

INTERLAB

Tel:+331 3971 7337 – Fax: +331 3928 9008

ISSUE: ETH debugging

OS : Linux 1 2.6.x

Vernouillet, 29.08.2010

Issue:

Ethernet seems to have performance issues or troubles. Here are some tips

Basics:

Ifconfig gives in informations and can switch off and on a card.

```
root@dell-desktop:~# ifconfig -a          (option -a shows ALL devices active or in-active)
eth0      Link encap:Ethernet  HWaddr 5c:26:0a:03:82:b3
          inet addr:192.168.1.120  Bcast:192.168.1.255  Mask:255.255.255.0
          inet6 addr: fe80::5e26:aff:fe03:82b3/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:622676 errors:8 dropped:0 overruns:0 frame:5
          TX packets:339295 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:10
          RX bytes:922172007 (922.1 MB)  TX bytes:23721167 (23.7 MB)
          Memory:99600000-99620000

root@dell-desktop:~# ifconfig eth0 down
          shuts down eth0
root@dell-desktop:~# ifconfig eth0 up
          Restarts eth0
```

EthTool: is utility providing additional informations on eth status.

```
root@dell-desktop:~# ethtool eth0
Settings for eth0:
    Supported ports: [ TP ]
    Supported link modes:   10baseT/Half 10baseT/Full
                           100baseT/Half 100baseT/Full
                           1000baseT/Full

    Supports auto-negotiation: Yes
    Advertised link modes:  10baseT/Half 10baseT/Full
                           100baseT/Half 100baseT/Full
                           1000baseT/Full

    Advertised auto-negotiation: Yes
    Speed: 10Mb/s
    Duplex: Full
    Port: Twisted Pair
    PHYAD: 1
    Transceiver: internal
    Auto-negotiation: on
    Supports Wake-on: pumbag
    Wake-on: g
    Current message level: 0x00000001 (1)
    Link detected: yes
```

LSPCI

Gives list of installed drives and version informations

```
root@dell-desktop:~# lspci
00:00.0 Host bridge: Intel Corporation Arrandale DRAM Controller (rev 02)
00:01.0 PCI bridge: Intel Corporation Arrandale PCI Express x16 Root Port (rev 02)
00:16.0 Communication controller: Intel Corporation 5 Series/3400 Series Chipset HECI Controller (rev 06)
00:16.3 Serial controller: Intel Corporation 5 Series/3400 Series Chipset KT Controller (rev 06)
00:19.0 Ethernet controller: Intel Corporation 82577LM Gigabit Network Connection (rev 05)
```

INTERLAB, 5 rue Jacques Grévin, 78540 Vernouillet, France – Tel: +33 1 3971 7337 – Fax: +33 1 3928 9008
Email: Sales@Interlab-net.com - Vat Id: FR-12.330.255.415 – Siret: 330.255.415.00011

INTERLAB

Tel:+331 3971 7337 – Fax: +331 3928 9008

LSMOD:

Gives an over view of installed modules.

Verify that module corresponds to expected one for your board.

```
root@dell-desktop:~# lsmod | grep -i e100
e1000e                122124      0
```

Returns info that e1000e driver is loaded, “| grep -i + “search_chaine” filters from content only corresponding items “-i” option makes it non case sensitive.

Use internet to check versions, buggs and user feel back. A lot of issues are sorted but that way.

DMSG.

Gives you error logs

```
root@dell-desktop:~# dmesg | grep -i e1000
[  2.401835] e1000e: Intel(R) PRO/1000 Network Driver - 1.0.2-k2
[  2.401837] e1000e: Copyright (c) 1999-2008 Intel Corporation.
[  2.401888] e1000e 0000:00:19.0: PCI INT A -> GSI 20 (level, low) -> IRQ 20
[  2.401893] e1000e 0000:00:19.0: pci_enable_pcie_error_reporting failed 0xffffffffb
[  2.401897] e1000e 0000:00:19.0: setting latency timer to 64
[  2.401997] e1000e 0000:00:19.0: irq 35 for MSI/MSI-X
[ 12.608559] e1000e 0000:00:19.0: irq 35 for MSI/MSI-X
[ 12.664334] e1000e 0000:00:19.0: irq 35 for MSI/MSI-X
[ 14.266860] e1000e: eth0 NIC Link is Up 10 Mbps Full Duplex, Flow Control: RX
[2094.360581] e1000e: eth0 NIC Link is Down
[2096.045516] e1000e: eth0 NIC Link is Up 10 Mbps Full Duplex, Flow Control: RX
[2103.308866] e1000e: eth0 NIC Link is Down
[2105.101591] e1000e: eth0 NIC Link is Up 10 Mbps Full Duplex, Flow Control: RX
[2108.487798] e1000e: eth0 NIC Link is Down
[2117.196207] e1000e: eth0 NIC Link is Up 10 Mbps Full Duplex, Flow Control: RX
[2123.221979] e1000e: eth0 NIC Link is Down
[2125.051546] e1000e: eth0 NIC Link is Up 10 Mbps Full Duplex, Flow Control: RX
[2125.435193] e1000e: eth0 NIC Link is Down
[2291.901230] e1000e: eth0 NIC Link is Up 10 Mbps Full Duplex, Flow Control: None
root@dell-desktop:~#
```

Remove and install a module driver.

```
ifconfig eth0 down          / shutdown eth0
rmod e1000e                 / remove module
lsmod                       / check if it is gone
modprobe e1000e            / installs module
ifconfig eth0 up           / restarts eth0
```

Pls. send us your feel back.

Rev.1 – David