

## User's Manual

**ENW-9701**

# *PCI-E Single Port Gigabit Fiber Adapter*



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## FCC Caution

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at whose own expense.

## CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

## Revision

User's Manual for PLANET PCI Express Single Port Gigabit Fiber Adapter

For Model: ENW-9701

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## Chapter 1 Introduction

PLANET ENW-9701 PCI Express Gigabit Fiber adapter can provide the best solution for one of the major issues of Local Area Networks - communication speed. Ten times as fast as the existing 100Base-TX solutions, using the PLANET ENW-9701 to connect your servers and workstations guarantees extremely high throughput and excellent signal quality.

The ENW-9701 is a PCI Express Gigabit Fiber Port adapter designed to address high-performance system application requirements. With the bandwidth of x1 PCI Express Bus Architecture, ENW-9701 can provide better performance than the network cards which base on 32/64bit PCI architecture. It is specifically designed to allow throughput at rates up to 2.5Gbps, thus eliminating the existing 32/64bit PCI network card.

### 1.1 Package Content

Check that your package contains the following items:

- ✓ **1 x ENW-9701 Gigabit Fiber Adapter**
- ✓ **1 x Quick Installation Guide**
- ✓ **1 x CD-ROM Manual / Driver**

Please contact the seller if any of the items is missing or damaged.



Be sure to retain your proof of purchase, as it is required to receive warranty service.

### 1.2 Features

- Compliant with PCI Express 1.1
- Supports IEEE 802.3z, IEEE 802.3x, IEEE 802.1Q VLAN.
- Supports Jumbo Frame up to 9K
- IP, TCP and UDP checksum offload

### 1.3 Gathering Tools and Documentations

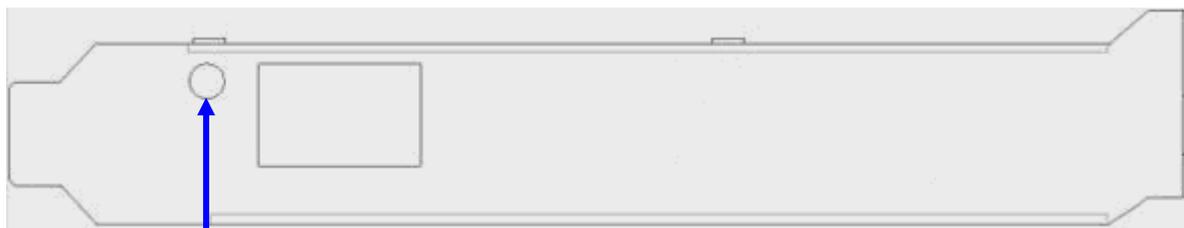
To install the adapter, you need the following items:

- ✓ A suitable screw driver
- ✓ Your operating system documentation
- ✓ Your system unit documentation, including any service documentation

## Chapter 2 Hardware Installation

### 2.1 LED Definition

The faceplate of ENW-9701 has one LED: Link / ACT. The pictures below have showed the faceplate of ENW-9701. Table 2-1 explains the function and state of the LED.



Link / ACT LED

Faceplate of ENW-9701

LED	Description
Link	Lights to indicate a functional network link through the port.
Act	Blinks to indicate data has been sending and receiving via the port.

**Table 2-1** Descriptions of ENW-9701 LED

## 2.2 Hardware Installation

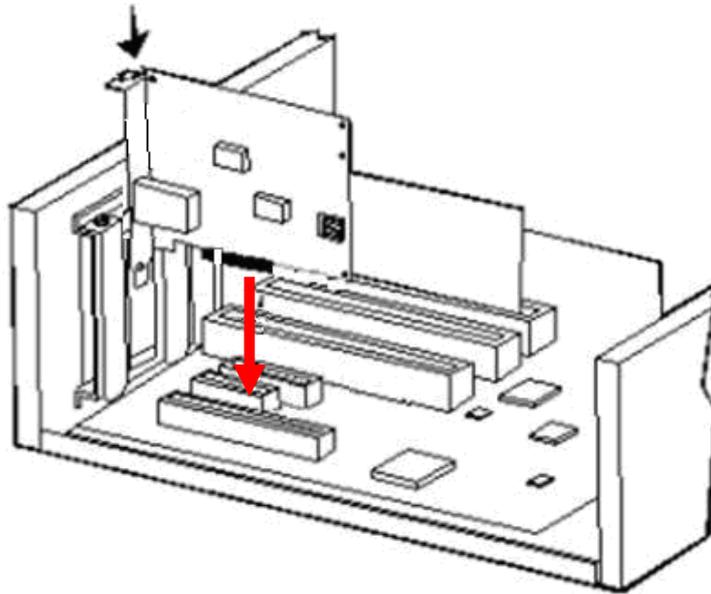
**Step 1:** Please turn off your PC.

**Step 2:** Remove any metal decorations from your hands and wrists.

**Step 3:** Remove the cover from your PC.

**Step 4:** Locate an empty PCI Express slot and remove the corresponding back plate. Save the screw for use in Step 6.

**Step 5:** Carefully insert the adapter into the chosen slot and press firmly with proper push to ensure it is fully seated in the slot.



**Step 6:** Secure the adapter with the screw you saved in step 4.

**Step 7:** Replace the PC cover.

**Step 8:** Power on the PC and refer to next chapter to install the driver of this adapter.

## Chapter 3 Driver Installation

A device driver must be installed before your ENW-9701 can be used with your computer. This chapter describes how to install the driver for various operating systems. Before you begin the driver installation process, make sure you have the installation disks for your computer's operation system.

