

# Using the DCS / VxRouter ASCII Interface

Unless otherwise specified, when the term 'DCS' is used, it refers to either the DCS or VXRrouter products.

The DCS can be controlled via an ASCII interface. This interface is accessible via a serial RS\_232 port, or over the network via a TCP port. Both ports use the same syntax. The command syntax is defined in the document: DCS-ASCII-API.doc.

The serial port is configured for 9600 baud, 1 stop bit, no parity, and software flow control. Each command must be in upper case, and must end with a carriage return (CR) and/or a line feed (LF). The characters are not echoed.

The network interface listens on TCP port 17567. It accepts the same commands as the serial interface. You may use telnet to manually open a connection and control the DCS.

## DCS Configuration

The DCS interface is controlled by entries in the file /etc/inittab. Below are the relevant portions of the file that control the interfaces:

```
## run the network interface to the local DCS SNMP
napi:2345:respawn:/usr/local/sbin/dcsapi --verbose

## run the serial interface to the local DCS SNMP daemon
sapi:2345:respawn:/usr/local/sbin/dcsapi --serial=/dev/ttyS1

## run the serial interface to the local DCS SNMP daemon (add a CR to each output line)
#sapi:2345:respawn:/usr/local/sbin/dcsapi --serial=/dev/ttyS1 -CR
```

The line starting with 'napi' starts the network connection. The line starting with 'sapi' starts the serial interface. The final line shows the how to add options to the command.

The interface program (dcsapi) has several options to control its' operation. These options are documented in the programs' man page. The man page can be displayed by running the command: 'man dcsapi' from the DCS command prompt. Some of the options are:

--baud=nnnn	set the serial port baud rate
--verbose	append error text to the command response
--listen=nnnn	change the network port we listen on
--CR	add a CR to the end of each response line (serial mode only)

If you make changes to the file /etc/inittab, you must run the commands:

```
telinit q
killall dcsapi
```

for the changes to take effect.

# VxRouter Configuration

The VxRouter interface is controlled by entries in the file /etc/inittab located on the VxRouter. Below are the relevant portions of the file that control the interfaces:

```
#run the ASCII interface program
::respawn:/usr/local/sbin/vx40api
::respawn:/usr/local/sbin/vx40api --serial
```

Each model VxRouter has its own api program. The above sample is for the 40-port model. The 160-port model program is called: vx160api.

The first vx40api line starts the network connection. The next line (with --serial) starts the serial interface.

The interface program has several options to control its' operation. These options can be listed by running the api program with the option '--help'. Here is the output...

```
~ # vx40api --help
Version: V3.1-4
Usage: vx40api [options]
      ---- network options ----
-L|--listen[=]port    listen on this port, all addresses      (default: 17567)
  --vx[=]IP address   address of VxRouter                    (default: 127.0.0.1)
                    we will send commands to the above IP address, socket: 27567
      ---- serial options ----
-S|--serial[=[=]device] use this serial device                  (default: /dev/ttyS2)
-B|--baud[=]speed     sets serial baud rate                  (default: 9600)
      ---- generic options ----
  --CR                output CRLF instead of just LF
-f|--facility[=]name   syslog facility reporting level        (default is local4)
                    valid names: auth, daemon, user, local0 through local7
                    see the man page for syslog.conf for more information
  --debug             write debug messages to the log file
  --api               write API messages received to the log file (level: INFO)
  --avr               write AVR commands to the log file (level: INFO)
  --delay[=]delay     in ms, how long an upStream output must remain off, default is 250 ms.
                    minimum is 50ms, maximum is 1000ms, 0 will disable the delay
-V|--verbose         enable error text
-h|--help            display this help and exit
-v|--version         output version information and exit

Default (no options) is to listen on socket 17567 at all IP addresses
                    send to socket 27567 at 127.0.0.1
```

To change the serial port baud rate to 115200 and send CRLF at the end of each line, the command syntax is: `::respawn:/usr/local/sbin/vx40api --serial --CR --baud=115200`

If you make changes to the file /etc/inittab, you must run the commands:

```
kill -hup 1
killall vx40api
```

for the changes to take effect.

Please note that changes you make to the VxRouter software will be lost if you install a new SD card from Logical Solutions.

# Using putty to communicate to the API

When using putty (a Windows communication program) to communicate to a DCS or VxRouter, you must select 'Raw' mode, and change the port to 17567. Also, under Terminal settings, you should check the 'Implicit CR in every LF' box.

