

NAME

htonl, htons, ntohl, ntohs – convert values between host and network byte order

SYNOPSIS

```
#include <arpa/inet.h>
```

```
uint32_t htonl(uint32_t hostlong);
```

```
uint16_t htons(uint16_t hostshort);
```

```
uint32_t ntohl(uint32_t netlong);
```

```
uint16_t ntohs(uint16_t netshort);
```

DESCRIPTION

The **htonl()** function converts the unsigned integer *hostlong* from host byte order to network byte order.

The **htons()** function converts the unsigned short integer *hostshort* from host byte order to network byte order.

The **ntohl()** function converts the unsigned integer *netlong* from network byte order to host byte order.

The **ntohs()** function converts the unsigned short integer *netshort* from network byte order to host byte order.

On the i386 the host byte order is Least Significant Byte first, whereas the network byte order, as used on the Internet, is Most Significant Byte first.

ATTRIBUTES

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

Interface	Attribute	Value
htonl(), htons(), ntohl(), ntohs()	Thread safety	MT-Safe

CONFORMING TO

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

Some systems require the inclusion of *<netinet/in.h>* instead of *<arpa/inet.h>*.

SEE ALSO

endian(3), **gethostbyname(3)**, **getservent(3)**

COLOPHON

This page is part of release 4.06 of the Linux *man-pages* project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.