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Red Hat Enterprise Linux Release 9.2 Manual Pages on '_sysctl.2' command

$ man _sysctl.2

SYSCTL(2) Linux Programmer's Manual SYSCTL(2)

NAME

sysctl - read/write system parameters

SYNOPSIS

```
#include <unistd.h>
#include <linux/sysctl.h>
int _sysctl(struct __sysctl_args *args);
```

DESCRIPTION

This system call no longer exists on current kernels! See NOTES.

The _sysctl() call reads and/or writes kernel parameters. For example, the hostname, or the maximum number of open files. The argument has the form

```
struct __sysctl_args {
    int    *name;    /* integer vector describing variable */
    int     nlen;    /* length of this vector */
    void   *oldval;  /* 0 or address where to store old value */
    size_t *oldlenp; /* available room for old value,
                        overwritten by actual size of old value */
    void   *newval;  /* 0 or address of new value */
    size_t  newlen;  /* size of new value */
};
```

This call does a search in a tree structure, possibly resembling a di? rectory tree under /proc/sys, and if the requested item is found calls

some appropriate routine to read or modify the value.

RETURN VALUE

Upon successful completion, _sysctl() returns 0. Otherwise, a value of -1 is returned and errno is set to indicate the error.

ERRORS

EACCES, EPERM

No search permission for one of the encountered "directories", or no read permission where oldval was nonzero, or no write per? mission where newval was nonzero.

EFAULT The invocation asked for the previous value by setting oldval non-NULL, but allowed zero room in oldlenp.

ENOTDIR

name was not found.

VERSIONS

This system call first appeared in Linux 1.3.57. It was removed in Linux 5.5; glibc support was removed in version 2.32.

CONFORMING TO

This call is Linux-specific, and should not be used in programs in? tended to be portable. It originated in 4.4BSD. Only Linux has the /proc/sys mirror, and the object naming schemes differ between Linux and 4.4BSD, but the declaration of the sysctl() function is the same in both.

NOTES

Use of this system call was long discouraged: since Linux 2.6.24, uses of this system call result in warnings in the kernel log, and in Linux 5.5, the system call was finally removed. Use the /proc/sys interface instead.

Note that on older kernels where this system call still exists, it is available only if the kernel was configured with the CON? FIG_SYSCTL_SYSCALL option. Furthermore, glibc does not provide a wrap? per for this system call, necessitating the use of syscall(2).

BUGS

The object names vary between kernel versions, making this system call

worthless for applications.

Not all available objects are properly documented.

It is not yet possible to change operating system by writing to /proc/sys/kernel/ostype.

EXAMPLES

```
#define _GNU_SOURCE
#include <unistd.h>
#include <sys/syscall.h>
#include <string.h>
#include <stdio.h>
#include <stdlib.h>
#include <linux/sysctl.h>
int _sysctl(struct __sysctl_args *args );
#define OSNAMESZ 100
int
main(void)
{
    struct __sysctl_args args;
    char osname[OSNAMESZ];
    size_t osnamelth;
    int name[] = { CTL_KERN, KERN_OSTYPE };
    memset(&args, 0, sizeof(args));
    args.name = name;
    args.nlen = sizeof(name)/sizeof(name[0]);
    args.oldval = osname;
    args.oldlenp = &osnamelth;
    osnamelth = sizeof(osname);
    if (syscall(SYS__sysctl, &args) == -1) {
        perror("_sysctl");
        exit(EXIT_FAILURE);
    }
    printf("This machine is running %*s\n", osnamelth, osname);
    exit(EXIT_SUCCESS);
```

```
}
```

SEE ALSO

proc(5)

COLOPHON

This page is part of release 5.10 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/.