

# Task1——边缘计算

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## 第一次周报中提到的问题详细描述及解决

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## 之前的问题已得到解决

### 主要原因:

- DNS服务器列表配置的顺序，导致域名解析错误

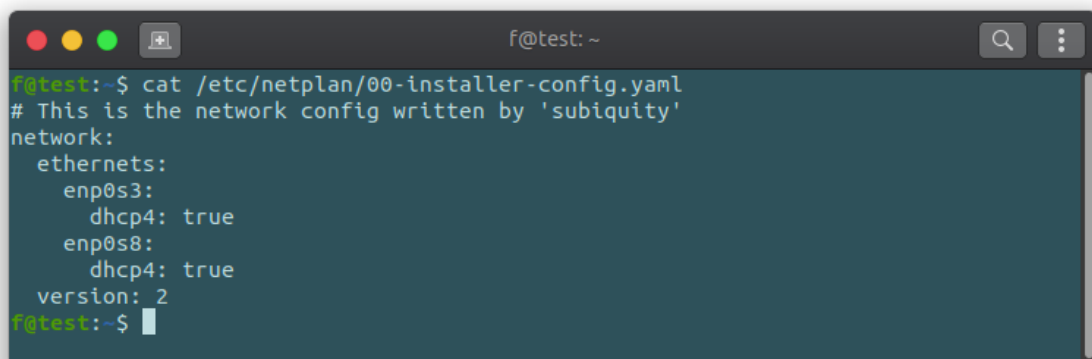
## 仍然存在的问题

- 配置静态IP后丢包严重，暂时不知道原因

## 之前存在的问题描述

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### 虚拟机默认网络配置信息

A terminal window with a dark background and light text. The window title is 'f@test: ~'. The command 'cat /etc/netplan/00-installer-config.yaml' has been executed, displaying the following YAML configuration: '# This is the network config written by \'subiquity\'', 'network:', ' ethernets:', ' enp0s3:', ' dhcp4: true', ' enp0s8:', ' dhcp4: true', ' version: 2'. The prompt 'f@test:~\$' is visible at the bottom left of the terminal area.

```
f@test:~$ cat /etc/netplan/00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      dhcp4: true
    enp0s8:
      dhcp4: true
  version: 2
f@test:~$
```

### 网络信息

```
f@test: ~  
f@test:~$ ifconfig  
docker0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500  
    inet 172.17.0.1 netmask 255.255.0.0 broadcast 172.17.255.255  
    ether 02:42:00:8d:58:a3 txqueuelen 0 (Ethernet)  
    RX packets 0 bytes 0 (0.0 B)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 0 bytes 0 (0.0 B)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.0.109 netmask 255.255.255.0 broadcast 192.168.0.255  
    inet6 fe80::a00:27ff:fe30:9027 prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:30:90:27 txqueuelen 1000 (Ethernet)  
    RX packets 937 bytes 325443 (325.4 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 206 bytes 24345 (24.3 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.56.16 netmask 255.255.255.0 broadcast 192.168.56.255  
    inet6 fe80::a00:27ff:fe2e:913e prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:2e:91:3e txqueuelen 1000 (Ethernet)  
    RX packets 814 bytes 69871 (69.8 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 578 bytes 72643 (72.6 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
    inet 127.0.0.1 netmask 255.0.0.0  
    inet6 ::1 prefixlen 128 scopeid 0x10<host>  
    loop txqueuelen 1000 (Local Loopback)  
    RX packets 122 bytes 9868 (9.8 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 122 bytes 9868 (9.8 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
f@test:~$
```

enp0s3是桥接的宿主机的网络，enp0s8是在VirtualBox中定义的网络



默认情况下，虚拟机可以连接到公网

```
f@test: ~  
f@test:~$ ping dx3906.tech  
PING dx3906.tech (172.67.192.238) 56(84) bytes of data.  
64 bytes from 172.67.192.238 (172.67.192.238): icmp_seq=1 ttl=51 time=352 ms  
64 bytes from 172.67.192.238 (172.67.192.238): icmp_seq=2 ttl=51 time=282 ms  
64 bytes from 172.67.192.238 (172.67.192.238): icmp_seq=3 ttl=51 time=298 ms  
64 bytes from 172.67.192.238 (172.67.192.238): icmp_seq=4 ttl=51 time=322 ms  
64 bytes from 172.67.192.238 (172.67.192.238): icmp_seq=5 ttl=51 time=343 ms  
^C  
--- dx3906.tech ping statistics ---  
6 packets transmitted, 5 received, 16.6667% packet loss, time 5002ms  
rtt min/avg/max/mdev = 282.161/319.302/351.553/26.182 ms  
f@test:~$
```

修改后的网络配置

```
f@test: ~  
f@test:~$ cat /etc/netplan/00-installer-config.yaml  
# This is the network config written by 'subiquity'  
network:  
  ethernets:  
    enp0s3:  
      dhcp4: true  
    enp0s8:  
      dhcp4: false  
      addresses: [192.168.56.16/24]  
      gateway4: 192.168.56.2  
      nameservers:  
        addresses: [8.8.8.8, 8.8.4.4, 192.168.56.2]  
  version: 2  
f@test:~$
```

