Лабораторная работа 6

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2023

[1]RUDN University, Moscow, Russian Federation

Задача

Задача

6.3.1. Разбиение сети на подсети 6.3.2. Настройка двойного стека адресации IPv4 и IPv6 в локальной сети 6.3.3. Задание для самостоятельного выполнения

Выполнение

GNS

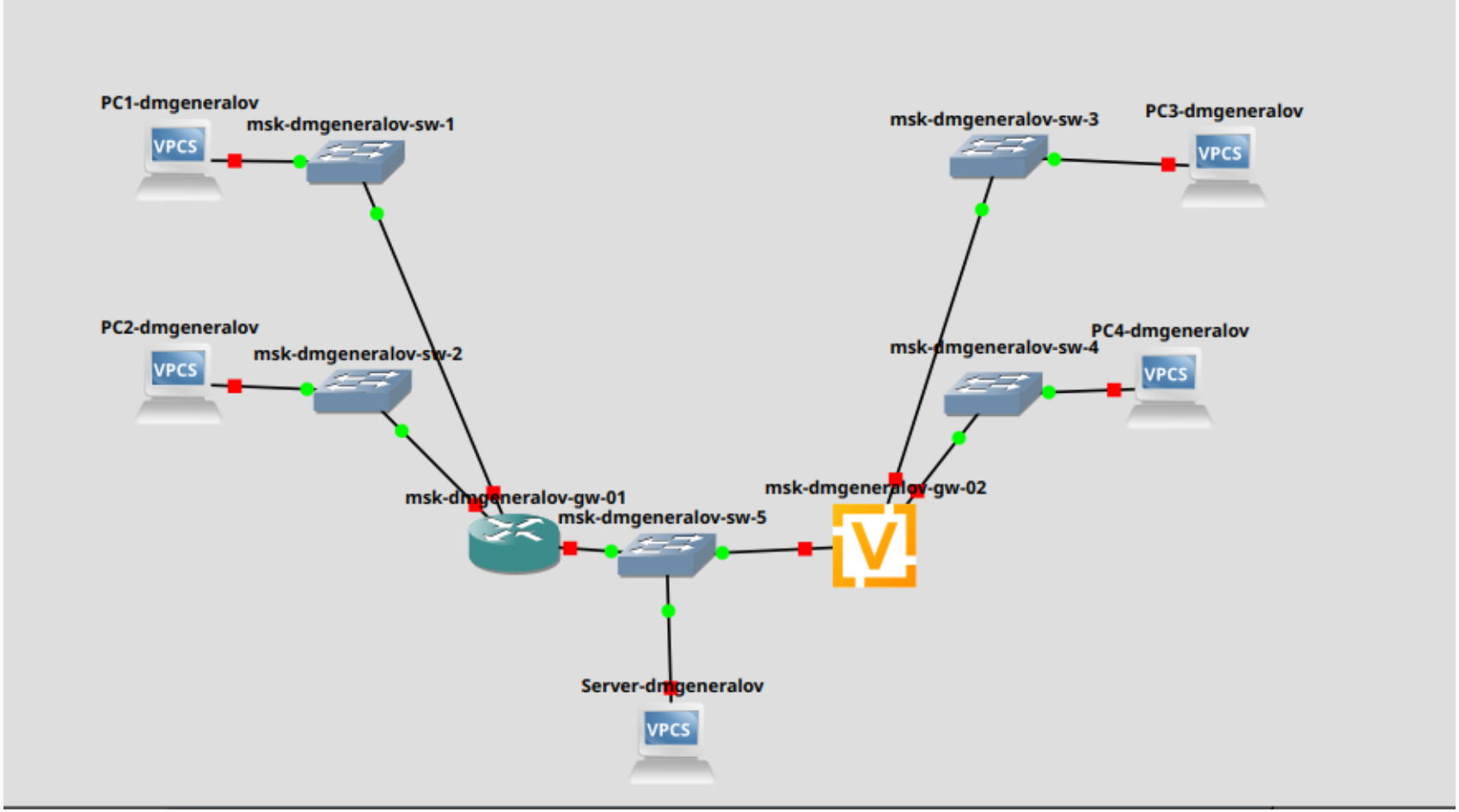

PC1-dmgeneralov
VPCS
msk-dmgeneralov-sw-1
msk-dmgeneralov-sw-3
PC3-dmgeneralov
VPCS
PC2-dmgeneralov
VPCS
msk-dmgeneralov-sw-2
msk-dmgeneralov-sw-4
PC4-dmgeneralov
VPCS
msk-dmgeneralov-gw-01
msk-dmgeneralov-sw-5
msk-dmgeneralov-gw-02
Server-dmgeneralov
VPCS

