

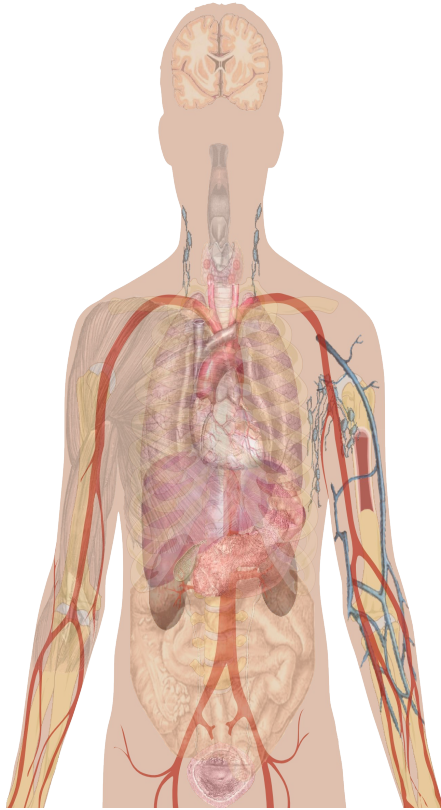


Untangle complex network setups

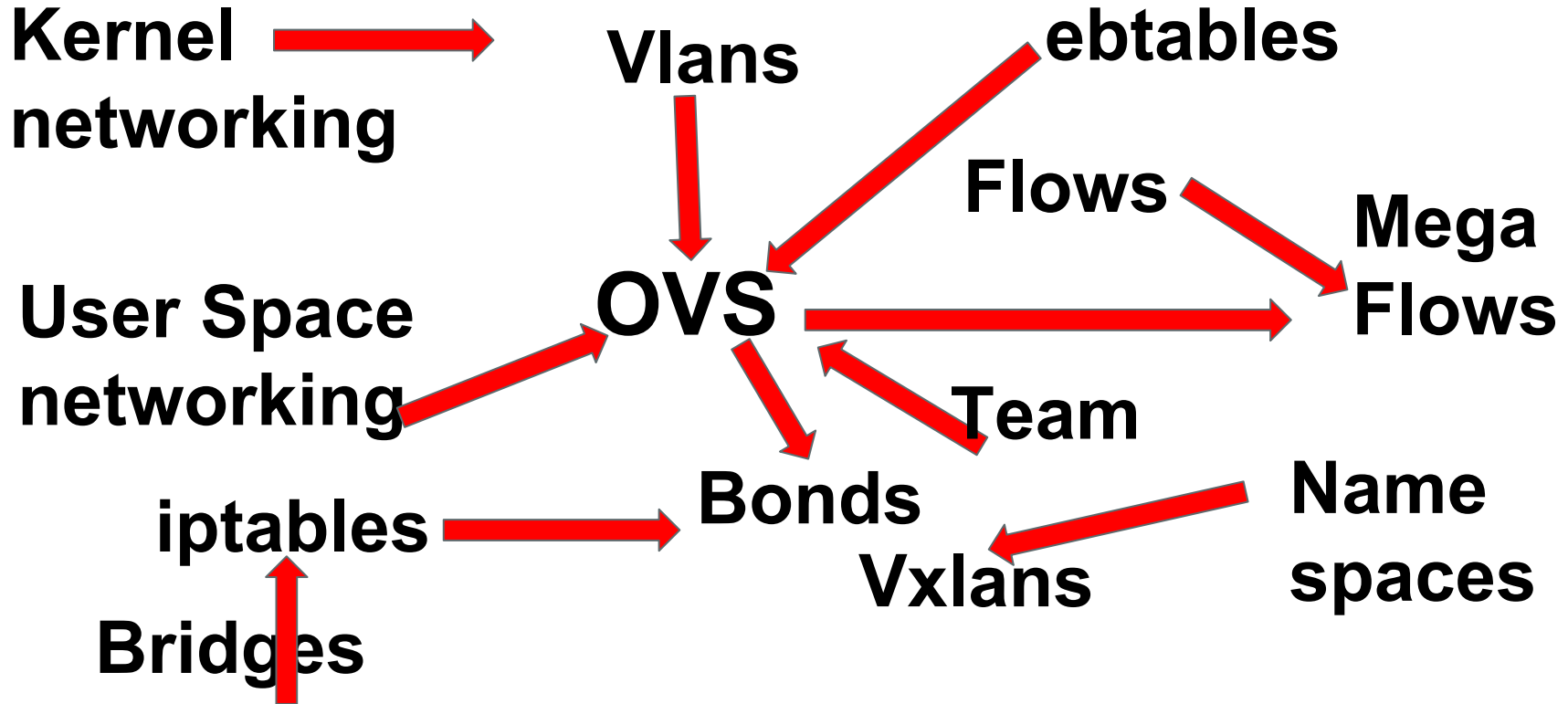
OVS Conference
November 2015

Rashid Khan
Jiri Benc

Imagine Doctors without diagnostic tools



Complex networking setups



Plotnetcfg (plot net config)

- Scans networking configuration on the machine and plots a diagram of the configuration hierarchy
