Tasks

WikiSuite | ClearOS in Gateway Mode Refuses to Route KVMs

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Status

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Description

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Reported by

techana

Priority

2

Details

ClearOS in Gateway Refuses to Route KVMs

I'm running clearOS 7.4 in gateway mode. It is known that clearOS uses at least 2 NICs in this mode: external (em1 in my case) and internal (em2).

As I elaborated before, clearOS gateway is currently having issues with KVM bridges. This leaves us with one feasible option for VMs networking for now, which is macvtap.

One can add two networks to KVM/Kimchi of macvtap type. Each network is associated with one clearOS NIC. A virtual machine (VM) can hence be setup to have 1 or 2 virtual NICs (vNIC). Here is a summery of the pros and cons of each setup:

1) One vNIC connected to clearOS' External NIC:
Pros:
- VM can access the Internet

Cons:
- VM cannot access intranet services, unless the ports for these services are wide opened for the Internet. This is a big security concern.
- LAN clients behind the clearOS server cannot access VM via local IP. They can only access it using its Internet address if any.

2) One vNIC connected to clearOS' Internal NIC:
Pros:
- LAN clients can access the VM (remote desktop, VNC, web services, etc.)

Cons:
- VM cannot take IP address from clearOS DHCP. The address must be manually entered.
- VM cannot access the Internet via clearOS gateway
- VM cannot access intranet services, such as flexshares.

3) Two vNICs connected to Both clearOS' NICs
Pros:
- VM can access the Internet.
- LAN clients can access the VM.

Cons:
- VM cannot take IP address from clearOS DHCP. The address must be manually entered in the VM settings.
- VM cannot access the Internet via clearOS gateway.
- VM cannot access intranet services.

The scenario worth fixing is number 2 above; each VM has one vNIC connected to clearOS internal NIC and solve all the cons currently found in such setup. This means configuring the clearOS to deal with VMs as normal LAN clients, so that it provides them with IPs and routes their traffics between its NICs. This will make the VMs be able to access the Internet and the intranet and will also allow the LAN clients to access the VMs.

Thank you.

Related
- Make app-kimchi Check and Fix Missing KVM Settings

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Comments

Marc Laporte 2018-01-14 08:44

Thank you for this detailed report. I agree we should solve it.

techana 2018-01-14 15:59

Sure. There is also one issue to consider, which is performance. As both 'bridge' and 'macvtap' are broken, then one should choose which type to fix in order to get a better performance. This document sheds some light on the topic: https://events.static.linuxfound.org/sites/events/files/slides/LinuxConJapan2014_makita_0.pdf

techana 2018-01-22 09:29

Here is one possible solution which can easily implemented by the Kimchi app:
https://wiki.libvirt.org/page/TroubleshootMacvtapHostFail

The app can just add an "isolated" network as described in section "Less Painful Solution". Routing then should be added so that clearOS can pass traffics between itself and the virtual guests.

EDIT
I just noticed that this "isolated" virtual network is just similar to the "default", which is auto installed.

By design, macvtap does not allow for communication between host and guests. So, if "bridges" cannot work with clearOS, then each guest would need 3 interfaces: macvtap0 to communicate with LAN, isolated tp communicate with host and macvtap1 for accessing the Internet.

Marc Laporte 2018-10-20 10:58

Can you test latest app-network ?
http://koji.clearos.com/koji/packageinfo?packageID=64

There have been a lot of improvements:
https://gitlab.com/clearos/clearfoundation/app-network/commits/master

See also:
https://gitlab.com/clearos/clearfoundation/app-network/issues/1#note_103921448

Marc Laporte 2021-07-24 12:02

https://wikisuite.org/blogpost16-WikiSuite-will-now-support-all-major-Linux-distros