Рис. 1: GNS

GNS

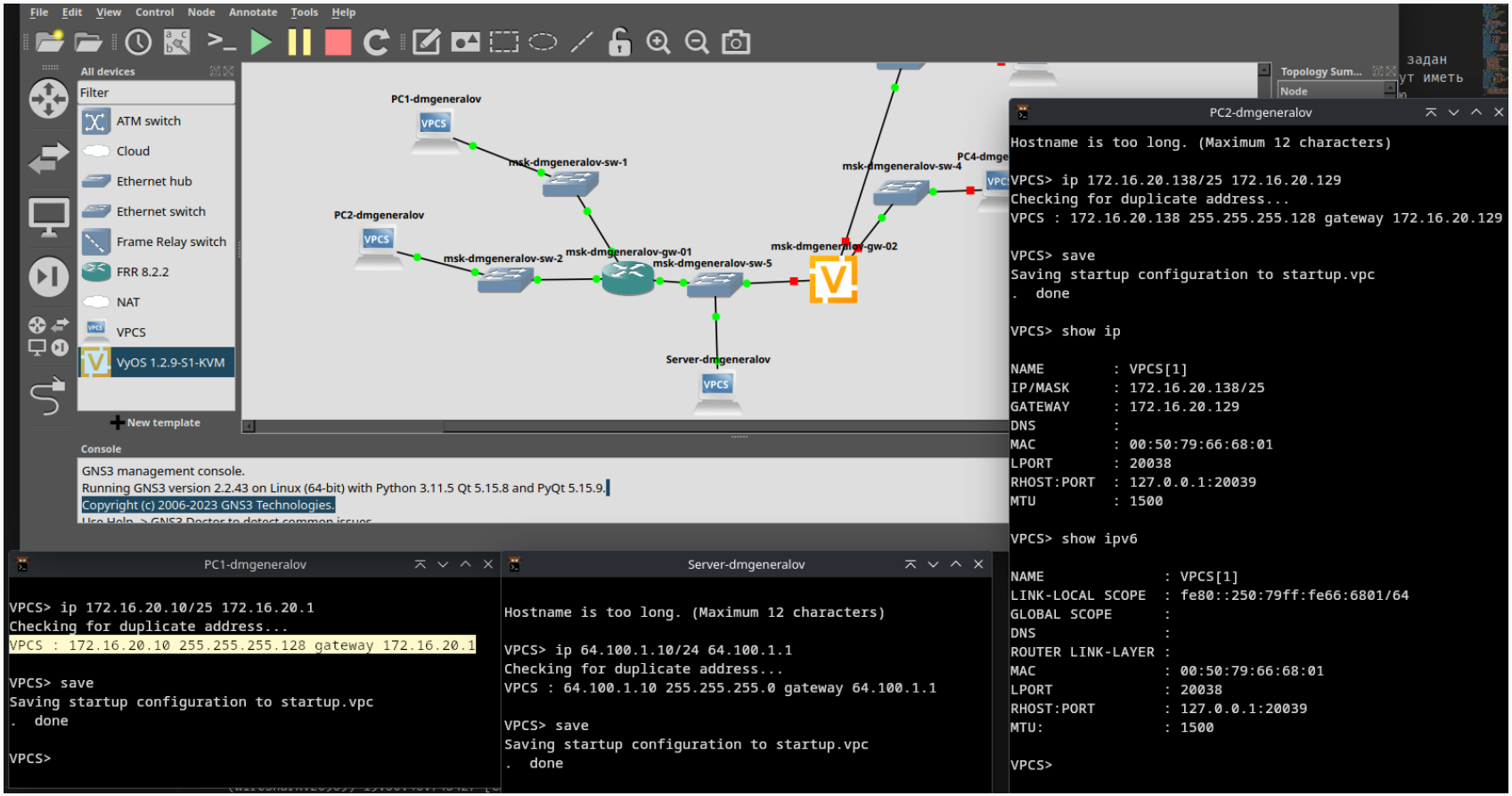
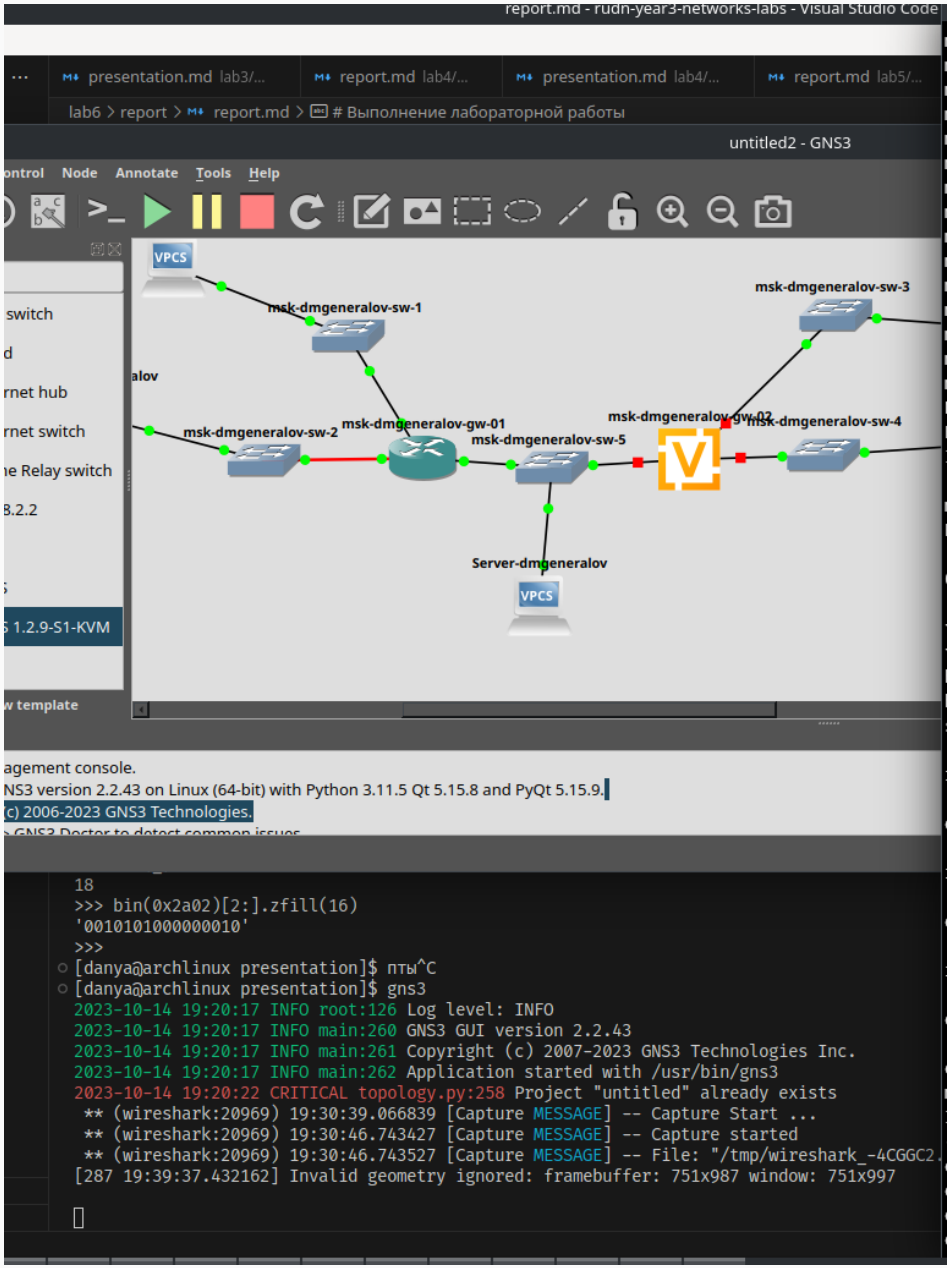

