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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'vcs.4' command

$ man vcs.4

VCS(4) Linux Programmer's Manual VCS(4)

NAME

vcs, vcsa - virtual console memory

DESCRIPTION

/dev/vcs0 is a character device with major number 7 and minor number 0, usually with mode 0644 and ownership root:tty. It refers to the memory of the currently displayed virtual console terminal.

/dev/vcs[1-63] are character devices for virtual console terminals, they have major number 7 and minor number 1 to 63, usually mode 0644 and ownership root:tty. /dev/vcsa[0-63] are the same, but using un? signed shorts (in host byte order) that include attributes, and pre? fixed with four bytes giving the screen dimensions and cursor position: lines, columns, x, y. (x = y = 0 at the top left corner of the screen.)

When a 512-character font is loaded, the 9th bit position can be fetched by applying the ioctl(2) VT_GETHIFONTMASK operation (available in Linux kernels 2.6.18 and above) on /dev/tty[1-63]; the value is re? turned in the unsigned short pointed to by the third ioctl(2) argument.

These devices replace the screendump ioctl(2) operations of ioctl_con? sole(2), so the system administrator can control access using filesys? tem permissions.

The devices for the first eight virtual consoles may be created by:

for x in 0 1 2 3 4 5 6 7 8; do

```
        mknod -m 644 /dev/vcs$x c 7 $x;
        mknod -m 644 /dev/vcsa$x c 7 $[$x+128];
    done
    chown root:tty /dev/vcs*
```

No ioctl(2) requests are supported.

FILES

/dev/vcs[0-63]

/dev/vcsa[0-63]

VERSIONS

Introduced with version 1.1.92 of the Linux kernel.

EXAMPLES

You may do a screendump on vt3 by switching to vt1 and typing

```
    cat /dev/vcs3 >foo
```

Note that the output does not contain newline characters, so some pro?cessing may be required, like in

```
    fold -w 81 /dev/vcs3 | lpr
```

or (horrors)

```
    setterm -dump 3 -file /proc/self/fd/1
```

The /dev/vcsa0 device is used for Braille support.

This program displays the character and screen attributes under the cursor of the second virtual console, then changes the background color there:

```
#include <unistd.h>
#include <stdlib.h>
#include <stdio.h>
#include <fcntl.h>
#include <sys/ioctl.h>
#include <linux/vt.h>
int
main(void)
{
    int fd;
    char *device = "/dev/vcsa2";
```

```
char *console = "/dev/tty2";
struct {unsigned char lines, cols, x, y;} scrn;
unsigned short s;
unsigned short mask;
unsigned char attrib;
int ch;
fd = open(console, O_RDWR);
if (fd < 0) {
    perror(console);
    exit(EXIT_FAILURE);
}
if (ioctl(fd, VT_GETHIFONTMASK, &mask) < 0) {
    perror("VT_GETHIFONTMASK");
    exit(EXIT_FAILURE);
}
(void) close(fd);
fd = open(device, O_RDWR);
if (fd < 0) {
    perror(device);
    exit(EXIT_FAILURE);
}
(void) read(fd, &scrn, 4);
(void) lseek(fd, 4 + 2*(scrn.y*scrn.cols + scrn.x), SEEK_SET);
(void) read(fd, &s, 2);
ch = s & 0xff;
if (s & mask)
    ch |= 0x100;
attrib = ((s & ~mask) >> 8);
printf("ch=%#03x attrib=%#02x\n", ch, attrib);
s ^= 0x1000;
(void) lseek(fd, -2, SEEK_CUR);
(void) write(fd, &s, 2);
exit(EXIT_SUCCESS);
```

```
}
```

SEE ALSO

ioctl_console(2), tty(4), ttyS(4), gpm(8)

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/.