbtowc
760 .Sy mbtowc_l
761 .Sy memalign
762 .Sy membar_consumer
763 .Sy membar_enter
764 .Sy membar_exit
765 .Sy membar_producer
766 .Sy memccpy
767 .Sy memchr
768 .Sy memcmp
769 .Sy memcntl
770 .Sy memcpy
771 .Sy meminfo
772 .Sy memmove
773 .Sy memset
774 .Sy mincore
775 .Sy mkdir
```

```
.Sy mkfifo
.Sy mknod
.Sy mkstemp
.Sy mktemp
.Sy mktime
.Sy mlock
.Sy mlockall
.Sy mmap
.Sy mmapobj
.Sy modctl
.Sy modf
.Sy modff
.Sy modutx
.Sy monitor
.Sy mount
.Sy mprotect
.Sy mq_close
.Sy mq_getattr
.Sy mq_notify
.Sy mq_open
.Sy mq_receive
.Sy mq_reltimedreceive_np
.Sy mq_reltimedsend_np
.Sy mq_send
.Sy mq_setattr
.Sy mq_timedreceive
.Sy mq_timedsend
.Sy mq_unlink
.Sy mrand48
.Sy msgctl
.Sy msgget
.Sy msgids
.Sy msgrcv
.Sy msgsnap
.Sy msgsnd
.Sy msync
.Sy munlock
.Sy munlockall
.Sy munmap
.Sy mutex_consistent
.Sy mutex_destroy
.Sy mutex_init
.Sy mutex_lock
.Sy mutex_trylock
.Sy mutex_unlock
.Sy nanosleep
.Sy nextafter
.Sy newlocale
.Sy nfs_getfh
.Sy nftw
.Sy ngettext
.Sy nice
.Sy nl_langinfo
.Sy nl_langinfo_l
.Sy nrand48
.Sy nss_default_finders
.Sy nss_delete
.Sy nss_endent
.Sy nss_getent
.Sy nss_search
.Sy nss_setent
.Sy ntp_adjtime
.Sy ntp_gettime
.Sy open
.Sy openat
.Sy opendir
```



```
.Sy openlog
.Sy optarg
.Sy opterr
.Sy optind
.Sy optopt
.Sy p_online
.Sy pathconf
.Sy pause
.Sy pclose
.Sy pcsample
.Sy perror
.Sy pfmt
.Sy pipe
.Sy plock
.Sy poll
.Sy popen
.Sy port_alert
.Sy port_associate
.Sy port_create
.Sy port_dissociate
.Sy port_get
.Sy port_getn
.Sy port_send
.Sy port_sendn
.Sy posix_fadvise
.Sy posix_fallocate
.Sy posix_madvise
.Sy posix_memalign
.Sy posix_openpt
.Sy posix_spawn
.Sy posix_spawn_file_actions_addclose
.Sy posix_spawn_file_actions_addclosefrom_np
.Sy posix_spawn_file_actions_adddup2
.Sy posix_spawn_file_actions_addopen
.Sy posix_spawn_file_actions_destroy
.Sy posix_spawn_file_actions_init
.Sy posix_spawn_pipe_np
.Sy posix_spawnattr_destroy
.Sy posix_spawnattr_getflags
.Sy posix_spawnattr_getpgroup
.Sy posix_spawnattr_getschedparam
.Sy posix_spawnattr_getschedpolicy
.Sy posix_spawnattr_getsigdefault
.Sy posix_spawnattr_getsigignore_np
.Sy posix_spawnattr_getsigmask
.Sy posix_spawnattr_init
.Sy posix_spawnattr_setflags
.Sy posix_spawnattr_setpgroup
.Sy posix_spawnattr_setschedparam
.Sy posix_spawnattr_setschedpolicy
.Sy posix_spawnattr_setsigdefault
.Sy posix_spawnattr_setsigignore_np
.Sy posix_spawnattr_setsigmask
.Sy posix_spawnp
.Sy pread
.Sy printf
.Sy printstack
.Sy priocntl
.Sy priocntlset
.Sy priv_addset
.Sy priv_allocset
.Sy priv_copyset
.Sy priv_delset
.Sy priv_emptyset
.Sy priv_fillset
.Sy priv_freeset
```

```
.Sy priv_getbyname
.Sy priv_getbynum
.Sy priv_getsetbyname
.Sy priv_getsetbynum
.Sy priv_gettext
.Sy priv_ineffect
.Sy priv_intersect
.Sy priv_inverse
.Sy priv_isemptyset
.Sy priv_isequalset
.Sy priv_isfullset
.Sy priv_ismember
.Sy priv_issubset
.Sy priv_set
.Sy priv_set_to_str
.Sy priv_str_to_set
.Sy priv_union
.Sy processor_bind
.Sy processor_info
.Sy profil
.Sy pselect
.Sy pset_assign
.Sy pset_bind
.Sy pset_create
.Sy pset_destroy
.Sy pset_getattr
.Sy pset_getloadavg
.Sy pset_info
.Sy pset_list
.Sy pset_setattr
.Sy psiginfo
.Sy psignal
.Sy pthread_atfork
.Sy pthread_attr_destroy
.Sy pthread_attr_getdetachstate
.Sy pthread_attr_getguardsize
.Sy pthread_attr_getinheritsched
.Sy pthread_attr_getschedparam
.Sy pthread_attr_getschedpolicy
.Sy pthread_attr_getscope
.Sy pthread_attr_getstack
.Sy pthread_attr_getstackaddr
.Sy pthread_attr_getstacksize
.Sy pthread_attr_init
.Sy pthread_attr_setdetachstate
.Sy pthread_attr_setguardsize
.Sy pthread_attr_setinheritsched
.Sy pthread_attr_setschedparam
.Sy pthread_attr_setschedpolicy
.Sy pthread_attr_setscope
.Sy pthread_attr_setstack
.Sy pthread_attr_setstackaddr
.Sy pthread_attr_setstacksize
.Sy pthread_barrier_destroy
.Sy pthread_barrier_init
.Sy pthread_barrier_wait
.Sy pthread_barrierattr_destroy
.Sy pthread_barrierattr_getpshared
.Sy pthread_barrierattr_init
.Sy pthread_barrierattr_setpshared
.Sy pthread_cancel
.Sy pthread_cond_broadcast
.Sy pthread_cond_destroy
.Sy pthread_cond_init
.Sy pthread_cond_reltimedwait_np
.Sy pthread_cond_signal
```



```
.Sy pthread_cond_timedwait
.Sy pthread_cond_wait
.Sy pthread_condattr_destroy
.Sy pthread_condattr_getclock
.Sy pthread_condattr_getpshared
.Sy pthread_condattr_init
.Sy pthread_condattr_setclock
.Sy pthread_condattr_setpshared
.Sy pthread_create
.Sy pthread_detach
.Sy pthread_equal
.Sy pthread_exit
.Sy pthread_getconcurrency
.Sy pthread_getschedparam
.Sy pthread_getspecific
.Sy pthread_join
.Sy pthread_key_create
.Sy pthread_key_create_once_np
.Sy pthread_key_delete
.Sy pthread_kill
.Sy pthread_mutex_consistent
.Sy pthread_mutex_destroy
.Sy pthread_mutex_getprioceiling
.Sy pthread_mutex_init
.Sy pthread_mutex_lock
.Sy pthread_mutex_reltimedlock_np
.Sy pthread_mutex_setprioceiling
.Sy pthread_mutex_timedlock
.Sy pthread_mutex_trylock
.Sy pthread_mutex_unlock
.Sy pthread_mutexattr_destroy
.Sy pthread_mutexattr_getprioceiling
.Sy pthread_mutexattr_getprotocol
.Sy pthread_mutexattr_getpshared
.Sy pthread_mutexattr_getrobust
.Sy pthread_mutexattr_gettype
.Sy pthread_mutexattr_init
.Sy pthread_mutexattr_setprioceiling
.Sy pthread_mutexattr_setprotocol
.Sy pthread_mutexattr_setpshared
.Sy pthread_mutexattr_setrobust
.Sy pthread_mutexattr_settype
.Sy pthread_once
.Sy pthread_rwlock_destroy
.Sy pthread_rwlock_init
.Sy pthread_rwlock_rdlock
.Sy pthread_rwlock_reltimedrdlock_np
.Sy pthread_rwlock_reltimedwrlock_np
.Sy pthread_rwlock_timedrdlock
.Sy pthread_rwlock_timedwrlock
.Sy pthread_rwlock_tryrdlock
.Sy pthread_rwlock_trywrlock
.Sy pthread_rwlock_unlock
.Sy pthread_rwlock_wrlock
.Sy pthread_rwlockattr_destroy
.Sy pthread_rwlockattr_getpshared
.Sy pthread_rwlockattr_init
.Sy pthread_rwlockattr_setpshared
.Sy pthread_self
.Sy pthread_setcancelstate
.Sy pthread_setcanceltype
.Sy pthread_setconcurrency
.Sy pthread_setspecific
.Sy pthread_sigmask
.Sy pthread_setschedparam
.Sy pthread_setschedprio
```

```
.Sy pthread_spin_destroy
.Sy pthread_spin_init
.Sy pthread_spin_lock
.Sy pthread_spin_trylock
.Sy pthread_spin_unlock
.Sy pthread_testcancel
.Sy ptsname
.Sy putacct
.Sy putc
.Sy putc_unlocked
.Sy putchar
.Sy putchar_unlocked
.Sy putenv
.Sy putmsg
.Sy putpmsg
.Sy putpwent
.Sy puts
.Sy putspent
.Sy pututline
.Sy pututxline
.Sy putw
.Sy putwc
.Sy putwchar
.Sy putws
.Sy pwrite
.Sy qeconvert
.Sy qecvt
.Sy qfconvert
.Sy qfcvt
.Sy qgconvert
.Sy qgcvt
.Sy qsort
.Sy quadruple_to_decimal
.Sy raise
.Sy rand
.Sy rand_r
.Sy random
.Sy rctl_walk
.Sy rctlblk_get_enforced_value
.Sy rctlblk_get_firing_time
.Sy rctlblk_get_global_action
.Sy rctlblk_get_global_flags
.Sy rctlblk_get_local_action
.Sy rctlblk_get_local_flags
.Sy rctlblk_get_privilege
.Sy rctlblk_get_recipient_pid
.Sy rctlblk_get_value
.Sy rctlblk_set_local_action
.Sy rctlblk_set_local_flags
.Sy rctlblk_set_privilege
.Sy rctlblk_set_recipient_pid
.Sy rctlblk_set_value
.Sy rctlblk_size
.Sy re_comp
.Sy re_exec
.Sy read
.Sy readdir
.Sy readdir_r
.Sy readlink
.Sy readv
.Sy realloc
.Sy realpath
.Sy reboot
.Sy regcmp
.Sy regcomp
.Sy regerror
```



```
.Sy regex
.Sy regexec
.Sy regfree
.Sy remove
.Sy remque
.Sy rename
.Sy renameat
.Sy resetmnttab
.Sy resolvepath
.Sy rewind
.Sy rewinddir
.Sy rindex
.Sy rmdir
.Sy rw_rdlock
.Sy rw_read_held
.Sy rw_tryrdlock
.Sy rw_trywrlock
.Sy rw_unlock
.Sy rw_write_held
.Sy rw_wrlock
.Sy rwlock_destroy
.Sy rwlock_init
.Sy sbrk
.Sy scalb
.Sy scandir
.Sy scanf
.Sy sched_get_priority_max
.Sy sched_get_priority_min
.Sy sched_getparam
.Sy sched_getscheduler
.Sy sched_rr_get_interval
.Sy sched_setparam
.Sy sched_setscheduler
.Sy sched_yield
.Sy schedctl_exit
.Sy schedctl_init
.Sy schedctl_lookup
.Sy schedctl_start
.Sy schedctl_stop
.Sy seconvert
.Sy seed48
.Sy seekdir
.Sy select
.Sy sem_close
.Sy sem_destroy
.Sy sem_getvalue
.Sy sem_init
.Sy sem_open
.Sy sem_post
.Sy sem_reltimedwait_np
.Sy sem_timedwait
.Sy sem_trywait
.Sy sem_unlink
.Sy sem_wait
.Sy sema_destroy
.Sy sema_held
.Sy sema_init
.Sy sema_post
.Sy sema_trywait
.Sy sema_wait
.Sy semctl
.Sy semget
.Sy semids
.Sy semop
.Sy semtimedop
.Sy setattrat
```

```
.Sy setbuf
.Sy setbuffer
.Sy setcat
.Sy setcontext
.Sy setegid
.Sy setenv
.Sy seteuid
.Sy setgid
.Sy setgrent
.Sy setgroups
.Sy sethostname
.Sy setitimer
.Sy setjmp
.Sy setkey
.Sy setlabel
.Sy setlinebuf
.Sy setlocale
.Sy setlogmask
.Sy setnetgrent
.Sy setpflags
.Sy setpgid
.Sy setpgrp
.Sy setppriv
.Sy setpriority
.Sy setpwent
.Sy setrctl
.Sy setregid
.Sy setreuid
.Sy setrlimit
.Sy setsid
.Sy setspent
.Sy setstate
.Sy settaskid
.Sy settimeofday
.Sy setuid
.Sy setusershell
.Sy setustack
.Sy setutent
.Sy setutxent
.Sy setvbuf
.Sy sfconvert
.Sy sgconvert
.Sy shm_open
.Sy shm_unlink
.Sy shmat
.Sy shmctl
.Sy shmdt
.Sy shmget
.Sy shmids
.Sy sig2str
.Sy sigaction
.Sy sigaddset
.Sy sigaltstack
.Sy sigdelset
.Sy sigemptyset
.Sy sigfillset
.Sy sigfpe
.Sy sighold
.Sy sigignore
.Sy siginterrupt
.Sy sigismember
.Sy siglongjmp
.Sy signal
.Sy sigpause
.Sy sigpending
.Sy sigprocmask
```



```
.Sy sigqueue
.Sy sigrelse
.Sy sigsend
.Sy sigsendset
.Sy sigset
.Sy sigsetjmp
.Sy sigstack
.Sy sigsuspend
.Sy sigtimedwait
.Sy sigwait
.Sy sigwaitinfo
.Sy single_to_decimal
.Sy sleep
.Sy snprintf
.Sy sprintf
.Sy srand
.Sy srand48
.Sy srandom
.Sy sscanf
.Sy ssignal
.Sy stack_getbounds
.Sy stack_inbounds
.Sy stack_setbounds
.Sy stack_violation
.Sy stat
.Sy statfs
.Sy statvfs
.Sy stime
.Sy str2sig
.Sy strcasecmp
.Sy strcasecmp_l
.Sy strcat
.Sy strchr
.Sy strcmp
.Sy strcoll
.Sy strcpy
.Sy strcspn
.Sy strdup
.Sy strerror
.Sy strerror_r
.Sy strfmon
.Sy strfmon_l
.Sy strftime
.Sy strftime_l
.Sy string_to_decimal
.Sy strlcat
.Sy strlcpy
.Sy strlen
.Sy strncasecmp
.Sy strncasecmp_l
.Sy strncat
.Sy strncmp
.Sy strncpy
.Sy strpbrk
.Sy strptime
.Sy strptime_l
.Sy strrchr
.Sy strsep
.Sy strsignal
.Sy strspn
.Sy strstr
.Sy strtod
.Sy strtof
.Sy strtoimax
.Sy strtok
.Sy strtok_r
```

```
.Sy strtol
.Sy strtold
.Sy strtoll
.Sy strtoul
.Sy strtoull
.Sy strtoumax
.Sy strtows
.Sy strxfrm
.Sy swab
.Sy swapcontext
.Sy swapctl
.Sy swprintf
.Sy swscanf
.Sy symlink
.Sy sync
.Sy sync_instruction_memory
.Sy sysconf
.Sy sysfs
.Sy sysinfo
.Sy syslog
.Sy system
.Sy tcdrain
.Sy tcflow
.Sy tcflush
.Sy tcgetattr
.Sy tcgetpgrp
.Sy tcgetsid
.Sy tcsendbreak
.Sy tcsetattr
.Sy tcsetpgrp
.Sy tdelete
.Sy tell
.Sy telldir
.Sy tempnam
.Sy textdomain
.Sy tfind
.Sy thr_continue
.Sy thr_create
.Sy thr_exit
.Sy thr_getconcurrency
.Sy thr_getprio
.Sy thr_getspecific
.Sy thr_join
.Sy thr_keycreate
.Sy thr_keycreate_once
.Sy thr_kill
.Sy thr_main
.Sy thr_min_stack
.Sy thr_self
.Sy thr_setconcurrency
.Sy thr_setprio
.Sy thr_setspecific
.Sy thr_sigsetmask
.Sy thr_stksegment
.Sy thr_suspend
.Sy thr_yield
.Sy time
.Sy timer_create
.Sy timer_delete
.Sy timer_getoverrun
.Sy timer_gettime
.Sy timer_settime
.Sy times
.Sy timezone
.Sy tmpfile
.Sy tmpnam
```



```
.Sy tmpnam_r
.Sy toascii
.Sy tolower
.Sy tolower_l
.Sy toupper
.Sy toupper_l
.Sy towctrans
.Sy towctrans_l
.Sy towlower
.Sy towlower_l
.Sy towupper
.Sy towupper_l
.Sy truncate
.Sy tsearch
.Sy ttyname
.Sy ttyname_r
.Sy ttyslot
.Sy twalk
.Sy tzname
.Sy tzset
.Sy u8_strcmp
.Sy u8_textprep_str
.Sy u8_validate
.Sy uadmin
.Sy ualarm
.Sy uconv_u16tou32
.Sy uconv_u16tou8
.Sy uconv_u32tou16
.Sy uconv_u32tou8
.Sy uconv_u8tou16
.Sy uconv_u8tou32
.Sy ucred_free
.Sy ucred_get
.Sy ucred_getegid
.Sy ucred_geteuid
.Sy ucred_getgroups
.Sy ucred_getpflags
.Sy ucred_getpid
.Sy ucred_getprivset
.Sy ucred_getprojid
.Sy ucred_getrgid
.Sy ucred_getruid
.Sy ucred_getsgid
.Sy ucred_getsuid
.Sy ucred_getzoneid
.Sy ucred_size
.Sy ulckpwdf
.Sy ulimit
.Sy ulltostr
.Sy umask
.Sy umount
.Sy umount2
.Sy uname
.Sy ungetc
.Sy ungetwc
.Sy unlink
.Sy unlinkat
.Sy unlockpt
.Sy unordered
.Sy unsetenv
.Sy updwtmp
.Sy updwtmpx
.Sy uselocale
.Sy usleep
.Sy ustat
.Sy utime
```

```
.Sy utimensat
.Sy utimes
.Sy utmpname
.Sy utmpxname
.Sy uucopy
.Sy valloc
.Sy vasprintf
.Sy verr
.Sy verrx
.Sy vfork
.Sy vforkx
.Sy vfprintf
.Sy vfscanf
.Sy vfwprintf
.Sy vfwscanf
.Sy vhangup
.Sy vlfmt
.Sy vpfmt
.Sy vprintf
.Sy vscanf
.Sy vsnprintf
.Sy vsprintf
.Sy vsscanf
.Sy vswprintf
.Sy vswscanf
.Sy vsyslog
.Sy vwarn
.Sy vwarnx
.Sy vwprintf
.Sy vwscanf
.Sy wait
.Sy wait3
.Sy wait4
.Sy waitid
.Sy waitpid
.Sy walkcontext
.Sy warn
.Sy warnx
.Sy watoll
.Sy wcrtomb
.Sy wcrtomb_l
.Sy wcscasecmp
.Sy wcscasecmp_
.Sy wcscat
.Sy wcschr
.Sy wcscmp
.Sy wcscoll
.Sy wcscoll_l
.Sy wcscpy
.Sy wcscspn
.Sy wcsdup
.Sy wcsftime
.Sy wcslen
.Sy wcsncasecmp
.Sy wcsncasecmp_l
.Sy wcsncat
.Sy wcsncmp
.Sy wcsncpy
.Sy wcsnlen
.Sy wcsnrtombs
.Sy wcsnrtombs_l
.Sy wcspbrk
.Sy wcsrchr
.Sy wcsrtombs
.Sy wcsrtombs_l
.Sy wcsspn
```



```
.Sy wcsstr
.Sy wcstod
.Sy wcstof
.Sy wcstoimax
.Sy wcstok
.Sy wcstol
.Sy wcstold
.Sy wcstoll
.Sy wcstombs
.Sy wctombs_l
.Sy wcstoul
.Sy wcstoull
.Sy wcstoumax
.Sy wcswcs
.Sy wcswidth
.Sy wcswidth_l
.Sy wcsxfrm
.Sy wcsxfrm_l
.Sy wctob
.Sy wctob_l
.Sy wctomb
.Sy wctomb_l
.Sy wctrans
.Sy wctrans_l
.Sy wctype
.Sy wctype_l
.Sy wcwidth
.Sy wcwidth_l
.Sy wmemchr
.Sy wmemcmp
.Sy wmemcpy
.Sy wmemmove
.Sy wmemset
.Sy wordexp
.Sy wordfree
.Sy wprintf
.Sy wracct
.Sy write
.Sy writev
.Sy wscanf
.Sy wscasecmp
.Sy wscat
.Sy wschr
.Sy wscmp
.Sy wscol
.Sy wscoll
.Sy wscpy
.Sy wscspn
.Sy wsdup
.Sy wslen
.Sy wsncasecmp
.Sy wsncat
.Sy wsncmp
.Sy wsncpy
.Sy wspbrk
.Sy wsprintf
.Sy wsrchr
.Sy wsscanf
.Sy wsspn
.Sy wstod
.Sy wstok
.Sy wstol
.Sy wstoll
.Sy wstostr
.Sy wsxfrm
.Sy yield
```

```
.El
.Lp
the multithreading libraries, \fBlibthread\fR and \fBlibpthread\fR.
.SH INTERFACES
.sp
.LP
The shared object \fBlibc.so.1\fR provides the public interfaces defined below.
See \fBIntro\fR(3) for additional information on shared object interfaces.
.sp


.sp
.TS
l l
l l .
\fB___loc1\fR  \fB___errno\fR
\fB__builtin_alloca\fR  \fB__ctype\fR
\fB__fbufsize\fR        \fB__flbf\fR
\fB__flt_rounds\fR      \fB__fpending\fR
\fB__fpurge\fR  \fB__freadable\fR
\fB__freading\fR        \fB__fsetlocking\fR
\fB__fwritable\fR       \fB__fwriting\fR
\fB__huge_val\fR        \fB__iob\fR
\fB__loc1\fR    \fB__major\fR
\fB__makedev\fR \fB__mb_cur_max_l\fR
\fB__minor\fR
\fB__nsw_extended_action\fR     \fB__nsw_freeconfig\fR
\fB__nsw_getconfig\fR   \fB__posix_asctime_r\fR
\fB__posix_ctime_r\fR   \fB__posix_getgrgid_r\fR
\fB__posix_getgrnam_r\fR        \fB__posix_getlogin_r\fR
\fB__posix_getpwnam_r\fR        \fB__posix_getpwuid_r\fR
\fB__posix_sigwait\fR   \fB__posix_ttyname_r\fR
\fB__priocntl\fR        \fB__priocntlset\fR
\fB__pthread_cleanup_pop\fR     \fB__pthread_cleanup_push\fR
\fB__sysconf_xpg5\fR    \fB__xpg4\fR
\fB__xpg4_putmsg\fR     \fB__xpg4_putpmsg\fR
\fB_Exit\fR     \fB_altzone\fR
\fB_assert\fR   \fB_cleanup\fR
\fB_ctype\fR    \fB_daylight\fR
\fB_environ\fR  \fB_exit\fR
\fB_exithandle\fR       \fB_filbuf\fR
\fB_flsbuf\fR   \fB_flushlbf\fR
\fB_getdate_err\fR      \fB_getdate_err_addr\fR
\fB_iob\fR      \fB_isnan\fR
\fB_isnand\fR   \fB_lwp_cond_broadcast\fR
\fB_lwp_cond_reltimedwait\fR    \fB_lwp_cond_signal\fR
\fB_lwp_cond_timedwait\fR       \fB_lwp_cond_wait\fR
\fB_lwp_continue\fR     \fB_lwp_info\fR
\fB_lwp_kill\fR \fB_lwp_mutex_lock\fR
\fB_lwp_mutex_trylock\fR        \fB_lwp_mutex_unlock\fR
\fB_lwp_self\fR \fB_lwp_sema_init\fR
\fB_lwp_sema_post\fR    \fB_lwp_sema_trywait\fR
\fB_lwp_sema_wait\fR    \fB_lwp_suspend\fR
\fB_lwp_suspend2\fR     \fB_modf\fR
\fB_nextafter\fR        \fB_nsc_trydoorcall\fR
\fB_nss_XbyY_buf_alloc\fR       \fB_nss_XbyY_buf_free\fR
\fB_nss_netdb_aliases\fR        \fB_numeric\fR
\fB_scalb\fR    \fB_sibuf\fR
\fB_sobuf\fR    \fB_stack_grow\fR
\fB_sys_buslist\fR      \fB_sys_cldlist\fR
\fB_sys_fpelist\fR      \fB_sys_illlist\fR
\fB_sys_segvlist\fR     \fB_sys_siginfolistp\fR
\fB_sys_siglist\fR      \fB_sys_siglistn\fR
\fB_sys_siglistp\fR     \fB_sys_traplist\fR
\fB_timezone\fR \fB_tolower\fR
\fB_toupper\fR  \fB_tzname\fR
\fB_xftw\fR     \fB\fR
```



```
\fBa64l\fR      \fBabort\fR
\fBabs\fR       \fBaccess\fR
\fBacct\fR      \fBacl\fR
\fBaddrtosymstr\fR      \fBaddsev\fR
\fBaddseverity\fR       \fBadjtime\fR
\fBaio_cancel\fR        \fBaio_error\fR
\fBaio_fsync\fR \fBaio_read\fR
\fBaio_return\fR        \fBaio_suspend\fR
\fBaio_waitn\fR \fBaio_write\fR
\fBaiocancel\fR \fBaioread\fR
\fBaiowait\fR   \fBaiowrite\fR
\fBalarm\fR     \fBalphasort\fR
\fBaltzone\fR   \fBascftime\fR
\fBasctime\fR   \fBasctime_r\fR
\fBasprintf\fR
\fBatexit\fR    \fBatof\fR
\fBatoi\fR      \fBatol\fR
\fBatoll\fR     \fBatomic_add_16\fR
\fBatomic_add_16_nv\fR  \fBatomic_add_32\fR
\fBatomic_add_32_nv\fR  \fBatomic_add_64\fR
\fBatomic_add_64_nv\fR  \fBatomic_add_8\fR
\fBatomic_add_8_nv\fR   \fBatomic_add_char\fR
\fBatomic_add_char_nv\fR        \fBatomic_add_int\fR
\fBatomic_add_int_nv\fR \fBatomic_add_long\fR
\fBatomic_add_long_nv\fR        \fBatomic_add_ptr\fR
\fBatomic_add_ptr_nv\fR \fBatomic_add_short\fR
\fBatomic_add_short_nv\fR       \fBatomic_and_16\fR
\fBatomic_and_16_nv\fR  \fBatomic_and_32\fR
\fBatomic_and_32_nv\fR  \fBatomic_and_64\fR
\fBatomic_and_64_nv\fR  \fBatomic_and_8\fR
\fBatomic_and_8_nv\fR   \fBatomic_and_uchar\fR
\fBatomic_and_uchar_nv\fR       \fBatomic_and_uint\fR
\fBatomic_and_uint_nv\fR        \fBatomic_and_ulong\fR
\fBatomic_and_ulong_nv\fR       \fBatomic_and_ushort\fR
\fBatomic_and_ushort_nv\fR      \fBatomic_cas_16\fR
\fBatomic_cas_32\fR     \fBatomic_cas_64\fR
\fBatomic_cas_8\fR      \fBatomic_cas_ptr\fR
\fBatomic_cas_uchar\fR  \fBatomic_cas_uint\fR
\fBatomic_cas_ulong\fR  \fBatomic_cas_ushort\fR
\fBatomic_clear_long_excl\fR    \fBatomic_dec_16\fR
\fBatomic_dec_16_nv\fR  \fBatomic_dec_32\fR
\fBatomic_dec_32_nv\fR  \fBatomic_dec_64\fR
\fBatomic_dec_64_nv\fR  \fBatomic_dec_8\fR
\fBatomic_dec_8_nv\fR   \fBatomic_dec_ptr\fR
\fBatomic_dec_ptr_nv\fR \fBatomic_dec_uchar\fR
\fBatomic_dec_uchar_nv\fR       \fBatomic_dec_uint\fR
\fBatomic_dec_uint_nv\fR        \fBatomic_dec_ulong\fR
\fBatomic_dec_ulong_nv\fR       \fBatomic_dec_ushort\fR
\fBatomic_dec_ushort_nv\fR      \fBatomic_inc_16\fR
\fBatomic_inc_16_nv\fR  \fBatomic_inc_32\fR
\fBatomic_inc_32_nv\fR  \fBatomic_inc_64\fR
\fBatomic_inc_64_nv\fR  \fBatomic_inc_8\fR
\fBatomic_inc_8_nv\fR   \fBatomic_inc_ptr\fR
\fBatomic_inc_ptr_nv\fR \fBatomic_inc_uchar\fR
\fBatomic_inc_uchar_nv\fR       \fBatomic_inc_uint\fR
\fBatomic_inc_uint_nv\fR        \fBatomic_inc_ulong\fR
\fBatomic_inc_ulong_nv\fR       \fBatomic_inc_ushort\fR
\fBatomic_inc_ushort_nv\fR      \fBatomic_or_16\fR
\fBatomic_or_16_nv\fR   \fBatomic_or_32\fR
\fBatomic_or_32_nv\fR   \fBatomic_or_64\fR
\fBatomic_or_64_nv\fR   \fBatomic_or_8\fR
\fBatomic_or_8_nv\fR    \fBatomic_or_uchar\fR
\fBatomic_or_uchar_nv\fR        \fBatomic_or_uint\fR
\fBatomic_or_uint_nv\fR \fBatomic_or_ulong\fR
\fBatomic_or_ulong_nv\fR        \fBatomic_or_ushort\fR
\fBatomic_or_ushort_nv\fR       \fBatomic_set_long_excl\fR
```

```
\fBatomic_swap_16\fR    \fBatomic_swap_32\fR
\fBatomic_swap_64\fR    \fBatomic_swap_8\fR
\fBatomic_swap_ptr\fR   \fBatomic_swap_uchar\fR
\fBatomic_swap_uint\fR  \fBatomic_swap_ulong\fR
\fBatomic_swap_ushort\fR        \fBattropen\fR
\fBbacktrace\fR \fBbacktrace_symbols\fR
\fBbacktrace_symbols_fd\fR      \fBbasename\fR
\fBbcmp\fR      \fBbcopy\fR
\fBbindtextdomain\fR    \fBbind_textdomain_codeset\fR
\fBbrk\fR       \fBbsd_signal\fR
\fBbsearch\fR
\fBbtowc\fR     \fBbtowc_l\fR
\fBbzero\fR     \fBcalloc\fR
\fBcatclose\fR  \fBcatgets\fR
\fBcatopen\fR   \fBcfgetispeed\fR
\fBcfgetospeed\fR       \fBcfsetispeed\fR
\fBcfsetospeed\fR       \fBcftime\fR
\fBchdir\fR     \fBchmod\fR
\fBchown\fR     \fBchroot\fR
\fBclearerr\fR  \fBclock\fR
\fBclock_getres\fR      \fBclock_gettime\fR
\fBclock_nanosleep\fR   \fBclock_settime\fR
\fBclose\fR     \fBclosedir\fR
\fBclosefrom\fR \fBcloselog\fR
\fBcond_broadcast\fR    \fBcond_destroy\fR
\fBcond_init\fR \fBcond_reltimedwait\fR
\fBcond_signal\fR       \fBcond_timedwait\fR
\fBcond_wait\fR \fBconfstr\fR
\fBcreat\fR     \fBcrypt\fR
\fBcrypt_genhash_impl\fR        \fBcrypt_gensalt\fR
\fBcrypt_gensalt_impl\fR        \fBcsetcol\fR
\fBcsetlen\fR   \fBctermid\fR
\fBctermid_r\fR \fBctime\fR
\fBctime_r\fR   \fBcuserid\fR
\fBdaemon\fR
\fBdaylight\fR  \fBdbm_clearerr\fR
\fBdbm_close\fR \fBdbm_delete\fR
\fBdbm_error\fR \fBdbm_fetch\fR
\fBdbm_firstkey\fR      \fBdbm_nextkey\fR
\fBdbm_open\fR  \fBdbm_store\fR
\fBdcgettext\fR \fBdcngettext\fR
\fBdecimal_to_double\fR \fBdecimal_to_extended\fR
\fBdecimal_to_quadruple\fR      \fBdecimal_to_single\fR
\fBdgettext\fR  \fBdifftime\fR
\fBdirectio\fR  \fBdirfd\fR
\fBdirname\fR   \fBdiv\fR
\fBdladdr\fR    \fBdladdr1\fR
\fBdlclose\fR   \fBdldump\fR
\fBdlerror\fR   \fBdlinfo\fR
\fBdlmopen\fR   \fBdlopen\fR
\fBdlsym\fR     \fBdngettext\fR
\fBdoor_bind\fR \fBdoor_call\fR
\fBdoor_create\fR       \fBdoor_cred\fR
\fBdoor_getparam\fR     \fBdoor_info\fR
\fBdoor_return\fR       \fBdoor_revoke\fR
\fBdoor_server_create\fR        \fBdoor_setparam\fR
\fBdoor_ucred\fR        \fBdoor_unbind\fR
\fBdouble_to_decimal\fR \fBdrand48\fR
\fBdup\fR       \fBdup2\fR
\fBduplocale\fR
\fBeconvert\fR  \fBecvt\fR
\fBenable_extended_FILE_stdio\fR
\fBencrypt\fR   \fBendgrent\fR
\fBendnetgrent\fR       \fBendpwent\fR
\fBendspent\fR  \fBendusershell\fR
\fBendutent\fR  \fBendutxent\fR
```



```
\fBenviron\fR   \fBerand48\fR
\fBerr\fR       \fBerrno\fR
\fBerrx\fR      \fBeuccol\fR
\fBeuclen\fR    \fBeucscol\fR
\fBexecl\fR     \fBexecle\fR
\fBexeclp\fR    \fBexecv\fR
\fBexecve\fR    \fBexecvp\fR
\fBexit\fR      \fBextended_to_decimal\fR
\fBfaccessat\fR
\fBfacl\fR      \fBfattach\fR
\fBfchdir\fR    \fBfchmod\fR
\fBfchown\fR    \fBfchownat\fR
\fBfchroot\fR   \fBfclose\fR
\fBfcntl\fR     \fBfconvert\fR
\fBfcvt\fR      \fBfdatasync\fR
\fBfdetach\fR
\fBfdopen\fR    \fBfdopendir\fR
\fBfdwalk\fR    \fBfeof\fR
\fBferror\fR    \fBfflush\fR
\fBffs\fR       \fBfgetattr\fR
\fBfgetc\fR
\fBfgetgrent\fR \fBfgetgrent_r\fR
\fBfgetpos\fR   \fBfgetpwent\fR
\fBfgetpwent_r\fR       \fBfgets\fR
\fBfgetspent\fR \fBfgetspent_r\fR
\fBfgetwc\fR    \fBfgetwc_l\fR
\fBfgetws\fR
\fBfile_to_decimal\fR   \fBfileno\fR
\fBfinite\fR    \fBflockfile\fR
\fBfmtmsg\fR    \fBfnmatch\fR
\fBfopen\fR     \fBfork\fR
\fBfork1\fR     \fBforkall\fR
\fBforkallx\fR  \fBforkx\fR
\fBfpathconf\fR \fBfpclass\fR
\fBfpgetmask\fR \fBfpgetround\fR
\fBfpgetsticky\fR       \fBfprintf\fR
\fBfpsetmask\fR \fBfpsetround\fR
\fBfpsetsticky\fR       \fBfputc\fR
\fBfputs\fR     \fBfputwc\fR
\fBfputws\fR    \fBfread\fR
\fBfree\fR      \fBfreelocale\fR
\fBfreopen\fR
\fBfrexp\fR     \fBfscanf\fR
\fBfseek\fR     \fBfseeko\fR
\fBfsetattr\fR
\fBfsetpos\fR   \fBfstat\fR
\fBfstatat\fR   \fBfstatfs\fR
\fBfstatvfs\fR  \fBfsync\fR
\fBftell\fR     \fBftello\fR
\fBftime\fR     \fBftok\fR
\fBftruncate\fR \fBftrylockfile\fR
\fBftw\fR       \fBfunc_to_decimal\fR
\fBfunlockfile\fR       \fBfutimens\fR
\fBfutimesat\fR
\fBfwide\fR     \fBfwprintf\fR
\fBfwrite\fR    \fBfwscanf\fR
\fBgconvert\fR  \fBgcvt\fR
\fBgetacct\fR   \fBgetattrat\fR
\fBgetc\fR
\fBgetc_unlocked\fR     \fBgetchar\fR
\fBgetchar_unlocked\fR  \fBgetcontext\fR
\fBgetcpuid\fR  \fBgetcwd\fR
\fBgetdate\fR   \fBgetdate_err\fR
\fBgetdents\fR  \fBgetdtablesize\fR
\fBgetegid\fR   \fBgetenv\fR
\fBgeteuid\fR   \fBgetexecname\fR
```

```
\fBgetextmntent\fR      \fBgetgid\fR
\fBgetgrent\fR  \fBgetgrent_r\fR
\fBgetgrgid\fR  \fBgetgrgid_r\fR
\fBgetgrnam\fR  \fBgetgrnam_r\fR
\fBgetgroups\fR \fBgethomelgroup\fR
\fBgethostid\fR \fBgethostname\fR
\fBgethrtime\fR \fBgethrvtime\fR
\fBgetisax\fR   \fBgetitimer\fR
\fBgetloadavg\fR        \fBgetlogin\fR
\fBgetlogin_r\fR        \fBgetmntany\fR
\fBgetmntent\fR \fBgetmsg\fR
\fBgetnetgrent\fR       \fBgetnetgrent_r\fR
\fBgetopt\fR    \fBgetopt_clip\fR
\fBgetopt_long\fR       \fBgetopt_long_only\fR
\fBgetpagesize\fR       \fBgetpagesizes\fR
\fBgetpass\fR   \fBgetpassphrase\fR
\fBgetpeerucred\fR      \fBgetpflags\fR
\fBgetpgid\fR   \fBgetpgrp\fR
\fBgetpid\fR    \fBgetpmsg\fR
\fBgetppid\fR   \fBgetppriv\fR
\fBgetpriority\fR       \fBgetprojid\fR
\fBgetpw\fR     \fBgetpwent\fR
\fBgetpwent_r\fR        \fBgetpwnam\fR
\fBgetpwnam_r\fR        \fBgetpwuid\fR
\fBgetpwuid_r\fR        \fBgetrctl\fR
\fBgetrlimit\fR \fBgetrusage\fR
\fBgets\fR      \fBgetsid\fR
\fBgetspent\fR  \fBgetspent_r\fR
\fBgetspnam\fR  \fBgetspnam_r\fR
\fBgetsubopt\fR \fBgettaskid\fR
\fBgettext\fR   \fBgettimeofday\fR
\fBgettxt\fR    \fBgetuid\fR
\fBgetusershell\fR      \fBgetustack\fR
\fBgetutent\fR  \fBgetutid\fR
\fBgetutline\fR \fBgetutmp\fR
\fBgetutmpx\fR  \fBgetutxent\fR
\fBgetutxid\fR  \fBgetutxline\fR
\fBgetvfsany\fR \fBgetvfsent\fR
\fBgetvfsfile\fR        \fBgetvfsspec\fR
\fBgetw\fR
\fBgetwc\fR     \fBgetwc_l\fR
\fBgetwchar\fR  \fBgetwchar_l\fR
\fBgetwd\fR
\fBgetwidth\fR  \fBgetws\fR
\fBgetzoneid\fR \fBgetzoneidbyname\fR
\fBgetzonenamebyid\fR   \fBglob\fR
\fBglobfree\fR  \fBgmtime\fR
\fBgmtime_r\fR  \fBgrantpt\fR
\fBgsignal\fR   \fBhasmntopt\fR
\fBhcreate\fR   \fBhdestroy\fR
\fBhsearch\fR   \fBiconv\fR
\fBiconv_close\fR       \fBiconv_open\fR
\fBimaxabs\fR   \fBimaxdiv\fR
\fBindex\fR     \fBinitgroups\fR
\fBinitstate\fR \fBinnetgr\fR
\fBinsque\fR    \fBioctl\fR
\fBis_system_labeled\fR
\fBisaexec\fR
\fBisalnum\fR   \fBisalnum_l\fR
\fBisalpha\fR   \fBisalpha_l\fR
\fBisascii\fR   \fBisastream\fR
\fBisatty\fR
\fBisblank\fR   \fBisblank_l\fR
\fBiscntrl\fR   \fBiscntrl_l\fR
\fBisdigit\fR   \fBisdigit_l\fR
\fBisenglish\fR
```



```
\fBisgraph\fR   \fBisgraph_l\fR
\fBisideogram\fR
\fBislower\fR   \fBislower_l\fR
\fBisnan\fR
\fBisnand\fR    \fBisnanf\fR
\fBisnumber\fR  \fBisphonogram\fR
\fBisprint\fR   \fBisprint_l\fR
\fBispunct\fR   \fBispunct_l\fR
\fBissetugid\fR
\fBisspace\fR   \fBisspace_l\fR
\fBisspecial\fR
\fBisupper\fR   \fBisupper_l\fR
\fBiswalnum\fR  \fBiswalnum_l\fR
\fBiswalpha\fR  \fBiswalpha_l\fR
\fBiswblank\fR  \fBiswblank_l\fR
\fBiswcntrl\fR  \fBiswcntrl_l\fR
\fBiswctype\fR  \fBiswctype_l\fR
\fBiswdigit\fR  \fBiswdigit_l\fR
\fBiswideogram\fR       \fBiswideogram_l\fR
\fBiswgraph\fR  \fBiswgraph_l\fR
\fBiswhexnumber\fR      \fBiswhexnumber_l\fR
\fBiswlower\fR  \fBiswlower_l\fR
\fBiswnumber\fR \fBiswnumber_l\fR
\fBiswphonogram\fR      \fBiswphonogram_l\fR
\fBiswprint\fR  \fBiswprint_l\fR
\fBiswpunct\fR  \fBiswpunct_l\fR
\fBiswspace\fR  \fBiswspace_l\fR
\fBiswspecial\fR        \fBiswspecial_l\fR
\fBiswupper\fR  \fBiswupper_l\fR
\fBiswxdigit\fR \fBiswxdigit_l\fR
\fBisxdigit\fR  \fBisxdigit_l\fR
\fBjrand48\fR   \fBkill\fR
\fBkillpg\fR    \fBl64a\fR
\fBlabs\fR      \fBladd\fR
\fBlchown\fR    \fBlckpwdf\fR
\fBlcong48\fR   \fBldexp\fR
\fBldivide\fR   \fBlexp10\fR
\fBlfind\fR     \fBlfmt\fR
\fBlink\fR      \fBlio_listio\fR
\fBllabs\fR
\fBlldiv\fR     \fBllog10\fR
\fBllseek\fR    \fBlltostr\fR
\fBlocaleconv\fR        \fBlocaltime\fR
\fBlocaltime_r\fR       \fBlockf\fR
\fBlogb\fR      \fBlone\fR
\fBlongjmp\fR   \fBlrand48\fR
\fBlsearch\fR   \fBlseek\fR
\fBlshiftl\fR   \fBlstat\fR
\fBlsub\fR      \fBlten\fR
\fBlzero\fR     \fBmadvise\fR
\fBmakecontext\fR       \fBmakeutx\fR
\fBmalloc\fR
\fBmblen\fR     \fBmblen_l\fR
\fBmbrlen\fR    \fBmbrlen_l\fR
\fBmbrtowc\fR   \fBmbrtowc_l\fR
\fBmbsinit\fR   \fBmbsinit_l\fR
\fBmbsnrtowcs\fR        \fBmbsnrtowcs_l\fR
\fBmbsrtowcs\fR \fBmbsrtowcs_l\fR
\fBmbstowcs\fR  \fBmbstowcs_l\fR
\fBmbtowc\fR    \fBmbtowc_l\fR
\fBmemalign\fR  \fBmembar_consumer\fR
\fBmembar_enter\fR      \fBmembar_exit\fR
\fBmembar_producer\fR   \fBmemccpy\fR
\fBmemchr\fR    \fBmemcmp\fR
\fBmemcntl\fR   \fBmemcpy\fR
\fBmeminfo\fR   \fBmemmove\fR
```

```
\fBmemset\fR    \fBmincore\fR
\fBmkdir\fR     \fBmkfifo\fR
\fBmknod\fR     \fBmkstemp\fR
\fBmktemp\fR    \fBmktime\fR
\fBmlock\fR     \fBmlockall\fR
\fBmmap\fR      \fBmmapobj\fR
\fBmodctl\fR
\fBmodf\fR      \fBmodff\fR
\fBmodutx\fR    \fBmonitor\fR
\fBmount\fR     \fBmprotect\fR
\fBmq_close\fR  \fBmq_getattr\fR
\fBmq_notify\fR \fBmq_open\fR
\fBmq_receive\fR        \fBmq_reltimedreceive_np\fR
\fBmq_reltimedsend_np\fR        \fBmq_send\fR
\fBmq_setattr\fR        \fBmq_timedreceive\fR
\fBmq_timedsend\fR      \fBmq_unlink\fR
\fBmrand48\fR   \fBmsgctl\fR
\fBmsgget\fR    \fBmsgids\fR
\fBmsgrcv\fR    \fBmsgsnap\fR
\fBmsgsnd\fR    \fBmsync\fR
\fBmunlock\fR   \fBmunlockall\fR
\fBmunmap\fR    \fBmutex_consistent\fR
\fBmutex_destroy\fR     \fBmutex_init\fR
\fBmutex_lock\fR        \fBmutex_trylock\fR
\fBmutex_unlock\fR      \fBnanosleep\fR
\fBnextafter\fR \fBnewlocale\fR
\fBnfs_getfh\fR \fBnftw\fR
\fBngettext\fR  \fBnice\fR
\fBnl_langinfo\fR       \fBnl_langinfo_l\fR
\fBnrand48\fR
\fBnss_default_finders\fR       \fBnss_delete\fR
\fBnss_endent\fR        \fBnss_getent\fR
\fBnss_search\fR        \fBnss_setent\fR
\fBntp_adjtime\fR       \fBntp_gettime\fR
\fBopen\fR      \fBopenat\fR
\fBopendir\fR   \fBopenlog\fR
\fBoptarg\fR    \fBopterr\fR
\fBoptind\fR    \fBoptopt\fR
\fBp_online\fR  \fBpathconf\fR
\fBpause\fR     \fBpclose\fR
\fBpcsample\fR  \fBperror\fR
\fBpfmt\fR      \fBpipe\fR
\fBplock\fR     \fBpoll\fR
\fBpopen\fR     \fBport_alert\fR
\fBport_associate\fR    \fBport_create\fR
\fBport_dissociate\fR   \fBport_get\fR
\fBport_getn\fR \fBport_send\fR
\fBport_sendn\fR        \fBposix_fadvise\fR
\fBposix_fallocate\fR   \fBposix_madvise\fR
\fBposix_memalign\fR    \fBposix_openpt\fR
\fBposix_spawn\fR       \fBposix_spawn_file_actions_addclose\fR
\fBposix_spawn_file_actions_addclosefrom_np\fR  \fBposix_spawn_file_actions_addd
\fBposix_spawn_file_actions_addopen\fR
\fBposix_spawn_file_actions_destroy\fR
\fBposix_spawn_file_actions_init\fR
\fBposix_spawn_pipe_np\fR
\fBposix_spawnattr_destroy\fR
\fBposix_spawnattr_getflags\fR  \fBposix_spawnattr_getpgroup\fR
\fBposix_spawnattr_getschedparam\fR     \fBposix_spawnattr_getschedpolicy\fR
\fBposix_spawnattr_getsigdefault\fR     \fBposix_spawnattr_getsigignore_np\fR
\fBposix_spawnattr_getsigmask\fR        \fBposix_spawnattr_init\fR
\fBposix_spawnattr_setflags\fR  \fBposix_spawnattr_setpgroup\fR
\fBposix_spawnattr_setschedparam\fR     \fBposix_spawnattr_setschedpolicy\fR
\fBposix_spawnattr_setsigdefault\fR     \fBposix_spawnattr_setsigignore_np\fR
\fBposix_spawnattr_setsigmask\fR        \fBposix_spawnp\fR
\fBpread\fR     \fBprintf\fR
```



