МИНОБРНАУКИ РОССИИ

Федеральное государственное бюджетное образовательное учреждение высшего образования

НИЖЕГОРОДСКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ

УНИВЕРСИТЕТ им. Р.Е.АЛЕКСЕЕВА

Институт радиоэлектроники и информационных технологий

ОТЧЕТ

по лабораторной работе №2

Вариант 17

по дисциплине

«Сети и телекоммуникации»

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Работа защищена «___»_____

С оценкой _____

Нижний Новгород 2021

Схема сети

Вариант 9

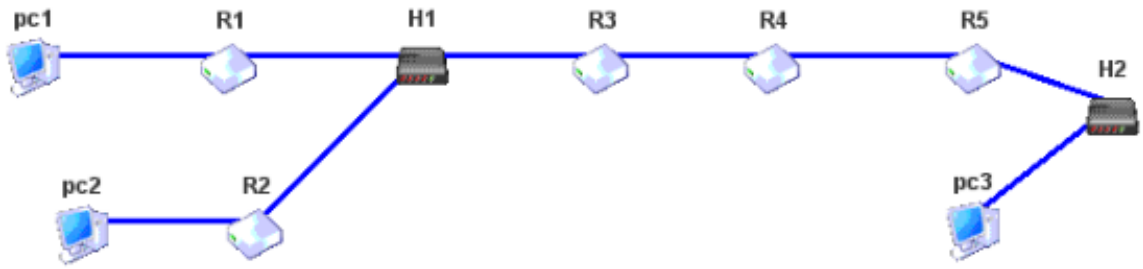
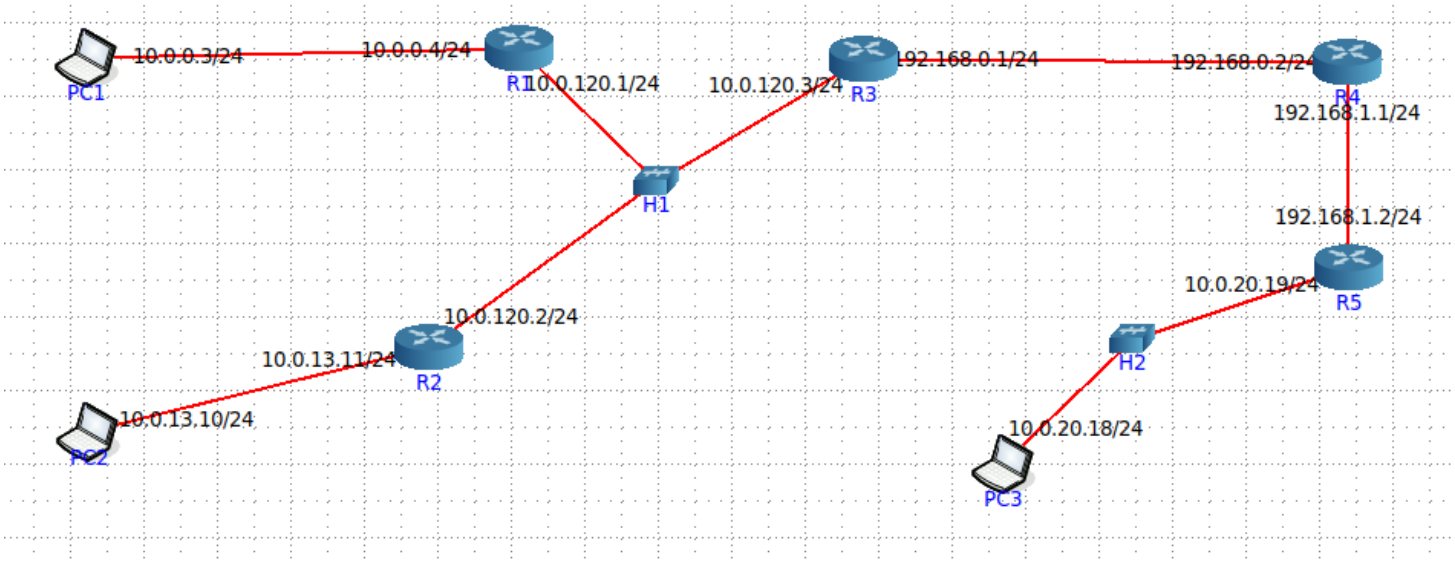


