

NAME

dehumanize_number, humanize_number — format a number into a human readable form and viceversa

LIBRARY

Utility functions from BSD systems (libbsd, -lbsd)

SYNOPSIS

```
#include <stdlib.h>
```

(See *libbsd(7)* for include usage.)

```
int
```

```
dehumanize_number(const char *str, int64_t *result);
```

```
int
```

```
humanize_number(char *buf, size_t len, int64_t number, const char *suffix,
                int scale, int flags);
```

DESCRIPTION

The **humanize_number()** function formats the signed 64 bit quantity given in *number* into *buffer*. A space and then *suffix* is appended to the end. *buffer* must be at least *len* bytes long.

If the formatted number (including *suffix*) would be too long to fit into *buffer*, then divide *number* by 1024 until it will. In this case, prefix *suffix* with the appropriate SI designator.

The prefixes are:

Prefix	Description	Multiplier
k	kilo	1024
M	mega	1048576
G	giga	1073741824
T	tera	1099511627776
P	peta	1125899906842624
E	exa	1152921504606846976

len must be at least 4 plus the length of *suffix*, in order to ensure a useful result is generated into *buffer*. To use a specific prefix, specify this as *scale* (Multiplier = 1024 ^ *scale*). This can not be combined with any of the *scale* flags below.

The following flags may be passed in *scale*:

HN_AUTOSCALE

Format the buffer using the lowest multiplier possible.

HN_GETSCALE

Return the prefix index number (the number of times *number* must be divided to fit) instead of formatting it to the buffer.

The following flags may be passed in *flags*:

HN_DECIMAL If the final result is less than 10, display it using one digit.

HN_NOSPACE Do not put a space between *number* and the prefix.

HN_B Use 'B' (bytes) as prefix if the original result does not have a prefix.

HN_DIVISOR_1000

Divide *number* with 1000 instead of 1024.

The **dehumanize_number()** function parses the string representing an integral value given in *str* and stores the numerical value in the integer pointed to by *result*. The provided string may hold one of the suffixes, which will be interpreted and used to scale up its accompanying numerical value.

RETURN VALUES

humanize_number() returns the number of characters stored in *buffer* (excluding the terminating NUL) upon success, or -1 upon failure. If `HN_GETSCALE` is specified, the prefix index number will be returned instead.

dehumanize_number() returns 0 if the string was parsed correctly. A -1 is returned to indicate failure and an error code is stored in *errno*.

ERRORS

dehumanize_number() will fail and no number will be stored in *result* if:

[EINVAL] The string in *str* was empty or carried an unknown suffix.

[ERANGE] The string in *str* represented a number that does not fit in *result*.

SEE ALSO

humanize_number(9)

HISTORY

humanize_number() first appeared in NetBSD 2.0 and FreeBSD 5.3.

dehumanize_number() first appeared in NetBSD 5.0.