HOW-TO-GUIDE: WAN Emulator

1. Target audience

System Engineers interested in understanding the routing for test and demo proposes.

Why does it make sense to use the WAN emulator? It's because emulates the Internet and different types of WAN links in a LAB environment to test and demo other solutions.

2. Prerequisites

There is only one choice available.

- Open Virtual Appliance (OVA) runnable under
  VMware ESX 6.x or later, VMware Workstation/Player and VirtualBox.
 the VM requires 1 GB RAM, 1 CPU core, 4 GB disk space

The VM owns 5 Ethernet ports; **oob** for controlling the VM and **link-1** up **to link-4** offering routing functionality like a dedicated VRF with the ability to poison each link. Please note, that the poisoning works egress only.

The VMware Virtual Machine should be configured like this
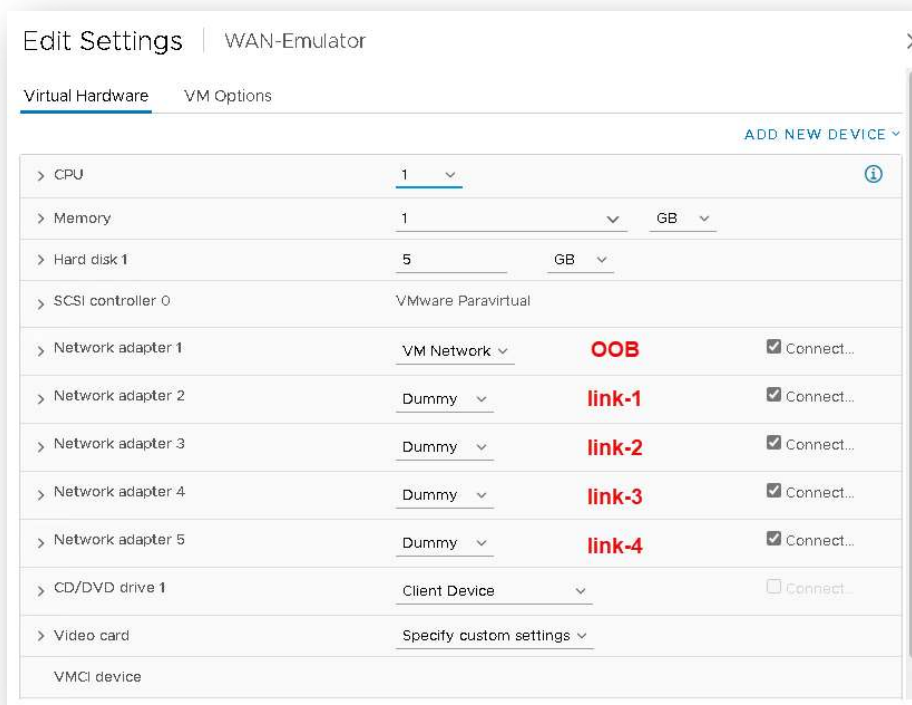
3. Setup

The supported topology is like this
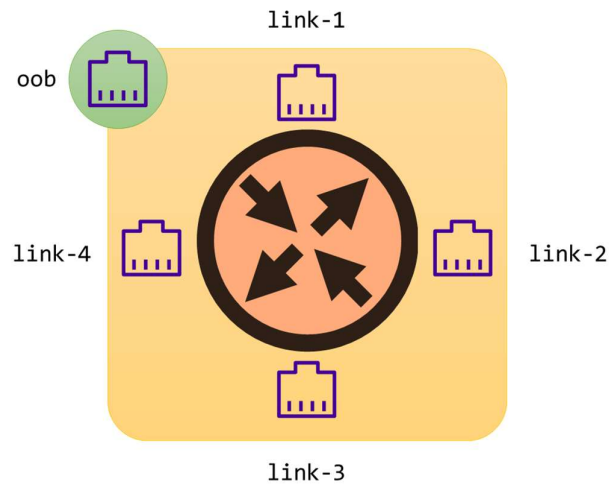
The **oob** interface is your way to access the WEB-UI to control the WANem. The other four interfaces are separated in regard to routing as you know from VRFs. You can use just one interface or more as you like. Just be aware that the crossing traffic will be manipulated only by egress if it leaves the WANem interface.

You should now be able to access the WANem via browser using **http://<ip-address>/**

To start or stop the WAN emulation you have on top middle a Start/Stop button (1). If you make changes, you have the save (2) it to make it active. Please check if the change is accepted (3)

4. Configuring management IP connectivity

The system is already preconfigured for ease of use. Boot up the VM connect to the console and login with user name **wanem** and password **wanem** (the same password for **root** login).

If you login as **wanem** user you have to change to **root** user access before you can make any change.

```
su -
```

By default, DHCP is used to assign an IP address to the management interface; check the IP address of **oob** with

```
ip address show oob
```

If no DHCP service is available, static configuration can be applied as well. You can manually modify the related configuration files:

```
nano /etc/network/interfaces
```

You have to find the following line

```
iface oob inet dhcp
```

The configuration has to be change like this:

```
iface oob inet static
        address 192.168.1.100/24
        gateway 192.168.1.1
        dns-nameservers 8.8.8.8 8.8.4.4
```

After changes are saved (CTRL-X / y / ENTER), please restart the network service.

```
systemctl restart systemd-networkd.service
```

You should now be able to access the WANem via browser using **http://192.168.1.100/**