



## **DP83820 GigMAC WinNT Server Driver Release Notes**

**Revision 5.0.3.31**

**10/10/2001**

### ***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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# 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 Server driver, version 4.0.3.30 for MS Windows NT operating system.

## 2.0 Product Overview

The DP83820 server driver from National Semiconductor supports:

Load Balancing:

Load balancing feature increases the bandwidth by sharing the load equally across aggregated ports. Multiple ports with the same physical capabilities can be grouped to form an aggregation.

Fail Over/Fault Tolerance:

Fail Over feature provides the fault tolerance on the aggregation.

If any aggregated port fails, the load on that port is distributed to the other member ports of the aggregation. If the failed port comes up again, load is redistributed across all active ports.

## 3.0 Installation

### 3.1 Release Media

The release media consists of the National Semiconductor's DP83820 GigMAC server driver available on disk.

### 3.2 Installation Procedure

This section describes the installation of the driver software for making the adapters functional on the Windows NT platform.

### 3.2.1 Hardware Installation

Please refer to the release notes of the DP83820 NDIS5 driver for details on installing the NIC cards in Windows NT operating system.

Also requires a switch. Please note that hubs will not work well with aggregation configurations.

Switch Configuration:

Configure the load-balancing enabled switch for Aggregation. (Refer to switch manual).

### 3.2.2 Software Installation and Configuration

A. Software Installation:

- a) From Network Neighborhood Properties select the Adapters Tab.
- b) Use 'Add' to add the drivers for the NIC by pointing to the location where driver is located.
- c) After the driver names appear on this sheet (indicating that drivers have been installed), go to the Bindings tab. Select 'all adapters' from the 'Show Bindings For:' menu.
- d) Disable the non-aggregator adapter here. This will prevent the need to bind IP to this adapter.
- e) Click 'Close'. The TCP/IP Properties page pops up. Configure the IP address desired for this aggregation.
- f) System will now prompt for restart. Click 'Yes'.

B. System/Aggregation Configuration: This step is not required for systems with only one card or systems where Link Aggregation is not desired. Locate the Link Aggregation utility in the Control Panel and double click. For each aggregation, there is one Master Port/Aggregator Port. From the 'PORTS' scroll down button select a port for your master port. Click on 'Configure Port', then check box 'Aggregation', then check box 'Master Port.' Click OK. Now select additional ports you wish to configure. Click on 'Configure Port' and check box 'Aggregation' and select the 'Aggregation ID' from the Master Port. Continue in this fashion until you have added all the ports to participate in the aggregation (up to 8). Click on 'Exit.' Finally, you'll need to unbind TCP/IP protocol from all but the Master Port. Then restart your system.

### 3.2.3 Installation Troubleshooting

Please refer to the release notes of the DP83820 NDIS4 driver for details on troubleshooting the NIC cards and drivers.

### 3.2.4 Disk Space Requirements

350 KB of disk space is required for driver installation.

### 3.2.5 Errata

This section describes the testing performed on the current driver.

The current driver has been tested with 4 dp83820-based cards in aggregation and in single and multiprocessor systems. The driver has also passed NDISTEST using one card as a single aggregation. The driver has been tested for all parameter settings and has run continual copy/compare and netperf tests in excess of 24 hrs.

#### *Throughput And Performance:*

Currently enhances performance for 100Mb media, but degrades at Gigabit speeds. It has been determined that this an OS issue.

### 3.2.6 Advanced Features

This section describes advanced features provided in this release of the driver.

#### *TCP/IP Checksum Offload and Jumbo Frames Support*

The current release of this driver supports both transmit, receive checksum offload and jumbo frames as specified in the Windows NT DDK. Optimum performance is achieved by enabling these features.

#### *Pause Frames Support*

The current release of this driver supports pause frames, a hardware based flow control mechanism for Ethernet, fast Ethernet and Gigabit networks. By default the driver will advertise this capability upon auto-negotiation with the switch.

#### *IEEE Compliance Support*

A number of older Gigabit switches and hubs have been found to be using non-IEEE compliant PHY's, physical layer devices. In order to enable the NIC card to be compatible with these older devices, the advanced properties of the NIC card features a parameter to enable compatibility with these non-compliant devices.

#### *VLAN (802.1Q) & QoS (802.1P) Support*

Support for VLAN and QoS has been implemented in the driver.

## 4.0 Product Documentation

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

## 5.0 Problem Reporting

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