```
\fBprintstack\fR        \fBpriocntl\fR
\fBpriocntlset\fR       \fBpriv_addset\fR
\fBpriv_allocset\fR     \fBpriv_copyset\fR
\fBpriv_delset\fR       \fBpriv_emptyset\fR
\fBpriv_fillset\fR      \fBpriv_freeset\fR
\fBpriv_getbyname\fR    \fBpriv_getbynum\fR
\fBpriv_getsetbyname\fR \fBpriv_getsetbynum\fR
\fBpriv_gettext\fR      \fBpriv_ineffect\fR
\fBpriv_intersect\fR    \fBpriv_inverse\fR
\fBpriv_isemptyset\fR   \fBpriv_isequalset\fR
\fBpriv_isfullset\fR    \fBpriv_ismember\fR
\fBpriv_issubset\fR     \fBpriv_set\fR
\fBpriv_set_to_str\fR   \fBpriv_str_to_set\fR
\fBpriv_union\fR        \fBprocessor_bind\fR
\fBprocessor_info\fR    \fBprofil\fR
\fBpselect\fR   \fBpset_assign\fR
\fBpset_bind\fR \fBpset_create\fR
\fBpset_destroy\fR      \fBpset_getattr\fR
\fBpset_getloadavg\fR   \fBpset_info\fR
\fBpset_list\fR \fBpset_setattr\fR
\fBpsiginfo\fR  \fBpsignal\fR
\fBpthread_atfork\fR    \fBpthread_attr_destroy\fR
\fBpthread_attr_getdetachstate\fR       \fBpthread_attr_getguardsize\fR
\fBpthread_attr_getinheritsched\fR      \fBpthread_attr_getschedparam\fR
\fBpthread_attr_getschedpolicy\fR       \fBpthread_attr_getscope\fR
\fBpthread_attr_getstack\fR     \fBpthread_attr_getstackaddr\fR
\fBpthread_attr_getstacksize\fR \fBpthread_attr_init\fR
\fBpthread_attr_setdetachstate\fR       \fBpthread_attr_setguardsize\fR
\fBpthread_attr_setinheritsched\fR      \fBpthread_attr_setschedparam\fR
\fBpthread_attr_setschedpolicy\fR       \fBpthread_attr_setscope\fR
\fBpthread_attr_setstack\fR     \fBpthread_attr_setstackaddr\fR
\fBpthread_attr_setstacksize\fR \fBpthread_barrier_destroy\fR
\fBpthread_barrier_init\fR      \fBpthread_barrier_wait\fR
\fBpthread_barrierattr_destroy\fR       \fBpthread_barrierattr_getpshared\fR
\fBpthread_barrierattr_init\fR  \fBpthread_barrierattr_setpshared\fR
\fBpthread_cancel\fR    \fBpthread_cond_broadcast\fR
\fBpthread_cond_destroy\fR      \fBpthread_cond_init\fR
\fBpthread_cond_reltimedwait_np\fR      \fBpthread_cond_signal\fR
\fBpthread_cond_timedwait\fR    \fBpthread_cond_wait\fR
\fBpthread_condattr_destroy\fR  \fBpthread_condattr_getclock\fR
\fBpthread_condattr_getpshared\fR       \fBpthread_condattr_init\fR
\fBpthread_condattr_setclock\fR \fBpthread_condattr_setpshared\fR
\fBpthread_create\fR    \fBpthread_detach\fR
\fBpthread_equal\fR     \fBpthread_exit\fR
\fBpthread_getconcurrency\fR    \fBpthread_getschedparam\fR
\fBpthread_getspecific\fR       \fBpthread_join\fR
\fBpthread_key_create\fR        \fBpthread_key_create_once_np\fR
\fBpthread_key_delete\fR
\fBpthread_kill\fR      \fBpthread_mutex_consistent\fR
\fBpthread_mutex_destroy\fR     \fBpthread_mutex_getprioceiling\fR
\fBpthread_mutex_init\fR        \fBpthread_mutex_lock\fR
\fBpthread_mutex_reltimedlock_np\fR     \fBpthread_mutex_setprioceiling\fR
\fBpthread_mutex_timedlock\fR   \fBpthread_mutex_trylock\fR
\fBpthread_mutex_unlock\fR      \fBpthread_mutexattr_destroy\fR
\fBpthread_mutexattr_getprioceiling\fR  \fBpthread_mutexattr_getprotocol\fR
\fBpthread_mutexattr_getpshared\fR      \fBpthread_mutexattr_getrobust\fR
\fBpthread_mutexattr_gettype\fR \fBpthread_mutexattr_init\fR
\fBpthread_mutexattr_setprioceiling\fR  \fBpthread_mutexattr_setprotocol\fR
\fBpthread_mutexattr_setpshared\fR      \fBpthread_mutexattr_setrobust\fR
\fBpthread_mutexattr_settype\fR \fBpthread_once\fR
\fBpthread_rwlock_destroy\fR    \fBpthread_rwlock_init\fR
\fBpthread_rwlock_rdlock\fR     \fBpthread_rwlock_reltimedrdlock_np\fR
\fBpthread_rwlock_reltimedwrlock_np\fR  \fBpthread_rwlock_timedrdlock\fR
\fBpthread_rwlock_timedwrlock\fR        \fBpthread_rwlock_tryrdlock\fR
\fBpthread_rwlock_trywrlock\fR  \fBpthread_rwlock_unlock\fR
\fBpthread_rwlock_wrlock\fR     \fBpthread_rwlockattr_destroy\fR
```

```
\fBpthread_rwlockattr_getpshared\fR     \fBpthread_rwlockattr_init\fR
\fBpthread_rwlockattr_setpshared\fR     \fBpthread_self\fR
\fBpthread_setcancelstate\fR    \fBpthread_setcanceltype\fR
\fBpthread_setconcurrency\fR    \fBpthread_setspecific\fR
\fBpthread_sigmask\fR   \fBpthread_setschedparam\fR
\fBpthread_setschedprio\fR      \fBpthread_spin_destroy\fR
\fBpthread_spin_init\fR \fBpthread_spin_lock\fR
\fBpthread_spin_trylock\fR      \fBpthread_spin_unlock\fR
\fBpthread_testcancel\fR        \fBptsname\fR
\fBputacct\fR   \fBputc\fR
\fBputc_unlocked\fR     \fBputchar\fR
\fBputchar_unlocked\fR  \fBputenv\fR
\fBputmsg\fR    \fBputpmsg\fR
\fBputpwent\fR  \fBputs\fR
\fBputspent\fR  \fBpututline\fR
\fBpututxline\fR        \fBputw\fR
\fBputwc\fR     \fBputwchar\fR
\fBputws\fR     \fBpwrite\fR
\fBqeconvert\fR \fBqecvt\fR
\fBqfconvert\fR \fBqfcvt\fR
\fBqgconvert\fR \fBqgcvt\fR
\fBqsort\fR     \fBquadruple_to_decimal\fR
\fBraise\fR     \fBrand\fR
\fBrand_r\fR    \fBrandom\fR
\fBrctl_walk\fR \fBrctlblk_get_enforced_value\fR
\fBrctlblk_get_firing_time\fR   \fBrctlblk_get_global_action\fR
\fBrctlblk_get_global_flags\fR  \fBrctlblk_get_local_action\fR
\fBrctlblk_get_local_flags\fR   \fBrctlblk_get_privilege\fR
\fBrctlblk_get_recipient_pid\fR \fBrctlblk_get_value\fR
\fBrctlblk_set_local_action\fR  \fBrctlblk_set_local_flags\fR
\fBrctlblk_set_privilege\fR     \fBrctlblk_set_recipient_pid\fR
\fBrctlblk_set_value\fR \fBrctlblk_size\fR
\fBre_comp\fR   \fBre_exec\fR
\fBread\fR      \fBreaddir\fR
\fBreaddir_r\fR \fBreadlink\fR
\fBreadv\fR     \fBrealloc\fR
\fBrealpath\fR  \fBreboot\fR
\fBregcmp\fR    \fBregcomp\fR
\fBregerror\fR  \fBregex\fR
\fBregexec\fR   \fBregfree\fR
\fBremove\fR    \fBremque\fR
\fBrename\fR    \fBrenameat\fR
\fBresetmnttab\fR       \fBresolvepath\fR
\fBrewind\fR    \fBrewinddir\fR
\fBrindex\fR    \fBrmdir\fR
\fBrw_rdlock\fR \fBrw_read_held\fR
\fBrw_tryrdlock\fR      \fBrw_trywrlock\fR
\fBrw_unlock\fR \fBrw_write_held\fR
\fBrw_wrlock\fR \fBrwlock_destroy\fR
\fBrwlock_init\fR       \fBsbrk\fR
\fBscalb\fR     \fBscandir\fR
\fBscanf\fR     \fBsched_get_priority_max\fR
\fBsched_get_priority_min\fR    \fBsched_getparam\fR
\fBsched_getscheduler\fR        \fBsched_rr_get_interval\fR
\fBsched_setparam\fR    \fBsched_setscheduler\fR
\fBsched_yield\fR       \fBschedctl_exit\fR
\fBschedctl_init\fR     \fBschedctl_lookup\fR
\fBschedctl_start\fR    \fBschedctl_stop\fR
\fBseconvert\fR \fBseed48\fR
\fBseekdir\fR   \fBselect\fR
\fBsem_close\fR \fBsem_destroy\fR
\fBsem_getvalue\fR      \fBsem_init\fR
\fBsem_open\fR  \fBsem_post\fR
\fBsem_reltimedwait_np\fR       \fBsem_timedwait\fR
\fBsem_trywait\fR       \fBsem_unlink\fR
\fBsem_wait\fR
```



```
\fBsema_destroy\fR      \fBsema_held\fR
\fBsema_init\fR \fBsema_post\fR
\fBsema_trywait\fR      \fBsema_wait\fR
\fBsemctl\fR    \fBsemget\fR
\fBsemids\fR    \fBsemop\fR
\fBsemtimedop\fR        \fBsetattrat\fR
\fBsetbuf\fR
\fBsetbuffer\fR \fBsetcat\fR
\fBsetcontext\fR        \fBsetegid\fR
\fBsetenv\fR    \fBseteuid\fR
\fBsetgid\fR    \fBsetgrent\fR
\fBsetgroups\fR \fBsethostname\fR
\fBsetitimer\fR \fBsetjmp\fR
\fBsetkey\fR    \fBsetlabel\fR
\fBsetlinebuf\fR        \fBsetlocale\fR
\fBsetlogmask\fR        \fBsetnetgrent\fR
\fBsetpflags\fR \fBsetpgid\fR
\fBsetpgrp\fR   \fBsetppriv\fR
\fBsetpriority\fR       \fBsetpwent\fR
\fBsetrctl\fR   \fBsetregid\fR
\fBsetreuid\fR  \fBsetrlimit\fR
\fBsetsid\fR    \fBsetspent\fR
\fBsetstate\fR  \fBsettaskid\fR
\fBsettimeofday\fR      \fBsetuid\fR
\fBsetusershell\fR      \fBsetustack\fR
\fBsetutent\fR  \fBsetutxent\fR
\fBsetvbuf\fR   \fBsfconvert\fR
\fBsgconvert\fR \fBshm_open\fR
\fBshm_unlink\fR        \fBshmat\fR
\fBshmctl\fR    \fBshmdt\fR
\fBshmget\fR    \fBshmids\fR
\fBsig2str\fR   \fBsigaction\fR
\fBsigaddset\fR \fBsigaltstack\fR
\fBsigdelset\fR \fBsigemptyset\fR
\fBsigfillset\fR        \fBsigfpe\fR
\fBsighold\fR   \fBsigignore\fR
\fBsiginterrupt\fR      \fBsigismember\fR
\fBsiglongjmp\fR        \fBsignal\fR
\fBsigpause\fR  \fBsigpending\fR
\fBsigprocmask\fR       \fBsigqueue\fR
\fBsigrelse\fR
\fBsigsend\fR   \fBsigsendset\fR
\fBsigset\fR    \fBsigsetjmp\fR
\fBsigstack\fR  \fBsigsuspend\fR
\fBsigtimedwait\fR      \fBsigwait\fR
\fBsigwaitinfo\fR       \fBsingle_to_decimal\fR
\fBsleep\fR     \fBsnprintf\fR
\fBsprintf\fR   \fBsrand\fR
\fBsrand48\fR   \fBsrandom\fR
\fBsscanf\fR    \fBssignal\fR
\fBstack_getbounds\fR   \fBstack_inbounds\fR
\fBstack_setbounds\fR   \fBstack_violation\fR
\fBstat\fR      \fBstatfs\fR
\fBstatvfs\fR   \fBstime\fR
\fBstr2sig\fR
\fBstrcasecmp\fR        \fBstrcasecmp_l\fR
\fBstrcat\fR    \fBstrchr\fR
\fBstrcmp\fR    \fBstrcoll\fR
\fBstrcpy\fR    \fBstrcspn\fR
\fBstrdup\fR    \fBstrerror\fR
\fBstrerror_r\fR
\fBstrfmon\fR   \fBstrfmon_l\fR
\fBstrftime\fR  \fBstrftime_l\fR
\fBstring_to_decimal\fR
\fBstrlcat\fR   \fBstrlcpy\fR
\fBstrlen\fR
```

```
\fBstrncasecmp\fR       \fBstrncasecmp_l\fR
\fBstrncat\fR   \fBstrncmp\fR
\fBstrncpy\fR   \fBstrpbrk\fR
\fBstrptime\fR  \fBstrptime_l\fR
\fBstrrchr\fR   \fBstrsep\fR
\fBstrsignal\fR \fBstrspn\fR
\fBstrstr\fR    \fBstrtod\fR
\fBstrtof\fR    \fBstrtoimax\fR
\fBstrtok\fR    \fBstrtok_r\fR
\fBstrtol\fR    \fBstrtold\fR
\fBstrtoll\fR   \fBstrtoul\fR
\fBstrtoull\fR  \fBstrtoumax\fR
\fBstrtows\fR   \fBstrxfrm\fR
\fBswab\fR      \fBswapcontext\fR
\fBswapctl\fR   \fBswprintf\fR
\fBswscanf\fR   \fBsymlink\fR
\fBsync\fR      \fBsync_instruction_memory\fR
\fBsysconf\fR   \fBsysfs\fR
\fBsysinfo\fR   \fBsyslog\fR
\fBsystem\fR    \fBtcdrain\fR
\fBtcflow\fR    \fBtcflush\fR
\fBtcgetattr\fR \fBtcgetpgrp\fR
\fBtcgetsid\fR  \fBtcsendbreak\fR
\fBtcsetattr\fR \fBtcsetpgrp\fR
\fBtdelete\fR   \fBtell\fR
\fBtelldir\fR   \fBtempnam\fR
\fBtextdomain\fR        \fBtfind\fR
\fBthr_continue\fR      \fBthr_create\fR
\fBthr_exit\fR  \fBthr_getconcurrency\fR
\fBthr_getprio\fR       \fBthr_getspecific\fR
\fBthr_join\fR  \fBthr_keycreate\fR
\fBthr_keycreate_once\fR
\fBthr_kill\fR  \fBthr_main\fR
\fBthr_min_stack\fR     \fBthr_self\fR
\fBthr_setconcurrency\fR        \fBthr_setprio\fR
\fBthr_setspecific\fR   \fBthr_sigsetmask\fR
\fBthr_stksegment\fR    \fBthr_suspend\fR
\fBthr_yield\fR \fBtime\fR
\fBtimer_create\fR      \fBtimer_delete\fR
\fBtimer_getoverrun\fR  \fBtimer_gettime\fR
\fBtimer_settime\fR
\fBtimes\fR     \fBtimezone\fR
\fBtmpfile\fR   \fBtmpnam\fR
\fBtmpnam_r\fR  \fBtoascii\fR
\fBtolower\fR   \fBtolower_l\fR
\fBtoupper\fR   \fBtoupper_l\fR
\fBtowctrans\fR \fBtowctrans_l\fR
\fBtowlower\fR  \fBtowlower_l\fR
\fBtowupper\fR  \fBtowupper_l\fR
\fBtruncate\fR
\fBtsearch\fR   \fBttyname\fR
\fBttyname_r\fR \fBttyslot\fR
\fBtwalk\fR     \fBtzname\fR
\fBtzset\fR     \fBu8_strcmp\fR
\fBu8_textprep_str\fR   \fBu8_validate\fR
\fBuadmin\fR
\fBualarm\fR    \fBuconv_u16tou32\fR
\fBuconv_u16tou8\fR     \fBuconv_u32tou16\fR
\fBuconv_u32tou8\fR     \fBuconv_u8tou16\fR
\fBuconv_u8tou32\fR     \fBucred_free\fR
\fBucred_get\fR \fBucred_getegid\fR
\fBucred_geteuid\fR     \fBucred_getgroups\fR
\fBucred_getpflags\fR   \fBucred_getpid\fR
\fBucred_getprivset\fR  \fBucred_getprojid\fR
\fBucred_getrgid\fR     \fBucred_getruid\fR
\fBucred_getsgid\fR     \fBucred_getsuid\fR
```



```
\fBucred_getzoneid\fR   \fBucred_size\fR
\fBulckpwdf\fR  \fBulimit\fR
\fBulltostr\fR  \fBumask\fR
\fBumount\fR    \fBumount2\fR
\fBuname\fR     \fBungetc\fR
\fBungetwc\fR   \fBunlink\fR
\fBunlinkat\fR  \fBunlockpt\fR
\fBunordered\fR \fBunsetenv\fR
\fBupdwtmp\fR   \fBupdwtmpx\fR
\fBuselocale\fR
\fBusleep\fR    \fBustat\fR
\fButime\fR     \fButimensat\fR
\fButimes\fR    \fButmpname\fR
\fButmpxname\fR \fBuucopy\fR
\fBvalloc\fR    \fBvasprintf\fR
\fBverr\fR      \fBverrx\fR
\fBvfork\fR     \fBvforkx\fR
\fBvfprintf\fR  \fBvfscanf\fR
\fBvfwprintf\fR \fBvfwscanf\fR
\fBvhangup\fR   \fBvlfmt\fR
\fBvpfmt\fR     \fBvprintf\fR
\fBvscanf\fR    \fBvsnprintf\fR
\fBvsprintf\fR  \fBvsscanf\fR
\fBvswprintf\fR \fBvswscanf\fR
\fBvsyslog\fR   \fBvwarn\fR
\fBvwarnx\fR    \fBvwprintf\fR
\fBvwscanf\fR   \fBwait\fR
\fBwait3\fR     \fBwait4\fR
\fBwaitid\fR    \fBwaitpid\fR
\fBwalkcontext\fR       \fBwarn\fR
\fBwarnx\fR     \fBwatoll\fR
\fBwcrtomb\fR   \fBwcrtomb_l\fR
\fBwcscat\fR
\fBwcschr\fR    \fBwcscmp\fR
\fBwcscoll\fR   \fBwcscoll_l\fR
\fBwcscpy\fR
\fBwcscspn\fR   \fBwcsftime\fR
\fBwcslen\fR    \fBwcsncat\fR
\fBwcsncmp\fR   \fBwcsncpy\fR
\fBwcsnrtombs\fR        \fBwcsnrtombs_l\fR
\fBwcspbrk\fR   \fBwcsrchr\fR
\fBwcsrtombs\fR \fBwcsrtombs_l\fR
\fBwcsspn\fR
\fBwcsstr\fR    \fBwcstod\fR
\fBwcstof\fR    \fBwcstoimax\fR
\fBwcstok\fR    \fBwcstol\fR
\fBwcstold\fR   \fBwcstoll\fR
\fBwcstombs\fR  \fBwctombs_l\fR
\fBwcstoul\fR
\fBwcstoull\fR  \fBwcstoumax\fR
\fBwcswcs\fR
\fBwcswidth\fR  \fBwcswidth_l\fR
\fBwcsxfrm\fR   \fBwcsxfrm_l\fR
\fBwctob\fR     \fBwctob_l\fR
\fBwctomb\fR    \fBwctomb_l\fR
\fBwctrans\fR   \fBwctrans_l\fR
\fBwctype\fR    \fBwctype_l\fR
\fBwcwidth\fR   \fBwcwidth_l\fR
\fBwmemchr\fR   \fBwmemcmp\fR
\fBwmemcpy\fR   \fBwmemmove\fR
\fBwmemset\fR   \fBwordexp\fR
\fBwordfree\fR  \fBwprintf\fR
\fBwracct\fR    \fBwrite\fR
\fBwritev\fR    \fBwscanf\fR
\fBwscasecmp\fR \fBwscat\fR
\fBwschr\fR     \fBwscmp\fR
```

```
 808 \fBwscol\fR     \fBwscoll\fR
 809 \fBwscpy\fR     \fBwscspn\fR
 810 \fBwsdup\fR     \fBwslen\fR
 811 \fBwsncasecmp\fR        \fBwsncat\fR
 812 \fBwsncmp\fR    \fBwsncpy\fR
 813 \fBwspbrk\fR    \fBwsprintf\fR
 814 \fBwsrchr\fR    \fBwsscanf\fR
 815 \fBwsspn\fR     \fBwstod\fR
 816 \fBwstok\fR     \fBwstol\fR
 817 \fBwstoll\fR    \fBwstostr\fR
 818 \fBwsxfrm\fR    \fByield\fR
 819 .TE

 821 .sp
 822 .LP
1570 The following interfaces are unique to the 32-bit version of this library:
1571 .Lp
1572 .Bl -column -offset indent -compact
1573 .Sy __div64
1574 .Sy __mul64
1575 .Sy __posix_readdir_r
1576 .Sy __rem64
1577 .Sy __udiv64
1578 .Sy __urem64
1579 .Sy _bufendtab
1580 .Sy _lastbuf
1581 .Sy _s_fcntl
1582 .Sy _sys_nsig
1583 .Sy _xftw64
1584 .Sy aio_cancel64
1585 .Sy aio_error64
1586 .Sy aio_fsync64
1587 .Sy aio_read64
1588 .Sy aio_return64
1589 .Sy aio_suspend64
1590 .Sy aio_waitn64
1591 .Sy aio_write64
1592 .Sy creat64
1593 .Sy fgetpos64
1594 .Sy fopen64
1595 .Sy freopen64
1596 .Sy fseeko64
1597 .Sy fsetpos64
1598 .Sy fstat64
1599 .Sy fstatvfs64
1600 .Sy ftello64
1601 .Sy ftruncate64
1602 .Sy ftw64
1603 .Sy getdents64
1604 .Sy getrlimit64
1605 .Sy lio_listio64
1606 .Sy lockf64
1607 .Sy lseek64
1608 .Sy lstat64
1609 .Sy mkstemp64
1610 .Sy mmap64
1611 .Sy nftw64
1612 .Sy open64
1613 .Sy pread64
1614 .Sy ptrace
1615 .Sy pwrite64
1616 .Sy readdir64
1617 .Sy readdir64_r
1618 .Sy s_fcntl
1619 .Sy s_ioctl
1620 .Sy select_large_fdset
```



```
1621 .Sy setrlimit64
1622 .Sy stat64
1623 .Sy statvfs64
1624 .Sy sys_errlist
1625 .Sy sys_nerr
1626 .Sy tell64
1627 .Sy tmpfile64
1628 .Sy truncate64
1629 .El
1630 .Lp
 824 .sp

 826 .sp
 827 .TS
 828 l l
 829 l l .
 830 \fB__div64\fR   \fB__mul64\fR
 831 \fB__posix_readdir_r\fR \fB__rem64\fR
 832 \fB__udiv64\fR  \fB__urem64\fR
 833 \fB_bufendtab\fR        \fB_lastbuf\fR
 834 \fB_s_fcntl\fR  \fB_sys_nsig\fR
 835 \fB_xftw64\fR   \fBaio_cancel64\fR
 836 \fBaio_error64\fR       \fBaio_fsync64\fR
 837 \fBaio_read64\fR        \fBaio_return64\fR
 838 \fBaio_suspend64\fR     \fBaio_waitn64\fR
 839 \fBaio_write64\fR       \fBcreat64\fR
 840 \fBfgetpos64\fR \fBfopen64\fR
 841 \fBfreopen64\fR \fBfseeko64\fR
 842 \fBfsetpos64\fR \fBfstat64\fR
 843 \fBfstatvfs64\fR        \fBftello64\fR
 844 \fBftruncate64\fR       \fBftw64\fR
 845 \fBgetdents64\fR        \fBgetrlimit64\fR
 846 \fBlio_listio64\fR      \fBlockf64\fR
 847 \fBlseek64\fR   \fBlstat64\fR
 848 \fBmkstemp64\fR \fBmmap64\fR
 849 \fBnftw64\fR    \fBopen64\fR
 850 \fBpread64\fR   \fBptrace\fR
 851 \fBpwrite64\fR  \fBreaddir64\fR
 852 \fBreaddir64_r\fR       \fBs_fcntl\fR
 853 \fBs_ioctl\fR   \fBselect_large_fdset\fR
 854 \fBsetrlimit64\fR       \fBstat64\fR
 855 \fBstatvfs64\fR \fBsys_errlist\fR
 856 \fBsys_nerr\fR  \fBtell64\fR
 857 \fBtmpfile64\fR \fBtruncate64\fR
 858 .TE

 860 .sp
 861 .LP
1631 The following interfaces are unique to the 32-bit SPARC version of this
1632 library:
1633 .Lp
1634 .Bl -column -offset indent -compact
1635 .Sy \&.div
1636 .Sy \&.mul
1637 .Sy \&.rem
1638 .Sy \&.stret1
1639 .Sy \&.stret2
1640 .Sy \&.stret4
1641 .Sy \&.stret8
1642 .Sy \&.udiv
1643 .Sy \&.umul
1644 .Sy \&.urem
1645 .Sy _Q_add
1646 .Sy _Q_cmp
1647 .Sy _Q_cmpe
1648 .Sy _Q_div
```

```
.Sy _Q_dtoq
.Sy _Q_feq
.Sy _Q_fge
.Sy _Q_fgt
.Sy _Q_fle
.Sy _Q_flt
.Sy _Q_fne
.Sy _Q_itoq
.Sy _Q_lltoq
.Sy _Q_mul
.Sy _Q_neg
.Sy _Q_qtod
.Sy _Q_qtoi
.Sy _Q_qtoll
.Sy _Q_qtos
.Sy _Q_qtou
.Sy _Q_qtoull
.Sy _Q_sqrt
.Sy _Q_stoq
.Sy _Q_sub
.Sy _Q_ulltoq
.Sy _Q_utoq
.Sy __dtoll
.Sy __dtou
.Sy __dtoull
.Sy __ftoll
.Sy __ftou
.Sy __ftoull
.Sy __umul64
.El
.Lp
.sp

.sp
.TS
l l
l l .
\fB\&.div\fR    \fB\&.mul\fR
\fB\&.rem\fR    \fB\&.stret1\fR
\fB\&.stret2\fR \fB\&.stret4\fR
\fB\&.stret8\fR \fB\&.udiv\fR
\fB\&.umul\fR   \fB\&.urem\fR
\fB_Q_add\fR    \fB_Q_cmp\fR
\fB_Q_cmpe\fR   \fB_Q_div\fR
\fB_Q_dtoq\fR   \fB_Q_feq\fR
\fB_Q_fge\fR    \fB_Q_fgt\fR
\fB_Q_fle\fR    \fB_Q_flt\fR
\fB_Q_fne\fR    \fB_Q_itoq\fR
\fB_Q_lltoq\fR  \fB_Q_mul\fR
\fB_Q_neg\fR    \fB_Q_qtod\fR
\fB_Q_qtoi\fR   \fB_Q_qtoll\fR
\fB_Q_qtos\fR   \fB_Q_qtou\fR
\fB_Q_qtoull\fR \fB_Q_sqrt\fR
\fB_Q_stoq\fR   \fB_Q_sub\fR
\fB_Q_ulltoq\fR \fB_Q_utoq\fR
\fB__dtoll\fR   \fB__dtou\fR
\fB__dtoull\fR  \fB__ftoll\fR
\fB__ftou\fR    \fB__ftoull\fR
\fB__umul64\fR
.TE

.sp
.LP
The following interfaces are unique to the 32-bit x86 version of this library:
.Bl -column -offset indent -compact
.Lp
```



```
.Sy __fpstart
.Sy _fp_hw
.Sy _fpstart
.Sy _fxstat
.Sy _lxstat
.Sy _nuname
.Sy _thr_errno_addr
.Sy _xmknod
.Sy _xstat
.Sy nuname
.El
.Lp
.sp

.sp
.TS
l l
l l .
\fB__fpstart\fR \fB_fp_hw\fR
\fB_fpstart\fR  \fB_fxstat\fR
\fB_lxstat\fR   \fB_nuname\fR
\fB_thr_errno_addr\fR   \fB_xmknod\fR
\fB_xstat\fR    \fBnuname\fR
.TE

.sp
.LP
The following interfaces are unique to the 64-bit SPARC version of this
library:
.Lp
.Bl -column -offset indent -compact
.Sy _Qp_add
.Sy _Qp_cmp
.Sy _Qp_cmpe
.Sy _Qp_div
.Sy _Qp_dtoq
.Sy _Qp_feq
.Sy _Qp_fge
.Sy _Qp_fgt
.Sy _Qp_fle
.Sy _Qp_flt
.Sy _Qp_fne
.Sy _Qp_itoq
.Sy _Qp_mul
.Sy _Qp_neg
.Sy _Qp_qtod
.Sy _Qp_qtoi
.Sy _Qp_qtos
.Sy _Qp_qtoui
.Sy _Qp_qtoux
.Sy _Qp_qtox
.Sy _Qp_sqrt
.Sy _Qp_stoq
.Sy _Qp_sub
.Sy _Qp_uitoq
.Sy _Qp_uxtoq
.Sy _Qp_xtoq
.Sy __align_cpy_1
.Sy __align_cpy_16
.Sy __align_cpy_2
.Sy __align_cpy_4
.Sy __align_cpy_8
.Sy __dtoul
.Sy __ftoul
.Sy __sparc_utrap_install
.El
```

```
.Sh FILES
.Bl -tag -width Pa
.It Pa /lib/libc.so.1
.sp

.sp
.TS
l l
l l .
\fB_Qp_add\fR   \fB_Qp_cmp\fR
\fB_Qp_cmpe\fR  \fB_Qp_div\fR
\fB_Qp_dtoq\fR  \fB_Qp_feq\fR
\fB_Qp_fge\fR   \fB_Qp_fgt\fR
\fB_Qp_fle\fR   \fB_Qp_flt\fR
\fB_Qp_fne\fR   \fB_Qp_itoq\fR
\fB_Qp_mul\fR   \fB_Qp_neg\fR
\fB_Qp_qtod\fR  \fB_Qp_qtoi\fR
\fB_Qp_qtos\fR  \fB_Qp_qtoui\fR
\fB_Qp_qtoux\fR \fB_Qp_qtox\fR
\fB_Qp_sqrt\fR  \fB_Qp_stoq\fR
\fB_Qp_sub\fR   \fB_Qp_uitoq\fR
\fB_Qp_uxtoq\fR \fB_Qp_xtoq\fR
\fB__align_cpy_1\fR     \fB__align_cpy_16\fR
\fB__align_cpy_2\fR     \fB__align_cpy_4\fR
\fB__align_cpy_8\fR     \fB__dtoul\fR
\fB__ftoul\fR   \fB__sparc_utrap_install\fR
.TE

.SH FILES
.sp
.ne 2
.na
\fB\fB/lib/libc.so.1\fR\fR
.ad
.RS 27n
shared object
.It Pa /lib/64/libc.so.1
.RE

.sp
.ne 2
.na
\fB\fB/lib/64/libc.so.1\fR\fR
.ad
.RS 27n
64-bit shared object
.It Pa /lib/c_synonyms.so.1
A compatibility library to provide access to obsolete
.Nm
synonym symbols
.It Pa /lib/64/c_synonyms.so.1
A 64-bit compatibility library to provide access to obsolete
.Nm
synonym symbols
.El
.Sh SEE ALSO
.Xr pvs 1 ,
.Xr Intro 2 ,
.Xr Intro 3 ,
.Xr attributes 5 ,
.Xr lf64 5 ,
.Xr standards 5
.Sh NOTES
The synonyms compatibility library,
.Pa c_synonyms.so.1 ,
provides a mechanism
```



```
.RE

.sp
.ne 2
.na
\fB\fB/lib/c_synonyms.so.1\fR\fR
.ad
.RS 27n
A compatibility library to provide access to obsolete \fBlibc\fR synonym
symbols
.RE

.sp
.ne 2
.na
\fB\fB/lib/64/c_synonyms.so.1\fR\fR
.ad
.RS 27n
A 64-bit compatibility library to provide access to obsolete \fBlibc\fR synonym
symbols
.RE

.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
MT-Level        Safe
.TE

.SH SEE ALSO
.sp
.LP
\fBpvs\fR(1), \fBIntro\fR(2), \fBIntro\fR(3), \fBattributes\fR(5),
\fBlf64\fR(5), \fBstandards\fR(5)
.SH NOTES
.sp
.LP
The synonyms compatibility library, \fBc_synonyms.so.1\fR, provides a mechanism
to support old applications and libraries that were mistakenly built using
now-obsolete synonym symbols from
.Nm .
.Lp
Before the advent of direct binding
.Pq Fl direct
.Nm provided many
functions with two names.  For example,
.Fn getpwent
and
.Fn _getpwent .
These two names referred to exactly the same function in
.Nm .
The
now-obsolete synonym symbols from \fBlibc\fR.
.sp
.LP
Before the advent of direct binding (-B direct) \fBlibc\fR provided many
functions with two names.  For example, \fBgetpwent()\fR and \fB_getpwent()\fR.
These two names referred to exactly the same function in \fBlibc\fR. The
```

leading-underscore symbol was intended to be used by system libraries in order
to avoid conflicting with an application that might define its own version of
.Fn getpwent
with completely different semantics. Standard-conforming
\fBgetpwent()\fR with completely different semantics. Standard-conforming
applications may not define and use function names with leading underscores.
.Lp
System libraries are now built with direct binding. This means that a
system library that calls
.Fn getpwent
will bind directly to the instance
of
.Fn getpwent
in
.Nm ,
even if the application to which it is
linked defines a different
.Fn getpwent
for its own use. The application
binds to its instance of
.Fn getpwent
and there is no resulting conflict.
.sp
.LP
Solaris system libraries are now built with direct binding. This means that a
system library that calls \fBgetpwent()\fR will bind directly to the instance
of \fBgetpwent()\fR in \fBlibc\fR, even if the application to which it is
linked defines a different \fBgetpwent()\fR for its own use. The application
binds to its instance of \fBgetpwent()\fR and there is no resulting conflict.
The direct binding mechanism is equally available to libraries not delivered
with the system.
.Lp
with Solaris.
.sp
.LP
As a result of this evolution, most of the leading-underscore synonym symbols
have been removed from
.Nm .
This means that applications that call
have been removed from \fBlibc\fR. This means that applications that call
these now-obsolete function names will cease to work. They will typically draw
the error:
.Bd -literal -offset indent
.sp
.in +2
.nf
$ ./application
ld.so.1: fatal: relocation error: symbol _getpwent:
referenced symbol not found
Killed
.Ed
.Lp
.fi
.in -2
.sp

.sp
.LP
All of the old leading-underscore symbols have been copied to the synonyms
compatibility library. This library simply redirects the calls to the
non-underscore instances of the corresponding functions in
.Nm .
.Lp
.Dl $ LD_PRELOAD=c_synonyms.so.1 ./application
.Lp
non-underscore instances of the corresponding functions in \fBlibc\fR. Use it

as a pre-loaded object:
.sp
.in +2
.nf
$ LD_PRELOAD=c_synonyms.so.1 ./application
.fi
.in -2
.sp

.sp
.LP
The synonyms compatibility library is intended neither to enable the generation
of applications that call the obsolete leading-underscore synonym functions,
nor to endorse this particular programming practice.

```
**********************************************************
   19080 Tue Aug 12 07:52:14 2014
new/usr/src/man/man3nsl/Makefile
Finished obsoleting interfaces for XPG7.
**********************************************************
```

```
#
# This file and its contents are supplied under the terms of the
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#

include         $(SRC)/Makefile.master

MANSECT=        3nsl

MANFILES=       dial.3nsl                       \
                doconfig.3nsl                   \
                gethostbyname.3nsl              \
                gethostent.3nsl                 \
                getipsecalgbyname.3nsl          \
                getipsecprotobyname.3nsl        \
                getnetconfig.3nsl               \
                getnetpath.3nsl                 \
                getpublickey.3nsl               \
                getrpcbyname.3nsl               \
                netdir.3nsl                     \
                nlsgetcall.3nsl                 \
                nlsprovider.3nsl                \
                nlsrequest.3nsl                 \
                rpc.3nsl                        \
                rpc_clnt_auth.3nsl              \
                rpc_clnt_calls.3nsl             \
                rpc_clnt_create.3nsl            \
                rpc_control.3nsl                \
                rpc_gss_get_error.3nsl          \
                rpc_gss_get_mechanisms.3nsl     \
                rpc_gss_get_principal_name.3nsl \
                rpc_gss_getcred.3nsl            \
                rpc_gss_max_data_length.3nsl    \
                rpc_gss_mech_to_oid.3nsl        \
                rpc_gss_seccreate.3nsl          \
                rpc_gss_set_callback.3nsl       \
                rpc_gss_set_defaults.3nsl       \
                rpc_gss_set_svc_name.3nsl       \
                rpc_soc.3nsl                    \
                rpc_svc_calls.3nsl              \
                rpc_svc_create.3nsl             \
                rpc_svc_err.3nsl                \
                rpc_svc_input.3nsl              \
                rpc_svc_reg.3nsl                \
                rpc_xdr.3nsl                    \
                rpcbind.3nsl                    \
                rpcsec_gss.3nsl                 \
                secure_rpc.3nsl                 \
                t_accept.3nsl                   \
```



```
                t_alloc.3nsl                    \
                t_bind.3nsl                     \
                t_close.3nsl                    \
                t_connect.3nsl                  \
                t_errno.3nsl                    \
                t_error.3nsl                    \
                t_free.3nsl                     \
                t_getinfo.3nsl                  \
                t_getprotaddr.3nsl              \
                t_getstate.3nsl                 \
                t_listen.3nsl                   \
                t_look.3nsl                     \
                t_open.3nsl                     \
                t_optmgmt.3nsl                  \
                t_rcv.3nsl                      \
                t_rcvconnect.3nsl               \
                t_rcvdis.3nsl                   \
                t_rcvrel.3nsl                   \
                t_rcvreldata.3nsl               \
                t_rcvudata.3nsl                 \
                t_rcvuderr.3nsl                 \
                t_rcvv.3nsl                     \
                t_rcvvudata.3nsl                \
                t_snd.3nsl                      \
                t_snddis.3nsl                   \
                t_sndrel.3nsl                   \
                t_sndreldata.3nsl               \
                t_sndudata.3nsl                 \
                t_sndv.3nsl                     \
                t_sndvudata.3nsl                \
                t_strerror.3nsl                 \
                t_sync.3nsl                     \
                t_sysconf.3nsl                  \
                t_unbind.3nsl                   \
                xdr.3nsl                        \
                xdr_admin.3nsl                  \
                xdr_complex.3nsl                \
                xdr_create.3nsl                 \
                xdr_simple.3nsl                 \
                yp_update.3nsl                  \
                ypclnt.3nsl

MANLINKS=       auth_destroy.3nsl                       \
                authdes_create.3nsl                     \
                authdes_getucred.3nsl                   \
                authdes_seccreate.3nsl                  \
                authnone_create.3nsl                    \
                authsys_create.3nsl                     \
                authsys_create_default.3nsl             \
                authunix_create.3nsl                    \
                authunix_create_default.3nsl            \
                callrpc.3nsl                            \
                clnt_broadcast.3nsl                     \
                clnt_call.3nsl                          \
                clnt_control.3nsl                       \
                clnt_create.3nsl                        \
                clnt_create_timed.3nsl                  \
                clnt_create_vers.3nsl                   \
                clnt_create_vers_timed.3nsl             \
                clnt_destroy.3nsl                       \
                clnt_dg_create.3nsl                     \
                clnt_door_create.3nsl                   \
                clnt_freeres.3nsl                       \
                clnt_geterr.3nsl                        \
                clnt_pcreateerror.3nsl                  \
                clnt_perrno.3nsl                        \
```

```
128                clnt_perror.3nsl                \
129                clnt_raw_create.3nsl            \
130                clnt_send.3nsl                  \
131                clnt_spcreateerror.3nsl         \
132                clnt_sperrno.3nsl               \
133                clnt_sperror.3nsl               \
134                clnt_tli_create.3nsl            \
135                clnt_tp_create.3nsl             \
136                clnt_tp_create_timed.3nsl       \
137                clnt_vc_create.3nsl             \
138                clntraw_create.3nsl             \
139                clnttcp_create.3nsl             \
140                clntudp_bufcreate.3nsl          \
141                clntudp_create.3nsl             \
142                endhostent.3nsl                 \
143                endnetconfig.3nsl               \
144                endnetpath.3nsl                 \
145                endrpcent.3nsl                  \
146                freeipsecalgent.3nsl            \
147                freenetconfigent.3nsl           \
148                get_myaddress.3nsl              \
149                gethostbyaddr.3nsl              \
150                gethostbyaddr_r.3nsl            \
151                gethostbyname_r.3nsl            \
150                gethostent.3nsl                 \
152                gethostent_r.3nsl               \
153                getipsecalgbynum.3nsl           \
154                getipsecprotobynum.3nsl         \
155                getnetconfigent.3nsl            \
156                getnetname.3nsl                 \
157                getrpcbyname_r.3nsl             \
158                getrpcbynumber.3nsl             \
159                getrpcbynumber_r.3nsl           \
160                getrpcent.3nsl                  \
161                getrpcent_r.3nsl                \
162                getrpcport.3nsl                 \
163                getsecretkey.3nsl               \
164                host2netname.3nsl               \
165                key_decryptsession.3nsl         \
166                key_encryptsession.3nsl         \
167                key_gendes.3nsl                 \
168                key_secretkey_is_set.3nsl       \
169                key_setsecret.3nsl              \
170                nc_perror.3nsl                  \
171                nc_sperror.3nsl                 \
172                netdir_free.3nsl                \
173                netdir_getbyaddr.3nsl           \
174                netdir_getbyname.3nsl           \
175                netdir_mergeaddr.3nsl           \
176                netdir_options.3nsl             \
177                netdir_perror.3nsl              \
178                netdir_sperror.3nsl             \
179                netname2host.3nsl               \
180                netname2user.3nsl               \
181                pmap_getmaps.3nsl               \
182                pmap_getport.3nsl               \
183                pmap_rmtcall.3nsl               \
184                pmap_set.3nsl                   \
185                pmap_unset.3nsl                 \
186                publickey.3nsl                  \
187                registerrpc.3nsl                \
188                rpc_broadcast.3nsl              \
189                rpc_broadcast_exp.3nsl          \
190                rpc_call.3nsl                   \
191                rpc_createerr.3nsl              \
192                rpc_gss_get_mech_info.3nsl      \
```



```
193                rpc_gss_get_versions.3nsl       \
194                rpc_gss_is_installed.3nsl       \
195                rpc_gss_qop_to_num.3nsl         \
196                rpc_gss_svc_max_data_length.3nsl \
197                rpc_reg.3nsl                    \
198                rpcb_getaddr.3nsl               \
199                rpcb_getmaps.3nsl               \
200                rpcb_gettime.3nsl               \
201                rpcb_rmtcall.3nsl               \
202                rpcb_set.3nsl                   \
203                rpcb_unset.3nsl                 \
204                sethostent.3nsl                 \
205                setnetconfig.3nsl               \
206                setnetpath.3nsl                 \
207                setrpcent.3nsl                  \
208                svc_add_input.3nsl              \
209                svc_auth_reg.3nsl               \
210                svc_control.3nsl                \
211                svc_create.3nsl                 \
212                svc_destroy.3nsl                \
213                svc_dg_create.3nsl              \
214                svc_dg_enablecache.3nsl         \
215                svc_done.3nsl                   \
216                svc_door_create.3nsl            \
217                svc_exit.3nsl                   \
218                svc_fd_create.3nsl              \
219                svc_fd_negotiate_ucred.3nsl     \
220                svc_fds.3nsl                    \
221                svc_fdset.3nsl                  \
222                svc_freeargs.3nsl               \
223                svc_getargs.3nsl                \
224                svc_getcaller.3nsl              \
225                svc_getcallerucred.3nsl         \
226                svc_getreq.3nsl                 \
227                svc_getreq_common.3nsl          \
228                svc_getreq_poll.3nsl            \
229                svc_getreqset.3nsl              \
230                svc_getrpccaller.3nsl           \
231                svc_max_pollfd.3nsl             \
232                svc_pollfd.3nsl                 \
233                svc_raw_create.3nsl             \
234                svc_reg.3nsl                    \
235                svc_register.3nsl               \
236                svc_remove_input.3nsl           \
237                svc_run.3nsl                    \
238                svc_sendreply.3nsl              \
239                svc_tli_create.3nsl             \
240                svc_tp_create.3nsl              \
241                svc_unreg.3nsl                  \
242                svc_unregister.3nsl             \
243                svc_vc_create.3nsl              \
244                svcerr_auth.3nsl                \
245                svcerr_decode.3nsl              \
246                svcerr_noproc.3nsl              \
247                svcerr_noprog.3nsl              \
248                svcerr_progvers.3nsl            \
249                svcerr_systemerr.3nsl           \
250                svcerr_weakauth.3nsl            \
251                svcfd_create.3nsl               \
252                svcraw_create.3nsl              \
253                svctcp_create.3nsl              \
254                svcudp_bufcreate.3nsl           \
255                svcudp_create.3nsl              \
256                taddr2uaddr.3nsl                \
257                uaddr2taddr.3nsl                \
258                undial.3nsl                     \
```

```
259                 user2netname.3nsl                       \
260                 xdr_accepted_reply.3nsl                 \
261                 xdr_array.3nsl                          \
262                 xdr_authsys_parms.3nsl                  \
263                 xdr_authunix_parms.3nsl                 \
264                 xdr_bool.3nsl                           \
265                 xdr_bytes.3nsl                          \
266                 xdr_callhdr.3nsl                        \
267                 xdr_callmsg.3nsl                        \
268                 xdr_char.3nsl                           \
269                 xdr_control.3nsl                        \
270                 xdr_destroy.3nsl                        \
271                 xdr_double.3nsl                         \
272                 xdr_enum.3nsl                           \
273                 xdr_float.3nsl                          \
274                 xdr_free.3nsl                           \
275                 xdr_getpos.3nsl                         \
276                 xdr_hyper.3nsl                          \
277                 xdr_inline.3nsl                         \
278                 xdr_int.3nsl                            \
279                 xdr_long.3nsl                           \
280                 xdr_longlong_t.3nsl                     \
281                 xdr_opaque.3nsl                         \
282                 xdr_opaque_auth.3nsl                    \
283                 xdr_pointer.3nsl                        \
284                 xdr_quadruple.3nsl                      \
285                 xdr_reference.3nsl                      \
286                 xdr_rejected_reply.3nsl                 \
287                 xdr_replymsg.3nsl                       \
288                 xdr_setpos.3nsl                         \
289                 xdr_short.3nsl                          \
290                 xdr_sizeof.3nsl                         \
291                 xdr_string.3nsl                         \
292                 xdr_u_char.3nsl                         \
293                 xdr_u_hyper.3nsl                        \
294                 xdr_u_int.3nsl                          \
295                 xdr_u_long.3nsl                         \
296                 xdr_u_longlong_t.3nsl                   \
297                 xdr_u_short.3nsl                        \
298                 xdr_union.3nsl                          \
299                 xdr_vector.3nsl                         \
300                 xdr_void.3nsl                           \
301                 xdr_wrapstring.3nsl                     \
302                 xdrmem_create.3nsl                      \
303                 xdrrec_create.3nsl                      \
304                 xdrrec_endofrecord.3nsl                 \
305                 xdrrec_eof.3nsl                         \
306                 xdrrec_readbytes.3nsl                   \
307                 xdrrec_skiprecord.3nsl                  \
308                 xdrstdio_create.3nsl                    \
309                 xprt_register.3nsl                      \
310                 xprt_unregister.3nsl                    \
311                 yp_all.3nsl                             \
312                 yp_bind.3nsl                            \
313                 yp_first.3nsl                           \
314                 yp_get_default_domain.3nsl              \
315                 yp_master.3nsl                          \
316                 yp_match.3nsl                           \
317                 yp_next.3nsl                            \
318                 yp_order.3nsl                           \
319                 yp_unbind.3nsl                          \
320                 yperr_string.3nsl                       \
321                 ypprot_err.3nsl

323 undial.3nsl                           := LINKSRC = dial.3nsl
```



```
324 endhostent.3nsl                       := LINKSRC = gethostbyname.3nsl
325 gethostbyaddr.3nsl                    := LINKSRC = gethostbyname.3nsl
326 gethostbyaddr_r.3nsl                  := LINKSRC = gethostbyname.3nsl
327 gethostbyname_r.3nsl                  := LINKSRC = gethostbyname.3nsl
328 gethostent.3nsl                       := LINKSRC = gethostbyname.3nsl
329 gethostent_r.3nsl                     := LINKSRC = gethostbyname.3nsl
330 sethostent.3nsl                       := LINKSRC = gethostbyname.3nsl

329 endhostent.3nsl                       := LINKSRC = gethostent.3nsl
330 gethostent_r.3nsl                     := LINKSRC = gethostent.3nsl
331 sethostent.3nsl                       := LINKSRC = gethostent.3nsl

333 freeipsecalgent.3nsl                  := LINKSRC = getipsecalgbyname.3nsl
334 getipsecalgbynum.3nsl                 := LINKSRC = getipsecalgbyname.3nsl

336 getipsecprotobynum.3nsl               := LINKSRC = getipsecprotobyname.3nsl

338 endnetconfig.3nsl                     := LINKSRC = getnetconfig.3nsl
339 freenetconfigent.3nsl                 := LINKSRC = getnetconfig.3nsl
340 getnetconfigent.3nsl                  := LINKSRC = getnetconfig.3nsl
341 nc_perror.3nsl                        := LINKSRC = getnetconfig.3nsl
342 nc_sperror.3nsl                       := LINKSRC = getnetconfig.3nsl
343 setnetconfig.3nsl                     := LINKSRC = getnetconfig.3nsl

345 endnetpath.3nsl                       := LINKSRC = getnetpath.3nsl
346 setnetpath.3nsl                       := LINKSRC = getnetpath.3nsl

348 getsecretkey.3nsl                     := LINKSRC = getpublickey.3nsl
349 publickey.3nsl                        := LINKSRC = getpublickey.3nsl

351 endrpcent.3nsl                       := LINKSRC = getrpcbyname.3nsl
352 getrpcbyname_r.3nsl                   := LINKSRC = getrpcbyname.3nsl
353 getrpcbynumber.3nsl                   := LINKSRC = getrpcbyname.3nsl
354 getrpcbynumber_r.3nsl                 := LINKSRC = getrpcbyname.3nsl
355 getrpcent.3nsl                        := LINKSRC = getrpcbyname.3nsl
356 getrpcent_r.3nsl                      := LINKSRC = getrpcbyname.3nsl
357 setrpcent.3nsl                        := LINKSRC = getrpcbyname.3nsl

359 netdir_free.3nsl                      := LINKSRC = netdir.3nsl
360 netdir_getbyaddr.3nsl                 := LINKSRC = netdir.3nsl
361 netdir_getbyname.3nsl                 := LINKSRC = netdir.3nsl
362 netdir_mergeaddr.3nsl                 := LINKSRC = netdir.3nsl
363 netdir_options.3nsl                   := LINKSRC = netdir.3nsl
364 netdir_perror.3nsl                    := LINKSRC = netdir.3nsl
365 netdir_sperror.3nsl                   := LINKSRC = netdir.3nsl
366 taddr2uaddr.3nsl                      := LINKSRC = netdir.3nsl
367 uaddr2taddr.3nsl                      := LINKSRC = netdir.3nsl

