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

$ man iopl.2

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

NAME

iopl - change I/O privilege level

SYNOPSIS

#include <sys/io.h>

int iopl(int level);

DESCRIPTION

iopl() changes the I/O privilege level of the calling thread, as speci?

fied by the two least significant bits in level.

The I/O privilege level for a normal thread is 0. Permissions are in?

herited from parents to children.

This call is deprecated, is significantly slower than ioperm(2), and is

only provided for older X servers which require access to all 65536 I/O

ports. It is mostly for the i386 architecture. On many other archi?

tectures it does not exist or will always return an error.

RETURN VALUE

On success, zero is returned. On error, -1 is returned, and errno is

set appropriately.

ERRORS

EINVAL level is greater than 3.

ENOSYS This call is unimplemented.

EPERM The calling thread has insufficient privilege to call iopl();

the CAP_SYS_RAWIO capability is required to raise the I/O privi?

lege level above its current value.

CONFORMING TO

iopl() is Linux-specific and should not be used in programs that are intended to be portable.

NOTES

Glibc2 has a prototype both in <sys/io.h> and in <sys/perm.h>. Avoid the latter, it is available on i386 only.

Prior to Linux 5.5 iopl() allowed the thread to disable interrupts while running at a higher I/O privilege level. This will probably crash the system, and is not recommended.

Prior to Linux 3.7, on some architectures (such as i386), permissions were inherited by the child produced by fork(2) and were preserved across execve(2). This behavior was inadvertently changed in Linux 3.7, and won't be reinstated.

SEE ALSO

ioperm(2), outb(2), capabilities(7)

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/.