

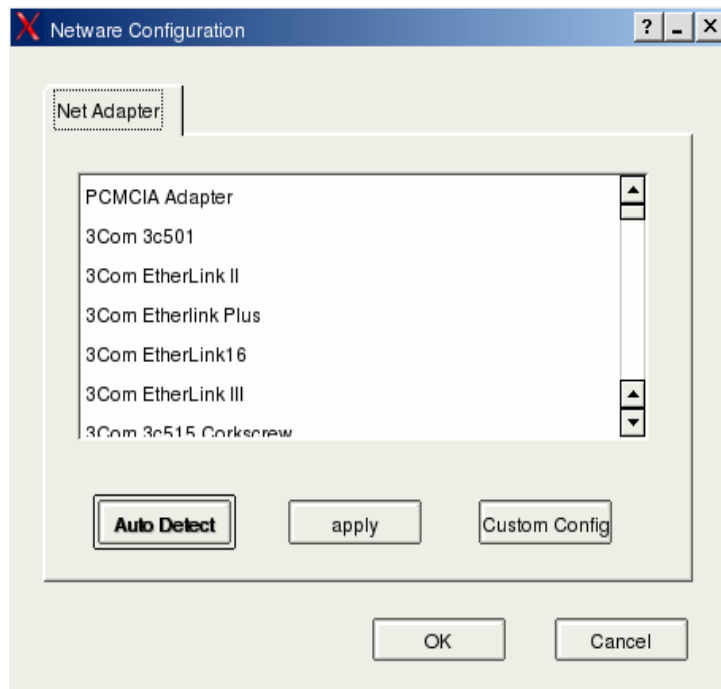
- **Network Configuration**

Position: My computer→ctrlpanel→System→Network

Basic network configuration

Network configuration includes two parts: “Essential Config” and “Advanced Route Config”. Basic Network Setting is used to load network interface devices and set basic network parameters.

In the window of “Essential Config”, click “Add”, a net adapter inspecting configuration window will appear.



Select network service

Click “inspect automatically”, the system can find almost all PCI network card and PCMCIA network card of notebook, and ask that whether it will use this net adapter, if select “Yes”, the dialog box of network parameter configuring will appear.

Configure network parameter

The configuring program will find all the NET ADAPTER that installed in the computer, these express eth0, eth1... in turn. “IO” and “IRQ” define the I/O port address and interrupt number that used by NET ADAPTER. The NET ADAPTER that found automatically needs no such content. It needs to be given just when the I/O number and IRQ number can not be found by program correctly.

“NET ADAPTER parameter” is used to appoint the mode of distributing IP address of host computer: “Assign by hand” means that you have to appoint the configuring information yourself; “Gain automatically” means that IP address can be detected automatically, and you needn’t to fill in the gateway and net mask, but the precondition of this is that there has a additional boot server (such as DHCP server) on network.

“Host computer name and domain name”: the complete eligibility domain name that composed by the name of host computer and the name of domain it belongs.

“IP address” and “Net mask” are used separately to appoint the currently used IP address and its net mask, if you choose to configure by hand, you must input these information.

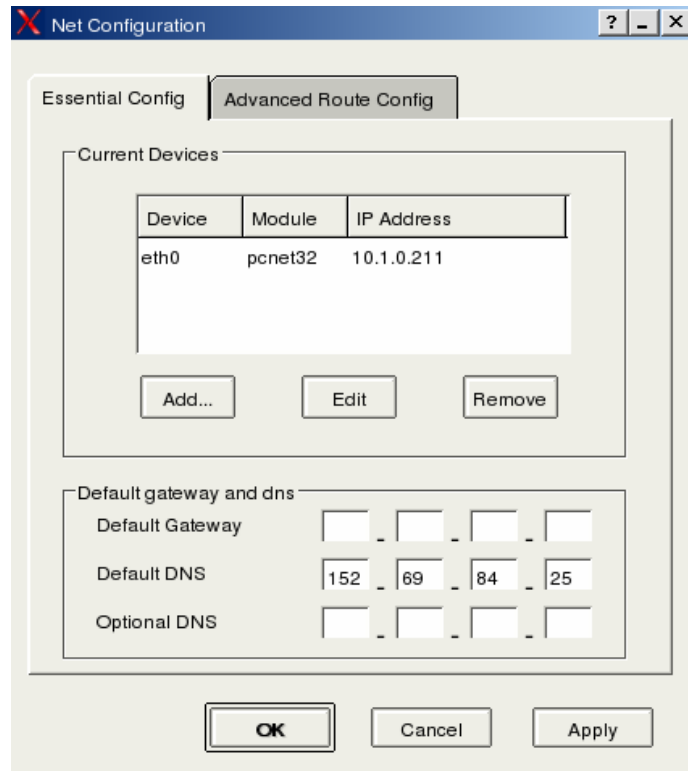
In general, one NET ADAPTER has one IP address, but one NET ADAPTER can bind multiple IP address, especially the NET ADAPTER of server. Select “Permit to bind multiple IP” if you want a NET ADAPTER to have multiple IP address. Input the IP address and its net mask that to be bonded to the list in the bottom of the window. Four IP name can be configured for one NET ADAPTER in this tool.



