NAME

mbsrtowcs − convert a multibyte string to a wide-character string

LIBRARY

Standard C library (*libc*, *−lc*)

SYNOPSIS

#include <wchar.h>

size_t mbsrtowcs(wchar_t *dest***[restrict .***len***], const char **restrict** *src***,**
size_t *len***, mbstate_t *restrict** *ps***);**

DESCRIPTION

If *dest* is not NULL, the **mbsrtowcs**() function converts the multibyte string**sr c* to a wide-character string starting at *dest*. At most*len* wide characters are written to *dest*. The shift state**ps* is updated. The conversion is effectively performed by repeatedly calling *mbrtowc(dest, *src, n, ps)* where *n* is some positive number, as long as this call succeeds, and then incrementing *dest* by one and **src* by the number of bytes consumed. The conversion can stop for three reasons:

- An invalid multibyte sequence has been encountered. In this case,**sr c* is left pointing to the invalid multibyte sequence, *(size_t) −1* is returned, and *errno* is set to **EILSEQ**.
- *len* non-L'\0' wide characters have been stored at *dest*. In this case,**sr c* is left pointing to the next multibyte sequence to be converted, and the number of wide characters written to *dest* is returned.
- The multibyte string has been completely converted, including the terminating null wide character ('\0'), which has the side effect of bringing back**ps* to the initial state. In this case, **sr c* is set to NULL, and the number of wide characters written to *dest*, excluding the terminating null wide character, is returned.

If *dest* is NULL, *len* is ignored, and the conversion proceeds as above, except that the converted wide characters are not written out to memory, and that no length limit exists.

In both of the above cases, if *ps* is NULL, a static anonymous state known only to the **mbsrtowcs**() function is used instead.

The programmer must ensure that there is room for at least *len* wide characters at *dest*.

RETURN VALUE

The **mbsrtowcs**() function returns the number of wide characters that make up the converted part of the wide-character string, not including the terminating null wide character. If an invalid multibyte sequence was encountered, *(size_t) −1* is returned, and *errno* set to **EILSEQ**.

ATTRIBUTES

For an explanation of the terms used in this section, see **attributes**(7).

Interface	Attribute	Value
mbsrtowcs()	Thread safety	MT-Unsafe race:mbsrtowcs/!ps

STANDARDS

POSIX.1-2001, POSIX.1-2008, C99.

NOTES

The behavior of **mbsrtowcs**() depends on the **LC_CTYPE** category of the current locale.

Passing NULL as *ps* is not multithread safe.

SEE ALSO

iconv(3), **mbrtowc**(3), **mbsinit**(3), **mbsnrtowcs**(3), **mbstowcs**(3)