

Nokia VSIM SR 7750-SR1 Install in EVE-NG

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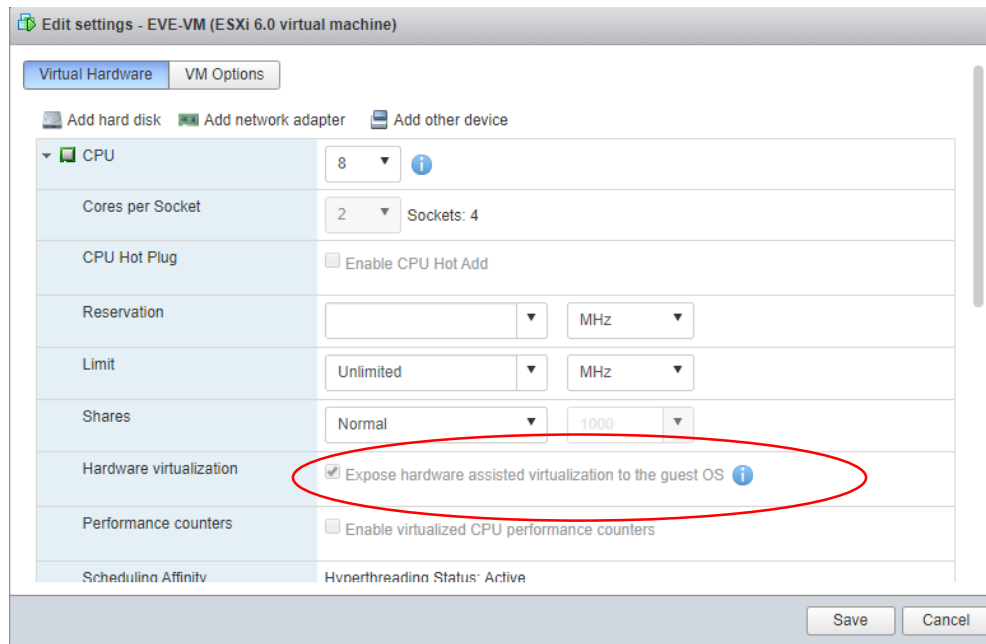
Intro

- This document will guide you through the set up process of VSIM in EVE
- Each VSIM will require 2 vCPU and 5GB of RAM. 4GB RAM and less machines will also work but you might face issues depending on the services you are running
- For the sake of simplicity it will guide you through the process of installing a VSIM 7750-SR1 on version 19.10.R3. The EveNG server used in the examples is 192.168.1.50
- Assumptions
 - EveNG is already installed and in the latest version
 - <https://www.eve-ng.net/index.php/documentation/installation/system-requirement/>
 - <https://www.eve-ng.net/index.php/documentation/installation/virtual-machine-install/>
 - You have access to a VSIM qcow2 image and license. (please contact your Nokia representative if not)

Hypervisor requirements

In case you are using nested virtualization (Eve on top of another hypervisor) the underlay hardware need to be exposed to EVE VM

- e.g. in case of ESXi 6.5
- https://docs.vmware.com/en/VMware-vSphere/6.5/com.vmware.vsphere.vm_admin.doc/GUID-2A98801C-68E8-47AF-99ED-00C63E4857F6.html



Get qcow2 image ready

<https://www.eve-ng.net/index.php/documentation/howtos/howto-add-nokia-vsr/>

Make sure you are running most recent EVE version:

```
$ ssh root@192.168.1.50
```

```
# apt-get update
```

```
# apt-get upgrade
```

Upload the downloaded image to the EVE

```
$ scp sros-vm-19.10.R3.qcow2 root@192.168.1.50:/root
```

Get qcow2 image ready

<https://www.eve-ng.net/index.php/documentation/howtos/howto-add-nokia-vsr/>

Create the folder for HDD image :

```
# mkdir -p /opt/unetlab/addons/qemu/timos-19.10.R3
# ln -s /opt/unetlab/addons/qemu/timos-19.10.R3 /opt/unetlab/addons/qemu/timoscpm-19.10.R3
# ln -s /opt/unetlab/addons/qemu/timos-19.10.R3 /opt/unetlab/addons/qemu/timosiom-19.10.R3
```

Move it

```
# mv /root/sros-vm-19.10.R3.qcow2 /opt/unetlab/addons/qemu/timos-19.10.R3/hda.qcow2
```