369 auth_destroy.3nsl                     := LINKSRC = rpc_clnt_auth.3nsl
370 authnone_create.3nsl                  := LINKSRC = rpc_clnt_auth.3nsl
371 authsys_create.3nsl                   := LINKSRC = rpc_clnt_auth.3nsl
372 authsys_create_default.3nsl           := LINKSRC = rpc_clnt_auth.3nsl

374 clnt_call.3nsl                        := LINKSRC = rpc_clnt_calls.3nsl
375 clnt_freeres.3nsl                     := LINKSRC = rpc_clnt_calls.3nsl
376 clnt_geterr.3nsl                      := LINKSRC = rpc_clnt_calls.3nsl
377 clnt_perrno.3nsl                      := LINKSRC = rpc_clnt_calls.3nsl
378 clnt_perror.3nsl                      := LINKSRC = rpc_clnt_calls.3nsl
379 clnt_send.3nsl                        := LINKSRC = rpc_clnt_calls.3nsl
380 clnt_sperrno.3nsl                     := LINKSRC = rpc_clnt_calls.3nsl
381 clnt_sperror.3nsl                     := LINKSRC = rpc_clnt_calls.3nsl
382 rpc_broadcast.3nsl                    := LINKSRC = rpc_clnt_calls.3nsl
383 rpc_broadcast_exp.3nsl                := LINKSRC = rpc_clnt_calls.3nsl
384 rpc_call.3nsl                         := LINKSRC = rpc_clnt_calls.3nsl

386 clnt_control.3nsl                     := LINKSRC = rpc_clnt_create.3nsl
```

```
387 clnt_create.3nsl                    := LINKSRC = rpc_clnt_create.3nsl
388 clnt_create_timed.3nsl              := LINKSRC = rpc_clnt_create.3nsl
389 clnt_create_vers.3nsl              := LINKSRC = rpc_clnt_create.3nsl
390 clnt_create_vers_timed.3nsl        := LINKSRC = rpc_clnt_create.3nsl
391 clnt_destroy.3nsl                  := LINKSRC = rpc_clnt_create.3nsl
392 clnt_dg_create.3nsl                := LINKSRC = rpc_clnt_create.3nsl
393 clnt_door_create.3nsl              := LINKSRC = rpc_clnt_create.3nsl
394 clnt_pcreateerror.3nsl             := LINKSRC = rpc_clnt_create.3nsl
395 clnt_raw_create.3nsl               := LINKSRC = rpc_clnt_create.3nsl
396 clnt_spcreateerror.3nsl            := LINKSRC = rpc_clnt_create.3nsl
397 clnt_tli_create.3nsl               := LINKSRC = rpc_clnt_create.3nsl
398 clnt_tp_create.3nsl                := LINKSRC = rpc_clnt_create.3nsl
399 clnt_tp_create_timed.3nsl          := LINKSRC = rpc_clnt_create.3nsl
400 clnt_vc_create.3nsl                := LINKSRC = rpc_clnt_create.3nsl
401 rpc_createerr.3nsl                 := LINKSRC = rpc_clnt_create.3nsl

403 rpc_gss_get_mech_info.3nsl          := LINKSRC = rpc_gss_get_mechanisms.3nsl
404 rpc_gss_get_versions.3nsl          := LINKSRC = rpc_gss_get_mechanisms.3nsl
405 rpc_gss_is_installed.3nsl          := LINKSRC = rpc_gss_get_mechanisms.3nsl

407 rpc_gss_svc_max_data_length.3nsl   := LINKSRC = rpc_gss_max_data_length.3ns

409 rpc_gss_qop_to_num.3nsl            := LINKSRC = rpc_gss_mech_to_oid.3nsl

411 authdes_create.3nsl                := LINKSRC = rpc_soc.3nsl
412 authunix_create.3nsl               := LINKSRC = rpc_soc.3nsl
413 authunix_create_default.3nsl       := LINKSRC = rpc_soc.3nsl
414 callrpc.3nsl                       := LINKSRC = rpc_soc.3nsl
415 clnt_broadcast.3nsl                := LINKSRC = rpc_soc.3nsl
416 clntraw_create.3nsl                := LINKSRC = rpc_soc.3nsl
417 clnttcp_create.3nsl                := LINKSRC = rpc_soc.3nsl
418 clntudp_bufcreate.3nsl             := LINKSRC = rpc_soc.3nsl
419 clntudp_create.3nsl                := LINKSRC = rpc_soc.3nsl
420 get_myaddress.3nsl                 := LINKSRC = rpc_soc.3nsl
421 getrpcport.3nsl                    := LINKSRC = rpc_soc.3nsl
422 pmap_getmaps.3nsl                  := LINKSRC = rpc_soc.3nsl
423 pmap_getport.3nsl                  := LINKSRC = rpc_soc.3nsl
424 pmap_rmtcall.3nsl                  := LINKSRC = rpc_soc.3nsl
425 pmap_set.3nsl                      := LINKSRC = rpc_soc.3nsl
426 pmap_unset.3nsl                    := LINKSRC = rpc_soc.3nsl
427 registerrpc.3nsl                   := LINKSRC = rpc_soc.3nsl
428 svc_fds.3nsl                       := LINKSRC = rpc_soc.3nsl
429 svc_getcaller.3nsl                 := LINKSRC = rpc_soc.3nsl
430 svc_getreq.3nsl                    := LINKSRC = rpc_soc.3nsl
431 svc_register.3nsl                  := LINKSRC = rpc_soc.3nsl
432 svc_unregister.3nsl                := LINKSRC = rpc_soc.3nsl
433 svcfd_create.3nsl                  := LINKSRC = rpc_soc.3nsl
434 svcraw_create.3nsl                 := LINKSRC = rpc_soc.3nsl
435 svctcp_create.3nsl                 := LINKSRC = rpc_soc.3nsl
436 svcudp_bufcreate.3nsl              := LINKSRC = rpc_soc.3nsl
437 svcudp_create.3nsl                 := LINKSRC = rpc_soc.3nsl
438 xdr_authunix_parms.3nsl            := LINKSRC = rpc_soc.3nsl

440 svc_dg_enablecache.3nsl            := LINKSRC = rpc_svc_calls.3nsl
441 svc_done.3nsl                      := LINKSRC = rpc_svc_calls.3nsl
442 svc_exit.3nsl                      := LINKSRC = rpc_svc_calls.3nsl
443 svc_fd_negotiate_ucred.3nsl        := LINKSRC = rpc_svc_calls.3nsl
444 svc_fdset.3nsl                     := LINKSRC = rpc_svc_calls.3nsl
445 svc_freeargs.3nsl                  := LINKSRC = rpc_svc_calls.3nsl
446 svc_getargs.3nsl                   := LINKSRC = rpc_svc_calls.3nsl
447 svc_getcallerucred.3nsl            := LINKSRC = rpc_svc_calls.3nsl
448 svc_getreq_common.3nsl             := LINKSRC = rpc_svc_calls.3nsl
449 svc_getreq_poll.3nsl               := LINKSRC = rpc_svc_calls.3nsl
450 svc_getreqset.3nsl                 := LINKSRC = rpc_svc_calls.3nsl
451 svc_getrpccaller.3nsl              := LINKSRC = rpc_svc_calls.3nsl
452 svc_max_pollfd.3nsl                := LINKSRC = rpc_svc_calls.3nsl
```



```
453 svc_pollfd.3nsl                    := LINKSRC = rpc_svc_calls.3nsl
454 svc_run.3nsl                       := LINKSRC = rpc_svc_calls.3nsl
455 svc_sendreply.3nsl                 := LINKSRC = rpc_svc_calls.3nsl

457 svc_control.3nsl                   := LINKSRC = rpc_svc_create.3nsl
458 svc_create.3nsl                    := LINKSRC = rpc_svc_create.3nsl
459 svc_destroy.3nsl                   := LINKSRC = rpc_svc_create.3nsl
460 svc_dg_create.3nsl                 := LINKSRC = rpc_svc_create.3nsl
461 svc_door_create.3nsl               := LINKSRC = rpc_svc_create.3nsl
462 svc_fd_create.3nsl                 := LINKSRC = rpc_svc_create.3nsl
463 svc_raw_create.3nsl                := LINKSRC = rpc_svc_create.3nsl
464 svc_tli_create.3nsl                := LINKSRC = rpc_svc_create.3nsl
465 svc_tp_create.3nsl                 := LINKSRC = rpc_svc_create.3nsl
466 svc_vc_create.3nsl                 := LINKSRC = rpc_svc_create.3nsl

468 svcerr_auth.3nsl                   := LINKSRC = rpc_svc_err.3nsl
469 svcerr_decode.3nsl                 := LINKSRC = rpc_svc_err.3nsl
470 svcerr_noproc.3nsl                 := LINKSRC = rpc_svc_err.3nsl
471 svcerr_noprog.3nsl                 := LINKSRC = rpc_svc_err.3nsl
472 svcerr_progvers.3nsl               := LINKSRC = rpc_svc_err.3nsl
473 svcerr_systemerr.3nsl              := LINKSRC = rpc_svc_err.3nsl
474 svcerr_weakauth.3nsl               := LINKSRC = rpc_svc_err.3nsl

476 svc_add_input.3nsl                 := LINKSRC = rpc_svc_input.3nsl
477 svc_remove_input.3nsl              := LINKSRC = rpc_svc_input.3nsl

479 rpc_reg.3nsl                       := LINKSRC = rpc_svc_reg.3nsl
480 svc_auth_reg.3nsl                  := LINKSRC = rpc_svc_reg.3nsl
481 svc_reg.3nsl                       := LINKSRC = rpc_svc_reg.3nsl
482 svc_unreg.3nsl                     := LINKSRC = rpc_svc_reg.3nsl
483 xprt_register.3nsl                 := LINKSRC = rpc_svc_reg.3nsl
484 xprt_unregister.3nsl               := LINKSRC = rpc_svc_reg.3nsl

486 xdr_accepted_reply.3nsl            := LINKSRC = rpc_xdr.3nsl
487 xdr_authsys_parms.3nsl             := LINKSRC = rpc_xdr.3nsl
488 xdr_callhdr.3nsl                   := LINKSRC = rpc_xdr.3nsl
489 xdr_callmsg.3nsl                   := LINKSRC = rpc_xdr.3nsl
490 xdr_opaque_auth.3nsl               := LINKSRC = rpc_xdr.3nsl
491 xdr_rejected_reply.3nsl            := LINKSRC = rpc_xdr.3nsl
492 xdr_replymsg.3nsl                  := LINKSRC = rpc_xdr.3nsl

494 rpcb_getaddr.3nsl                  := LINKSRC = rpcbind.3nsl
495 rpcb_getmaps.3nsl                  := LINKSRC = rpcbind.3nsl
496 rpcb_gettime.3nsl                  := LINKSRC = rpcbind.3nsl
497 rpcb_rmtcall.3nsl                  := LINKSRC = rpcbind.3nsl
498 rpcb_set.3nsl                      := LINKSRC = rpcbind.3nsl
499 rpcb_unset.3nsl                    := LINKSRC = rpcbind.3nsl

501 authdes_getucred.3nsl              := LINKSRC = secure_rpc.3nsl
502 authdes_seccreate.3nsl             := LINKSRC = secure_rpc.3nsl
503 getnetname.3nsl                    := LINKSRC = secure_rpc.3nsl
504 host2netname.3nsl                  := LINKSRC = secure_rpc.3nsl
505 key_decryptsession.3nsl            := LINKSRC = secure_rpc.3nsl
506 key_encryptsession.3nsl            := LINKSRC = secure_rpc.3nsl
507 key_gendes.3nsl                    := LINKSRC = secure_rpc.3nsl
508 key_secretkey_is_set.3nsl          := LINKSRC = secure_rpc.3nsl
509 key_setsecret.3nsl                 := LINKSRC = secure_rpc.3nsl
510 netname2host.3nsl                  := LINKSRC = secure_rpc.3nsl
511 netname2user.3nsl                  := LINKSRC = secure_rpc.3nsl
512 user2netname.3nsl                  := LINKSRC = secure_rpc.3nsl

514 xdr_control.3nsl                   := LINKSRC = xdr_admin.3nsl
515 xdr_getpos.3nsl                    := LINKSRC = xdr_admin.3nsl
516 xdr_inline.3nsl                    := LINKSRC = xdr_admin.3nsl
517 xdr_setpos.3nsl                    := LINKSRC = xdr_admin.3nsl
518 xdr_sizeof.3nsl                    := LINKSRC = xdr_admin.3nsl
```

```
519 xdrrec_endofrecord.3nsl                 := LINKSRC = xdr_admin.3nsl
520 xdrrec_eof.3nsl                         := LINKSRC = xdr_admin.3nsl
521 xdrrec_readbytes.3nsl                   := LINKSRC = xdr_admin.3nsl
522 xdrrec_skiprecord.3nsl                  := LINKSRC = xdr_admin.3nsl

524 xdr_array.3nsl                          := LINKSRC = xdr_complex.3nsl
525 xdr_bytes.3nsl                          := LINKSRC = xdr_complex.3nsl
526 xdr_opaque.3nsl                         := LINKSRC = xdr_complex.3nsl
527 xdr_pointer.3nsl                        := LINKSRC = xdr_complex.3nsl
528 xdr_reference.3nsl                      := LINKSRC = xdr_complex.3nsl
529 xdr_string.3nsl                         := LINKSRC = xdr_complex.3nsl
530 xdr_union.3nsl                          := LINKSRC = xdr_complex.3nsl
531 xdr_vector.3nsl                         := LINKSRC = xdr_complex.3nsl
532 xdr_wrapstring.3nsl                     := LINKSRC = xdr_complex.3nsl

534 xdr_destroy.3nsl                        := LINKSRC = xdr_create.3nsl
535 xdrmem_create.3nsl                      := LINKSRC = xdr_create.3nsl
536 xdrrec_create.3nsl                      := LINKSRC = xdr_create.3nsl
537 xdrstdio_create.3nsl                    := LINKSRC = xdr_create.3nsl

539 xdr_bool.3nsl                           := LINKSRC = xdr_simple.3nsl
540 xdr_char.3nsl                           := LINKSRC = xdr_simple.3nsl
541 xdr_double.3nsl                         := LINKSRC = xdr_simple.3nsl
542 xdr_enum.3nsl                           := LINKSRC = xdr_simple.3nsl
543 xdr_float.3nsl                          := LINKSRC = xdr_simple.3nsl
544 xdr_free.3nsl                           := LINKSRC = xdr_simple.3nsl
545 xdr_hyper.3nsl                          := LINKSRC = xdr_simple.3nsl
546 xdr_int.3nsl                            := LINKSRC = xdr_simple.3nsl
547 xdr_long.3nsl                           := LINKSRC = xdr_simple.3nsl
548 xdr_longlong_t.3nsl                     := LINKSRC = xdr_simple.3nsl
549 xdr_quadruple.3nsl                      := LINKSRC = xdr_simple.3nsl
550 xdr_short.3nsl                          := LINKSRC = xdr_simple.3nsl
551 xdr_u_char.3nsl                         := LINKSRC = xdr_simple.3nsl
552 xdr_u_hyper.3nsl                        := LINKSRC = xdr_simple.3nsl
553 xdr_u_int.3nsl                          := LINKSRC = xdr_simple.3nsl
554 xdr_u_long.3nsl                         := LINKSRC = xdr_simple.3nsl
555 xdr_u_longlong_t.3nsl                   := LINKSRC = xdr_simple.3nsl
556 xdr_u_short.3nsl                        := LINKSRC = xdr_simple.3nsl
557 xdr_void.3nsl                           := LINKSRC = xdr_simple.3nsl

559 yp_all.3nsl                             := LINKSRC = ypclnt.3nsl
560 yp_bind.3nsl                            := LINKSRC = ypclnt.3nsl
561 yp_first.3nsl                           := LINKSRC = ypclnt.3nsl
562 yp_get_default_domain.3nsl              := LINKSRC = ypclnt.3nsl
563 yp_master.3nsl                          := LINKSRC = ypclnt.3nsl
564 yp_match.3nsl                           := LINKSRC = ypclnt.3nsl
565 yp_next.3nsl                            := LINKSRC = ypclnt.3nsl
566 yp_order.3nsl                           := LINKSRC = ypclnt.3nsl
567 yp_unbind.3nsl                          := LINKSRC = ypclnt.3nsl
568 yperr_string.3nsl                       := LINKSRC = ypclnt.3nsl
569 ypprot_err.3nsl                         := LINKSRC = ypclnt.3nsl

571 .KEEP_STATE:

573 include         $(SRC)/man/Makefile.man

575 install:        $(ROOTMANFILES) $(ROOTMANLINKS)
```

```
**********************************************************
   12488 Tue Aug 12 07:52:14 2014
new/usr/src/man/man3nsl/gethostbyname.3nsl
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
Finished obsoleting interfaces for XPG7.
**********************************************************
```

```
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'\" te
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.Dd Jul 22, 2014
.Dt GETHOSTBYNAME 3NSL
.Os
.Sh NAME
.Nm gethostbyname ,
.Nm gethostbyname_r ,
.Nm gethostbyaddr ,
.Nm gethostbyaddr_r
.Nd lookup network host entry
.Sh SYNOPSIS
.Ic cc
.Op Ar flag No Ns ...
.Ar file No Ns ...
.Fl lnsl
.Op Ar library No Ns ...
.Lp
.In netdb.h
.Ft "struct hostent *"
.Fn gethostbyname "const char *name"
.Ft "struct hostent *"
.Fo gethostbyname_r
.Fa "const char *name"
.Fa "struct hostent *result"
.Fa "char *buffer"
.Fa "int buflen"
.Fa "int *h_errnop"
.Fc
.Ft "struct hostent *"
.Fo gethostbyaddr
.Fa "const char *addr"
.Fa "socklen_t len"
.Fa "int type"
.Fc
.Ft "struct hostent *"
.Fo gethostbyaddr_r
.Fa "const char *addr"
.Fa "int length"
.Fa "int type"
.Fa "struct hostent *result"
.Fa "char *buffer"
.Fa "int buflen"
.Fa "int *h_errnop"
.Fc
.Sh DESCRIPTION
.TH GETHOSTBYNAME 3NSL "Sep 10, 2013"
.SH NAME
```



```
gethostbyname, gethostbyname_r, gethostbyaddr, gethostbyaddr_r, gethostent,
gethostent_r, sethostent, endhostent \- get network host entry
.SH SYNOPSIS
.LP
.nf
\fBcc\fR [ \fIflag\fR... ] \fIfile\fR... \fB-lnsl\fR [ \fIlibrary\fR... ]
#include <netdb.h>

\fBstruct hostent *\fR\fBgethostbyname\fR(\fBconst char *\fR\fIname\fR);
.fi

.LP
.nf
\fBstruct hostent *\fR\fBgethostbyname_r\fR(\fBconst char *\fR\fIname\fR,
     \fBstruct hostent *\fR\fIresult\fR, \fBchar *\fR\fIbuffer\fR, \fBint\fR \fI
     \fBint *\fR\fIh_errnop\fR);
.fi

.LP
.nf
\fBstruct hostent *\fR\fBgethostbyaddr\fR(\fBconst char *\fR\fIaddr\fR, \fBint\f
     \fBint\fR \fItype\fR);
.fi

.LP
.nf
\fBstruct hostent *\fR\fBgethostbyaddr_r\fR(\fBconst char *\fR\fIaddr\fR, \fBint
     \fBint\fR \fItype\fR, \fBstruct hostent *\fR\fIresult\fR, \fBchar *\fR\fIbu
     \fBint\fR \fIbuflen\fR, \fBint *\fR\fIh_errnop\fR);
.fi

.LP
.nf
\fBstruct hostent *\fR\fBgethostent\fR(\fBvoid\fR);
.fi

.LP
.nf
\fBstruct hostent *\fR\fBgethostent_r\fR(\fBstruct hostent *\fR\fIresult\fR,
     \fBchar *\fR\fIbuffer\fR, \fBint\fR \fIbuflen\fR, \fBint *\fR\fIh_errnop\fR
.fi

.LP
.nf
\fBint\fR \fBsethostent\fR(\fBint\fR \fIstayopen\fR);
.fi

.LP
.nf
\fBint\fR \fBendhostent\fR(\fBvoid\fR);
.fi

.SH DESCRIPTION
.sp
.LP
```

These functions are used to obtain entries describing hosts. An entry can come

```
from any of the sources for
.Sy hosts
specified in the
.Pa /etc/nsswitch.conf
file. See
.Xr nsswitch.conf 4 .
These functions have been superseded by
.Xr getipnodebyname 3SOCKET ,
.Xr getipnodebyaddr 3SOCKET ,
and
```

```
.Xr getaddrinfo 3SOCKET ,
which provide
from any of the sources for \fBhosts\fR specified in the
\fB/etc/nsswitch.conf\fR file. See \fBnsswitch.conf\fR(4). These functions have
been superseded by \fBgetipnodebyname\fR(3SOCKET),
\fBgetipnodebyaddr\fR(3SOCKET), and \fBgetaddrinfo\fR(3SOCKET), which provide
greater portability to applications when multithreading is performed or
technologies such as IPv6 are used. For example, the functions described in the
following cannot be used with applications targeted to work with IPv6.
.Lp
The
.Fn gethostbyname
function searches for information for a host with the
hostname specified by the character-string parameter
.Fa name .
.Lp
The
.Fn gethostbyaddr
function searches for information for a host with a
given host address. The parameter
.Fa type
specifies the family of the
.sp
.LP
The \fBgethostbyname()\fR function searches for information for a host with the
hostname specified by the character-string parameter \fIname\fR.
.sp
.LP
The \fBgethostbyaddr()\fR function searches for information for a host with a
given host address. The parameter \fBtype\fR specifies the family of the
address. This should be one of the address families defined in
.In sys/socket.h .
See the
.Sx NOTES
section for more information. Also
see the
.Sx EXAMPLES
section for information on how to convert an Internet
Protocol address notation that is separated by periods (.) into an
.Fa addr
parameter. The parameter
.Fa len
specifies the length of the buffer indicated
by
.Fa addr .
.Lp
\fB<sys/socket.h>\fR\&. See the \fBNOTES\fR section for more information. Also
see the \fBEXAMPLES\fR section for information on how to convert an Internet
\fBIP\fR address notation that is separated by periods (.) into an \fIaddr\fR
parameter. The parameter \fIlen\fR specifies the length of the buffer indicated
by \fIaddr\fR.
.sp
.LP
All addresses are returned in network order. In order to interpret the
addresses,
.Xr byteorder 3SOCKET
must be used for byte order conversion.
.Ss "Reentrant Interfaces"
The
.Fn gethostbyname
and
.Fn gethostbyaddr
addresses, \fBbyteorder\fR(3SOCKET) must be used for byte order conversion.
.sp
.LP
The \fBsethostent()\fR, \fBgethostent()\fR, and \fBendhostent()\fR functions
```



```
are used to enumerate host entries from the database.
.sp
.LP
The \fBsethostent()\fR function sets or resets the enumeration to the beginning
of the set of host entries. This function should be called before the first
call to \fBgethostent()\fR. Calls to \fBgethostbyname()\fR and
\fBgethostbyaddr()\fR leave the enumeration position in an indeterminate state.
If the \fIstayopen\fR flag is non-zero, the system can keep allocated resources
such as open file descriptors until a subsequent call to \fBendhostent()\fR.
.sp
.LP
Successive calls to the \fBgethostent()\fR function return either successive
entries or \fINULL,\fR indicating the end of the enumeration.
.sp
.LP
The \fBendhostent()\fR function can be called to indicate that the caller
expects to do no further host entry retrieval operations; the system can then
deallocate resources it was using. It is still allowed, but possibly less
efficient, for the process to call more host retrieval functions after calling
\fBendhostent()\fR.
.SS "Reentrant Interfaces"
.sp
.LP
The \fBgethostbyname()\fR, \fBgethostbyaddr()\fR, and \fBgethostent()\fR
functions use static storage that is reused in each call, making these
functions unsafe for use in multithreaded applications.
.Lp
The
.Fn gethostbyname_r
and
.Fn gethostbyaddr_r
.sp
.LP
The \fBgethostbyname_r()\fR, \fBgethostbyaddr_r()\fR, and \fBgethostent_r()\fR
functions provide reentrant interfaces for these operations.
.Lp
.sp
.LP
Each reentrant interface performs the same operation as its non-reentrant
counterpart, named by removing the
.Sy _r
suffix. The reentrant interfaces,
counterpart, named by removing the \fB_r\fR suffix. The reentrant interfaces,
however, use buffers supplied by the caller to store returned results and the
interfaces are safe for use in both single-threaded and multithreaded
applications.
.Lp
.sp
.LP
Each reentrant interface takes the same parameters as its non-reentrant
counterpart, as well as the following additional parameters. The parameter
.Fa result
must be a pointer to a
.Vt "struct hostent"
structure allocated by
\fIresult\fR must be a pointer to a \fBstruct hostent\fR structure allocated by
the caller. On successful completion, the function returns the host entry in
this structure. The parameter
.Fa buffer
must be a pointer to a buffer
this structure. The parameter \fIbuffer\fR must be a pointer to a buffer
supplied by the caller. This buffer is used as storage space for the host data.
All of the pointers within the returned
.Vt "struct hostent"
point to data stored within this buffer. See the
.Sx RETURN VALUES
```

```
142 section for more
143 All of the pointers within the returned \fBstruct hostent\fR \fIresult\fR point
144 to data stored within this buffer. See the \fBRETURN VALUES\fR section for more
143 information. The buffer must be large enough to hold all of the data associated
144 with the host entry. The parameter
145 .Fa buflen
146 should give the size in bytes
147 of the buffer indicated by
148 .Fa buffer .
149 The parameter
150 .Fa h_errnop
151 should be
146 with the host entry. The parameter \fIbuflen\fR should give the size in bytes
147 of the buffer indicated by \fIbuffer\fR. The parameter \fIh_errnop\fR should be
152 a pointer to an integer. An integer error status value is stored there on
153 certain error conditions. See the
154 .Sx ERRORS
155 section for more information.
156 .Sh RETURN VALUES
157 Host entries are represented by the
158 .Vt "struct hostent"
159 structure defined in
160 .In netdb.h :
161 .Bd -literal -offset indent
149 certain error conditions. See the \fBERRORS\fR section for more information.
150 .sp
151 .LP
152 For enumeration in multithreaded applications, the position within the
153 enumeration is a process-wide property shared by all threads. The
154 \fBsethostent()\fR function can be used in a multithreaded application but
155 resets the enumeration position for all threads. If multiple threads interleave
156 calls to \fBgethostent_r()\fR, the threads will enumerate disjoint subsets of
157 the host database.
158 .sp
159 .LP
160 Like their non-reentrant counterparts, \fBgethostbyname_r()\fR and
161 \fBgethostbyaddr_r()\fR leave the enumeration position in an indeterminate
162 state.
163 .SH RETURN VALUES
164 .sp
165 .LP
166 Host entries are represented by the \fBstruct hostent\fR structure defined in
167 \fB<netdb.h>\fR:
168 .sp
169 .in +2
170 .nf
162 struct hostent {
163     char    *h_name;         /* canonical name of host */
164     char    **h_aliases;     /* alias list */
165     int     h_addrtype;      /* host address type */
166     int     h_length;        /* length of address */
167     char    **h_addr_list;   /* list of addresses */
168 };
169 .Ed
170 .Lp
171 See the
172 .Sx EXAMPLES
173 section for information about how to retrieve a
174 .Sq \&.
175 separated Internet Protocol address string from the
176 .Fa h_addr_list
177 field of
178 .Vt "struct hostent" .
179 .Lp
180 The
181 .Fn gethostbyname ,
```



```
182 .Fn gethostbyname_r ,
183 .Fn gethostbyaddr ,
184 and
185 .Fn gethostbyaddr_r
186 functions each return a pointer to a
187 .Vt "struct hostent"
188 if they successfully locate the requested entry; otherwise they
189 return
190 .Dv NULL .
191 .Lp
192 The
193 .Fn gethostbyname
194 and
195 .Fn gethostbyaddr
178 .fi
179 .in -2

181 .sp
182 .LP
183 See the \fBEXAMPLES\fR section for information about how to retrieve a ``.''
184 separated Internet \fBIP\fR address string from the \fIh_addr_list\fR field of
185 \fBstruct hostent\fR.
186 .sp
187 .LP
188 The \fBgethostbyname()\fR, \fBgethostbyname_r()\fR, \fBgethostbyaddr()\fR, and
189 \fBgethostbyaddr_r()\fR functions each return a pointer to a \fBstruct
190 hostent\fR if they successfully locate the requested entry; otherwise they
191 return \fINULL\fR.
192 .sp
193 .LP
194 The \fBgethostent()\fR and \fBgethostent_r()\fR functions each return a pointer
195 to a \fBstruct hostent\fR if they successfully enumerate an entry; otherwise
196 they return \fINULL\fR, indicating the end of the enumeration.
197 .sp
198 .LP
199 The \fBgethostbyname()\fR, \fBgethostbyaddr()\fR, and \fBgethostent()\fR
196 functions use static storage, so returned data must be copied before a
197 subsequent call to any of these functions if the data is to be saved.
198 .Lp
199 When the pointer returned by the reentrant functions
200 .Fn gethostbyname_r
201 and
202 .Fn gethostbyaddr_r
203 is not
204 .Dv NULL ,
205 it is always equal to the
206 .Fa result
207 pointer that was supplied by the caller.
208 .Sh FILES
209 .Bl -tag -width Pa
210 .It Pa /etc/hosts
211 hosts file that associates the names of hosts with their Internet Protocol (IP)
212 addresses
213 .It Pa /etc/nsswitch.conf
214 configuration file for the name service switch
215 .El
216 .Sh EXAMPLES
217 .Ss Example 1 Using gethostbyaddr()
202 .sp
203 .LP
204 When the pointer returned by the reentrant functions \fBgethostbyname_r()\fR,
205 \fBgethostbyaddr_r()\fR, and \fBgethostent_r()\fR is not \fINULL\fR, it is
206 always equal to the \fIresult\fR pointer that was supplied by the caller.
207 .sp
208 .LP
209 The \fBsethostent()\fR and \fBendhostent()\fR functions return \fB0\fR on
```

```
success.
.SH ERRORS
.sp
.LP
The reentrant functions \fBgethostbyname_r()\fR, \fBgethostbyaddr_r()\fR, and
\fBgethostent_r()\fR will return \fINULL\fR and set \fIerrno\fR to \fBERANGE\fR
if the length of the buffer supplied by caller is not large enough to store the
result. See \fBIntro\fR(2) for the proper usage and interpretation of
\fBerrno\fR in multithreaded applications.
.sp
.LP
The reentrant functions \fBgethostbyname_r()\fR and \fBgethostbyaddr_r()\fR set
the integer pointed to by \fIh_errnop\fR to one of these values in case of
error.
.sp
.LP
On failures, the non-reentrant functions \fBgethostbyname()\fR and
\fBgethostbyaddr()\fR set a global integer \fIh_errno\fR to indicate one of
these error codes (defined in \fB<netdb.h>\fR): \fBHOST_NOT_FOUND\fR,
\fBTRY_AGAIN\fR, \fBNO_RECOVERY\fR, \fBNO_DATA\fR, and \fBNO_ADDRESS\fR.
.sp
.LP
If a resolver is provided with a malformed address, or if any other error
occurs before \fBgethostbyname()\fR is resolved, then \fBgethostbyname()\fR
returns an internal error with a value of \(mi1.
.sp
.LP
The \fBgethostbyname()\fR function will set \fIh_errno\fR to
\fBNETDB_INTERNAL\fR when it returns a \fINULL\fR value.
.SH EXAMPLES
.LP
\fBExample 1 \fRUsing \fBgethostbyaddr()\fR
.sp
.LP
Here is a sample program that gets the canonical name, aliases, and ``.''
separated Internet Protocol addresses for a given ``.'' separated IP
separated Internet \fBIP\fR addresses for a given ``.'' separated \fBIP\fR
address:
.Bd -literal -offset indent


.sp
.in +2
.nf
#include <stdio.h>
#include <stdlib.h
#include <string.h>
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <netdb.h>
int main(int argc, const char **argv)
{
        in_addr_t addr;
        struct hostent *hp;
        char **p;
        if (argc != 2) {
            (void) printf("usage: %s IP-address\en", argv[0]);
            exit (1);
        }
        if ((int)(addr = inet_addr(argv[1])) == -1) {
            (void) printf("IP-address must be of form a.b.c.d\en");
            (void) printf("IP-address must be of the form a.b.c.d\en");
            exit (2);
        }
        hp = gethostbyaddr((char *)&addr, 4, AF_INET);
```



```
        if (hp == NULL) {
            (void) printf("host %s not found\en", argv[1]);
            (void) printf("host information for %s not found\en", argv[1]);
            exit (3);
        }
        for (p = hp->h_addr_list; *p != 0; p++) {
            struct in_addr in;
            char **q;
            (void) memcpy(&in.s_addr, *p, sizeof (in.s_addr));
         (void) printf("%s\t%s", inet_ntoa(in), hp\(mi>h_name);
            for (q = hp->h_aliases; *q != 0; q++)
                (void) printf(" %s", *q);
            (void) putchar('\en');
        }
        exit (0);
}
.Ed
.Lp
.fi
.in -2

.sp
.LP
Note that the preceding sample program is unsafe for use in multithreaded
applications.
.Sh ERRORS
The reentrant functions
.Fn gethostbyname_r
and
.Fn gethostbyaddr_r
will return
.Dv NULL
and set
.Va errno
to
.Er ERANGE
if the length of the buffer supplied by caller is not large enough to store the
result. See
.Xr Intro 2
for the proper usage and interpretation of
.Va errno
in multithreaded applications.
.Lp
The reentrant functions
.Fn gethostbyname_r
and
.Fn gethostbyaddr_r
set the integer pointed to by
.Fa h_errnop
to one of these values in case of error.
.Lp
On failures, the non-reentrant functions
.Fn gethostbyname
and
.Fn gethostbyaddr
set a global integer
.Va h_errno
to indicate one of
these error codes
.Po defined in
.In netdb.h Pc :
.Dv HOST_NOT_FOUND ,
.Dv TRY_AGAIN ,
.Dv NO_RECOVERY ,
.Dv NO_DATA ,
and
```

```
.Dv NO_ADDRESS .
.Lp
If a resolver is provided with a malformed address, or if any other error
occurs before
.Fn gethostbyname
is resolved, then
.Fn gethostbyname
returns an internal error with a value of \(mi1.
.Lp
The
.Fn gethostbyname
function will set
.Va h_errno
to
.Dv NETDB_INTERNAL
when it returns a
.Dv NULL
value.
.Sh INTERFACE STABILITY
The
.Fn gethostbyname
and
.Fn gethostbyaddr
functions are
.Sy Obsolete Standard .
.Lp
The
.Fn gethostbyname_r
and
.Fn gethostbyaddr_r
functions are
.Sy Obsolete Uncommitted .
.Sh MT-LEVEL
The
.Fn gethostbyname
and
.Fn gethostbyaddr
functions are
.Sy Unsafe .
.Lp
The
.Fn gethostbyname_r
and
.Fn gethostbyaddr_r
functions are
.Sy Safe .
.Sh SEE ALSO
.Xr Intro 2 ,
.Xr netdb.h 3HEAD ,
.Xr netdir 3NSL ,
.Xr byteorder 3SOCKET,
.Xr getaddrinfo 3SOCKET
.Xr getnameinfo 3SOCKET
.Xr inet 3SOCKET ,
.Xr hosts 4 ,
.Xr nss 4 ,
.Xr nsswitch.conf 4 ,
.Xr standards 5
.Sh NOTES
The reentrant interfaces
.Fn gethostbyname_r
and
.Fn gethostbyaddr_r
are included in this release on an uncommitted basis only

.SH FILES
```



```
.sp
.ne 2
.na
\fB\fB/etc/hosts\fR\fR
.ad
.RS 22n
hosts file that associates the names of hosts with their Internet Protocol (IP)
addresses
.RE

.sp
.ne 2
.na
\fB\fB/etc/netconfig\fR\fR
.ad
.RS 22n
network configuration database
.RE

.sp
.ne 2
.na
\fB\fB/etc/nsswitch.conf\fR\fR
.ad
.RS 22n
configuration file for the name service switch
.RE

.SH ATTRIBUTES
.sp
.LP
See \fBattributes\fR(5) for descriptions of the following attributes:
.sp

.sp
.TS
box;
c | c
l | l .
ATTRIBUTE TYPE  ATTRIBUTE VALUE
_
MT-Level        T{
See \fBReentrant Interfaces\fR in the \fBDESCRIPTION\fR section.
T}
.TE

.SH SEE ALSO
.sp
.LP
\fBIntro\fR(2), \fBIntro\fR(3), \fBbyteorder\fR(3SOCKET), \fBinet\fR(3SOCKET),
\fBnetdb.h\fR(3HEAD), \fBnetdir\fR(3NSL), \fBhosts\fR(4), \fBnetconfig\fR(4),
\fBnss\fR(4), \fBnsswitch.conf\fR(4), \fBattributes\fR(5)
.SH WARNINGS
.sp
.LP
The reentrant interfaces \fBgethostbyname_r()\fR, \fBgethostbyaddr_r()\fR, and
\fBgethostent_r()\fR are included in this release on an uncommitted basis only
and are subject to change or removal in future minor releases.
.Lp
To ensure that they all return consistent results,
.Fn gethostbyname ,
.Fn gethostbyname_r ,
and
.Xr netdir_getbyname 3NSL
are implemented in terms
.SH NOTES
```

```
.sp
.LP
To ensure that they all return consistent results, \fBgethostbyname()\fR,
\fBgethostbyname_r()\fR, and \fBnetdir_getbyname()\fR are implemented in terms
of the same internal library function. This function obtains the system-wide
source lookup policy based on the
.Sy hosts:
entry in
.Xr nsswitch.conf 4 .
Similarly,
.Fn gethostbyaddr ,
.Fn gethostbyaddr_r ,
and
.Xr netdir_getbyaddr 3NSL
are implemented in terms of the same internal library
function, which also is driven by the
.Sy hosts:
entry in
.Xr nsswitch.conf 4 .
.Lp
These functions must always return the
.Em canonical name
in the
.Fa h_name
field. This name, by definition, is
source lookup policy based on the \fBinet\fR family entries in
\fBnetconfig\fR(4) and the \fBhosts:\fR entry in \fBnsswitch.conf\fR(4).
Similarly, \fBgethostbyaddr()\fR, \fBgethostbyaddr_r()\fR, and
\fBnetdir_getbyaddr()\fR are implemented in terms of the same internal library
function. If the \fBinet\fR family entries in \fBnetconfig\fR(4) have a ``-''
in the last column for \fBnametoaddr\fR libraries, then the entry for
\fBhosts\fR in \fBnsswitch.conf\fR will be used; \fBnametoaddr\fR libraries in
that column will be used, and \fBnsswitch.conf\fR will not be consulted.
.sp
.LP
There is no analogue of \fBgethostent()\fR and \fBgethostent_r()\fR in the
netdir functions, so these enumeration functions go straight to the \fBhosts\fR
entry in \fBnsswitch.conf\fR. Thus enumeration can return results from a
different source than that used by \fBgethostbyname()\fR,
\fBgethostbyname_r()\fR, \fBgethostbyaddr()\fR, and \fBgethostbyaddr_r()\fR.
.sp
.LP
All the functions that return a \fBstruct hostent\fR must always return the
\fIcanonical name\fR in the \fIh_name\fR field. This name, by definition, is
the well-known and official hostname shared between all aliases and all
addresses. The underlying source that satisfies the request determines the
mapping of the input name or address into the set of names and addresses in
.Fa hostent .
Different sources might do that in different ways. If there is
more than one alias and more than one address in
.Fa hostent ,
no pairing is
\fBhostent\fR. Different sources might do that in different ways. If there is
more than one alias and more than one address in \fBhostent\fR, no pairing is
implied between them.
.Lp
.sp
.LP
The system attempts to put those addresses that are on the same subnet as the
caller before addresses that are on different subnets. However, if address
sorting is disabled by setting
.Sy SORT_ADDRS
to
.Sy FALSE
in the
.Pa /etc/default/nss
```



```
file, the system does not put the local subnet addresses
first. See
.Xr nss 4
for more information.
.Lp
sorting is disabled by setting \fBSORT_ADDRS\fR to FALSE in the
\fB/etc/default/nss\fR file, the system does not put the local subnet addresses
first. See \fBnss\fR(4) for more information.
.sp
.LP
When compiling multithreaded applications, see \fBIntro\fR(3), \fBMULTITHREADED
APPLICATIONS\fR, for information about the use of the \fB_REENTRANT\fR flag.
.sp
.LP
Use of the enumeration interfaces \fBgethostent()\fR and \fBgethostent_r()\fR
is discouraged; enumeration might not be supported for all database sources.
The semantics of enumeration are discussed further in \fBnsswitch.conf\fR(4).
.sp
.LP
The current implementations of these functions only return or accept addresses
for the Internet address family
.Po type Dv AF_INET Pc .
.Lp
The form for an address of type
.Dv AF_INET
is a
.Vt "struct in_addr"
defined
.In netinet/in.h .
The functions described in
.Xr inet 3SOCKET ,
and illustrated in the
.Sx EXAMPLES
section, are helpful in constructing and
for the Internet address family (type \fBAF_INET\fR).
.sp
.LP
The form for an address of type \fBAF_INET\fR is a \fBstruct in_addr\fR defined
in <\fBnetinet/in.h\fR>. The functions described in \fBinet\fR(3SOCKET), and
illustrated in the \fBEXAMPLES\fR section, are helpful in constructing and
manipulating addresses in this form.
.Sh STANDARDS
The
.Fn gethostbyaddr
and
.Fn gethostbyname
functions were introduced in
.Bx 4.2 ,
and standardized in
.St -xns5.2
and
.St -p1003.1-2001 .
They were subsequently removed from
.St -p1003.1-2008 .
```

```
**********************************************************
    8890 Tue Aug 12 07:52:14 2014
new/usr/src/man/man3nsl/gethostent.3nsl
Finished obsoleting interfaces for XPG7.
**********************************************************
```

```
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.Dd Jul 22, 2014
.Dt GETHOSTBYNAME 3NSL
.Os
.Sh NAME
.Nm gethostent, gethostent_r, sethostent, endhostent
.Nd enumerate network host entries
.Sh SYNOPSIS
.Ic cc
.Op Ar flag No Ns ...
.Ar file No Ns ...
.Fl lnsl
.Op Ar library No Ns ...
.Lp
.In netdb.h
.Ft "struct hostent *"
.Fn gethostent "void"
.Ft "struct hostent *"
.Fo gethostent_r
.Fa "struct hostent *result"
.Fa "char *buffer"
.Fa "int buflen"
.Fa "int *h_errnop"
.Fc
.Ft int
.Fn sethostent "int stayopen"
.Ft int
.Fn endhostent void
.Sh DESCRIPTION
These functions are used to enumerate entries in the network hosts database.
An entries can come
from any of the sources for
.Sy hosts
specified in the
.Pa /etc/nsswitch.conf
file. See
.Xr nsswitch.conf 4 .
.Lp
All addresses are returned in network order. In order to interpret the
addresses,
.Xr byteorder 3SOCKET
must be used for byte order conversion.
.Lp
The
.Fn sethostent
function sets or resets the enumeration to the beginning
of the set of host entries. This function should be called before the first
call to
.Fn gethostent .
If the
.Fa stayopen
```



```
flag is non-zero, the system can keep allocated resources
such as open file descriptors until a subsequent call to
.Fn endhostent .
.Lp
Successive calls to the
.Fn gethostent
function return either successive
entries or
.Dv NULL ,
indicating the end of the enumeration.
.Lp
The
.Fn endhostent()
function can be called to indicate that the caller
expects to do no further host entry retrieval operations; the system can then
deallocate resources it was using. It is still allowed, but possibly less
efficient, for the process to call more host retrieval functions after calling
.Fn endhostent .
.Lp
The
.Fn gethostent
function uses static storage that is reused in each call, making this
function unsafe for use in multithreaded applications.
.Lp
The
.Fn gethostent_r
function performs the same function as
.Fn gethostent, but provides a reentrant interface.
It uses a buffer supplied by the caller to store returned results and
is safe for use in both single-threaded and multithreaded applications.
.Lp
The
.Fn gethostent_r
function takes the same parameters as
.Fn gethostent ,
as well as the following additional parameters. The parameter
.Fa result
must be a pointer to a
.Vt "struct hostent"
structure allocated by the caller. On successful completion, the function
returns the host entry in
this structure. The parameter
.Fa buffer
must be a pointer to a buffer
supplied by the caller. This buffer is used as storage space for the host data.
All of the pointers within the returned
.Vt "struct hostent"
point to data stored within this buffer. See the
.Sx RETURN VALUES
section for more
information. The buffer must be large enough to hold all of the data associated
with the host entry. The parameter
.Fa buflen
should give the size in bytes
of the buffer indicated by
.Fa buffer . The parameter
.Fa h_errnop
should be
a pointer to an integer. An integer error status value is stored there on
certain error conditions. See the
.Sx ERRORS
section for more information.
.Sh RETURN VALUES
The
.Fn gethostent
and
```

```
.Fn gethostent_r
functions each return a pointer
to a
.Vt "struct hostent"
if they successfully enumerate an entry; otherwise they return
.Dv NULL ,
indicating the end of the enumeration.  See
.Xr gethostbyname 3NSL
for a descriptin of the
.Vt "struct hostent"
structure.
.Lp
The
.Fn gethostent
function uses static storage, so results from from one call may be overwritten
by subsequent calls it.
.Lp
When the pointer returned by
.Fn gethostent_r
is not
.Dv NULL , it is
always equal to the
.Fa result
pointer that was supplied by the caller.
.Lp
The
.Fn sethostent
and
.Fn endhostent
functions return 0 on success.
.Sh FILES
.Bl -tag -width "/etc/nsswitch.conf"
.It Pa /etc/hosts
hosts file that associates the names of hosts with their Internet Protocol (IP)
addresses
.It Pa /etc/nsswitch.conf
configuration file for the name service switch
.El
.Sh ERRORS
The
.Fn gethostent_r
function will return
.Dv NULL
and set
.Va errno
to
.Er ERANGE
if the length of the buffer supplied by caller is not large enough to store the
result.  It may also store one of the following
.Va h_errno
values into the location pointed by
.Fa h_errnop .  On error, the
.Fn gethostent
function will set the global
.Va h_errno
value to one of these values:
.Dv HOST_NOT_FOUND ,
.Dv TRY_AGAIN ,
.Dv NO_RECOVERY ,
.Dv NO_DATA ,
.Dv NO_ADDRESS ,
or
.Dv NETDB_INTERNAL .
.Sh INTERFACE STABILITY
The
.Fn gethostent ,
```



```
.Fn sethostent ,
and
.Fn endhostent
functions are
.Sy Standard .
The
.Fn gethostent_r
function is
.Sy Obsolete Uncommitted .
.Sh MT-LEVEL
The
.Fn gethostent
function is
.Sy Unsafe .
.Lp
The
.Fn gethostent_r ,
.Fn sethostent ,
and
.Fn endhostent
functions are
.Sy Safe with Exceptions .
For enumeration in multithreaded applications, the position within the
enumeration is a process-wide property shared by all threads.
If multiple threads interleave
calls to these functions,
the threads will enumerate disjoint subsets of the host database.
.Sh SEE ALSO
.Xr byteorder 3SOCKET ,
.Xr gethostbyname 3NSL ,
.Xr netdb.h 3HEAD ,
.Xr hosts 4 ,
.Xr nss 4 ,
.Xr nsswitch.conf 4 ,
.Xr standards 5
.Sh NOTES
The
.Fn gethostent_r
function is provided as an
.Sy Uncommitted
interface, and is subject to removal or change in a subsequent release.
.Lp
The
.Fn gethostent
and
.Fn gethostent_r
functions must always return the
.Em canonical name
in the
.Fa h_name
field. This name, by definition, is
the well-known and official hostname shared between all aliases and all
addresses. The underlying source that satisfies the request determines the
mapping of the input name or address into the set of names and addresses in
.Fa hostent .
Different sources might do that in different ways. If there is
more than one alias and more than one address in
.Fa hostent ,
no pairing is implied between them.
.Lp
The system attempts to put those addresses that are on the same subnet as the
caller before addresses that are on different subnets. However, if address
sorting is disabled by setting
.Sy SORT_ADDRS
to
.Sy FALSE
```

```
260 in the
261 .Pa /etc/default/nss
262 file, the system does not put the local subnet addresses
263 first. See
264 .Xr nss 4
265 for more information.
266 .Lp
267 Use of these enumeration functions
268 is discouraged; enumeration might not be supported for all database sources.
269 The semantics of enumeration are discussed further in
270 .Xr nsswitch.conf 4 .
271 .Lp
272 The current implementations of these functions only return addresses
273 for the Internet address family
274 .Po type Dv AF_INET Pc .
275 See
276 .Xr inet 4
277 for more information.
278 .Sh STANDARDS
279 The
280 .Fn gethostent ,
281 .Fn sethostent ,
282 and
283 .Fn endhostent
284 functions were introduced in
285 .Bx 4.2
286 and standardized in
287 .St -xns5.2 and
288 .St -p1003.1-2001 .
```

```
**********************************************************
    8753 Tue Aug 12 07:52:14 2014
new/usr/src/man/man5/man.5
Minor markup tweaks (Sy instead of Nm).
**********************************************************
.\" Copyright 2014 Garrett D'Amore <garrett@damore.org>
.\" Copyright (c) 1995, Sun Microsystems, Inc.
.\" The contents of this file are subject to the terms of the Common Development
.\" You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE or http:
.\" When distributing Covered Code, include this CDDL HEADER in each file and in
.Dd "Jul 19, 2014"
.Dt MAN 5
.Os
.Sh NAME
.Nm man
.Nd macros to format Reference Manual pages
.Sh SYNOPSIS
.Nm mandoc
.Fl T Ar man
.Ar
.Nm nroff
.Fl man
.Ar
.Nm troff
.Fl man
.Ar
.Sh DESCRIPTION
These macros are used to lay out the reference pages in this manual. Note: if
.Ar file
contains format input for a preprocessor, the commands shown
above must be piped through the appropriate preprocessor. This is handled
automatically by the
.Xr man 1
command. See the
.Sx Conventions
section.
.Lp
Any text argument
.Ar t
may be zero to six words. Quotes may be used to
include SPACE characters in a
.Qq word .
If
.Ar text
is empty, the special
treatment is applied to the next input line with text to be printed. In this
way
.Nm \&.I
may be used to italicize a whole line, or
.Nm \&.SB
may be used to make small bold letters.
.Lp
A prevailing indent distance is remembered between successive indented
paragraphs, and is reset to default value upon reaching a non-indented
paragraph.  Default units for indents
.Nm i
are ens.
.Lp
Type font and size are reset to default values before each paragraph, and after
processing font and size setting macros.
.Pp
These strings are predefined by
.Nm -man :
.Bl -tag -width Ds
.It Nm \e*R
.Sq \(rg ,
```