### 3.1 Installing Driver to Windows Server 2000

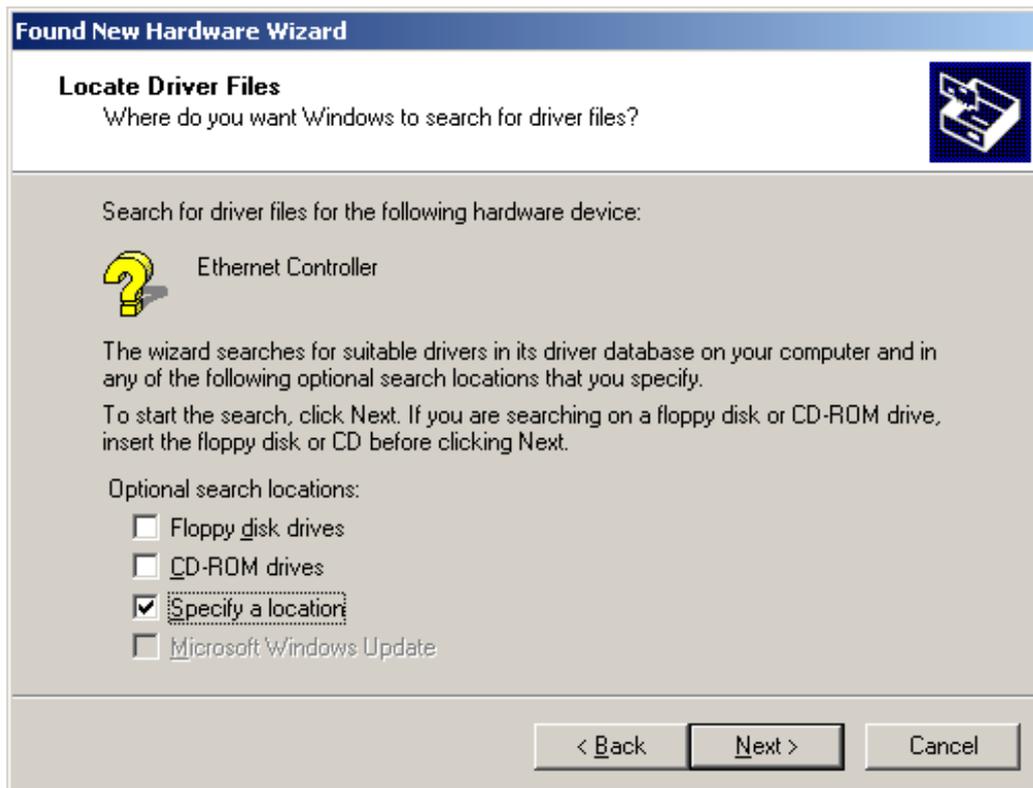


The following installation uses ENW-9701 and operates under Window2000 and Windows XP. Procedures will be similar to the other Operating Systems.

1. Install ENW-9701 into your PC's PCI Express slot.
2. Power on the PC and insert Driver Disk into CD-ROM drive.
3. Windows 2000 will detect ENW-9701 and ask you to install driver. Please select the first option and click "**Next**".



4. Please select "**Specify a location**" and click "**Next**".



5. Please click **“Browse”** to find the driver location. (Assume "E" is your CD-ROM drive, the driver can be found in E:\Drivers\Win2K). After find out the driver, please click **“OK”** to continue.



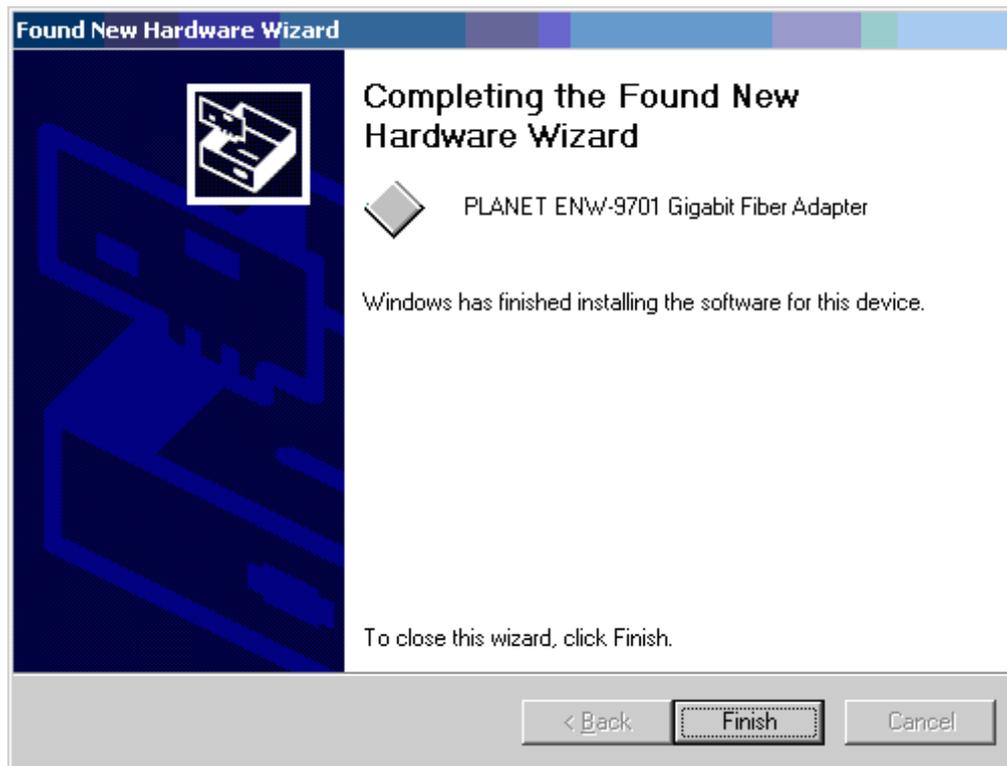
6. Please click “Next” to continue.



