

**NAME**

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

**LIBRARY**

Standard C Library (libc, -lc)

**SYNOPSIS**

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

or

**#include** <netinet/in.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**

These routines convert 16 and 32 bit quantities between network byte order and host byte order. On machines which have a byte order which is the same as the network order, routines are defined as null macros.

These routines are most often used in conjunction with Internet addresses and ports as returned by `gethostbyname(3)` and `getservent(3)`.

**SEE ALSO**

`gethostbyname(3)`, `getservent(3)`, `byteorder(9)`

**STANDARDS**

The **byteorder** functions conform to IEEE Std 1003.1-2001 ("POSIX.1").

**HISTORY**

The **byteorder** functions appeared in 4.2BSD.

## BUGS

On the VAX bytes are handled backwards from most everyone else in the world. This is not expected to be fixed in the near future.