无法连接网络

```
f@test: ~  
f@test:~$ ping dx3906.tech  
PING dx3906.tech (104.28.21.133) 56(84) bytes of data.  
^C  
--- dx3906.tech ping statistics ---  
39 packets transmitted, 0 received, 100% packet loss, time 38893ms  
  
f@test:~$ ping www.baidu.com  
PING www.a.shifen.com (61.135.169.121) 56(84) bytes of data.  
^C  
--- www.a.shifen.com ping statistics ---  
28 packets transmitted, 0 received, 100% packet loss, time 27632ms  
  
f@test:~$
```

之前使用的配置，静态IP

```
f@test: ~
8 # This is the network config written by 'subiquity'
7 network:
6   ethernets:
5     enp0s3:
4       dhcp4: false
3       addresses: [192.168.0.109/24]
2       gateway4: 192.168.0.1
1       nameservers:
9         addresses: [8.8.8.8, 8.8.4.4, 192.168.0.1]
1     enp0s8:
2       dhcp4: false
3       addresses: [192.168.56.16/24]
4       gateway4: 192.168.56.2
5       nameservers:
6         addresses: [8.8.8.8, 8.8.4.4, 192.168.56.2]
7   version: 2
-- INSERT -- 9,23 All
```

这里显示DNS有问题，但是已经找到了原因，8.8.8.8 和 8.8.4.4 不可达，配置的dns服务器貌似只会取第一个地址

```
f@test: ~
f@test:~$ sudo vim /etc/netplan/00-installer-config.yaml
f@test:~$ sudo netplan apply
f@test:~$ ping www.baidu.com
ping: www.baidu.com: Temporary failure in name resolution
f@test:~$ sudo vim /etc/netplan/00-installer-config.yaml
f@test:~$
```

将DNS服务器地址修改后，只保留宿主机作为DNS服务器

```
f@test: ~
f@test:~$ cat /etc/netplan/00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      dhcp4: false
      addresses: [192.168.0.109/24]
      gateway4: 192.168.0.1
      nameservers:
        addresses: [192.168.0.1]
    enp0s8:
      dhcp4: false
      addresses: [192.168.56.16/24]
      gateway4: 192.168.56.2
      nameservers:
        addresses: [192.168.56.2]
  version: 2
f@test:~$
```

问题得到解决，但是丢包严重

```
f@test: ~
f@test:~$ ping dx3906.tech
PING dx3906.tech (104.28.21.133) 56(84) bytes of data.
^C64 bytes from 104.28.21.133: icmp_seq=19 ttl=51 time=359 ms

--- dx3906.tech ping statistics ---
19 packets transmitted, 1 received, 94.7368% packet loss, time 18438ms
rtt min/avg/max/mdev = 358.707/358.707/358.707/0.000 ms
f@test:~$ ping www.baidu.com
PING www.a.shifen.com (61.135.169.125) 56(84) bytes of data.
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=1 ttl=54 time=19.8 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=35 ttl=54 time=20.8 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=37 ttl=54 time=20.0 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=39 ttl=54 time=20.4 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=79 ttl=54 time=27.8 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=81 ttl=54 time=20.6 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=84 ttl=54 time=20.7 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=119 ttl=54 time=21.2 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=121 ttl=54 time=20.8 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=123 ttl=54 time=20.8 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=125 ttl=54 time=20.5 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=159 ttl=54 time=20.5 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=161 ttl=54 time=20.6 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=163 ttl=54 time=20.5 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=165 ttl=54 time=20.8 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=199 ttl=54 time=20.7 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=201 ttl=54 time=20.9 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=203 ttl=54 time=20.3 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=205 ttl=54 time=20.4 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=239 ttl=54 time=20.5 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=241 ttl=54 time=20.7 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=243 ttl=54 time=20.2 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=245 ttl=54 time=20.2 ms
^C
--- www.a.shifen.com ping statistics ---
262 packets transmitted, 23 received, 91.2214% packet loss, time 272140ms
rtt min/avg/max/mdev = 19.793/20.846/27.816/1.514 ms
f@test:~$
```

```
f@test: ~
f@test:~$ ping www.baidu.com
PING www.baidu.com (61.135.169.125) 56(84) bytes of data.
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=1 ttl=54 time=20.2 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=27 ttl=54 time=21.1 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=29 ttl=54 time=20.5 ms
64 bytes from 61.135.169.125 (61.135.169.125): icmp_seq=31 ttl=54 time=20.9 ms
^C
--- www.baidu.com ping statistics ---
32 packets transmitted, 4 received, 87.5% packet loss, time 31623ms
rtt min/avg/max/mdev = 20.162/20.660/21.061/0.352 ms
f@test:~$
```