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Modifying Intel e1000 Driver Parameters

Overview

This document outlines modifying Intel e1000 driver parameters in order to fix the speed and or duplex of Intel Gigabit network interface cards on Linux based systems.

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Document Author & Designer: Matthew R Richards

ContentKeeper Technologies
218 Northbourne Avenue
Braddon ACT 2612
Australia
PH +61-2-62614950
Fax +61-2-62579801
info@ContentKeeper.com
www.ContentKeeper.com

Modifying Intel e1000 Driver Parameters

To modify the settings for the Intel e1000 driver, for the onboard Ethernet ports, edit the `/etc/modules.conf` file. Refer to the **Command Line Parameters** extract at the end of this document for a list of the available configuration variables. Once the desired variables have been selected, apply the changes with the following method.

1. Exit from the ContentKeeper Console Screen

Press SHIFT-Q

2. Logon

Username: root

Password: ck2001

3. Edit the `/etc/modules.conf` file with the vi editor

vi /etc/modules.conf

Useful vi Commands

Command	Summary
<code>:wq</code>	Writes the file to disk and quits the editor
<code>:q!</code>	Exits the editor without saving any changes
<code>i</code>	Toggles in and out of insert mode
<code><INSERT></code>	Puts you into insert mode the first time and overwrite mode the second time
<code><ESC></code>	Exits from the current mode e.g. insert, overwrite or visual
<code>v</code>	Puts you into visual mode. While in visual mode use the arrow keys to highlight text
<code>y</code>	While in visual mode, copies the highlighted text
<code>p</code>	Paste text copied with 'y' when in visual mode
<code>/</code>	Press / then immediately type a word to search the current document for
<code>n</code>	Skips to the next occurrence of the last search result
<code>:12345</code>	Type colon-number to go to that line number within the file
<code>:help</code>	Displays online help
<code>1;\$s;xxxx;yyyy;</code>	Replace xxxx with yyyy
<code>1;\$s;^;xxxx;</code>	Insert xxxx at the start of each line
<code>1;\$s;^\n;;</code>	Remove all lines containing no text or spaces
<code><SHIFT>-G</code>	Go to end of file
<code>1-<SHIFT>-G</code>	Go to start of file
<code><SHIFT>-D</code>	Delete from cursor to end of line
<code><CTRL>-G</code>	Display current file and line number

4. Configure the e1000 driver.

- Use the *arrow keys* to navigate when in *vi*.
- Enter *insert* mode by pressing *i* to make changes.
- Press *escape* to exit from *insert* mode.
- Press *u* to undo one change at a time.
- Press colon, w, q, enter (i.e. :wq↵) to save changes and exit.
- Press colon, q, exclamation mark, enter (i.e. :q!↵) to exit without saving changes.

Apply the desired variables to the *options e1000* line in the following format:

```
options e1000 Duplex=2,2  
<options directive> <driver> <parameter>=<variable>,<variable>
```

Where <variable>,<variable> represents *device1,device2*

If there is not already an *options* line then create one:

- In *insert* mode, navigate to the end of the last line.
- Press enter to create a new line.
- Add the options line as specified above

For example, to set the speed to 100 Mbps, Full duplex for both Ethernet ports, edit the *options e1000* line to reads the following:

Note: The parameters are case sensitive.

```
options e1000 Duplex=2,2 Speed=100,100
```

5. Save the changes and exit vi

```
:wq
```

6. Reboot the server

Extract

Command Line Parameters

Duplex (adapters using copper connections only)

Valid Range: 0-2 (0=auto-negotiate, 1=half, 2=full)

Default Value: 0

Defines the direction in which data is allowed to flow. Can be either one or two-directional. If both Duplex and the link partner are set to auto-negotiate, the board auto-detects the correct duplex. If the link partner is forced (either full or half), Duplex defaults to half-duplex.

Speed (adapters using copper connections only)

Valid Settings: 0, 10, 100, 1000

Default Value: 0 (auto-negotiate at all supported speeds)

Speed forces the line speed to the specified value in megabits per second (Mbps). If this parameter is not specified or is set to 0 and the link partner is set to auto-negotiate, the board will auto-detect the correct speed. Duplex must also be set when Speed is set to either 10 or 100.