```
.Sq (Reg)
in
.Nm nroff .
.It Nm \e*S
Change to default type size.
.El
.Sh "Requests"
* n.t.l. = next text line; p.i. = prevailing indent
.Bl -column ".TH n s d f m" "Cause " "t=n.t.l.*" "Explanation " -offset Ds
.It Sy Request  Sy Cause        Sy "If No"      Sy Explanation
.It ""  Sy Break        Sy "Argument"   ""
.It Nm \&.B Ar "t"      no      Ar t Ns =n.t.l.*        Text is in bold font.
.It Nm \&.BI Ar t       no      Ar t Ns =n.t.l. Join words, alternating bold and
.It Nm \&.BR Ar t       no      Ar t Ns =n.t.l. Join words, alternating bold and
.It Nm \&.DT    no      Li \&.5i 1i...  Restore default tabs.
.It Nm \&.HP Ar i       yes     Ar i Ns =p.i.*  "Begin paragraph with hanging in
.It Nm \&.I Ar t        no      Ar t Ns =n.t.l. Text is italic.
.It Nm \&.IB Ar t       no      Ar t Ns =n.t.l. Join words, altenrating italic a
.It Nm \&.IP Ar x Ar i  yes     Ar x Ns =""     Same as
.Nm \&.TP
with tag
.Ar x .
.It Nm \&.IR Ar t       no      Ar t Ns =n.t.l. Join words, alternating italic a
.It Nm \&.IX Ar t       no      -       Index macro, not used (obsolete).
.It Nm \&.LP    yes     -       Begin left-aligned paragraph. Set prevailing ind
.It Nm \&.P     yes     -       Same as
.Nm \&.LP .
.It Nm \&.PD Ar d       no      Ar d Ns =.4v    Set vertical distance between pa
.It Nm \&.PP    yes     -       Same as
.Nm \&.LP .
.It Nm \&.RE    yes     -       End of relative indent. Restores prevailing inde
.It Nm \&.RB Ar t       no      Ar t Ns =n.t.l. Join words, alternating roman an
.It Nm \&.RI Ar t       no      Ar t Ns =n.t.l. Join words, alternating roman an
.It Nm \&.RS Ar i       yes     Ar i Ns =p.i.   Start relative indent, increase
Sets prevailing indent to .5i for nested indents.
.It Nm \&.SB Ar t       no      -       Reduce size of text by 1 point, make tex
.It Nm \&.SH Ar t       yes     -       Section Heading.
.It Nm \&.SM Ar t       no      Ar t Ns =n.t.l. Reduce size of text by 1 point.
.It Nm \&.SS Ar t       yes     Ar t Ns =n.t.l. Section Subheading.
.It Nm \&.TH Ar n s d f m       yes     -       Begin reference page Ar n , No o
.It Nm \&.TP Ar i       yes     Ar i Ns =p.i.   Begin indented paragraph, with t
.Ar i .
.It Nm \&.TX Ar t p     no      -       Resolve the title abbreviation Ar t ; No
.El
.Ss "Conventions"
When formatting a manual page,
.Nm
examines the first line to determine
whether it requires special processing. For example a first line consisting of:
.Lp
.Dl \&'\e" t
.Lp
indicates that the manual page must be run through the
.Xr tbl 1
preprocessor.
.Lp
A typical manual page for a command or function is laid out as follows:
.Bl -tag -width ".SH RETURN VALUES"
.
.It Nm \&.TH Ar title Op "1-9"
.
The name of the command or function, which serves as the title of the manual
page. This is followed by the number of the section in which it appears.
.
.It Nm SH NAME
.
```

```
The name, or list of names, by which the command is called, followed by a dash
and then a one-line summary of the action performed. All in roman font, this
section contains no
.Xr troff 1
commands or escapes, and no macro requests.
It is used to generate the database used by the
.Xr whatis 1
command.
.
.It Nm SH SYNOPSIS
.Bl -tag -width "Functions:"
.It Sy Commands:
The syntax of the command and its arguments, as typed on the command line.
When in boldface, a word must be typed exactly as printed.  When in italics, a
word can be replaced with an argument that you supply. References to bold or
italicized items are not capitalized in other sections, even when they begin a
sentence.
.Lp
Syntactic symbols appear in roman face:
.Bl -tag -width "   "
.It Op " "
An argument, when surrounded by brackets is optional.
.It |
Arguments separated by a vertical bar are exclusive. You can supply only one
item from such a list.
.It \&.\|.\|.
Arguments followed by an ellipsis can be repeated. When an ellipsis follows a
bracketed set, the expression within the brackets can be repeated.
.El
.It Sy Functions:
If required, the data declaration, or
.Li #include
directive, is shown first,
followed by the  function declaration. Otherwise, the function declaration is
shown.
.El
.
.It Nm \&.SH DESCRIPTION
.
A narrative overview of the command or function’s external behavior. This
includes how it interacts with files or data, and how it handles the standard
input, standard output and standard error. Internals and implementation details
are normally omitted. This section attempts to provide a succinct overview in
answer to the question, "what does it do?"
.Lp
Literal text from the synopsis appears in constant width, as do literal
filenames and references to items that appear elsewhere in the  reference
manuals. Arguments are italicized.
.Lp
If a command interprets either subcommands or an input grammar, its command
interface or input grammar is normally described in a
.Nm USAGE
section, which follows the
.Nm OPTIONS
section.  The
.Nm DESCRIPTION
section only
describes the behavior of the command itself, not that of subcommands.
.
.It Nm \&.SH OPTIONS
.
The list of options along with a description of how each affects the command’s
operation.
.
.It Nm \&.SH RETURN VALUES
.
```



```
A list of the values the library routine will return to the calling  program
and the conditions that cause these values to be returned.
.
.It Nm \&.SH EXIT STATUS
.
A list of the values the utility will return to the calling  program or shell,
and the conditions that cause these values to be  returned.
.
.It Nm \&.SH FILES
.
A list of files associated with the command or function.
.
.It Nm \&.SH SEE ALSO
.
A comma-separated list of related manual pages, followed by references to other
published materials.
.
.It Nm \&.SH DIAGNOSTICS
.
A list of diagnostic messages and an explanation of each.
.
.It Nm \&.SH BUGS
.
A description of limitations, known defects, and possible problems associated
with the command or function.
.El
.Sh FILES
.Pa /usr/share/man/whatis
.Sh NOTES
The
.Nm
package should not be used for new documentation.  The
.Xr mdoc 5 ,
package is preferred, as it uses semantic markup rather than physical markup.
.Sh CODE SET INDEPENDENCE
When processed with
.Xr mandoc 1 ,
this package is Code Set Independent. However, when processed with
legacy tools such as
.Xr nroff 1
and
.Xr troff 1 ,
the use of multi-byte characters may not be supported.
.Sh INTERFACE STABILITY
.Sy Obsolete Committed .
.Nm Obsolete Committed .
The
.Xr mdoc 5
package should be used instead.
.Sh SEE ALSO
.Xr eqn 1 ,
.Xr man 1 ,
.Xr mandoc 1 ,
.Xr nroff 1 ,
.Xr troff 1 ,
.Xr tbl 1 ,
.Xr whatis 1 ,
.Xr mdoc 5 ,
.Rs
.%A Dale Dougherty and Tim O’Reilly
.%B Unix Text Processing
.Re
```

```
**********************************************************
   75905 Tue Aug 12 07:52:15 2014
new/usr/src/man/man5/mdoc.5
Minor markup tweaks (Sy instead of Nm).
**********************************************************
```

```
.\"
.\" Permission to use, copy, modify, and distribute this software for any
.\" purpose with or without fee is hereby granted, provided that the above
.\" copyright notice and this permission notice appear in all copies.
.\"
.\" THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
.\" WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
.\" MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
.\" ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
.\" WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
.\" ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
.\" OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
.\"
.\"
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.\" Copyright (c) 2010, 2011 Ingo Schwarze <schwarze@openbsd.org>
.\" Copyright 2012 Nexenta Systems, Inc. All rights reserved.
.\" Copyright 2014 Garrett D'Amore <garrett@dmaore.org>
.\"
.Dd Jul 19, 2014
.Dt MDOC 5
.Os
.Sh NAME
.Nm mdoc
.Nd semantic markup language for formatting manual pages
.Sh DESCRIPTION
The
.Nm mdoc
language supports authoring of manual pages for the
.Xr man 1
utility by allowing semantic annotations of words, phrases,
page sections and complete manual pages.
Such annotations are used by formatting tools to achieve a uniform
presentation across all manuals written in
.Nm ,
and to support hyperlinking if supported by the output medium.
.Pp
This reference document describes the structure of manual pages
and the syntax and usage of the
.Nm
language.
The reference implementation of a parsing and formatting tool is
.Xr mandoc 1 ;
the
.Sx COMPATIBILITY
section describes compatibility with other implementations.
.Pp
In an
.Nm
document, lines beginning with the control character
.Sq \&.
are called
.Dq macro lines .
The first word is the macro name.
It consists of two or three letters.
Most macro names begin with a capital letter.
For a list of available macros, see
.Sx MACRO OVERVIEW .
The words following the macro name are arguments to the macro, optionally
including the names of other, callable macros; see
.Sx MACRO SYNTAX
```



```
for details.
.Pp
Lines not beginning with the control character are called
.Dq text lines .
They provide free-form text to be printed; the formatting of the text
depends on the respective processing context:
.Bd -literal -offset indent
\&.Sh Macro lines change control state.
Text lines are interpreted within the current state.
.Ed
.Pp
Many aspects of the basic syntax of the
.Nm
language are based on the
.Xr roff 5
language; see the
.Em LANGUAGE SYNTAX
and
.Em MACRO SYNTAX
sections in the
.Xr roff 5
manual for details, in particular regarding
comments, escape sequences, whitespace, and quoting.
However, using
.Xr roff 5
requests in
.Nm
documents is discouraged;
.Xr mandoc 1
supports some of them merely for backward compatibility.
.Sh MANUAL STRUCTURE
A well-formed
.Nm
document consists of a document prologue followed by one or more
sections.
.Pp
The prologue, which consists of the
.Sx \&Dd ,
.Sx \&Dt ,
and
.Sx \&Os
macros in that order, is required for every document.
.Pp
The first section (sections are denoted by
.Sx \&Sh )
must be the NAME section, consisting of at least one
.Sx \&Nm
followed by
.Sx \&Nd .
.Pp
Following that, convention dictates specifying at least the
.Em SYNOPSIS
and
.Em DESCRIPTION
sections, although this varies between manual sections.
.Pp
The following is a well-formed skeleton
.Nm
file for a utility
.Qq progname :
.Bd -literal -offset indent
\&.Dd Jan 1, 1970
\&.Dt PROGNAME section
\&.Os
\&.Sh NAME
\&.Nm progname
```

```
\&.Nd one line description
\&.\e\(dq .Sh LIBRARY
\&.\e\(dq For sections 2, 3, & 9 only.
\&.Sh SYNOPSIS
\&.Nm progname
\&.Op Fl options
\&.Ar
\&.Sh DESCRIPTION
The
\&.Nm
utility processes files ...
\&.\e\(dq .Sh IMPLEMENTATION NOTES
\&.\e\(dq .Sh RETURN VALUES
\&.\e\(dq For sections 2, 3, & 9 only.
\&.\e\(dq .Sh ENVIRONMENT
\&.\e\(dq For sections 1, 1M, and 5.
\&.\e\(dq .Sh FILES
\&.\e\(dq .Sh EXIT STATUS
\&.\e\(dq For sections 1, 1M, and 5.
\&.\e\(dq .Sh EXAMPLES
\&.\e\(dq .Sh DIAGNOSTICS
\&.\e\(dq .Sh ERRORS
\&.\e\(dq For sections 2, 3, & 9 only.
\&.\e\(dq .Sh ARCHITECTURE
\&.\e\(dq .Sh CODE SET INDEPENDENCE
\&.\e\(dq For sections 1, 1M, & 3 only.
\&.\e\(dq .Sh INTERFACE STABILITY
\&.\e\(dq .Sh MT-LEVEL
\&.\e\(dq For sections 2 & 3 only.
\&.\e\(dq .Sh SECURITY
\&.\e\(dq .Sh SEE ALSO
\&.\e\(dq .Xr foobar 1
\&.\e\(dq .Sh STANDARDS
\&.\e\(dq .Sh HISTORY
\&.\e\(dq .Sh AUTHORS
\&.\e\(dq .Sh CAVEATS
\&.\e\(dq .Sh BUGS
.Ed
.Pp
The sections in an
.Nm
document are conventionally ordered as they appear above.
Sections should be composed as follows:
.Bl -ohang -offset Ds
.It Em NAME
The name(s) and a one line description of the documented material.
The syntax for this as follows:
.Bd -literal -offset indent
\&.Nm name0 ,
\&.Nm name1 ,
\&.Nm name2
\&.Nd a one line description
.Ed
.Pp
Multiple
.Sq \&Nm
names should be separated by commas.
.Pp
The
.Sx \&Nm
macro(s) must precede the
.Sx \&Nd
macro.
.Pp
See
.Sx \&Nm
```



```
and
.Sx \&Nd .
.It Em LIBRARY
The name of the library containing the documented material, which is
assumed to be a function in a section 2, 3, or 9 manual.
The syntax for this is as follows:
.Bd -literal -offset indent
\&.Lb libarm
.Ed
.Pp
See
.Sx \&Lb .
.It Em SYNOPSIS
Documents the utility invocation syntax, function call syntax, or device
configuration.
.Pp
For the first, utilities (sections 1 and 1M), this is
generally structured as follows:
.Bd -literal -offset indent
\&.Nm bar
\&.Op Fl v
\&.Op Fl o Ar file
\&.Op Ar
\&.Nm foo
\&.Op Fl v
\&.Op Fl o Ar file
\&.Op Ar
.Ed
.Pp
Commands should be ordered alphabetically.
.Pp
For the second, function calls (sections 2, 3, 7I, 7P, 9):
.Bd -literal -offset indent
\&.In header.h
\&.Vt extern const char *global;
\&.Ft "char *"
\&.Fn foo "const char *src"
\&.Ft "char *"
\&.Fn bar "const char *src"
.Ed
.Pp
Ordering of
.Sx \&In ,
.Sx \&Vt ,
.Sx \&Fn ,
and
.Sx \&Fo
macros should follow C header-file conventions.
.Pp
And for the third, configurations (section 7D):
.Bd -literal -offset indent
\&.Pa /dev/device_node
.Ed
.Pp
Manuals not in these sections generally don’t need a
.Em SYNOPSIS .
.Pp
Some macros are displayed differently in the
.Em SYNOPSIS
section, particularly
.Sx \&Nm ,
.Sx \&Cd ,
.Sx \&Fd ,
.Sx \&Fn ,
.Sx \&Fo ,
.Sx \&In ,
```

```
.Sx \&Vt ,
and
.Sx \&Ft .
All of these macros are output on their own line.
If two such dissimilar macros are pairwise invoked (except for
.Sx \&Ft
before
.Sx \&Fo
or
.Sx \&Fn ) ,
they are separated by a vertical space, unless in the case of
.Sx \&Fo ,
.Sx \&Fn ,
and
.Sx \&Ft ,
which are always separated by vertical space.
.Pp
When text and macros following an
.Sx \&Nm
macro starting an input line span multiple output lines,
all output lines but the first will be indented to align
with the text immediately following the
.Sx \&Nm
macro, up to the next
.Sx \&Nm ,
.Sx \&Sh ,
or
.Sx \&Ss
macro or the end of an enclosing block, whichever comes first.
.It Em DESCRIPTION
This begins with an expansion of the brief, one line description in
.Em NAME :
.Bd -literal -offset indent
The
\&.Nm
utility does this, that, and the other.
.Ed
.Pp
It usually follows with a breakdown of the options (if documenting a
command), such as:
.Bd -literal -offset indent
The arguments are as follows:
\&.Bl \-tag \-width Ds
\&.It Fl v
Print verbose information.
\&.El
.Ed
.Pp
Manuals not documenting a command won't include the above fragment.
.Pp
Since the
.Em DESCRIPTION
section usually contains most of the text of a manual, longer manuals
often use the
.Sx \&Ss
macro to form subsections.
In very long manuals, the
.Em DESCRIPTION
may be split into multiple sections, each started by an
.Sx \&Sh
macro followed by a non-standard section name, and each having
several subsections, like in the present
.Nm
manual.
.It Em IMPLEMENTATION NOTES
Implementation-specific notes should be kept here.
```



```
This is useful when implementing standard functions that may have side
effects or notable algorithmic implications.
.It Em RETURN VALUES
This section documents the
return values of functions in sections 2, 3, and 9.
.Pp
See
.Sx \&Rv .
.It Em ENVIRONMENT
Lists the environment variables used by the utility,
and explains the syntax and semantics of their values.
The
.Xr environ 5
manual provides examples of typical content and formatting.
.Pp
See
.Sx \&Ev .
.It Em FILES
Documents files used.
It's helpful to document both the file name and a short description of how
the file is used (created, modified, etc.).
.Pp
See
.Sx \&Pa .
.It Em EXIT STATUS
This section documents the
command exit status for sections 1 and 1M.
Historically, this information was described in
.Em DIAGNOSTICS ,
a practise that is now discouraged.
.Pp
See
.Sx \&Ex .
.It Em EXAMPLES
Example usages.
This often contains snippets of well-formed, well-tested invocations.
Make sure that examples work properly!
.It Em DIAGNOSTICS
Documents error and diagnostic messages displayed to the user or
sent to logs. Note that exit
status and return values should be documented in the
.Em EXIT STATUS
and
.Em RETURN VALUES
sections.
.Pp
See
.Sx \&Bl
.Fl diag .
.It Em ERRORS
Documents error handling in sections 2, 3, and 9.
.Pp
See
.Sx \&Er .
.It Em ARCHITECTURE
This section is usually absent, but will be present when the
interface is specific to one or more architectures.
.It Em CODE SET INDEPENDENCE
Indicates whether the interface operates correctly with various different
code sets.  True independent code sets will support not only ASCII and
Extended UNIX Codesets (EUC), but also other multi-byte encodings such as
UTF-8 and GB2312.
.Pp
Generally there will be some limitations that are fairly standard.  See
.Xr standards 5 for more information about some of these.  Most interfaces
should support at least UTF-8 in addition to ASCII.
```

```
392 .It Em INTERFACE STABILITY
393 Indicates the level of commitment to the interface. Interfaces can be described
394 with in the following ways:
395 .Bl -tag -width Ds
396 .It Sy Standard
396 .It Nm Standard
397 Indicates that the interface is defined by one or more standards bodies.
398 Generally, changes to the interface will be carefully managed to conform
399 to the relevant standards.  These interfaces are generally the most suitable
400 for use in portable programs.
401 .It Sy Committed
401 .It Nm Committed
402 Indicates that the interface is intended to be preserved for the long-haul, and
403 will rarely, if ever change, and never without notification (barring
404 extraordinary and extenuating circumstances). These interfaces are
405 preferred over other interfaces with the exeception of
406 .Sy Standard
406 .Nm Standard
407 interfaces.
408 .It Sy Uncommitted
408 .It Nm Uncommitted
409 Indicates that the interface may change.  Generally, changes to these interfaces
410 should be infrequent, and some effort will be made to address compatibility
411 considerations when changing or removing such interfaces.  However, there is
412 no firm commitment to the preservation of the interface.  Most often this
413 is applied to interfaces where operational experience with the interface
414 is still limited and some need to change may be anticipated.
415 .Pp
416 Consumers should expect to revalidate any
417 .Sy Uncommitted
417 .Nm Uncommitted
418 interfaces when crossing release boundaries.  Products intended for
419 use on many releases or intended to support compatibility with future
420 releases should avoid these interfaces.
421 .It Sy Volatile
421 .It Nm Volatile
422 The interface can change at any time for any reason. Often this relates to
423 interfaces that are part of external software components that are still evolving
424 rapidly.  Consumers should not expect that the interface (either binary or
425 source level) will be unchanged from one release to the next.
426 .It Sy Not-an-Interface
426 .It Nm Not-an-Interface
427 Describes something that is specifically not intended for programmatic
428 consumption.  For example, specific human-readable output, or the layout
429 of graphical items on a user interface, may be described this way.  Generally
430 programmatic alternatives to these will be available, and should be used
431 when programmatic consumption is needed.
432 .It Sy Private
432 .It Nm Private
433 This is an internal interface.  Generally these interfaces should only be
434 used within the project, and should not be used by other programs or modules.
435 The interface can and will change without notice as the project needs, at
436 any time.
437 .Pp
438 Most often, Private interfaces will lack any documentation whatsoever, and
439 generally any undocumented interface can be assumed to be Private.
440 .It Sy Obsolete
440 .It Nm Obsolete
441 The interface is not intended for use in new projects or programs, and may
442 be removed at a future date.  The
443 .Sy Obsolete
443 .Nm Obsolete
444 word is a modifier that can
445 be applied to other commitment levels. For example an
446 .Sy Obsolete Committed
446 .Nm Obsolete Committed
```



```
447 interface is unlikely to be removed or changed, but nonetheless new use
448 is discouraged (perhaps a better newer alternative is present).
449 .El
450 .It Em MT-LEVEL
451 This section describes considerations for the interface when used within
452 programs that use multiple threads.  More discussion of these considerations
453 is made in the MT-Level section of
454 .Xr attributes 5 .
455 The interface can be described in the following ways.
456 .Bl -tag -width Ds
457 .It Sy Safe
457 .It Nm Safe
458 Indicates the interface is safe for use within multiple threads.  There
459 may be additional caveats that apply, in which case those will be
460 described.  Note that some interfaces have semantics which may affect
461 other threads, but these should be an intrinsic part of the interface
462 rather than an unexpected side effect.  For example, closing a file in
463 one thread will cause that file to be closed in all threads.
464 .It Sy Unsafe
464 .It Nm Unsafe
465 Indicates the interface is unsuitable for concurrent use within multiple
466 threads.  A threaded application may still make use of the interface, but
467 will be required to provide external synchronization means to ensure that
468 only a single thread calls the interface at a time.
469 .It Sy MT-Safe
469 .It Nm MT-Safe
470 Indicates that the interface is not only safe for concurrent use, but is
471 designed for such use.  For example, a
472 .Sy Safe
472 .Nm Safe
473 interface may make use of a global lock to provide safety, but at reduced
474 internal concurrency, whereas an
475 .Sy MT-Safe
475 .Nm MT-Safe
476 interface will be designed to be efficient even when used concurrently.
477 .It Sy Async-Signal-Safe
477 .It Nm Async-Signal-Safe
478 Indicates that the library is safe for use within a signal handler.  An
479 .Sy MT-Safe
479 .Nm MT-Safe
480 interface can be made
481 .Sy Async-Signal-Safe
481 .Nm Async-Signal-Safe
482 by ensuring that it blocks signals when acquiring locks.
483 .It Sy Safe with Exections
483 .It Nm Safe with Exections
484 As for
485 .Sy Safe
485 .Nm Safe
486 but with specific exceptions noted.
487 .It Sy MT-Safe with Exections
487 .It Nm MT-Safe with Exections
488 As for
489 .Sy MT-Safe
489 .Nm MT-Safe
490 but with specific exceptions noted.
491 .El
492 .It Em SECURITY
493 Documents any security precautions that operators should consider.
494 .It Em SEE ALSO
495 References other manuals with related topics.
496 This section should exist for most manuals.
497 Cross-references should conventionally be ordered first by section, then
498 alphabetically.
499 .Pp
500 References to other documentation concerning the topic of the manual page,
```

```
501 for example authoritative books or journal articles, may also be
502 provided in this section.
503 .Pp
504 See
505 .Sx \&Rs
506 and
507 .Sx \&Xr .
508 .It Em STANDARDS
509 References any standards implemented or used.
510 If not adhering to any standards, the
511 .Em HISTORY
512 section should be used instead.
513 .Pp
514 See
515 .Sx \&St .
516 .It Em HISTORY
517 A brief history of the subject, including where it was first implemented,
518 and when it was ported to or reimplemented for the operating system at hand.
519 .It Em AUTHORS
520 Credits to the person or persons who wrote the code and/or documentation.
521 Authors should generally be noted by both name and email address.
522 .Pp
523 See
524 .Sx \&An .
525 .It Em CAVEATS
526 Common misuses and misunderstandings should be explained
527 in this section.
528 .It Em BUGS
529 Known bugs, limitations, and work-arounds should be described
530 in this section.
531 .El
532 .Sh MACRO OVERVIEW
533 This overview is sorted such that macros of similar purpose are listed
534 together, to help find the best macro for any given purpose.
535 Deprecated macros are not included in the overview, but can be found below
536 in the alphabetical
537 .Sx MACRO REFERENCE .
538 .Ss Document preamble and NAME section macros
539 .Bl -column "Brq, Bro, Brc" description
540 .It Sx \&Dd Ta document date: Ar month day , year
541 .It Sx \&Dt Ta document title: Ar TITLE SECTION Op Ar volume | arch
542 .It Sx \&Os Ta operating system version: Op Ar system Op Ar version
543 .It Sx \&Nm Ta document name (one argument)
544 .It Sx \&Nd Ta document description (one line)
545 .El
546 .Ss Sections and cross references
547 .Bl -column "Brq, Bro, Brc" description
548 .It Sx \&Sh Ta section header (one line)
549 .It Sx \&Ss Ta subsection header (one line)
550 .It Sx \&Sx Ta internal cross reference to a section or subsection
551 .It Sx \&Xr Ta cross reference to another manual page: Ar name section
552 .It Sx \&Pp , \&Lp Ta start a text paragraph (no arguments)
553 .El
554 .Ss Displays and lists
555 .Bl -column "Brq, Bro, Brc" description
556 .It Sx \&Bd , \&Ed Ta display block:
557 .Fl Ar type
558 .Op Fl offset Ar width
559 .Op Fl compact
560 .It Sx \&D1 Ta indented display (one line)
561 .It Sx \&Dl Ta indented literal display (one line)
562 .It Sx \&Bl , \&El Ta list block:
563 .Fl Ar type
564 .Op Fl width Ar val
565 .Op Fl offset Ar val
566 .Op Fl compact
```



```
567 .It Sx \&It Ta list item (syntax depends on Fl Ar type )
568 .It Sx \&Ta Ta table cell separator in Sx \&Bl Fl column No lists
569 .It Sx \&Rs , \&%* , \&Re Ta bibliographic block (references)
570 .El
571 .Ss Spacing control
572 .Bl -column "Brq, Bro, Brc" description
573 .It Sx \&Pf Ta prefix, no following horizontal space (one argument)
574 .It Sx \&Ns Ta roman font, no preceding horizontal space (no arguments)
575 .It Sx \&Ap Ta apostrophe without surrounding whitespace (no arguments)
576 .It Sx \&Sm Ta switch horizontal spacing mode: Cm on | off
577 .It Sx \&Bk , \&Ek Ta keep block: Fl words
578 .It Sx \&br Ta force output line break in text mode (no arguments)
579 .It Sx \&sp Ta force vertical space: Op Ar height
580 .El
581 .Ss Semantic markup for command line utilities:
582 .Bl -column "Brq, Bro, Brc" description
583 .It Sx \&Nm Ta start a SYNOPSIS block with the name of a utility
584 .It Sx \&Fl Ta command line options (flags) (>=0 arguments)
585 .It Sx \&Cm Ta command modifier (>0 arguments)
586 .It Sx \&Ar Ta command arguments (>=0 arguments)
587 .It Sx \&Op , \&Oo , \&Oc Ta optional syntax elements (enclosure)
588 .It Sx \&Ic Ta internal or interactive command (>0 arguments)
589 .It Sx \&Ev Ta environmental variable (>0 arguments)
590 .It Sx \&Pa Ta file system path (>=0 arguments)
591 .El
592 .Ss Semantic markup for function libraries:
593 .Bl -column "Brq, Bro, Brc" description
594 .It Sx \&Lb Ta function library (one argument)
595 .It Sx \&In Ta include file (one argument)
596 .It Sx \&Ft Ta function type (>0 arguments)
597 .It Sx \&Fo , \&Fc Ta function block: Ar funcname
598 .It Sx \&Fn Ta function name:
599 .Op Ar functype
600 .Ar funcname
601 .Oo
602 .Op Ar argtype
603 .Ar argname
604 .Oc
605 .It Sx \&Fa Ta function argument (>0 arguments)
606 .It Sx \&Vt Ta variable type (>0 arguments)
607 .It Sx \&Va Ta variable name (>0 arguments)
608 .It Sx \&Dv Ta defined variable or preprocessor constant (>0 arguments)
609 .It Sx \&Er Ta error constant (>0 arguments)
610 .It Sx \&Ev Ta environmental variable (>0 arguments)
611 .El
612 .Ss Various semantic markup:
613 .Bl -column "Brq, Bro, Brc" description
614 .It Sx \&An Ta author name (>0 arguments)
615 .It Sx \&Lk Ta hyperlink: Ar uri Op Ar name
616 .It Sx \&Mt Ta Do mailto Dc hyperlink: Ar address
617 .It Sx \&Cd Ta kernel configuration declaration (>0 arguments)
618 .It Sx \&Ad Ta memory address (>0 arguments)
619 .It Sx \&Ms Ta mathematical symbol (>0 arguments)
620 .It Sx \&Tn Ta tradename (>0 arguments)
621 .El
622 .Ss Physical markup
623 .Bl -column "Brq, Bro, Brc" description
624 .It Sx \&Em Ta italic font or underline (emphasis) (>0 arguments)
625 .It Sx \&Sy Ta boldface font (symbolic) (>0 arguments)
626 .It Sx \&Li Ta typewriter font (literal) (>0 arguments)
627 .It Sx \&No Ta return to roman font (normal) (no arguments)
628 .It Sx \&Bf , \&Ef Ta font block:
629 .Op Fl Ar type | Cm \&Em | \&Li | \&Sy
630 .El
631 .Ss Physical enclosures
632 .Bl -column "Brq, Bro, Brc" description
```

```
.It Sx \&Dq , \&Do , \&Dc Ta enclose in typographic double quotes: Dq text
.It Sx \&Qq , \&Qo , \&Qc Ta enclose in typewriter double quotes: Qq text
.It Sx \&Sq , \&So , \&Sc Ta enclose in single quotes: Sq text
.It Sx \&Ql Ta single-quoted literal text: Ql text
.It Sx \&Pq , \&Po , \&Pc Ta enclose in parentheses: Pq text
.It Sx \&Bq , \&Bo , \&Bc Ta enclose in square brackets: Bq text
.It Sx \&Brq , \&Bro , \&Brc Ta enclose in curly braces: Brq text
.It Sx \&Aq , \&Ao , \&Ac Ta enclose in angle brackets: Aq text
.It Sx \&Eo , \&Ec Ta generic enclosure
.El
.Ss Text production
.Bl -column "Brq, Bro, Brc" description
.It Sx \&Ex Fl std Ta standard command exit values: Op Ar utility ...
.It Sx \&Rv Fl std Ta standard function return values: Op Ar function ...
.It Sx \&St Ta reference to a standards document (one argument)
.It Sx \&Ux Ta Ux
.It Sx \&At Ta At
.It Sx \&Bx Ta Bx
.It Sx \&Bsx Ta Bsx
.It Sx \&Nx Ta Nx
.It Sx \&Fx Ta Fx
.It Sx \&Ox Ta Ox
.It Sx \&Dx Ta Dx
.El
.Sh MACRO REFERENCE
This section is a canonical reference of all macros, arranged
alphabetically.
For the scoping of individual macros, see
.Sx MACRO SYNTAX .
.Ss \&%A
Author name of an
.Sx \&Rs
block.
Multiple authors should each be accorded their own
.Sx \%%A
line.
Author names should be ordered with full or abbreviated forename(s)
first, then full surname.
.Ss \&%B
Book title of an
.Sx \&Rs
block.
This macro may also be used in a non-bibliographic context when
referring to book titles.
.Ss \&%C
Publication city or location of an
.Sx \&Rs
block.
.Ss \&%D
Publication date of an
.Sx \&Rs
block.
Recommended formats of arguments are
.Ar month day , year
or just
.Ar year .
.Ss \&%I
Publisher or issuer name of an
.Sx \&Rs
block.
.Ss \&%J
Journal name of an
.Sx \&Rs
block.
.Ss \&%N
Issue number (usually for journals) of an
```



```
.Sx \&Rs
block.
.Ss \&%O
Optional information of an
.Sx \&Rs
block.
.Ss \&%P
Book or journal page number of an
.Sx \&Rs
block.
.Ss \&%Q
Institutional author (school, government, etc.) of an
.Sx \&Rs
block.
Multiple institutional authors should each be accorded their own
.Sx \&%Q
line.
.Ss \&%R
Technical report name of an
.Sx \&Rs
block.
.Ss \&%T
Article title of an
.Sx \&Rs
block.
This macro may also be used in a non-bibliographical context when
referring to article titles.
.Ss \&%U
URI of reference document.
.Ss \&%V
Volume number of an
.Sx \&Rs
block.
.Ss \&Ac
Close an
.Sx \&Ao
block.
Does not have any tail arguments.
.Ss \&Ad
Memory address.
Do not use this for postal addresses.
.Pp
Examples:
.Dl \&.Ad [0,$]
.Dl \&.Ad 0x00000000
.Ss \&An
Author name.
Can be used both for the authors of the program, function, or driver
documented in the manual, or for the authors of the manual itself.
Requires either the name of an author or one of the following arguments:
.Pp
.Bl -tag -width "-nosplitX" -offset indent -compact
.It Fl split
Start a new output line before each subsequent invocation of
.Sx \&An .
.It Fl nosplit
The opposite of
.Fl split .
.El
.Pp
The default is
.Fl nosplit .
The effect of selecting either of the
.Fl split
modes ends at the beginning of the
.Em AUTHORS
```

```
765 section.
766 In the
767 .Em AUTHORS
768 section, the default is
769 .Fl nosplit
770 for the first author listing and
771 .Fl split
772 for all other author listings.
773 .Pp
774 Examples:
775 .Dl \&.An -nosplit
776 .Dl \&.An Kristaps Dzonsons \&Aq kristaps@bsd.lv
777 .Ss \&Ao
778 Begin a block enclosed by angle brackets.
779 Does not have any head arguments.
780 .Pp
781 Examples:
782 .Dl \&.Fl -key= \&Ns \&Ao \&Ar val \&Ac
783 .Pp
784 See also
785 .Sx \&Aq .
786 .Ss \&Ap
787 Inserts an apostrophe without any surrounding whitespace.
788 This is generally used as a grammatical device when referring to the verb
789 form of a function.
790 .Pp
791 Examples:
792 .Dl \&.Fn execve \&Ap d
793 .Ss \&Aq
794 Encloses its arguments in angle brackets.
795 .Pp
796 Examples:
797 .Dl \&.Fl -key= \&Ns \&Aq \&Ar val
798 .Pp
799 .Em Remarks :
800 this macro is often abused for rendering URIs, which should instead use
801 .Sx \&Lk
802 or
803 .Sx \&Mt ,
804 or to note pre-processor
805 .Dq Li #include
806 statements, which should use
807 .Sx \&In .
808 .Pp
809 See also
810 .Sx \&Ao .
811 .Ss \&Ar
812 Command arguments.
813 If an argument is not provided, the string
814 .Dq file ...\&
815 is used as a default.
816 .Pp
817 Examples:
818 .Dl ".Fl o Ar file"
819 .Dl ".Ar"
820 .Dl ".Ar arg1 , arg2 ."
821 .Pp
822 The arguments to the
823 .Sx \&Ar
824 macro are names and placeholders for command arguments;
825 for fixed strings to be passed verbatim as arguments, use
826 .Sx \&Fl
827 or
828 .Sx \&Cm .
829 .Ss \&At
830 Formats an AT&T version.
```



```
831 Accepts one optional argument:
832 .Pp
833 .Bl -tag -width "v[1-7] | 32vX" -offset indent -compact
834 .It Cm v[1-7] | 32v
835 A version of
836 .At .
837 .It Cm III
838 .At III .
839 .It Cm V[.[1-4]]?
840 A version of
841 .At V .
842 .El
843 .Pp
844 Note that these arguments do not begin with a hyphen.
845 .Pp
846 Examples:
847 .Dl \&.At
848 .Dl \&.At III
849 .Dl \&.At V.1
850 .Pp
851 See also
852 .Sx \&Bsx ,
853 .Sx \&Bx ,
854 .Sx \&Dx ,
855 .Sx \&Fx ,
856 .Sx \&Nx ,
857 .Sx \&Ox ,
858 and
859 .Sx \&Ux .
860 .Ss \&Bc
861 Close a
862 .Sx \&Bo
863 block.
864 Does not have any tail arguments.
865 .Ss \&Bd
866 Begin a display block.
867 Its syntax is as follows:
868 .Bd -ragged -offset indent
869 .Pf \. Sx \&Bd
870 .Fl Ns Ar type
871 .Op Fl offset Ar width
872 .Op Fl compact
873 .Ed
874 .Pp
875 Display blocks are used to select a different indentation and
876 justification than the one used by the surrounding text.
877 They may contain both macro lines and text lines.
878 By default, a display block is preceded by a vertical space.
879 .Pp
880 The
881 .Ar type
882 must be one of the following:
883 .Bl -tag -width 13n -offset indent
884 .It Fl centered
885 Produce one output line from each input line, and centre-justify each line.
886 Using this display type is not recommended; many
887 .Nm
888 implementations render it poorly.
889 .It Fl filled
890 Change the positions of line breaks to fill each line, and left- and
891 right-justify the resulting block.
892 .It Fl literal
893 Produce one output line from each input line,
894 and do not justify the block at all.
895 Preserve white space as it appears in the input.
896 Always use a constant-width font.
```

```
Use this for displaying source code.
.It Fl ragged
Change the positions of line breaks to fill each line, and left-justify
the resulting block.
.It Fl unfilled
The same as
.Fl literal ,
but using the same font as for normal text, which is a variable width font
if supported by the output device.
.El
.Pp
The
.Ar type
must be provided first.
Additional arguments may follow:
.Bl -tag -width 13n -offset indent
.It Fl offset Ar width
Indent the display by the
.Ar width ,
which may be one of the following:
.Bl -item
.It
One of the pre-defined strings
.Cm indent ,
the width of a standard indentation (six constant width characters);
.Cm indent-two ,
twice
.Cm indent ;
.Cm left ,
which has no effect;
.Cm right ,
which justifies to the right margin; or
.Cm center ,
which aligns around an imagined centre axis.
.It
A macro invocation, which selects a predefined width
associated with that macro.
The most popular is the imaginary macro
.Ar \&Ds ,
which resolves to
.Sy 6n .
.It
A width using the syntax described in
.Sx Scaling Widths .
.It
An arbitrary string, which indents by the length of this string.
.El
.Pp
When the argument is missing,
.Fl offset
is ignored.
.It Fl compact
Do not assert vertical space before the display.
.El
.Pp
Examples:
.Bd -literal -offset indent
\&.Bd \-literal \-offset indent \-compact
   Hello       world.
\&.Ed
.Ed
.Pp
See also
.Sx \&D1
and
.Sx \&Dl .
```



```
.Ss \&Bf
Change the font mode for a scoped block of text.
Its syntax is as follows:
.Bd -ragged -offset indent
.Pf \. Sx \&Bf
.Oo
.Fl emphasis | literal | symbolic |
.Cm \&Em | \&Li | \&Sy
.Oc
.Ed
.Pp
The
.Fl emphasis
and
.Cm \&Em
argument are equivalent, as are
.Fl symbolic
and
.Cm \&Sy ,
and
.Fl literal
and
.Cm \&Li .
Without an argument, this macro does nothing.
The font mode continues until broken by a new font mode in a nested
scope or
.Sx \&Ef
is encountered.
.Pp
See also
.Sx \&Li ,
.Sx \&Ef ,
.Sx \&Em ,
and
.Sx \&Sy .
.Ss \&Bk
For each macro, keep its output together on the same output line,
until the end of the macro or the end of the input line is reached,
whichever comes first.
Line breaks in text lines are unaffected.
The syntax is as follows:
.Pp
.D1 Pf \. Sx \&Bk Fl words
.Pp
The
.Fl words
argument is required; additional arguments are ignored.
.Pp
The following example will not break within each
.Sx \&Op
macro line:
.Bd -literal -offset indent
\&.Bk \-words
\&.Op Fl f Ar flags
\&.Op Fl o Ar output
\&.Ek
.Ed
.Pp
Be careful in using over-long lines within a keep block!
Doing so will clobber the right margin.
.Ss \&Bl
Begin a list.
Lists consist of items specified using the
.Sx \&It
macro, containing a head or a body or both.
The list syntax is as follows:
```

```
1029 .Bd -ragged -offset indent
1030 .Pf \. Sx \&Bl
1031 .Fl Ns Ar type
1032 .Op Fl width Ar val
1033 .Op Fl offset Ar val
1034 .Op Fl compact
1035 .Op HEAD ...
1036 .Ed
1037 .Pp
1038 The list
1039 .Ar type
1040 is mandatory and must be specified first.
1041 The
1042 .Fl width
1043 and
1044 .Fl offset
1045 arguments accept
1046 .Sx Scaling Widths
1047 or use the length of the given string.
1048 The
1049 .Fl offset
1050 is a global indentation for the whole list, affecting both item heads
1051 and bodies.
1052 For those list types supporting it, the
1053 .Fl width
1054 argument requests an additional indentation of item bodies,
1055 to be added to the
1056 .Fl offset .
1057 Unless the
1058 .Fl compact
1059 argument is specified, list entries are separated by vertical space.
1060 .Pp
1061 A list must specify one of the following list types:
1062 .Bl -tag -width 12n -offset indent
1063 .It Fl bullet
1064 No item heads can be specified, but a bullet will be printed at the head
1065 of each item.
1066 Item bodies start on the same output line as the bullet
1067 and are indented according to the
1068 .Fl width
1069 argument.
1070 .It Fl column
1071 A columnated list.
1072 The
1073 .Fl width
1074 argument has no effect; instead, each argument specifies the width
1075 of one column, using either the
1076 .Sx Scaling Widths
1077 syntax or the string length of the argument.
1078 If the first line of the body of a
1079 .Fl column
1080 list is not an
1081 .Sx \&It
1082 macro line,
1083 .Sx \&It
1084 contexts spanning one input line each are implied until an
1085 .Sx \&It
1086 macro line is encountered, at which point items start being interpreted as
1087 described in the
1088 .Sx \&It
1089 documentation.
1090 .It Fl dash
1091 Like
1092 .Fl bullet ,
1093 except that dashes are used in place of bullets.
1094 .It Fl diag
```



```
1095 Like
1096 .Fl inset ,
1097 except that item heads are not parsed for macro invocations.
1098 Most often used in the
1099 .Em DIAGNOSTICS
1100 section with error constants in the item heads.
1101 .It Fl enum
1102 A numbered list.
1103 No item heads can be specified.
1104 Formatted like
1105 .Fl bullet ,
1106 except that cardinal numbers are used in place of bullets,
1107 starting at 1.
1108 .It Fl hang
1109 Like
1110 .Fl tag ,
1111 except that the first lines of item bodies are not indented, but follow
1112 the item heads like in
1113 .Fl inset
1114 lists.
1115 .It Fl hyphen
1116 Synonym for
1117 .Fl dash .
1118 .It Fl inset
1119 Item bodies follow items heads on the same line, using normal inter-word
1120 spacing.
1121 Bodies are not indented, and the
1122 .Fl width
1123 argument is ignored.
1124 .It Fl item
1125 No item heads can be specified, and none are printed.
1126 Bodies are not indented, and the
1127 .Fl width
1128 argument is ignored.
1129 .It Fl ohang
1130 Item bodies start on the line following item heads and are not indented.
1131 The
1132 .Fl width
1133 argument is ignored.
1134 .It Fl tag
1135 Item bodies are indented according to the
1136 .Fl width
1137 argument.
1138 When an item head fits inside the indentation, the item body follows
1139 this head on the same output line.
1140 Otherwise, the body starts on the output line following the head.
1141 .El
1142 .Pp
1143 Lists may be nested within lists and displays.
1144 Nesting of
1145 .Fl column
1146 and
1147 .Fl enum
1148 lists may not be portable.
1149 .Pp
1150 See also
1151 .Sx \&El
1152 and
1153 .Sx \&It .
1154 .Ss \&Bo
1155 Begin a block enclosed by square brackets.
1156 Does not have any head arguments.
1157 .Pp
1158 Examples:
1159 .Bd -literal -offset indent -compact
1160 \&.Bo 1 ,
```

```
\&.Dv BUFSIZ \&Bc
.Ed
.Pp
See also
.Sx \&Bq .
.Ss \&Bq
Encloses its arguments in square brackets.
.Pp
Examples:
.Dl \&.Bq 1 , \&Dv BUFSIZ
.Pp
.Em Remarks :
this macro is sometimes abused to emulate optional arguments for
commands; the correct macros to use for this purpose are
.Sx \&Op ,
.Sx \&Oo ,
and
.Sx \&Oc .
.Pp
See also
.Sx \&Bo .
.Ss \&Brc
Close a
.Sx \&Bro
block.
Does not have any tail arguments.
.Ss \&Bro
Begin a block enclosed by curly braces.
Does not have any head arguments.
.Pp
Examples:
.Bd -literal -offset indent -compact
\&.Bro 1 , ... ,
\&.Va n \&Brc
.Ed
.Pp
See also
.Sx \&Brq .
.Ss \&Brq
Encloses its arguments in curly braces.
.Pp
Examples:
.Dl \&.Brq 1 , ... , \&Va n
.Pp
See also
.Sx \&Bro .
.Ss \&Bsx
Format the BSD/OS version provided as an argument, or a default value if
no argument is provided.
.Pp
Examples:
.Dl \&.Bsx 1.0
.Dl \&.Bsx
.Pp
See also
.Sx \&At ,
.Sx \&Bx ,
.Sx \&Dx ,
.Sx \&Fx ,
.Sx \&Nx ,
.Sx \&Ox ,
and
.Sx \&Ux .
.Ss \&Bt
Prints
.Dq is currently in beta test.
```



```
.Ss \&Bx
Format the BSD version provided as an argument, or a default value if no
argument is provided.
.Pp
Examples:
.Dl \&.Bx 4.3 Tahoe
.Dl \&.Bx 4.4
.Dl \&.Bx
.Pp
See also
.Sx \&At ,
.Sx \&Bsx ,
.Sx \&Dx ,
.Sx \&Fx ,
.Sx \&Nx ,
.Sx \&Ox ,
and
.Sx \&Ux .
.Ss \&Cd
Kernel configuration declaration.  It is found in pages for
.Bx
and not used here.
.Pp
Examples:
.Dl \&.Cd device le0 at scode?
.Pp
.Em Remarks :
this macro is commonly abused by using quoted literals to retain
whitespace and align consecutive
.Sx \&Cd
declarations.
This practise is discouraged.
.Ss \&Cm
Command modifiers.
Typically used for fixed strings passed as arguments, unless
.Sx \&Fl
is more appropriate.
Also useful when specifying configuration options or keys.
.Pp
Examples:
.Dl ".Nm mt Fl f Ar device Cm rewind"
.Dl ".Nm ps Fl o Cm pid , Ns Cm command"
.Dl ".Nm dd Cm if= Ns Ar file1 Cm of= Ns Ar file2"
.Dl ".Cm IdentityFile Pa ~/.ssh/id_rsa"
.Dl ".Cm LogLevel Dv DEBUG"
.Ss \&D1
One-line indented display.
This is formatted by the default rules and is useful for simple indented
statements.
It is followed by a newline.
.Pp
Examples:
.Dl \&.D1 \&Fl abcdefgh
.Pp
See also
.Sx \&Bd
and
.Sx \&Dl .
.Ss \&Db
Switch debugging mode.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Db Cm on | off
.Pp
This macro is ignored by
.Xr mandoc 1 .
```

```
.Ss \&Dc
Close a
.Sx \&Do
block.
Does not have any tail arguments.
.Ss \&Dd
Document date.
This is the mandatory first macro of any
.Nm
manual.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Dd Ar month day , year
.Pp
The
.Ar month
is the full English month name, the
.Ar day
is an optionally zero-padded numeral, and the
.Ar year
is the full four-digit year.
.Pp
Other arguments are not portable; the
.Xr mandoc 1
utility handles them as follows:
.Bl -dash -offset 3n -compact
.It
To have the date automatically filled in by the
.Ox
version of
.Xr cvs 1 ,
the special string
.Dq $\&Mdocdate$
can be given as an argument.
.It
A few alternative date formats are accepted as well
and converted to the standard form.
.It
If a date string cannot be parsed, it is used verbatim.
.It
If no date string is given, the current date is used.
.El
.Pp
Examples:
.Dl \&.Dd $\&Mdocdate$
.Dl \&.Dd $\&Mdocdate: July 21 2007$
.Dl \&.Dd July 21, 2007
.Pp
See also
.Sx \&Dt
and
.Sx \&Os .
.Ss \&Dl
One-line intended display.
This is formatted as literal text and is useful for commands and
invocations.
It is followed by a newline.
.Pp
Examples:
.Dl \&.Dl % mandoc mdoc.5 \e(ba less
.Pp
See also
.Sx \&Bd
and
.Sx \&D1 .
.Ss \&Do
```