File Edit View Control Node Annotate Tools Help
All devices
Filter
ATM switch
Cloud
Ethernet hub
Ethernet switch
Frame Relay switch
FRR 8.2.2
NAT
VPCS
VyOS 1.2.9-S1-KVM
New template
PC1-dmgeneralov
msk-dmgeneralov-sw-1
PC2-dmgeneralov
msk-dmgeneralov-sw-2
msk-dmgeneralov-gw-01
msk-dmgeneralov-sw-5
msk-dmgeneralov-gw-02
msk-dmgeneralov-sw-4
Server-dmgeneralov
Console
GNS3 management console.
Running GNS3 version 2.2.43 on Linux (64-bit) with Python 3.11.5 Qt 5.15.8 and PyQt 5.15.9.
Copyright (c) 2006-2023 GNS3 Technologies.
PC1-dmgeneralov
VPCS> ip 172.16.20.10/25 172.16.20.1
Checking for duplicate address...
VPCS : 172.16.20.10 255.255.255.128 gateway 172.16.20.1
VPCS> save
Saving startup configuration to startup.vpc
. done
VPCS>
Server-dmgeneralov
Hostname is too long. (Maximum 12 characters)
VPCS> ip 64.100.1.10/24 64.100.1.1
Checking for duplicate address...
VPCS : 64.100.1.10 255.255.255.0 gateway 64.100.1.1
VPCS> save
Saving startup configuration to startup.vpc
. done
PC2-dmgeneralov
Hostname is too long. (Maximum 12 characters)
VPCS> ip 172.16.20.138/25 172.16.20.129
Checking for duplicate address...
VPCS : 172.16.20.138 255.255.255.128 gateway 172.16.20.129
VPCS> save
Saving startup configuration to startup.vpc
. done
VPCS> show ip
NAME : VPCS[1]
IP/MASK : 172.16.20.138/25
GATEWAY : 172.16.20.129
DNS :
MAC : 00:50:79:66:68:01
LPORT : 20038
RHOST:PORT : 127.0.0.1:20039
MTU : 1500
VPCS> show ipv6
NAME : VPCS[1]
LINK-LOCAL SCOPE : fe80::250:79ff:fe66:6801/64
GLOBAL SCOPE :
DNS :
ROUTER LINK-LAYER :
MAC : 00:50:79:66:68:01
LPORT : 20038
RHOST:PORT : 127.0.0.1:20039
MTU: : 1500
VPCS>

Рис. 2: GNS

GNS




```
msk-dmgeneralov-gw-01# conf t
msk-dmgeneralov-gw-01(config)# interface eth0
msk-dmgeneralov-gw-01(config-if)# ip address 64.100.1.1/24
msk-dmgeneralov-gw-01(config-if)# no sh
msk-dmgeneralov-gw-01(config-if)# exit
msk-dmgeneralov-gw-01(config)# inter eth1
msk-dmgeneralov-gw-01(config-if)# ip addr 172.16.20.129/25
msk-dmgeneralov-gw-01(config-if)# no sh
msk-dmgeneralov-gw-01(config-if)# exit
msk-dmgeneralov-gw-01(config)# inter eth2
msk-dmgeneralov-gw-01(config-if)# ip addr 172.16.20.1/25
msk-dmgeneralov-gw-01(config-if)# no sh
msk-dmgeneralov-gw-01(config-if)# exit
msk-dmgeneralov-gw-01(config)# exit
msk-dmgeneralov-gw-01# wr mem
Note: this version of vtysh never writes vtysh.conf
Building Configuration...
Integrated configuration saved to /etc/frr/frr.conf
[OK]
msk-dmgeneralov-gw-01# show running-conf
Building configuration...

Current configuration:
!
frr version 8.2.2
frr defaults traditional
hostname frr
hostname msk-dmgeneralov-gw-01
service integrated-vtysh-config
!
interface eth0
 ip address 64.100.1.1/24
exit
!
interface eth1
 ip address 172.16.20.129/25
exit
!
interface eth2
 ip address 172.16.20.1/25
exit
!
end
msk-dmgeneralov-gw-01# sh interf br
Interface       Status  VRF             Addresses
---------       ------  ---             ---------
eth0            up      default         64.100.1.1/24
eth1            up      default         172.16.20.129/25
eth2            up      default         172.16.20.1/25
eth3            down    default
```

