

How I set up my wireless home Internet gateway

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How to assemble the hardware



Finally all the parts arrived. The Via Eden Epia Main board, The D-Link DWL520 Wireless Card, a Slim line CDRom, the Morex chase and ram, Hard disk.

Since all other important components like the second network card, the Graphikcard and the CPU is already build on the board, that is all you need to set up the system.

Important to know is, that you can only fit slim line cd-drives into the morex case, whereas you can use both slim line and standard hard drives. There is also not much room for the Ram, so you can only use Ram wich is not higher that 30mm !!



First you have to open the box an unscrew the cdrom, since the power connector is located directly under this part.

The case is very user friendly, since everything fits in there just perfect, so you do not have to use a lot of force to install everything. You even can dismount the case for the hard drive when the main board is mounted – that saved me a lot of time ;-).



Since I am not so familiar with building boards, I messed up the two little springs next to the Keyboard and mouse controller. Be aware, that the springs have to touch the connectors inside the case!



Next step was to insert the cdrom and connect the Hard disk. The morex case includes the little connector between the standard hard disk wire and the slim line cdrom, which has a very tiny connector. With the supplied wire I was not able to connect the cdrom and the Hard disk, therefore I have used two wires.



Now I inserted the wireless LAN card. With the little one pci slot riser card, that was not a big problem. It took a little while to put all the wires around the card, but it was not a big problem.



So that is the outcome of the easy part. Looks pretty cool?

Bill of Material

- ?? Morex Case
- ?? 128 MBRam/ 40 Gbyte Harddisk (30mm height !!!)
- ?? Slim line Cdrom
- ?? D-Link DWL520 Wireless Card
- ?? Via EPIA Main board

Software Installation

Since I have a set of suse 8.0 cd's flying around, I decided to install them as the operating system. The installation of the Linux was not a big problem, just follow the instructions in the SUSE Manual.

Setting up the D-Link DWL520

After a long time searching the web for a suitable driver for the DWL520, I found a very interesting Project on <http://hostap.epitest.fi/> . This software emulates an Access Point Firmware on a Wireless Cards with a prism chipset like the DWL520.

In the Access Point Mode, your Gateway will provide Information like the Transmit rate or the Frequencies to your client Network card, so your Client will have an instant access to the Internet.

Setting up the Gateway function

Since this is such a common feature of linux, I would like to redirect you to the following howtos, which I also used to set up my system, and it does not make sense to copy and paste their work

Just in brief, how I did it:

```
ifconfig wlan0 192.168.0.1 netmask 255.255.255.255 up
iptables -t nat -F
iptables -t nat -A POSTROUTING -j SNAT -o eth0 --to 192.168.0.1
echo 1 > /proc/sys/net/ipv4/ip_forward
```

Useful Links

HostAP Software	http://hostap.epitest.fi/
Case Review	http://www.mini-itx.com/reviews/2677R/
Linux Wlan driver	http://www.linux-wlan.com/linux-wlan/
Linitx.org	http://linitx.org
Via Linux User Guide	http://www.viaarena.com/?PageID=60
Via Driver Page	http://www.viaarena.com/?PageID=68
IPChains HowTo	http://www.tldp.org/HOWTO/IPCHAINS-HOWTO.html