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Subject: "Connection refused" when connecting from VE to host's public IP

Posted by [Ventzy](#) on Sun, 15 Dec 2013 00:44:41 GMT

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Hello,

I have my network config like this - single public IP address, assigned to the host (eth0) and multiple VEs in private network with IPs like 10.0.X.X. I have apache in one VE, mysql in other and so on. I have port forwarding on host for apache like this:

```
iptables -t nat -A PREROUTING -p TCP -i eth0 --dport 80 -j DNAT --to 10.0.0.3:80
```

This works as expected - I can access web sites hosted in 10.0.0.3 from outside through host's public IP and 10.0.0.3 connects successfully to Internet. The problem is that I cannot connect from VE to the public IP of the host. Let's say my public IP is 1.1.1.1, then I get this from 10.0.0.3

```
root@apache:/# telnet 1.1.1.1 80
```

```
Trying 1.1.1.1...
```

```
telnet: Unable to connect to remote host: Connection refused
```

What in the end I want to do is to load a web page from within 10.0.0.3 that is hosted on 10.0.0.3. I have domain mydomain.com which resolves to 1.1.1.1 and when I try to load `http://mydomain.com/` from 10.0.0.3, domain is resolved to 1.1.1.1 and connection is refused as with telnet example.

I can workaround the problem if in the 10.0.0.3 `/etc/hosts` add

```
10.0.0.3 mydomain.com
```

I don't like that solution, because I have hundreds of sites and on new site I must alter hosts file. Besides, if some other software needs to create connection to the 1.1.1.1 it will fail.

I use Proxmox 3.1 and here are my `/etc/network/interfaces` on the host

```
auto lo
iface lo inet loopback
```

```
auto eth0
iface eth0 inet static
    address 1.1.1.1
    netmask 255.255.255.240
    gateway 2.2.2.2
    post-up echo 1 > /proc/sys/net/ipv4/conf/eth0/proxy_arp
```

```
auto vmbr0
iface vmbr0 inet static
    address 10.0.0.1
    netmask 255.255.255.0
    bridge_ports none
```

```
bridge_stp off
bridge_fd 0
```

```
post-up echo 1 > /proc/sys/net/ipv4/ip_forward
post-up iptables -t nat -A POSTROUTING -s '10.0.0.0/16' -o eth0 -j MASQUERADE
post-down iptables -t nat -D POSTROUTING -s '10.0.0.0/16' -o eth0 -j MASQUERADE
```

And on container

```
auto lo
iface lo inet loopback
```

# Auto generated venet0 interface

```
auto venet0
iface venet0 inet manual
    up ifconfig venet0 up
    up ifconfig venet0 127.0.0.2
    up route add default dev venet0
    down route del default dev venet0
    down ifconfig venet0 down
```

```
iface venet0 inet6 manual
    up route -A inet6 add default dev venet0
    down route -A inet6 del default dev venet0
```

```
auto venet0:0
iface venet0:0 inet static
    address 10.0.0.3
    netmask 255.255.255.255
```

Here is the output of `iptables -t nat -L` && `iptables -t filter -L` && `iptables -t mangle -L` command

Chain PREROUTING (policy ACCEPT)

target	prot	opt	source	destination	
DNAT	tcp	--	anywhere	anywhere	tcp dpt:mysql to:10.0.0.2:3306
DNAT	tcp	--	anywhere	anywhere	tcp dpt:https to:10.0.0.3:443
DNAT	tcp	--	anywhere	anywhere	tcp dpt:http to:10.0.0.3:80

Chain POSTROUTING (policy ACCEPT)

target	prot	opt	source	destination
MASQUERADE	all	--	10.0.0.0/16	anywhere

Chain OUTPUT (policy ACCEPT)

target	prot	opt	source	destination
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Chain INPUT (policy ACCEPT)

target	prot	opt	source	destination
--------	------	-----	--------	-------------

Chain FORWARD (policy ACCEPT)  
target prot opt source destination

Chain OUTPUT (policy ACCEPT)  
target prot opt source destination

Chain PREROUTING (policy ACCEPT)  
target prot opt source destination

Chain INPUT (policy ACCEPT)  
target prot opt source destination

Chain FORWARD (policy ACCEPT)  
target prot opt source destination

Chain OUTPUT (policy ACCEPT)  
target prot opt source destination

Chain POSTROUTING (policy ACCEPT)  
target prot opt source destination

How can I solve the problem?

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Subject: Re: "Connection refused" when connecting from VE to host's public IP  
Posted by [grep](#) on Sun, 15 Dec 2013 17:06:49 GMT  
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What says traceroute 1.1.1.1 from ve?  
  
and route -n in ve.

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Subject: Re: "Connection refused" when connecting from VE to host's public IP  
Posted by [Ventzy](#) on Sun, 15 Dec 2013 20:34:30 GMT  
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grep wrote on Sun, 15 December 2013 19:06: What says traceroute 1.1.1.1 from ve?  
  
and route -n in ve.

```
root@apache:/# traceroute 1.1.1.1
traceroute to 1.1.1.1 (1.1.1.1), 30 hops max, 60 byte packets
 1 ip-1-1.host.com (1.1.1.1) 0.065 ms 0.015 ms 0.011 ms
```

```
root@apache:/# route -n
Kernel IP routing table
Destination    Gateway      Genmask      Flags Metric Ref    Use Iface
0.0.0.0        0.0.0.0      0.0.0.0      U    0    0    0 venet0
```

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Subject: Re: "Connection refused" when connecting from VE to host's public IP  
Posted by [grep](#) on Mon, 16 Dec 2013 07:52:41 GMT  
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So your server answers.  
Can you ssh into it? is only http refused?

iptables from ve (iptables-save in terminal to show all)?

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Subject: Re: "Connection refused" when connecting from VE to host's public IP  
Posted by [Ventzy](#) on Mon, 16 Dec 2013 12:18:38 GMT  
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grep wrote on Mon, 16 December 2013 09:52So your server answers.  
Can you ssh into it? is only http refused?

iptables from ve (iptables-save in terminal to show all)?

I get "Connection refused" from VE to host for all ports, that was redirected in the host with

```
iptables -t nat -A PREROUTING -p TCP -i eth0 --dport 80 -j DNAT --to 10.0.0.3:80
```

I have no such forwarding rule on port 22, so I have no problem. Here is summary of different scenarios

	Non-redirected port (22)	Redirected port (80)
-----		
Outside -> Host	OK	OK
5.6.7.8 -> 1.1.1.1		
-----		
VE -> Host	OK	Connection refused
10.0.0.3 -> 1.1.1.1		
-----		

There are no iptable rules in the VE.

I am far from expert in this and may be wrong, but I suspect that I have "NAT loopback" issue like

described here [http://en.wikipedia.org/wiki/Network\\_address\\_translation#NAT\\_loopback](http://en.wikipedia.org/wiki/Network_address_translation#NAT_loopback)

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