```
Begin a block enclosed by double quotes.
Does not have any head arguments.
.Pp
Examples:
.Bd -literal -offset indent -compact
\&.Do
April is the cruellest month
\&.Dc
\e(em T.S. Eliot
.Ed
.Pp
See also
.Sx \&Dq .
.Ss \&Dq
Encloses its arguments in
.Dq typographic
double-quotes.
.Pp
Examples:
.Bd -literal -offset indent -compact
\&.Dq April is the cruellest month
\e(em T.S. Eliot
.Ed
.Pp
See also
.Sx \&Qq ,
.Sx \&Sq ,
and
.Sx \&Do .
.Ss \&Dt
Document title.
This is the mandatory second macro of any
.Nm
file.
Its syntax is as follows:
.Bd -ragged -offset indent
.Pf \. Sx \&Dt
.Oo
.Ar title
.Oo
.Ar section
.Op Ar volume
.Op Ar arch
.Oc
.Oc
.Ed
.Pp
Its arguments are as follows:
.Bl -tag -width Ds -offset Ds
.It Ar title
The document’s title (name), defaulting to
.Dq UNKNOWN
if unspecified.
It should be capitalised.
.It Ar section
The manual section. It should correspond to the manual’s filename suffix
and defaults to
.Dq 1
if unspecified.
.It Ar volume
This overrides the volume inferred from
.Ar section .
This field is optional.
.It Ar arch
This specifies the machine architecture a manual page applies to,
where relevant.
```

```
.El
.Ss \&Dv
Defined variables such as preprocessor constants, constant symbols,
enumeration values, and so on.
.Pp
Examples:
.Dl \&.Dv NULL
.Dl \&.Dv BUFSIZ
.Dl \&.Dv STDOUT_FILENO
.Pp
See also
.Sx \&Er
and
.Sx \&Ev
for special-purpose constants and
.Sx \&Va
for variable symbols.
.Ss \&Dx
Format the DragonFly BSD version provided as an argument, or a default
value if no argument is provided.
.Pp
Examples:
.Dl \&.Dx 2.4.1
.Dl \&.Dx
.Pp
See also
.Sx \&At ,
.Sx \&Bsx ,
.Sx \&Bx ,
.Sx \&Fx ,
.Sx \&Nx ,
.Sx \&Ox ,
and
.Sx \&Ux .
.Ss \&Ec
Close a scope started by
.Sx \&Eo .
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Ec Op Ar TERM
.Pp
The
.Ar TERM
argument is used as the enclosure tail, for example, specifying \e(rq
will emulate
.Sx \&Dc .
.Ss \&Ed
End a display context started by
.Sx \&Bd .
.Ss \&Ef
End a font mode context started by
.Sx \&Bf .
.Ss \&Ek
End a keep context started by
.Sx \&Bk .
.Ss \&El
End a list context started by
.Sx \&Bl .
.Pp
See also
.Sx \&Bl
and
.Sx \&It .
.Ss \&Em
Denotes text that should be
.Em emphasised .
```



```
Note that this is a presentation term and should not be used for
stylistically decorating technical terms.
Depending on the output device, this is usually represented
using an italic font or underlined characters.
.Pp
Examples:
.Dl \&.Em Warnings!
.Dl \&.Em Remarks :
.Pp
See also
.Sx \&Bf ,
.Sx \&Li ,
.Sx \&No ,
and
.Sx \&Sy .
.Ss \&En
This macro is obsolete and not implemented in
.Xr mandoc 1 .
.Ss \&Eo
An arbitrary enclosure.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Eo Op Ar TERM
.Pp
The
.Ar TERM
argument is used as the enclosure head, for example, specifying \e(lq
will emulate
.Sx \&Do .
.Ss \&Er
Error constants for definitions of the
.Va errno
libc global variable.
This is most often used in section 2 and 3 manual pages.
.Pp
Examples:
.Dl \&.Er EPERM
.Dl \&.Er ENOENT
.Pp
See also
.Sx \&Dv
for general constants.
.Ss \&Es
This macro is obsolete and not implemented.
.Ss \&Ev
Environmental variables such as those specified in
.Xr environ 5 .
.Pp
Examples:
.Dl \&.Ev DISPLAY
.Dl \&.Ev PATH
.Pp
See also
.Sx \&Dv
for general constants.
.Ss \&Ex
Insert a standard sentence regarding command exit values of 0 on success
and >0 on failure.
This is most often used in section 1 and 1M manual pages.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Ex Fl std Op Ar utility ...
.Pp
If
.Ar utility
is not specified, the document’s name set by
```

```
.Sx \&Nm
is used.
Multiple
.Ar utility
arguments are treated as separate utilities.
.Pp
See also
.Sx \&Rv .
.Ss \&Fa
Function argument.
Its syntax is as follows:
.Bd -ragged -offset indent
.Pf \. Sx \&Fa
.Op Cm argtype
.Cm argname
.Ed
.Pp
This may be invoked for names with or without the corresponding type.
It is also used to specify the field name of a structure.
Most often, the
.Sx \&Fa
macro is used in the
.Em SYNOPSIS
within
.Sx \&Fo
section when documenting multi-line function prototypes.
If invoked with multiple arguments, the arguments are separated by a
comma.
Furthermore, if the following macro is another
.Sx \&Fa ,
the last argument will also have a trailing comma.
.Pp
Examples:
.Dl \&.Fa \(dqconst char *p\(dq
.Dl \&.Fa \(dqint a\(dq \(dqint b\(dq \(dqint c\(dq
.Dl \&.Fa foo
.Pp
See also
.Sx \&Fo .
.Ss \&Fc
End a function context started by
.Sx \&Fo .
.Ss \&Fd
Historically used to document include files.
This usage has been deprecated in favour of
.Sx \&In .
Do not use this macro.
.Pp
See also
.Sx MANUAL STRUCTURE
and
.Sx \&In .
.Ss \&Fl
Command-line flag or option.
Used when listing arguments to command-line utilities.
Prints a fixed-width hyphen
.Sq \-
directly followed by each argument.
If no arguments are provided, a hyphen is printed followed by a space.
If the argument is a macro, a hyphen is prefixed to the subsequent macro
output.
.Pp
Examples:
.Dl ".Fl R Op Fl H | L | P"
.Dl ".Op Fl 1AaCcdFfgHhikLlmnopqRrSsTtux"
.Dl ".Fl type Cm d Fl name Pa CVS"
```



```
.Dl ".Fl Ar signal_number"
.Dl ".Fl o Fl"
.Pp
See also
.Sx \&Cm .
.Ss \&Fn
A function name.
Its syntax is as follows:
.Bd -ragged -offset indent
.Pf \. Ns Sx \&Fn
.Op Ar functype
.Ar funcname
.Op Oo Ar argtype Oc Ar argname
.Ed
.Pp
Function arguments are surrounded in parenthesis and
are delimited by commas.
If no arguments are specified, blank parenthesis are output.
In the
.Em SYNOPSIS
section, this macro starts a new output line,
and a blank line is automatically inserted between function definitions.
.Pp
Examples:
.Dl \&.Fn \(dqint funcname\(dq \(dqint arg0\(dq \(dqint arg1\(dq
.Dl \&.Fn funcname \(dqint arg0\(dq
.Dl \&.Fn funcname arg0
.Pp
.Bd -literal -offset indent -compact
\&.Ft functype
\&.Fn funcname
.Ed
.Pp
When referring to a function documented in another manual page, use
.Sx \&Xr
instead.
See also
.Sx MANUAL STRUCTURE ,
.Sx \&Fo ,
and
.Sx \&Ft .
.Ss \&Fo
Begin a function block.
This is a multi-line version of
.Sx \&Fn .
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Fo Ar funcname
.Pp
Invocations usually occur in the following context:
.Bd -ragged -offset indent
.Pf \. Sx \&Ft Ar functype
.br
.Pf \. Sx \&Fo Ar funcname
.br
.Pf \. Sx \&Fa Oo Ar argtype Oc Ar argname
.br
\&.\.\.
.br
.Pf \. Sx \&Fc
.Ed
.Pp
A
.Sx \&Fo
scope is closed by
.Sx \&Fc .
```

```
.Pp
See also
.Sx MANUAL STRUCTURE ,
.Sx \&Fa ,
.Sx \&Fc ,
and
.Sx \&Ft .
.Ss \&Fr
This macro is obsolete and not implemented in
.Xr mandoc 1 .
.Pp
It was used to show function return values.
The syntax was:
.Pp
.Dl Pf . Sx \&Fr Ar value
.Ss \&Ft
A function type.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Ft Ar functype
.Pp
In the
.Em SYNOPSIS
section, a new output line is started after this macro.
.Pp
Examples:
.Dl \&.Ft int
.Bd -literal -offset indent -compact
\&.Ft functype
\&.Fn funcname
.Ed
.Pp
See also
.Sx MANUAL STRUCTURE ,
.Sx \&Fn ,
and
.Sx \&Fo .
.Ss \&Fx
Format the
.Fx
version provided as an argument, or a default value
if no argument is provided.
.Pp
Examples:
.Dl \&.Fx 7.1
.Dl \&.Fx
.Pp
See also
.Sx \&At ,
.Sx \&Bsx ,
.Sx \&Bx ,
.Sx \&Dx ,
.Sx \&Nx ,
.Sx \&Ox ,
and
.Sx \&Ux .
.Ss \&Hf
This macro is not implemented in
.Xr mandoc 1 .
.Pp
It was used to include the contents of a (header) file literally.
The syntax was:
.Pp
.Dl Pf . Sx \&Hf Ar filename
.Ss \&Ic
Designate an internal or interactive command.
```



```
This is similar to
.Sx \&Cm
but used for instructions rather than values.
.Pp
Examples:
.Dl \&.Ic :wq
.Dl \&.Ic hash
.Dl \&.Ic alias
.Pp
Note that using
.Sx \&Bd Fl literal
or
.Sx \&D1
is preferred for displaying code; the
.Sx \&Ic
macro is used when referring to specific instructions.
.Ss \&In
An
.Dq include
file.
When invoked as the first macro on an input line in the
.Em SYNOPSIS
section, the argument is displayed in angle brackets
and preceded by
.Dq #include ,
and a blank line is inserted in front if there is a preceding
function declaration.
This is most often used in section 2, 3, and 9 manual pages.
.Pp
Examples:
.Dl \&.In sys/types.h
.Pp
See also
.Sx MANUAL STRUCTURE .
.Ss \&It
A list item.
The syntax of this macro depends on the list type.
.Pp
Lists
of type
.Fl hang ,
.Fl ohang ,
.Fl inset ,
and
.Fl diag
have the following syntax:
.Pp
.D1 Pf \. Sx \&It Ar args
.Pp
Lists of type
.Fl bullet ,
.Fl dash ,
.Fl enum ,
.Fl hyphen
and
.Fl item
have the following syntax:
.Pp
.D1 Pf \. Sx \&It
.Pp
with subsequent lines interpreted within the scope of the
.Sx \&It
until either a closing
.Sx \&El
or another
.Sx \&It .
```

```
.Pp
The
.Fl tag
list has the following syntax:
.Pp
.D1 Pf \. Sx \&It Op Cm args
.Pp
Subsequent lines are interpreted as with
.Fl bullet
and family.
The line arguments correspond to the list’s left-hand side; body
arguments correspond to the list’s contents.
.Pp
The
.Fl column
list is the most complicated.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&It Ar cell Op <TAB> Ar cell ...
.D1 Pf \. Sx \&It Ar cell Op Sx \&Ta Ar cell ...
.Pp
The arguments consist of one or more lines of text and macros
representing a complete table line.
Cells within the line are delimited by tabs or by the special
.Sx \&Ta
block macro.
The tab cell delimiter may only be used within the
.Sx \&It
line itself; on following lines, only the
.Sx \&Ta
macro can be used to delimit cells, and
.Sx \&Ta
is only recognised as a macro when called by other macros,
not as the first macro on a line.
.Pp
Note that quoted strings may span tab-delimited cells on an
.Sx \&It
line.
For example,
.Pp
.Dl .It \(dqcol1 ; <TAB> col2 ;\(dq \&;
.Pp
will preserve the semicolon whitespace except for the last.
.Pp
See also
.Sx \&Bl .
.Ss \&Lb
Specify a library.
The syntax is as follows:
.Pp
.D1 Pf \. Sx \&Lb Ar library
.Pp
The
.Ar library
parameter may be a system library, such as
.Cm libz
or
.Cm libpam ,
in which case a small library description is printed next to the linker
invocation; or a custom library, in which case the library name is
printed in quotes.
This is most commonly used in the
.Em SYNOPSIS
section as described in
.Sx MANUAL STRUCTURE .
.Pp
```



```
Examples:
.Dl \&.Lb libz
.Dl \&.Lb mdoc
.Ss \&Li
Denotes text that should be in a
.Li literal
font mode.
Note that this is a presentation term and should not be used for
stylistically decorating technical terms.
.Pp
On terminal output devices, this is often indistinguishable from
normal text.
.Pp
See also
.Sx \&Bf ,
.Sx \&Em ,
.Sx \&No ,
and
.Sx \&Sy .
.Ss \&Lk
Format a hyperlink.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Lk Ar uri Op Ar name
.Pp
Examples:
.Dl \&.Lk http://bsd.lv \(dqThe BSD.lv Project\(dq
.Dl \&.Lk http://bsd.lv
.Pp
See also
.Sx \&Mt .
.Ss \&Lp
Synonym for
.Sx \&Pp .
.Ss \&Ms
Display a mathematical symbol.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Ms Ar symbol
.Pp
Examples:
.Dl \&.Ms sigma
.Dl \&.Ms aleph
.Ss \&Mt
Format a
.Dq mailto:
hyperlink.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Mt Ar address
.Pp
Examples:
.Dl \&.Mt discuss@manpages.bsd.lv
.Ss \&Nd
A one line description of the manual’s content.
This may only be invoked in the
.Em SYNOPSIS
section subsequent the
.Sx \&Nm
macro.
.Pp
Examples:
.Dl Pf . Sx \&Nd mdoc language reference
.Dl Pf . Sx \&Nd format and display UNIX manuals
.Pp
The
```

```
.Sx \&Nd
macro technically accepts child macros and terminates with a subsequent
.Sx \&Sh
invocation.
Do not assume this behaviour: some
.Xr whatis 1
database generators are not smart enough to parse more than the line
arguments and will display macros verbatim.
.Pp
See also
.Sx \&Nm .
.Ss \&Nm
The name of the manual page, or \(em in particular in section 1
and 1M pages \(em of an additional command or feature documented in
the manual page.
When first invoked, the
.Sx \&Nm
macro expects a single argument, the name of the manual page.
Usually, the first invocation happens in the
.Em NAME
section of the page.
The specified name will be remembered and used whenever the macro is
called again without arguments later in the page.
The
.Sx \&Nm
macro uses
.Sx Block full-implicit
semantics when invoked as the first macro on an input line in the
.Em SYNOPSIS
section; otherwise, it uses ordinary
.Sx In-line
semantics.
.Pp
Examples:
.Bd -literal -offset indent
\&.Sh SYNOPSIS
\&.Nm cat
\&.Op Fl benstuv
\&.Op Ar
.Ed
.Pp
In the
.Em SYNOPSIS
of section 2, 3 and 9 manual pages, use the
.Sx \&Fn
macro rather than
.Sx \&Nm
to mark up the name of the manual page.
.Ss \&No
Normal text.
Closes the scope of any preceding in-line macro.
When used after physical formatting macros like
.Sx \&Em
or
.Sx \&Sy ,
switches back to the standard font face and weight.
Can also be used to embed plain text strings in macro lines
using semantic annotation macros.
.Pp
Examples:
.Dl ".Em italic , Sy bold , No and roman"
.Pp
.Bd -literal -offset indent -compact
\&.Sm off
\&.Cm :C No / Ar pattern No / Ar replacement No /
\&.Sm on
```



```
.Ed
.Pp
See also
.Sx \&Em ,
.Sx \&Li ,
and
.Sx \&Sy .
.Ss \&Ns
Suppress a space between the output of the preceding macro
and the following text or macro.
Following invocation, input is interpreted as normal text
just like after an
.Sx \&No
macro.
.Pp
This has no effect when invoked at the start of a macro line.
.Pp
Examples:
.Dl ".Ar name Ns = Ns Ar value"
.Dl ".Cm :M Ns Ar pattern"
.Dl ".Fl o Ns Ar output"
.Pp
See also
.Sx \&No
and
.Sx \&Sm .
.Ss \&Nx
Format the
.Nx
version provided as an argument, or a default value if
no argument is provided.
.Pp
Examples:
.Dl \&.Nx 5.01
.Dl \&.Nx
.Pp
See also
.Sx \&At ,
.Sx \&Bsx ,
.Sx \&Bx ,
.Sx \&Dx ,
.Sx \&Fx ,
.Sx \&Ox ,
and
.Sx \&Ux .
.Ss \&Oc
Close multi-line
.Sx \&Oo
context.
.Ss \&Oo
Multi-line version of
.Sx \&Op .
.Pp
Examples:
.Bd -literal -offset indent -compact
\&.Oo
\&.Op Fl flag Ns Ar value
\&.Oc
.Ed
.Ss \&Op
Optional part of a command line.
Prints the argument(s) in brackets.
This is most often used in the
.Em SYNOPSIS
section of section 1 and 1M manual pages.
.Pp
```

```
2085 Examples:
2086 .Dl \&.Op \&Fl a \&Ar b
2087 .Dl \&.Op \&Ar a | b
2088 .Pp
2089 See also
2090 .Sx \&Oo .
2091 .Ss \&Os
2092 Document operating system version.
2093 This is the mandatory third macro of
2094 any
2095 .Nm
2096 file.
2097 Its syntax is as follows:
2098 .Pp
2099 .D1 Pf \. Sx \&Os Op Ar system Op Ar version
2100 .Pp
2101 The optional
2102 .Ar system
2103 parameter specifies the relevant operating system or environment.
2104 Left unspecified, it defaults to the local operating system version.
2105 This is the suggested form.
2106 .Pp
2107 Examples:
2108 .Dl \&.Os
2109 .Dl \&.Os KTH/CSC/TCS
2110 .Dl \&.Os BSD 4.3
2111 .Pp
2112 See also
2113 .Sx \&Dd
2114 and
2115 .Sx \&Dt .
2116 .Ss \&Ot
2117 This macro is obsolete and not implemented in
2118 .Xr mandoc 1 .
2119 .Pp
2120 Historical
2121 .Xr mdoc 5
2122 packages described it as
2123 .Dq "old function type (FORTRAN)" .
2124 .Ss \&Ox
2125 Format the
2126 .Ox
2127 version provided as an argument, or a default value
2128 if no argument is provided.
2129 .Pp
2130 Examples:
2131 .Dl \&.Ox 4.5
2132 .Dl \&.Ox
2133 .Pp
2134 See also
2135 .Sx \&At ,
2136 .Sx \&Bsx ,
2137 .Sx \&Bx ,
2138 .Sx \&Dx ,
2139 .Sx \&Fx ,
2140 .Sx \&Nx ,
2141 and
2142 .Sx \&Ux .
2143 .Ss \&Pa
2144 An absolute or relative file system path, or a file or directory name.
2145 If an argument is not provided, the character
2146 .Sq \(ti
2147 is used as a default.
2148 .Pp
2149 Examples:
2150 .Dl \&.Pa /usr/bin/mandoc
```



```
2151 .Dl \&.Pa /usr/share/man/man5/mdoc.5
2152 .Pp
2153 See also
2154 .Sx \&Lk .
2155 .Ss \&Pc
2156 Close parenthesised context opened by
2157 .Sx \&Po .
2158 .Ss \&Pf
2159 Removes the space between its argument
2160 .Pq Dq prefix
2161 and the following macro.
2162 Its syntax is as follows:
2163 .Pp
2164 .D1 .Pf Ar prefix macro arguments ...
2165 .Pp
2166 This is equivalent to:
2167 .Pp
2168 .D1 .No Ar prefix No \&Ns Ar macro arguments ...
2169 .Pp
2170 Examples:
2171 .Dl ".Pf $ Ar variable_name"
2172 .Dl ".Pf 0x Ar hex_digits"
2173 .Pp
2174 See also
2175 .Sx \&Ns
2176 and
2177 .Sx \&Sm .
2178 .Ss \&Po
2179 Multi-line version of
2180 .Sx \&Pq .
2181 .Ss \&Pp
2182 Break a paragraph.
2183 This will assert vertical space between prior and subsequent macros
2184 and/or text.
2185 .Pp
2186 Paragraph breaks are not needed before or after
2187 .Sx \&Sh
2188 or
2189 .Sx \&Ss
2190 macros or before displays
2191 .Pq Sx \&Bd
2192 or lists
2193 .Pq Sx \&Bl
2194 unless the
2195 .Fl compact
2196 flag is given.
2197 .Ss \&Pq
2198 Parenthesised enclosure.
2199 .Pp
2200 See also
2201 .Sx \&Po .
2202 .Ss \&Qc
2203 Close quoted context opened by
2204 .Sx \&Qo .
2205 .Ss \&Ql
2206 Format a single-quoted literal.
2207 See also
2208 .Sx \&Qq
2209 and
2210 .Sx \&Sq .
2211 .Ss \&Qo
2212 Multi-line version of
2213 .Sx \&Qq .
2214 .Ss \&Qq
2215 Encloses its arguments in
2216 .Qq typewriter
```

```
double-quotes.
Consider using
.Sx \&Dq .
.Pp
See also
.Sx \&Dq ,
.Sx \&Sq ,
and
.Sx \&Qo .
.Ss \&Re
Close an
.Sx \&Rs
block.
Does not have any tail arguments.
.Ss \&Rs
Begin a bibliographic
.Pq Dq reference
block.
Does not have any head arguments.
The block macro may only contain
.Sx \&%A ,
.Sx \&%B ,
.Sx \&%C ,
.Sx \&%D ,
.Sx \&%I ,
.Sx \&%J ,
.Sx \&%N ,
.Sx \&%O ,
.Sx \&%P ,
.Sx \&%Q ,
.Sx \&%R ,
.Sx \&%T ,
.Sx \&%U ,
and
.Sx \&%V
child macros (at least one must be specified).
.Pp
Examples:
.Bd -literal -offset indent -compact
\&.Rs
\&.%A J. E. Hopcroft
\&.%A J. D. Ullman
\&.%B Introduction to Automata Theory, Languages, and Computation
\&.%I Addison-Wesley
\&.%C Reading, Massachusettes
\&.%D 1979
\&.Re
.Ed
.Pp
If an
.Sx \&Rs
block is used within a SEE ALSO section, a vertical space is asserted
before the rendered output, else the block continues on the current
line.
.Ss \&Rv
Insert a standard sentence regarding a function call’s return value of 0
on success and \-1 on error, with the
.Va errno
libc global variable set on error.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Rv Fl std Op Ar function ...
.Pp
If
.Ar function
is not specified, the document’s name set by
```



```
.Sx \&Nm
is used.
Multiple
.Ar function
arguments are treated as separate functions.
.Pp
See also
.Sx \&Ex .
.Ss \&Sc
Close single-quoted context opened by
.Sx \&So .
.Ss \&Sh
Begin a new section.
For a list of conventional manual sections, see
.Sx MANUAL STRUCTURE .
These sections should be used unless it’s absolutely necessary that
custom sections be used.
.Pp
Section names should be unique so that they may be keyed by
.Sx \&Sx .
Although this macro is parsed, it should not consist of child node or it
may not be linked with
.Sx \&Sx .
.Pp
See also
.Sx \&Pp ,
.Sx \&Ss ,
and
.Sx \&Sx .
.Ss \&Sm
Switches the spacing mode for output generated from macros.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Sm Cm on | off
.Pp
By default, spacing is
.Cm on .
When switched
.Cm off ,
no white space is inserted between macro arguments and between the
output generated from adjacent macros, but text lines
still get normal spacing between words and sentences.
.Ss \&So
Multi-line version of
.Sx \&Sq .
.Ss \&Sq
Encloses its arguments in
.Sq typewriter
single-quotes.
.Pp
See also
.Sx \&Dq ,
.Sx \&Qq ,
and
.Sx \&So .
.Ss \&Ss
Begin a new subsection.
Unlike with
.Sx \&Sh ,
there is no convention for the naming of subsections.
Except
.Em DESCRIPTION ,
the conventional sections described in
.Sx MANUAL STRUCTURE
rarely have subsections.
.Pp
```

```
2349 Sub-section names should be unique so that they may be keyed by
2350 .Sx \&Sx .
2351 Although this macro is parsed, it should not consist of child node or it
2352 may not be linked with
2353 .Sx \&Sx .
2354 .Pp
2355 See also
2356 .Sx \&Pp ,
2357 .Sx \&Sh ,
2358 and
2359 .Sx \&Sx .
2360 .Ss \&St
2361 Replace an abbreviation for a standard with the full form.
2362 The following standards are recognised:
2363 .Pp
2364 .Bl -tag -width "-p1003.1g-2000X" -compact
2365 .It \-p1003.1-88
2366 .St -p1003.1-88
2367 .It \-p1003.1-90
2368 .St -p1003.1-90
2369 .It \-p1003.1-96
2370 .St -p1003.1-96
2371 .It \-p1003.1-2001
2372 .St -p1003.1-2001
2373 .It \-p1003.1-2004
2374 .St -p1003.1-2004
2375 .It \-p1003.1-2008
2376 .St -p1003.1-2008
2377 .It \-p1003.1
2378 .St -p1003.1
2379 .It \-p1003.1b
2380 .St -p1003.1b
2381 .It \-p1003.1b-93
2382 .St -p1003.1b-93
2383 .It \-p1003.1c-95
2384 .St -p1003.1c-95
2385 .It \-p1003.1g-2000
2386 .St -p1003.1g-2000
2387 .It \-p1003.1i-95
2388 .St -p1003.1i-95
2389 .It \-p1003.2-92
2390 .St -p1003.2-92
2391 .It \-p1003.2a-92
2392 .St -p1003.2a-92
2393 .It \-p1387.2-95
2394 .St -p1387.2-95
2395 .It \-p1003.2
2396 .St -p1003.2
2397 .It \-p1387.2
2398 .St -p1387.2
2399 .It \-isoC
2400 .St -isoC
2401 .It \-isoC-90
2402 .St -isoC-90
2403 .It \-isoC-amd1
2404 .St -isoC-amd1
2405 .It \-isoC-tcor1
2406 .St -isoC-tcor1
2407 .It \-isoC-tcor2
2408 .St -isoC-tcor2
2409 .It \-isoC-99
2410 .St -isoC-99
2411 .It \-isoC-2011
2412 .St -isoC-2011
2413 .It \-iso9945-1-90
2414 .St -iso9945-1-90
```



```
2415 .It \-iso9945-1-96
2416 .St -iso9945-1-96
2417 .It \-iso9945-2-93
2418 .St -iso9945-2-93
2419 .It \-ansiC
2420 .St -ansiC
2421 .It \-ansiC-89
2422 .St -ansiC-89
2423 .It \-ansiC-99
2424 .St -ansiC-99
2425 .It \-ieee754
2426 .St -ieee754
2427 .It \-iso8802-3
2428 .St -iso8802-3
2429 .It \-iso8601
2430 .St -iso8601
2431 .It \-ieee1275-94
2432 .St -ieee1275-94
2433 .It \-xpg3
2434 .St -xpg3
2435 .It \-xpg4
2436 .St -xpg4
2437 .It \-xpg4.2
2438 .St -xpg4.2
2439 .It \-xpg4.3
2440 .St -xpg4.3
2441 .It \-xbd5
2442 .St -xbd5
2443 .It \-xcu5
2444 .St -xcu5
2445 .It \-xsh5
2446 .St -xsh5
2447 .It \-xns5
2448 .St -xns5
2449 .It \-xns5.2
2450 .St -xns5.2
2451 .It \-xns5.2d2.0
2452 .St -xns5.2d2.0
2453 .It \-xcurses4.2
2454 .St -xcurses4.2
2455 .It \-susv2
2456 .St -susv2
2457 .It \-susv3
2458 .St -susv3
2459 .It \-svid4
2460 .St -svid4
2461 .El
2462 .Ss \&Sx
2463 Reference a section or subsection in the same manual page.
2464 The referenced section or subsection name must be identical to the
2465 enclosed argument, including whitespace.
2466 .Pp
2467 Examples:
2468 .Dl \&.Sx MANUAL STRUCTURE
2469 .Pp
2470 See also
2471 .Sx \&Sh
2472 and
2473 .Sx \&Ss .
2474 .Ss \&Sy
2475 Format enclosed arguments in symbolic
2476 .Pq Dq boldface .
2477 Note that this is a presentation term and should not be used for
2478 stylistically decorating technical terms.
2479 .Pp
2480 See also
```

```
.Sx \&Bf ,
.Sx \&Em ,
.Sx \&Li ,
and
.Sx \&No .
.Ss \&Ta
Table cell separator in
.Sx \&Bl Fl column
lists; can only be used below
.Sx \&It .
.Ss \&Tn
Format a tradename.
.Pp
Since this macro is often implemented to use a small caps font,
it has historically been used for acronyms (like ASCII) as well.
Such usage is not recommended because it would use the same macro
sometimes for semantical annotation, sometimes for physical formatting.
.Pp
Examples:
.Dl \&.Tn IBM
.Ss \&Ud
Prints out
.Dq currently under development.
.Ss \&Ux
Format the UNIX name.
Accepts no argument.
.Pp
Examples:
.Dl \&.Ux
.Pp
See also
.Sx \&At ,
.Sx \&Bsx ,
.Sx \&Bx ,
.Sx \&Dx ,
.Sx \&Fx ,
.Sx \&Nx ,
and
.Sx \&Ox .
.Ss \&Va
A variable name.
.Pp
Examples:
.Dl \&.Va foo
.Dl \&.Va const char *bar ;
.Ss \&Vt
A variable type.
This is also used for indicating global variables in the
.Em SYNOPSIS
section, in which case a variable name is also specified.
Note that it accepts
.Sx Block partial-implicit
syntax when invoked as the first macro on an input line in the
.Em SYNOPSIS
section, else it accepts ordinary
.Sx In-line
syntax.
In the former case, this macro starts a new output line,
and a blank line is inserted in front if there is a preceding
function definition or include directive.
.Pp
Note that this should not be confused with
.Sx \&Ft ,
which is used for function return types.
.Pp
Examples:
```



```
.Dl \&.Vt unsigned char
.Dl \&.Vt extern const char * const sys_signame[] \&;
.Pp
See also
.Sx MANUAL STRUCTURE
and
.Sx \&Va .
.Ss \&Xc
Close a scope opened by
.Sx \&Xo .
.Ss \&Xo
Extend the header of an
.Sx \&It
macro or the body of a partial-implicit block macro
beyond the end of the input line.
This macro originally existed to work around the 9-argument limit
of historic
.Xr roff 5 .
.Ss \&Xr
Link to another manual
.Pq Qq cross-reference .
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&Xr Ar name section
.Pp
The
.Ar name
and
.Ar section
are the name and section of the linked manual.
If
.Ar section
is followed by non-punctuation, an
.Sx \&Ns
is inserted into the token stream.
This behaviour is for compatibility with
GNU troff.
.Pp
Examples:
.Dl \&.Xr mandoc 1
.Dl \&.Xr mandoc 1 \&;
.Dl \&.Xr mandoc 1 \&Ns s behaviour
.Ss \&br
Emits a line-break.
This macro should not be used; it is implemented for compatibility with
historical manuals.
.Pp
Consider using
.Sx \&Pp
in the event of natural paragraph breaks.
.Ss \&sp
Emits vertical space.
This macro should not be used; it is implemented for compatibility with
historical manuals.
Its syntax is as follows:
.Pp
.D1 Pf \. Sx \&sp Op Ar height
.Pp
The
.Ar height
argument must be formatted as described in
.Sx Scaling Widths .
If unspecified,
.Sx \&sp
asserts a single vertical space.
.Sh MACRO SYNTAX
```

```
The syntax of a macro depends on its classification.
In this section,
.Sq \-arg
refers to macro arguments, which may be followed by zero or more
.Sq parm
parameters;
.Sq \&Yo
opens the scope of a macro; and if specified,
.Sq \&Yc
closes it out.
.Pp
The
.Em Callable
column indicates that the macro may also be called by passing its name
as an argument to another macro.
For example,
.Sq \&.Op \&Fl O \&Ar file
produces
.Sq Op Fl O Ar file .
To prevent a macro call and render the macro name literally,
escape it by prepending a zero-width space,
.Sq \e& .
For example,
.Sq \&Op \e&Fl O
produces
.Sq Op \&Fl O .
If a macro is not callable but its name appears as an argument
to another macro, it is interpreted as opaque text.
For example,
.Sq \&.Fl \&Sh
produces
.Sq Fl \&Sh .
.Pp
The
.Em Parsed
column indicates whether the macro may call other macros by receiving
their names as arguments.
If a macro is not parsed but the name of another macro appears
as an argument, it is interpreted as opaque text.
.Pp
The
.Em Scope
column, if applicable, describes closure rules.
.Ss Block full-explicit
Multi-line scope closed by an explicit closing macro.
All macros contains bodies; only
.Sx \&Bf
and
.Pq optionally
.Sx \&Bl
contain a head.
.Bd -literal -offset indent
\&.Yo \(lB\-arg \(lBparm...\(rB\(rB \(lBhead...\(rB
\(lBbody...\(rB
\&.Yc
.Ed
.Bl -column "MacroX" "CallableX" "ParsedX" "closed by XXX" -offset indent
.It Em Macro Ta Em Callable Ta Em Parsed Ta Em Scope
.It Sx \&Bd  Ta    \&No     Ta    \&No     Ta    closed by Sx \&Ed
.It Sx \&Bf  Ta    \&No     Ta    \&No     Ta    closed by Sx \&Ef
.It Sx \&Bk  Ta    \&No     Ta    \&No     Ta    closed by Sx \&Ek
.It Sx \&Bl  Ta    \&No     Ta    \&No     Ta    closed by Sx \&El
.It Sx \&Ed  Ta    \&No     Ta    \&No     Ta    opened by Sx \&Bd
.It Sx \&Ef  Ta    \&No     Ta    \&No     Ta    opened by Sx \&Bf
.It Sx \&Ek  Ta    \&No     Ta    \&No     Ta    opened by Sx \&Bk
.It Sx \&El  Ta    \&No     Ta    \&No     Ta    opened by Sx \&Bl
```



```
.El
.Ss Block full-implicit
Multi-line scope closed by end-of-file or implicitly by another macro.
All macros have bodies; some
.Po
.Sx \&It Fl bullet ,
.Fl hyphen ,
.Fl dash ,
.Fl enum ,
.Fl item
.Pc
don't have heads; only one
.Po
.Sx \&It
in
.Sx \&Bl Fl column
.Pc
has multiple heads.
.Bd -literal -offset indent
\&.Yo \(lB\-arg \(lBparm...\(rB\(rB \(lBhead... \(lBTa head...\(rB\(rB
\(lBbody...\(rB
.Ed
.Bl -column "MacroX" "CallableX" "ParsedX" "closed by XXXXXXXXXXX" -offset inden
.It Em Macro Ta Em Callable Ta Em Parsed Ta Em Scope
.It Sx \&It Ta \&No Ta Yes  Ta closed by Sx \&It , Sx \&El
.It Sx \&Nd Ta \&No Ta \&No Ta closed by Sx \&Sh
.It Sx \&Nm Ta \&No Ta Yes  Ta closed by Sx \&Nm , Sx \&Sh , Sx \&Ss
.It Sx \&Sh Ta \&No Ta Yes  Ta closed by Sx \&Sh
.It Sx \&Ss Ta \&No Ta Yes  Ta closed by Sx \&Sh , Sx \&Ss
.El
.Pp
Note that the
.Sx \&Nm
macro is a
.Sx Block full-implicit
macro only when invoked as the first macro
in a
.Em SYNOPSIS
section line, else it is
.Sx In-line .
.Ss Block partial-explicit
Like block full-explicit, but also with single-line scope.
Each has at least a body and, in limited circumstances, a head
.Po
.Sx \&Fo ,
.Sx \&Eo
.Pc
and/or tail
.Pq Sx \&Ec .
.Bd -literal -offset indent
\&.Yo \(lB\-arg \(lBparm...\(rB\(rB \(lBhead...\(rB
\(lBbody...\(rB
\&.Yc \(lBtail...\(rB

\&.Yo \(lB\-arg \(lBparm...\(rB\(rB \(lBhead...\(rB \
\(lBbody...\(rB \&Yc \(lBtail...\(rB
.Ed
.Bl -column "MacroX" "CallableX" "ParsedX" "closed by XXXX" -offset indent
.It Em Macro Ta Em Callable Ta Em Parsed Ta Em Scope
.It Sx \&Ac  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Ao
.It Sx \&Ao  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Ac
.It Sx \&Bc  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Bo
.It Sx \&Bo  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Bc
.It Sx \&Brc Ta    Yes      Ta    Yes      Ta    opened by Sx \&Bro
.It Sx \&Bro Ta    Yes      Ta    Yes      Ta    closed by Sx \&Brc
.It Sx \&Dc  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Do
```

```
.It Sx \&Do  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Dc
.It Sx \&Ec  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Eo
.It Sx \&Eo  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Ec
.It Sx \&Fc  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Fo
.It Sx \&Fo  Ta    \&No     Ta    \&No     Ta    closed by Sx \&Fc
.It Sx \&Oc  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Oo
.It Sx \&Oo  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Oc
.It Sx \&Pc  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Po
.It Sx \&Po  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Pc
.It Sx \&Qc  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Oo
.It Sx \&Qo  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Oc
.It Sx \&Re  Ta    \&No     Ta    \&No     Ta    opened by Sx \&Rs
.It Sx \&Rs  Ta    \&No     Ta    \&No     Ta    closed by Sx \&Re
.It Sx \&Sc  Ta    Yes      Ta    Yes      Ta    opened by Sx \&So
.It Sx \&So  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Sc
.It Sx \&Xc  Ta    Yes      Ta    Yes      Ta    opened by Sx \&Xo
.It Sx \&Xo  Ta    Yes      Ta    Yes      Ta    closed by Sx \&Xc
.El
.Ss Block partial-implicit
Like block full-implicit, but with single-line scope closed by the
end of the line.
.Bd -literal -offset indent
\&.Yo \(lB\-arg \(lBval...\(rB\(rB \(lBbody...\(rB \(lBres...\(rB
.Ed
.Bl -column "MacroX" "CallableX" "ParsedX" -offset indent
.It Em Macro Ta Em Callable Ta Em Parsed
.It Sx \&Aq  Ta    Yes      Ta    Yes
.It Sx \&Bq  Ta    Yes      Ta    Yes
.It Sx \&Brq Ta    Yes      Ta    Yes
.It Sx \&D1  Ta    \&No     Ta    \&Yes
.It Sx \&Dl  Ta    \&No     Ta    Yes
.It Sx \&Dq  Ta    Yes      Ta    Yes
.It Sx \&Op  Ta    Yes      Ta    Yes
.It Sx \&Pq  Ta    Yes      Ta    Yes
.It Sx \&Ql  Ta    Yes      Ta    Yes
.It Sx \&Qq  Ta    Yes      Ta    Yes
.It Sx \&Sq  Ta    Yes      Ta    Yes
.It Sx \&Vt  Ta    Yes      Ta    Yes
.El
.Pp
Note that the
.Sx \&Vt
macro is a
.Sx Block partial-implicit
only when invoked as the first macro
in a
.Em SYNOPSIS
section line, else it is
.Sx In-line .
.Ss Special block macro
The
.Sx \&Ta
macro can only be used below
.Sx \&It
in
.Sx \&Bl Fl column
lists.
It delimits blocks representing table cells;
these blocks have bodies, but no heads.
.Bl -column "MacroX" "CallableX" "ParsedX" "closed by XXXX" -offset indent
.It Em Macro Ta Em Callable Ta Em Parsed Ta Em Scope
.It Sx \&Ta  Ta    Yes      Ta    Yes    Ta closed by Sx \&Ta , Sx \&It
.El
.Ss In-line
Closed by the end of the line, fixed argument lengths,
and/or subsequent macros.
```



```
In-line macros have only text children.
If a number (or inequality) of arguments is
.Pq n ,
then the macro accepts an arbitrary number of arguments.
.Bd -literal -offset indent
\&.Yo \(lB\-arg \(lBval...\(rB\(rB \(lBargs...\(rB \(lBres...\(rB

\&.Yo \(lB\-arg \(lBval...\(rB\(rB \(lBargs...\(rB Yc...

\&.Yo \(lB\-arg \(lBval...\(rB\(rB arg0 arg1 argN
.Ed
.Bl -column "MacroX" "CallableX" "ParsedX" "Arguments" -offset indent
.It Em Macro Ta Em Callable Ta Em Parsed Ta Em Arguments
.It Sx \&%A  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%B  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%C  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%D  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%I  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%J  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%N  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%O  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%P  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%Q  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%R  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%T  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%U  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&%V  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&Ad  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&An  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Ap  Ta    Yes      Ta    Yes      Ta    0
.It Sx \&Ar  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&At  Ta    Yes      Ta    Yes      Ta    1
.It Sx \&Bsx Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Bt  Ta    \&No     Ta    \&No     Ta    0
.It Sx \&Bx  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Cd  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Cm  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Db  Ta    \&No     Ta    \&No     Ta    1
.It Sx \&Dd  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Dt  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Dv  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Dx  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Em  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&En  Ta    \&No     Ta    \&No     Ta    0
.It Sx \&Er  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Es  Ta    \&No     Ta    \&No     Ta    0
.It Sx \&Ev  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Ex  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Fa  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Fd  Ta    \&No     Ta    \&No     Ta    >0
.It Sx \&Fl  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Fn  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Fr  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Ft  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Fx  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Hf  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Ic  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&In  Ta    \&No     Ta    \&No     Ta    1
.It Sx \&Lb  Ta    \&No     Ta    \&No     Ta    1
.It Sx \&Li  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Lk  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Lp  Ta    \&No     Ta    \&No     Ta    0
.It Sx \&Ms  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Mt  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Nm  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&No  Ta    Yes      Ta    Yes      Ta    0
```

```
.It Sx \&Ns  Ta    Yes      Ta    Yes      Ta    0
.It Sx \&Nx  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Os  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Ot  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Ox  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Pa  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Pf  Ta    Yes      Ta    Yes      Ta    1
.It Sx \&Pp  Ta    \&No     Ta    \&No     Ta    0
.It Sx \&Rv  Ta    \&No     Ta    \&No     Ta    n
.It Sx \&Sm  Ta    \&No     Ta    \&No     Ta    1
.It Sx \&St  Ta    \&No     Ta    Yes      Ta    1
.It Sx \&Sx  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Sy  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Tn  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Ud  Ta    \&No     Ta    \&No     Ta    0
.It Sx \&Ux  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Va  Ta    Yes      Ta    Yes      Ta    n
.It Sx \&Vt  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&Xr  Ta    Yes      Ta    Yes      Ta    >0
.It Sx \&br  Ta    \&No     Ta    \&No     Ta    0
.It Sx \&sp  Ta    \&No     Ta    \&No     Ta    1
.El
.Ss Delimiters
When a macro argument consists of one single input character
considered as a delimiter, the argument gets special handling.
This does not apply when delimiters appear in arguments containing
more than one character.
Consequently, to prevent special handling and just handle it
like any other argument, a delimiter can be escaped by prepending
a zero-width space
.Pq Sq \e& .
In text lines, delimiters never need escaping, but may be used
as normal punctuation.
.Pp
For many macros, when the leading arguments are opening delimiters,
these delimiters are put before the macro scope,
and when the trailing arguments are closing delimiters,
these delimiters are put after the macro scope.
For example,
.Pp
.D1 Pf \. \&Aq "( [ word ] ) ."
.Pp
renders as:
.Pp
.D1 Aq ( [ word ] ) .
.Pp
Opening delimiters are:
.Pp
.Bl -tag -width Ds -offset indent -compact
.It \&(
left parenthesis
.It \&[
left bracket
.El
.Pp
Closing delimiters are:
.Pp
.Bl -tag -width Ds -offset indent -compact
.It \&.
period
.It \&,
comma
.It \&:
colon
.It \&;
semicolon
```



```
.It \&)
right parenthesis
.It \&]
right bracket
.It \&?
question mark
.It \&!
exclamation mark
.El
.Pp
Note that even a period preceded by a backslash
.Pq Sq \e.\&
gets this special handling; use
.Sq \e&.
to prevent that.
.Pp
Many in-line macros interrupt their scope when they encounter
delimiters, and resume their scope when more arguments follow that
are not delimiters.
For example,
.Pp
.D1 Pf \. \&Fl "a ( b | c \e*(Ba d ) e"
.Pp
renders as:
.Pp
.D1 Fl a ( b | c \*(Ba d ) e
.Pp
This applies to both opening and closing delimiters,
and also to the middle delimiter:
.Pp
.Bl -tag -width Ds -offset indent -compact
.It \&|
vertical bar
.El
.Pp
As a special case, the predefined string \e*(Ba is handled and rendered
in the same way as a plain
.Sq \&|
character.
Using this predefined string is not recommended in new manuals.
.Ss Font handling
In
.Nm
documents, usage of semantic markup is recommended in order to have
proper fonts automatically selected; only when no fitting semantic markup
is available, consider falling back to
.Sx Physical markup
macros.
Whenever any
.Nm
macro switches the
.Xr roff 5
font mode, it will automatically restore the previous font when exiting
its scope.
Manually switching the font using the
.Xr roff 5
.Ql \ef
font escape sequences is never required.
.Sh COMPATIBILITY
This section documents compatibility between mandoc and other other
troff implementations, at this time limited to GNU troff
.Pq Qq groff .
The term
.Qq historic groff
refers to groff versions before 1.17,
which featured a significant update of the
```

```
.Pa doc.tmac
file.
.Pp
Heirloom troff, the other significant troff implementation accepting
\-mdoc, is similar to historic groff.
.Pp
The following problematic behaviour is found in groff:
.ds hist (Historic groff only.)
.Pp
.Bl -dash -compact
.It
Display macros
.Po
.Sx \&Bd ,
.Sx \&Dl ,
and
.Sx \&D1
.Pc
may not be nested.
\*[hist]
.It
.Sx \&At
with unknown arguments produces no output at all.
\*[hist]
Newer groff and mandoc print
.Qq AT&T UNIX
and the arguments.
.It
.Sx \&Bl Fl column
does not recognise trailing punctuation characters when they immediately
precede tabulator characters, but treats them as normal text and
outputs a space before them.
.It
.Sx \&Bd Fl ragged compact
does not start a new line.
\*[hist]
.It
.Sx \&Dd
with non-standard arguments behaves very strangely.
When there are three arguments, they are printed verbatim.
Any other number of arguments is replaced by the current date,
but without any arguments the string
.Dq Epoch
is printed.
.It
.Sx \&Fl
does not print a dash for an empty argument.
\*[hist]
.It
.Sx \&Fn
does not start a new line unless invoked as the line macro in the
.Em SYNOPSIS
section.
\*[hist]
.It
.Sx \&Fo
with
.Pf non- Sx \&Fa
children causes inconsistent spacing between arguments.
In mandoc, a single space is always inserted between arguments.
.It
.Sx \&Ft
in the
.Em SYNOPSIS
causes inconsistent vertical spacing, depending on whether a prior
.Sx \&Fn
```



```
has been invoked.
See
.Sx \&Ft
and
.Sx \&Fn
for the normalised behaviour in mandoc.
.It
.Sx \&In
ignores additional arguments and is not treated specially in the
.Em SYNOPSIS .
\*[hist]
.It
.Sx \&It
sometimes requires a
.Fl nested
flag.
\*[hist]
In new groff and mandoc, any list may be nested by default and
.Fl enum
lists will restart the sequence only for the sub-list.
.It
.Sx \&Li
followed by a delimiter is incorrectly used in some manuals
instead of properly quoting that character, which sometimes works with
historic groff.
.It
.Sx \&Lk
only accepts a single link-name argument; the remainder is misformatted.
.It
.Sx \&Pa
does not format its arguments when used in the FILES section under
certain list types.
.It
.Sx \&Ta
can only be called by other macros, but not at the beginning of a line.
.It
.Sx \&%C
is not implemented.
.It
Historic groff only allows up to eight or nine arguments per macro input
line, depending on the exact situation.
Providing more arguments causes garbled output.
The number of arguments on one input line is not limited with mandoc.
.It
Historic groff has many un-callable macros.
Most of these (excluding some block-level macros) are callable
in new groff and mandoc.
.It
.Sq \(ba
(vertical bar) is not fully supported as a delimiter.
\*[hist]
.It
.Sq \ef
.Pq font face
and
.Sq \ef
.Pq font family face
.Sx Text Decoration
escapes behave irregularly when specified within line-macro scopes.
.It
Negative scaling units return to prior lines.
Instead, mandoc truncates them to zero.
.El
.Pp
The following features are unimplemented in mandoc:
.Pp
```

```
.Bl -dash -compact
.It
.Sx \&Bd
.Fl file Ar file .
.It
.Sx \&Bd
.Fl offset Ar center
and
.Fl offset Ar right .
Groff does not implement centred and flush-right rendering either,
but produces large indentations.
.It
The
.Sq \eh
.Pq horizontal position ,
.Sq \ev
.Pq vertical position ,
.Sq \em
.Pq text colour ,
.Sq \eM
.Pq text filling colour ,
.Sq \ez
.Pq zero-length character ,
.Sq \ew
.Pq string length ,
.Sq \ek
.Pq horizontal position marker ,
.Sq \eo
.Pq text overstrike ,
and
.Sq \es
.Pq text size
escape sequences are all discarded in mandoc.
.It
The
.Sq \ef
scaling unit is accepted by mandoc, but rendered as the default unit.
.It
In quoted literals, groff allows pairwise double-quotes to produce a
standalone double-quote in formatted output.
This is not supported by mandoc.
.El
.Sh SEE ALSO
.Xr man 1 ,
.Xr mandoc 1 ,
.Xr eqn 5 ,
.Xr man 5 ,
.Xr mandoc_char 5 ,
.Xr roff 5 ,
.Xr tbl 5
.Sh HISTORY
The
.Nm
language first appeared as a troff macro package in
.Bx 4.4 .
It was later significantly updated by Werner Lemberg and Ruslan Ermilov
in groff-1.17.
The standalone implementation that is part of the
.Xr mandoc 1
utility written by Kristaps Dzonsons appeared in
.Ox 4.6 .
.Sh AUTHORS
The
.Nm
reference was written by
.An Kristaps Dzonsons ,
```



