NAME

if_nameindex, if_freenameindex – get network interface names and indexes

SYNOPSIS

#include <net/if.h>

struct if_nameindex *if_nameindex(void);
void if_freenameindex(struct if_nameindex *_ptr_);

DESCRIPTION

The **if_nameindex**() function returns an array of *if_nameindex* structures, each containing information about one of the network interfaces on the local system. The *if_nameindex* structure contains at least the following entries:

```
unsigned int if_index; /* Index of interface (1, 2, ...) */
char        *if_name;  /* Null-terminated name ("eth0", etc.) */
```

The *if_index* field contains the interface index. The *if_name* field points to the null-terminated interface name. The end of the array is indicated by entry with *if_index* set to zero and *if_name* set to NULL.

The data structure returned by **if_nameindex**() is dynamically allocated and should be freed using **if_freenameindex**() when no longer needed.

RETURN VALUE

On success, **if_nameindex**() returns pointer to the array; on error, NULL is returned, and *errno* is set appropriately.

ERRORS

if_nameindex() may fail and set *errno* if:

ENOBUFS
Insufficient resources available.

if_nameindex() may also fail for any of the errors specified for **socket**(2), **bind**(2), **ioctl**(2), **getsockname**(2), **recvmsg**(2), **sendto**(2), or **malloc**(3).

VERSIONS

The **if_nameindex**() function first appeared in glibc 2.1, but before glibc 2.3.4, the implementation supported only interfaces with IPv4 addresses. Support of interfaces that don't have IPv4 addresses is available only on kernels that support netlink.

ATTRIBUTES

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

Interface	Attribute	Value
if_nameindex(), **if_freenameindex**()	Thread safety	MT-Safe

CONFORMING TO

POSIX.1-2001, POSIX.1-2008, RFC 3493.

This function first appeared in BSDi.

EXAMPLE

The program below demonstrates the use of the functions described on this page. An example of the output this program might produce is the following:

```
$ ./a.out
1: lo
2: wlan0
3: em1
```

Program source

```
#include <net/if.h>
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>

int
main(int argc, char *argv[])
{
    struct if_nameindex *if_ni, *i;

    if_ni = if_nameindex();
    if (if_ni == NULL) {
        perror("if_nameindex");
        exit(EXIT_FAILURE);
    }

    for (i = if_ni; ! (i->if_index == 0 && i->if_name == NULL); i++)
        printf("%u: %s\n", i->if_index, i->if_name);

    if_freenameindex(if_ni);

    exit(EXIT_SUCCESS);
}
```

SEE ALSO

getsockopt(2), **setsockopt**(2), **getifaddrs**(3), **if_indextoname**(3), **if_nametoindex**(3), **ifconfig**(8)

COLOPHON

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