

An Introduction to NDISwrapper

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1 Introduction to NDISwrapper

Many vendors do not release specifications of their hardware or provide correctly functioning Linux drivers. The NDISwrapper project attempts to implement Windows kernel API and NDIS (Network Driver Interface Specification) within the Linux kernel, providing an easy method to get Windows-only hardware functioning under Linux.

With NDISwrapper, most PCI, miniPCI, PCMCIA, and USB network adapters work in the `x86` and `x86_64` architectures. Devices other than network cards are also known to work; for example, USB-to-serial-port devices, home phone network devices, and more.

A list of supported cards can be found at

[http://ndiswrapper.sourceforge.net/joomla/index.php?option=com_openwiki/Itemid,33/id,list/!](http://ndiswrapper.sourceforge.net/joomla/index.php?option=com_openwiki&Itemid,33/id,list/)

2 Installing NDISwrapper

These installation notes are for no distribution in particular. They expect kernel sources to be found in `/usr/src/linux/` and do not use any package manager—that is, this method installs from scratch. There is generally a better way to do this.

2.1 Checking That You Have Kernel Sources

The NDISwrapper `INSTALL` file suggests that you check that you have kernel sources installed by running the following command:

```
$ ls /lib/modules/$(uname -r)/build
```

This directory should contain at least the `include` directory and `.config` file.

2.2 Installing NDISwrapper From Source

The first thing to do is get the sources from the NDISwrapper website. Then, the source is unpacked, the program is built, and installed.

```
$ cd /usr/src/
$ wget http://superb-east.dl.sourceforge.net/sourceforge/\
  ndiswrapper/ndiswrapper-1.48.tar.gz

$ tar -xzipf ndiswrapper-1.48.tar.gz
$ cd ndiswrapper-1.48
$ make
$ su -
# cd /usr/src/ndiswrapper-1.48
# make install
```

Now, the NDISwrapper

2.3 Installing NDISwrapper With A Package Manager

Most modern package managers have NDISwrapper in their repository, with precompiled kernel modules (even ArchLinux's PacMan does!). Also, you will need to have the Wireless Tools installed. Generally, it is simple to find these packages and install them simply. Some examples:

```
# apt-get install module-assistant && m-a a-i ndiswrapper
# emerge ndiswrapper
# pacman -S ndiswrapper
```

Other package managers will have similar syntax. If you cannot find the correct packages for your distribution it is just as simple to install from source. I was unable to locate Fedora's versions in a cursory search. It is likely those packages could be found in some third-party repository.

2.4 Testing That NDISwrapper Is Installed

You can test if NDISwrapper is installed correctly by running a `modprobe ndiswrapper`. If it is successful, you are in luck and it is installed correctly. You can also check if the `ndiswrapper` executable is installed by running that.

3 Installing Windows Drivers

Now that NDISwrapper is installed, the only thing left to do is set up the Windows drivers. You will need to find the `.inf` and `.sys` Windows driver files for your device. Place them in the same directory, and from that directory, run

```
# ndiswrapper -i <drivername>.inf
# ndiswrapper -l
```

The output of the second line should be something along the lines of

```
<drivername>: driver installed  
device (xxxx:xxxx) present
```

or

```
<drivername>: driver installed  
device (xxxx:xxxx) present (alternate driver: <kernel module>)
```

If the `alternate driver` section exists, then the `<kernel module>` module is a native module you can use instead of NDISwrapper. If it does not have the `device present` section, you probably have the wrong Windows driver.

4 Putting It All Together

Now that NDISwrapper is installed and the Windows drivers installed, all that remains to be done is to insert the module and set up the interface.

```
# modprobe ndiswrapper
```

NDISwrapper should name the device `wlan0`. You can check that it exists by running `iwconfig wlan0`. Now, your driver works! Or, at least, you have it installed and it seems to be working! Setting NDISwrapper up to load automatically is beyond the scope of this document, as it is very rapidly approaching the time that I should be giving this presentation.

5 Sources

```
http://ndiswrapper.sourceforge.net  
^- NDISwrapper website
```

```
http://www.hpl.hp.com/personal/Jean\_Tourrilhes/Linux/Tools.html  
^- Wireless Tools for Linux website
```

```
http://gentoo-wiki.com/HOWTO\_Wireless\_Configuration\_and\_Startup  
^- Gentoo Wiki - HOWTO: Wireless Configuration and Startup
```

```
http://www.google.com/
```