Министерство образования Республики Беларусь
БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
Факультет прикладной математики и информатики

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Внедрение адресации VLSM. Статическая маршрутизация

Отчет по лабораторной работе № 8,
(“Компьютерные сети”)
студента 3-го курса 3-ей группы

Преподаватель

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Требуемое число узлов	/ префикс	Число узлов	Адрес подсети	Диапазон адресов	Широковещательная рассылка
1000	/22	1024	10.105.32.0	10.105.32.1 - 10.105.35.254	10.105.35.255
3500	/20	594	10.105.16.0	10.105.16.1 - 10.105.31.254	10.105.31.255
4000	/20	94	10.105.0.0	10.105.0.1 - 10.105.15.254	10.105.15.255
1000	/22	1024	10.105.36.0	10.105.36.1 - 10.105.39.254	10.105.39.255
2	/30	4	10.105.40.0	10.105.40.1 - 10.105.40.2	10.105.40.3
2	/30	4	10.105.40.4	10.105.40.5 - 10.105.40.6	10.105.40.7
2	/30	4	10.105.40.8	10.105.40.9 - 10.105.40.10	10.105.40.11

1. Скриншоты настройки статических маршрутов между узлами, используя CLI:

Маршрутизатор «Гродно»:

```
Router#
%SYS-5-CONFIG_I: Configured from console by console
wr mem
Building configuration...
[OK]
Router#
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0
Router(config-if)#ip route 0.0.0.0 0.0.0.0 10.105.40.2
Router(config)#
Router(config)#
Router(config)#interface Serial0/0
Router(config-if)#ip address 10.105.40.1 255.255.255.252
Router(config-if)#
```

Маршрутизатор «Могилёв»:

```
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0
Router(config-if)#ip address 10.105.40.2 255.255.255.252
Router(config-if)#ip route
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/3
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0
Router(config-if)#ip route 10.105.32.0 255.255.240.0 10.105.40.1
Router(config)#
```

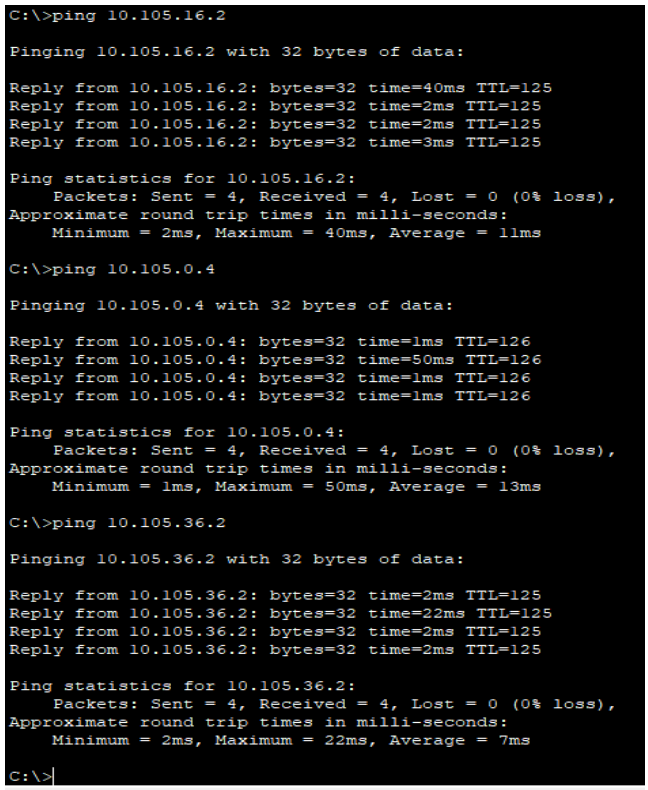
Маршрутизатор “Гомель”:

```
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/2
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/3
Router(config-if)#ip address 10.105.40.5 255.255.255.252
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/3
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/3
Router(config-if)#ip route 0.0.0.0 0.0.0.0 10.105.40.6
```

Маршрутизатор “Минск”:

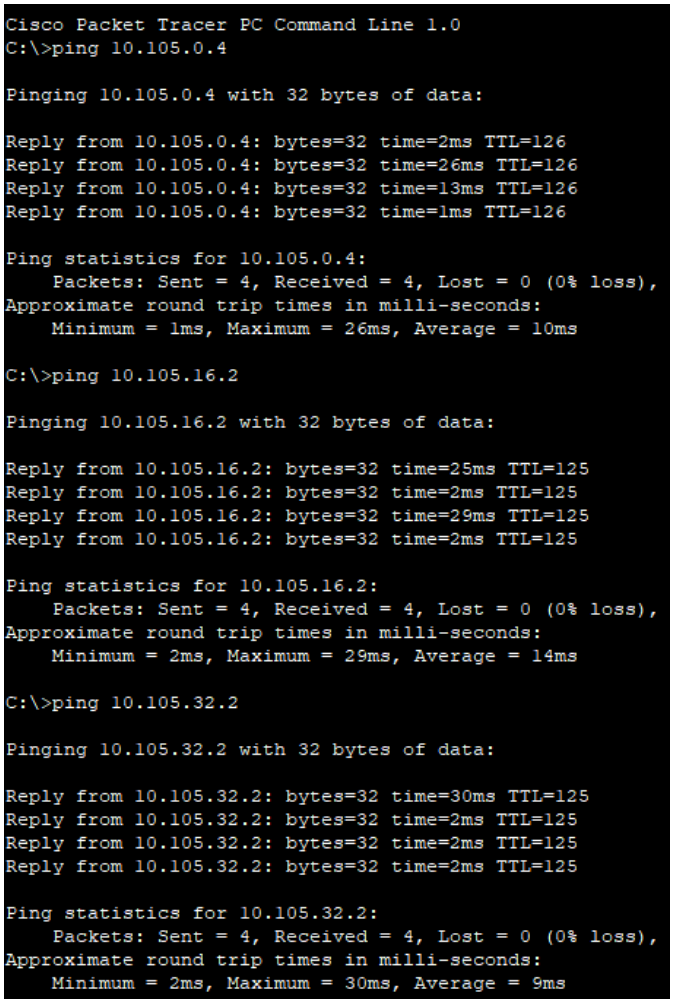
```
Router(ip route 10.105.36.0 255.255.240.0 10.105.40.9ip route 10
%Inconsistent address and mask
Router(config)#
Router(config)#
Router(config)#interface Serial0/2
Router(config-if)#ip route
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/2
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/2
Router(config-if)#ip address 10.105.40.10 255.255.255.252
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/2
Router(config-if)#ip route 0.0.0.0 0.0.0.0 10.105.40.9
```

Ping из Гродно:



```
C:\>ping 10.105.16.2

Pinging 10.105.16.2 with 32 bytes of data:

Reply from 10.105.16.2: bytes=32 time=40ms TTL=125
Reply from 10.105.16.2: bytes=32 time=2ms TTL=125
Reply from 10.105.16.2: bytes=32 time=2ms TTL=125
Reply from 10.105.16.2: bytes=32 time=3ms TTL=125

Ping statistics for 10.105.16.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 40ms, Average = 11ms

C:\>ping 10.105.0.4

Pinging 10.105.0.4 with 32 bytes of data:

Reply from 10.105.0.4: bytes=32 time=1ms TTL=126
Reply from 10.105.0.4: bytes=32 time=50ms TTL=126
Reply from 10.105.0.4: bytes=32 time=1ms TTL=126
Reply from 10.105.0.4: bytes=32 time=1ms TTL=126

Ping statistics for 10.105.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 50ms, Average = 13ms

C:\>ping 10.105.36.2

Pinging 10.105.36.2 with 32 bytes of data:

Reply from 10.105.36.2: bytes=32 time=2ms TTL=125
Reply from 10.105.36.2: bytes=32 time=22ms TTL=125
Reply from 10.105.36.2: bytes=32 time=2ms TTL=125
Reply from 10.105.36.2: bytes=32 time=2ms TTL=125

Ping statistics for 10.105.36.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 22ms, Average = 7ms

C:\>
```

Ping из Могилева:



```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.105.0.4

Pinging 10.105.0.4 with 32 bytes of data:

Reply from 10.105.0.4: bytes=32 time=2ms TTL=126
Reply from 10.105.0.4: bytes=32 time=26ms TTL=126
Reply from 10.105.0.4: bytes=32 time=13ms TTL=126
Reply from 10.105.0.4: bytes=32 time=1ms TTL=126

Ping statistics for 10.105.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 26ms, Average = 10ms

C:\>ping 10.105.16.2

Pinging 10.105.16.2 with 32 bytes of data:

Reply from 10.105.16.2: bytes=32 time=25ms TTL=125
Reply from 10.105.16.2: bytes=32 time=2ms TTL=125
Reply from 10.105.16.2: bytes=32 time=29ms TTL=125
Reply from 10.105.16.2: bytes=32 time=2ms TTL=125

Ping statistics for 10.105.16.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 29ms, Average = 14ms

C:\>ping 10.105.32.2

Pinging 10.105.32.2 with 32 bytes of data:

Reply from 10.105.32.2: bytes=32 time=30ms TTL=125
Reply from 10.105.32.2: bytes=32 time=2ms TTL=125
Reply from 10.105.32.2: bytes=32 time=2ms TTL=125
Reply from 10.105.32.2: bytes=32 time=2ms TTL=125

Ping statistics for 10.105.32.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 30ms, Average = 9ms
```