Next Gen Infrastructure Core *(NGIC)* Hands-On Demo

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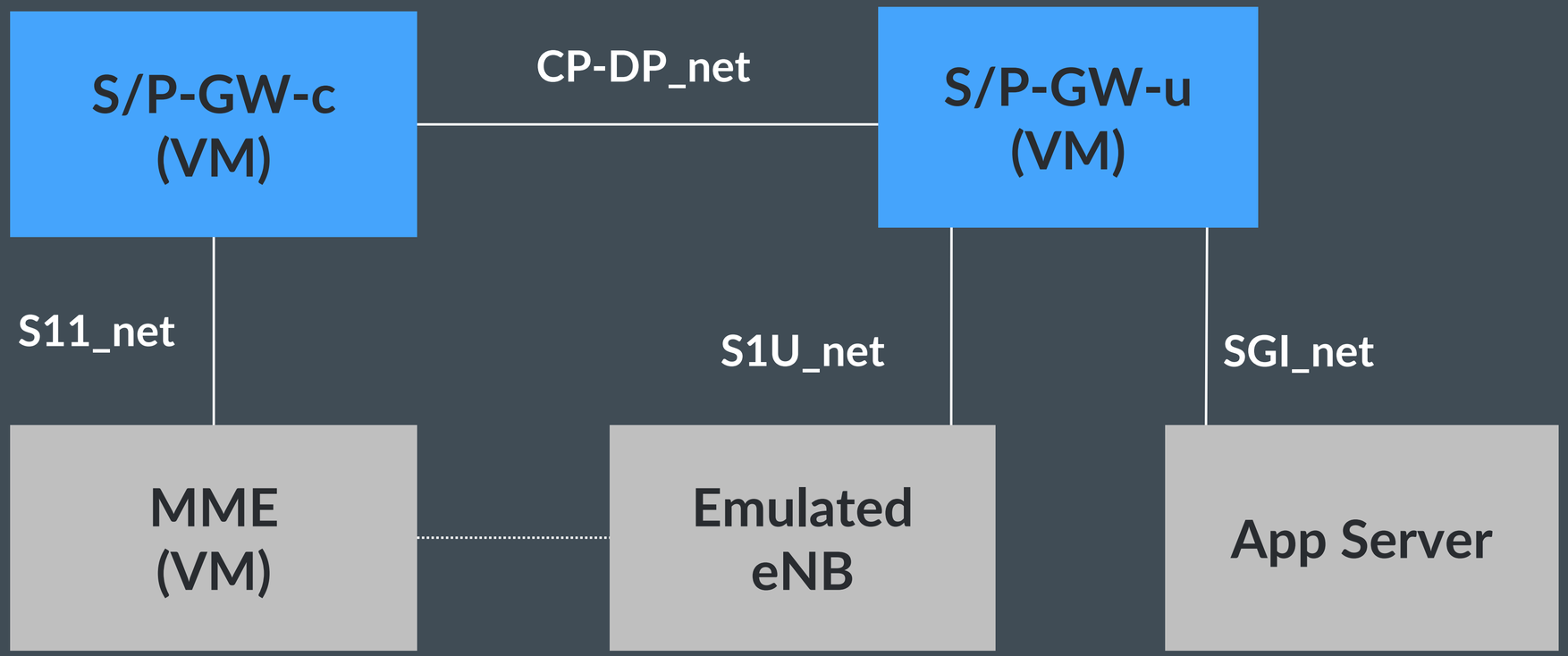
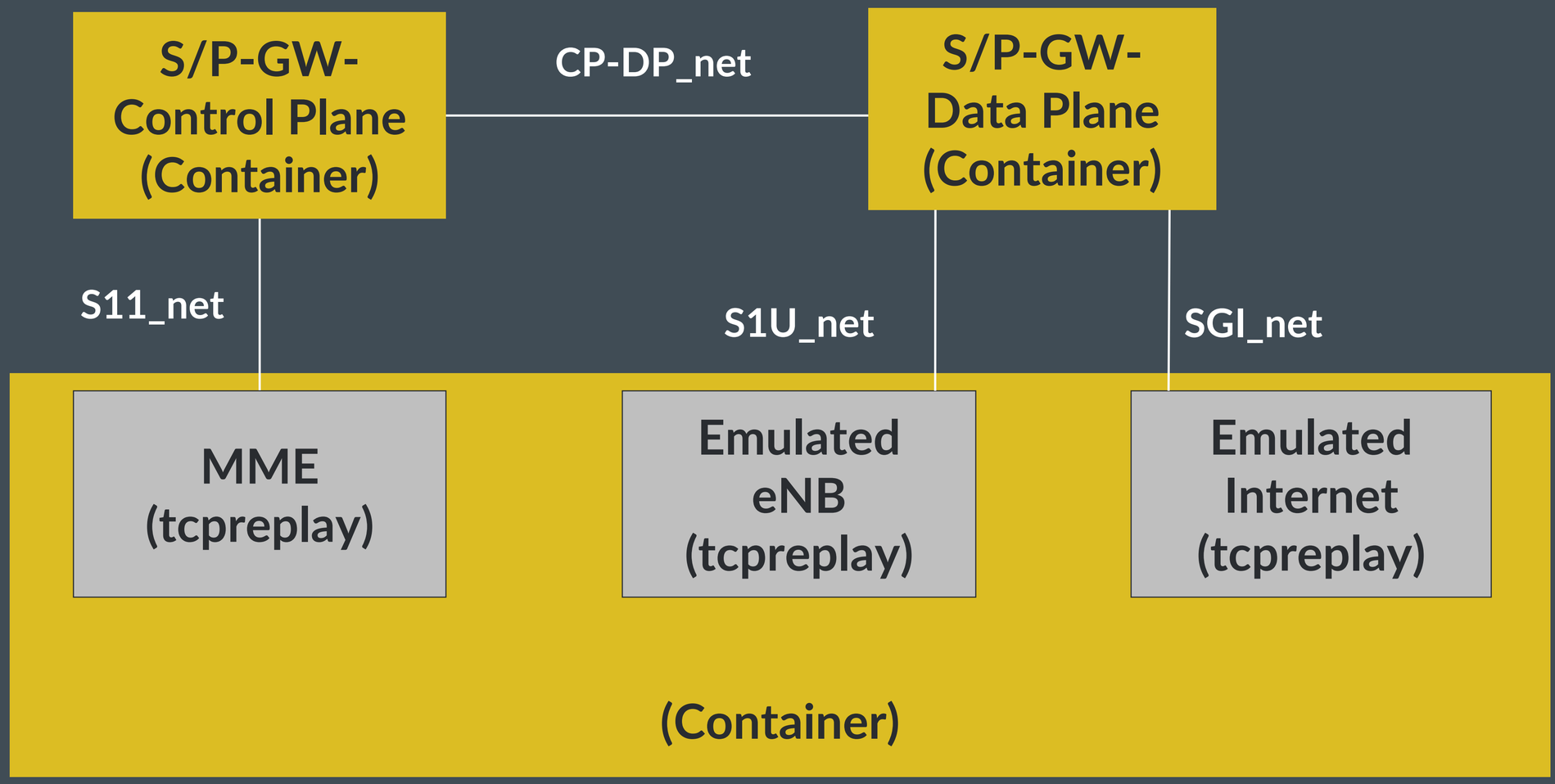
Agenda

