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## Subject: Strange Behavior with multiple venet0 interfaces

Posted by [glic3rinu](#) on Thu, 09 Jul 2009 09:14:53 GMT

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Hi all,

I have Debian 5.0 based server with various network interfaces connected on different networks (eth0:77.178.25.0/24, eth1:10.0.0.0/24, eth2:10.0.10.0/24, eth3:10.10.0.0/24, and more...). Today I have been doing tests with an OpenVZ virtual machine with multiple venet0 interfaces (venet0:0, venet0:1 and venet0:2), each interface belonging to a different network (venet0:0 77.178.25.145/24, venet0:2 10.10.0.155/24, venet0:1 10.0.0.155/24).

I observe a strange behavior when I ping from OpenVZ VE to another machines on the network. The source IP address of the output packets for the VE is in all the cases 77.178.25.145, in spite of being 10.10.0.155 or 10.0.0.155

In the worst case it causes packet losing because some machines of the private network doesn't know how/to route packets to 77.178.25.145.

Whats the reason of this behavior? is this a bug? Is there any way to fix it? Perhaps a clue to solve the problem is that the interfaces are called venet0:0, venet0:1, venet0:2 instead of venet0, venet1 and venet2?

I know this problem disappears when using the Veth interfaces instead of Venet0, but I like to use the Venet0 system because it offer more performance and security.

I leave an example to ping 10.0.0.10 from the virtual machine.

1) Tcpdump show as on the hardware node packets leave by the correct interface (eth1: network 10.0.0.0/24) but with the source address changed, 77.178.25.145 instead of 10.0.0.155

```
tcpdump -i eth1
```

```
14:20:13.939721 IP 77.178.25.145 > 10.0.0.10: ICMP echo request, id 63234, seq 2, length 64
```

```
14:20:14.939208 IP 77.178.25.145 > 10.0.0.10: ICMP echo request, id 63234, seq 3, length 64
```

Then the answers returns for another interface (eth0: network 77.178.25.0/24)

```
tcpdump -i eth0
```

```
14:22:46.075225 IP 10.0.0.10 > 77.178.25.145: ICMP echo reply, id 63490, seq 6564, length 64
```

```
14:22:46.075473 IP 10.0.0.10 > 77.178.25.145: ICMP echo reply, id 63490, seq 6565, length 64
```

finally the packets are relayed to the virtual machine.

```
tcpdump -i venet0
```

12:24:45.211486 IP 10.0.0.10 > 77.178.25.145: ICMP echo reply, id 10500, seq 21, length 64  
12:24:46.211202 IP 77.178.25.145 > 10.0.0.10: ICMP echo request, id 10500, seq 22, length 64

## Configuration of the Virtual Machine - OpenVZ

test:/# route -n

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
192.0.2.1	0.0.0.0	255.255.255.255	UH	0	0	0	venet0
0.0.0.0	192.0.2.1	0.0.0.0	UG	0	0	0	venet0

test:/# ifconfig

lo Link encap:Local Loopback

inet addr:127.0.0.1 Mask:255.0.0.0

inet6 addr: ::1/128 Scope:Host

UP LOOPBACK RUNNING MTU:16436 Metric:1

RX packets:0 errors:0 dropped:0 overruns:0 frame:0

TX packets:0 errors:0 dropped:0 overruns:0 carrier:0

collisions:0 txqueuelen:0

RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

venet0 Link encap:UNSPEC HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00

inet addr:127.0.0.1 P-t-P:127.0.0.1 Bcast:0.0.0.0 Mask:255.255.255.255

UP BROADCAST POINTOPOINT RUNNING NOARP MTU:1500 Metric:1

RX packets:177951 errors:0 dropped:0 overruns:0 frame:0

TX packets:179295 errors:0 dropped:0 overruns:0 carrier:0

collisions:0 txqueuelen:0

RX bytes:14947840 (14.2 MiB) TX bytes:15060736 (14.3 MiB)

venet0:0 Link encap:UNSPEC HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00

inet addr:77.178.25.145 P-t-P:77.246.179.123 Bcast:0.0.0.0 Mask:255.255.255.255

UP BROADCAST POINTOPOINT RUNNING NOARP MTU:1500 Metric:1

venet0:1 Link encap:UNSPEC HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00

inet addr:10.0.0.155 P-t-P:10.0.0.155 Bcast:0.0.0.0 Mask:255.255.255.255

UP BROADCAST POINTOPOINT RUNNING NOARP MTU:1500 Metric:1

venet0:2 Link encap:UNSPEC HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00

inet addr:10.10.0.155 P-t-P:10.10.0.155 Bcast:0.0.0.0 Mask:255.255.255.255

UP BROADCAST POINTOPOINT RUNNING NOARP MTU:1500 Metric:1

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Hardware Node configuration.

backup:~# route -n

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
77.178.25.145	0.0.0.0	255.255.255.255	UH	0	0	0	venet0
10.0.0.155	0.0.0.0	255.255.255.255	UH	0	0	0	venet0
10.10.0.155	0.0.0.0	255.255.255.255	UH	0	0	0	venet0
77.178.25.0	0.0.0.0	255.255.255.0	U	0	0	0	vmbr0
10.0.0.0	0.0.0.0	255.255.255.0	U	0	0	0	eth1
10.10.0.0	0.0.0.0	255.255.255.0	U	0	0	0	eth3
10.0.10.0	0.0.0.0	255.255.255.0	U	0	0	0	eth2
10.0.10.0	0.0.0.0	255.255.255.0	U	0	0	0	eth4
0.0.0.0	77.178.25.1	0.0.0.0	UG	0	0	0	vmbr0

/etc/vz/conf/101.conf

# CPU fair sheduler parameter

CPUUNITS="1000"

CPUS="1"

VE\_ROOT="/var/lib/vz/root/\$VEID"

VE\_PRIVATE="/var/lib/vz/private/\$VEID"

OSTEMPLATE="debian-5.0-standard\_5.0-1\_i386"

ORIGIN\_SAMPLE="pve.auto"

IP\_ADDRESS="77.178.25.145 10.0.0.155 10.10.0.155"

HOSTNAME="test.xxxx.org"

DESCRIPTION="Debian 5.0 (standard)"

NAMESERVER="208.67.222.222"

SEARCHDOMAIN="xxxxx.org"

Thanks very much!

Marc