Rocky Enterprise Linux 9.2 Manual Pages on command 'vcsa.4'

$ man vcsa.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 unsigned 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 returned in the unsigned short pointed to by the third

   ioctl(2) argument.

   These devices replace the screendump ioctl(2) operations of ioctl_console(2), so the sys?

   tem administrator can control access using filesystem 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 processing may be re?

   quired, 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/.