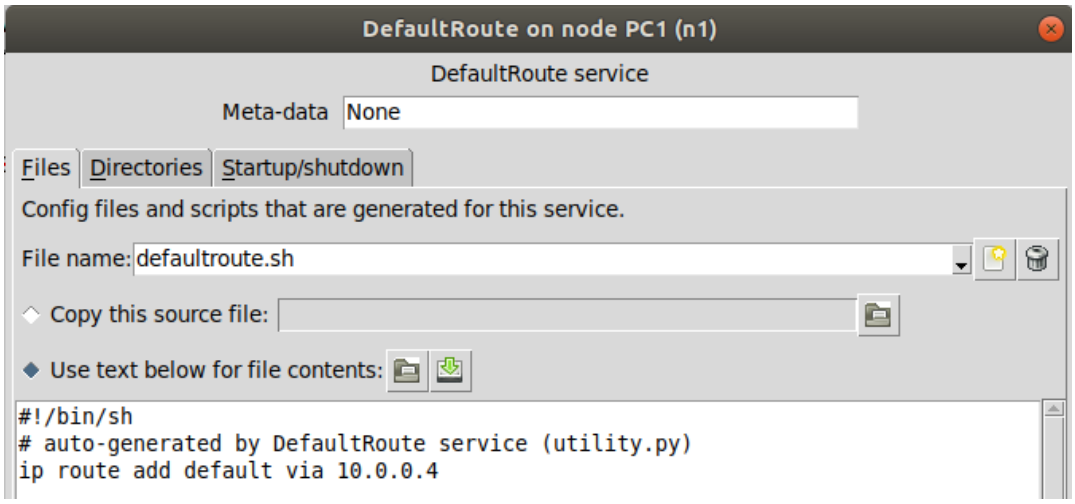
Рис. 2.10. Структура исследуемой сетевой архитектуры - вариант №9

- Файл со схемой сети: lab2_var9.jfst.
- Сеть между узлами R1, R2, R3: 10.0.120.0.
- Сеть между узлами R3 и R4: 192.168.0.0.
- Сеть между узлами R4 и R5: 192.168.1.0.
- Компьютер PC1 имеет IP-адрес 10.0.0.3.
- Компьютер PC2 имеет IP-адрес 10.0.0.10.
- Компьютер PC3 имеет IP-адрес 10.0.0.18.
- Обозначения в задании: K1 – PC1, K2 – PC2, K3 – PC3.