```
.Mt kristaps@bsd.lv .
```

```
**********************************************************
   74018 Tue Aug 12 07:52:15 2014
new/usr/src/pkg/manifests/system-library.man3c.inc
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

```
   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
   9 # at http://www.illumos.org/license/CDDL.
  10 #

  12 #
  13 # Copyright 2011, Richard Lowe
  14 # Copyright 2013 Nexenta Systems, Inc.  All rights reserved.
  15 # Copyright 2013 OmniTI Computer Consulting, Inc. All rights reserved.
  16 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
  17 #

  19 file path=usr/share/man/man3c/__fbufsize.3c
  20 file path=usr/share/man/man3c/_longjmp.3c
  21 file path=usr/share/man/man3c/_stack_grow.3c
  22 file path=usr/share/man/man3c/a64l.3c
  23 file path=usr/share/man/man3c/abort.3c
  24 file path=usr/share/man/man3c/abs.3c
  25 file path=usr/share/man/man3c/addsev.3c
  26 file path=usr/share/man/man3c/addseverity.3c
  27 file path=usr/share/man/man3c/aio_cancel.3c
  28 file path=usr/share/man/man3c/aio_error.3c
  29 file path=usr/share/man/man3c/aio_fsync.3c
  30 file path=usr/share/man/man3c/aio_read.3c
  31 file path=usr/share/man/man3c/aio_return.3c
  32 file path=usr/share/man/man3c/aio_suspend.3c
  33 file path=usr/share/man/man3c/aio_waitn.3c
  34 file path=usr/share/man/man3c/aio_write.3c
  35 file path=usr/share/man/man3c/aiocancel.3c
  36 file path=usr/share/man/man3c/aioread.3c
  37 file path=usr/share/man/man3c/aiowait.3c
  38 file path=usr/share/man/man3c/assert.3c
  39 file path=usr/share/man/man3c/atexit.3c
  40 file path=usr/share/man/man3c/atomic_add.3c
  41 file path=usr/share/man/man3c/atomic_and.3c
  42 file path=usr/share/man/man3c/atomic_bits.3c
  43 file path=usr/share/man/man3c/atomic_cas.3c
  44 file path=usr/share/man/man3c/atomic_dec.3c
  45 file path=usr/share/man/man3c/atomic_inc.3c
  46 file path=usr/share/man/man3c/atomic_ops.3c
  47 file path=usr/share/man/man3c/atomic_or.3c
  48 file path=usr/share/man/man3c/atomic_swap.3c
  49 file path=usr/share/man/man3c/attropen.3c
  50 file path=usr/share/man/man3c/basename.3c
  51 file path=usr/share/man/man3c/bsd_signal.3c
  52 file path=usr/share/man/man3c/bsearch.3c
  53 file path=usr/share/man/man3c/bstring.3c
  54 file path=usr/share/man/man3c/btowc.3c
  55 file path=usr/share/man/man3c/catgets.3c
  56 file path=usr/share/man/man3c/catopen.3c
  57 file path=usr/share/man/man3c/cfgetispeed.3c
  58 file path=usr/share/man/man3c/cfsetispeed.3c
  59 file path=usr/share/man/man3c/clock.3c
```



```
  60 file path=usr/share/man/man3c/clock_nanosleep.3c
  61 file path=usr/share/man/man3c/clock_settime.3c
  62 file path=usr/share/man/man3c/closedir.3c
  63 file path=usr/share/man/man3c/closefrom.3c
  64 file path=usr/share/man/man3c/cond_init.3c
  65 file path=usr/share/man/man3c/confstr.3c
  66 file path=usr/share/man/man3c/crypt.3c
  67 file path=usr/share/man/man3c/crypt_genhash_impl.3c
  68 file path=usr/share/man/man3c/crypt_gensalt.3c
  69 file path=usr/share/man/man3c/crypt_gensalt_impl.3c
  70 file path=usr/share/man/man3c/cset.3c
  71 file path=usr/share/man/man3c/ctermid.3c
  72 file path=usr/share/man/man3c/ctime.3c
  73 file path=usr/share/man/man3c/ctype.3c
  74 file path=usr/share/man/man3c/cuserid.3c
  75 file path=usr/share/man/man3c/daemon.3c
  76 file path=usr/share/man/man3c/decimal_to_floating.3c
  77 file path=usr/share/man/man3c/difftime.3c
  78 file path=usr/share/man/man3c/directio.3c
  79 file path=usr/share/man/man3c/dirfd.3c
  80 file path=usr/share/man/man3c/dirname.3c
  81 file path=usr/share/man/man3c/div.3c
  82 file path=usr/share/man/man3c/dladdr.3c
  83 file path=usr/share/man/man3c/dlclose.3c
  84 file path=usr/share/man/man3c/dldump.3c
  85 file path=usr/share/man/man3c/dlerror.3c
  86 file path=usr/share/man/man3c/dlinfo.3c
  87 file path=usr/share/man/man3c/dlopen.3c
  88 file path=usr/share/man/man3c/dlsym.3c
  89 file path=usr/share/man/man3c/door_bind.3c
  90 file path=usr/share/man/man3c/door_call.3c
  91 file path=usr/share/man/man3c/door_create.3c
  92 file path=usr/share/man/man3c/door_cred.3c
  93 file path=usr/share/man/man3c/door_getparam.3c
  94 file path=usr/share/man/man3c/door_info.3c
  95 file path=usr/share/man/man3c/door_return.3c
  96 file path=usr/share/man/man3c/door_revoke.3c
  97 file path=usr/share/man/man3c/door_server_create.3c
  98 file path=usr/share/man/man3c/door_ucred.3c
  99 file path=usr/share/man/man3c/drand48.3c
 100 file path=usr/share/man/man3c/dup2.3c
 101 file path=usr/share/man/man3c/econvert.3c
 102 file path=usr/share/man/man3c/ecvt.3c
 103 file path=usr/share/man/man3c/enable_extended_FILE_stdio.3c
 104 file path=usr/share/man/man3c/encrypt.3c
 105 file path=usr/share/man/man3c/end.3c
 106 file path=usr/share/man/man3c/err.3c
 107 file path=usr/share/man/man3c/euclen.3c
 108 file path=usr/share/man/man3c/exit.3c
 109 file path=usr/share/man/man3c/fattach.3c
 110 file path=usr/share/man/man3c/fclose.3c
 111 file path=usr/share/man/man3c/fdatasync.3c
 112 file path=usr/share/man/man3c/fdetach.3c
 113 file path=usr/share/man/man3c/fdopen.3c
 114 file path=usr/share/man/man3c/ferror.3c
 115 file path=usr/share/man/man3c/fflush.3c
 116 file path=usr/share/man/man3c/ffs.3c
 117 file path=usr/share/man/man3c/fgetattr.3c
 118 file path=usr/share/man/man3c/fgetc.3c
 119 file path=usr/share/man/man3c/fgetpos.3c
 120 file path=usr/share/man/man3c/fgetwc.3c
 121 file path=usr/share/man/man3c/floating_to_decimal.3c
 122 file path=usr/share/man/man3c/flockfile.3c
 123 file path=usr/share/man/man3c/fmtmsg.3c
 124 file path=usr/share/man/man3c/fnmatch.3c
 125 file path=usr/share/man/man3c/fopen.3c
```

```
126 file path=usr/share/man/man3c/fpgetround.3c
127 file path=usr/share/man/man3c/fputc.3c
128 file path=usr/share/man/man3c/fputwc.3c
129 file path=usr/share/man/man3c/fputws.3c
130 file path=usr/share/man/man3c/fread.3c
131 file path=usr/share/man/man3c/freopen.3c
132 file path=usr/share/man/man3c/fseek.3c
133 file path=usr/share/man/man3c/fsetpos.3c
134 file path=usr/share/man/man3c/fsync.3c
135 file path=usr/share/man/man3c/ftell.3c
136 file path=usr/share/man/man3c/ftime.3c
137 file path=usr/share/man/man3c/ftok.3c
138 file path=usr/share/man/man3c/ftw.3c
139 file path=usr/share/man/man3c/fwide.3c
140 file path=usr/share/man/man3c/fwprintf.3c
141 file path=usr/share/man/man3c/fwrite.3c
142 file path=usr/share/man/man3c/fwscanf.3c
143 file path=usr/share/man/man3c/getcpuid.3c
144 file path=usr/share/man/man3c/getcwd.3c
145 file path=usr/share/man/man3c/getdate.3c
146 file path=usr/share/man/man3c/getdtablesize.3c
147 file path=usr/share/man/man3c/getenv.3c
148 file path=usr/share/man/man3c/getexecname.3c
149 file path=usr/share/man/man3c/getgrnam.3c
150 file path=usr/share/man/man3c/gethostid.3c
151 file path=usr/share/man/man3c/gethostname.3c
152 file path=usr/share/man/man3c/gethrtime.3c
153 file path=usr/share/man/man3c/getline.3c
154 file path=usr/share/man/man3c/getloadavg.3c
155 file path=usr/share/man/man3c/getlogin.3c
156 file path=usr/share/man/man3c/getmntent.3c
157 file path=usr/share/man/man3c/getnetgrent.3c
158 file path=usr/share/man/man3c/getopt.3c
159 file path=usr/share/man/man3c/getpagesize.3c
160 file path=usr/share/man/man3c/getpagesizes.3c
161 file path=usr/share/man/man3c/getpass.3c
162 file path=usr/share/man/man3c/getpeerucred.3c
163 file path=usr/share/man/man3c/getpriority.3c
164 file path=usr/share/man/man3c/getpw.3c
165 file path=usr/share/man/man3c/getpwnam.3c
166 file path=usr/share/man/man3c/getrusage.3c
167 file path=usr/share/man/man3c/gets.3c
168 file path=usr/share/man/man3c/getspnam.3c
169 file path=usr/share/man/man3c/getsubopt.3c
170 file path=usr/share/man/man3c/gettext.3c
171 file path=usr/share/man/man3c/gettimeofday.3c
172 file path=usr/share/man/man3c/gettxt.3c
173 file path=usr/share/man/man3c/getusershell.3c
174 file path=usr/share/man/man3c/getutent.3c
175 file path=usr/share/man/man3c/getutxent.3c
176 file path=usr/share/man/man3c/getvfsent.3c
177 file path=usr/share/man/man3c/getwc.3c
178 file path=usr/share/man/man3c/getwchar.3c
179 file path=usr/share/man/man3c/getwd.3c
180 file path=usr/share/man/man3c/getwidth.3c
181 file path=usr/share/man/man3c/getws.3c
182 file path=usr/share/man/man3c/getzoneid.3c
183 file path=usr/share/man/man3c/glob.3c
184 file path=usr/share/man/man3c/grantpt.3c
185 file path=usr/share/man/man3c/hsearch.3c
186 file path=usr/share/man/man3c/iconv.3c
187 file path=usr/share/man/man3c/iconv_close.3c
188 file path=usr/share/man/man3c/iconv_open.3c
189 file path=usr/share/man/man3c/imaxabs.3c
190 file path=usr/share/man/man3c/imaxdiv.3c
191 file path=usr/share/man/man3c/index.3c
```



```
192 file path=usr/share/man/man3c/initgroups.3c
193 file path=usr/share/man/man3c/insque.3c
194 file path=usr/share/man/man3c/is_system_labeled.3c
195 file path=usr/share/man/man3c/isaexec.3c
196 file path=usr/share/man/man3c/isastream.3c
197 file path=usr/share/man/man3c/isatty.3c
198 file path=usr/share/man/man3c/isnand.3c
199 file path=usr/share/man/man3c/iswalpha.3c
200 file path=usr/share/man/man3c/iswctype.3c
201 file path=usr/share/man/man3c/killpg.3c
202 file path=usr/share/man/man3c/lckpwdf.3c
203 file path=usr/share/man/man3c/lfmt.3c
204 file path=usr/share/man/man3c/lio_listio.3c
205 file path=usr/share/man/man3c/localeconv.3c
206 file path=usr/share/man/man3c/lockf.3c
207 file path=usr/share/man/man3c/lsearch.3c
208 file path=usr/share/man/man3c/madvise.3c
209 file path=usr/share/man/man3c/makecontext.3c
210 file path=usr/share/man/man3c/makedev.3c
211 file path=usr/share/man/man3c/malloc.3c
212 file path=usr/share/man/man3c/mblen.3c
213 file path=usr/share/man/man3c/mbrlen.3c
214 file path=usr/share/man/man3c/mbrtowc.3c
215 file path=usr/share/man/man3c/mbsinit.3c
216 file path=usr/share/man/man3c/mbsrtowcs.3c
217 file path=usr/share/man/man3c/mbtowc.3c
218 file path=usr/share/man/man3c/membar_ops.3c
219 file path=usr/share/man/man3c/memory.3c
220 file path=usr/share/man/man3c/mkfifo.3c
221 file path=usr/share/man/man3c/mkstemp.3c
222 file path=usr/share/man/man3c/mktemp.3c
223 file path=usr/share/man/man3c/mktime.3c
224 file path=usr/share/man/man3c/mlock.3c
225 file path=usr/share/man/man3c/mlockall.3c
226 file path=usr/share/man/man3c/monitor.3c
227 file path=usr/share/man/man3c/mq_close.3c
228 file path=usr/share/man/man3c/mq_getattr.3c
229 file path=usr/share/man/man3c/mq_notify.3c
230 file path=usr/share/man/man3c/mq_open.3c
231 file path=usr/share/man/man3c/mq_receive.3c
232 file path=usr/share/man/man3c/mq_send.3c
233 file path=usr/share/man/man3c/mq_setattr.3c
234 file path=usr/share/man/man3c/mq_unlink.3c
235 file path=usr/share/man/man3c/msync.3c
236 file path=usr/share/man/man3c/mutex_init.3c
237 file path=usr/share/man/man3c/nanosleep.3c
238 file path=usr/share/man/man3c/ndbm.3c
239 file path=usr/share/man/man3c/newlocale.3c
240 file path=usr/share/man/man3c/nl_langinfo.3c
241 file path=usr/share/man/man3c/offsetof.3c
242 file path=usr/share/man/man3c/opendir.3c
243 file path=usr/share/man/man3c/perror.3c
244 file path=usr/share/man/man3c/pfmt.3c
245 file path=usr/share/man/man3c/plock.3c
246 file path=usr/share/man/man3c/popen.3c
247 file path=usr/share/man/man3c/port_alert.3c
248 file path=usr/share/man/man3c/port_associate.3c
249 file path=usr/share/man/man3c/port_create.3c
250 file path=usr/share/man/man3c/port_get.3c
251 file path=usr/share/man/man3c/port_send.3c
252 file path=usr/share/man/man3c/posix_fadvise.3c
253 file path=usr/share/man/man3c/posix_fallocate.3c
254 file path=usr/share/man/man3c/posix_madvise.3c
255 file path=usr/share/man/man3c/posix_memalign.3c
256 file path=usr/share/man/man3c/posix_openpt.3c
257 file path=usr/share/man/man3c/posix_spawn.3c
```

```
file path=usr/share/man/man3c/posix_spawn_file_actions_addclose.3c
file path=usr/share/man/man3c/posix_spawn_file_actions_addclosefrom_np.3c
file path=usr/share/man/man3c/posix_spawn_file_actions_adddup2.3c
file path=usr/share/man/man3c/posix_spawn_file_actions_destroy.3c
file path=usr/share/man/man3c/posix_spawn_pipe_np.3c
file path=usr/share/man/man3c/posix_spawnattr_destroy.3c
file path=usr/share/man/man3c/posix_spawnattr_getflags.3c
file path=usr/share/man/man3c/posix_spawnattr_getpgroup.3c
file path=usr/share/man/man3c/posix_spawnattr_getschedparam.3c
file path=usr/share/man/man3c/posix_spawnattr_getschedpolicy.3c
file path=usr/share/man/man3c/posix_spawnattr_getsigdefault.3c
file path=usr/share/man/man3c/posix_spawnattr_getsigignore_np.3c
file path=usr/share/man/man3c/posix_spawnattr_getsigmask.3c
file path=usr/share/man/man3c/printf.3c
file path=usr/share/man/man3c/priv_addset.3c
file path=usr/share/man/man3c/priv_set.3c
file path=usr/share/man/man3c/priv_str_to_set.3c
file path=usr/share/man/man3c/pset_getloadavg.3c
file path=usr/share/man/man3c/psignal.3c
file path=usr/share/man/man3c/pthread_atfork.3c
file path=usr/share/man/man3c/pthread_attr_getdetachstate.3c
file path=usr/share/man/man3c/pthread_attr_getguardsize.3c
file path=usr/share/man/man3c/pthread_attr_getinheritsched.3c
file path=usr/share/man/man3c/pthread_attr_getschedparam.3c
file path=usr/share/man/man3c/pthread_attr_getschedpolicy.3c
file path=usr/share/man/man3c/pthread_attr_getscope.3c
file path=usr/share/man/man3c/pthread_attr_getstack.3c
file path=usr/share/man/man3c/pthread_attr_getstackaddr.3c
file path=usr/share/man/man3c/pthread_attr_getstacksize.3c
file path=usr/share/man/man3c/pthread_attr_init.3c
file path=usr/share/man/man3c/pthread_barrier_destroy.3c
file path=usr/share/man/man3c/pthread_barrier_wait.3c
file path=usr/share/man/man3c/pthread_barrierattr_destroy.3c
file path=usr/share/man/man3c/pthread_barrierattr_getpshared.3c
file path=usr/share/man/man3c/pthread_cancel.3c
file path=usr/share/man/man3c/pthread_cleanup_pop.3c
file path=usr/share/man/man3c/pthread_cleanup_push.3c
file path=usr/share/man/man3c/pthread_cond_init.3c
file path=usr/share/man/man3c/pthread_cond_signal.3c
file path=usr/share/man/man3c/pthread_cond_wait.3c
file path=usr/share/man/man3c/pthread_condattr_getclock.3c
file path=usr/share/man/man3c/pthread_condattr_getpshared.3c
file path=usr/share/man/man3c/pthread_condattr_init.3c
file path=usr/share/man/man3c/pthread_create.3c
file path=usr/share/man/man3c/pthread_detach.3c
file path=usr/share/man/man3c/pthread_equal.3c
file path=usr/share/man/man3c/pthread_exit.3c
file path=usr/share/man/man3c/pthread_getconcurrency.3c
file path=usr/share/man/man3c/pthread_getschedparam.3c
file path=usr/share/man/man3c/pthread_getspecific.3c
file path=usr/share/man/man3c/pthread_join.3c
file path=usr/share/man/man3c/pthread_key_create.3c
file path=usr/share/man/man3c/pthread_key_delete.3c
file path=usr/share/man/man3c/pthread_kill.3c
file path=usr/share/man/man3c/pthread_mutex_getprioceiling.3c
file path=usr/share/man/man3c/pthread_mutex_init.3c
file path=usr/share/man/man3c/pthread_mutex_lock.3c
file path=usr/share/man/man3c/pthread_mutex_timedlock.3c
file path=usr/share/man/man3c/pthread_mutexattr_getprioceiling.3c
file path=usr/share/man/man3c/pthread_mutexattr_getprotocol.3c
file path=usr/share/man/man3c/pthread_mutexattr_getpshared.3c
file path=usr/share/man/man3c/pthread_mutexattr_gettype.3c
file path=usr/share/man/man3c/pthread_mutexattr_init.3c
file path=usr/share/man/man3c/pthread_once.3c
file path=usr/share/man/man3c/pthread_rwlock_init.3c
file path=usr/share/man/man3c/pthread_rwlock_rdlock.3c
```



```
file path=usr/share/man/man3c/pthread_rwlock_timedrdlock.3c
file path=usr/share/man/man3c/pthread_rwlock_timedwrlock.3c
file path=usr/share/man/man3c/pthread_rwlock_unlock.3c
file path=usr/share/man/man3c/pthread_rwlock_wrlock.3c
file path=usr/share/man/man3c/pthread_rwlockattr_getpshared.3c
file path=usr/share/man/man3c/pthread_rwlockattr_init.3c
file path=usr/share/man/man3c/pthread_self.3c
file path=usr/share/man/man3c/pthread_setcancelstate.3c
file path=usr/share/man/man3c/pthread_setcanceltype.3c
file path=usr/share/man/man3c/pthread_setschedprio.3c
file path=usr/share/man/man3c/pthread_sigmask.3c
file path=usr/share/man/man3c/pthread_spin_destroy.3c
file path=usr/share/man/man3c/pthread_spin_lock.3c
file path=usr/share/man/man3c/pthread_spin_unlock.3c
file path=usr/share/man/man3c/pthread_testcancel.3c
file path=usr/share/man/man3c/ptrace.3c
file path=usr/share/man/man3c/ptsname.3c
file path=usr/share/man/man3c/putenv.3c
file path=usr/share/man/man3c/putpwent.3c
file path=usr/share/man/man3c/puts.3c
file path=usr/share/man/man3c/putspent.3c
file path=usr/share/man/man3c/putws.3c
file path=usr/share/man/man3c/qsort.3c
file path=usr/share/man/man3c/raise.3c
file path=usr/share/man/man3c/rand.3c
file path=usr/share/man/man3c/random.3c
file path=usr/share/man/man3c/rctl_walk.3c
file path=usr/share/man/man3c/rctlblk_set_value.3c
file path=usr/share/man/man3c/re_comp.3c
file path=usr/share/man/man3c/readdir.3c
file path=usr/share/man/man3c/realpath.3c
file path=usr/share/man/man3c/reboot.3c
file path=usr/share/man/man3c/regcmp.3c
file path=usr/share/man/man3c/regcomp.3c
file path=usr/share/man/man3c/remove.3c
file path=usr/share/man/man3c/rewind.3c
file path=usr/share/man/man3c/rewinddir.3c
file path=usr/share/man/man3c/rwlock.3c
file path=usr/share/man/man3c/scandir.3c
file path=usr/share/man/man3c/scanf.3c
file path=usr/share/man/man3c/sched_get_priority_max.3c
file path=usr/share/man/man3c/sched_getparam.3c
file path=usr/share/man/man3c/sched_getscheduler.3c
file path=usr/share/man/man3c/sched_rr_get_interval.3c
file path=usr/share/man/man3c/sched_setparam.3c
file path=usr/share/man/man3c/sched_setscheduler.3c
file path=usr/share/man/man3c/sched_yield.3c
file path=usr/share/man/man3c/schedctl_init.3c
file path=usr/share/man/man3c/seekdir.3c
file path=usr/share/man/man3c/select.3c
file path=usr/share/man/man3c/sem_close.3c
file path=usr/share/man/man3c/sem_destroy.3c
file path=usr/share/man/man3c/sem_getvalue.3c
file path=usr/share/man/man3c/sem_init.3c
file path=usr/share/man/man3c/sem_open.3c
file path=usr/share/man/man3c/sem_post.3c
file path=usr/share/man/man3c/sem_timedwait.3c
file path=usr/share/man/man3c/sem_unlink.3c
file path=usr/share/man/man3c/sem_wait.3c
file path=usr/share/man/man3c/semaphore.3c
file path=usr/share/man/man3c/setbuf.3c
file path=usr/share/man/man3c/setbuffer.3c
file path=usr/share/man/man3c/setcat.3c
file path=usr/share/man/man3c/setenv.3c
file path=usr/share/man/man3c/setjmp.3c
file path=usr/share/man/man3c/setkey.3c
```

```
390 file path=usr/share/man/man3c/setlabel.3c
391 file path=usr/share/man/man3c/setlocale.3c
392 file path=usr/share/man/man3c/shm_open.3c
393 file path=usr/share/man/man3c/shm_unlink.3c
394 file path=usr/share/man/man3c/sigfpe.3c
395 file path=usr/share/man/man3c/siginterrupt.3c
396 file path=usr/share/man/man3c/signal.3c
397 file path=usr/share/man/man3c/sigqueue.3c
398 file path=usr/share/man/man3c/sigsetops.3c
399 file path=usr/share/man/man3c/sigstack.3c
400 file path=usr/share/man/man3c/sigwaitinfo.3c
401 file path=usr/share/man/man3c/sleep.3c
402 file path=usr/share/man/man3c/ssignal.3c
403 file path=usr/share/man/man3c/stack_getbounds.3c
404 file path=usr/share/man/man3c/stack_inbounds.3c
405 file path=usr/share/man/man3c/stack_setbounds.3c
406 file path=usr/share/man/man3c/stack_violation.3c
407 file path=usr/share/man/man3c/stdio.3c
408 file path=usr/share/man/man3c/str2sig.3c
409 file path=usr/share/man/man3c/strcoll.3c
410 file path=usr/share/man/man3c/strerror.3c
411 file path=usr/share/man/man3c/strfmon.3c
412 file path=usr/share/man/man3c/strftime.3c
413 file path=usr/share/man/man3c/string.3c
414 file path=usr/share/man/man3c/string_to_decimal.3c
415 file path=usr/share/man/man3c/strptime.3c
416 file path=usr/share/man/man3c/strsignal.3c
417 file path=usr/share/man/man3c/strtod.3c
418 file path=usr/share/man/man3c/strtoimax.3c
419 file path=usr/share/man/man3c/strtol.3c
420 file path=usr/share/man/man3c/strtoul.3c
421 file path=usr/share/man/man3c/strtows.3c
422 file path=usr/share/man/man3c/strxfrm.3c
423 file path=usr/share/man/man3c/swab.3c
424 file path=usr/share/man/man3c/sync_instruction_memory.3c
425 file path=usr/share/man/man3c/sysconf.3c
426 file path=usr/share/man/man3c/syslog.3c
427 file path=usr/share/man/man3c/system.3c
428 file path=usr/share/man/man3c/tcdrain.3c
429 file path=usr/share/man/man3c/tcflow.3c
430 file path=usr/share/man/man3c/tcflush.3c
431 file path=usr/share/man/man3c/tcgetattr.3c
432 file path=usr/share/man/man3c/tcgetpgrp.3c
433 file path=usr/share/man/man3c/tcgetsid.3c
434 file path=usr/share/man/man3c/tcsendbreak.3c
435 file path=usr/share/man/man3c/tcsetattr.3c
436 file path=usr/share/man/man3c/tcsetpgrp.3c
437 file path=usr/share/man/man3c/tell.3c
438 file path=usr/share/man/man3c/telldir.3c
439 file path=usr/share/man/man3c/termios.3c
440 file path=usr/share/man/man3c/thr_create.3c
441 file path=usr/share/man/man3c/thr_exit.3c
442 file path=usr/share/man/man3c/thr_getconcurrency.3c
443 file path=usr/share/man/man3c/thr_getprio.3c
444 file path=usr/share/man/man3c/thr_join.3c
445 file path=usr/share/man/man3c/thr_keycreate.3c
446 file path=usr/share/man/man3c/thr_kill.3c
447 file path=usr/share/man/man3c/thr_main.3c
448 file path=usr/share/man/man3c/thr_min_stack.3c
449 file path=usr/share/man/man3c/thr_self.3c
450 file path=usr/share/man/man3c/thr_sigsetmask.3c
451 file path=usr/share/man/man3c/thr_stksegment.3c
452 file path=usr/share/man/man3c/thr_suspend.3c
453 file path=usr/share/man/man3c/thr_yield.3c
454 file path=usr/share/man/man3c/timer_create.3c
455 file path=usr/share/man/man3c/timer_delete.3c
```



```
456 file path=usr/share/man/man3c/timer_settime.3c
457 file path=usr/share/man/man3c/timeradd.3c
458 file path=usr/share/man/man3c/tmpfile.3c
459 file path=usr/share/man/man3c/tmpnam.3c
460 file path=usr/share/man/man3c/toascii.3c
461 file path=usr/share/man/man3c/tolower.3c
462 file path=usr/share/man/man3c/toupper.3c
463 file path=usr/share/man/man3c/towlower.3c
464 file path=usr/share/man/man3c/towupper.3c
465 file path=usr/share/man/man3c/truncate.3c
466 file path=usr/share/man/man3c/tsearch.3c
467 file path=usr/share/man/man3c/ttyname.3c
468 file path=usr/share/man/man3c/ttyslot.3c
469 file path=usr/share/man/man3c/u8_strcmp.3c
470 file path=usr/share/man/man3c/u8_textprep_str.3c
471 file path=usr/share/man/man3c/u8_validate.3c
472 file path=usr/share/man/man3c/ualarm.3c
473 file path=usr/share/man/man3c/uconv_u16tou32.3c
474 file path=usr/share/man/man3c/ucred_get.3c
475 file path=usr/share/man/man3c/ungetc.3c
476 file path=usr/share/man/man3c/ungetwc.3c
477 file path=usr/share/man/man3c/unlockpt.3c
478 file path=usr/share/man/man3c/unsetenv.3c
479 file path=usr/share/man/man3c/uselocale.3c
480 file path=usr/share/man/man3c/usleep.3c
481 file path=usr/share/man/man3c/vfwprintf.3c
482 file path=usr/share/man/man3c/vlfmt.3c
483 file path=usr/share/man/man3c/vpfmt.3c
484 file path=usr/share/man/man3c/vprintf.3c
485 file path=usr/share/man/man3c/vsyslog.3c
486 file path=usr/share/man/man3c/wait.3c
487 file path=usr/share/man/man3c/wait3.3c
488 file path=usr/share/man/man3c/waitpid.3c
489 file path=usr/share/man/man3c/walkcontext.3c
490 file path=usr/share/man/man3c/wcrtomb.3c
491 file path=usr/share/man/man3c/wcscasecmp.3c
492 file path=usr/share/man/man3c/wcscoll.3c
493 file path=usr/share/man/man3c/wcsdup.3c
494 file path=usr/share/man/man3c/wcsftime.3c
495 file path=usr/share/man/man3c/wcslen.3c
496 file path=usr/share/man/man3c/wcsrtombs.3c
497 file path=usr/share/man/man3c/wcsstr.3c
498 file path=usr/share/man/man3c/wcstod.3c
499 file path=usr/share/man/man3c/wcstoimax.3c
500 file path=usr/share/man/man3c/wcstol.3c
501 file path=usr/share/man/man3c/wcstoul.3c
502 file path=usr/share/man/man3c/wcstring.3c
503 file path=usr/share/man/man3c/wcswidth.3c
504 file path=usr/share/man/man3c/wcsxfrm.3c
505 file path=usr/share/man/man3c/wctob.3c
506 file path=usr/share/man/man3c/wctomb.3c
507 file path=usr/share/man/man3c/wctrans.3c
508 file path=usr/share/man/man3c/wctype.3c
509 file path=usr/share/man/man3c/wcwidth.3c
510 file path=usr/share/man/man3c/wmemchr.3c
511 file path=usr/share/man/man3c/wmemcmp.3c
512 file path=usr/share/man/man3c/wmemcpy.3c
513 file path=usr/share/man/man3c/wmemmove.3c
514 file path=usr/share/man/man3c/wmemset.3c
515 file path=usr/share/man/man3c/wordexp.3c
516 file path=usr/share/man/man3c/wsprintf.3c
517 file path=usr/share/man/man3c/wsscanf.3c
518 file path=usr/share/man/man3c/wstring.3c
519 link path=usr/share/man/man3c/FD_CLR.3c target=select.3c
520 link path=usr/share/man/man3c/FD_ISSET.3c target=select.3c
521 link path=usr/share/man/man3c/FD_SET.3c target=select.3c
```

```
link path=usr/share/man/man3c/FD_ZERO.3c target=select.3c
link path=usr/share/man/man3c/__flbf.3c target=__fbufsize.3c
link path=usr/share/man/man3c/__fpending.3c target=__fbufsize.3c
link path=usr/share/man/man3c/__fpurge.3c target=__fbufsize.3c
link path=usr/share/man/man3c/__freadable.3c target=__fbufsize.3c
link path=usr/share/man/man3c/__freading.3c target=__fbufsize.3c
link path=usr/share/man/man3c/__fsetlocking.3c target=__fbufsize.3c
link path=usr/share/man/man3c/__fwritable.3c target=__fbufsize.3c
link path=usr/share/man/man3c/__fwriting.3c target=__fbufsize.3c
link path=usr/share/man/man3c/_edata.3c target=end.3c
link path=usr/share/man/man3c/_end.3c target=end.3c
link path=usr/share/man/man3c/_etext.3c target=end.3c
link path=usr/share/man/man3c/_exithandle.3c target=exit.3c
link path=usr/share/man/man3c/_flushlbf.3c target=__fbufsize.3c
link path=usr/share/man/man3c/_setjmp.3c target=_longjmp.3c
link path=usr/share/man/man3c/addrtosymstr.3c target=walkcontext.3c
link path=usr/share/man/man3c/aiowrite.3c target=aioread.3c
link path=usr/share/man/man3c/alloca.3c target=malloc.3c
link path=usr/share/man/man3c/alphasort.3c target=scandir.3c
link path=usr/share/man/man3c/ascftime.3c target=strftime.3c
link path=usr/share/man/man3c/asctime.3c target=ctime.3c
link path=usr/share/man/man3c/asctime_r.3c target=ctime.3c
link path=usr/share/man/man3c/asprintf.3c target=printf.3c
link path=usr/share/man/man3c/atof.3c target=strtod.3c
link path=usr/share/man/man3c/atoi.3c target=strtol.3c
link path=usr/share/man/man3c/atol.3c target=strtol.3c
link path=usr/share/man/man3c/atoll.3c target=strtol.3c
link path=usr/share/man/man3c/atomic_add_16.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_16_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_32.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_32_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_64.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_64_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_8.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_8_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_char.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_char_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_int.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_int_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_long.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_long_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_ptr.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_ptr_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_short.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_add_short_nv.3c target=atomic_add.3c
link path=usr/share/man/man3c/atomic_and_16.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_16_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_32.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_32_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_64.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_64_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_8.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_8_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_uchar.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_uchar_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_uint.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_uint_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_ulong.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_ulong_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_ushort.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_and_ushort_nv.3c target=atomic_and.3c
link path=usr/share/man/man3c/atomic_cas_16.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_cas_32.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_cas_64.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_cas_8.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_cas_ptr.3c target=atomic_cas.3c
```



```
link path=usr/share/man/man3c/atomic_cas_uchar.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_cas_uint.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_cas_ulong.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_cas_ushort.3c target=atomic_cas.3c
link path=usr/share/man/man3c/atomic_clear_long_excl.3c target=atomic_bits.3c
link path=usr/share/man/man3c/atomic_dec_16.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_16_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_32.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_32_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_64.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_64_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_8.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_8_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_ptr.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_ptr_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_uchar.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_uchar_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_uint.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_uint_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_ulong.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_ulong_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_ushort.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_dec_ushort_nv.3c target=atomic_dec.3c
link path=usr/share/man/man3c/atomic_inc_16.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_16_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_32.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_32_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_64.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_64_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_8.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_8_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_ptr.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_ptr_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_uchar.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_uchar_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_uint.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_uint_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_ulong.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_ulong_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_ushort.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_inc_ushort_nv.3c target=atomic_inc.3c
link path=usr/share/man/man3c/atomic_or_16.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_16_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_32.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_32_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_64.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_64_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_8.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_8_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_uchar.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_uchar_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_uint.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_uint_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_ulong.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_ulong_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_ushort.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_or_ushort_nv.3c target=atomic_or.3c
link path=usr/share/man/man3c/atomic_set_long_excl.3c target=atomic_bits.3c
link path=usr/share/man/man3c/atomic_swap_16.3c target=atomic_swap.3c
link path=usr/share/man/man3c/atomic_swap_32.3c target=atomic_swap.3c
link path=usr/share/man/man3c/atomic_swap_64.3c target=atomic_swap.3c
link path=usr/share/man/man3c/atomic_swap_8.3c target=atomic_swap.3c
link path=usr/share/man/man3c/atomic_swap_ptr.3c target=atomic_swap.3c
link path=usr/share/man/man3c/atomic_swap_uchar.3c target=atomic_swap.3c
link path=usr/share/man/man3c/atomic_swap_uint.3c target=atomic_swap.3c
link path=usr/share/man/man3c/atomic_swap_ulong.3c target=atomic_swap.3c
```

```
link path=usr/share/man/man3c/atomic_swap_ushort.3c target=atomic_swap.3c
link path=usr/share/man/man3c/backtrace.3c target=walkcontext.3c
link path=usr/share/man/man3c/backtrace_symbols.3c target=walkcontext.3c
link path=usr/share/man/man3c/backtrace_symbols_fd.3c target=walkcontext.3c
link path=usr/share/man/man3c/bcmp.3c target=bstring.3c
link path=usr/share/man/man3c/bcopy.3c target=bstring.3c
link path=usr/share/man/man3c/bind_textdomain_codeset.3c target=gettext.3c
link path=usr/share/man/man3c/bindtextdomain.3c target=gettext.3c
link path=usr/share/man/man3c/btowc_l.3c target=btowc.3c
link path=usr/share/man/man3c/bzero.3c target=bstring.3c
link path=usr/share/man/man3c/calloc.3c target=malloc.3c
link path=usr/share/man/man3c/catclose.3c target=catopen.3c
link path=usr/share/man/man3c/cfgetospeed.3c target=cfgetispeed.3c
link path=usr/share/man/man3c/cfsetospeed.3c target=cfsetispeed.3c
link path=usr/share/man/man3c/cftime.3c target=strftime.3c
link path=usr/share/man/man3c/clearerr.3c target=ferror.3c
link path=usr/share/man/man3c/clock_getres.3c target=clock_settime.3c
link path=usr/share/man/man3c/clock_gettime.3c target=clock_settime.3c
link path=usr/share/man/man3c/closelog.3c target=syslog.3c
link path=usr/share/man/man3c/cond_broadcast.3c target=cond_init.3c
link path=usr/share/man/man3c/cond_destroy.3c target=cond_init.3c
link path=usr/share/man/man3c/cond_reltimedwait.3c target=cond_init.3c
link path=usr/share/man/man3c/cond_signal.3c target=cond_init.3c
link path=usr/share/man/man3c/cond_timedwait.3c target=cond_init.3c
link path=usr/share/man/man3c/cond_wait.3c target=cond_init.3c
link path=usr/share/man/man3c/csetcol.3c target=cset.3c
link path=usr/share/man/man3c/csetlen.3c target=cset.3c
link path=usr/share/man/man3c/csetno.3c target=cset.3c
link path=usr/share/man/man3c/ctermid_r.3c target=ctermid.3c
link path=usr/share/man/man3c/ctime_r.3c target=ctime.3c
link path=usr/share/man/man3c/dbm_clearerr.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_close.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_delete.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_error.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_fetch.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_firstkey.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_nextkey.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_open.3c target=ndbm.3c
link path=usr/share/man/man3c/dbm_store.3c target=ndbm.3c
link path=usr/share/man/man3c/dcgettext.3c target=gettext.3c
link path=usr/share/man/man3c/dcngettext.3c target=gettext.3c
link path=usr/share/man/man3c/decimal_to_double.3c \
    target=decimal_to_floating.3c
link path=usr/share/man/man3c/decimal_to_extended.3c \
    target=decimal_to_floating.3c
link path=usr/share/man/man3c/decimal_to_quadruple.3c \
    target=decimal_to_floating.3c
link path=usr/share/man/man3c/decimal_to_single.3c \
    target=decimal_to_floating.3c
link path=usr/share/man/man3c/dgettext.3c target=gettext.3c
link path=usr/share/man/man3c/dladdr1.3c target=dladdr.3c
link path=usr/share/man/man3c/dlmopen.3c target=dlopen.3c
link path=usr/share/man/man3c/dngettext.3c target=gettext.3c
link path=usr/share/man/man3c/door_setparam.3c target=door_getparam.3c
link path=usr/share/man/man3c/door_unbind.3c target=door_bind.3c
link path=usr/share/man/man3c/double_to_decimal.3c \
    target=floating_to_decimal.3c
link path=usr/share/man/man3c/dup3.3c target=dup2.3c
link path=usr/share/man/man3c/duplocale.3c target=newlocale.3c
link path=usr/share/man/man3c/edata.3c target=end.3c
link path=usr/share/man/man3c/endgrent.3c target=getgrnam.3c
link path=usr/share/man/man3c/endnetgrent.3c target=getnetgrent.3c
link path=usr/share/man/man3c/endpwent.3c target=getpwnam.3c
link path=usr/share/man/man3c/endspent.3c target=getspnam.3c
link path=usr/share/man/man3c/endusershell.3c target=getusershell.3c
link path=usr/share/man/man3c/endutent.3c target=getutent.3c
```



```
link path=usr/share/man/man3c/endutxent.3c target=getutxent.3c
link path=usr/share/man/man3c/erand48.3c target=drand48.3c
link path=usr/share/man/man3c/errno.3c target=perror.3c
link path=usr/share/man/man3c/errx.3c target=err.3c
link path=usr/share/man/man3c/etext.3c target=end.3c
link path=usr/share/man/man3c/euccol.3c target=euclen.3c
link path=usr/share/man/man3c/eucscol.3c target=euclen.3c
link path=usr/share/man/man3c/extended_to_decimal.3c \
    target=floating_to_decimal.3c
link path=usr/share/man/man3c/fconvert.3c target=econvert.3c
link path=usr/share/man/man3c/fcvt.3c target=ecvt.3c
link path=usr/share/man/man3c/fdopendir.3c target=opendir.3c
link path=usr/share/man/man3c/fdwalk.3c target=closefrom.3c
link path=usr/share/man/man3c/feof.3c target=ferror.3c
link path=usr/share/man/man3c/fgetgrent.3c target=getgrnam.3c
link path=usr/share/man/man3c/fgetgrent_r.3c target=getgrnam.3c
link path=usr/share/man/man3c/fgetpwent.3c target=getpwnam.3c
link path=usr/share/man/man3c/fgetpwent_r.3c target=getpwnam.3c
link path=usr/share/man/man3c/fgets.3c target=gets.3c
link path=usr/share/man/man3c/fgetspent.3c target=getspnam.3c
link path=usr/share/man/man3c/fgetspent_r.3c target=getspnam.3c
link path=usr/share/man/man3c/fgetwc_l.3c target=fgetwc.3c
link path=usr/share/man/man3c/fgetws.3c target=getws.3c
link path=usr/share/man/man3c/file_to_decimal.3c target=string_to_decimal.3c
link path=usr/share/man/man3c/fileno.3c target=ferror.3c
link path=usr/share/man/man3c/finite.3c target=isnand.3c
link path=usr/share/man/man3c/fpclass.3c target=isnand.3c
link path=usr/share/man/man3c/fpgetmask.3c target=fpgetround.3c
link path=usr/share/man/man3c/fpgetsticky.3c target=fpgetround.3c
link path=usr/share/man/man3c/fprintf.3c target=printf.3c
link path=usr/share/man/man3c/fpsetmask.3c target=fpgetround.3c
link path=usr/share/man/man3c/fpsetround.3c target=fpgetround.3c
link path=usr/share/man/man3c/fpsetsticky.3c target=fpgetround.3c
link path=usr/share/man/man3c/fputs.3c target=puts.3c
link path=usr/share/man/man3c/free.3c target=malloc.3c
link path=usr/share/man/man3c/freelocale.3c target=newlocale.3c
link path=usr/share/man/man3c/fscanf.3c target=scanf.3c
link path=usr/share/man/man3c/fseeko.3c target=fseek.3c
link path=usr/share/man/man3c/fsetattr.3c target=fgetattr.3c
link path=usr/share/man/man3c/ftello.3c target=ftell.3c
link path=usr/share/man/man3c/ftruncate.3c target=truncate.3c
link path=usr/share/man/man3c/ftrylockfile.3c target=flockfile.3c
link path=usr/share/man/man3c/func_to_decimal.3c target=string_to_decimal.3c
link path=usr/share/man/man3c/funlockfile.3c target=flockfile.3c
link path=usr/share/man/man3c/gconvert.3c target=econvert.3c
link path=usr/share/man/man3c/gcvt.3c target=ecvt.3c
link path=usr/share/man/man3c/getattrat.3c target=fgetattr.3c
link path=usr/share/man/man3c/getc.3c target=fgetc.3c
link path=usr/share/man/man3c/getc_unlocked.3c target=fgetc.3c
link path=usr/share/man/man3c/getchar.3c target=fgetc.3c
link path=usr/share/man/man3c/getchar_unlocked.3c target=fgetc.3c
link path=usr/share/man/man3c/getdelim.3c target=getline.3c
link path=usr/share/man/man3c/getextmntent.3c target=getmntent.3c
link path=usr/share/man/man3c/getgrent.3c target=getgrnam.3c
link path=usr/share/man/man3c/getgrent_r.3c target=getgrnam.3c
link path=usr/share/man/man3c/getgrgid.3c target=getgrnam.3c
link path=usr/share/man/man3c/getgrgid_r.3c target=getgrnam.3c
link path=usr/share/man/man3c/getgrnam_r.3c target=getgrnam.3c
link path=usr/share/man/man3c/gethomelgroup.3c target=getcpuid.3c
link path=usr/share/man/man3c/gethrvtime.3c target=gethrtime.3c
link path=usr/share/man/man3c/getlogin_r.3c target=getlogin.3c
link path=usr/share/man/man3c/getmntany.3c target=getmntent.3c
link path=usr/share/man/man3c/getnetgrent_r.3c target=getnetgrent.3c
link path=usr/share/man/man3c/getpassphrase.3c target=getpass.3c
link path=usr/share/man/man3c/getpwent.3c target=getpwnam.3c
link path=usr/share/man/man3c/getpwent_r.3c target=getpwnam.3c
```

```
786 link path=usr/share/man/man3c/getpwnam_r.3c target=getpwnam.3c
787 link path=usr/share/man/man3c/getpwuid.3c target=getpwnam.3c
788 link path=usr/share/man/man3c/getpwuid_r.3c target=getpwnam.3c
789 link path=usr/share/man/man3c/getspent.3c target=getspnam.3c
790 link path=usr/share/man/man3c/getspent_r.3c target=getspnam.3c
791 link path=usr/share/man/man3c/getspnam_r.3c target=getspnam.3c
792 link path=usr/share/man/man3c/getutid.3c target=getutent.3c
793 link path=usr/share/man/man3c/getutline.3c target=getutent.3c
794 link path=usr/share/man/man3c/getutmp.3c target=getutxent.3c
795 link path=usr/share/man/man3c/getutmpx.3c target=getutxent.3c
796 link path=usr/share/man/man3c/getutxid.3c target=getutxent.3c
797 link path=usr/share/man/man3c/getutxline.3c target=getutxent.3c
798 link path=usr/share/man/man3c/getvfsany.3c target=getvfsent.3c
799 link path=usr/share/man/man3c/getvfsfile.3c target=getvfsent.3c
800 link path=usr/share/man/man3c/getvfsspec.3c target=getvfsent.3c
801 link path=usr/share/man/man3c/getw.3c target=fgetc.3c
802 link path=usr/share/man/man3c/getwc_l.3c target=getwc.3c
803 link path=usr/share/man/man3c/getwchar_l.3c target=getwchar.3c
804 link path=usr/share/man/man3c/getzoneidbyname.3c target=getzoneid.3c
805 link path=usr/share/man/man3c/getzonenamebyid.3c target=getzoneid.3c
806 link path=usr/share/man/man3c/globfree.3c target=glob.3c
807 link path=usr/share/man/man3c/gmtime.3c target=ctime.3c
808 link path=usr/share/man/man3c/gmtime_r.3c target=ctime.3c
809 link path=usr/share/man/man3c/gsignal.3c target=ssignal.3c
810 link path=usr/share/man/man3c/hasmntopt.3c target=getmntent.3c
811 link path=usr/share/man/man3c/hcreate.3c target=hsearch.3c
812 link path=usr/share/man/man3c/hdestroy.3c target=hsearch.3c
813 link path=usr/share/man/man3c/initstate.3c target=random.3c
814 link path=usr/share/man/man3c/innetgr.3c target=getnetgrent.3c
815 link path=usr/share/man/man3c/isalnum.3c target=ctype.3c
816 link path=usr/share/man/man3c/isalnum_l.3c target=ctype.3c
817 link path=usr/share/man/man3c/isalpha.3c target=ctype.3c
818 link path=usr/share/man/man3c/isalpha_l.3c target=ctype.3c
819 link path=usr/share/man/man3c/isascii.3c target=ctype.3c
820 link path=usr/share/man/man3c/isblank.3c target=ctype.3c
821 link path=usr/share/man/man3c/isblank_l.3c target=ctype.3c
822 link path=usr/share/man/man3c/iscntrl.3c target=ctype.3c
823 link path=usr/share/man/man3c/iscntrl_l.3c target=ctype.3c
824 link path=usr/share/man/man3c/isdigit.3c target=ctype.3c
825 link path=usr/share/man/man3c/isdigit_l.3c target=ctype.3c
826 link path=usr/share/man/man3c/isenglish.3c target=iswalpha.3c
827 link path=usr/share/man/man3c/isgraph.3c target=ctype.3c
828 link path=usr/share/man/man3c/isgraph_l.3c target=ctype.3c
829 link path=usr/share/man/man3c/isideogram.3c target=iswalpha.3c
830 link path=usr/share/man/man3c/islower.3c target=ctype.3c
831 link path=usr/share/man/man3c/islower_l.3c target=ctype.3c
832 link path=usr/share/man/man3c/isnanf.3c target=isnand.3c
833 link path=usr/share/man/man3c/isnumber.3c target=iswalpha.3c
834 link path=usr/share/man/man3c/isphonogram.3c target=iswalpha.3c
835 link path=usr/share/man/man3c/isprint.3c target=ctype.3c
836 link path=usr/share/man/man3c/isprint_l.3c target=ctype.3c
837 link path=usr/share/man/man3c/ispunct.3c target=ctype.3c
838 link path=usr/share/man/man3c/ispunct_l.3c target=ctype.3c
839 link path=usr/share/man/man3c/isspace.3c target=ctype.3c
840 link path=usr/share/man/man3c/isspace_l.3c target=ctype.3c
841 link path=usr/share/man/man3c/isspecial.3c target=iswalpha.3c
842 link path=usr/share/man/man3c/isupper.3c target=ctype.3c
843 link path=usr/share/man/man3c/isupper_l.3c target=ctype.3c
844 link path=usr/share/man/man3c/iswalnum.3c target=iswalpha.3c
845 link path=usr/share/man/man3c/iswalnum_l.3c target=iswalpha.3c
846 link path=usr/share/man/man3c/iswalpha_l.3c target=iswalpha.3c
847 link path=usr/share/man/man3c/iswascii.3c target=iswalpha.3c
848 link path=usr/share/man/man3c/iswblank.3c target=iswalpha.3c
849 link path=usr/share/man/man3c/iswblank_l.3c target=iswalpha.3c
850 link path=usr/share/man/man3c/iswcntrl.3c target=iswalpha.3c
851 link path=usr/share/man/man3c/iswcntrl_l.3c target=iswalpha.3c
```



```
852 link path=usr/share/man/man3c/iswctype_l.3c target=iswctype.3c
853 link path=usr/share/man/man3c/iswdigit.3c target=iswalpha.3c
854 link path=usr/share/man/man3c/iswdigit_l.3c target=iswalpha.3c
855 link path=usr/share/man/man3c/iswgraph.3c target=iswalpha.3c
856 link path=usr/share/man/man3c/iswgraph_l.3c target=iswalpha.3c
857 link path=usr/share/man/man3c/iswhexnumber.3c target=iswalpha.3c
858 link path=usr/share/man/man3c/iswhexnumber_l.3c target=iswalpha.3c
859 link path=usr/share/man/man3c/iswideogram.3c target=iswalpha.3c
860 link path=usr/share/man/man3c/iswideogram_l.3c target=iswalpha.3c
861 link path=usr/share/man/man3c/iswlower.3c target=iswalpha.3c
862 link path=usr/share/man/man3c/iswlower_l.3c target=iswalpha.3c
863 link path=usr/share/man/man3c/iswnumber.3c target=iswalpha.3c
864 link path=usr/share/man/man3c/iswnumber_l.3c target=iswalpha.3c
865 link path=usr/share/man/man3c/iswphonogram.3c target=iswalpha.3c
866 link path=usr/share/man/man3c/iswphonogram_l.3c target=iswalpha.3c
867 link path=usr/share/man/man3c/iswprint.3c target=iswalpha.3c
868 link path=usr/share/man/man3c/iswprint_l.3c target=iswalpha.3c
869 link path=usr/share/man/man3c/iswpunct.3c target=iswalpha.3c
870 link path=usr/share/man/man3c/iswpunct_l.3c target=iswalpha.3c
871 link path=usr/share/man/man3c/iswspace.3c target=iswalpha.3c
872 link path=usr/share/man/man3c/iswspace_l.3c target=iswalpha.3c
873 link path=usr/share/man/man3c/iswspecial.3c target=iswalpha.3c
874 link path=usr/share/man/man3c/iswspecial_l.3c target=iswalpha.3c
875 link path=usr/share/man/man3c/iswupper.3c target=iswalpha.3c
876 link path=usr/share/man/man3c/iswupper_l.3c target=iswalpha.3c
877 link path=usr/share/man/man3c/iswxdigit.3c target=iswalpha.3c
878 link path=usr/share/man/man3c/iswxdigit_l.3c target=iswalpha.3c
879 link path=usr/share/man/man3c/isxdigit.3c target=ctype.3c
880 link path=usr/share/man/man3c/isxdigit_l.3c target=ctype.3c
881 link path=usr/share/man/man3c/jrand48.3c target=drand48.3c
882 link path=usr/share/man/man3c/l64a.3c target=a64l.3c
883 link path=usr/share/man/man3c/labs.3c target=abs.3c
884 link path=usr/share/man/man3c/lcong48.3c target=drand48.3c
885 link path=usr/share/man/man3c/ldiv.3c target=div.3c
886 link path=usr/share/man/man3c/lfind.3c target=lsearch.3c
887 link path=usr/share/man/man3c/llabs.3c target=abs.3c
888 link path=usr/share/man/man3c/lldiv.3c target=div.3c
889 link path=usr/share/man/man3c/lltostr.3c target=strtol.3c
890 link path=usr/share/man/man3c/localtime.3c target=ctime.3c
891 link path=usr/share/man/man3c/localtime_r.3c target=ctime.3c
892 link path=usr/share/man/man3c/longjmp.3c target=setjmp.3c
893 link path=usr/share/man/man3c/lrand48.3c target=drand48.3c
894 link path=usr/share/man/man3c/major.3c target=makedev.3c
895 link path=usr/share/man/man3c/mblen_l.3c target=mblen.3c
896 link path=usr/share/man/man3c/mbrlen_l.3c target=mbrlen.3c
897 link path=usr/share/man/man3c/mbrtowc_l.3c target=mbrtowc.3c
898 link path=usr/share/man/man3c/mbsinit_l.3c target=mbsinit.3c
899 link path=usr/share/man/man3c/mbsnrtowcs.3c target=mbsrtowcs.3c
900 link path=usr/share/man/man3c/mbsnrtowcs_l.3c target=mbsrtowcs.3c
901 link path=usr/share/man/man3c/mbsrtowcs_l.3c target=mbsrtowcs.3c
902 link path=usr/share/man/man3c/mbstowcs.3c target=mbsrtowcs.3c
903 link path=usr/share/man/man3c/mbstowcs_l.3c target=mbsrtowcs.3c
904 link path=usr/share/man/man3c/mbtowc_l.3c target=mbtowc.3c
905 link path=usr/share/man/man3c/memalign.3c target=malloc.3c
906 link path=usr/share/man/man3c/membar_consumer.3c target=membar_ops.3c
907 link path=usr/share/man/man3c/membar_enter.3c target=membar_ops.3c
908 link path=usr/share/man/man3c/membar_exit.3c target=membar_ops.3c
909 link path=usr/share/man/man3c/membar_producer.3c target=membar_ops.3c
910 link path=usr/share/man/man3c/memccpy.3c target=memory.3c
911 link path=usr/share/man/man3c/memchr.3c target=memory.3c
912 link path=usr/share/man/man3c/memcmp.3c target=memory.3c
913 link path=usr/share/man/man3c/memcpy.3c target=memory.3c
914 link path=usr/share/man/man3c/memmove.3c target=memory.3c
915 link path=usr/share/man/man3c/memset.3c target=memory.3c
916 link path=usr/share/man/man3c/minor.3c target=makedev.3c
917 link path=usr/share/man/man3c/mkdtemp.3c target=mkstemp.3c
```

```
link path=usr/share/man/man3c/mkostemp.3c target=mkstemp.3c
link path=usr/share/man/man3c/mkostemps.3c target=mkstemp.3c
link path=usr/share/man/man3c/mkstemps.3c target=mkstemp.3c
link path=usr/share/man/man3c/mq_reltimedreceive_np.3c target=mq_receive.3c
link path=usr/share/man/man3c/mq_reltimedsend_np.3c target=mq_send.3c
link path=usr/share/man/man3c/mq_timedreceive.3c target=mq_receive.3c
link path=usr/share/man/man3c/mq_timedsend.3c target=mq_send.3c
link path=usr/share/man/man3c/mrand48.3c target=drand48.3c
link path=usr/share/man/man3c/munlock.3c target=mlock.3c
link path=usr/share/man/man3c/munlockall.3c target=mlockall.3c
link path=usr/share/man/man3c/mutex_consistent.3c target=mutex_init.3c
link path=usr/share/man/man3c/mutex_destroy.3c target=mutex_init.3c
link path=usr/share/man/man3c/mutex_lock.3c target=mutex_init.3c
link path=usr/share/man/man3c/mutex_trylock.3c target=mutex_init.3c
link path=usr/share/man/man3c/mutex_unlock.3c target=mutex_init.3c
link path=usr/share/man/man3c/nftw.3c target=ftw.3c
link path=usr/share/man/man3c/ngettext.3c target=gettext.3c
link path=usr/share/man/man3c/nl_langinfo_l.3c target=nl_langinfo.3c
link path=usr/share/man/man3c/nrand48.3c target=drand48.3c
link path=usr/share/man/man3c/openlog.3c target=syslog.3c
link path=usr/share/man/man3c/pclose.3c target=popen.3c
link path=usr/share/man/man3c/port_dissociate.3c target=port_associate.3c
link path=usr/share/man/man3c/port_getn.3c target=port_get.3c
link path=usr/share/man/man3c/port_sendn.3c target=port_send.3c
link path=usr/share/man/man3c/posix_spawn_file_actions_addopen.3c \
    target=posix_spawn_file_actions_addclose.3c
link path=usr/share/man/man3c/posix_spawn_file_actions_init.3c \
    target=posix_spawn_file_actions_destroy.3c
link path=usr/share/man/man3c/posix_spawnattr_init.3c \
    target=posix_spawnattr_destroy.3c
link path=usr/share/man/man3c/posix_spawnattr_setflags.3c \
    target=posix_spawnattr_getflags.3c
link path=usr/share/man/man3c/posix_spawnattr_setpgroup.3c \
    target=posix_spawnattr_getpgroup.3c
link path=usr/share/man/man3c/posix_spawnattr_setschedparam.3c \
    target=posix_spawnattr_getschedparam.3c
link path=usr/share/man/man3c/posix_spawnattr_setschedpolicy.3c \
    target=posix_spawnattr_getschedpolicy.3c
link path=usr/share/man/man3c/posix_spawnattr_setsigdefault.3c \
    target=posix_spawnattr_getsigdefault.3c
link path=usr/share/man/man3c/posix_spawnattr_setsigignore_np.3c \
    target=posix_spawnattr_getsigignore_np.3c
link path=usr/share/man/man3c/posix_spawnattr_setsigmask.3c \
    target=posix_spawnattr_getsigmask.3c
link path=usr/share/man/man3c/posix_spawnp.3c target=posix_spawn.3c
link path=usr/share/man/man3c/printstack.3c target=walkcontext.3c
link path=usr/share/man/man3c/priv_allocset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_basicset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_copyset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_delset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_emptyset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_fillset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_freeset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_getbyname.3c target=priv_str_to_set.3c
link path=usr/share/man/man3c/priv_getbynum.3c target=priv_str_to_set.3c
link path=usr/share/man/man3c/priv_getsetbyname.3c target=priv_str_to_set.3c
link path=usr/share/man/man3c/priv_getsetbynum.3c target=priv_str_to_set.3c
link path=usr/share/man/man3c/priv_gettext.3c target=priv_str_to_set.3c
link path=usr/share/man/man3c/priv_ineffect.3c target=priv_set.3c
link path=usr/share/man/man3c/priv_intersect.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_inverse.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_isemptyset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_isequalset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_isfullset.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_ismember.3c target=priv_addset.3c
link path=usr/share/man/man3c/priv_issubset.3c target=priv_addset.3c
```



```
link path=usr/share/man/man3c/priv_set_to_str.3c target=priv_str_to_set.3c
link path=usr/share/man/man3c/priv_union.3c target=priv_addset.3c
link path=usr/share/man/man3c/pselect.3c target=select.3c
link path=usr/share/man/man3c/psiginfo.3c target=psignal.3c
link path=usr/share/man/man3c/pthread_attr_destroy.3c \
    target=pthread_attr_init.3c
link path=usr/share/man/man3c/pthread_attr_setdetachstate.3c \
    target=pthread_attr_getdetachstate.3c
link path=usr/share/man/man3c/pthread_attr_setguardsize.3c \
    target=pthread_attr_getguardsize.3c
link path=usr/share/man/man3c/pthread_attr_setinheritsched.3c \
    target=pthread_attr_getinheritsched.3c
link path=usr/share/man/man3c/pthread_attr_setschedparam.3c \
    target=pthread_attr_getschedparam.3c
link path=usr/share/man/man3c/pthread_attr_setschedpolicy.3c \
    target=pthread_attr_getschedpolicy.3c
link path=usr/share/man/man3c/pthread_attr_setscope.3c \
    target=pthread_attr_getscope.3c
link path=usr/share/man/man3c/pthread_attr_setstack.3c \
    target=pthread_attr_getstack.3c
link path=usr/share/man/man3c/pthread_attr_setstackaddr.3c \
    target=pthread_attr_getstackaddr.3c
link path=usr/share/man/man3c/pthread_attr_setstacksize.3c \
    target=pthread_attr_getstacksize.3c
link path=usr/share/man/man3c/pthread_barrier_init.3c \
    target=pthread_barrier_destroy.3c
link path=usr/share/man/man3c/pthread_barrierattr_init.3c \
    target=pthread_barrierattr_destroy.3c
link path=usr/share/man/man3c/pthread_barrierattr_setpshared.3c \
    target=pthread_barrierattr_getpshared.3c
link path=usr/share/man/man3c/pthread_cond_broadcast.3c \
    target=pthread_cond_signal.3c
link path=usr/share/man/man3c/pthread_cond_destroy.3c \
    target=pthread_cond_init.3c
link path=usr/share/man/man3c/pthread_cond_reltimedwait_np.3c \
    target=pthread_cond_wait.3c
link path=usr/share/man/man3c/pthread_cond_timedwait.3c \
    target=pthread_cond_wait.3c
link path=usr/share/man/man3c/pthread_condattr_destroy.3c \
    target=pthread_condattr_init.3c
link path=usr/share/man/man3c/pthread_condattr_setclock.3c \
    target=pthread_condattr_getclock.3c
link path=usr/share/man/man3c/pthread_condattr_setpshared.3c \
    target=pthread_condattr_getpshared.3c
link path=usr/share/man/man3c/pthread_key_create_once_np.3c \
    target=pthread_key_create.3c
link path=usr/share/man/man3c/pthread_mutex_destroy.3c \
    target=pthread_mutex_init.3c
link path=usr/share/man/man3c/pthread_mutex_reltimedlock_np.3c \
    target=pthread_mutex_timedlock.3c
link path=usr/share/man/man3c/pthread_mutex_setprioceiling.3c \
    target=pthread_mutex_getprioceiling.3c
link path=usr/share/man/man3c/pthread_mutex_trylock.3c \
    target=pthread_mutex_lock.3c
link path=usr/share/man/man3c/pthread_mutex_unlock.3c \
    target=pthread_mutex_lock.3c
link path=usr/share/man/man3c/pthread_mutexattr_destroy.3c \
    target=pthread_mutexattr_init.3c
link path=usr/share/man/man3c/pthread_mutexattr_setprioceiling.3c \
    target=pthread_mutexattr_getprioceiling.3c
link path=usr/share/man/man3c/pthread_mutexattr_setprotocol.3c \
    target=pthread_mutexattr_getprotocol.3c
link path=usr/share/man/man3c/pthread_mutexattr_setpshared.3c \
    target=pthread_mutexattr_getpshared.3c
link path=usr/share/man/man3c/pthread_mutexattr_settype.3c \
    target=pthread_mutexattr_gettype.3c
```

```
1050 link path=usr/share/man/man3c/pthread_rwlock_destroy.3c \
1051     target=pthread_rwlock_init.3c
1052 link path=usr/share/man/man3c/pthread_rwlock_reltimedrdlock_np.3c \
1053     target=pthread_rwlock_timedrdlock.3c
1054 link path=usr/share/man/man3c/pthread_rwlock_reltimedwrlock_np.3c \
1055     target=pthread_rwlock_timedwrlock.3c
1056 link path=usr/share/man/man3c/pthread_rwlock_tryrdlock.3c \
1057     target=pthread_rwlock_rdlock.3c
1058 link path=usr/share/man/man3c/pthread_rwlock_trywrlock.3c \
1059     target=pthread_rwlock_wrlock.3c
1060 link path=usr/share/man/man3c/pthread_rwlockattr_destroy.3c \
1061     target=pthread_rwlockattr_init.3c
1062 link path=usr/share/man/man3c/pthread_rwlockattr_setpshared.3c \
1063     target=pthread_rwlockattr_getpshared.3c
1064 link path=usr/share/man/man3c/pthread_setconcurrency.3c \
1065     target=pthread_getconcurrency.3c
1066 link path=usr/share/man/man3c/pthread_setschedparam.3c \
1067     target=pthread_getschedparam.3c
1068 link path=usr/share/man/man3c/pthread_setspecific.3c \
1069     target=pthread_getspecific.3c
1070 link path=usr/share/man/man3c/pthread_spin_init.3c \
1071     target=pthread_spin_destroy.3c
1072 link path=usr/share/man/man3c/pthread_spin_trylock.3c \
1073     target=pthread_spin_lock.3c
1074 link path=usr/share/man/man3c/putc.3c target=fputc.3c
1075 link path=usr/share/man/man3c/putc_unlocked.3c target=fputc.3c
1076 link path=usr/share/man/man3c/putchar.3c target=fputc.3c
1077 link path=usr/share/man/man3c/putchar_unlocked.3c target=fputc.3c
1078 link path=usr/share/man/man3c/putmntent.3c target=getmntent.3c
1079 link path=usr/share/man/man3c/pututline.3c target=getutent.3c
1080 link path=usr/share/man/man3c/pututxline.3c target=getutxent.3c
1081 link path=usr/share/man/man3c/putw.3c target=fputc.3c
1082 link path=usr/share/man/man3c/putwc.3c target=fputwc.3c
1083 link path=usr/share/man/man3c/putwchar.3c target=fputwc.3c
1084 link path=usr/share/man/man3c/qeconvert.3c target=econvert.3c
1085 link path=usr/share/man/man3c/qfconvert.3c target=econvert.3c
1086 link path=usr/share/man/man3c/qgconvert.3c target=econvert.3c
1087 link path=usr/share/man/man3c/quadruple_to_decimal.3c \
1088     target=floating_to_decimal.3c
1089 link path=usr/share/man/man3c/rand_r.3c target=rand.3c
1090 link path=usr/share/man/man3c/rctlblk_get_enforced_value.3c \
1091     target=rctlblk_set_value.3c
1092 link path=usr/share/man/man3c/rctlblk_get_firing_time.3c \
1093     target=rctlblk_set_value.3c
1094 link path=usr/share/man/man3c/rctlblk_get_global_action.3c \
1095     target=rctlblk_set_value.3c
1096 link path=usr/share/man/man3c/rctlblk_get_global_flags.3c \
1097     target=rctlblk_set_value.3c
1098 link path=usr/share/man/man3c/rctlblk_get_local_action.3c \
1099     target=rctlblk_set_value.3c
1100 link path=usr/share/man/man3c/rctlblk_get_local_flags.3c \
1101     target=rctlblk_set_value.3c
1102 link path=usr/share/man/man3c/rctlblk_get_privilege.3c \
1103     target=rctlblk_set_value.3c
1104 link path=usr/share/man/man3c/rctlblk_get_recipient_pid.3c \
1105     target=rctlblk_set_value.3c
1106 link path=usr/share/man/man3c/rctlblk_get_value.3c target=rctlblk_set_value.3c
1107 link path=usr/share/man/man3c/rctlblk_set_local_action.3c \
1108     target=rctlblk_set_value.3c
1109 link path=usr/share/man/man3c/rctlblk_set_local_flags.3c \
1110     target=rctlblk_set_value.3c
1111 link path=usr/share/man/man3c/rctlblk_set_privilege.3c \
1112     target=rctlblk_set_value.3c
1113 link path=usr/share/man/man3c/rctlblk_set_recipient_pid.3c \
1114     target=rctlblk_set_value.3c
1115 link path=usr/share/man/man3c/rctlblk_size.3c target=rctlblk_set_value.3c
```



```
1116 link path=usr/share/man/man3c/re_exec.3c target=re_comp.3c
1117 link path=usr/share/man/man3c/readdir_r.3c target=readdir.3c
1118 link path=usr/share/man/man3c/realloc.3c target=malloc.3c
1119 link path=usr/share/man/man3c/regerror.3c target=regcomp.3c
1120 link path=usr/share/man/man3c/regex.3c target=regcmp.3c
1121 link path=usr/share/man/man3c/regexec.3c target=regcomp.3c
1122 link path=usr/share/man/man3c/regfree.3c target=regcomp.3c
1123 link path=usr/share/man/man3c/remque.3c target=insque.3c
1124 link path=usr/share/man/man3c/resetmnttab.3c target=getmntent.3c
1125 link path=usr/share/man/man3c/rindex.3c target=index.3c
1126 link path=usr/share/man/man3c/rw_rdlock.3c target=rwlock.3c
1127 link path=usr/share/man/man3c/rw_tryrdlock.3c target=rwlock.3c
1128 link path=usr/share/man/man3c/rw_trywrlock.3c target=rwlock.3c
1129 link path=usr/share/man/man3c/rw_unlock.3c target=rwlock.3c
1130 link path=usr/share/man/man3c/rw_wrlock.3c target=rwlock.3c
1131 link path=usr/share/man/man3c/rwlock_destroy.3c target=rwlock.3c
1132 link path=usr/share/man/man3c/rwlock_init.3c target=rwlock.3c
1133 link path=usr/share/man/man3c/sched_get_priority_min.3c \
1134     target=sched_get_priority_max.3c
1135 link path=usr/share/man/man3c/schedctl_exit.3c target=schedctl_init.3c
1136 link path=usr/share/man/man3c/schedctl_lookup.3c target=schedctl_init.3c
1137 link path=usr/share/man/man3c/schedctl_start.3c target=schedctl_init.3c
1138 link path=usr/share/man/man3c/schedctl_stop.3c target=schedctl_init.3c
1139 link path=usr/share/man/man3c/seconvert.3c target=econvert.3c
1140 link path=usr/share/man/man3c/seed48.3c target=drand48.3c
1141 link path=usr/share/man/man3c/sem_reltimedwait_np.3c target=sem_timedwait.3c
1142 link path=usr/share/man/man3c/sem_trywait.3c target=sem_wait.3c
1143 link path=usr/share/man/man3c/sema_destroy.3c target=semaphore.3c
1144 link path=usr/share/man/man3c/sema_init.3c target=semaphore.3c
1145 link path=usr/share/man/man3c/sema_post.3c target=semaphore.3c
1146 link path=usr/share/man/man3c/sema_trywait.3c target=semaphore.3c
1147 link path=usr/share/man/man3c/sema_wait.3c target=semaphore.3c
1148 link path=usr/share/man/man3c/setattrat.3c target=fgetattr.3c
1149 link path=usr/share/man/man3c/setgrent.3c target=getgrnam.3c
1150 link path=usr/share/man/man3c/sethostname.3c target=gethostname.3c
1151 link path=usr/share/man/man3c/setlinebuf.3c target=setbuffer.3c
1152 link path=usr/share/man/man3c/setlogmask.3c target=syslog.3c
1153 link path=usr/share/man/man3c/setnetgrent.3c target=getnetgrent.3c
1154 link path=usr/share/man/man3c/setpriority.3c target=getpriority.3c
1155 link path=usr/share/man/man3c/setpwent.3c target=getpwnam.3c
1156 link path=usr/share/man/man3c/setspent.3c target=getspnam.3c
1157 link path=usr/share/man/man3c/setstate.3c target=random.3c
1158 link path=usr/share/man/man3c/settimeofday.3c target=gettimeofday.3c
1159 link path=usr/share/man/man3c/setusershell.3c target=getusershell.3c
1160 link path=usr/share/man/man3c/setutent.3c target=getutent.3c
1161 link path=usr/share/man/man3c/setutxent.3c target=getutxent.3c
1162 link path=usr/share/man/man3c/setvbuf.3c target=setbuf.3c
1163 link path=usr/share/man/man3c/sfconvert.3c target=econvert.3c
1164 link path=usr/share/man/man3c/sgconvert.3c target=econvert.3c
1165 link path=usr/share/man/man3c/sig2str.3c target=str2sig.3c
1166 link path=usr/share/man/man3c/sigaddset.3c target=sigsetops.3c
1167 link path=usr/share/man/man3c/sigdelset.3c target=sigsetops.3c
1168 link path=usr/share/man/man3c/sigemptyset.3c target=sigsetops.3c
1169 link path=usr/share/man/man3c/sigfillset.3c target=sigsetops.3c
1170 link path=usr/share/man/man3c/sighold.3c target=signal.3c
1171 link path=usr/share/man/man3c/sigignore.3c target=signal.3c
1172 link path=usr/share/man/man3c/sigismember.3c target=sigsetops.3c
1173 link path=usr/share/man/man3c/siglongjmp.3c target=setjmp.3c
1174 link path=usr/share/man/man3c/sigpause.3c target=signal.3c
1175 link path=usr/share/man/man3c/sigrelse.3c target=signal.3c
1176 link path=usr/share/man/man3c/sigset.3c target=signal.3c
1177 link path=usr/share/man/man3c/sigsetjmp.3c target=setjmp.3c
1178 link path=usr/share/man/man3c/sigtimedwait.3c target=sigwaitinfo.3c
1179 link path=usr/share/man/man3c/single_to_decimal.3c \
1180     target=floating_to_decimal.3c
1181 link path=usr/share/man/man3c/snprintf.3c target=printf.3c
```

```
1182 link path=usr/share/man/man3c/sprintf.3c target=printf.3c
1183 link path=usr/share/man/man3c/srand.3c target=rand.3c
1184 link path=usr/share/man/man3c/srand48.3c target=drand48.3c
1185 link path=usr/share/man/man3c/srandom.3c target=random.3c
1186 link path=usr/share/man/man3c/sscanf.3c target=scanf.3c
1187 link path=usr/share/man/man3c/stderr.3c target=stdio.3c
1188 link path=usr/share/man/man3c/stdin.3c target=stdio.3c
1189 link path=usr/share/man/man3c/stdout.3c target=stdio.3c
1190 link path=usr/share/man/man3c/strcasecmp.3c target=string.3c
1191 link path=usr/share/man/man3c/strcasecmp_l.3c target=string.3c
1192 link path=usr/share/man/man3c/strcat.3c target=string.3c
1193 link path=usr/share/man/man3c/strchr.3c target=string.3c
1194 link path=usr/share/man/man3c/strcmp.3c target=string.3c
1195 link path=usr/share/man/man3c/strcoll_l.3c target=strcoll.3c
1196 link path=usr/share/man/man3c/strcpy.3c target=string.3c
1197 link path=usr/share/man/man3c/strcspn.3c target=string.3c
1198 link path=usr/share/man/man3c/strdup.3c target=string.3c
1199 link path=usr/share/man/man3c/strfmon_l.3c target=strfmon.3c
1200 link path=usr/share/man/man3c/strftime_l.3c target=strftime.3c
1201 link path=usr/share/man/man3c/strerror_r.3c target=strerror.3c
1202 link path=usr/share/man/man3c/strlcat.3c target=string.3c
1203 link path=usr/share/man/man3c/strlcpy.3c target=string.3c
1204 link path=usr/share/man/man3c/strlen.3c target=string.3c
1205 link path=usr/share/man/man3c/strncasecmp.3c target=string.3c
1206 link path=usr/share/man/man3c/strncasecmp_l.3c target=string.3c
1207 link path=usr/share/man/man3c/strncat.3c target=string.3c
1208 link path=usr/share/man/man3c/strncmp.3c target=string.3c
1209 link path=usr/share/man/man3c/strncpy.3c target=string.3c
1210 link path=usr/share/man/man3c/strnlen.3c target=string.3c
1211 link path=usr/share/man/man3c/strpbrk.3c target=string.3c
1212 link path=usr/share/man/man3c/strptime_l.3c target=strptime.3c
1213 link path=usr/share/man/man3c/strrchr.3c target=string.3c
1214 link path=usr/share/man/man3c/strsep.3c target=string.3c
1215 link path=usr/share/man/man3c/strspn.3c target=string.3c
1216 link path=usr/share/man/man3c/strstr.3c target=string.3c
1217 link path=usr/share/man/man3c/strtof.3c target=strtod.3c
1218 link path=usr/share/man/man3c/strtok.3c target=string.3c
1219 link path=usr/share/man/man3c/strtok_r.3c target=string.3c
1220 link path=usr/share/man/man3c/strtold.3c target=strtod.3c
1221 link path=usr/share/man/man3c/strtoll.3c target=strtol.3c
1222 link path=usr/share/man/man3c/strtoull.3c target=strtoul.3c
1223 link path=usr/share/man/man3c/strtoumax.3c target=strtoimax.3c
1224 link path=usr/share/man/man3c/strxfrm_l.3c target=strxfrm.3c
1225 link path=usr/share/man/man3c/swapcontext.3c target=makecontext.3c
1226 link path=usr/share/man/man3c/swprintf.3c target=fwprintf.3c
1227 link path=usr/share/man/man3c/swscanf.3c target=fwscanf.3c
1228 link path=usr/share/man/man3c/tdelete.3c target=tsearch.3c
1229 link path=usr/share/man/man3c/tempnam.3c target=tmpnam.3c
1230 link path=usr/share/man/man3c/textdomain.3c target=gettext.3c
1231 link path=usr/share/man/man3c/tfind.3c target=tsearch.3c
1232 link path=usr/share/man/man3c/thr_continue.3c target=thr_suspend.3c
1233 link path=usr/share/man/man3c/thr_getspecific.3c target=thr_keycreate.3c
1234 link path=usr/share/man/man3c/thr_keycreate_once.3c target=thr_keycreate.3c
1235 link path=usr/share/man/man3c/thr_setconcurrency.3c \
1236     target=thr_getconcurrency.3c
1237 link path=usr/share/man/man3c/thr_setprio.3c target=thr_getprio.3c
1238 link path=usr/share/man/man3c/thr_setspecific.3c target=thr_keycreate.3c
1239 link path=usr/share/man/man3c/timer_getoverrun.3c target=timer_settime.3c
1240 link path=usr/share/man/man3c/timer_gettime.3c target=timer_settime.3c
1241 link path=usr/share/man/man3c/timerclear.3c target=timeradd.3c
1242 link path=usr/share/man/man3c/timercmp.3c target=timeradd.3c
1243 link path=usr/share/man/man3c/timerisset.3c target=timeradd.3c
1244 link path=usr/share/man/man3c/timersub.3c target=timeradd.3c
1245 link path=usr/share/man/man3c/tmpnam_r.3c target=tmpnam.3c
1246 link path=usr/share/man/man3c/tolower_l.3c target=tolower.3c
1247 link path=usr/share/man/man3c/toupper_l.3c target=toupper.3c
```



```
1248 link path=usr/share/man/man3c/towctrans.3c target=wctrans.3c
1249 link path=usr/share/man/man3c/towctrans_l.3c target=wctrans.3c
1250 link path=usr/share/man/man3c/towlower_l.3c target=towlower.3c
1251 link path=usr/share/man/man3c/towupper_l.3c target=towupper.3c
1252 link path=usr/share/man/man3c/ttyname_r.3c target=ttyname.3c
1253 link path=usr/share/man/man3c/twalk.3c target=tsearch.3c
1254 link path=usr/share/man/man3c/tzset.3c target=ctime.3c
1255 link path=usr/share/man/man3c/uconv_u16tou8.3c target=uconv_u16tou32.3c
1256 link path=usr/share/man/man3c/uconv_u32tou16.3c target=uconv_u16tou32.3c
1257 link path=usr/share/man/man3c/uconv_u32tou8.3c target=uconv_u16tou32.3c
1258 link path=usr/share/man/man3c/uconv_u8tou16.3c target=uconv_u16tou32.3c
1259 link path=usr/share/man/man3c/uconv_u8tou32.3c target=uconv_u16tou32.3c
1260 link path=usr/share/man/man3c/ucred_free.3c target=ucred_get.3c
1261 link path=usr/share/man/man3c/ucred_getegid.3c target=ucred_get.3c
1262 link path=usr/share/man/man3c/ucred_geteuid.3c target=ucred_get.3c
1263 link path=usr/share/man/man3c/ucred_getgroups.3c target=ucred_get.3c
1264 link path=usr/share/man/man3c/ucred_getlabel.3c target=ucred_get.3c
1265 link path=usr/share/man/man3c/ucred_getpflags.3c target=ucred_get.3c
1266 link path=usr/share/man/man3c/ucred_getpid.3c target=ucred_get.3c
1267 link path=usr/share/man/man3c/ucred_getprivset.3c target=ucred_get.3c
1268 link path=usr/share/man/man3c/ucred_getprojid.3c target=ucred_get.3c
1269 link path=usr/share/man/man3c/ucred_getrgid.3c target=ucred_get.3c
1270 link path=usr/share/man/man3c/ucred_getruid.3c target=ucred_get.3c
1271 link path=usr/share/man/man3c/ucred_getsgid.3c target=ucred_get.3c
1272 link path=usr/share/man/man3c/ucred_getsuid.3c target=ucred_get.3c
1273 link path=usr/share/man/man3c/ucred_getzoneid.3c target=ucred_get.3c
1274 link path=usr/share/man/man3c/ucred_size.3c target=ucred_get.3c
1275 link path=usr/share/man/man3c/ulckpwdf.3c target=lckpwdf.3c
1276 link path=usr/share/man/man3c/ulltostr.3c target=strtol.3c
1277 link path=usr/share/man/man3c/unordered.3c target=isnand.3c
1278 link path=usr/share/man/man3c/updwtmp.3c target=getutxent.3c
1279 link path=usr/share/man/man3c/updwtmpx.3c target=getutxent.3c
1280 link path=usr/share/man/man3c/utmpname.3c target=getutent.3c
1281 link path=usr/share/man/man3c/utmpxname.3c target=getutxent.3c
1282 link path=usr/share/man/man3c/valloc.3c target=malloc.3c
1283 link path=usr/share/man/man3c/vasprintf.3c target=vprintf.3c
1284 link path=usr/share/man/man3c/verr.3c target=err.3c
1285 link path=usr/share/man/man3c/verrx.3c target=err.3c
1286 link path=usr/share/man/man3c/vfprintf.3c target=vprintf.3c
1287 link path=usr/share/man/man3c/vfscanf.3c target=scanf.3c
1288 link path=usr/share/man/man3c/vfwscanf.3c target=fwscanf.3c
1289 link path=usr/share/man/man3c/vscanf.3c target=scanf.3c
1290 link path=usr/share/man/man3c/vsnprintf.3c target=vprintf.3c
1291 link path=usr/share/man/man3c/vsprintf.3c target=vprintf.3c
1292 link path=usr/share/man/man3c/vsscanf.3c target=scanf.3c
1293 link path=usr/share/man/man3c/vswprintf.3c target=vfwprintf.3c
1294 link path=usr/share/man/man3c/vswscanf.3c target=fwscanf.3c
1295 link path=usr/share/man/man3c/vwarn.3c target=err.3c
1296 link path=usr/share/man/man3c/vwarnx.3c target=err.3c
1297 link path=usr/share/man/man3c/vwprintf.3c target=vfwprintf.3c
1298 link path=usr/share/man/man3c/vwscanf.3c target=fwscanf.3c
1299 link path=usr/share/man/man3c/wait4.3c target=wait3.3c
1300 link path=usr/share/man/man3c/warn.3c target=err.3c
1301 link path=usr/share/man/man3c/warnx.3c target=err.3c
1302 link path=usr/share/man/man3c/watof.3c target=wcstod.3c
1303 link path=usr/share/man/man3c/watoi.3c target=wcstol.3c
1304 link path=usr/share/man/man3c/watol.3c target=wcstol.3c
1305 link path=usr/share/man/man3c/watoll.3c target=wcstol.3c
1306 link path=usr/share/man/man3c/wcrtomb_l.3c target=wcrtomb.3c
1307 link path=usr/share/man/man3c/wcscasecmp_l.3c target=wcscasecmp.3c
1308 link path=usr/share/man/man3c/wcscat.3c target=wcstring.3c
1309 link path=usr/share/man/man3c/wcschr.3c target=wcstring.3c
1310 link path=usr/share/man/man3c/wcscmp.3c target=wcstring.3c
1311 link path=usr/share/man/man3c/wcscoll_l.3c target=wcscoll.3c
1312 link path=usr/share/man/man3c/wcscpy.3c target=wcstring.3c
1313 link path=usr/share/man/man3c/wcscspn.3c target=wcstring.3c
```

```
1314 link path=usr/share/man/man3c/wcsetno.3c target=cset.3c
1315 link path=usr/share/man/man3c/wcsncasecmp.3c target=wcscasecmp.3c
1316 link path=usr/share/man/man3c/wcsncasecmp_l.3c target=wcscasecmp.3c
1311 link path=usr/share/man/man3c/wcslen.3c target=wcstring.3c
1317 link path=usr/share/man/man3c/wcsncat.3c target=wcstring.3c
1318 link path=usr/share/man/man3c/wcsncmp.3c target=wcstring.3c
1319 link path=usr/share/man/man3c/wcsncpy.3c target=wcstring.3c
1320 link path=usr/share/man/man3c/wcsnlen.3c target=wcslen.3c
1321 link path=usr/share/man/man3c/wcsnrtombs.3c target=wcsrtombs.3c
1322 link path=usr/share/man/man3c/wcsnrtombs_l.3c target=wcsrtombs.3c
1323 link path=usr/share/man/man3c/wcspbrk.3c target=wcstring.3c
1324 link path=usr/share/man/man3c/wcsrchr.3c target=wcstring.3c
1325 link path=usr/share/man/man3c/wcsrtombs_l.3c target=wcsrtombs.3c
1326 link path=usr/share/man/man3c/wcsspn.3c target=wcstring.3c
1327 link path=usr/share/man/man3c/wcstof.3c target=wcstod.3c
1328 link path=usr/share/man/man3c/wcstok.3c target=wcstring.3c
1329 link path=usr/share/man/man3c/wcstold.3c target=wcstod.3c
1330 link path=usr/share/man/man3c/wcstoll.3c target=wcstol.3c
1331 link path=usr/share/man/man3c/wcstoull.3c target=wcstoul.3c
1332 link path=usr/share/man/man3c/wcstoumax.3c target=wcstoimax.3c
1333 link path=usr/share/man/man3c/wcswcs.3c target=wcstring.3c
1334 link path=usr/share/man/man3c/wcswidth_l.3c target=wcswidth.3c
1335 link path=usr/share/man/man3c/wctob_l.3c target=wctob.3c
1336 link path=usr/share/man/man3c/wctomb_l.3c target=wctomb.3c
1337 link path=usr/share/man/man3c/wctrans_l.3c target=wctrans.3c
1338 link path=usr/share/man/man3c/wctype_l.3c target=wctype.3c
1339 link path=usr/share/man/man3c/wcwidth_l.3c target=wcwidth.3c
1340 link path=usr/share/man/man3c/windex.3c target=wcstring.3c
1341 link path=usr/share/man/man3c/wordfree.3c target=wordexp.3c
1342 link path=usr/share/man/man3c/wprintf.3c target=fwprintf.3c
1343 link path=usr/share/man/man3c/wrindex.3c target=wcstring.3c
1344 link path=usr/share/man/man3c/wscanf.3c target=fwscanf.3c
1345 link path=usr/share/man/man3c/wscasecmp.3c target=wstring.3c
1346 link path=usr/share/man/man3c/wscat.3c target=wcstring.3c
1347 link path=usr/share/man/man3c/wschr.3c target=wcstring.3c
1348 link path=usr/share/man/man3c/wscmp.3c target=wcstring.3c
1349 link path=usr/share/man/man3c/wscol.3c target=wstring.3c
1350 link path=usr/share/man/man3c/wscoll.3c target=wcscoll.3c
1351 link path=usr/share/man/man3c/wscpy.3c target=wcstring.3c
1352 link path=usr/share/man/man3c/wscspn.3c target=wcstring.3c
1353 link path=usr/share/man/man3c/wsdup.3c target=wstring.3c
1354 link path=usr/share/man/man3c/wslen.3c target=wcstring.3c
1355 link path=usr/share/man/man3c/wsncasecmp.3c target=wstring.3c
1356 link path=usr/share/man/man3c/wsncat.3c target=wcstring.3c
1357 link path=usr/share/man/man3c/wsncmp.3c target=wcstring.3c
1358 link path=usr/share/man/man3c/wsncpy.3c target=wcstring.3c
1359 link path=usr/share/man/man3c/wspbrk.3c target=wcstring.3c
1360 link path=usr/share/man/man3c/wsrchr.3c target=wcstring.3c
1361 link path=usr/share/man/man3c/wsspn.3c target=wcstring.3c
1362 link path=usr/share/man/man3c/wstod.3c target=wcstod.3c
1363 link path=usr/share/man/man3c/wstok.3c target=wcstring.3c
1364 link path=usr/share/man/man3c/wstol.3c target=wcstol.3c
1365 link path=usr/share/man/man3c/wstostr.3c target=strtows.3c
1366 link path=usr/share/man/man3c/wsxfrm.3c target=wcsxfrm.3c
```

```
**********************************************************
   20896 Tue Aug 12 07:52:15 2014
new/usr/src/pkg/manifests/system-library.man3nsl.inc
Finished obsoleting interfaces for XPG7.
**********************************************************
    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
    9 # at http://www.illumos.org/license/CDDL.
   10 #

   12 #
   13 # Copyright 2011, Richard Lowe
   14 # Copyright 2012 Nexenta Systems, Inc. All rights reserved.
   15 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
   16 #

   18 file path=usr/share/man/man3nsl/dial.3nsl
   19 file path=usr/share/man/man3nsl/doconfig.3nsl
   20 file path=usr/share/man/man3nsl/gethostbyname.3nsl
   21 file path=usr/share/man/man3nsl/gethostent.3nsl
   22 file path=usr/share/man/man3nsl/getipsecalgbyname.3nsl
   23 file path=usr/share/man/man3nsl/getipsecprotobyname.3nsl
   24 file path=usr/share/man/man3nsl/getnetconfig.3nsl
   25 file path=usr/share/man/man3nsl/getnetpath.3nsl
   26 file path=usr/share/man/man3nsl/getpublickey.3nsl
   27 file path=usr/share/man/man3nsl/getrpcbyname.3nsl
   28 file path=usr/share/man/man3nsl/netdir.3nsl
   29 file path=usr/share/man/man3nsl/nlsgetcall.3nsl
   30 file path=usr/share/man/man3nsl/nlsprovider.3nsl
   31 file path=usr/share/man/man3nsl/nlsrequest.3nsl
   32 file path=usr/share/man/man3nsl/rpc.3nsl
   33 file path=usr/share/man/man3nsl/rpc_clnt_auth.3nsl
   34 file path=usr/share/man/man3nsl/rpc_clnt_calls.3nsl
   35 file path=usr/share/man/man3nsl/rpc_clnt_create.3nsl
   36 file path=usr/share/man/man3nsl/rpc_control.3nsl
   37 file path=usr/share/man/man3nsl/rpc_gss_get_error.3nsl
   38 file path=usr/share/man/man3nsl/rpc_gss_get_mechanisms.3nsl
   39 file path=usr/share/man/man3nsl/rpc_gss_get_principal_name.3nsl
   40 file path=usr/share/man/man3nsl/rpc_gss_getcred.3nsl
   41 file path=usr/share/man/man3nsl/rpc_gss_max_data_length.3nsl
   42 file path=usr/share/man/man3nsl/rpc_gss_mech_to_oid.3nsl
   43 file path=usr/share/man/man3nsl/rpc_gss_seccreate.3nsl
   44 file path=usr/share/man/man3nsl/rpc_gss_set_callback.3nsl
   45 file path=usr/share/man/man3nsl/rpc_gss_set_defaults.3nsl
   46 file path=usr/share/man/man3nsl/rpc_gss_set_svc_name.3nsl
   47 file path=usr/share/man/man3nsl/rpc_soc.3nsl
   48 file path=usr/share/man/man3nsl/rpc_svc_calls.3nsl
   49 file path=usr/share/man/man3nsl/rpc_svc_create.3nsl
   50 file path=usr/share/man/man3nsl/rpc_svc_err.3nsl
   51 file path=usr/share/man/man3nsl/rpc_svc_input.3nsl
   52 file path=usr/share/man/man3nsl/rpc_svc_reg.3nsl
   53 file path=usr/share/man/man3nsl/rpc_xdr.3nsl
   54 file path=usr/share/man/man3nsl/rpcbind.3nsl
   55 file path=usr/share/man/man3nsl/rpcsec_gss.3nsl
   56 file path=usr/share/man/man3nsl/secure_rpc.3nsl
   57 file path=usr/share/man/man3nsl/t_accept.3nsl
   58 file path=usr/share/man/man3nsl/t_alloc.3nsl
   59 file path=usr/share/man/man3nsl/t_bind.3nsl
   60 file path=usr/share/man/man3nsl/t_close.3nsl
   61 file path=usr/share/man/man3nsl/t_connect.3nsl
```