7. You can see the device name in this dialog box. If the device name is correct, please press “Yes” to continue.

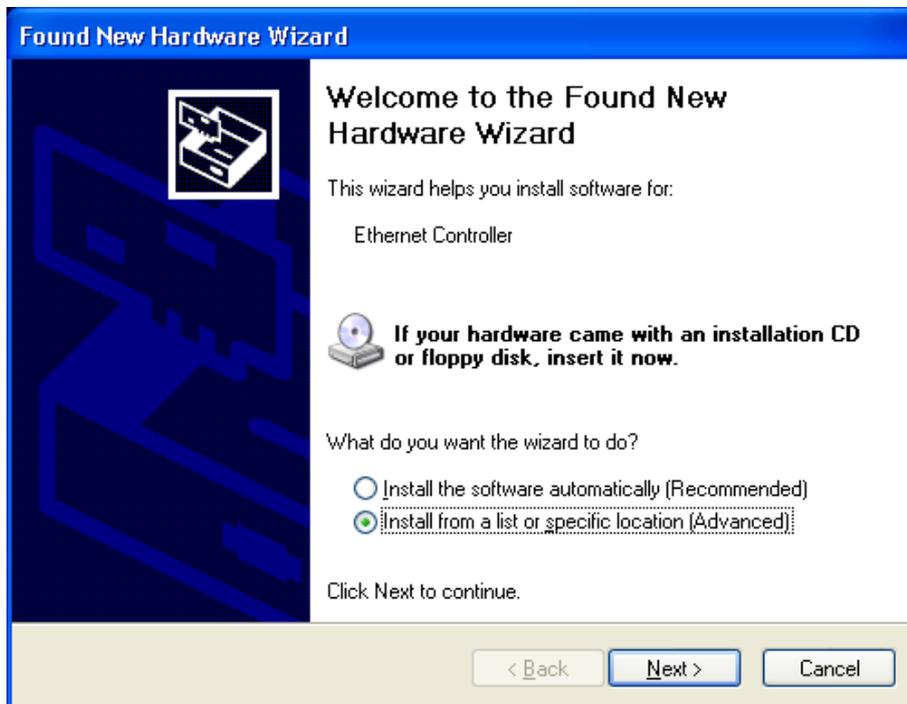


8. Please click **“Finish”** to complete the driver installation.

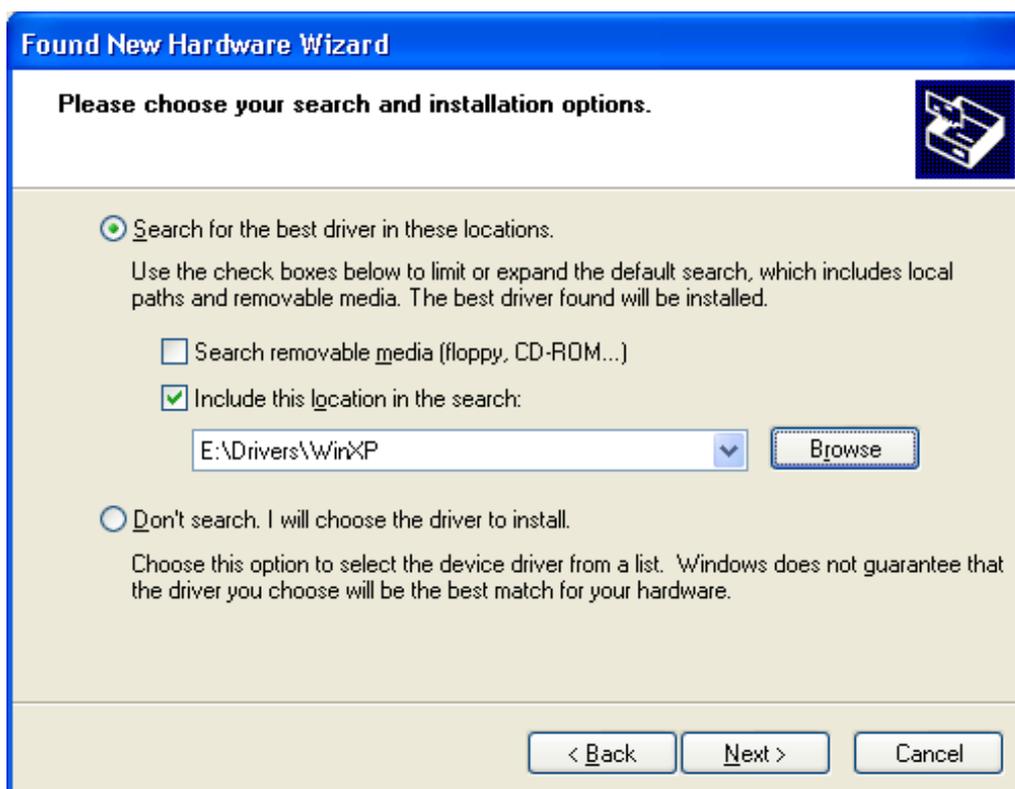


### 3.2 Installing Driver to Windows XP

1. After installing ENW-9701 to your PC and boot up, Windows XP will detect it and ask you to install driver. Please select the second option and click “Next”.



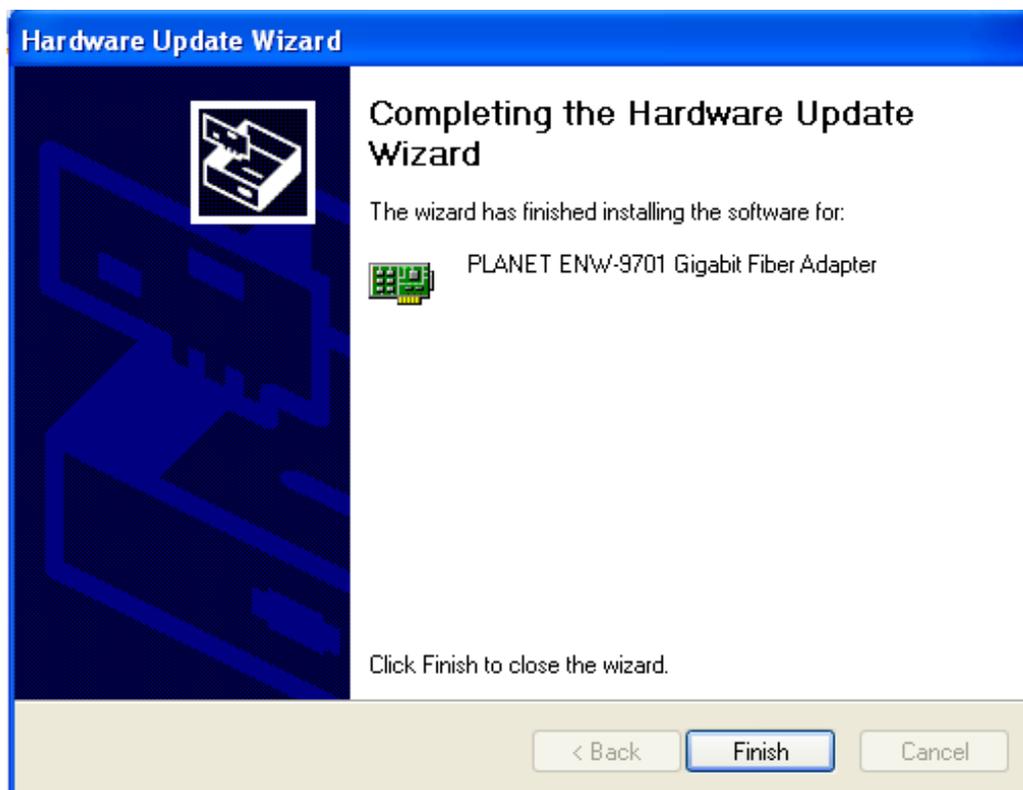
2. Please select “Include this location in the search” and then click “Browse” to specify the driver location to install. (Assume “E” is your CD-ROM drive, the driver can be found in E:\Drivers\WinXP). Click “Next” to continue.