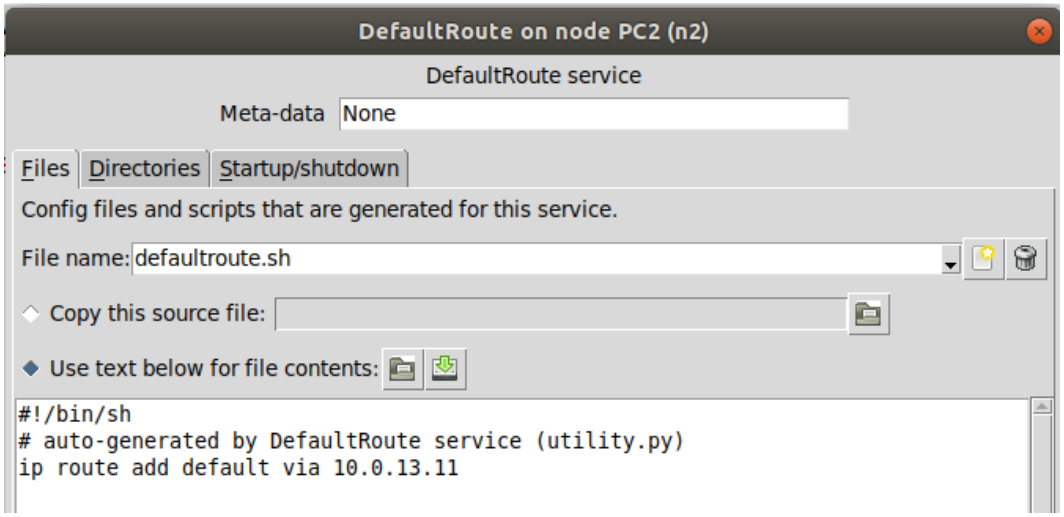


Настройка DefaultRoute на PC

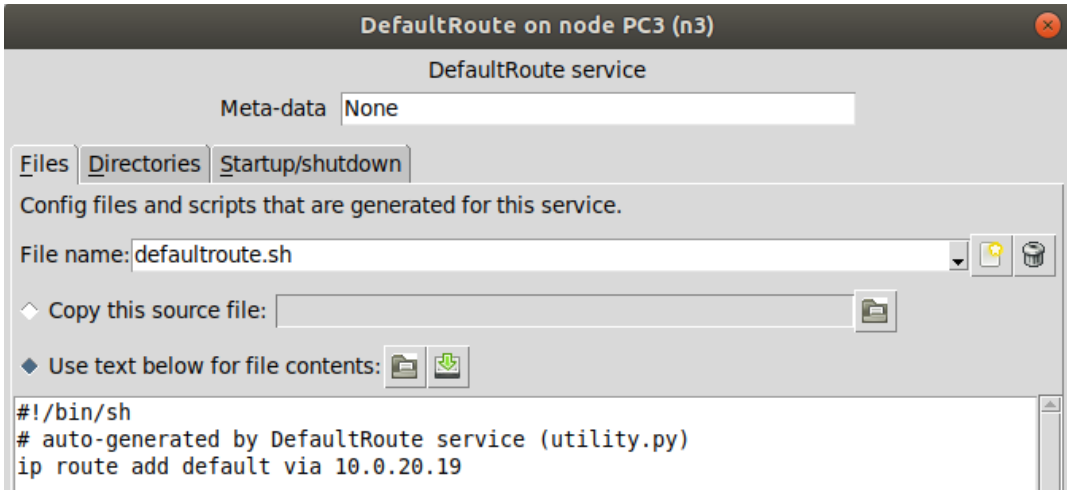
PC1:



PC2:

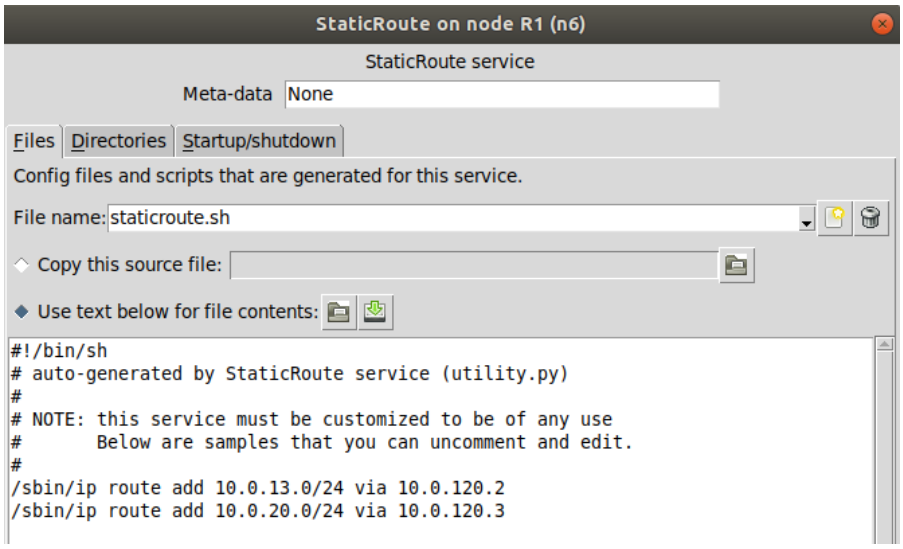


PC3:

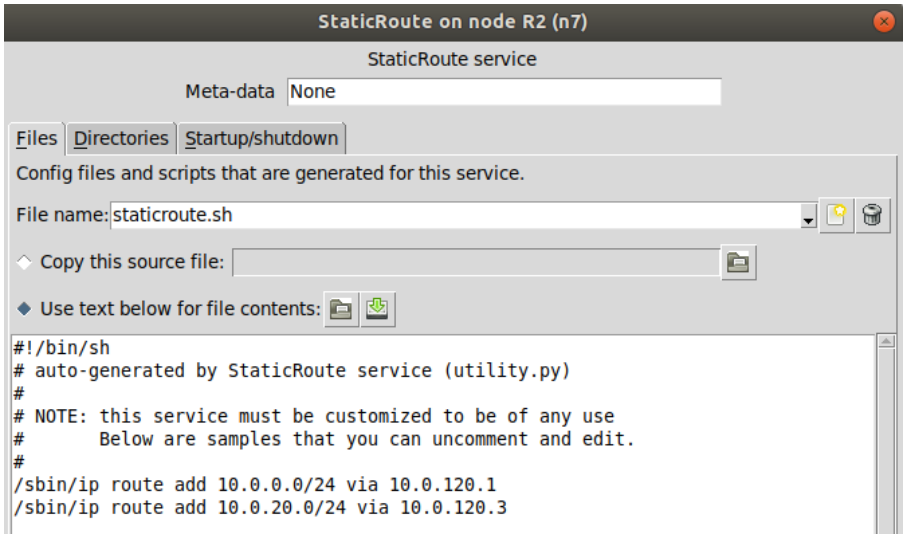


Настройка маршрутов на роутерах

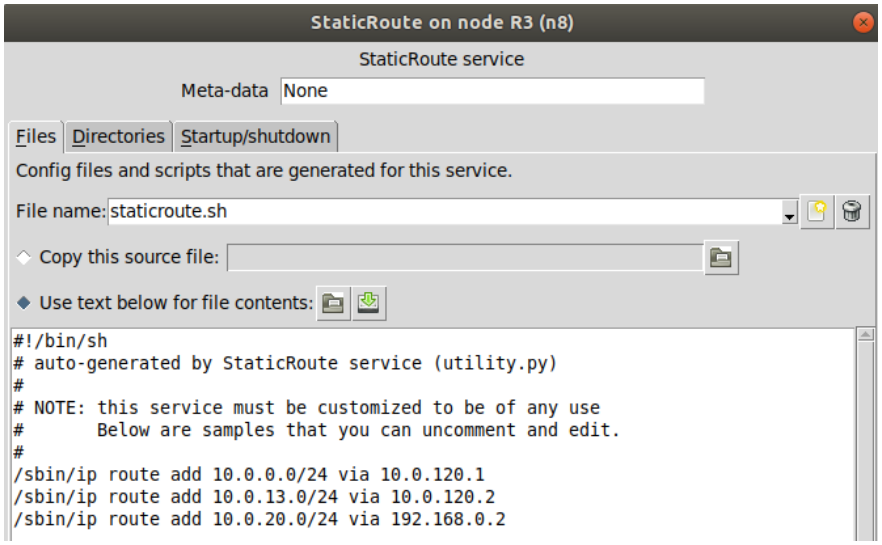
R1:



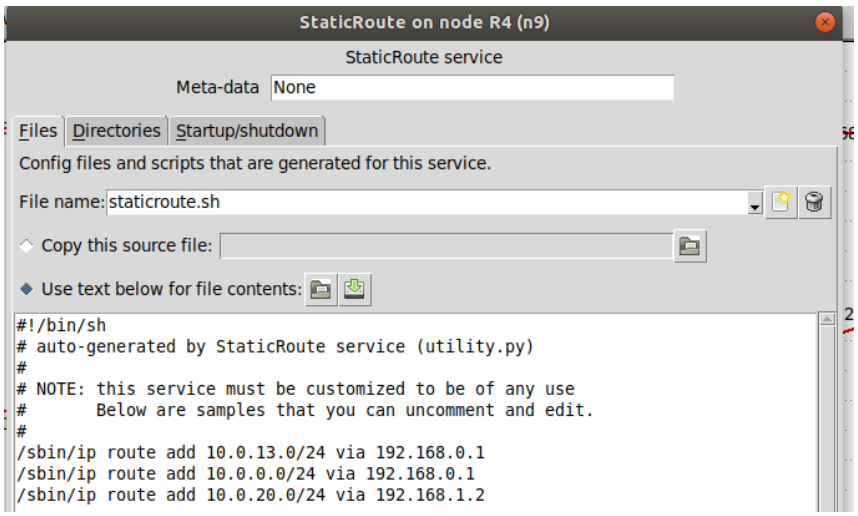
R2:



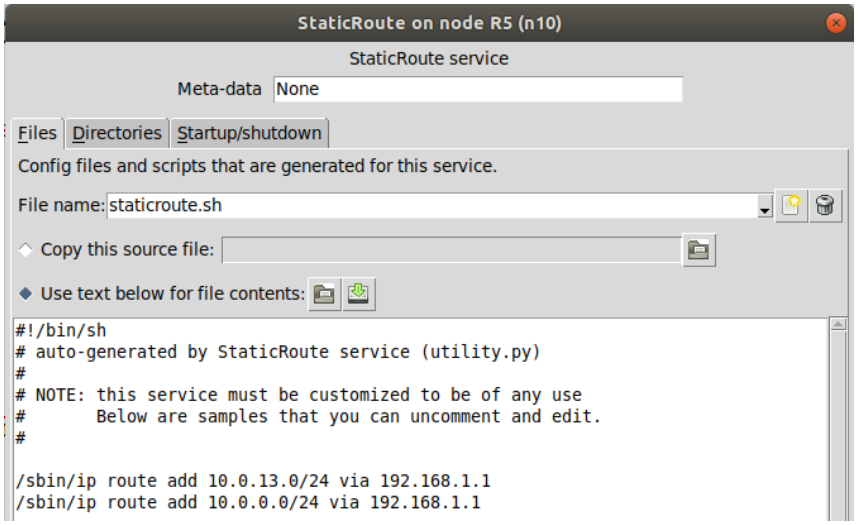
R3:



R4:


StaticRoute on node R4 (n9)
StaticRoute service
Meta-data None
Files Directories Startup/shutdown
Config files and scripts that are generated for this service.
File name: staticroute.sh
Copy this source file:
Use text below for file contents:
#!/bin/sh
auto-generated by StaticRoute service (utility.py)
#
NOTE: this service must be customized to be of any use
Below are samples that you can uncomment and edit.
#
/sbin/ip route add 10.0.13.0/24 via 192.168.0.1
/sbin/ip route add 10.0.0.0/24 via 192.168.0.1
/sbin/ip route add 10.0.20.0/24 via 192.168.1.2

R5:


StaticRoute on node R5 (n10)
StaticRoute service
Meta-data None
Files Directories Startup/shutdown
Config files and scripts that are generated for this service.
File name: staticroute.sh
Copy this source file:
Use text below for file contents:
#!/bin/sh
auto-generated by StaticRoute service (utility.py)
#
NOTE: this service must be customized to be of any use
Below are samples that you can uncomment and edit.
#
/sbin/ip route add 10.0.13.0/24 via 192.168.1.1
/sbin/ip route add 10.0.0.0/24 via 192.168.1.1

