National Semiconductor™

DP83820 GigMAC NetWare Release Notes

Version 1.05, Release 1.6a

9/18/2002

Read This Document Before Attempting To Install Or Use This Product!

This document contains information about factors that must be considered before, during, and after installation.

General Notice:

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GigMACpackage release notes

Table of Contents

National Semiconductor DP83820 Gigabit Ethernet Adapter

1.0 Introduction

This document presents information to users about National Semiconductor's DP83820 Gigabit Ethernet adapter and the relevant NETWARE software driver version 1.05 (copper PHY and Fiber/TBI) for NetWare operating system version 4.x/5.x./6.x

2.0 Product Overview

The DP83820 is a PCI Gigabit Ethernet adapter from National Semiconductor which supports a 33/66MHz, 32/64 bit PCI 2.1/2.2 bus interface. It complies with the emerging 1000 Mbps Ethernet 802.3z specification and supports full duplex operation.

Other features include:

• Maximized PCI efficiency and performance

• Pause Frames

• Checksum Offloading

• Jumbo Frames

The driver for this adapter on NetWare is designed to be a NIC driver for processing Ethernet data packets.

3.0 Installation

3.1 Release Media

The release media consists of the National Semiconductor's DP83820 GigMAC NetWare driver available on CD and the National Semiconductor website.

3.2 Installation Procedure

This section describes the installation of the adapter and the driver software for making the adapter functional on Netware platforms.

3.2.1 Hardware Installation

This section describes the installation of the GigMAC demo card into a personal computer (PC). To install the card, you need:
• GigMAC demo card
• PC with an available PCI slot
• Screwdriver to open the PC and secure the GigMAC demo card
• Category 5 twisted-pair RJ-45 cable
• Wrist strap
• Blank, formatted floppy disk
Installing the card consists of one optional and three required stages: Copying the Driver to a Floppy Disk (optional), Inserting the Card, Connecting the Network, and Installing the Driver. If the PC into which you are installing the GigMAC demo card is equipped with a CD-ROM, you may skip the first stage and begin with stage II.

Inserting the Card
The second stage in the installation sequence is inserting the card into the PC. For this stage you will need the GigMAC demo card and the screwdriver. Unplug the PC before opening it to avoid electrocution. Be sure to ground yourself before handling the GigMAC card to avoid ElectroStatic Discharge (ESD) damage to the card.

1. Shutdown the PC, and disconnect the power cord.

2. Open the chassis of the PC.

3. Choose an unused PCI slot and remove its metal bracket by loosening the screw on the inside. You will no longer need this metal bracket as the GigMAC demo card has its own. You will need the screw, however.

4. Remove the GigMAC demo card from the ESD-safe packaging. *Warning: Static charge from your body can permanently damage the GigMAC demo card. Do not handle the card without first electrically grounding yourself via wrist strap or by touching a large piece of metal.*

5. Insert the GigMAC demo card into the empty PCI slot in the PC. Orient the card so that the RJ-45 connector points out of the computer (See Figure 2).
Warning: The card may fit backwards (with the RJ-45 pointing in) into the PCI slot. Starting the computer with the card inserted backwards may damage the card and/or the PC.

6. When you are certain the card is oriented correctly, press firmly on the card to ensure that it is completely seated in the PCI slot. Secure the GigMAC demo card using the screw from step 3.

7. Close the computer, and reconnect the power cord.

Connecting the Network

The third stage in the installation sequence is connecting the GigMAC demo card to the network. In this stage, you will need only the twisted-pair Category 5 network cable.

After you have inserted the card and closed the PC, connect one end of the twisted-pair cable to the RJ-45 connector on the GigMAC demo card, and the other end to another PC or a network hub or switch (see Figure 4). When connecting the card to another PC, the cable may be *crossover*, meaning that pins 1 and 2 must be swapped with pins 3 and 6, respectively, between the two ends of the cable. A crossover cable should not be used when connecting the GigMAC demo card to a network hub or switch. The difference between a crossover and non-crossover ("straight") cable is shown

The next time you turn on the PC, one of the two green link lights on the GigMAC demo card should become illuminated almost immediately. This signifies that the card has established link with the device at the other end of the cable and is ready to send and receive data.

3.2.2 Software Installation and Configuration

The fourth stage in the installation sequence is installing the driver for the GigMAC demo card. The following subsections describe the procedure for installing the driver for NETWARE.

NETWARE Driver Installation

Follow this sequence for installation under NETWARE.
Install the NIC into a PCI slot of a NetWare server and note the slot number for driver configuration later (slots are generally numbered top/front to bottom/back of the machine). It is recommended that NetWare 5.1 with Support Pack 1 or later be installed. To install the driver, copy the dp83820.lan & dp83820.ldi files onto a floppy disk.

Load NWConfig.nlm and follow the 'Driver Options->Configure Network drivers->Select a driver' options on the UI. Follow on-screen directions to point to the drivers installed on floppy (A:). Put the slot number and the number of Tx, and Rx Descriptors as required.

Alternately, driver can be loaded from the command line (e.g. load a:\dp83820.lan) & passing the required parameters. This will display the available slot options for the NIC.

The DP83820.LAN may also be configured at OS install time and can be used in conjunction with the auto-detect feature on NetWare Install.

The different options for speed and duplex mode can be configured using NWConfig at install time or Inetcfg later.

HOT PLUG

Use NcmCon.nlm from Novell & refer to the System vendor's documentation for the systems which support hot-plug functionality.

3.2.3 Errata

The current driver supports NetWare revisions 4.2x, 5.x and 6.x. This version of the driver has been certified by Novell Labs.

Some installation issues have occurred with earlier revisions of Netware. To get around these issues, it is required to install the latest msm.nlm and ethertsm.nlm enclosed in this release for your convenience.

4.0 Product Documentation

This release notes document, *National Semiconductor Corp DP83820 Gigabit Ethernet Adapter Driver Release Notes*, provides detailed information about installing the National Semiconductor Corp DP83820 Gigabit Ethernet Adapter and Driver software.

5.0 Problem Reporting

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