WANPIPE(tm)

Multi-protocol WANPIPE Driver
for
SCO UNIX System

Wanpipe Version: 1.0.0

U S E R'S M A N U A L

Document Version 1.0

June 4, 2001

Author: Alex Feldman

INTRODUCTION

Wanpipe-1.0.2 release consists of new Sangoma driver for S508/S514 PCI card, configuration/startup utilities and diagnostic program. Wanpipe package provides a physical and data link layers to the SCO OpenServer 5. Current version of driver supports Frame Relay (Cisco HDLC and PPP protocols will be supports very soon).

If you installed SCO OpenServer 5 release other then 5.0.6, please download and install Release Supplement patch for corresponding version of SCO OpenServer. To find corresponding patch, go to www.sco.com/support/ftplist/osr5list.html.

INSTALLING WANPIPE DRIVER PACKAGE

Obtaining the Wanpipe Software

WANPIPE Driver package can be downloaded from the “/SCO/current_wanpipe" directory located at Sangoma's FTP site (ftp.sangoma.com).

Note: wanpipe-1.0.2.tar.Z package supports SCO OpenServer 5.

Please uninstall previously installed WANPIPE package before installing the new WANPIPE package unless upgrading from an earlier version.

WARNING: THIS VERSION ONLY SUPPORTS S508/S514 and S508/S514/FT1 cards.

Installing Driver and Software Package

1. Log in as superuser (root) and change your current directory to the “/var/spool/pkg” directory by executing `cd /var/spool/pkg` command (if this directory doesn’t exists, create it).
2. Copy the wanpipe tar ball file previously downloaded from Sangoma FTP site to the /var/spool/pkg directory and do follow steps:
    - Run `uncompress wanpipe-X.Y.Z.tar.Z`
    - Run `tar xvf wanpipe-X.Y.Z.tar`
3. Install Sangoma WANPIPE software package, run:
    - `pkgadd wanrouter`
4. Install Sangoma WANPIPE driver:
    - Run ‘Software Manager’.
    - Go to “Software” | “Install New” and click Continue.
    - Select ‘Media Images’ as ‘Media Device’ type and click Continue.
    - Type ‘/usr/local/wanrouter/drv’ in ‘Image Directory’ and click OK.
    - Select ‘Sangoma S508/S514 Network driver’ and click INSTALL.
    - Click OK when installation complete.

Removing Driver and Software Package

1. To remove Sangoma WANPIPE driver, run:
    - Run ‘Software Manager’.
    - Select ‘Sangoma S508/S514 Network driver’ from the list of installed software.
    - Go to “Software” | “Remove Software” and click Remove (all LAN devices created from “Network Configuration Manager” will be removed automatically).
2. To remove Sangoma WANPIPE software, run:
    - `pkgrm wanrouter`

Package Components

WANPIPE Driver package includes the following components:

Driver Configuration script	/usr/local/wanrouter/wancfg
Driver start-up script	/usr/sbin/wanrouter
Driver sample configuration files	/usr/local/wanrouter/samples/*
Interface configuration files	/usr/local/wanrouter/interfaces/*
Firmware files for WANPIPE cards	/usr/local/wanrouter/sfm/*
WANPIPE configuration utility	/usr/sbin/wanconfig
CHDLC Debug monitor	/usr/sbin/cpipemon
Frame Relay Debug monitor	/usr/sbin/fpipemon
PPP Debug monitor	/usr/sbin/ppipemon
Adapter’s Memory viewer	/usr/sbin/sdladump
FT1 configuration script	/usr/sbin/cfgft1
FT1 configuration utility	/usr/local/wanrouter/bin/ft1_exec
WANPIPE routing utility	/usr/local/wanrouter/bin/sdlaroute

CONFIGURING WANPIPE DRIVER

Add Network Adapter

The SCO UNIX creates one network interface per network adapter. If you want to configure more then one network interfaces to specific physical network adapter, you will need to add Sangoma LAN adapter as many as number of network interfaces you want to configure.
Add LAN adapter:

1. Double click on 'System Administration' | 'Networks' | 'Network Configuration Manager'.
2. Click 'Hardware' | 'Add new LAN adapter'.
3. If you going to configure the Sangoma S514 PCI adapter, the kernel will automatically find the all not configured PCI cards previously installed on your machine. Select one of Sangoma adapters (if there are more then one) and click Continue. Please write down the PCI parameters for selected adapter (PCI bus, PCI Device). You will use these values in case if you need to configure another network interface for this Sangoma adapter.
4. If you going to configure the Sangoma S508 ISA adapter, the kernel will show you the list of available adapters. Select Sangoma S508 ISA adapter and click Continue. Please select I/O Port and IRQ number for this particular adapter. Use the same configuration values while configuring another network interface for this Sangoma adapter.
5. Select 'SCO TCP/IP' protocol and click Add.
6. You don't need specify IP address for current device (it will be done using Sangoma configuration utility) and click OK.