- Single command
- Light weight, no external or run time dependencies
- Just need to access to the target machine
- Works across net namespaces
- Allows multiple frontends (graphviz, json, etc)
- Can be integrated into other tools
- Within one host (for now)

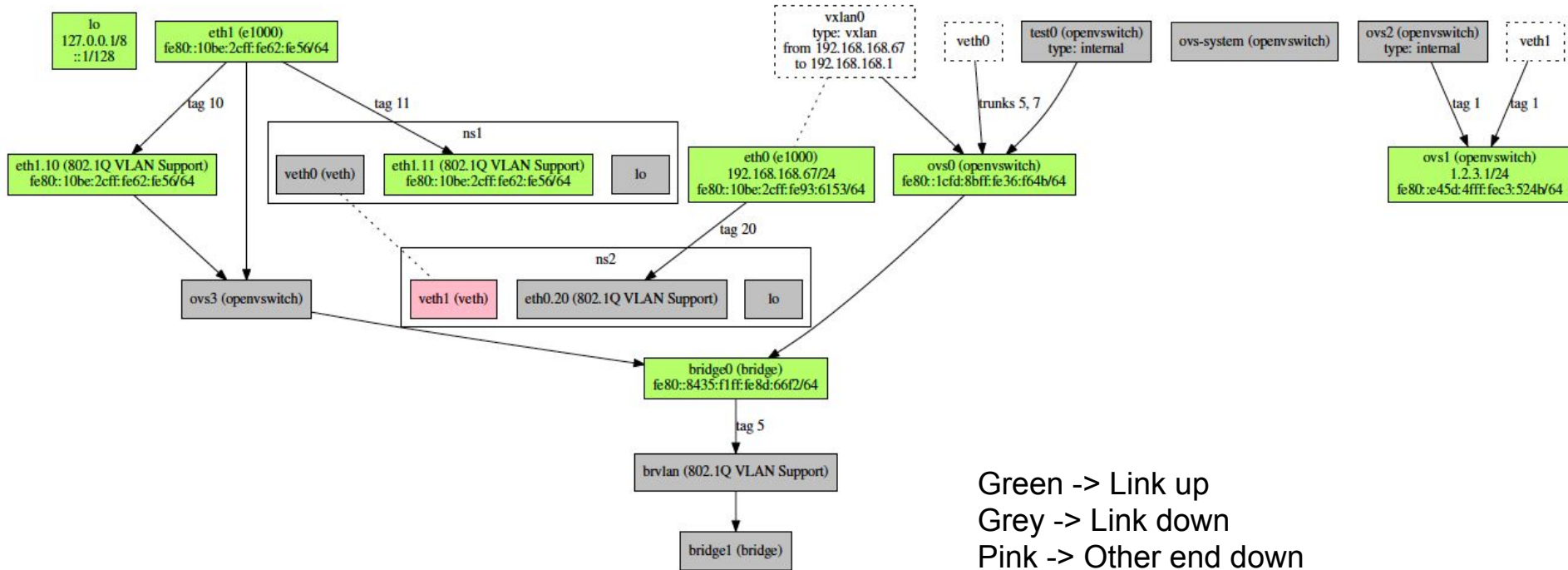
plotnetcfg | dot -Tpdf > output.pdf

Plotnetcfg (plot net config)

