

Tuesday, December 18, 2012

How to get Solaris 11 VNICs in a Virtualbox VM to work - kind of ...

Normally you can't use a Solaris 11 VNIC on a virtualised interface in Virtualbox. It simply doesn't work. "Virtualized on virtualized" doesn't work well and as far as i understand it, the problem is that the hypervisor has no knowledge of the MAC addresses used by the VNICs.

However it turned out this is not entirely true.

A warning: This isn't something you should use on a regular schedule. When reading this blog entry, it will be obvious to you. I just want to set the expectations straight. It may break other stuff. However this trick is really useful, when you want to try out for example the highly-available configuration of the Solaris Integrated Loadbalancer by combining VRRP and ILB. This configuration uses a VRRP typed VNIC. I've used this trick last week in order to demonstrate exactly this HA-ILB configuration.

Okay, let's start with a plain standard system. One interface. It's a "bridged networking" interface at the moment from Virtualbox perspective. There is an setting you have to do as well in the networking part: Set promiscuous mode to "Allow all":

Now log into the system:

```
jmoekamp@solaris:~$ dladm
LINK          CLASS  MTU  STATE  OVER
net0          phys  1500 up    --
jmoekamp@solaris:~$ ipadm
NAME          CLASS/TYPE STATE    UNDER  ADDR
lo0           loopback ok      --     --
  lo0/v4      static  ok      --     127.0.0.1/8
  lo0/v6      static  ok      --     ::1/128
net0          ip      ok      --     --
  net0/v4     dhcp   ok      --     192.168.1.128/24
```

Okay. Pinging works.

```
client$ ping 192.168.1.128
PING 192.168.1.128 (192.168.1.128): 56 data bytes
64 bytes from 192.168.1.128: icmp_seq=0 ttl=255 time=0.271 ms
64 bytes from 192.168.1.128: icmp_seq=1 ttl=255 time=0.269 ms
c64 bytes from 192.168.1.128: icmp_seq=2 ttl=255 time=0.347 ms
^C
--- 192.168.1.128 ping statistics ---
3 packets transmitted, 3 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 0.269/0.296/0.347/0.036 ms
```

Okay, now let's create a VNIC on net0

```
root@solaris:/home/jmoekamp# dladm create-vnic -l net0 vnic1
root@solaris:/home/jmoekamp# ipadm create-ip vnic1
root@solaris:/home/jmoekamp# ipadm create-addr -T static -a 192.168.1.250 vnic1/v4
Okay, at soon as you type the commands your network connection will stop to work. The reason is simple. VNICs
doesn't work together with VNICs.
client$ ping 192.168.1.250
PING 192.168.1.250 (192.168.1.250): 56 data bytes
Request timeout for icmp_seq 0
Request timeout for icmp_seq 1
^C
```

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```
--- 192.168.1.250 ping statistics ---
3 packets transmitted, 0 packets received, 100.0% packet loss
Okay, now login to your system and use the magic command:
root@solaris:/home/jmoekamp# nohup snoop -d net0 &
And now try to ping the new IP-Address again.
client$ ping 192.168.1.250
PING 192.168.1.250 (192.168.1.250): 56 data bytes
64 bytes from 192.168.1.250: icmp_seq=0 ttl=255 time=0.369 ms
64 bytes from 192.168.1.250: icmp_seq=1 ttl=255 time=0.222 ms
64 bytes from 192.168.1.250: icmp_seq=2 ttl=255 time=0.225 ms
^C
--- 192.168.1.250 ping statistics ---
3 packets transmitted, 3 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 0.222/0.272/0.369/0.069 ms
```

And now it works. As long as the snoop runs. When the snoop doesn't run, it doesn't work. And when you think about it, this behaviour is perfectly reasonable.

Posted by Joerg Moellenkamp in English, Solaris at 20:56