Once you finished to configure first network interface for Sangoma adapter and you wish to configure another network interface to the same Sangoma adapter, you will need to repeat the follow steps depending of number of network interfaces.

1. Double click on 'System Administration' | 'Networks' | 'Network Configuration Manager'.
2. Click 'Hardware' | 'Add new LAN adapter'.
3. If there are another Sangoma adapters installed on different slots or another not configured PCI adapters, you will find them in the list of 'The flowing adapters has been found', but you will not find the previously configured Sangoma adapter. At this case, click 'Configure hardware not listed above…'. If there isn't another not configured PCI adapters, you will see the list of available adapters.
4. Select 'Sangoma S514 PCI Adapter' if you adding another network interface for Sangoma S514 PCI adapter or "Sangoma S508 ISA Adapter" if you adding network interface for Sangoma S508 ISA adapter. Click Continue.

5. Enter configuration of Sangoma S508/S514 Adapter (should be the same ISA/PCI parameters as before) and click OK.
7. Select TCP/IP protocol and click Add.
8. You don't need specify IP address for current device (it will be done using Sangoma configuration utility) and click OK.

The SCO UNIX creates network interface for each configured LAN adapter (the network interface name given by kernel is netN, where N is the LAN adapter and interface number). The index N increased every time when you added new LAN adapter. To configure specific protocol parameters you will need to know what network interface configured to which physical adapter. If you not sure about this, do follow steps:

1. Add LAN adapter (see steps below).
2. Re-link the kernel and reboot your machine.
3. Run `ifconfig –a`. You will find new network interface, write down network interface name, PCI parameters.
4. Go to step 1 if you need add another adapter.

When you finished to configure all network interfaces, close 'Network Configuration Manager', re-link the kernel and reboot you machine.

When you will boot your machine you can easily check that Driver and Network Adapter installed properly:

1. Open 'usr/adm/messages' file and search for 'sdla'. You should find the line link follow line:

```
device   address          vec    dma    comment
-------------------------------------------------------------------------
%sdla    -                10     -      S514 PCI adapter (bus #0 slot #11 cpu #2)
%sdla    0x360-0x363      7      -      S508 ISA adapter
```

2. Run `ifconfig –a`. You should find the network interface that you added before. For example:

```
net1: flags=4042<BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 0.0.0.0 netmask ffffff00
    perf. params: recv size: 4096; send size: 8192; full-size frames: 1
    ether 00:00:00:00:00:00
```

Configuration Script

The current version of device driver includes universal configuration utility (wancfg). Location of this utility is in /usr/local/wanrouter directory. To run this script, run (from /usr/local/wanrouter directory):

`./wancfg`

INPORTANT:

wancfg is GUI application written in bash (version 2) shell script. You must have bash version 2.0 or greater to run this script. To check your bash version, run `echo $BASH_VERSION`.

This utility includes enough help information to create device configuration files (/usr/local/wanrouter/etc/wanpipe*.conf) and interface configuration files (/usr/local/wanrouter/interfaces/*). If you running more than one device, you will need to update /usr/local/wanrouter/etc/wanrouter.rc file (see APPENDIX A fore more information).

For multiple PCI card, the correct slot number must be entered. You can find all PCI configurations when you first time running 'Add new LAN adapter' from 'Network Configuration Manager'. The kernel will show you all PCI card that not configured yet. Each line corresponding to one physical card and it includes PCI configuration (PCI Bus and PCI Slot numbers) for current card. Use these values while configuring device using *wancfg* script.

Configuring FT1 Cards

Check with your T1 provider at what speed your fractional T1 line is set to (ex. 64K, 128K, …, 1.5M). The fractional T1 is broken down into 24 channels each 64K. Using the CSU/DSU one configures the line speed by enabling or disabling channels 1 to 24.

For example:

64K	→	enable channel 1, disable 2 to 24.
128K	→	enable channel 1 and 2, disable 3 to 24.
Full T1 (1.5M)	→	enable 1 to 24.

The configuration utility 'cfgft1' is found in /usr/local/wanrouter directory.

