PCIe 5G 4-Speed

Multi-Gigabit Network Card

User Manual

Ver. 1.00

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Chapter 1: Introduction

1.1 Product Introduction

This card is a 5GBase-T network adapter that's runs on a high speed PCIe x4 host bus interface.

This card hosts the Tehuti's new 3rd generation TN4010 controller, and optimized 10 Gigabit Ethernet MAC designed for low-power, low-cost, single-port connectivity required by Application Servers and Workstations. The TN4010 MAC is paired with Marvell® Alaska® 88E2010P transceiver, a low-power, high-performance 5 Gigabit Ethernet PHY, to enable four-speed connectivity (5GBase-T, 2.5GBase-T, 1000Base-T, and 100Base-TX) over low-cost standard CAT-6a Ethernet cabling, up to 100m (Cat-5e and CAT-6 are supported compliant to Link Segment specifications). This combination creates a new gateway to cost-conscious consumer applications, as well as to intensive data environments.

1.2 Features

- Support 4-Speed 5Gb/2.5Gb/1Gb/100Mb auto negotiation
- Backward compatibility with 1000Base-T, 100Base-T Networks
- PCI Express Gen-2 x4 host bus interface
- EEE (Energy Efficient Ethernet)
- 9K Jumbo Frames
- IP, TCP, UDP checksum offloading
- IEEE 802.1Q VLAN
- Virtual NIC support
- Reduced CPU utilization and improved throughput
- Standard CAT-6A cabling with RJ45 Connector

1.3 Requirements

Hardware

The following system specs are recommended minimum for Windows & Linux

- PCIe slot: Available 4-Lanes PCI-Express slot gen 2.0 or later
- Processor: Quad Core 3.0GHz or higher
- RAM: 4GB memory or higher

Software

Operating systems supported are (both 32 and 64 bits)

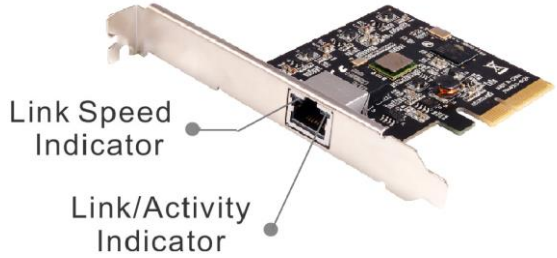
- Windows 7
- Windows 8.1
- Windows 10
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2
- Linux 2.6.32 or later
- VMware ESXi 5.x/6.0
- Mac OS X 10.12.6 or later

1.4 Package Contents

- 1 x PCIe 5G 4-Speed Multi-Gigabit Network Card
- 1 x Low profile bracket
- 1 x Driver CD
- 1 x User Manual

Chapter 2: Getting Started

2.1 Hardware Layout



Link/Activity Indicator:

- When the LED is off, there is no link between the PCIe 5G 4-Speed Multi-Gigabit Network Card and the network
- When the LED is on, a link is established, but there is no traffic on the network
- When the LED is flashing, there is traffic on the network to which the PCIe 5G 4-Speed Multi-Gigabit Network Card is connected

Link Speed Indicator:

- When the LED is lit orange, a 5GBase-T link is established
- When the LED is lit green, a 2.5GBase-T/1000Base-T link is established
- When the LED is off, a 100Base-T link is established

2.2 Hardware Installation

1. Turn off the power to your computer.
2. Unplug the power cord and remove your computer's cover.
3. Remove the slot bracket from an available PCIe slot.
4. To install the card, carefully align the card's bus connector with the selected PCIe slot on the motherboard. Push the board down firmly.
5. Replace the slot bracket's holding screw to secure the card.
6. Secure the computer cover and reconnect the power cord.

2.3 Driver Installation

The following section shows you how to install PCIe 10GBase-T Ethernet Network Card driver on different operating systems.

2.3.1 Installation for Windows

Insert the provided CD into your disk drive. The CD-ROM will start automatically. The following screen will show up and please click **"Install Driver"**.



*Note: Actual image may vary

Note: If the install program doesn't run automatically, please locate and double-click on the **Autorun.exe** file in the CD to launch the install program.

Please click **"PCIe 10G"** to start the installation.



*Note: Actual image may vary

Follow the instructions on screen to install the driver.

2.3.2 Installation for Linux

1. Insert the provided CD into your CD-ROM drive.
2. Extract the compressed driver source file to a certain directory by the following command: (Please copy the driver file "tn40xx-x.x.x.x.tgz" from the CD folder ".\Driver\10G\TN4010\Linux" to a certain folder on hard drive)
   # tar xf tn40xx-x.x.x.x.tgz
3. Now, the driver source files should be extracted under the current directory. Executing the following command to compile the driver:

make

4. If the compilation is well, the tn40xx.ko will be created under the current directory.
5. If you want to use modprobe command to mount the driver, executing the following command to install the driver into your kernel:

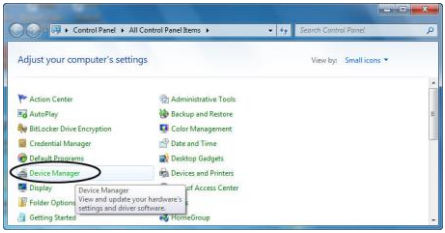
   # make install

2.4 Verifying the installation

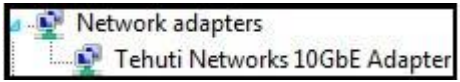
2.4.1 Verifying for Windows

1. Click on the **"Device Manager"** tab in the Windows Control Panel.

Start > Control Panel > Device Manager



2. Entry **“Network adapters”** item, and you can read **“Tehuti Networks 10GbE Adapter”** in the Device Manager.



2.4.2 Verifying for Linux

1. You can check whether the driver is loading by using following commands:

   # lsmod | grep tn40xx

   # ifconfig –a

   If there is a device name, ethX, shown on the monitor, the linux driver is load. Then, you can use the following command to activate the ethX.

   # ifconfig ethX up, where X=0,1,2,…