- WinXP will show this dialog box to prompt you the driver has not passed Windows logo testing, please click **“Continue Anyway”**, then WinXP will start to install the driver.



- Click **“Finish”** to complete the driver installation.

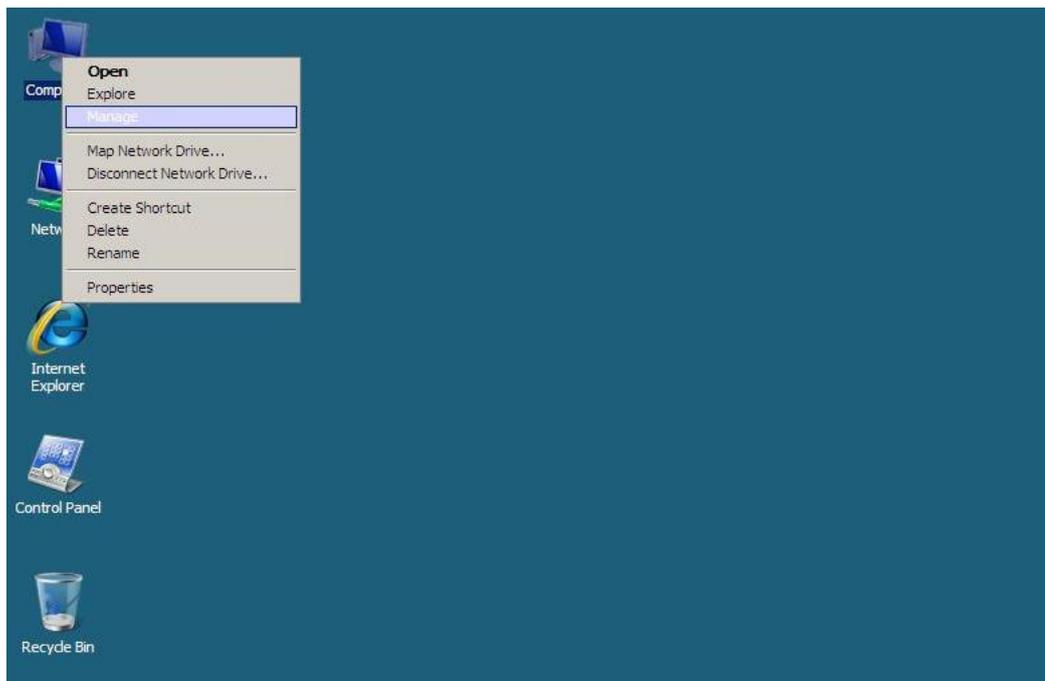


### 3.3 Installing Driver to Windows 2008

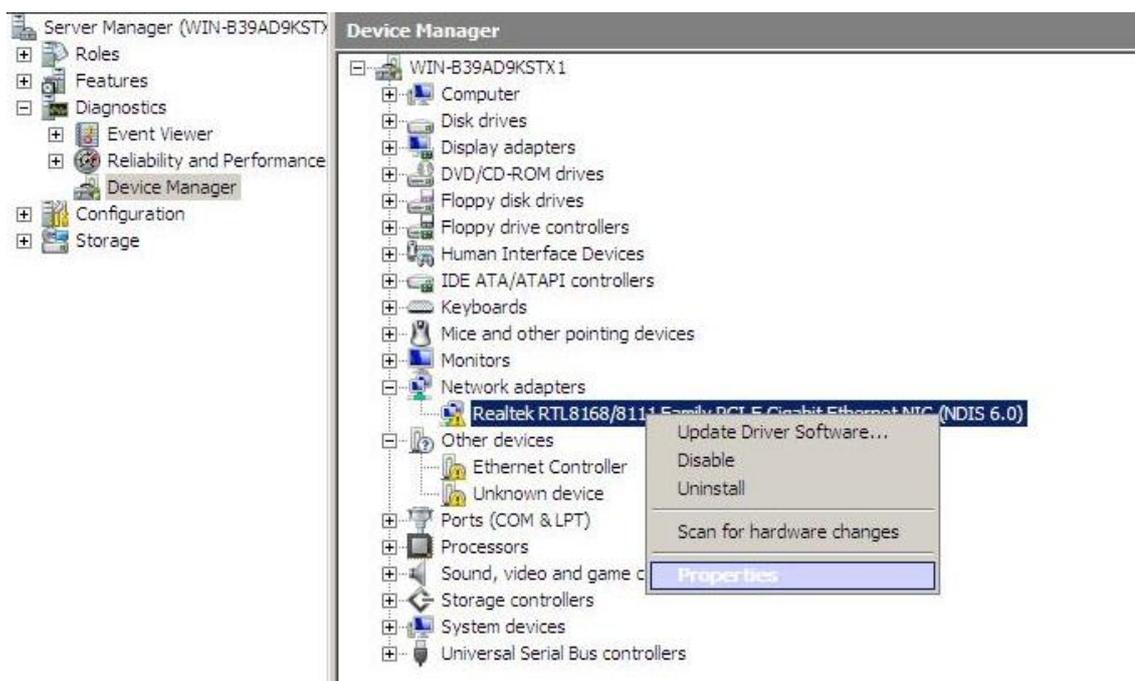


The following installation uses ENW-9701 and operates under Window2008 Procedures will be similar to the Windows Vista 32/64 Operating Systems.