- Shows configuration of
 - OVS
 - VLANS
 - Tunnels
 - Bridge
 - Bonding
 - Veth
 - Network namespaces
 - is able to match interfaces across namespace boundaries

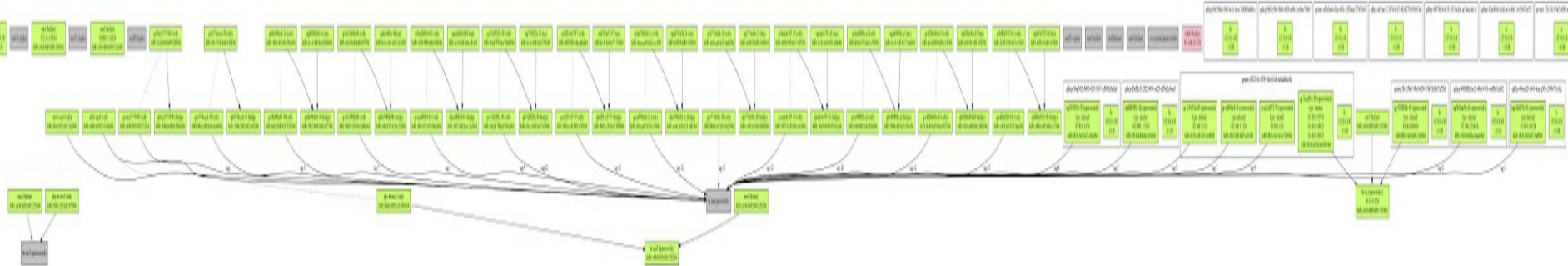
plotnetcfg | dot -Tpdf > output.pdf

Example of what it shows



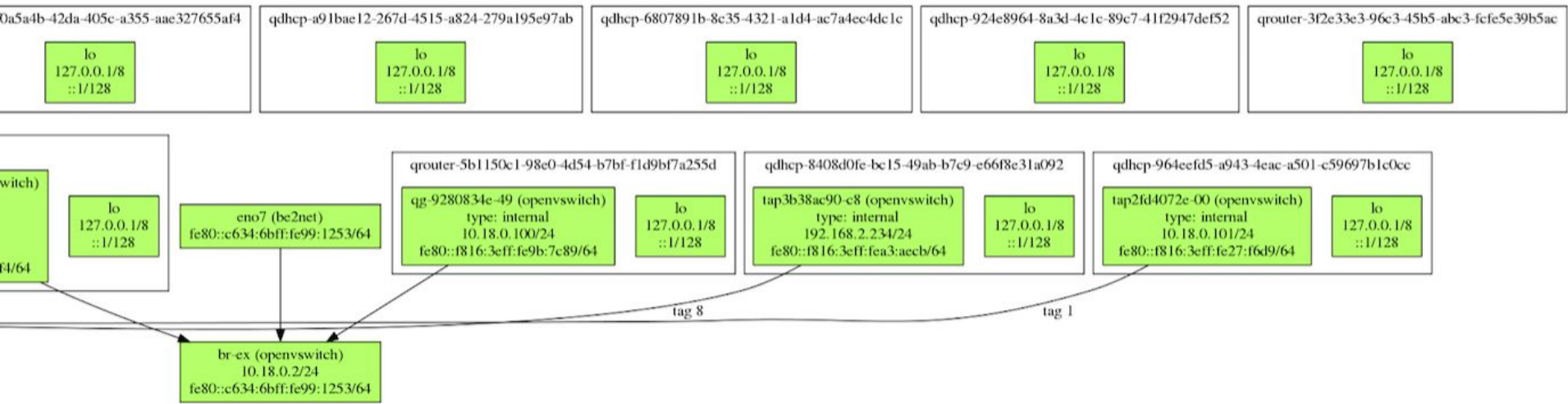
More complex example

(actual deployment)



