How-to (Netronome)

Server with Netronome (200.132.136.69)
Server with Traffic Generator (200.132.136.67)

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Step 1 - How to access the server? Or how to copy files from or to the server.

ssh usuarioServer@200.132.136.67
scp file usuarioServer@200.132.136.67:/path (copy a file to the server)
scp usuarioServer@200.132.136.67:/path/file /local/path (copy a file from the server)

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Step 0- Access the link below to download the compiler or the SDK.

https://www.dropbox.com/sh/e4ndjodcx82012u/AAD8kPw4fgUMJETHeWQw-zrZa?dl=0

Step 1- Installing the compiler **(in case it is not yet):**
sudo dpkg −i nfp−sdk6.1. 0. 1−preview−3243−2 amd64.deb
Step 2- Creating a missing symbolic link
ln -s /opt/netronome/p4/bin/p4c-bm2-ss /opt/netronome/p4/libexec/

Step 3- Once Steps 1-2 are done, it is possible to compile a .p4 file as follow:
/opt/netronome/p4/bin/nfp4build -o teste.nffw -i hydrogen -I
/opt/netronome/p4/include/16/p4include/ --nfp4c_p4_version 16 -4 basic.p4

Step 3.1- In general, for the Netronome hardware we have, we compile with the following set of parameters:

/opt/netronome/p4/bin/nfp4build/nfp4build --output-nffw-filename code01/firmware.nffw -4 basic.p4 --sku nfp-4xxx-b0 --platform hydrogen --reduced-thread-usage --no-shared-codestore --debug-info --nfp4c_p4_version 16 --nfp4c_p4_compiler p4c-nfp --nfirc_default_table_size 65536 --nfirc_no_all_header_ops --nfirc_implicit_header_valid --nfirc_no_zero_new_headers --nfirc_multicast_group_count 16 --nfirc_multicast_group_size 16 --nfirc_mac_ingress_timestamp

Step 4- Loading the firmware (the object just compiled) to the Netronome NIC
/opt/netronome/p4/bin/rtecli -p 20206 design-load -f meuP4.nffw -c config.p4cfg

Step 5- Verify whether or not the firmware was correctly loaded
/opt/netronome/p4/bin/rtecli -p 20206 status

Step 6- How to generate network traffic? (from server 200.132.136.69)
/opt/MoonGen/build/MoonGen
/opt/MoonGen/examples/netronome-packetgen/packetgen.lua -tx 2 -rx 2 --dst-ip 10.1.0.10 --dst-ip-vary 0.0.0.0

1 - Virtualbox (how to init and access VMs)

a) **Listing availables VMs**
   VBoxManage list vms
b) Init a given VM
   VBoxManage startvm NOMEVM

2- Como acessar a VM inicializada no servidor
a) ssh -t -X -C usuarioServer@200.132.136.67 -X -C sdn@192.168.56.101 (acesso a VM p4)
b) WIN 10: usr: lospampa-unipampa@outlook.com PIN: lospampa2020