- Brief vEPC/NGIC Background
- Hands-on Demo

LOGICAL NETWORK CONNECTIVITY



DEMO of NGIC using 3 containers



Setup

- Prerequisites:
  - Install Docker (1.13 or higher) and Docker Compose
  - Docker images for NGIC control and data plane

```
docker pull ngiccorddemo/ngic-cp
docker pull ngiccorddemo/ngic-dp
docker pull ngiccorddemo/ngic-traffic
```

  - Demo folder

```
git clone https://github.com/ngiccorddemo/cordbuild2017.git
```

Setup

For later: The NGIC Code is available at https://gerrit.opencord.org/#/q/project:ngic
`Commit-id: a9e05`

For now: In this short 45 minute demo, we will be using prebuilt Docker images

Open 3 terminals and change directories to your Demo folder

Step 1: Start the Data Plane

In terminal #1:

```
docker-compose -p epc up dp
```

Wait for DP to print stats

Step 2: Start the Control Plane

In terminal #2:

```
docker-compose -p epc up cp
```

You will see a large table of stats printing periodically

Step 3: Start the Traffic Container

In terminal #3: Bring up traffic container in daemon mode (-d)

```
docker-compose -p epc up -d traffic
```

Enter the container

```
docker exec -it epc_traffic_1 /bin/bash
```

Step 4: Start the traffic

First, get the interface names by running the following commands:

```
S11_IFACE=$( netstat -ie | grep -B1 10.1.10 | head -n1 | awk '{print $1}' | tr --d : )
S1U_IFACE=$( netstat -ie | grep -B1 11.1.1 | head -n1 | awk '{print $1}' | tr --d : )
SGI_IFACE=$( netstat -ie | grep -B1 13.1.1 | head -n1 | awk '{print $1}' | tr --d : )
```

Step 5: Start the Control traffic

Play the S11 (control plane) traffic to set up the flows

```
tcpreplay  --pps=200 -i $S11_IFACE s11.pcap
```

Look at the Control Plane (Screen #2) and make sure that the packets appear

There should be 2000 packets sent/2000 received (from the 1000 CreateSession and 1000 ModifyBearer packets)

Step 6: Start the Data Plane traffic

Now start the S1U (Data Plane uplink) traffic

```
tcpreplay  -i $S1U_IFACE s1u.pcap
```

Check the Data Plane (Screen #1). You should see ~6500 packets received on the S1U and ~6500 packets transmitted on the SGi

Step 6: Start the Data Plane traffic (cont.)

Now start the SGi (Data Plane downlink) traffic

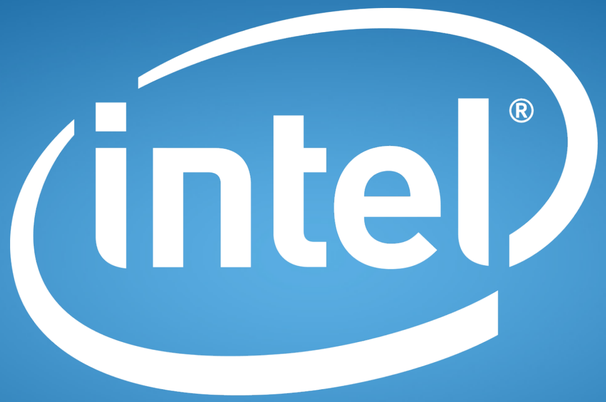
```
tcpreplay  -i $SGI_IFACE sgi.pcap
```

Check the Data Plane (Screen #1). You should see ~6500 packets received on the SGi and ~6500 packets transmitted on the S1U

Step 7: Clean Up

From the traffic terminal, type `'exit'` and then type:

```
docker-compose -p epc down
```



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