**Set up dts environment on Linux operate system**

1. Install Linux Operate System
   1. As usual
   2. Update to latest version or specific version you need
2. Configure iommu and huge page in grub command line:
   1. Edit /boot/grub2/grub.cfg

Add “intel\_iommu=on iommu=pt hugepagesz=1G hugepages=8 hugepagesz=2M hugepages=1024 default\_hugepagesz=1G” to specific linux kernel cmdline you need.

* 1. Edit /etc/default/grub

Add “intel\_iommu=on iommu=pt hugepagesz=1G hugepages=8 hugepagesz=2M hugepages=1024 default\_hugepagesz=1G” to GRUB\_CMDLINE\_LINUX.

Exec cmd: grub2-mkconfig -o /boot/grub2/grub.cfg

1. Close firewall

systemctl disable firewall.service

1. Close selinux

Edit /etc/selinux/config, config SELINUX as disabled, then reboot

1. Disable NetworkManager service

systemctl disable NetworkManager.service

1. Configure network:

chkconfig --level 2345 network on

chkconfig –list

1. Configure nics need to boot up under /etc/sysconfig/network-scripts/:

Port em0 as example:

TYPE="Ethernet"

DEFROUTE="yes"

IPV4\_FAILURE\_FATAL="no"

IPV6INIT="yes"

IPV6\_AUTOCONF="yes"

IPV6\_DEFROUTE="yes"

IPV6\_PEERDNS="yes"

IPV6\_PEERROUTES="yes"

IPV6\_FAILURE\_FATAL="no"

NAME="em0"

DEVICE="em0"

UUID="44132818-4a00-432e-a15e-36d8af21a7b2"

ONBOOT="yes"

HWADDR="00:1E:67:D0:03:47"

PEERDNS="yes"

PEERROUTES="yes"

For static ip:

IPADDR=10.239.128.86

NETMASK=255.255.254.0

GATEWAY=10.239.128.1

DNS1=10.248.2.1

DNS2=10.239.27.228

DNS3=172.17.6.9

For dynamic ip:

BOOTPROTO=dhcp

1. Install essential package for dts:

As for fedora operate system:

yum install python-scapy python-pexepect python-xlrd python-xlwt python-docutils python-pysctp python-matplotlib pcapy tcpdump bridge-utils tunctl

1. Git clone dts from dpdk.org
   1. git clone <http://dpdk.org/git>/tools/dts
2. Configure crbs.py under dts/config:

dut\_ip=10.239.128.86 #the server on which run dpdk.

dut\_user=root #user name for server

dut\_passwd=tester #user passwd for server

os=linux #os type on server

tester\_ip=10.239.128.86 #tester where run dts

tester\_passwd=tester #tester user passwd

ixia\_group= #if you use ixia generate package, need configure this

channels=4 #as default

bypass\_core0=True #as default

1. If using ixia generate package, configure ixia.cfg under dts/conf/:

[Group1]

ixia\_version=6.62 #ixia os version

ixia\_ip=10.239.128.121 #ixia ip

ixia\_ports= #card and port used

card=1,port=1;

card=1,port=2;

card=1,port=3;

card=1,port=4;

1. Copy a execution configuration file from dts/executions/ to dts/ as execution.cfg, then configure it:

[Execution1]

crbs=10.239.128.86 #server ip

drivername=igb\_uio #driver name for ether nic

test\_suites= #add test suites to run

blacklist,

……

vxlan,

whitelist

targets=

x86\_64-native-linuxapp-gcc #compile target

parameters=nic\_type=cfg:func=true #config how to get the nic info

1. Configure ports.cfg configuration file under dts/conf/:

# [DUT IP]

# ports=

# pci=Pci BDF,intf=Kernel interface;

# pci=Pci BDF,mac=Mac address,peer=Tester Pci BDF,numa=Port Numa

# pci=Pci BDF,peer=IXIA:card.port

Example:

[10.239.128.86]

ports =

pci=86:00.0,mac=00:13:20:FF:F9:FE,peer=81:00.0;

pci=86:00.1,mac=00:13:20:FF:F9:FF,peer=81:00.1;

1. Prepare dpdk package, generate dpdk.tar.gz and copy to dts/dep/:

git clone <http://dpdk.org/git/dpdk>

tar cvzf dpdk.tar.gz ./dpdk #keep the name as dpdk

cp dpdk.tar.gz dts/dep/

1. ssh\_exception

The function synch\_original\_prompt is in the file /usr/lib/python2.7/site-packages/pxssh.py around line 133. The working function is like follow:

def synch\_original\_prompt (self):

        """This attempts to find the prompt. Basically, press enter and record

        the response; press enter again and record the response; if the two

        responses are similar then assume we are at the original prompt. """

        # All of these timing pace values are magic.

        # I came up with these based on what seemed reliable for

        # connecting to a heavily loaded machine I have.

        # If latency is worse than these values then this will fail.

        self.sendline()

        time.sleep(0.5)

        self.read\_nonblocking(size=10000,timeout=1) # GAS: Clear out the cache before getting the prompt

        time.sleep(0.1)

        self.sendline()

        time.sleep(0.5)

        x = self.read\_nonblocking(size=1000,timeout=1)

        time.sleep(0.1)

        self.sendline()

        time.sleep(0.5)

        a = self.read\_nonblocking(size=1000,timeout=1)

        time.sleep(0.1)

        self.sendline()

        time.sleep(0.5)

        b = self.read\_nonblocking(size=1000,timeout=1)

        ld = self.levenshtein\_distance(a,b)

        len\_a = len(a)

        if len\_a == 0:

            return False

        if float(ld)/len\_a < 0.4:

            return True

        return False

1. copy dts/dep/nvgre.py & dts/dep/vxlan.py to

/usr/lib/python2.7/site-packages/scapy/layers/

17./etc/resolv.conf

search icx.intel.com

nameserver 10.248.2.5

nameserver 10.239.27.36

nameserver 172.17.6.9