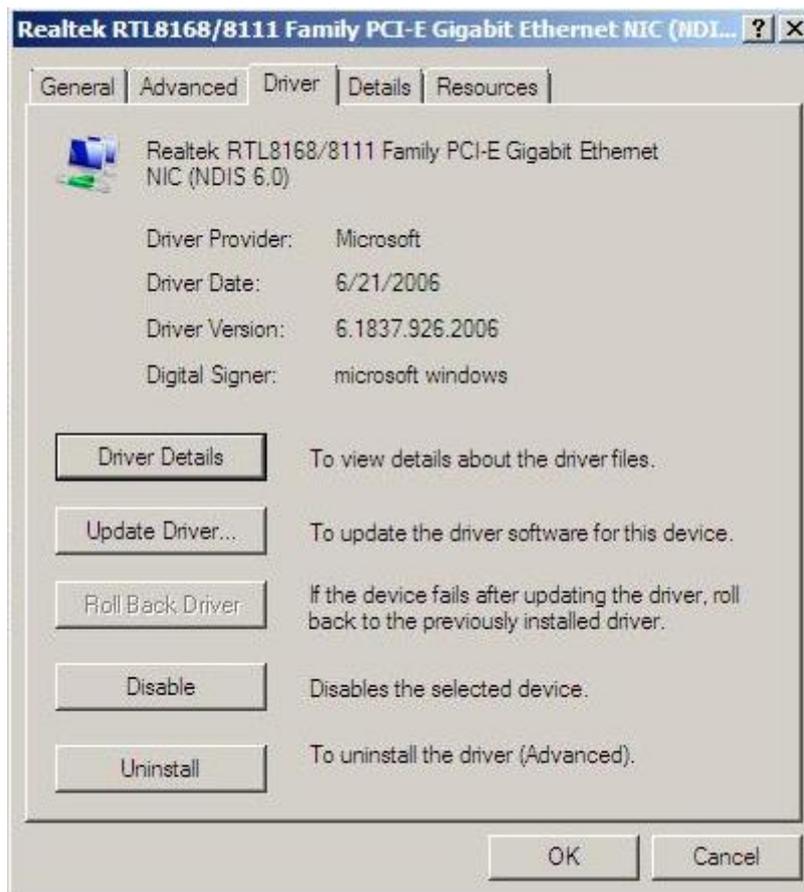
1. After installing ENW-9701 to your PC and boot up, move the mouse to the Computer icon and right click the mouse button and select the “**Manage**”



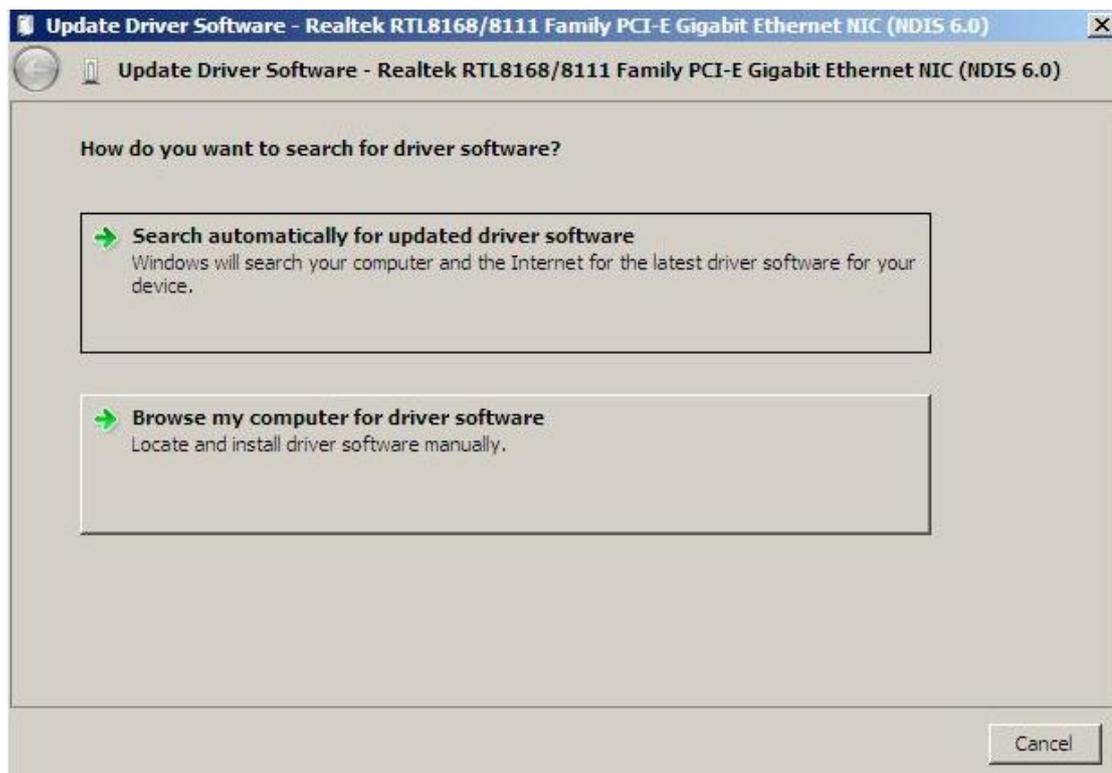
2. On the Server Manager window; please select the Device Manager on the left column then open the Network adapters on the right column, Move and right click the mouse button for Realtek RTL8168xxxx item and select “**Properties**”