Fix Permissions

```
# /opt/unetlab/wrappers/unl_wrapper -a fixpermissions
```

Add your License into image

```
# guestfish -a /opt/unetlab/addons/qemu/timos-19.10.R3/hda.qcow2  
# run  
# mount /dev/sda1 /  
# touch /lic  
# vi /lic
```

vi commands are: i for insert

paste your license

then use key: ':' followed by 'x!' to close and save the file

```
# exit
```

Modify timos.yml template

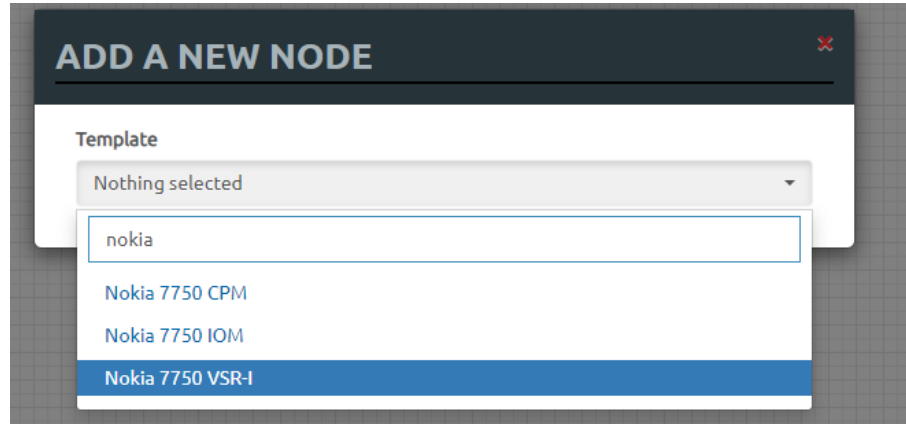
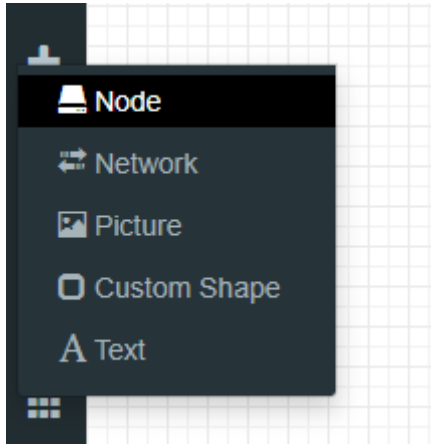
Modify timos.yml, depending on your version it can be stored in one of these directories:

```
# vi /opt/unetlab/html/templates/intel/timos.yml  
# vi /opt/unetlab/html/templates/timos.yml
```



timos.yml

Add a new node
Add a new node



Add a new node

Node config

Parameters should be load from the yml template. Double check they have been loaded correctly.

Check the version and the UUID matches the ones in the licence and image.

Timos Line

```
slot=A chassis=sr-1s card=cpm-1s slot=1 chassis=sr-1s card=xcm-1s mda/1=s36-100gb-qsf28 static-route=0.0.0.0/1@192.168.1.100 license-file=cf3:\lic
```

QEMU custom options

```
-machine type=pc-1.0,accel=kvm -serial mon:stdio -nographic -no-user-config -nodefaults -rtc base=utc -enable-kvm -cpu host
```

QEMU custom options with vmware Fusion

```
-machine accel=kvm -serial mon:stdio -nographic -no-user-config -nodefaults -rtc base=utc -enable-kvm -cpu host
```

Add a new node

Node config

EDIT NODE

Template

Nokia 7750 VSR-I

ID

1

Image

timos-19.10.R3

Name/prefix

7750SR

Icon

 SROS.png

UUID

4201f182-798e-8b62-c0e6-0be5157b3762

CPU Limit

☐

CPU

2

RAM (MB)

5120

Ethernets

10

Management Address

192.168.1.51/24

Timos Line

slot=A chassis=sr-1s card=cpm-1s slot=1 chassis=sr-1s card=xcm-1s mda/1=s36-10

Timos License Path

QEMU Version

tpl(4.1.0)

QEMU Arch

tpl(x86_64)

QEMU Nic

tpl(virtio-net-pci)

QEMU custom options (reset to template value)

m -serial mon:stdio -nographic -no-user-config -nodefaults -rtc base=utc -cpu host

