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How can I set my linux box as a router to forward ip packets?

I am doing a network experiment about ip packet forwarding, but I don't know why it does work.

I have a linux machine with two network interfaces, eth0 and eth1 both with static IP address (eth0: 192.168.100.1, eth1: 192.168.101.2).

My goal is simple, I just want to forward ip packets from eth1 with destination in subnet 192.168.100.0/24 to eth0, and forward ip packets from eth0 with destination in subnet 192.168.101.0/24 to eth1.

I turned on ip forwarding with:

```
sysctl -w net.ipv4.ip_forward=1
```

my routing table is like this:

```
# route -n
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
192.168.100.0 0.0.0.0 255.255.255.0 U 0 0 0 eth0
192.168.101.0 0.0.0.0 255.255.255.0 U 0 0 0 eth1
```

But, when I try to ping from 192.168.100.25 to 192.168.101.47, it does not work.

networking ip-forward

edited Jun 7 '13 at 17:26



belacqua

11k 9 56 89

asked Dec 10 '12 at 2:36



Yishu Fang

360 3 6 17

1 Answer

You need to add a *forwarding rule* using `iptables` command, something like this:

```
modprobe iptable_nat
echo 1 > /proc/sys/net/ipv4/ip_forward
iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE
iptables -A FORWARD -i eth1 -j ACCEPT
```

see `man iptables` for more details, or search internet for howto articles, for example [How to set up a NAT router on a Linux-based computer](#)

Here is [Linux IP Masquerade HOWTO](#) which discusses the topic in details.

You should also ensure that you have no other rules (e.g. in the `FORWARD` chain) that are overriding the above `ACCEPT` rule. If there are, you probably want to delete them.

edited Oct 26 '13 at 8:50



Andrea Corbellini

7,291 1 24 48

answered Dec 10 '12 at 3:11



Sergey

25.7k 2 58 78

I don't know why, but it still don't work. I have added both `iptables -A FORWARD -i eth0 -o eth1 -j ACCEPT` and `iptables -A FORWARD -i eth1 -o eth0 -j ACCEPT` to my tables. And my INPUT, OUTPUT, and FORWARD policy are all `ACCEPT`. — [Yishu Fang](#) Dec 10 '12 at 4:47

There are many things which can be configured wrong. For example, you host's IP should be specified as "gateway IP" on the hosts in the "internal" network, so they know that if an IP is not in the range of their "local" network the packets need to be sent to your gateway machine. This is similar to the usual setup where ADSL router is registered as gateway for hosts in the LAN — [Sergey](#) Dec 10 '12 at 9:29

When I use `traceroute` on my host, it shows that the packet goes to the "router" (192.168.100.1), but it don't go any further. — [Yishu Fang](#) Dec 10 '12 at 10:56

@UniMouS: Seems that I've forgotten about MASQUERADE thing - I've edited my answer and added new links to articles. — [Sergey](#) Dec 10 '12 at 20:52