INPORTANT:

Cfgft1 is GUI application written in bash (version 2) shell script. You must have bash version 2.0 or greater to run this script. To check your bash version, run `echo $BASH_VERSION`.

Before running the 'cfgft1' script make sure you can start the wanrouter using `wanrouter start wanpipe#` (where #=1,2… device number) command. This will ensure that the wanpipe#.conf file created by 'wancfg' script doesn't have any mistakes or hardware conflicts. Run `wanrouter stop wanpipe#` to stop device.

The 'cfgft1' script contains all help files necessary to configure the CSU/DSU.
To start FT1 configuration, run:

`cfgft1 wanpipe#` , where # = 1,2,3,....

The ‘cfgft1’ configurator has three modes of operations.

- C Standard Configuration
  This is the simplest configuration method. This method should be used by default and will be sufficient for 99% of the configuration cases.
- C Advanced Configuration
  This is a text based configuration mode, where commands are sent to the CSU/DSU directly. It should be used if standard configuration does not meet the requirements.
- C Auto Detect Configuration
  This option works only for B8ZS encoding and ESF framing modes. It will try to detect the speed of the line and automatically configure the CSU/DSU.

Advanced FT1 Configurator:

The Sangoma S508/S514/FT-1 DSU has three memory banks:

- The factory default.
- The user configured bank.
- The scratch pad (working memory).

To check the current settings (bank settings), type D0 <ENTER>.

Configuration changes are made as follows:

- Type C <ENTER> to open the configuration mode.
- Change the required settings.
- After making these changes, type D1 <ENTER> to see the temporary configuration bank.
- If these changes are correct, then type W<ENTER> to write the configuration to the non-volatile memory.
- Type Q <ENTER> to exit the configuration mode.

Commands

+n	Add channel n (where n is 1-24) to the active list
-n	Delete channel n (where n is 1-24) from the active list
M0	Set framing mode to ESF (Extended Super Frame)
M1	Set framing mode to D4
K0	Set encoding mode to B8ZS
K1	Set encoding mode to AMI
L0	Set line build out to CSU (0db) or DSX-1 (0-133ft)
L1	Set line build out to DSX-1 (133 - 266ft)
L2	Set line build out to DSX-1 (266 - 399ft)
L3	Set line build out to DSX-1 (399 - 533ft)
L4	Set line build out to DSX-1 (533 - 655ft)

L5	Set line build out to CSU (-7.5 db)
L6	Set line build out to CSU (-15 db)
L7	Set line build out to CSU (-22.5 db)
P0	Set clock mode to normal (SLAVE)
P1	Set clock mode to master (LDM mode only)
W	Write configuration to non-volatile memory
F	Get factory default configuration
Q	Exit configuration mode and move temporary (scratch pad) configuration to default configuration.
D0	Display actual configuration
D1	Display configuration in temporary memory
E0	Unit does not echo commands sent to it
E1	Unit echos back commands sent to it
T0	User test modes enabled
T1	User test modes disabled

Note: Whenever you have finished your changes, you MUST do a WQ in order for them to "take". After that do a D0 to check that the changes have, indeed been written to permanent memory.

Advanced Configuring S508/S514/FT-1 Example

Required configuration:
Channels 1-3 disabled,
Channels 22 and 23 enabled.
Line build set to DSX-1 (399 - 533ft) ESF framing mode Clock mode to normal.

Type: C-1-2-3+21+22K0L3M0P0D1WQ<ENTER>

OR

C<ENTER>	Open configuration mode
-1-2-3<ENTER>	Remove channels 1, 2 and 3 from the active list
+21+22 <ENTER>	Add channels 21 and 22 to the active list
K0<ENTER>	Set the encoding mode to B8ZS
L3<ENTER>	Set the line build out to DSX-1 (399 - 533ft)
M0<ENTER>	Set the framing to ESF
P0<ENTER>	Set the clock mode to normal
D1<ENTER>	Display the temporary configuration before saving
W<ENTER>	Update the user memory
Q<ENTER>	Close the configuration mode

If you are adding or removing many D0 channels, break up the command into 2 or more commands, as the command line buffer has limited length. For instance, to drop the line speed to 128kbps you need to remove channels 3 to 24.

Do:

C<ENTER>
-3-4-5-6-7-8-9-10-11<ENTER>
-12-13-14-15-16-17-18-19-20-21-22-23-24<ENTER>
WQ<ENTER>
D0<ENTER>

and the correct configuration should be shown.