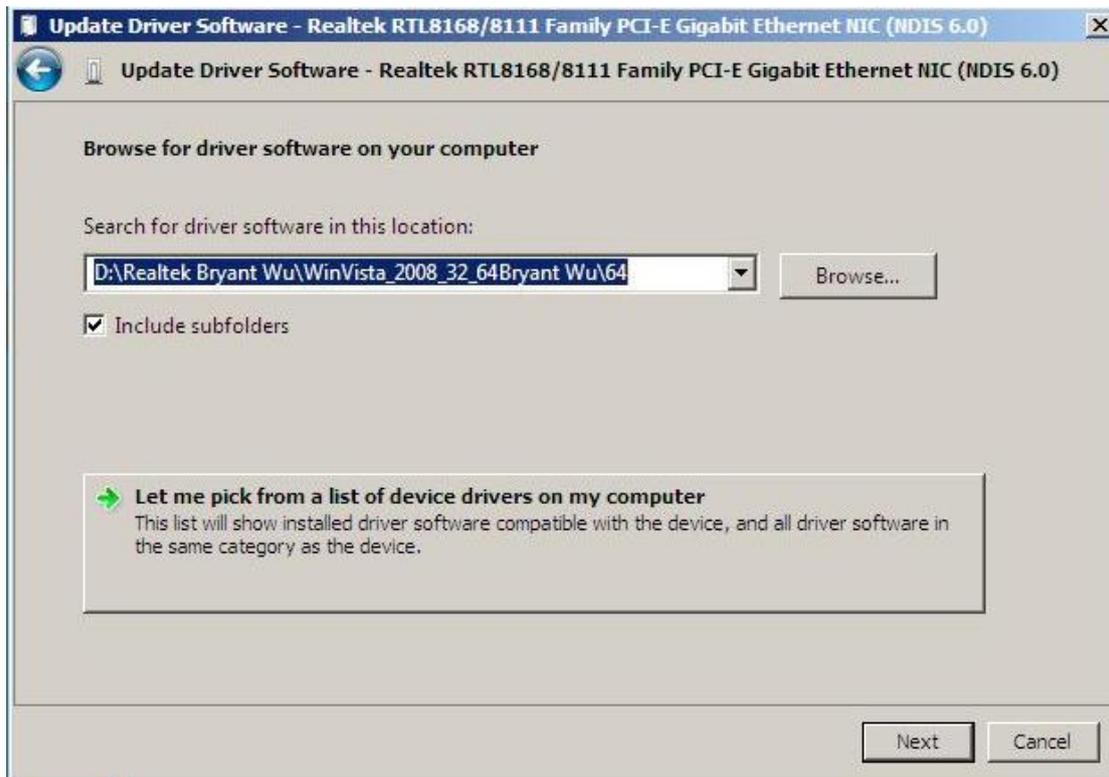
3. On the Realtek RTL8168xxxx window, please click “**Update Driver...**” button.



4. Click “**Browse my computer for driver software**” button.



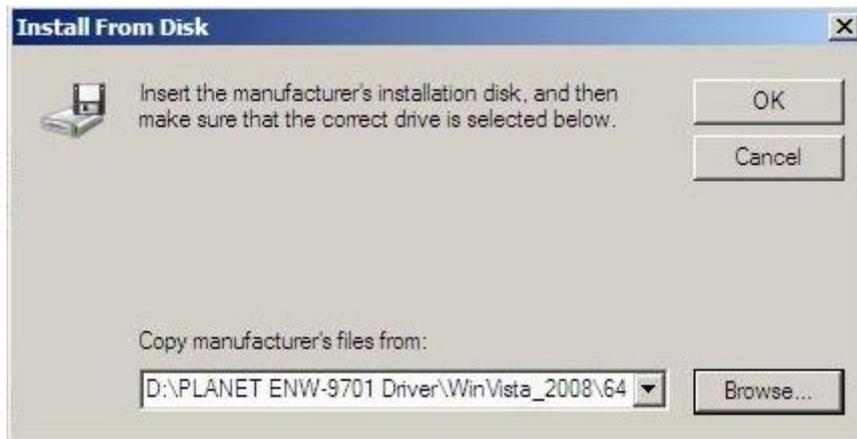
5. Click “Let me pick from a list of device drivers on my computer” button.



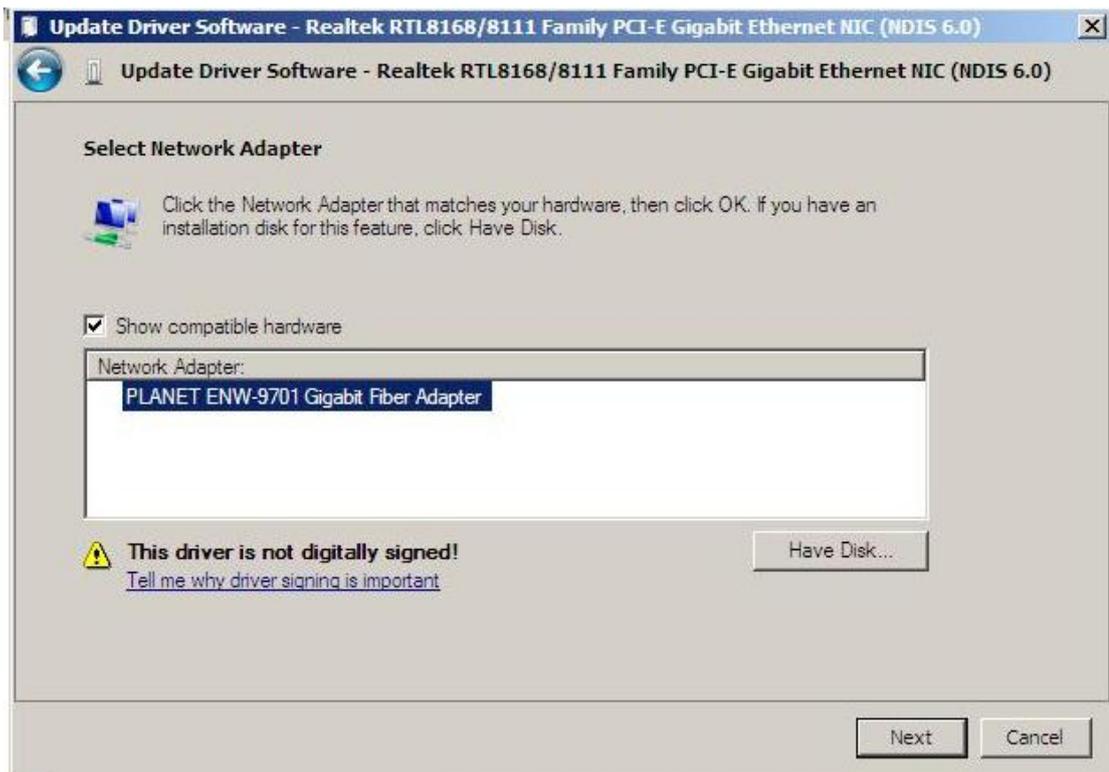
6. Click “Have Disk...” button.



