NAME

nc − network control

DESCRIPTION

The network control pseudo-device provides a means by which a privileged user program can install, remove, and get the status of a BX.25 Permanent Virtual Circuit (PVC) and start, stop, and get the status of a BX.25 link. Additional functions are planned for this driver when the virtual call feature and additional layers of BX.25 are added to the UNIX BX.25 implementation. This driver supports *open, close,* and *ioctl.*

The network control *ioctl* system call has the following form:

ioctl (*fildes*, *cmd*, *arg*)

where *fildes* is the file descriptor returned by the *open* of the nc device and *cmd* is one of the following constants (defined in **/usr/include/sys/nc.h**):

NCPVCI — Install a PVC. This command creates one end of a PVC by connecting a minor device of the X25 driver (slot) to a particular logical channel on a specified link. *Arg* is a pointer to a structure defined as follows:

```
struct pvc {
        unsigned short   slot;
        unsigned short   chno;
        unsigned short   link;
        unsigned short   options;
}
```

where *slot* is the minor device number of the slot to be used as the end point of the PVC, *chno* is the logical channel number to be used, and *link* is the number of the BX.25 link to be used. Links are numbered starding with 0. *Chno* must be in the range 1 to 4,095 and must not be in use currently on the link. The low-order two bits of *options* specify one of three possible session-establishment protocols:

PVC_SESS	session-layer open/close protocol
PVC_RST	reset in-order/out-of-order protocol
PVC_NONE	"no-protocol" session mode

The constants PVC_SESS, PVC_RST, and PVC_NONE are defined in **/usr/include/sys/x25u.h.**

If the link on which the PVC is installed is currently active (not in the halted state), the reset procedure will be initiated for the logical channel. When the reset procedure is completed, the PVC is ready for data transfer.

NCPVCR — Remove a PVC. If *arg* is the minor device number of a slot that is currently associated with a PVC and not open, the local end of that PVC is removed, i.e., disconnected. The slot and logical channel number become available for reuse.

NCSTART — Start a link. *Arg* is a pointer to a structure defined as follows:

```
struct start {
        unsigned short   link;
        unsigned short   vpb;
        unsigned short   kmc;
        unsigned short   line;
```

```
        unsigned short   options;
        unsigned char    cmd[4];
}
```

where *link* is the number of a BX.25 link, *vpb* specifies a minor device number of the VPM interface driver, and *kmc* specifies a minor device number of the KMC driver. If a KMS is being used, *line* specifies which one of the eight synchronous lines (0 through 7) of the KMS that is to be used. If a single-line synchronous interface is being used, this argument must be zero. The four bytes of *cmd* are passed to the protocol script via the *vpmcmd* function.

BX.25 link to a VPM interface driver minor device, and the VPM interface driver minor device to a synchronous line on the KMC. The restart procedure is then initiated for the link.

NCSTOP — Stop a BX.25 link. This command stops the link specified by *arg*. The link data structure is initialized. The link, the associated VPM interface driver, and the KMC synchronous line become available for reuse. While in the halted state packets received for this link are discarded.

NCPVCSTAT — Get the status of a PVC. This command gets the connections and status information for slot *slot* and places it in the *pvc* data structure pointed to by *arg*.

NCLNKSTAT — Get the status of a link. This command gets the connections and status information for link *link* and places it in the *start* data structure pointed to by *arg*.

SEE ALSO

x25pvc(1C), vpm(4), x25(4).