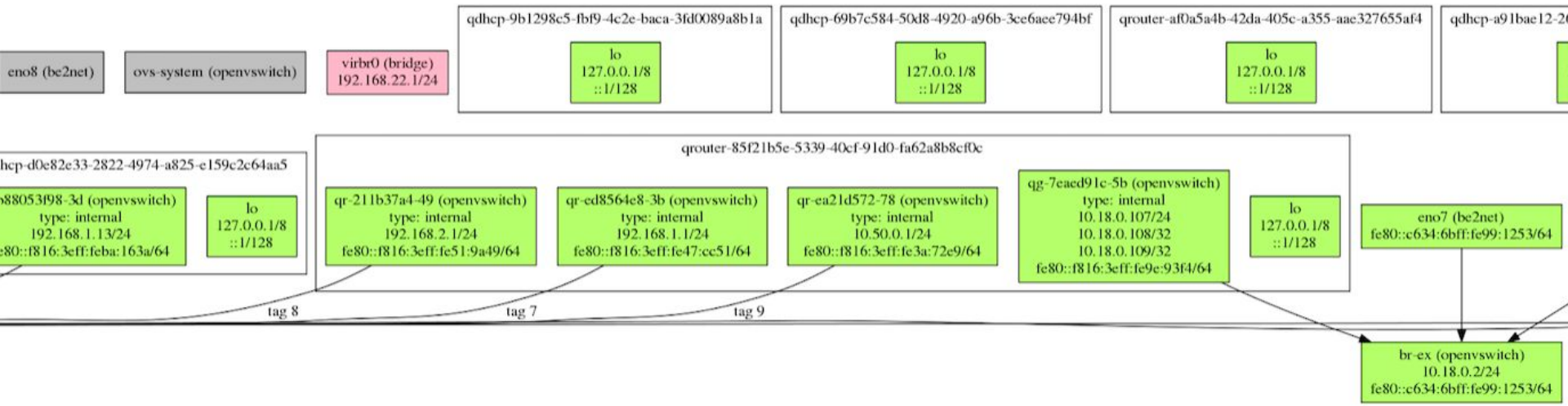
More complex example

(actual deployment)



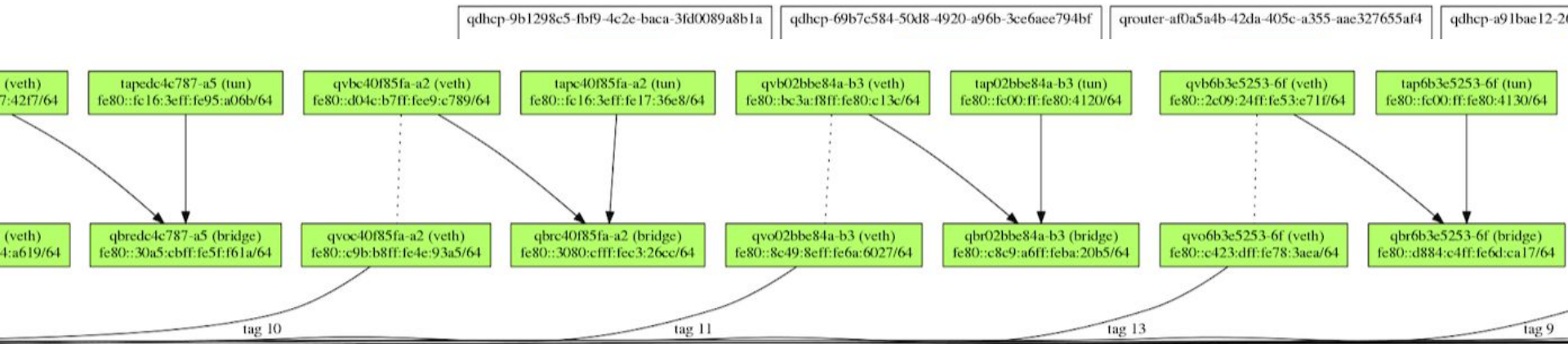
More complex example

(actual deployment)