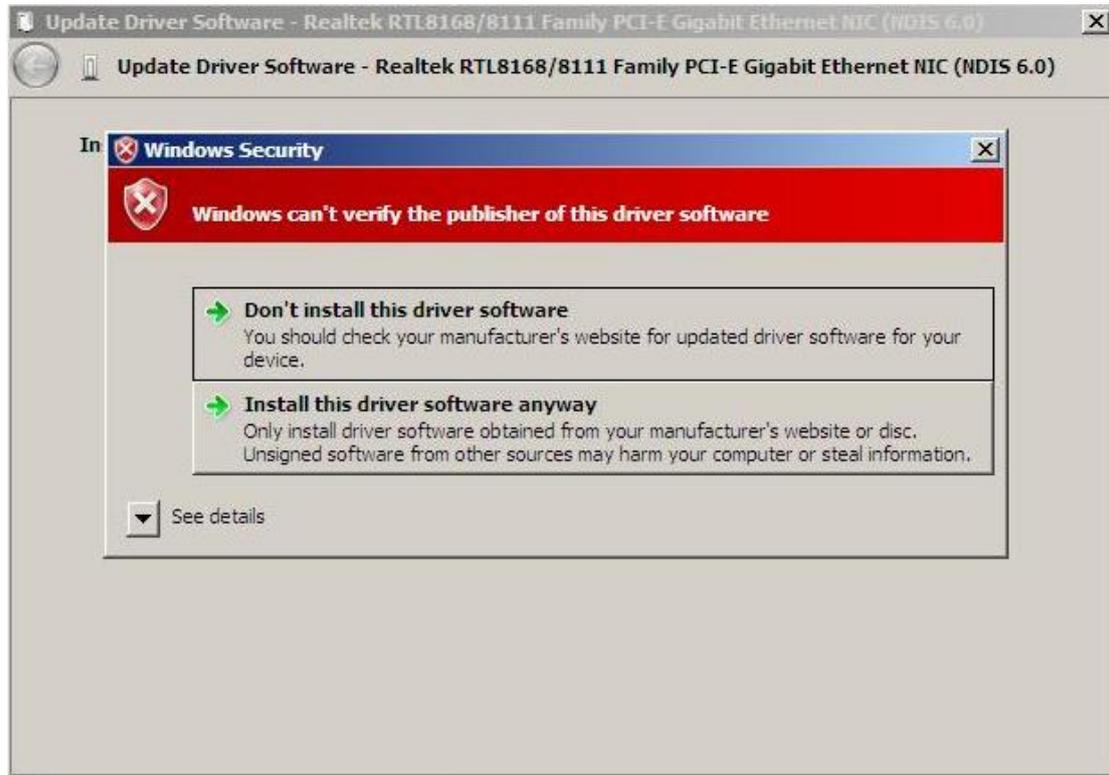
7. Click **“Browse...”** button to specify the driver location to install. (Assume "D" is your CD-ROM drive, the driver can be found in D:\) then click **“OK”** to continue.



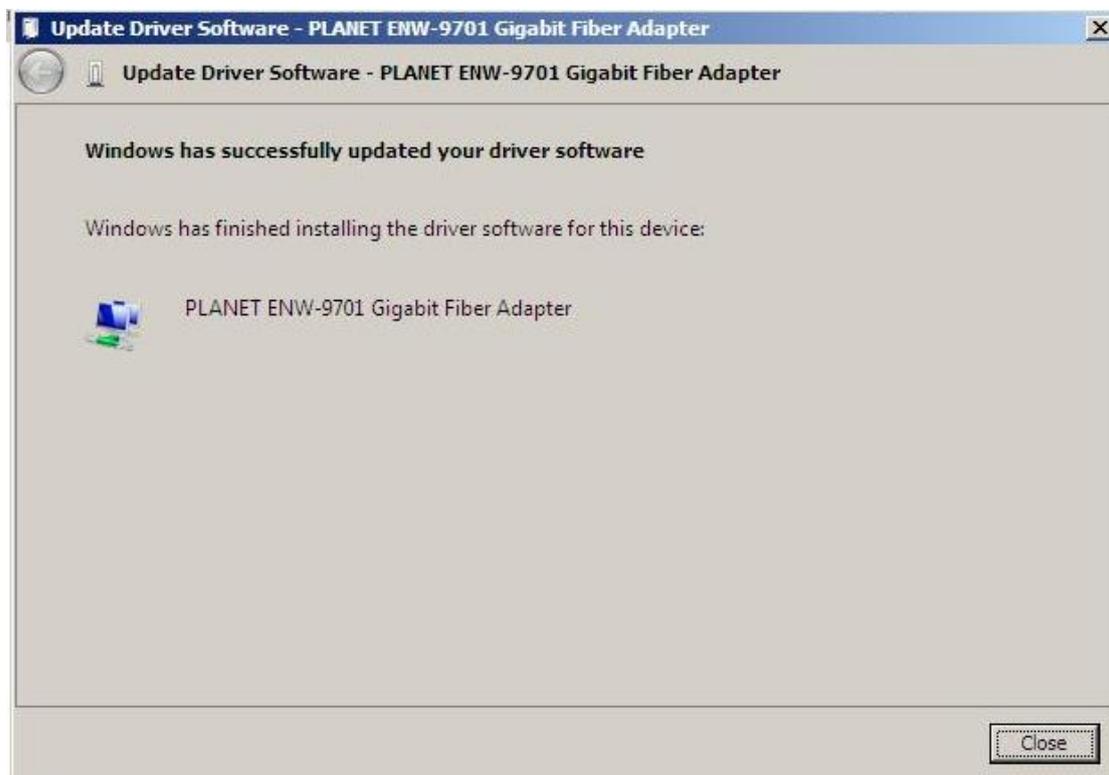
8. On the Update Driver Software window, the Network Adapter column will show the PLANET ENW-9701 Gigabit Fiber Adapter, just click **“Next”** button



9. During the Driver installation, it will pop up one Windows Security message. Please Click **“Install this driver software anyway”** button for continue installation.