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   62 file path=usr/share/man/man3nsl/t_errno.3nsl
   63 file path=usr/share/man/man3nsl/t_error.3nsl
   64 file path=usr/share/man/man3nsl/t_free.3nsl
   65 file path=usr/share/man/man3nsl/t_getinfo.3nsl
   66 file path=usr/share/man/man3nsl/t_getprotaddr.3nsl
   67 file path=usr/share/man/man3nsl/t_getstate.3nsl
   68 file path=usr/share/man/man3nsl/t_listen.3nsl
   69 file path=usr/share/man/man3nsl/t_look.3nsl
   70 file path=usr/share/man/man3nsl/t_open.3nsl
   71 file path=usr/share/man/man3nsl/t_optmgmt.3nsl
   72 file path=usr/share/man/man3nsl/t_rcv.3nsl
   73 file path=usr/share/man/man3nsl/t_rcvconnect.3nsl
   74 file path=usr/share/man/man3nsl/t_rcvdis.3nsl
   75 file path=usr/share/man/man3nsl/t_rcvrel.3nsl
   76 file path=usr/share/man/man3nsl/t_rcvreldata.3nsl
   77 file path=usr/share/man/man3nsl/t_rcvudata.3nsl
   78 file path=usr/share/man/man3nsl/t_rcvuderr.3nsl
   79 file path=usr/share/man/man3nsl/t_rcvv.3nsl
   80 file path=usr/share/man/man3nsl/t_rcvvudata.3nsl
   81 file path=usr/share/man/man3nsl/t_snd.3nsl
   82 file path=usr/share/man/man3nsl/t_snddis.3nsl
   83 file path=usr/share/man/man3nsl/t_sndrel.3nsl
   84 file path=usr/share/man/man3nsl/t_sndreldata.3nsl
   85 file path=usr/share/man/man3nsl/t_sndudata.3nsl
   86 file path=usr/share/man/man3nsl/t_sndv.3nsl
   87 file path=usr/share/man/man3nsl/t_sndvudata.3nsl
   88 file path=usr/share/man/man3nsl/t_strerror.3nsl
   89 file path=usr/share/man/man3nsl/t_sync.3nsl
   90 file path=usr/share/man/man3nsl/t_sysconf.3nsl
   91 file path=usr/share/man/man3nsl/t_unbind.3nsl
   92 file path=usr/share/man/man3nsl/xdr.3nsl
   93 file path=usr/share/man/man3nsl/xdr_admin.3nsl
   94 file path=usr/share/man/man3nsl/xdr_complex.3nsl
   95 file path=usr/share/man/man3nsl/xdr_create.3nsl
   96 file path=usr/share/man/man3nsl/xdr_simple.3nsl
   97 file path=usr/share/man/man3nsl/yp_update.3nsl
   98 file path=usr/share/man/man3nsl/ypclnt.3nsl
   99 link path=usr/share/man/man3nsl/auth_destroy.3nsl target=rpc_clnt_auth.3nsl
  100 link path=usr/share/man/man3nsl/authdes_create.3nsl target=rpc_soc.3nsl
  101 link path=usr/share/man/man3nsl/authdes_getucred.3nsl target=secure_rpc.3nsl
  102 link path=usr/share/man/man3nsl/authdes_seccreate.3nsl target=secure_rpc.3nsl
  103 link path=usr/share/man/man3nsl/authnone_create.3nsl target=rpc_clnt_auth.3nsl
  104 link path=usr/share/man/man3nsl/authsys_create.3nsl target=rpc_clnt_auth.3nsl
  105 link path=usr/share/man/man3nsl/authsys_create_default.3nsl \
  106     target=rpc_clnt_auth.3nsl
  107 link path=usr/share/man/man3nsl/authunix_create.3nsl target=rpc_soc.3nsl
  108 link path=usr/share/man/man3nsl/authunix_create_default.3nsl \
  109     target=rpc_soc.3nsl
  110 link path=usr/share/man/man3nsl/callrpc.3nsl target=rpc_soc.3nsl
  111 link path=usr/share/man/man3nsl/clnt_broadcast.3nsl target=rpc_soc.3nsl
  112 link path=usr/share/man/man3nsl/clnt_call.3nsl target=rpc_clnt_calls.3nsl
  113 link path=usr/share/man/man3nsl/clnt_control.3nsl target=rpc_clnt_create.3nsl
  114 link path=usr/share/man/man3nsl/clnt_create.3nsl target=rpc_clnt_create.3nsl
  115 link path=usr/share/man/man3nsl/clnt_create_timed.3nsl \
  116     target=rpc_clnt_create.3nsl
  117 link path=usr/share/man/man3nsl/clnt_create_vers.3nsl \
  118     target=rpc_clnt_create.3nsl
  119 link path=usr/share/man/man3nsl/clnt_create_vers_timed.3nsl \
  120     target=rpc_clnt_create.3nsl
  121 link path=usr/share/man/man3nsl/clnt_destroy.3nsl target=rpc_clnt_create.3nsl
  122 link path=usr/share/man/man3nsl/clnt_dg_create.3nsl \
  123     target=rpc_clnt_create.3nsl
  124 link path=usr/share/man/man3nsl/clnt_door_create.3nsl \
  125     target=rpc_clnt_create.3nsl
  126 link path=usr/share/man/man3nsl/clnt_freeres.3nsl target=rpc_clnt_calls.3nsl
  127 link path=usr/share/man/man3nsl/clnt_geterr.3nsl target=rpc_clnt_calls.3nsl
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128 link path=usr/share/man/man3nsl/clnt_pcreateerror.3nsl \
129     target=rpc_clnt_create.3nsl
130 link path=usr/share/man/man3nsl/clnt_perrno.3nsl target=rpc_clnt_calls.3nsl
131 link path=usr/share/man/man3nsl/clnt_perror.3nsl target=rpc_clnt_calls.3nsl
132 link path=usr/share/man/man3nsl/clnt_raw_create.3nsl \
133     target=rpc_clnt_create.3nsl
134 link path=usr/share/man/man3nsl/clnt_send.3nsl target=rpc_clnt_calls.3nsl
135 link path=usr/share/man/man3nsl/clnt_spcreateerror.3nsl \
136     target=rpc_clnt_create.3nsl
137 link path=usr/share/man/man3nsl/clnt_sperrno.3nsl target=rpc_clnt_calls.3nsl
138 link path=usr/share/man/man3nsl/clnt_sperror.3nsl target=rpc_clnt_calls.3nsl
139 link path=usr/share/man/man3nsl/clnt_tli_create.3nsl \
140     target=rpc_clnt_create.3nsl
141 link path=usr/share/man/man3nsl/clnt_tp_create.3nsl \
142     target=rpc_clnt_create.3nsl
143 link path=usr/share/man/man3nsl/clnt_tp_create_timed.3nsl \
144     target=rpc_clnt_create.3nsl
145 link path=usr/share/man/man3nsl/clnt_vc_create.3nsl \
146     target=rpc_clnt_create.3nsl
147 link path=usr/share/man/man3nsl/clntraw_create.3nsl target=rpc_soc.3nsl
148 link path=usr/share/man/man3nsl/clnttcp_create.3nsl target=rpc_soc.3nsl
149 link path=usr/share/man/man3nsl/clntudp_bufcreate.3nsl target=rpc_soc.3nsl
150 link path=usr/share/man/man3nsl/clntudp_create.3nsl target=rpc_soc.3nsl
151 link path=usr/share/man/man3nsl/endhostent.3nsl target=gethostent.3nsl
149 link path=usr/share/man/man3nsl/endhostent.3nsl target=gethostbyname.3nsl
152 link path=usr/share/man/man3nsl/endnetconfig.3nsl target=getnetconfig.3nsl
153 link path=usr/share/man/man3nsl/endnetpath.3nsl target=getnetpath.3nsl
154 link path=usr/share/man/man3nsl/endrpcent.3nsl target=getrpcbyname.3nsl
155 link path=usr/share/man/man3nsl/freeipsecalgent.3nsl \
156     target=getipsecalgbyname.3nsl
157 link path=usr/share/man/man3nsl/freenetconfigent.3nsl target=getnetconfig.3nsl
158 link path=usr/share/man/man3nsl/get_myaddress.3nsl target=rpc_soc.3nsl
159 link path=usr/share/man/man3nsl/gethostbyaddr.3nsl target=gethostbyname.3nsl
160 link path=usr/share/man/man3nsl/gethostbyaddr_r.3nsl target=gethostbyname.3nsl
161 link path=usr/share/man/man3nsl/gethostbyname_r.3nsl target=gethostbyname.3nsl
162 link path=usr/share/man/man3nsl/gethostent_r.3nsl target=gethostent.3nsl
160 link path=usr/share/man/man3nsl/gethostent.3nsl target=gethostbyname.3nsl
161 link path=usr/share/man/man3nsl/gethostent_r.3nsl target=gethostbyname.3nsl
163 link path=usr/share/man/man3nsl/getipsecalgbynum.3nsl \
164     target=getipsecalgbyname.3nsl
165 link path=usr/share/man/man3nsl/getipsecprotobynum.3nsl \
166     target=getipsecprotobyname.3nsl
167 link path=usr/share/man/man3nsl/getnetconfigent.3nsl target=getnetconfig.3nsl
168 link path=usr/share/man/man3nsl/getnetname.3nsl target=secure_rpc.3nsl
169 link path=usr/share/man/man3nsl/getrpcbyname_r.3nsl target=getrpcbyname.3nsl
170 link path=usr/share/man/man3nsl/getrpcbynumber.3nsl target=getrpcbyname.3nsl
171 link path=usr/share/man/man3nsl/getrpcbynumber_r.3nsl target=getrpcbyname.3nsl
172 link path=usr/share/man/man3nsl/getrpcent.3nsl target=getrpcbyname.3nsl
173 link path=usr/share/man/man3nsl/getrpcent_r.3nsl target=getrpcbyname.3nsl
174 link path=usr/share/man/man3nsl/getrpcport.3nsl target=rpc_soc.3nsl
175 link path=usr/share/man/man3nsl/getsecretkey.3nsl target=getpublickey.3nsl
176 link path=usr/share/man/man3nsl/host2netname.3nsl target=secure_rpc.3nsl
177 link path=usr/share/man/man3nsl/key_decryptsession.3nsl target=secure_rpc.3nsl
178 link path=usr/share/man/man3nsl/key_encryptsession.3nsl target=secure_rpc.3nsl
179 link path=usr/share/man/man3nsl/key_gendes.3nsl target=secure_rpc.3nsl
180 link path=usr/share/man/man3nsl/key_secretkey_is_set.3nsl \
181     target=secure_rpc.3nsl
182 link path=usr/share/man/man3nsl/key_setsecret.3nsl target=secure_rpc.3nsl
183 link path=usr/share/man/man3nsl/nc_perror.3nsl target=getnetconfig.3nsl
184 link path=usr/share/man/man3nsl/nc_sperror.3nsl target=getnetconfig.3nsl
185 link path=usr/share/man/man3nsl/netdir_free.3nsl target=netdir.3nsl
186 link path=usr/share/man/man3nsl/netdir_getbyaddr.3nsl target=netdir.3nsl
187 link path=usr/share/man/man3nsl/netdir_getbyname.3nsl target=netdir.3nsl
188 link path=usr/share/man/man3nsl/netdir_mergeaddr.3nsl target=netdir.3nsl
189 link path=usr/share/man/man3nsl/netdir_options.3nsl target=netdir.3nsl
190 link path=usr/share/man/man3nsl/netdir_perror.3nsl target=netdir.3nsl
```



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191 link path=usr/share/man/man3nsl/netdir_sperror.3nsl target=netdir.3nsl
192 link path=usr/share/man/man3nsl/netname2host.3nsl target=secure_rpc.3nsl
193 link path=usr/share/man/man3nsl/netname2user.3nsl target=secure_rpc.3nsl
194 link path=usr/share/man/man3nsl/pmap_getmaps.3nsl target=rpc_soc.3nsl
195 link path=usr/share/man/man3nsl/pmap_getport.3nsl target=rpc_soc.3nsl
196 link path=usr/share/man/man3nsl/pmap_rmtcall.3nsl target=rpc_soc.3nsl
197 link path=usr/share/man/man3nsl/pmap_set.3nsl target=rpc_soc.3nsl
198 link path=usr/share/man/man3nsl/pmap_unset.3nsl target=rpc_soc.3nsl
199 link path=usr/share/man/man3nsl/publickey.3nsl target=getpublickey.3nsl
200 link path=usr/share/man/man3nsl/registerrpc.3nsl target=rpc_soc.3nsl
201 link path=usr/share/man/man3nsl/rpc_broadcast.3nsl target=rpc_clnt_calls.3nsl
202 link path=usr/share/man/man3nsl/rpc_broadcast_exp.3nsl \
203     target=rpc_clnt_calls.3nsl
204 link path=usr/share/man/man3nsl/rpc_call.3nsl target=rpc_clnt_calls.3nsl
205 link path=usr/share/man/man3nsl/rpc_createerr.3nsl target=rpc_clnt_create.3nsl
206 link path=usr/share/man/man3nsl/rpc_gss_get_mech_info.3nsl \
207     target=rpc_gss_get_mechanisms.3nsl
208 link path=usr/share/man/man3nsl/rpc_gss_get_versions.3nsl \
209     target=rpc_gss_get_mechanisms.3nsl
210 link path=usr/share/man/man3nsl/rpc_gss_is_installed.3nsl \
211     target=rpc_gss_get_mechanisms.3nsl
212 link path=usr/share/man/man3nsl/rpc_gss_qop_to_num.3nsl \
213     target=rpc_gss_mech_to_oid.3nsl
214 link path=usr/share/man/man3nsl/rpc_gss_svc_max_data_length.3nsl \
215     target=rpc_gss_max_data_length.3nsl
216 link path=usr/share/man/man3nsl/rpc_reg.3nsl target=rpc_svc_reg.3nsl
217 link path=usr/share/man/man3nsl/rpcb_getaddr.3nsl target=rpcbind.3nsl
218 link path=usr/share/man/man3nsl/rpcb_getmaps.3nsl target=rpcbind.3nsl
219 link path=usr/share/man/man3nsl/rpcb_gettime.3nsl target=rpcbind.3nsl
220 link path=usr/share/man/man3nsl/rpcb_rmtcall.3nsl target=rpcbind.3nsl
221 link path=usr/share/man/man3nsl/rpcb_set.3nsl target=rpcbind.3nsl
222 link path=usr/share/man/man3nsl/rpcb_unset.3nsl target=rpcbind.3nsl
223 link path=usr/share/man/man3nsl/sethostent.3nsl target=gethostent.3nsl
222 link path=usr/share/man/man3nsl/sethostent.3nsl target=gethostbyname.3nsl
224 link path=usr/share/man/man3nsl/setnetconfig.3nsl target=getnetconfig.3nsl
225 link path=usr/share/man/man3nsl/setnetpath.3nsl target=getnetpath.3nsl
226 link path=usr/share/man/man3nsl/setrpcent.3nsl target=getrpcbyname.3nsl
227 link path=usr/share/man/man3nsl/svc_add_input.3nsl target=rpc_svc_input.3nsl
228 link path=usr/share/man/man3nsl/svc_auth_reg.3nsl target=rpc_svc_reg.3nsl
229 link path=usr/share/man/man3nsl/svc_control.3nsl target=rpc_svc_create.3nsl
230 link path=usr/share/man/man3nsl/svc_create.3nsl target=rpc_svc_create.3nsl
231 link path=usr/share/man/man3nsl/svc_destroy.3nsl target=rpc_svc_create.3nsl
232 link path=usr/share/man/man3nsl/svc_dg_create.3nsl target=rpc_svc_create.3nsl
233 link path=usr/share/man/man3nsl/svc_dg_enablecache.3nsl \
234     target=rpc_svc_calls.3nsl
235 link path=usr/share/man/man3nsl/svc_done.3nsl target=rpc_svc_calls.3nsl
236 link path=usr/share/man/man3nsl/svc_door_create.3nsl \
237     target=rpc_svc_create.3nsl
238 link path=usr/share/man/man3nsl/svc_exit.3nsl target=rpc_svc_calls.3nsl
239 link path=usr/share/man/man3nsl/svc_fd_create.3nsl target=rpc_svc_create.3nsl
240 link path=usr/share/man/man3nsl/svc_fd_negotiate_ucred.3nsl \
241     target=rpc_svc_calls.3nsl
242 link path=usr/share/man/man3nsl/svc_fds.3nsl target=rpc_soc.3nsl
243 link path=usr/share/man/man3nsl/svc_fdset.3nsl target=rpc_svc_calls.3nsl
244 link path=usr/share/man/man3nsl/svc_freeargs.3nsl target=rpc_svc_calls.3nsl
245 link path=usr/share/man/man3nsl/svc_getargs.3nsl target=rpc_svc_calls.3nsl
246 link path=usr/share/man/man3nsl/svc_getcaller.3nsl target=rpc_soc.3nsl
247 link path=usr/share/man/man3nsl/svc_getcallerucred.3nsl \
248     target=rpc_svc_calls.3nsl
249 link path=usr/share/man/man3nsl/svc_getreq.3nsl target=rpc_soc.3nsl
250 link path=usr/share/man/man3nsl/svc_getreq_common.3nsl \
251     target=rpc_svc_calls.3nsl
252 link path=usr/share/man/man3nsl/svc_getreq_poll.3nsl target=rpc_svc_calls.3nsl
253 link path=usr/share/man/man3nsl/svc_getreqset.3nsl target=rpc_svc_calls.3nsl
254 link path=usr/share/man/man3nsl/svc_getrpccaller.3nsl \
255     target=rpc_svc_calls.3nsl
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```
256 link path=usr/share/man/man3nsl/svc_max_pollfd.3nsl target=rpc_svc_calls.3nsl
257 link path=usr/share/man/man3nsl/svc_pollfd.3nsl target=rpc_svc_calls.3nsl
258 link path=usr/share/man/man3nsl/svc_raw_create.3nsl target=rpc_svc_create.3nsl
259 link path=usr/share/man/man3nsl/svc_reg.3nsl target=rpc_svc_reg.3nsl
260 link path=usr/share/man/man3nsl/svc_register.3nsl target=rpc_soc.3nsl
261 link path=usr/share/man/man3nsl/svc_remove_input.3nsl \
262     target=rpc_svc_input.3nsl
263 link path=usr/share/man/man3nsl/svc_run.3nsl target=rpc_svc_calls.3nsl
264 link path=usr/share/man/man3nsl/svc_sendreply.3nsl target=rpc_svc_calls.3nsl
265 link path=usr/share/man/man3nsl/svc_tli_create.3nsl target=rpc_svc_create.3nsl
266 link path=usr/share/man/man3nsl/svc_tp_create.3nsl target=rpc_svc_create.3nsl
267 link path=usr/share/man/man3nsl/svc_unreg.3nsl target=rpc_svc_reg.3nsl
268 link path=usr/share/man/man3nsl/svc_unregister.3nsl target=rpc_soc.3nsl
269 link path=usr/share/man/man3nsl/svc_vc_create.3nsl target=rpc_svc_create.3nsl
270 link path=usr/share/man/man3nsl/svcerr_auth.3nsl target=rpc_svc_err.3nsl
271 link path=usr/share/man/man3nsl/svcerr_decode.3nsl target=rpc_svc_err.3nsl
272 link path=usr/share/man/man3nsl/svcerr_noproc.3nsl target=rpc_svc_err.3nsl
273 link path=usr/share/man/man3nsl/svcerr_noprog.3nsl target=rpc_svc_err.3nsl
274 link path=usr/share/man/man3nsl/svcerr_progvers.3nsl target=rpc_svc_err.3nsl
275 link path=usr/share/man/man3nsl/svcerr_systemerr.3nsl target=rpc_svc_err.3nsl
276 link path=usr/share/man/man3nsl/svcerr_weakauth.3nsl target=rpc_svc_err.3nsl
277 link path=usr/share/man/man3nsl/svcfd_create.3nsl target=rpc_soc.3nsl
278 link path=usr/share/man/man3nsl/svcraw_create.3nsl target=rpc_soc.3nsl
279 link path=usr/share/man/man3nsl/svctcp_create.3nsl target=rpc_soc.3nsl
280 link path=usr/share/man/man3nsl/svcudp_bufcreate.3nsl target=rpc_soc.3nsl
281 link path=usr/share/man/man3nsl/svcudp_create.3nsl target=rpc_soc.3nsl
282 link path=usr/share/man/man3nsl/taddr2uaddr.3nsl target=netdir.3nsl
283 link path=usr/share/man/man3nsl/uaddr2taddr.3nsl target=netdir.3nsl
284 link path=usr/share/man/man3nsl/undial.3nsl target=dial.3nsl
285 link path=usr/share/man/man3nsl/user2netname.3nsl target=secure_rpc.3nsl
286 link path=usr/share/man/man3nsl/xdr_accepted_reply.3nsl target=rpc_xdr.3nsl
287 link path=usr/share/man/man3nsl/xdr_array.3nsl target=xdr_complex.3nsl
288 link path=usr/share/man/man3nsl/xdr_authsys_parms.3nsl target=rpc_xdr.3nsl
289 link path=usr/share/man/man3nsl/xdr_authunix_parms.3nsl target=rpc_soc.3nsl
290 link path=usr/share/man/man3nsl/xdr_bool.3nsl target=xdr_simple.3nsl
291 link path=usr/share/man/man3nsl/xdr_bytes.3nsl target=xdr_complex.3nsl
292 link path=usr/share/man/man3nsl/xdr_callhdr.3nsl target=rpc_xdr.3nsl
293 link path=usr/share/man/man3nsl/xdr_callmsg.3nsl target=rpc_xdr.3nsl
294 link path=usr/share/man/man3nsl/xdr_char.3nsl target=xdr_simple.3nsl
295 link path=usr/share/man/man3nsl/xdr_control.3nsl target=xdr_admin.3nsl
296 link path=usr/share/man/man3nsl/xdr_destroy.3nsl target=xdr_create.3nsl
297 link path=usr/share/man/man3nsl/xdr_double.3nsl target=xdr_simple.3nsl
298 link path=usr/share/man/man3nsl/xdr_enum.3nsl target=xdr_simple.3nsl
299 link path=usr/share/man/man3nsl/xdr_float.3nsl target=xdr_simple.3nsl
300 link path=usr/share/man/man3nsl/xdr_free.3nsl target=xdr_simple.3nsl
301 link path=usr/share/man/man3nsl/xdr_getpos.3nsl target=xdr_admin.3nsl
302 link path=usr/share/man/man3nsl/xdr_hyper.3nsl target=xdr_simple.3nsl
303 link path=usr/share/man/man3nsl/xdr_inline.3nsl target=xdr_admin.3nsl
304 link path=usr/share/man/man3nsl/xdr_int.3nsl target=xdr_simple.3nsl
305 link path=usr/share/man/man3nsl/xdr_long.3nsl target=xdr_simple.3nsl
306 link path=usr/share/man/man3nsl/xdr_longlong_t.3nsl target=xdr_simple.3nsl
307 link path=usr/share/man/man3nsl/xdr_opaque.3nsl target=xdr_complex.3nsl
308 link path=usr/share/man/man3nsl/xdr_opaque_auth.3nsl target=rpc_xdr.3nsl
309 link path=usr/share/man/man3nsl/xdr_pointer.3nsl target=xdr_complex.3nsl
310 link path=usr/share/man/man3nsl/xdr_quadruple.3nsl target=xdr_simple.3nsl
311 link path=usr/share/man/man3nsl/xdr_reference.3nsl target=xdr_complex.3nsl
312 link path=usr/share/man/man3nsl/xdr_rejected_reply.3nsl target=rpc_xdr.3nsl
313 link path=usr/share/man/man3nsl/xdr_replymsg.3nsl target=rpc_xdr.3nsl
314 link path=usr/share/man/man3nsl/xdr_setpos.3nsl target=xdr_admin.3nsl
315 link path=usr/share/man/man3nsl/xdr_short.3nsl target=xdr_simple.3nsl
316 link path=usr/share/man/man3nsl/xdr_sizeof.3nsl target=xdr_admin.3nsl
317 link path=usr/share/man/man3nsl/xdr_string.3nsl target=xdr_complex.3nsl
318 link path=usr/share/man/man3nsl/xdr_u_char.3nsl target=xdr_simple.3nsl
319 link path=usr/share/man/man3nsl/xdr_u_hyper.3nsl target=xdr_simple.3nsl
320 link path=usr/share/man/man3nsl/xdr_u_int.3nsl target=xdr_simple.3nsl
321 link path=usr/share/man/man3nsl/xdr_u_long.3nsl target=xdr_simple.3nsl
```



```
322 link path=usr/share/man/man3nsl/xdr_u_longlong_t.3nsl target=xdr_simple.3nsl
323 link path=usr/share/man/man3nsl/xdr_u_short.3nsl target=xdr_simple.3nsl
324 link path=usr/share/man/man3nsl/xdr_union.3nsl target=xdr_complex.3nsl
325 link path=usr/share/man/man3nsl/xdr_vector.3nsl target=xdr_complex.3nsl
326 link path=usr/share/man/man3nsl/xdr_void.3nsl target=xdr_simple.3nsl
327 link path=usr/share/man/man3nsl/xdr_wrapstring.3nsl target=xdr_complex.3nsl
328 link path=usr/share/man/man3nsl/xdrmem_create.3nsl target=xdr_create.3nsl
329 link path=usr/share/man/man3nsl/xdrrec_create.3nsl target=xdr_create.3nsl
330 link path=usr/share/man/man3nsl/xdrrec_endofrecord.3nsl target=xdr_admin.3nsl
331 link path=usr/share/man/man3nsl/xdrrec_eof.3nsl target=xdr_admin.3nsl
332 link path=usr/share/man/man3nsl/xdrrec_readbytes.3nsl target=xdr_admin.3nsl
333 link path=usr/share/man/man3nsl/xdrrec_skiprecord.3nsl target=xdr_admin.3nsl
334 link path=usr/share/man/man3nsl/xdrstdio_create.3nsl target=xdr_create.3nsl
335 link path=usr/share/man/man3nsl/xprt_register.3nsl target=rpc_svc_reg.3nsl
336 link path=usr/share/man/man3nsl/xprt_unregister.3nsl target=rpc_svc_reg.3nsl
337 link path=usr/share/man/man3nsl/yp_all.3nsl target=ypclnt.3nsl
338 link path=usr/share/man/man3nsl/yp_bind.3nsl target=ypclnt.3nsl
339 link path=usr/share/man/man3nsl/yp_first.3nsl target=ypclnt.3nsl
340 link path=usr/share/man/man3nsl/yp_get_default_domain.3nsl target=ypclnt.3nsl
341 link path=usr/share/man/man3nsl/yp_master.3nsl target=ypclnt.3nsl
342 link path=usr/share/man/man3nsl/yp_match.3nsl target=ypclnt.3nsl
343 link path=usr/share/man/man3nsl/yp_next.3nsl target=ypclnt.3nsl
344 link path=usr/share/man/man3nsl/yp_order.3nsl target=ypclnt.3nsl
345 link path=usr/share/man/man3nsl/yp_unbind.3nsl target=ypclnt.3nsl
346 link path=usr/share/man/man3nsl/yperr_string.3nsl target=ypclnt.3nsl
347 link path=usr/share/man/man3nsl/ypprot_err.3nsl target=ypclnt.3nsl
```

```
**********************************************************
   16741 Tue Aug 12 07:52:15 2014
new/usr/src/uts/common/sys/feature_tests.h
Finished obsoleting interfaces for XPG7.
**********************************************************
/*
 * CDDL HEADER START
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 *
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 */

/*
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 * Use is subject to license terms.
 */
/*
 * Copyright 2013 Garrett D'Amore <garrett@damore.org>
 */

#ifndef _SYS_FEATURE_TESTS_H
#define _SYS_FEATURE_TESTS_H

#include <sys/ccompile.h>
#include <sys/isa_defs.h>

#ifdef  __cplusplus
extern "C" {
#endif

/*
 * Values of _POSIX_C_SOURCE
 *
 *              undefined   not a POSIX compilation
 *              1           POSIX.1-1990 compilation
 *              2           POSIX.2-1992 compilation
 *              199309L     POSIX.1b-1993 compilation (Real Time)
 *              199506L     POSIX.1c-1995 compilation (POSIX Threads)
 *              200112L     POSIX.1-2001 compilation (Austin Group Revision)
 *              200809L     POSIX.1-2008 compilation
 */
#if defined(_POSIX_SOURCE) && !defined(_POSIX_C_SOURCE)
#define _POSIX_C_SOURCE 1
#endif

/*
 * The feature test macros __XOPEN_OR_POSIX, _STRICT_STDC, _STRICT_SYMBOLS,
 * and _STDC_C99 are Sun implementation specific macros created in order to
 * compress common standards specified feature test macros for easier reading.
 * These macros should not be used by the application developer as
 * unexpected results may occur. Instead, the user should reference
 * standards(5) for correct usage of the standards feature test macros.
```



```
 *
 * __XOPEN_OR_POSIX     Used in cases where a symbol is defined by both
 *                      X/Open or POSIX or in the negative, when neither
 *                      X/Open or POSIX defines a symbol.
 *
 * _STRICT_STDC         __STDC__ is specified by the C Standards and defined
 *                      by the compiler. For Sun compilers the value of
 *                      __STDC__ is either 1, 0, or not defined based on the
 *                      compilation mode (see cc(1)). When the value of
 *                      __STDC__ is 1 and in the absence of any other feature
 *                      test macros, the namespace available to the application
 *                      is limited to only those symbols defined by the C
 *                      Standard. _STRICT_STDC provides a more readable means
 *                      of identifying symbols defined by the standard, or in
 *                      the negative, symbols that are extensions to the C
 *                      Standard. See additional comments for GNU C differences.
 *
 * _STDC_C99            __STDC_VERSION__ is specified by the C standards and
 *                      defined by the compiler and indicates the version of
 *                      the C standard. A value of 199901L indicates a
 *                      compiler that complies with ISO/IEC 9899:1999, other-
 *                      wise known as the C99 standard.
 *
 * _STRICT_SYMBOLS      Used in cases where symbol visibility is restricted
 *                      by the standards, and the user has not explicitly
 *                      relaxed the strictness via __EXTENSIONS__.
 */

#if defined(_XOPEN_SOURCE) || defined(_POSIX_C_SOURCE)
#define __XOPEN_OR_POSIX
#endif

/*
 * ISO/IEC 9899:1990 and it's revision, ISO/IEC 9899:1999 specify the
 * following predefined macro name:
 *
 * __STDC__     The integer constant 1, intended to indicate a conforming
 *              implementation.
 *
 * Furthermore, a strictly conforming program shall use only those features
 * of the language and library specified in these standards. A conforming
 * implementation shall accept any strictly conforming program.
 *
 * Based on these requirements, Sun's C compiler defines __STDC__ to 1 for
 * strictly conforming environments and __STDC__ to 0 for environments that
 * use ANSI C semantics but allow extensions to the C standard. For non-ANSI
 * C semantics, Sun's C compiler does not define __STDC__.
 *
 * The GNU C project interpretation is that __STDC__ should always be defined
 * to 1 for compilation modes that accept ANSI C syntax regardless of whether
 * or not extensions to the C standard are used. Violations of conforming
 * behavior are conditionally flagged as warnings via the use of the
 * -pedantic option. In addition to defining __STDC__ to 1, the GNU C
 * compiler also defines __STRICT_ANSI__ as a means of specifying strictly
 * conforming environments using the -ansi or -std=<standard> options.
 *
 * In the absence of any other compiler options, Sun and GNU set the value
 * of __STDC__ as follows when using the following options:
 *
 *                                  Value of __STDC__  __STRICT_ANSI__
 *
 * cc -Xa (default)                         0             undefined
 * cc -Xt (transitional)                    0             undefined
 * cc -Xc (strictly conforming)             1             undefined
 * cc -Xs (K&R C)                     undefined           undefined
 *
```

```
 128  * gcc (default)                          1             undefined
 129  * gcc -ansi, -std={c89, c99,...)        1              defined
 130  * gcc -traditional (K&R)           undefined          undefined
 131  *
 132  * The default compilation modes for Sun C compilers versus GNU C compilers
 133  * results in a differing value for __STDC__ which results in a more
 134  * restricted namespace when using Sun compilers. To allow both GNU and Sun
 135  * interpretations to peacefully co-exist, we use the following Sun
 136  * implementation _STRICT_STDC_ macro:
 137  */

 139 #if (__STDC__ - 0 == 1 && !defined(__GNUC__)) || \
 140         (defined(__GNUC__) && defined(__STRICT_ANSI__))
 141 #define _STRICT_STDC
 142 #else
 143 #undef  _STRICT_STDC
 144 #endif

 146 /*
 147  * Compiler complies with ISO/IEC 9899:1999
 148  */

 150 #if __STDC_VERSION__ - 0 >= 199901L
 151 #define _STDC_C99
 152 #endif

 154 /*
 155  * Use strict symbol visibility.
 156  */
 157 #if (defined(_STRICT_STDC) || defined(__XOPEN_OR_POSIX)) && \
 158         !defined(__EXTENSIONS__)
 159 #define _STRICT_SYMBOLS
 160 #endif

 162 /*
 163  * Large file interfaces:
 164  *
 165  *      _LARGEFILE_SOURCE
 166  *              1               large file-related additions to POSIX
 167  *                              interfaces requested (fseeko, etc.)
 168  *      _LARGEFILE64_SOURCE
 169  *              1               transitional large-file-related interfaces
 170  *                              requested (seek64, stat64, etc.)
 171  *
 172  * The corresponding announcement macros are respectively:
 173  *      _LFS_LARGEFILE
 174  *      _LFS64_LARGEFILE
 175  * (These are set in <unistd.h>.)
 176  *
 177  * Requesting _LARGEFILE64_SOURCE implies requesting _LARGEFILE_SOURCE as
 178  * well.
 179  *
 180  * The large file interfaces are made visible regardless of the initial values
 181  * of the feature test macros under certain circumstances:
 182  *    - If no explicit standards-conforming environment is requested (neither
 183  *      of _POSIX_SOURCE nor _XOPEN_SOURCE is defined and the value of
 184  *      __STDC__ does not imply standards conformance).
 185  *    - Extended system interfaces are explicitly requested (__EXTENSIONS__
 186  *      is defined).
 187  *    - Access to in-kernel interfaces is requested (_KERNEL or _KMEMUSER is
 188  *      defined).  (Note that this dependency is an artifact of the current
 189  *      kernel implementation and may change in future releases.)
 190  */
 191 #if     (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX)) || \
 192                 defined(_KERNEL) || defined(_KMEMUSER) || \
 193                 defined(__EXTENSIONS__)
```



```
 194 #undef  _LARGEFILE64_SOURCE
 195 #define _LARGEFILE64_SOURCE     1
 196 #endif
 197 #if     _LARGEFILE64_SOURCE - 0 == 1
 198 #undef  _LARGEFILE_SOURCE
 199 #define _LARGEFILE_SOURCE       1
 200 #endif

 202 /*
 203  * Large file compilation environment control:
 204  *
 205  * The setting of _FILE_OFFSET_BITS controls the size of various file-related
 206  * types and governs the mapping between file-related source function symbol
 207  * names and the corresponding binary entry points.
 208  *
 209  * In the 32-bit environment, the default value is 32; if not set, set it to
 210  * the default here, to simplify tests in other headers.
 211  *
 212  * In the 64-bit compilation environment, the only value allowed is 64.
 213  */
 214 #if defined(_LP64)
 215 #ifndef _FILE_OFFSET_BITS
 216 #define _FILE_OFFSET_BITS       64
 217 #endif
 218 #if     _FILE_OFFSET_BITS - 0 != 64
 219 #error  "invalid _FILE_OFFSET_BITS value specified"
 220 #endif
 221 #else   /* _LP64 */
 222 #ifndef _FILE_OFFSET_BITS
 223 #define _FILE_OFFSET_BITS       32
 224 #endif
 225 #if     _FILE_OFFSET_BITS - 0 != 32 && _FILE_OFFSET_BITS - 0 != 64
 226 #error  "invalid _FILE_OFFSET_BITS value specified"
 227 #endif
 228 #endif  /* _LP64 */

 230 /*
 231  * Use of _XOPEN_SOURCE
 232  *
 233  * The following X/Open specifications are supported:
 234  *
 235  * X/Open Portability Guide, Issue 3 (XPG3)
 236  * X/Open CAE Specification, Issue 4 (XPG4)
 237  * X/Open CAE Specification, Issue 4, Version 2 (XPG4v2)
 238  * X/Open CAE Specification, Issue 5 (XPG5)
 239  * Open Group Technical Standard, Issue 6 (XPG6), also referred to as
 240  *    IEEE Std. 1003.1-2001 and ISO/IEC 9945:2002.
 241  * Open Group Technical Standard, Issue 7 (XPG7), also referred to as
 242  *    IEEE Std. 1003.1-2008 and ISO/IEC 9945:2009.
 243  *
 244  * XPG4v2 is also referred to as UNIX 95 (SUS or SUSv1).
 245  * XPG5 is also referred to as UNIX 98 or the Single Unix Specification,
 246  *     Version 2 (SUSv2)
 247  * XPG6 is the result of a merge of the X/Open and POSIX specifications
 248  *     and as such is also referred to as IEEE Std. 1003.1-2001 in
 249  *     addition to UNIX 03 and SUSv3.
 250  * XPG7 is also referred to as UNIX 08 and SUSv4.
 251  *
 252  * When writing a conforming X/Open application, as per the specification
 253  * requirements, the appropriate feature test macros must be defined at
 254  * compile time. These are as follows. For more info, see standards(5).
 255  *
 256  * Feature Test Macro                                   Specification
 257  * -------------------------------------------------  -------------
 258  * _XOPEN_SOURCE                                          XPG3
 259  * _XOPEN_SOURCE && _XOPEN_VERSION = 4                    XPG4
```

```
 * _XOPEN_SOURCE && _XOPEN_SOURCE_EXTENDED = 1           XPG4v2
 * _XOPEN_SOURCE = 500                                   XPG5
 * _XOPEN_SOURCE = 600  (or POSIX_C_SOURCE=200112L)      XPG6
 * _XOPEN_SOURCE = 700  (or POSIX_C_SOURCE=200809L)      XPG7
 *
 * In order to simplify the guards within the headers, the following
 * implementation private test macros have been created. Applications
 * must NOT use these private test macros as unexpected results will
 * occur.
 *
 * Note that in general, the use of these private macros is cumulative.
 * For example, the use of _XPG3 with no other restrictions on the X/Open
 * namespace will make the symbols visible for XPG3 through XPG6
 * compilation environments. The use of _XPG4_2 with no other X/Open
 * namespace restrictions indicates that the symbols were introduced in
 * XPG4v2 and are therefore visible for XPG4v2 through XPG6 compilation
 * environments, but not for XPG3 or XPG4 compilation environments.
 *
 * _XPG3    X/Open Portability Guide, Issue 3 (XPG3)
 * _XPG4    X/Open CAE Specification, Issue 4 (XPG4)
 * _XPG4_2  X/Open CAE Specification, Issue 4, Version 2 (XPG4v2/UNIX 95/SUS)
 * _XPG5    X/Open CAE Specification, Issue 5 (XPG5/UNIX 98/SUSv2)
 * _XPG6    Open Group Technical Standard, Issue 6 (XPG6/UNIX 03/SUSv3)
 * _XPG7    Open Group Technical Standard, Issue 7 (XPG7/UNIX 08/SUSv4)
 */

/* X/Open Portability Guide, Issue 3 */
#if defined(_XOPEN_SOURCE) && (_XOPEN_SOURCE - 0 < 500) && \
        (_XOPEN_VERSION - 0 < 4) && !defined(_XOPEN_SOURCE_EXTENDED)
#define _XPG3
/* X/Open CAE Specification, Issue 4 */
#elif   (defined(_XOPEN_SOURCE) && _XOPEN_VERSION - 0 == 4)
#define _XPG4
#define _XPG3
/* X/Open CAE Specification, Issue 4, Version 2 */
#elif (defined(_XOPEN_SOURCE) && _XOPEN_SOURCE_EXTENDED - 0 == 1)
#define _XPG4_2
#define _XPG4
#define _XPG3
/* X/Open CAE Specification, Issue 5 */
#elif   (_XOPEN_SOURCE - 0 == 500)
#define _XPG5
#define _XPG4_2
#define _XPG4
#define _XPG3
#undef  _POSIX_C_SOURCE
#define _POSIX_C_SOURCE                 199506L
/* Open Group Technical Standard , Issue 6 */
#elif   (_XOPEN_SOURCE - 0 == 600) || (_POSIX_C_SOURCE - 0 == 200112L)
#define _XPG6
#define _XPG5
#define _XPG4_2
#define _XPG4
#define _XPG3
#undef  _POSIX_C_SOURCE
#define _POSIX_C_SOURCE                 200112L
#undef  _XOPEN_SOURCE
#define _XOPEN_SOURCE                   600

/* Open Group Technical Standard, Issue 7 */
#elif   (_XOPEN_SOURCE - 0 == 700) || (_POSIX_C_SOURCE - 0 == 200809L)
#define _XPG7
#define _XPG6
#define _XPG5
#define _XPG4_2
#define _XPG4
```



```
#define _XPG3
#undef  _POSIX_C_SOURCE
#define _POSIX_C_SOURCE                 200809L
#undef  _XOPEN_SOURCE
#define _XOPEN_SOURCE                   700
#endif

/*
 * As another simplification attempt for the rest of our headers, we
 * define the following macros to indicate that a specific XPG standard
 * is in force, AND symbols should be restricted.  This lets us prune
 * symbols that should not be visible under a given standard.  These should
 * not be used by applications directly.
 */
#if defined(_STRICT_SYMBOLS) && defined(_XPG3)
#define _STRICT_XPG3
#endif
#if defined(_STRICT_SYMBOLS) && defined(_XPG4)
#define _STRICT_XPG4
#endif
#if defined(_STRICT_SYMBOLS) && defined(_XPG4_2)
#define _STRICT_XPG4_2
#endif
#if defined(_STRICT_SYMBOLS) && defined(_XPG5)
#define _STRICT_XPG5
#endif
#if defined(_STRICT_SYMBOLS) && defined(_XPG6)
#define _STRICT_XPG6
#endif
#if defined(_STRICT_SYMBOLS) && defined(_XPG7)
#define _STRICT_XPG7
#endif

/*
 * _XOPEN_VERSION is defined by the X/Open specifications and is not
 * normally defined by the application, except in the case of an XPG4
 * application.  On the implementation side, _XOPEN_VERSION defined with
 * the value of 3 indicates an XPG3 application. _XOPEN_VERSION defined
 * with the value of 4 indicates an XPG4 or XPG4v2 (UNIX 95) application.
 * _XOPEN_VERSION  defined with a value of 500 indicates an XPG5 (UNIX 98)
 * application and with a value of 600 indicates an XPG6 (UNIX 03)
 * application and with a value of 700 indicates an XPG7 (UNIX 08).
 * The appropriate version is determined by the use of the
 * feature test macros described earlier.  The value of _XOPEN_VERSION
 * defaults to 3 otherwise indicating support for XPG3 applications.
 */
#ifndef _XOPEN_VERSION
#if     defined(_XPG7)
#define _XOPEN_VERSION 700
#elif   defined(_XPG6)
#define _XOPEN_VERSION 600
#elif defined(_XPG5)
#define _XOPEN_VERSION 500
#elif   defined(_XPG4_2)
#define _XOPEN_VERSION  4
#else
#define _XOPEN_VERSION  3
#endif
#endif

/*
 * ANSI C and ISO 9899:1990 say the type long long doesn't exist in strictly
 * conforming environments.  ISO 9899:1999 says it does.
 *
 * The presence of _LONGLONG_TYPE says "long long exists" which is therefore
 * defined in all but strictly conforming environments that disallow it.
```

```
 392  */
 393 #if !defined(_STDC_C99) && defined(_STRICT_STDC) && !defined(__GNUC__)
 394 /*
 395  * Resist attempts to force the definition of long long in this case.
 396  */
 397 #if defined(_LONGLONG_TYPE)
 398 #error  "No long long in strictly conforming ANSI C & 1990 ISO C environments"
 399 #endif
 400 #else
 401 #if !defined(_LONGLONG_TYPE)
 402 #define _LONGLONG_TYPE
 403 #endif
 404 #endif

 406 /*
 407  * It is invalid to compile an XPG3, XPG4, XPG4v2, or XPG5 application
 408  * using c99.  The same is true for POSIX.1-1990, POSIX.2-1992, POSIX.1b,
 409  * and POSIX.1c applications. Likewise, it is invalid to compile an XPG6
 410  * or a POSIX.1-2001 application with anything other than a c99 or later
 411  * compiler.  Therefore, we force an error in both cases.
 412  */
 413 #if defined(_STDC_C99) && (defined(__XOPEN_OR_POSIX) && !defined(_XPG6))
 414 #error "Compiler or options invalid for pre-UNIX 03 X/Open applications \
 415         and pre-2001 POSIX applications"
 416 #elif !defined(_STDC_C99) && \
 417         (defined(__XOPEN_OR_POSIX) && defined(_XPG6))
 418 #error "Compiler or options invalid; UNIX 03 and POSIX.1-2001 applications \
 419         require the use of c99"
 420 #endif

 422 /*
 423  * The following macro defines a value for the ISO C99 restrict
 424  * keyword so that _RESTRICT_KYWD resolves to "restrict" if
 425  * an ISO C99 compiler is used and "" (null string) if any other
 426  * compiler is used. This allows for the use of single prototype
 427  * declarations regardless of compiler version.
 428  */
 429 #if (defined(__STDC__) && defined(_STDC_C99)) && !defined(__cplusplus)
 430 #define _RESTRICT_KYWD  restrict
 431 #else
 432 #define _RESTRICT_KYWD
 433 #endif

 435 /*
 436  * The following macro indicates header support for the ANSI C++
 437  * standard.  The ISO/IEC designation for this is ISO/IEC FDIS 14882.
 438  */
 439 #define _ISO_CPP_14882_1998

 441 /*
 442  * The following macro indicates header support for the C99 standard,
 443  * ISO/IEC 9899:1999, Programming Languages - C.
 444  */
 445 #define _ISO_C_9899_1999

 447 /*
 448  * The following macro indicates header support for DTrace. The value is an
 449  * integer that corresponds to the major version number for DTrace.
 450  */
 451 #define _DTRACE_VERSION 1

 453 #ifdef  __cplusplus
 454 }
 455 #endif

 457 #endif  /* _SYS_FEATURE_TESTS_H */
```

```
**********************************************************
   14304 Tue Aug 12 07:52:15 2014
new/usr/src/uts/common/sys/stat.h
Build fixes.
code review feeback, close open comment
Ensured various XPG7 stuff are declared properly in sys/stat.h (and cleanup)
New documentation for wcslen, wcsnlen, wcscasecmp (and friends), wcsdup.
Various other tweaks and markup improvements.
**********************************************************
```

```
/*
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 */

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 */

/*      Copyright (c) 1990, 1991 UNIX System Laboratories, Inc. */
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#ifndef _SYS_STAT_H
#define _SYS_STAT_H

#include <sys/feature_tests.h>
#include <sys/types.h>

#ifdef  __cplusplus
extern "C" {
#endif

/*
 * The implementation specific header <sys/time_impl.h> includes a
 * definition for timestruc_t needed by the stat structure.  However,
 * including either <time.h>, which includes <sys/time_impl.h>, or
 * including <sys/time_impl.h> directly will break both X/Open and
 * POSIX namespace. Preceeding tag, structure, and structure member
 * names with underscores eliminates the namespace breakage and at the
 * same time, with unique type names, eliminates the possibility of
 * timespec_t or timestruct_t naming conflicts that could otherwise
 * result based on the order of inclusion of <sys/stat.h> and
 * <sys/time.h>.  The header <sys/time_std_impl.h> contains the
 * standards namespace safe versions of these definitions.
 */
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__)
#include <sys/time_impl.h>
#else
#include <sys/time_std_impl.h>
```



```
#endif /* !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) */

#define _ST_FSTYPSZ 16          /* array size for file system type name */

/*
 * stat structure, used by stat(2) and fstat(2)
 */

#if defined(_KERNEL)

        /* Expanded stat structure */

#if defined(_LP64)

struct stat {
        dev_t           st_dev;
        ino_t           st_ino;
        mode_t          st_mode;
        nlink_t         st_nlink;
        uid_t           st_uid;
        gid_t           st_gid;
        dev_t           st_rdev;
        off_t           st_size;
        timestruc_t     st_atim;
        timestruc_t     st_mtim;
        timestruc_t     st_ctim;
        blksize_t       st_blksize;
        blkcnt_t        st_blocks;
        char            st_fstype[_ST_FSTYPSZ];
};
______unchanged_portion_omitted_

#if _LONG_LONG_ALIGNMENT == 8 && _LONG_LONG_ALIGNMENT_32 == 4
#pragma pack()
#endif

#endif  /* _SYSCALL32 */

/* MODE MASKS */

/* de facto standard definitions */

#define S_IFMT          0xF000  /* type of file */
#define S_IAMB          0x1FF   /* access mode bits */
#define S_IFIFO         0x1000  /* fifo */
#define S_IFCHR         0x2000  /* character special */
#define S_IFDIR         0x4000  /* directory */
/* XENIX definitions are not relevant to Solaris */
#define S_IFNAM         0x5000  /* XENIX special named file */
#define S_INSEM         0x1     /* XENIX semaphore subtype of IFNAM */
#define S_INSHD         0x2     /* XENIX shared data subtype of IFNAM */
#define S_IFBLK         0x6000  /* block special */
#define S_IFREG         0x8000  /* regular */
#define S_IFLNK         0xA000  /* symbolic link */
#define S_IFSOCK        0xC000  /* socket */
#define S_IFDOOR        0xD000  /* door */
#define S_IFPORT        0xE000  /* event port */
#define S_ISUID         0x800   /* set user id on execution */
#define S_ISGID         0x400   /* set group id on execution */
#define S_ISVTX         0x200   /* save swapped text even after use */
#define S_IREAD         00400   /* read permission, owner */
#define S_IWRITE        00200   /* write permission, owner */
#define S_IEXEC         00100   /* execute/search permission, owner */
#define S_ENFMT         S_ISGID /* record locking enforcement flag */

/* the following macros are for POSIX conformance */
```

```
#define S_IRWXU         00700   /* read, write, execute: owner */
#define S_IRUSR         00400   /* read permission: owner */
#define S_IWUSR         00200   /* write permission: owner */
#define S_IXUSR         00100   /* execute permission: owner */
#define S_IRWXG         00070   /* read, write, execute: group */
#define S_IRGRP         00040   /* read permission: group */
#define S_IWGRP         00020   /* write permission: group */
#define S_IXGRP         00010   /* execute permission: group */
#define S_IRWXO         00007   /* read, write, execute: other */
#define S_IROTH         00004   /* read permission: other */
#define S_IWOTH         00002   /* write permission: other */
#define S_IXOTH         00001   /* execute permission: other */


#define S_ISFIFO(mode)  (((mode)&0xF000) == 0x1000)
#define S_ISCHR(mode)   (((mode)&0xF000) == 0x2000)
#define S_ISDIR(mode)   (((mode)&0xF000) == 0x4000)
#define S_ISBLK(mode)   (((mode)&0xF000) == 0x6000)
#define S_ISREG(mode)   (((mode)&0xF000) == 0x8000)
#define S_ISLNK(mode)   (((mode)&0xF000) == 0xa000)
#define S_ISSOCK(mode)  (((mode)&0xF000) == 0xc000)
#define S_ISDOOR(mode)  (((mode)&0xF000) == 0xd000)
#define S_ISPORT(mode)  (((mode)&0xF000) == 0xe000)

/* POSIX.4 macros */
#define S_TYPEISMQ(_buf)        (0)
#define S_TYPEISSEM(_buf)       (0)
#define S_TYPEISSHM(_buf)       (0)

#if defined(__i386) || (defined(__i386_COMPAT) && defined(_KERNEL))

/*
 * A version number is included in the x86 SVR4 stat and mknod interfaces
 * so that SVR4 binaries can be supported.  An LP64 kernel that supports
 * the i386 ABI need to be aware of this too.
 */

#define _R3_MKNOD_VER   1       /* SVR3.0 mknod */
#define _MKNOD_VER      2       /* current version of mknod */
#define _R3_STAT_VER    1       /* SVR3.0 stat */
#define _STAT_VER       2       /* current version of stat */

#endif  /* __i386 || (__i386_COMPAT && _KERNEL) */

#if defined(_XPG7) || !defined(_STRICT_SYMBOLS)
#if defined(__EXTENSIONS__) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX))
        /* || defined(_XPG7) */
/* for use with futimens() and utimensat() */
#define UTIME_NOW       -1L
#define UTIME_OMIT      -2L
#endif
#endif  /* defined(__EXTENSIONS__) ... */

#if !defined(_KERNEL) || defined(_BOOT)

#if defined(__STDC__)

#if !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2) || \
        defined(_XPG4_2) || defined(__EXTENSIONS__)
extern int fchmod(int, mode_t);
#endif /* !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2)... */

extern int chmod(const char *, mode_t);
extern int mkdir(const char *, mode_t);
```



```
extern int mkfifo(const char *, mode_t);
extern mode_t umask(mode_t);

/* transitional large file interfaces */
#if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
            !defined(__PRAGMA_REDEFINE_EXTNAME))
extern int fstat64(int, struct stat64 *);
extern int stat64(const char *_RESTRICT_KYWD, struct stat64 *_RESTRICT_KYWD);
extern int lstat64(const char *_RESTRICT_KYWD, struct stat64 *_RESTRICT_KYWD);
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) || \
        defined(_ATFILE_SOURCE)
extern int fstatat64(int, const char *, struct stat64 *, int);
#endif /* defined (_ATFILE_SOURCE) */
#endif

#if defined(_XPG7) || defined(_ATFILE_SOURCE) || !defined(_STRICT_SYMBOLS)
#if defined(__EXTENSIONS__) || defined(_ATFILE_SOURCE) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX))
        /* || defined(_XPG7) */
extern int mkdirat(int, const char *, mode_t);
extern int mkfifoat(int, const char *, mode_t);
extern int mknodat(int, const char *, mode_t, dev_t);
extern int fchmodat(int, const char *, mode_t, int);
#endif

#if defined(_XPG7) || !defined(_STRICT_SYMBOLS)
extern int futimens(int, const struct timespec[2]);
extern int utimensat(int, const char *, const struct timespec[2], int);
#endif  /* defined(__EXTENSIONS__) ... */

#else /* !__STDC__ */

#if !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2) || \
        defined(_XPG4_2) || defined(__EXTENSIONS__)
extern int fchmod();
#endif /* !defined(__XOPEN_OR_POSIX) || (_POSIX_C_SOURCE > 2)... */

extern int chmod();
extern int mkdir();
extern int mkfifo();
extern mode_t umask();

/* transitional large file interfaces */
#if     defined(_LARGEFILE64_SOURCE) && !((_FILE_OFFSET_BITS == 64) && \
            !defined(__PRAGMA_REDEFINE_EXTNAME))
extern int fstat64();
extern int stat64();
extern int lstat64();
#if !defined(__XOPEN_OR_POSIX) || defined(__EXTENSIONS__) || \
        defined(_ATFILE_SOURCE)
extern int fstatat64();
#endif /* defined (_ATFILE_SOURCE) */
#endif

#if defined(__EXTENSIONS__) || defined(_ATFILE_SOURCE) || \
        (!defined(_STRICT_STDC) && !defined(__XOPEN_OR_POSIX))
        /* || defined(_XPG7) */
extern int mkdirat();
extern int mkfifoat();
extern int mknodat();
extern int fchmodat();
extern int futimens();
extern int utimensat();
#endif  /* defined(__EXTENSIONS__) ... */

#endif /* defined(__STDC__) */
```

```
 515 #include <sys/stat_impl.h>

 517 #endif /* !defined(_KERNEL) */

 519 #ifdef  __cplusplus
 520 }
```