Startup configuration

None

Delay (s)

0

Console

telnet

Left

0

Top

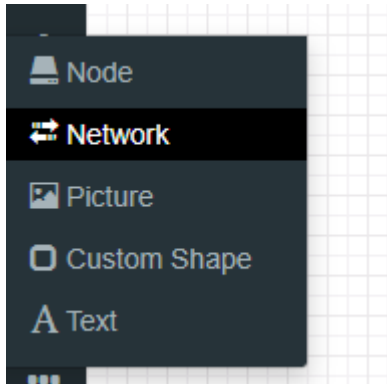
0

Save

Cancel

Add a new node

Add management interface



ADD A NEW NETWORK

Number of networks to add:

Name/Prefix:

Type:

Left:

Top:

bridge

Management(Cloud0) ✓

Cloud1

Cloud2

Cloud3

Cloud4

Cloud5

Cloud6

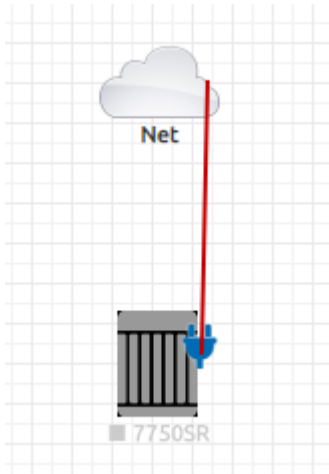
Cloud7

Cloud8

Cloud9

Add a new node

Attach management interface



ADD CONNECTION BETWEEN NET AND 7750SR

Net

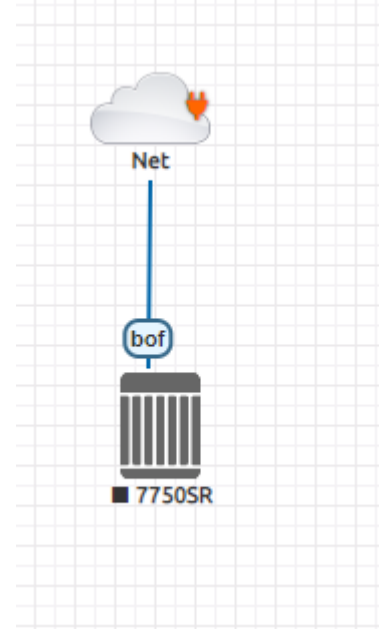
Source ID: 1
Source Name: Net
type - Network

Choose Interface for 7750SR

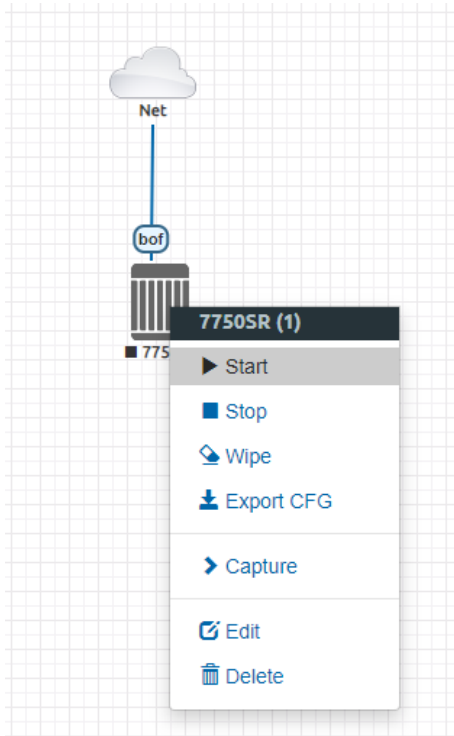
bof

Destination ID: 1
Destination Name: 7750SR
type - Node

Save Cancel



Start the node and connect via console

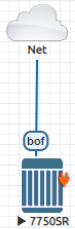


Start the node
and connect via
console

The IP is the
EVE VM and the
port is the one
shown in the
bottom left
corner when
you move the
mouse over the
routers



telnet://192.168.1.50:32769



Check license

- Check the license

```
# show bof
```

```
# show system license
```

- Load attached config.
 - Power must be configured
 - xcm and xmda must be configured
 - Configure Break out cables
 - Enable interfaces



config_example.txt

Load config

Only port 1 in the breakout cable per physical interface will come up

```
A:7750-SR1-01# show port
```