ALSO PLEASE REBOOT THE MACHINE AND RUN CFGFT1 UTILITY AGAIN WITH D0 COMMAND TO VERIFY THE CONFIGURATION.

DRIVER OPERATIONS AND USAGE

Starting and Stopping WAN Router

Start the wanrouter:

Run `wanrouter start` at the command prompt.

Stop the wanrouter:

Run `wanrouter stop` at the command prompt.

Start a particular wanrouter:

Run `wanrouter start wanpipe#` at the command prompt (where #=1,2,..).

Stop a particular wanrouter:

Run `wanrouter stop wanpipe#` at the command prompt (where #=1,2,..).

List all active wanrouters:

Run `wanrouter list` at the command prompt.

Driver Usage

The configuration file is re-read every time you run `wanrouter start`. Therefore, if you would like to change some of the configuration data you need stop the ‘wanrouter’, edit configuration file and start ‘wanrouter’ again. If you would like to change configuration data for specific wanpipe#, you don't need to stop all routers, stop only this specific wanrouter by running `wanrouter stop wanpipe#`, edit configuration data and start this wanrouter again by running `wanrouter start wanpipe#`.

PROTOCOL MONITORS

Using Protocol Monitors

Included with the Wanpipe drivers are UDP management monitors for each supported protocols.

- fpipemon: for Frame Relay protocol.
- cpipemon: for CHDLC protocol.
- ppipemon: for Point-to-Point protocol.

You must be superuser (root) to run these monitors.

Command link usage: invoke command on prompt (ex. ‘fpipemon’).

Note:

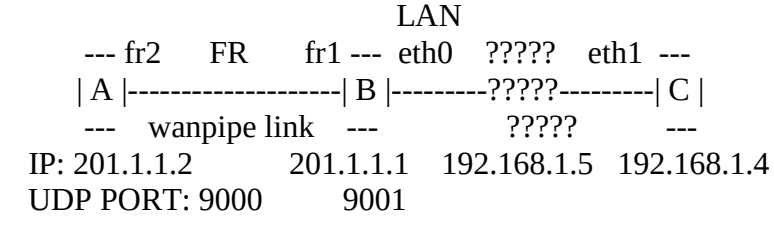
The UDP management port to be utilized can be configured with the UDPPORT option in the wanpipe#.conf configuration file.

The monitor talks to the driver through a special UDP packet like an intelligent ping. All that is required for the monitor to work is that the UDP packets must get into the driver, and that the machine with the monitor must be reachable. You can therefore run the monitor to get user statistics from **any machine that is network connected to the Sangoma host**.

There are two parameters needed to access the link information using these monitors:

- The UDP Port set in the wanpipe#.conf configuration file. The Default is UDP port 9000. Setting the UDP port to 0 disables the monitor. You can change the UPD port to distinguish between different Sangoma cards on a network.
- An IP address that forces the stack to try to send the UDP packet through the wanpipe driver. For instance, if you are on the host machine that has the card installed, you would use the IP address of the **opposite end of the lin**k. Note that you would ***not use the IP address of the wanpipe card itself*** if the UDP were coming “from the top”, because the stack loopback function returns the UDP packet before it even reaches the wanpipe driver. If wanpipe is the default gateway, then any address not on the local network will do. The address does not have to exist, as the UDP packets are intercepted in the driver before they are transmitted, and are replied to in the form of a UDP response packet sent as if it was received off the link.

For example, on the network below, assume that the link FR is supported by two Sangoma cards.



Network Interfaces: Machine A = fr2
Machine B = fr1 and eth0
Machine C = eth1

There are two ways of accessing a WANPIPE card:

Wanpipe access on a Local Machine:

Location of the wanpipe card:	Machine B
User is logged in to:	Machine B
Use the monitor to:	Check the modem status of card on Machine B
Local Network interface:	fr1 (Local IP 201.1.1.2)

The command would be

ex: fpipemon -i 201.1.1.1 -u 9001 -c xm

It is recommended that the network interface name is used for the LOCAL and back to back board access.

Note that the IP address used is the address of Machine A, not the local machine B. The reason for this, is packet with a local IP address will not reach the driver. Thus remote address must be used, to get the packet to the driver its the UDP Port that determines if the request is for the local board or the board on the other end.

The UDP Port MUST be defined in wanpipe#.conf

Back to Back access:

In the example above Machine A and Machine B are connected back to back using Sangoma wanpipe cards.

