



Linux Ubuntu 26.04 Manual Pages on command 'uname.2'

\$ man uname.2

uname(2) System Calls Manual uname(2)

NAME

uname - get name and information about current kernel

LIBRARY

Standard C library (libc, -lc)

SYNOPSIS

```
#include <sys/utsname.h>

int uname(struct utsname *buf);
```

DESCRIPTION

uname() returns system information in the structure pointed to by buf. The utsname struct is defined in <sys/utsname.h>:

```
struct utsname {
    char sysname[]; /* Operating system name (e.g., "Linux") */
    char nodename[]; /* Name within communications network
                     to which the node is attached, if any */
    char release[]; /* Operating system release
                   (e.g., "2.6.28") */
    char version[]; /* Operating system version */
    char machine[]; /* Hardware type identifier */
#ifdef _GNU_SOURCE
    char domainname[]; /* NIS or YP domain name */
#endif
};
```

The length of the arrays in a struct utsname is unspecified (see VERSIONS and HISTORY); the fields are terminated by a null byte ('\0').

RETURN VALUE

On success, zero is returned. On error, -1 is returned, and errno is set to indicate the error.

ERRORS

EFAULT buf is not valid.

VERSIONS

The domainname member (the NIS or YP domain name) is a GNU extension.

The length of the fields in the struct varies. Some operating systems or libraries use a hardcoded 9 or 33 or 65 or 257. Other systems use SYS_NMLN or _SYS_NMLN or UTSLEN or _UT? SNAME_LENGTH. Clearly, it is a bad idea to use any of these constants; just use sizeof(...). SVr4 uses 257, "to support Internet hostnames" ?this is the largest value likely to be encountered in the wild?.

STANDARDS

POSIX.1-2024.

HISTORY

POSIX.1-2001, SVr4, 4.4BSD.

C library/kernel differences

Over time, increases in the size of the utsname structure have led to three successive versions of uname(): sys_olduname() (slot __NR_oldolduname), sys_uname() (slot __NR_olduname), and sys_newuname() (slot __NR_uname). The first one used length 9 for all fields; the second used 65; the third also uses 65 but adds the domainname field. The glibc uname() wrapper function hides these details from applications, invoking the most recent version of the system call provided by the kernel.

NOTES

The kernel has the name, release, version, and supported machine type built in. Conversely, the nodename field is configured by the administrator to match the network (this is what the BSD historically calls the "hostname", and is set via sethostname(2)). Similarly, the domainname field is set via setdomainname(2).

Part of the utsname information is also accessible via /proc/sys/kernel/{ostype, hostname, osrelease, version, domainname}.

SEE ALSO

uname(1), getdomainname(2), gethostname(2), uts_namespaces(7)

Linux man-pages 6.17

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