Ping от PC1

```
root@PC1:/tmp/pycore.46611/PC1.conf# ip rout
default via 10.0.0.4 dev eth0
10.0.0.0/24 dev eth0 proto kernel scope link src 10.0.0.3
root@PC1:/tmp/pycore.46611/PC1.conf# ping 10.0.13.10
PING 10.0.13.10 (10.0.13.10) 56(84) bytes of data.
64 bytes from 10.0.13.10: icmp_seq=1 ttl=62 time=0.075 ms
64 bytes from 10.0.13.10: icmp_seq=2 ttl=62 time=0.054 ms
64 bytes from 10.0.13.10: icmp_seq=3 ttl=62 time=0.051 ms
64 bytes from 10.0.13.10: icmp_seq=4 ttl=62 time=0.053 ms
64 bytes from 10.0.13.10: icmp_seq=5 ttl=62 time=0.051 ms
64 bytes from 10.0.13.10: icmp_seq=6 ttl=62 time=0.049 ms
^C
--- 10.0.13.10 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5099ms
rtt min/avg/max/mdev = 0.049/0.055/0.075/0.011 ms
root@PC1:/tmp/pycore.46611/PC1.conf# ping 10.0.20.18
PING 10.0.20.18 (10.0.20.18) 56(84) bytes of data.
64 bytes from 10.0.20.18: icmp_seq=1 ttl=60 time=0.098 ms
64 bytes from 10.0.20.18: icmp_seq=2 ttl=60 time=0.065 ms
64 bytes from 10.0.20.18: icmp_seq=3 ttl=60 time=0.061 ms
64 bytes from 10.0.20.18: icmp_seq=4 ttl=60 time=0.059 ms
64 bytes from 10.0.20.18: icmp_seq=5 ttl=60 time=0.063 ms
^C
--- 10.0.20.18 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4102ms
rtt min/avg/max/mdev = 0.059/0.069/0.098/0.015 ms
root@PC1:/tmp/pycore.46611/PC1.conf#
```

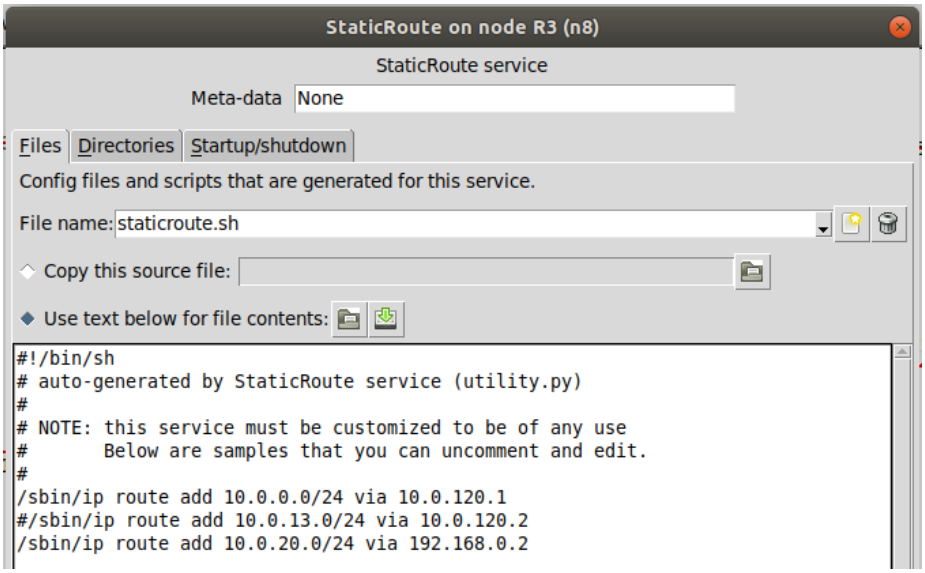
Ping от PC2

```
root@PC2:/tmp/pycore.46611/PC2.conf# ip rout
default via 10.0.13.11 dev eth0
10.0.13.0/24 dev eth0 proto kernel scope link src 10.0.13.10
root@PC2:/tmp/pycore.46611/PC2.conf# ping 10.0.0.3
PING 10.0.0.3 (10.0.0.3) 56(84) bytes of data.
64 bytes from 10.0.0.3: icmp_seq=1 ttl=62 time=0.045 ms
64 bytes from 10.0.0.3: icmp_seq=2 ttl=62 time=0.055 ms
64 bytes from 10.0.0.3: icmp_seq=3 ttl=62 time=0.051 ms
64 bytes from 10.0.0.3: icmp_seq=4 ttl=62 time=0.054 ms
64 bytes from 10.0.0.3: icmp_seq=5 ttl=62 time=0.055 ms
^C
--- 10.0.0.3 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4103ms
rtt min/avg/max/mdev = 0.045/0.052/0.055/0.003 ms
root@PC2:/tmp/pycore.46611/PC2.conf# ping 10.0.20.18
PING 10.0.20.18 (10.0.20.18) 56(84) bytes of data.
64 bytes from 10.0.20.18: icmp_seq=1 ttl=60 time=0.074 ms
64 bytes from 10.0.20.18: icmp_seq=2 ttl=60 time=0.067 ms
64 bytes from 10.0.20.18: icmp_seq=3 ttl=60 time=0.066 ms
64 bytes from 10.0.20.18: icmp_seq=4 ttl=60 time=0.065 ms
64 bytes from 10.0.20.18: icmp_seq=5 ttl=60 time=0.062 ms
64 bytes from 10.0.20.18: icmp_seq=6 ttl=60 time=0.059 ms
^C
--- 10.0.20.18 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5124ms
rtt min/avg/max/mdev = 0.059/0.065/0.074/0.009 ms
root@PC2:/tmp/pycore.46611/PC2.conf#
```