GNS

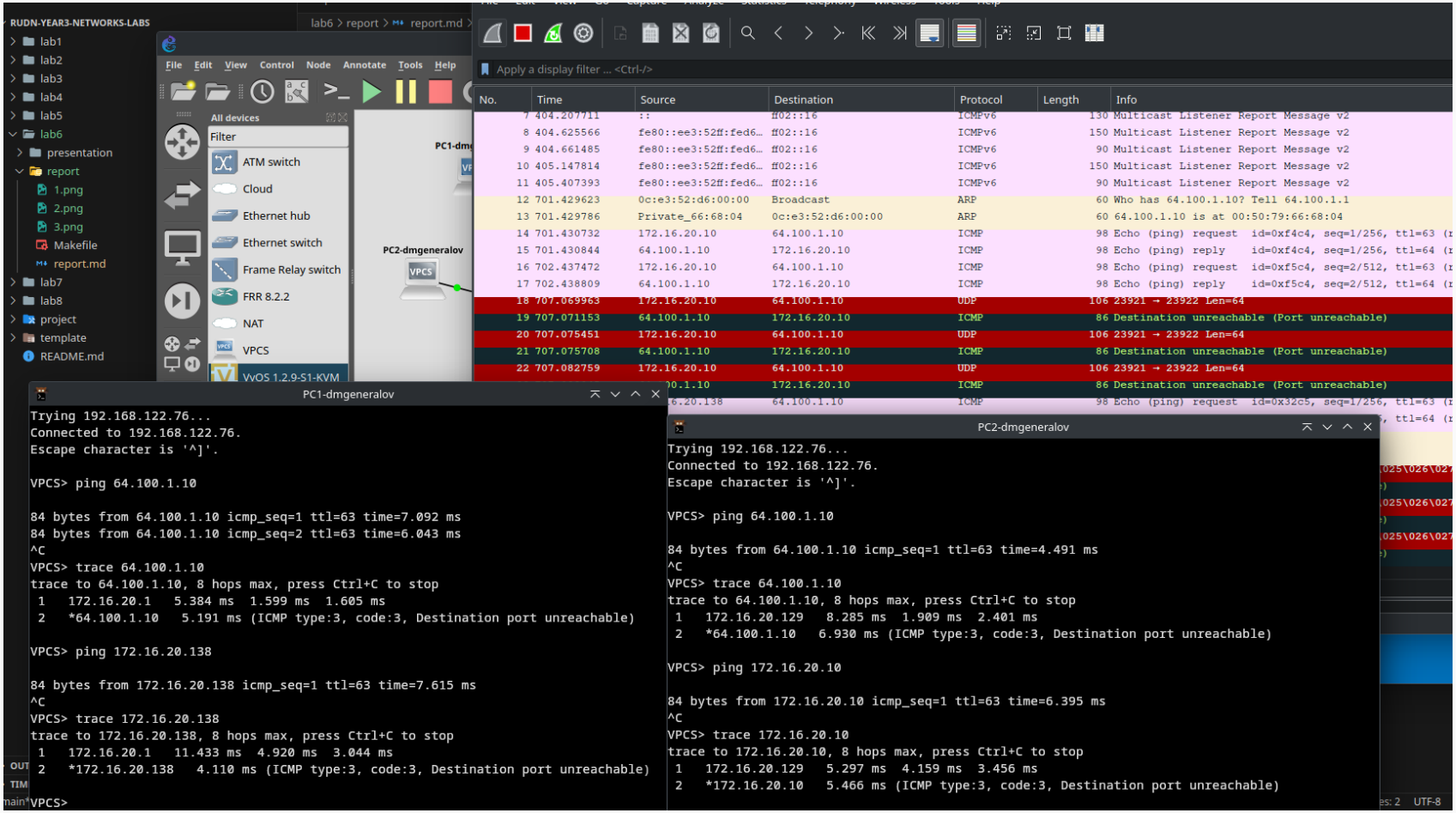

RUDN-YEAR3-NETWORKS-LABS
lab1
lab2
lab3
lab4
lab5
lab6
presentation
report
1.png
2.png
3.png
Makefile
report.md
lab7
lab8
project
template
README.md
File Edit View Control Node Annotate Tools Help
All devices
Filter
ATM switch
Cloud
Ethernet hub
Ethernet switch
Frame Relay switch
FRR 8.2.2
NAT
VPCS
PC2-dmgeneralov
Apply a display filter ... <Ctrl-/>
No. Time Source Destination Protocol Length Info
PC1-dmgeneralov
Trying 192.168.122.76...
Connected to 192.168.122.76.
Escape character is '^]'.
VPCS> ping 64.100.1.10
84 bytes from 64.100.1.10 icmp_seq=1 ttl=63 time=7.092 ms
84 bytes from 64.100.1.10 icmp_seq=2 ttl=63 time=6.043 ms
^C
VPCS> trace 64.100.1.10
trace to 64.100.1.10, 8 hops max, press Ctrl+C to stop
1 172.16.20.1 5.384 ms 1.599 ms 1.605 ms
2 *64.100.1.10 5.191 ms (ICMP type:3, code:3, Destination port unreachable)
VPCS> ping 172.16.20.138
84 bytes from 172.16.20.138 icmp_seq=1 ttl=63 time=7.615 ms
^C
VPCS> trace 172.16.20.138
trace to 172.16.20.138, 8 hops max, press Ctrl+C to stop
1 172.16.20.1 11.433 ms 4.920 ms 3.044 ms
2 *172.16.20.138 4.110 ms (ICMP type:3, code:3, Destination port unreachable)
VPCS>
PC2-dmgeneralov
Trying 192.168.122.76...
Connected to 192.168.122.76.
Escape character is '^]'.
VPCS> ping 64.100.1.10
84 bytes from 64.100.1.10 icmp_seq=1 ttl=63 time=4.491 ms
^C
VPCS> trace 64.100.1.10
trace to 64.100.1.10, 8 hops max, press Ctrl+C to stop
1 172.16.20.129 8.285 ms 1.909 ms 2.401 ms
2 *64.100.1.10 6.930 ms (ICMP type:3, code:3, Destination port unreachable)
VPCS> ping 172.16.20.10
84 bytes from 172.16.20.10 icmp_seq=1 ttl=63 time=6.395 ms
^C
VPCS> trace 172.16.20.10
trace to 172.16.20.10, 8 hops max, press Ctrl+C to stop
1 172.16.20.129 5.297 ms 4.159 ms 3.456 ms
2 *172.16.20.10 5.466 ms (ICMP type:3, code:3, Destination port unreachable)

