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 NOTES); 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.

STANDARDS

POSIX.1-2001, POSIX.1-2008, SVr4, 4.4BSD.

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

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).

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 **_UTSNAME_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.

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

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.

SEE ALSO

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