

NAME

`ether_aton`, `ether_ntoa`, `ether_ntohost`, `ether_hostton`, `ether_line`, `ether_ntoa_r`, `ether_aton_r` - Ethernet address manipulation routines

SYNOPSIS

```
#include <netinet/ether.h>

char *ether_ntoa(const struct ether_addr *addr);

struct ether_addr *ether_aton(const char *asc);

int ether_ntohost(char *hostname, const struct ether_addr *addr);

int ether_hostton(const char *hostname, struct ether_addr *addr);

int ether_line(const char *line, struct ether_addr *addr,
               char *hostname);

/* GNU extensions */
char *ether_ntoa_r(const struct ether_addr *addr, char *buf);

struct ether_addr *ether_aton_r(const char *asc,
                                struct ether_addr *addr);
```

DESCRIPTION

`ether_aton()` converts the 48-bit Ethernet host address *asc* from the standard hex-digits-and-colons notation into binary data in network byte order and returns a pointer to it in a statically allocated buffer, which subsequent calls will overwrite. `ether_aton()` returns NULL if the address is invalid.

The `ether_ntoa()` function converts the Ethernet host address *addr* given in network byte order to a string in standard hex-digits-and-colons notation, omitting leading zeros. The string is returned in a statically allocated buffer, which subsequent calls will overwrite.

The `ether_ntohost()` function maps an Ethernet address to the corresponding hostname in */etc/ethers* and returns nonzero if it cannot be found.

The `ether_hostton()` function maps a hostname to the corresponding Ethernet address in */etc/ethers* and returns nonzero if it cannot be found.

The `ether_line()` function parses a line in */etc/ethers* format (ethernet address followed by whitespace followed by hostname; # introduces a comment) and returns an address and hostname pair, or nonzero if it cannot be parsed. The buffer pointed to by *hostname* must be sufficiently long, for example, have the same length as *line*.

The functions `ether_ntoa_r()` and `ether_aton_r()` are reentrant thread-safe versions of `ether_ntoa()` and `ether_aton()` respectively, and do not use static buffers.

The structure *ether_addr* is defined in *<net/ethernet.h>* as:

```
struct ether_addr {
    uint8_t ether_addr_octet[6];
}
```

ATTRIBUTES

For an explanation of the terms used in this section, see [attributes\(7\)](#).

| Interface | Attribute | Value |
|---|---------------|-----------|
| <code>ether_aton()</code> , <code>ether_ntoa()</code> | Thread safety | MT-Unsafe |
| <code>ether_ntohost()</code> , <code>ether_hostton()</code> , <code>ether_line()</code> , <code>ether_ntoa_r()</code> , <code>ether_aton_r()</code> | Thread safety | MT-Safe |

CONFORMING TO

4.3BSD, SunOS.

BUGS

In glibc 2.2.5 and earlier, the implementation of **ether_line()** is broken.

SEE ALSO

[ethers\(5\)](#)

COLOPHON

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