Рис. 4: GNS

GNS

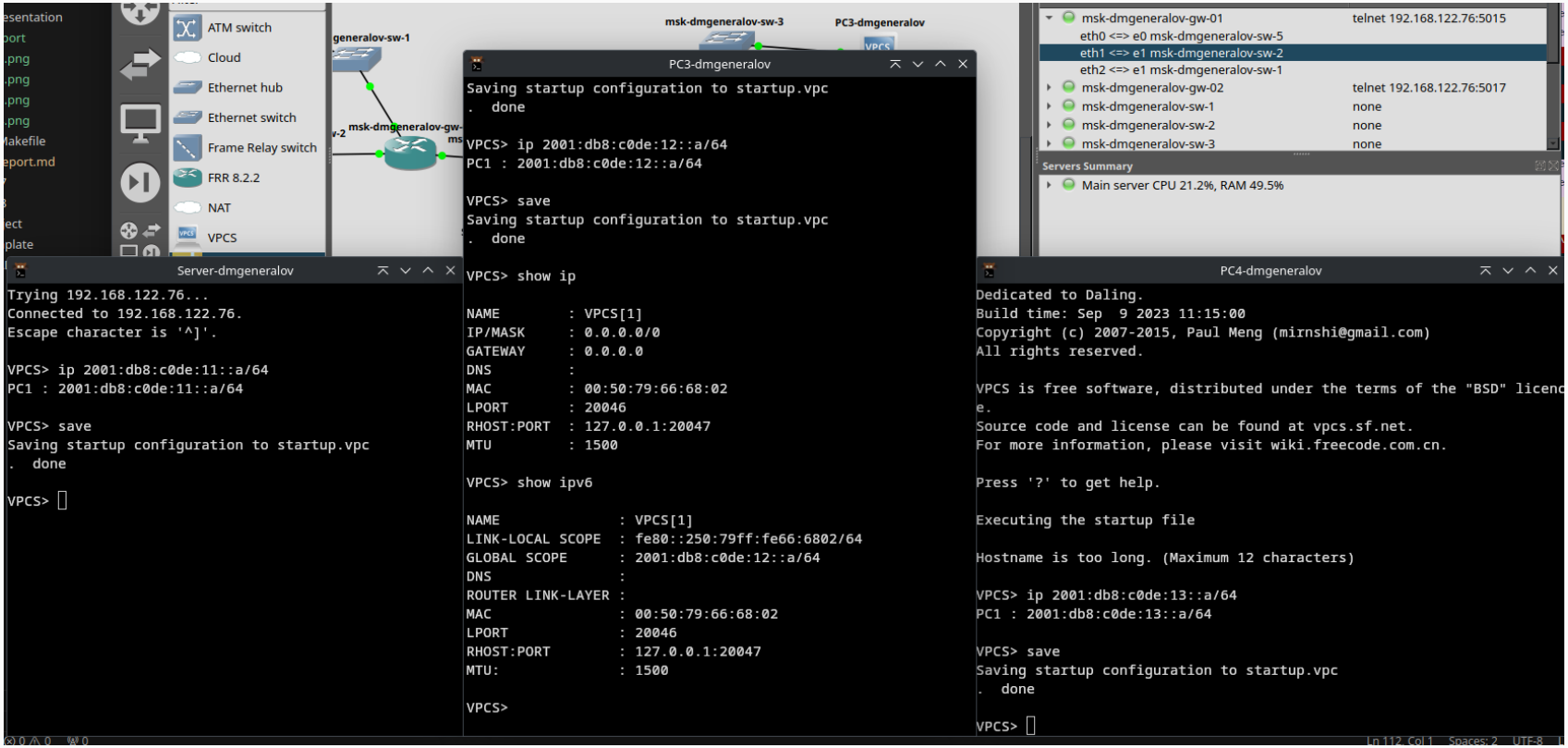
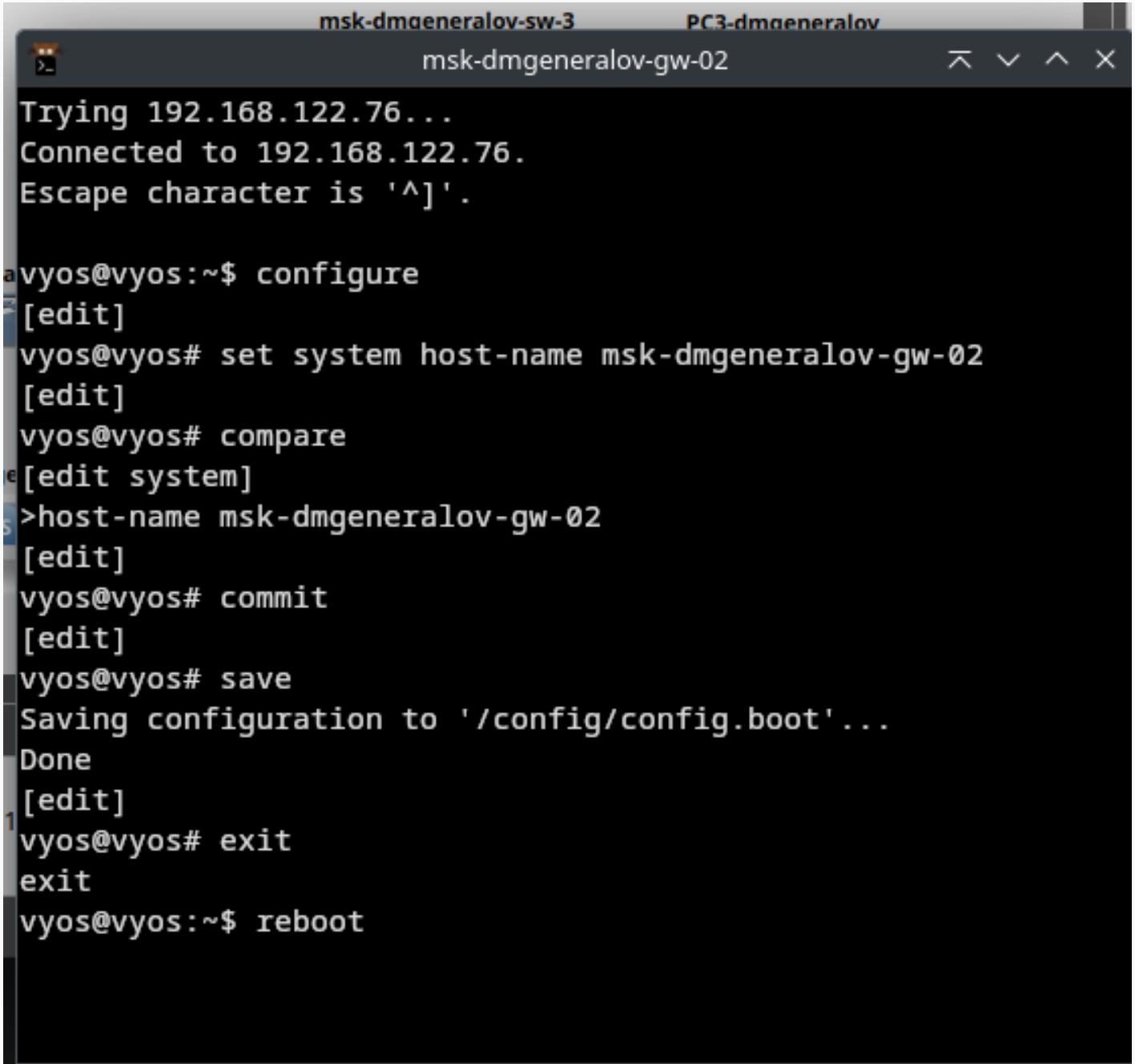