If you want to bind multiple IP address for a NET ADAPTER, then you can not use DHCP to configure network parameter of the NET ADAPTER and alias. You have to configure these by hand.

If the parameters are correct, it will load the module automatically and make it work. If it can not find the NET ADAPTER, users can select the type of NET ADAPTER in the list and click “handiwork application”; or use “user-defined configuring” to appoint the name of module by hand, and then configure basic network parameter.

After finishing the configuration, it will list the NET ADAPTER that is loaded in “current devices” box. Next, configure gateway and DNS in the text box at the bottom of the main window.



NET ADAPTER configuring

“Defaulted Gateway”: the IP address of defaulted gateway is decided by the network environment of host computer.

“Defaulted Domain Name Server”: input the defaulted DNS server’s address that the host computer belongs to.

“Standby Domain Name Server”: in order to ensure the resolution of domain name normally, you can configure the standby domain name server, this option is choice.



The domain name server here is used to appoint which domain name server to find computerst and which one to parse domain name on net. Network configuring tool can not configure a computer to be domain name server!

Click “Apply” or “OK”, and the configuration of network parameter will work. Use the command `ifconfig` to check the information of network. If other IP address is bonded on eth0 of the first NET ADAPTER, then the name of devices that correspond with these IP address are the device’s byname of the actual physical NET ADAPTER. They usually use device name\colon and figure to impress, for example, eth0:0 means the first byname of eth0 and the second byname of eth0 will be eth0:1, the rest may be deduced by analogy.

In the picture above, the functions of the buttons that under the box “Current devices” are as follows:

Add NET ADAPTER: load new NET ADAPTER, re-configure when replaced NET ADAPTER or when the network parameter of system have changed.

Modify parameters: used to modify the configuring parameter that have loaded NET ADAPTER already.

Uninstall device: used to replace NET ADAPTER or close the connection transitorily.

Advanced gateway configuring

You can configure a host computer of Asianux 2.0 to carry out the function of Router by using network configuring tool. Router is usually called gateway, it is a device that send data package from a subnet to another subnet. To be simple, its function is to find way----find a correct way for IP package to destination.

The route information that runs on Router can be dynamically produced as well as configured statically. The table that used to save the fixed route according to the configuring situation is called static route table. It needs to modify the corresponding options by hand when the structure of network has changed. We discuss about the configuring static route this chapter.

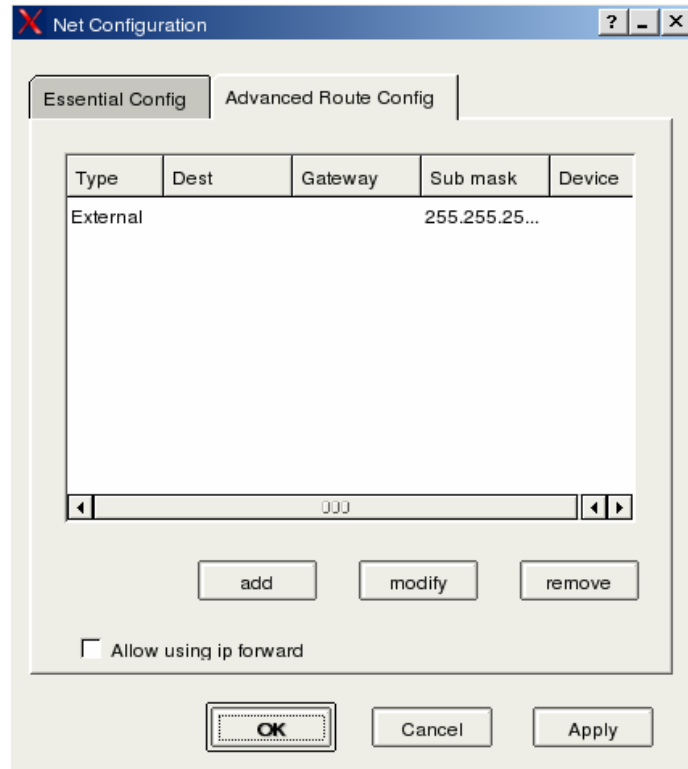
- **Set IP transmission**

Under the situation that there isn't any Router, just the computers on the same IP subnet can communit adapterate with each other with each other. In order to make the computer on different subnet can communit adapterate with each other, a gateway must be setup between the two subnets.

