

NAME

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

LIBRARY

Standard C library (*libc*, *-lc*)

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
ether_aton() , ether_ntoa()	Thread safety	MT-Unsafe
ether_ntohost() , ether_hostton() , ether_line() , ether_ntoa_r() , ether_aton_r()	Thread safety	MT-Safe

STANDARDS

None.

HISTORY

4.3BSD, SunOS.

BUGS

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

SEE ALSO

ethers(5)