

WANPIPE

Multi Protocol WANPIPE Driver

OPERATIONAL M A N U A L

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1. Introduction

At the heart of WANPIPE operation is the 'wanrouter' operation script. It is used to start, stop and restart the utility and to display WANPIPE current status and environment settings.

Using 'wanrouter' Script

wanrouter script is located in `/usr/sbin/`.

Syntax for this script:

```
wanrouter <command> [<wanpipe#>] [<if_name>]
```

- Any command that does not include parameters after the `<command>` statement will affect all devices specified in `/etc/wanpipe/wanrouter.rc` `WAN_DEVICES`.
- Parameters within square brackets (`[]`) are optional.
- Parameters within pointy brackets (`< >`) indicate a variable to be replaced with an option.
- When using `<wanpipe#>`, replace `#` with a number from 1 to 16 to identify a device by number.
- `<if_name>` indicates interface name.

Start, Stop, Restart Commands

Use the wanrouter command without device references to control all devices.

 *Note: All kernel driver output messages are located in /var/log/messages file.*

Run `tail -f /var/log/messages` in a separate console window, to monitor WANPIPE start/stop and operation messages.

Table 1 - wanrouter Options for All Devices

Command	Description
wanrouter	Enter wanrouter with no command to display a list of all options.
wanrouter start	Start all devices defined in wanrouter.rc* (use 'wanrouter wanrc' option to edit this list).
wanrouter stop	Stop all devices in wanrouter.rc* (use 'wanrouter wanrc' option to edit this list).
wanrouter restart	Restart all devices in wanrouter.rc* (use 'wanrouter wanrc' option to edit this list).

Use wanrouter command with device references when running multiple devices and you want to start, stop or restart a single device.

Table 2 - wanrouter Options for a Single Device

Command	Description
wanrouter start wanpipe#	Start a single wanpipe device.
wanrouter stop wanpipe#	Stop a single wanpipe device.
wanrouter restart wanpipe#	Restart a single wanpipe device.

* Wanpipe startup order is specified in `/etc/wanpipe/wanrouter.rc WAN_DEVICES`. Use `'wanrouter wanrc'` to edit `WAN_DEVICES` list.

When adding an extra frame relay DLCI or to reconfigure a single DLCI, start, stop or restart a single network interface from a `/etc/wanpipe/wanpipe1.conf` configuration file.

Table 3 - wanrouter Options for Network Interface

Command	Description
<code>wanrouter start wanpipe# if_name</code>	Start a named interface on a single device. For example: <code>wanrouter start wanpipe2 wp2_fr18</code>
<code>wanrouter stop wanpipe# if_name</code>	Stops a named interface on a single device.
<code>wanrouter restart wanpipe# if_name</code>	Restart a named interface on a single device.

Environment Status, Statistics, Debugging Commands

Use the commands in table to get information about the conditions under which wanrouter is performing.

Table 4 - wanrouter Environmental Commands

Command	Description
wanrouter list	List all active devices loaded.
wanrouter modules	Show WANPIPE kernel modules.
wanrouter status	Display status for all active devices.
wanrouter summary	Summary of config files in /etc/wanpipe.
wanrouter hwprobe	Display WANPIPE hardware probe info.
wanrouter debug	Check current WANPIPE environment. After a startup error run this command in the following sequence to get a possible solution. <code>wanrouter start; wanrouter debug;</code>
wanrouter debug if_name	Display common debugging statistics. In case of line problems save to file, wait 2-5minutes and send the file to Sangoma Tech Support. For example: <code>wanrouter debug wplfr16 > debug_file;</code>
wanrouter messages	Display WANPIPE kernel event messages. For example those stored in /var/log/messages or tail -f /var/log/messages.
wanrouter conflog	Display WANPIPE configuration parsing messages. For example those stored in /var/log/wanrouter. For example: <code>cat /var/log/wanrouter</code>
wanrouter wanrc	Configure the Wanpipe boot startup order in /etc/Wanpipe/wanrouter.rc. Any newly created Wanpipe device should be added to the boot startup list. Default boot startup: wanpipe1
wanrouter version	Display WANPIPE version information.



2. 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. Start debug logging with the command string:

```
wanrouter debug if_name > sangoma_debug_file.txt
```

where `if_name` is the name of the WANPIPE interface (e.g. `wp1fr16`)

2. Wait for 2-5 minutes to collect data in the text file.
3. Stop the debug by pressing **[Enter]**.
4. Email `sangoma_debug_file.txt` to Sangoma Tech Support.

Please refer to `README-4.debugging` for more information.



Appendix A – Troubleshooting wanrouter Environment

Do a thorough environment check in the event of a failure error message after a startup attempt. Use the commands in the table below in the order presented.

Table 5 - WANPIPE Environment Check

Order	Command	Description
1.	wanrouter debug	Identifies an error and offer possible solutions.
2.	/usr/sbin/wanrouter hwprobe	Detects installed hardware. Makes sure that the new WANPIPE kernel modules have been installed correctly and that they can be loaded into the kernel.
3.	/usr/sbin/wanrouter summary	Checks that a configuration file exists in /etc/wanpipe directory.
4.	/usr/sbin/wanrouter list	Makes sure that no WANPIPE devices are currently running on the system.

Error Debugging

Table 6 - Error Debugging

Category	Script Command	Description
Line Errors and Driver Statistics	wanpipemon -g	After a successful WANPIPE startup use this for debugging errors other than startup. For example, line tracing or CSU/DSU debugging.
Automated Line Debugging	wanrouter debug if_name	'if_name' is the name of WANPIPE interface. This will display the most common statistics that deal with line problems.
Detailed line debugging	wanpipemon	Use the wanpipemon utility to view line and protocol statistics and run line traces.