ATM switch
Cloud
Ethernet hub
Ethernet switch
Frame Relay switch
FRR 8.2.2
NAT
VPCS
msk-dmgeneralov-sw-3
PC3-dmgeneralov
msk-dmgeneralov-gw-01 telnet 192.168.122.76:5015
eth0 <=> e0 msk-dmgeneralov-sw-5
eth1 <=> e1 msk-dmgeneralov-sw-2
eth2 <=> e1 msk-dmgeneralov-sw-1
msk-dmgeneralov-gw-02 telnet 192.168.122.76:5017
msk-dmgeneralov-sw-1 none
msk-dmgeneralov-sw-2 none
msk-dmgeneralov-sw-3 none
Servers Summary
Main server CPU 21.2%, RAM 49.5%
Server-dmgeneralov
Trying 192.168.122.76...
Connected to 192.168.122.76.
Escape character is '^]'.
VPCS> ip 2001:db8:c0de:11::a/64
PC1 : 2001:db8:c0de:11::a/64
VPCS> save
Saving startup configuration to startup.vpc
. done
VPCS>
PC3-dmgeneralov
Saving startup configuration to startup.vpc
. done
VPCS> ip 2001:db8:c0de:12::a/64
PC1 : 2001:db8:c0de:12::a/64
VPCS> save
Saving startup configuration to startup.vpc
. done
VPCS> show ip
NAME : VPCS[1]
IP/MASK : 0.0.0.0/0
GATEWAY : 0.0.0.0
DNS :
MAC : 00:50:79:66:68:02
LPORT : 20046
RHOST:PORT : 127.0.0.1:20047
MTU : 1500
VPCS> show ipv6
NAME : VPCS[1]
LINK-LOCAL SCOPE : fe80::250:79ff:fe66:6802/64
GLOBAL SCOPE : 2001:db8:c0de:12::a/64
DNS :
ROUTER LINK-LAYER :
MAC : 00:50:79:66:68:02
LPORT : 20046
RHOST:PORT : 127.0.0.1:20047
MTU: : 1500
VPCS>
PC4-dmgeneralov
Dedicated to Daling.
Build time: Sep 9 2023 11:15:00
Copyright (c) 2007-2015, Paul Meng (mirnshi@gmail.com)
All rights reserved.
VPCS is free software, distributed under the terms of the "BSD" licenc
e.
Source code and license can be found at vpcs.sf.net.
For more information, please visit wiki.freecode.com.cn.
Press '?' to get help.
Executing the startup file
Hostname is too long. (Maximum 12 characters)
VPCS> ip 2001:db8:c0de:13::a/64
PC1 : 2001:db8:c0de:13::a/64
VPCS> save
Saving startup configuration to startup.vpc
. done
VPCS>