Location of the wanpipe card:	Machine A
User is logged in to:	Machine B
Use the monitor to:	Check the card modem status on Machine A
Local Network interface:	fr1 (Local IP 201.1.1.1)

ex: fpipemon -i 201.1.1.1 -u 9000 -c xm

Note, that the only difference is the UDP Port!!

Remote wanpipe access:

In order to remotely access a wanpipe cards, there must exist a route between the local computer and the remote computer, which contains the card. A LAN or Internet can separate the two computers.

Location of the Wanpipe card:	Machine B
User is logged in to:	Machine C
Use the monitor to:	Check the modem status of card on Machine B
Local Network interface:	eth1 (Local IP 192.168.1.4)

ex: fpipemon -i 201.1.1.1 -u 9001 -c xm

The UDP based monitoring system makes the monitors extremely versatile. You may monitor the Sangoma cards from non-Solaris systems (provided you have the monitors for that platform). And you can do it from anywhere in the world.

Security

Security considerations for the monitors is handled as follows:

1. You can simply turn them off by setting the UDP PORT to 0 in wanpipe#.conf.
2. Certain operations are only allowed from "above". For instance, you can only run the traces from above the stack. Any commands that can change the state of the link (such as testing the DSU/CSU) are only allowed from above the stack.
3. You can set the TTL for the replies to the UDP packets in wanpipe#.conf. So for instance, if you set the TTL to 2, only users immediately connected to the Host will be able to receive results.

TROUBLE SHOOTING AND DIAGNOSTICS

If you encounter errors during installation and/or start-up, try to determine which command, utility or process causes the error. Carefully record and examine all warnings and error messages. Read appropriate section of this manual again and make sure you have not missed anything important.

Consult the FAQ on Sangoma Web Page www.sangoma.com.

Router Initialization Problems

- When WAN Router start-up is complete, all WAN devices defined in the [devices] section of /usr/local/wanrouter/etc/wanpipe#.conf file should appear in the LOCK directory (see /usr/local/wanrouter/etc/wanrouter.rc file).
- If some of the devices and/or interfaces are missing, then verify configuration file and check '/usr/adm/wanrouter' and '/usr//adm/messages' files for error messages and/or warnings.
  Refer to the APPENDIX B for a sample of /var/log/wanrouter and /usr/adm/messages files.
- WANPIPE Driver logs extensive diagnostics during its initialization into the system log file. To monitor logged system messages use the following command:
  tail -f /usr/adm/messages
  You can watch for any errors and/or warnings during WANPIPE loading and initialization.

Router Table Problem (Cannot PING)

View routing table by typing `netstat -r` at the command prompt and make sure that routes to all remote networks and hosts exist. The output should look similar to this:

Destination	Gateway	Flags	Ref	Use	Interface
200.1.1.0	200.1.1.1	U	1	0	wanrouter0

If all the above looks ok, you should be able to ping remote host. If ping are not getting through, try to determine which part of the connection fails. There can be at least four possibilities:

1. The local machine is not transmitting ping.
2. The remote machine is not receiving ping.

3. The remote machine is not replying to ping.
4. The local machine is not receiving replies.

Quite often you can tell which part of the connection is not functioning by simply looking at the interface statistics output by the monitor utility at both local and remote machines.

SdlaDump Utility

A debugging utility, sdladump, is also included with the distribution, which allows viewing adapter local memory in hexadecimal dump format during run-time. Its command line syntax is:

```
sdladump {device} [{offset} [{length}]]
```

where:

{device}	name of the WANPIPE adapter; wanpipe# , where #=1,2,...
{offset}	adapter local memory address. Default is 0
{length}	size (smaller then 1000) of the adapter memory area to be dumped. Default is 256 bytes (0x100).

Note: That adapter must be configured before you can use ‘sdladump’ utility.

Line Problems (T1)

See www.sangoma.com/linedebug.htm.

TECHNICAL SUPPORT

If you are unable to diagnose and/or fix a problem yourself, you can ask Sangoma Technologies Inc. for technical support via fax or e-mail:

FAX: 905.474.9223
E-mail: al.feldman@sangoma.com or dm@sangoma.com

When sending your request, please provide us with the following information:

- Detailed description of the problem
- System type (CPU, speed, RAM size)
- Solaris kernel version number
- WANPIPE driver version number
- Adapter type
- Communications link type and parameters (e.g. line speed)
- Interface type (RS-232/V.35), DSU/CSU type (if any), etc.
- Contents of the following files:
  /usr/local/wanrouter/etc/wanrouter.rc
  /usr/local/wanrouter/etc/wanpipe#.conf
  /usr/local/wanrouter/log/wanrouter
  /usr/adm/messages
  /usr/local/wanrouter/interfaces/*
- Output of the following commands
  `ifconfig {interface}`
  `netstat –r`

All requests for technical support are normally replied to within 24 hours (excluding weekends and holidays).