10. Click “Close” button to complete the driver installation.



### 3.4 Installing Driver to Linux

#### Requirements:

- Kernel source tree (supported Linux kernel 2.6.x and 2.4.x)
- For linux kernel 2.4.x, this driver supports 2.4.20 and latter.
- Compiler / binutils for kernel compilation

#### Quick install with proper kernel settings:

Unpack the tarball :

```
# tar vjxf r8168-8.aaa.bb.tar.bz2
```

Change to the directory:

```
# cd r8168-8.aaa.bb
```

If you are running the target kernel, then you should be able to do:

```
# ./autorun.sh (as root or with sudo)
```

You can check whether the driver is loaded by using following commands.

```
# lsmod | grep r8168
```

```
# ifconfig -a
```

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

```
# ifconfig ethX up
```

,where X=0,1,2,...

#### Set the network related information:

##### 1. Set manually

- a. Set the IP address of your machine.

```
# ifconfig ethX "the IP address of your machine"
```

- b. Set the IP address of DNS.

Insert the following configuration in

```
/etc/resolv.conf.nameserver "the IP address of DNS"
```

- c. Set the IP address of gateway.

```
# route add default gw "the IP address of gateway"
```

2. Set by doing configurations in

`/etc/sysconfig/network-scripts/ifcfg-ethX` for Redhat and Fedora

`/etc/sysconfig/network/ifcfg-ethX` for SuSE.

There are two examples to set network configurations.

a. Fixed IP address:

```
DEVICE=eth0
BOOTPROTO=static
ONBOOT=yes
TYPE=ethernet
NETMASK=255.255.255.0
IPADDR=192.168.1.1
GATEWAY=192.168.1.254
BROADCAST=192.168.1.255
```

b. DHCP:

```
DEVICE=eth0
BOOTPROTO=dhcp
ONBOOT=yes
```

### **Modify the MAC address:**

There are two ways to modify the MAC address of the NIC.

1. Use `ifconfig`:

```
# ifconfig ethX hw ether YY:YY:YY:YY:YY:YY
```

,where X is the device number assigned by Linux kernel, and

YY:YY:YY:YY:YY:YY is the MAC address assigned by the user.

2. Use `ip`:

```
# ip link set ethX address YY:YY:YY:YY:YY:YY
```

,where X is the device number assigned by Linux kernel, and

YY:YY:YY:YY:YY:YY is the MAC address assigned by the user.

### **Jumbo Frame:**

Transmitting Jumbo Frames, whose packet size is bigger than 1500 bytes, please change mtu by the following command.

```
# ifconfig ethX mtu MTU
```

, where X=0,1,2,..., and MTU is configured by user.

## Chapter 4 Specifications

<b>Product</b>	ENW-9701 1000Base-SX / LX PCI Express Fiber Adapter	
<b>Hardware Specification</b>		
<b>Attachment Interface</b>	PCI Express Host Bus Interface, 1 lane PCI Express Rev 1.1	
<b>Media Interface</b>	SFP slot (LC Interface)	
<b>Cabling Options</b>	SFP LC connector : 50/125µm & 62.5/125µm Multi-Mode fiber cable. 9/125µm Single-Mode cable.	
<b>Jumbo Frame</b>	9KBytes	
<b>LED Indicators</b>	Link / Active per port	
<b>Dimension (W x D)</b>	121.4 x 119.5mm	
<b>Advanced Function</b>		
<b>Layer 2 Features</b>	<ul style="list-style-type: none"> <li>• IEEE 802.3x Flow Control support</li> <li>• IEEE 802.1Q VLAN support</li> </ul>	
<b>Performance enhancements</b>	<ul style="list-style-type: none"> <li>• Receive-side scaling (RSS): Optimization for multiple CPUs under Windows OS control</li> <li>• Reduced host bus traffic</li> <li>• IP, TCP and UDP Checksum Offloading</li> <li>• Transmit / Receive On-Chip Buffer Support</li> <li>• IPv4, IPv6</li> </ul>	
<b>NOS Support</b>	<ul style="list-style-type: none"> <li>• Windows Server 2003, Windows Server 2008</li> <li>• Windows XP, Windows Vista™, Windows 7</li> <li>• Linux 2.4, Linux 2.6, Linux 64-bit</li> <li>• Redhat Enterprise Linux 4.7 &amp; 5.3</li> </ul>	
<b>Standards Conformance</b>		
<b>Regulation Compliance</b>	FCC Part 15 Class B, CE	
<b>Standards Compliance</b>	IEEE 802.3z	1000Base-X Gigabit Ethernet
	IEEE 802.3x	Flow Control and Back pressure
	IEEE 802.1Q	VLAN Tagging
<b>Environment</b>		
<b>Operating</b>	Temperature:	0 ~ 65 Degree C
	Relative Humidity:	5 ~ 95% (non-condensing)
<b>Storage</b>	Temperature:	-10 ~ 85 Degree C
	Relative Humidity:	5 ~ 95% (non-condensing)

## EC Declaration of Conformity

For the following equipment:

\*Type of Product : 1000Base-X SFP PCI Express Gigabit Ethernet Adapter

\*Model Number : ENW-9701

\* Produced by:

Manufacturer's Name : **Planet Technology Corp.**

Manufacturer's Address : 10F., No.96, Minquan Rd., Xindian Dist.,  
New Taipei City 231, Taiwan (R.O.C.)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (89/336/EEC).

For the evaluation regarding the EMC, the following standards were applied:

Emission	EN 55022	(1994 + A1:1995 + A2:1997)
Harmonic	EN 61000-3-2	(2000)
Flicker	EN 61000-3-3	(1995 + A1:2001)
Immunity	EN 55024	(1998)
ESD	EN 61000-4-2	(1995 + A1:1998 + A2:2000)
RS	EN 61000-4-3	(1995 + A1:1998 + A2:2000)
EFT/ Burst	EN 61000-4-4	(1995 + A1:2000)
Surge	EN 61000-4-5	(1995 + A1:2000)
CS	EN 61000-4-6	(1996 + A1:2000)
Magnetic Field	EN 61000-4-8	(1993 + A1:2000)
Voltage Disp	EN 61000-4-11	(1994 + A1:2000)

Responsible for marking this declaration if the:

Manufacturer     Authorized representative established within the EU

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)**

Person responsible for making this declaration

Name, Surname    **Kent Kang**

Position / Title :    **Product Manager**

Taiwan

Place

8, March, 2011

Date



Legal Signature

## **PLANET TECHNOLOGY CORPORATION**

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