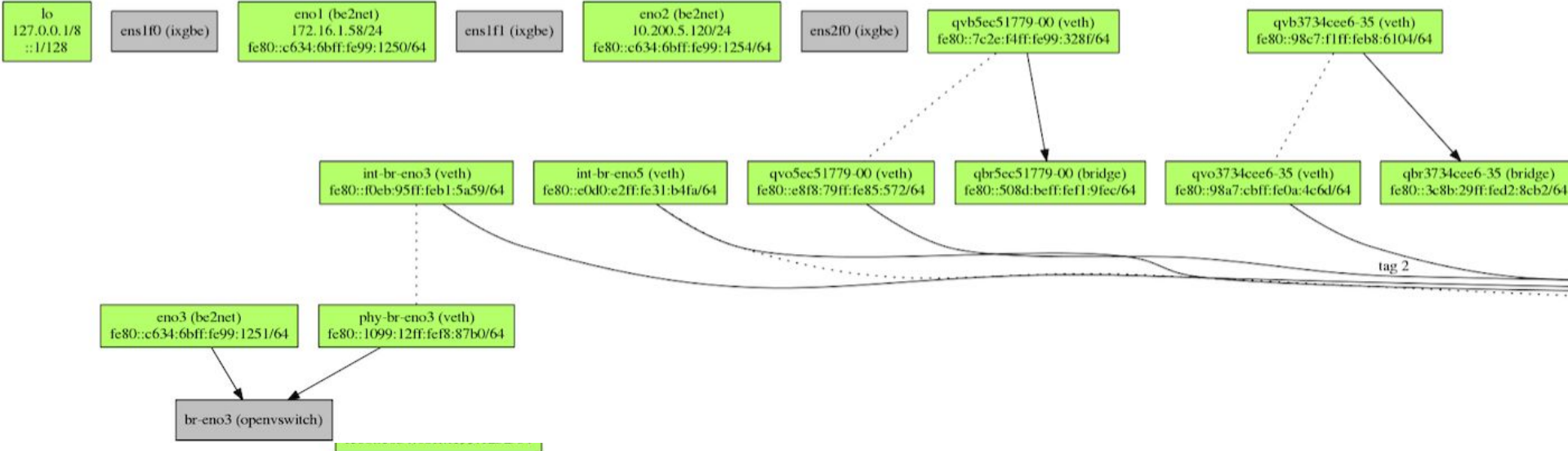
More complex example

(actual deployment)



More complex example

(actual deployment)



Some technical details:

- Reads the data from the kernel directly using netlink, ioctls, procfs and sysfs.
- Scans procfs and /var/run/netns to find out about namespaces (i.e.knows much more than "ip netns list" does).
- Uses netnsid feature to learn about cross namespace links. If netnsid support is not available, falls back to a heuristic matching based on multiple criteria.
- Communicates with ovsdb-server (using json) and with the kernel datapath (genetlink), matching the obtained data correctly.

More Info

Enhancements in progress / plan

- - SR-IOV
- - dpdk+ovs
- - better lwtunnel support
- - display ovs flows
- - display routing info
- - display netfilter rules
- - ovn support (multihost)

Open source project,
(contributions welcome):

<https://github.com/jbenc/plotnetcfg>

Blog with more info:

<http://redhatstackblog.redhat.com/2015/10/15/troubleshooting-networking-with-rhel-openstack-platform-meet-plotnetcfg/>

Call to Arms...

Cool technology is great, but complexity is a barrier to adoption.

Please think about the poor guy who has to put it together and or support it.

- installation
- debugging
- long term support
- maintenance

Questions?
Comments?

