

Need help with driver installation please!

Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.setup/2003-07/0503.html>

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Hi can I please get some assistance with installing an acx100 driver to enable my dwl-650+ pc card to work with Mandrake 9.1

I am having serious problems with one particular spot regarding creating a subdirectory in the installation directory (I am new to linux and NOT sure what it means by installation directory). Having problems with the paragraph with the "*****" around it.

Thanks in advance!

Has anybody done this before?

The instructions are as follows:

Background:

There are currently various 802.11b+ cards on the market which provide enhanced 802.11b performance of 22Mbps. All of the well known cards are based on the Texas Instruments acx100 chipset, (e.g. D-Link DWL-650+, USR, Pheenet), unfortunately thus far the manufactures of these cards have not released public Linux drivers and TI has not released technical specs to enable the development of open source drivers. However, a set of binary drivers compiled against a small selection of Linux kernels is currently available (see the Links section), the intention of this document is to explain briefly how to get them installed on different Linux distributions and what tweaks are needed to get them running.

This is by no means a replacement for the development of open source drivers which are well under way (see <http://acx100.sourceforge.net>) but hopefully will

comp.os.linux.setup: Need help with driver installation please!

provide a temporary solution to those people who want to try to get these cards working.

Also, I hope that with more people using these drivers at an early stage, there will be feedback generated of potential problems, pitfalls and workarounds which may well be beneficial to the open source driver development.

Introduction:

This document is intended to explain the steps necessary to get the binary releases of the acx100 drivers up and running on distributions other than those directly listed in the binary driver package.

The following table shows the available binary modules in the current binary driver package (acx100_bin_20030503.tgz), the linux distribution they were built with and the version of GCC that was used to compile them.

Module Distro GCC

2.4.18-14	RedHat	8.0	3.2
2.4.18-6mdk	Mandrake	8.2	2.96
2.4.18-6mdk3	Mandrake	8.2	3.0.4
2.4.18-686	Debian	2.95.4	
2.4.19-16mdk	Mandrake	9.0	3.0.4
2.4.20-8	RedHat	9.0	3.2.2
2.4.21-0.13mdk	Mandrake	9.1	3.2.2

Installation

Make sure you have a recent enough version of wireless tools installed, the binary drivers are built with wireless tools version 15.

Obtain and extract the binary driver package:
"tar -xvzf acx100_bin_20030503.tgz"

If you happen to be running a stock distribution that matches one of the supplied binaries, then you should be able to simply run the installation script "InstallAcx100" and skip straight to the Configuration section, lucky you.

Relabelling the module

comp.os.linux.setup: Need help with driver installation please!

If your distribution doesn't match, or you are using a custom Linux system then all is not lost, as long as your kernel is compatible with one of the binaries you should be o.k.

The first step is to determine what you are running if you don't already know.

The kernel version can be obtained using "uname -r", you should also know what version of gcc your kernel was compiled with. If you are using a distribution and didn't compile it yourself then "gcc -v" will display the version of the gcc compiler you have installed, which should match the compiler used to build the kernel.

TODO Perhaps add a list of popular distributions and their GCC versions?

The table above shows the names of the modules which match the kernel versions, and the version of gcc that they are built with. You need to choose a module that matches your kernel version and gcc version. Tip: If you are using a 'stock' 2.4.21 or 2.4.19 kernel, then you will probably find that the 2.4.20 and 2.4.18 kernels respectively are a closer match than the Mandrake kernels of the same version number.

*****I REALLY HAVING PROBLEMS WITH THIS PARAGRAPH (I dont know what it means by the installation directory... :

Next create a subdirectory in the installation directory that matches your "uname -r" value and make a copy of the driver for your chosen kernel. The kernel file should be renamed "acx100sta-"uname -r".o. (Clearly you don't 'need' to make a copy of the file in a subdirectory named as such if you install the module by hand, but it might be handy to keep the installation all together)

Then enter the new directory and relabel the kernel info on this file with the following commands: echo -ne "kernel_version=""uname -r""\0" > version
objcopy --remove-section=.modinfo --add-section=.modinfo=version acx100sta-*.o

Try to install using the install script to see if this works for you. If so, just skip to the configuration section.*****

comp.os.linux.setup: Need help with driver installation please!

If the module fails to initialise then you'll most likely have unresolved symbols problems. To see a list of the failed symbols, type: `depmod -ae`
If the dependency problem is with version information on symbol names you will see a series of unresolved symbols ending in "_R" followed by a hex number e.g. "__ioremap_R9eac042a".

If the missing symbols are due to mismatches between symbol name suffixes, then running the "fixscript" script on the module may solve the problem. Then try installing again.

If there are still missing symbols but they appear to be just for debugging / logging, you may be able to get away with writing a small C app that creates a small stub function and then using "ld -r" to link the object file into the module.

Configuration

If the module loads without problems, (you will get a warning that loading the module taints your kernel, its safe to ignore this warning) and the card springs into life then you're ready for the next step....

Firstly add to `/etc/modules.conf`
alias eth1 acx100sta

Either write a start script to initialise your card, or modify your distributions scripts to work around some of the problems with the binary driver. It appears that it is necessary to repeat the `iwconfig` commands for the card to associate correctly with an AP with a short delay in between.