Рис. 5: GNS

GNS


msk-dmgeneralov-sw-3
PC3-dmgeneralov
msk-dmgeneralov-gw-02
Trying 192.168.122.76...
Connected to 192.168.122.76.
Escape character is '^]'.
vyos@vyos:~$ configure
[edit]
vyos@vyos# set system host-name msk-dmgeneralov-gw-02
[edit]
vyos@vyos# compare
[edit system]
>host-name msk-dmgeneralov-gw-02
[edit]
vyos@vyos# commit
[edit]
vyos@vyos# save
Saving configuration to '/config/config.boot'...
Done
[edit]
vyos@vyos# exit
exit
vyos@vyos:~$ reboot

```
[edit]                                                          2001:db8:c0de:12 :1
[edit]sk-dmgeneralov-gw-02# set interfaces ethernet eth1 address2001:db8:c0de:12:
3::1/64k-dmgeneralov-gw-02# set interfaces ethernet eth2 address 2001:db8:c0de:1
[edit]
vyos@msk-dmgeneralov-gw-02# compare
[edit interfaces ethernet eth0]
+address 2001:db8:c0de:11::1/64
[edit interfaces ethernet eth1]
+address 2001:db8:c0de:12::1/64
[edit interfaces ethernet eth2]
+address 2001:db8:c0de:13::1/64
[edit]
vyos@msk-dmgeneralov-gw-02# set service router-advert

  Configuration path: service [router-advert] is not valid
  Set failed

[edit]
vyos@msk-dmgeneralov-gw-02# commit
[edit]
vyos@msk-dmgeneralov-gw-02# save
Saving configuration to '/config/config.boot'...
Done
[edit]
vyos@msk-dmgeneralov-gw-02# show interfaces
 ethernet eth0 {
     address 2001:db8:c0de:11::1/64
     duplex auto
     hw-id 0c:95:f2:d6:00:00
     smp-affinity auto
     speed auto
 }
 ethernet eth1 {
```