A Asianux 2.0 host computer can configured to be a gateway. A gateway must have more than two NET ADAPTER or IP address, this way, it can have the function of Router.

We have already known that a computer can have more than one IP address. For example, there have two subnets, and their addresses are 192.9.200.0 and 172.16.82.0, then distribute two IP address and other network parameters for the server first: one IP address belongs to the first subnet, it is 192.9.200.12; the other IP address belongs to the second subnet, it is 172.16.82.11.

After completing the parameter configuring, it needs to startup the function of IP transmission. Select "permit to startup IP transmission function" in page "advanced gateway configuring".



Advanced gateway setting

Click “Apply” or “OK” to make the configuration work, now the server can be used as gateway for two different network, and supply the function of Router. The two subnets can connect with each other thought using two IP address as gateway.



The computer that settled to be gateway should have static IP address.

- **Add static route information**

When a host computer tries to communicate with other host computers, it makes great efforts to find the shortest route. This process can be divided into four steps:

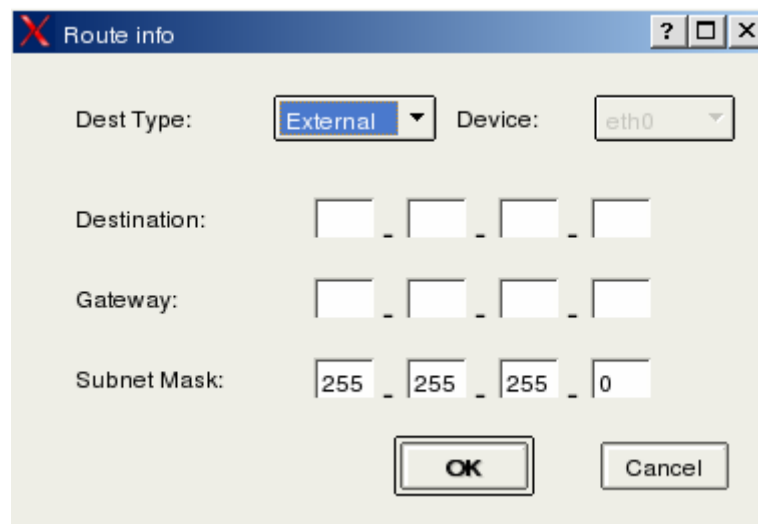
- 1、 First, the computer will check out that the target host computer belongs to local network or telnet. If it belongs to the local net, they can communicate with each other directly.
- 2、 If the target hosts computer belongs to telnet, it will check “local route table” and select a route that can reach tele-computer or telnet.
- 3、 If it can not find a clear route, it will give the data package to the local defaulted gateway and transfer the data to a Router.
- 4、 In this Router, the route table will find a route for tele-computer or telnet again, if it can not find for another time, this data package will be sent to the defaulted gateway address of this Router.

The most usually used command to appoint route regular in Linux is *route*. We can use graphical mode to carry out the command *route* by using network configuring tool, this means, to set static route options or to set thought what

kind of interface we can send the IP address of some subnet.

When some host computer on subnet becomes gateway by starting up IP transmission service, it needs to appoint the IP address and the information of target host computer or network if other computers on subnet want to communicate with each other thought it as client port.

Click “Add” in the window “Advanced gateway setting”, the following dialog box will appear:

A screenshot of a Windows-style dialog box titled "Route info". The dialog has a title bar with a red 'X' icon, a question mark, a maximize button, and a close button. The main area contains four rows of input fields: "Dest Type:" with a dropdown menu showing "External"; "Device:" with a dropdown menu showing "eth0"; "Destination:" with four empty text boxes separated by underscores; "Gateway:" with four empty text boxes separated by underscores; and "Subnet Mask:" with four text boxes containing "255", "255", "255", and "0" respectively. At the bottom are "OK" and "Cancel" buttons.

Add static route

“Target type”: the target host computer or network belongs to inner network or outer (long-range) network.

“Target route”: the address of target host computer or network. It can be address of host computer as well as address of network.

“Gateway”: the IP address of gateway. There are more than two IP addresses of gateway. You should choose the IP address that on the same subnet with current host computer. If the IP address of the current host computer is 192.9.200.98, then the IP address of the gateway is 192.9.200.X.

“Subnet mask”: the subnet mask of target host computer or network.

After finishing configuring, the route information that added will list in “Advanced gateway configuring” window. Click “Apply” and “OK” to modify the static route table of this computer. Multiple static route information can be added as well as modify or delete the inapplicable items.

After finishing setting, use the command *ping* to check out whether the communet adaptation with another subnet is normal or not. If it can ping successfully, it means that the configuration of gateway and route are correct.



There is no need to set static route information on all computers, it just need to set on computer that need to communicate with computers on another subnet.