_____***unchanged_portion_omitted_***

```
**********************************************************
    3200 Tue Aug 12 07:52:15 2014
new/usr/src/uts/common/sys/timeb.h
code review feeback, close open comment
first round of POSIX 2008 stuff
**********************************************************
```

```
/*
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 */

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

#ifndef _SYS_TIMEB_H
#define _SYS_TIMEB_H

#pragma ident   "%Z%%M% %I%     %E% SMI"

#ifdef  __cplusplus
extern "C" {
#endif

#include <sys/types.h>
#include <sys/feature_tests.h>

/*
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 * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
 * OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
 * SUCH DAMAGE.
 */
```



```
/*
 * NOTE: This lives in sys/timeb.h due to standards requirements.
 * The actual function is not a system call, but a libc function.  Hence
 * this header should never be included into kernel modules.  Presumably
 * the header shouldn't be included unless ftime() is desired, since it
 * defines nothing else, but be pedantic.
 */

#ifndef _KERNEL

#if (!defined(_STRICT_SYMBOLS)) || (defined(_XPG4_2) && !defined(_XPG7))
/* The ftime(2) system call structure */
struct timeb {
        time_t  time;                   /* seconds since the Epoch */
        unsigned short millitm;         /* + milliseconds since the Epoch */
        short   timezone;               /* minutes west of CUT */
        short   dstflag;                /* DST == non-zero */
};

#if defined(__STDC__)
extern int ftime(struct timeb *);
#else
extern int ftime();
#endif

#endif /* _KERNEL */

#ifdef  __cplusplus
}
```

_____*unchanged_portion_omitted_*