WANPIPE

Multi Protocol WANPIPE Driver

DEBUGGING M A N U A L

SANGOMA
TECHNOLOGIES

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Contents

1. Introduction

At the heart of WANPIPE debugging is the 'wanpipemon' debugging program. It is used to display line traces, protocol statistics, hardware statistics and configuration parameters.

```
/usr/sbin/wanpipemon -g
```

When debugging an installation follow these steps:

1. Physical Inspection

   - Check to see that the installation is recognized.

   - Check that the configuration process has been completed.

   - Start the WANPIPE drivers.

2. Connection and Condition of Line

   - Check the physical connection, the CSU/DSU.

   - Check the datalink Protocols.

3. Routing and Internet Protocol

   - Try to ping the ISP server.

Standards Used in This Manual

In the samples below, the variable [if_name] represents the name of a wanpipe interface. For example wp1fr16.

To display a report on the screen:

```
/usr/sbin/wanrouter debug [if_name]
```

To send a report to a text file:

```
/usr/sbin/wanrouter debug [if_name] > debug_file.txt
```

To simplify the table below, variables with square brackets (for example [command]) represent the named command, address, interface name, etc.

Options in curly brackets (for example { -p }). Some examples contain optional parameters with named variables.

2. Line Debugging

To find out what signals are being sent over the sync line, the wanrouter operation script can retrieve common line error statistics.

Local Debugging

Table 1 - WANPIPE Monitor Commands

Command String	Description
wanpipemon -i <interface> -c <command> { -p <protocol> }	The 'wanpipemon' utility is located on the same machine as the WANPIPE card. To communicate with the driver, the wanpipemon utility needs only the interface name (for example: wp1_fr16). `/usr/sbin/wanpipemon -i wp1_fr16 -c xm`

Remote Debugging

Table 2 - Commands for Remote Debugging

Command String	Description
wanpipemon -i <remote IP> -u <port> -c <command> { -p <protocol> }	The 'wanpipemon' utility is located on a network (LAN or WAN) and must use the UDP protocol to reach the WANPIPE card. In this case an IP and UDP addresses must be specified, such that the packet will pass through the WANPIPE driver! Meaning a POINTOPOINT address must be used instead of the LOCAL IP address. The UDP port was specified in WANPIPE configuration file. (Default=9000) `/usr/sbin/wanpipemon -i 201.1.1.2 -u 9000 -c xm`
#GUI interface	wanpipemon -g { -i <interface|IP> -u <port> -p <protocol> }

The GUI mode is based on ncurses libraries, thus it will work both in Terminal or Xwindows mode.

```
/usr/sbin/wanpipemon -g
```

Without any other arguments the GUI will offer a list of network interfaces, for local debugging, or will ask for an IP/UDP address, for remote debugging.

Use menus to navigate through available commands.

#Display usage for each protocol	wanpipemon -p [fr|ppp|chdlc|x25|adsl]
#Detailed usage for each option	wanpipemon –h

3. Common Wanpipemon Statistics

Use these command strings to display various aspects of performance.

Table 3 - Wanpipemon Statistics

Performance Aspect	Command String	Comments
Modem Status (-c xm)	wanpipemon -i wp1fr16 -c xm	Resulting display must show DCD=HIGH and CTS=HIGH.
		If you do not get these results, there is either a cable problem or the sync line is not turned on.
Communication Error Status (-c sc)	wanpipemon -i wp1fr16 -c sc	Check for CRC and Abort errors.
		If errors appear and if they are incrementing, there is a line issue.
		Possible reasons:
		- CSU/DSU misconfiguration on local or remote side.
		- Noisy or bad line.
Line trace (-c tr)	wanpipemon -i wp1fr16 -c tr	Make sure there are both incoming and outgoing frames.
		If frames are going out and no frames are coming in:
		Frame relay: Check signaling (ANSI, LMI). Make sure ISP uses IETF or CISCO data encapsulation.
		Other protocols: Possible CRC errors in TX direction. Contact your ISP.
		If frames are both coming in and going out but protocol is still down:
		Run trace in Interpreted mode (-c ti) and make sure that the incoming protocol is the correct one you are configured for.

4. Wanpipe Debugging

Wanrouter Log File

```
wanrouter conflogs  or   cat /var/log/wanrouter
```

All WANPIPE configuration file syntax errors will be displayed in wanrouter log file. If the wanrouter command returns a syntax error, the description of the error will be generated in /var/log/wanrouter log file.

Kernel Log File

```
wanrouter messages                 #Display all wanpipe messages

or

tail -f  /var/log/messages     #Display last ten lines and any new lines

                                    #until session ended by user.
```
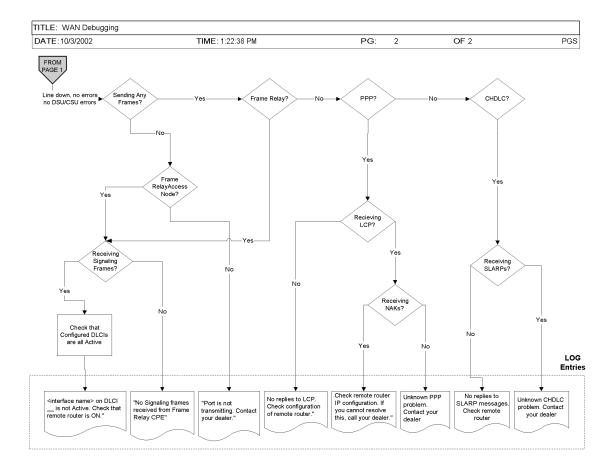
All WANPIPE, kernel module events and errors will be displayed in syslog. The most common syslog file is /var/log/messages.

5. Contacting Sangoma Tech Support

When reporting problems to Sangoma Tech Support please dump the current system debug information into a temporary file and send it via email.

1. Run `wanrouter debug wp1fr16 > sangoma_debug_file.txt` to log results in the text file.

2. Wait for 2-5 minutes to gather data.

3. Stop the debug by pressing `Enter`.

4. Email `sangoma_debug_file.txt` to Sangoma Tech Support mailto:support@sangoma.com.

The above diagram displays a Wanpipe line debugging flow chart. Each flow chart command (e.g.: `Tv`) is a `/usr/sbin/wanpipemon` command.

If the chart indicates that statistics for command `xm` are required, a full command would look like the following:

```
/usr/sbin/wanpipemon -i if_name -c xm
```