Port Id	Admin State	Link State	Port State	Cfg MTU	Oper MTU	LAG/ Bndl	Port Mode	Port Encp	Port Type	C/QS/S/XFP/ MDIMDX
1/1/c1	Up		Link Up						conn	100GBASE-LR4*
1/1/c1/1	Up	Yes	Up	9212	9212	- netw	null	xgige		
1/1/c1/2	Up	No	Down	9212	9212	- netw	null	xgige		
1/1/c1/3	Up	No	Down	9212	9212	- netw	null	xgige		
1/1/c1/4	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c2	Up		Link Up						conn	100GBASE-LR4*
1/1/c2/1	Up	Yes	Up	9212	9212	- netw	null	xgige		
1/1/c2/2	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c2/3	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c2/4	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c3	Up		Link Up						conn	100GBASE-LR4*
1/1/c3/1	Up	Yes	Up	9212	9212	- netw	null	xgige		
1/1/c3/2	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c3/3	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c3/4	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c4	Up		Link Up						conn	100GBASE-LR4*
1/1/c4/1	Up	Yes	Up	9212	9212	- netw	null	xgige		
1/1/c4/2	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c4/3	Down	No	Down	9212	9212	- netw	null	xgige		
1/1/c4/4	Down	No	Down	9212	9212	- netw	null	xgige		

1/1/c1/1

1/1/c2/1

1/1/c3/1

.....

In order to add additional interfaces you need to shut the device first and don't forget to save the configuration first!

```
# admin save
```

NOKIA

timos.yml example

```
# vi /opt/unetlab/html/templates/intel/timos.yml
```

```
---  
type: qemu  
config_script: config_timos.py  
description: Nokia 7750 VSR-I  
name: 7750SR  
nokia_type: vsr  
cpulimit: 1  
icon: SROS.png  
cpu: 2  
ram: 5120  
ethernet: 10  
eth_name:  
  - bof  
eth_format: p1/1/{1-48}  
console: telnet  
timos_line: slot=A chassis=sr-1s card=cpm-1s slot=1 chassis=sr-1s card=xcm-1s mda/1=s36-100gb-qsfp28 static-route=0.0.0.0/1@192.168.1.1 license-file=cf3:\lic  
qemu_version: 4.1.0  
qemu_arch: x86_64  
qemu_nic: virtio-net-pci  
qemu_options: -machine accel=kvm -serial mon:stdio -nographic -no-user-config  
  -nodefaults -rtc base=utc -cpu host  
management_address: 192.168.1.51/24
```

Configuration example

Enable power

Configure

system

```
name "7750-SR1-01"
```

```
power-shelf 1
```

```
power-shelf-type ps-a4-shelf-dc
```

```
power-module 1
```

```
power-module-type ps-a-dc-6000
```

```
no shutdown
```

```
exit
```

```
power-module 2
```

```
power-module-type ps-a-dc-6000
```

```
no shutdown
```

```
exit
```

```
no shutdown
```

```
exit
```

Configuration example

Enable xcm and mda linecards – enable physical ports and breakout to 4x10G

```
card 1
  card-type xcm-1s
  mda 1
    mda-type s36-100gb-qsfp28
    no shutdown
  exit
  no shutdown
exit

port 1/1/c1
  connector
    breakout c4-10g
  exit
  no shutdown
exit

port 1/1/c2
  connector
    breakout c4-10g
  exit
  no shutdown
```

Configuration example

Enable 10G ports, only 1st port will come up per breakout cable

```
port 1/1/c1/1
  ethernet
  exit
  no shutdown
exit
port 1/1/c2/1
  ethernet
  exit
  no shutdown
exit

echo "Router (Network Side) Configuration"
router Base
  interface "p1/1/c1/1"
    address 1.1.1.1/30
    port 1/1/c1/1
    no shutdown
  exit
22 interface "system"
  no shutdown
```

Configuration example

Add an IP and save configuration

```
echo "Router (Network Side) Configuration"
```

```
router Base
```

```
interface "p1/1/c1/1"
```

```
address 1.1.1.1/30
```

```
port 1/1/c1/1
```

```
no shutdown
```

```
exit
```

```
interface "system"
```

```
no shutdown
```

```
exit
```

```
exit
```

```
exit all
```

```
admin save
```