Ping от PC3

```
root@PC3:/tmp/pycore.46611/PC3.conf# ip route
default via 10.0.20.19 dev eth0
10.0.20.0/24 dev eth0 proto kernel scope link src 10.0.20.18
root@PC3:/tmp/pycore.46611/PC3.conf# ping 10.0.0.3
PING 10.0.0.3 (10.0.0.3) 56(84) bytes of data.
64 bytes from 10.0.0.3: icmp_seq=1 ttl=60 time=0.056 ms
64 bytes from 10.0.0.3: icmp_seq=2 ttl=60 time=0.066 ms
64 bytes from 10.0.0.3: icmp_seq=3 ttl=60 time=0.063 ms
64 bytes from 10.0.0.3: icmp_seq=4 ttl=60 time=0.067 ms
64 bytes from 10.0.0.3: icmp_seq=5 ttl=60 time=0.066 ms
^C
--- 10.0.0.3 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4097ms
rtt min/avg/max/mdev = 0.056/0.063/0.067/0.009 ms
root@PC3:/tmp/pycore.46611/PC3.conf# ping 10.0.13.10
PING 10.0.13.10 (10.0.13.10) 56(84) bytes of data.
64 bytes from 10.0.13.10: icmp_seq=1 ttl=60 time=0.056 ms
64 bytes from 10.0.13.10: icmp_seq=2 ttl=60 time=0.065 ms
64 bytes from 10.0.13.10: icmp_seq=3 ttl=60 time=0.069 ms
64 bytes from 10.0.13.10: icmp_seq=4 ttl=60 time=0.065 ms
^C
--- 10.0.13.10 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3067ms
rtt min/avg/max/mdev = 0.056/0.063/0.069/0.010 ms
root@PC3:/tmp/pycore.46611/PC3.conf#
```

Удаление пути в R3




```
root@PC3:/tmp/pycore.46611/PC3.conf# ping 10.0.13.10
PING 10.0.13.10 (10.0.13.10) 56(84) bytes of data.
From 192.168.0.1 icmp_seq=1 Destination Net Unreachable
From 192.168.0.1 icmp_seq=2 Destination Net Unreachable
From 192.168.0.1 icmp_seq=3 Destination Net Unreachable
From 192.168.0.1 icmp_seq=4 Destination Net Unreachable
```