APPENDIX A

Default wanrouter.rc

```
#!/usr/bin/bash
# wanrouter.rc WAN router meta-configuration file.
#
#       This file defines variables used by the router shell scripts and
#       should be located in /etc directory.  These are:
#
#       WANROUTER_BOOT        = Boot flag (YES/NO).
#       WANPIPE_CONF_DIR      = Directory of wanpipe configuration files.
#       WANROUTER_LOG         = Where to put start-up log file.
#       WANROUTER_LOCK_DIR    = Directory of wanpipe device lock files.
#       WAN_DEVICES           = Name of the wanpipe devices to be
#                               loaded on 'wanrouter start'
#                               (ex: "wanpipe1 wanpipe2 wanpipe3...")
#
#       Note:   Name of wanpipe devices corresponds to the configuration files in
#               /usr/local/wanrouter/etc directory:
#                       (ex. /usr/local/wanrouter/etc/wanpipe1.conf )
#
#       Note:   This file is 'executed' by the shell script, so the usual shell syntax
#               must be observed.
WANROUTER_BOOT=YES
WANPIPE_CONF_DIF=/usr/local/wanrouter/etc
WANROUTER_LOG=/usr/local/wanrouter/log/wanrouter
WANROUTER_LOCK_DIR=/usr/local/wanrouter/lock
WAN_DEVICES="wanpipe1"
```

The following variables are defined in the meta-configuration (/usr/local/wanrouter/etc/wanrouter.rc) file:

WANROUTER_BOOT

Defines whether to start wanrouter (YES) or not (NO). It is useful if you want to prevent router from starting without unlinking start-up script or altering main configuration file. Default is WANROUTER_BOOT=YES

WANROUTER_CONF_DIR

Defines location of the main router configuration files. Default is WANROUTER_CONF_DIR=/usr/local/wanrouter/etc

WANROUTER_LOG

Defines name and location of the router start-up log file. Log file is created by the wanrouter start-up script and can be used to troubleshoot router configuration. Default is WANROUTER_LOG=/usr/local/wanrouter/log/wanrouter

WANROUTER_LOCK_DIR

Defines name and location of the router lock file. The start-up script creates lock file when the router is started and removed when it is stopped. Default is WANROUTER_LOCK_DIR=/usr/local/wanrouter/lock

WAN_DEVICES

Lists WAN devices to be loaded on `wanrouter start`. Default is WAN_DEVICES="wanpipe1"

APPENDIX B

Here is a sample content of the WAN Router log file (/usr/local/wanrouter/log/wanrouter):

```
Thu Mar  1 12:12:49 EST 2001: starting WAN router
Starting up device: wanpipe2
WAN Router Configurator. v1.0.0 (c) 1995-2000 Sangoma Technologies Inc.
 * Parsing configuration file /usr/local/wanrouter/etc/wanpipe2.conf ...
 * Reading section [devices]...
 * Reading section [wanpipe2]...
 * Reading section [interfaces]...
 * net1 to used by WANPIPE
 * Reading section [net1]...
* Configuring device wanpipe2 (Comment)
 * Setting S514CPU to A
 * Setting PCISLOT to 11
 * Reading 25084 bytes from /usr/local/wanrouter/sfm/fr514.sfm ...
 * Setting INTERFACE to V35
 * Setting CLOCKING to External
 * Setting BAUDRATE to 1540000
 * Setting MTU to 1500
 * Setting UDPPORT to 9000
 * Setting NUMBER_OF_DLCI to 1
 * Setting STATION to CPE
 * Setting SIGNALLING to ANSI
 * Setting T391 to 10
 * Setting T392 to 16
 * Setting N391 to 2
 * Setting N392 to 3
 * Setting N393 to 4
 * Setting TTL to 255
 * Reading DLCI(s) Included : 16
* Configuring channel net1 (WANPIPE). Media address: 16
 * Setting MULTICAST to NO
 * Setting INARP to NO
 * Setting INARPINTERVAL to 0
 * Setting IPADDR to 200.1.1.1
 * Setting NETMASK to 255.255.255.0
 * Setting POINTOPOINT to 200.1.1.2
```