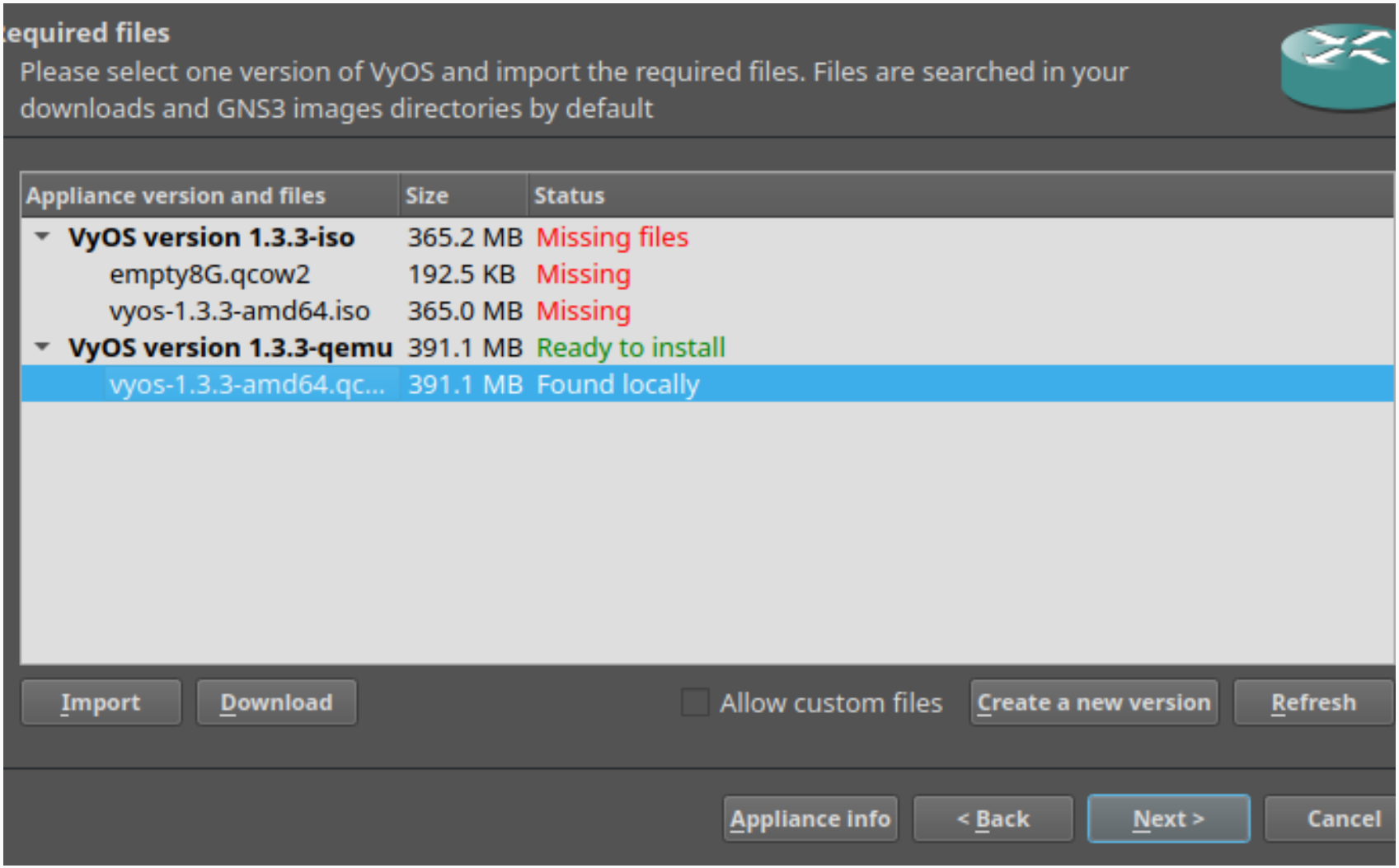

equired files
Please select one version of VyOS and import the required files. Files are searched in your downloads and GNS3 images directories by default
Appliance version and files
Size
Status
VyOS version 1.3.3-iso
365.2 MB
Missing files
empty8G.qcow2
192.5 KB
Missing
vyos-1.3.3-amd64.iso
365.0 MB
Missing
VyOS version 1.3.3-qemu
391.1 MB
Ready to install
vyos-1.3.3-amd64.qc...
391.1 MB
Found locally
Import
Download
Allow custom files
Create a new version
Refresh
Appliance info
< Back
Next >
Cancel

Рис. 8: GNS

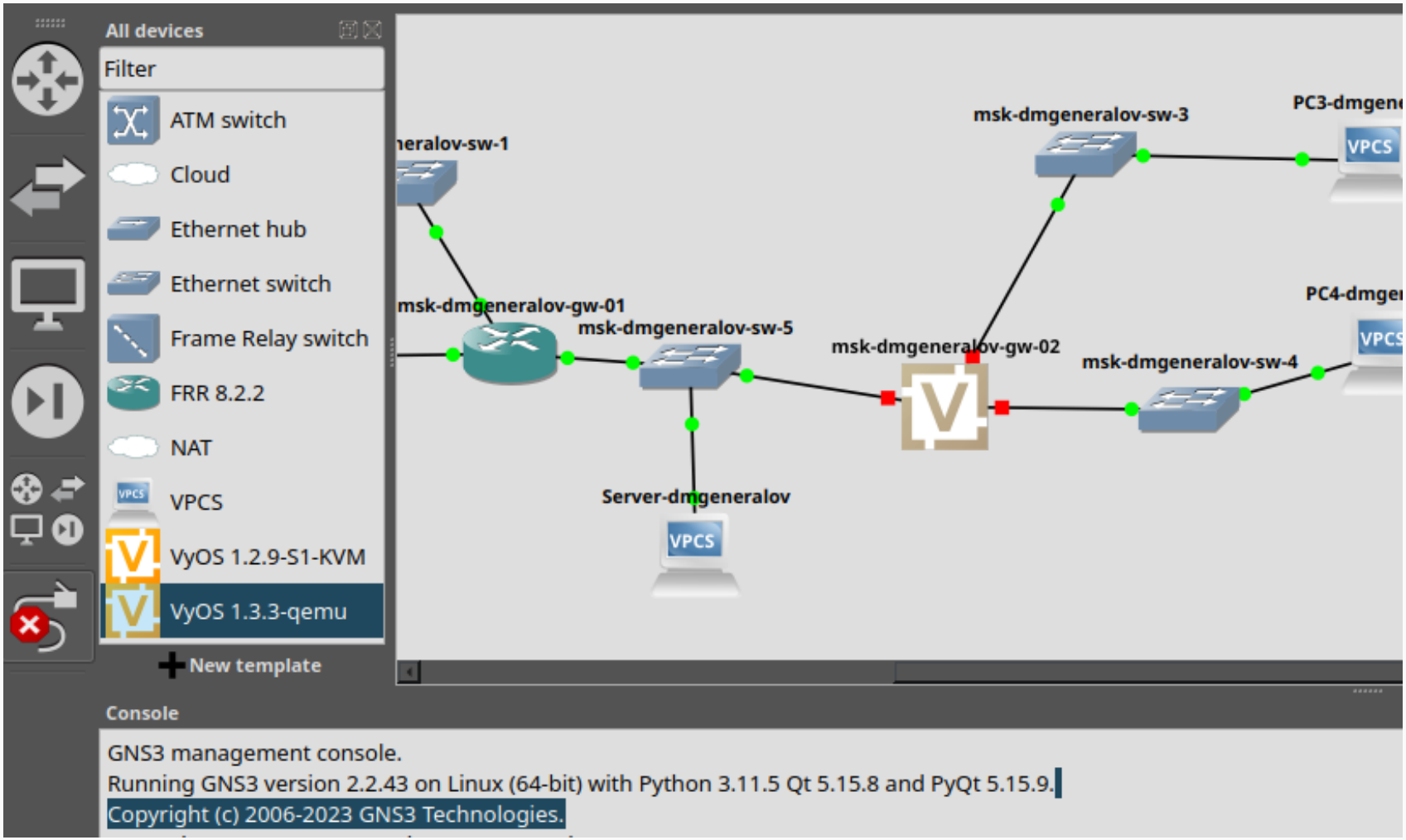

All devices
Filter
ATM switch
Cloud
Ethernet hub
Ethernet switch
Frame Relay switch
FRR 8.2.2
NAT
VPCS
VyOS 1.2.9-S1-KVM
VyOS 1.3.3-qemu
New template
msk-dmgeneralov-sw-1
msk-dmgeneralov-sw-3
PC3-dmgene
VPCS
msk-dmgeneralov-gw-01
msk-dmgeneralov-sw-5
msk-dmgeneralov-gw-02
msk-dmgeneralov-sw-4
PC4-dmge
VPCS
Server-dmgeneralov
VPCS
Console
GNS3 management console.
Running GNS3 version 2.2.43 on Linux (64-bit) with Python 3.11.5 Qt 5.15.8 and PyQt 5.15.9.
Copyright (c) 2006-2023 GNS3 Technologies.

Рис. 9: GNS

GNS

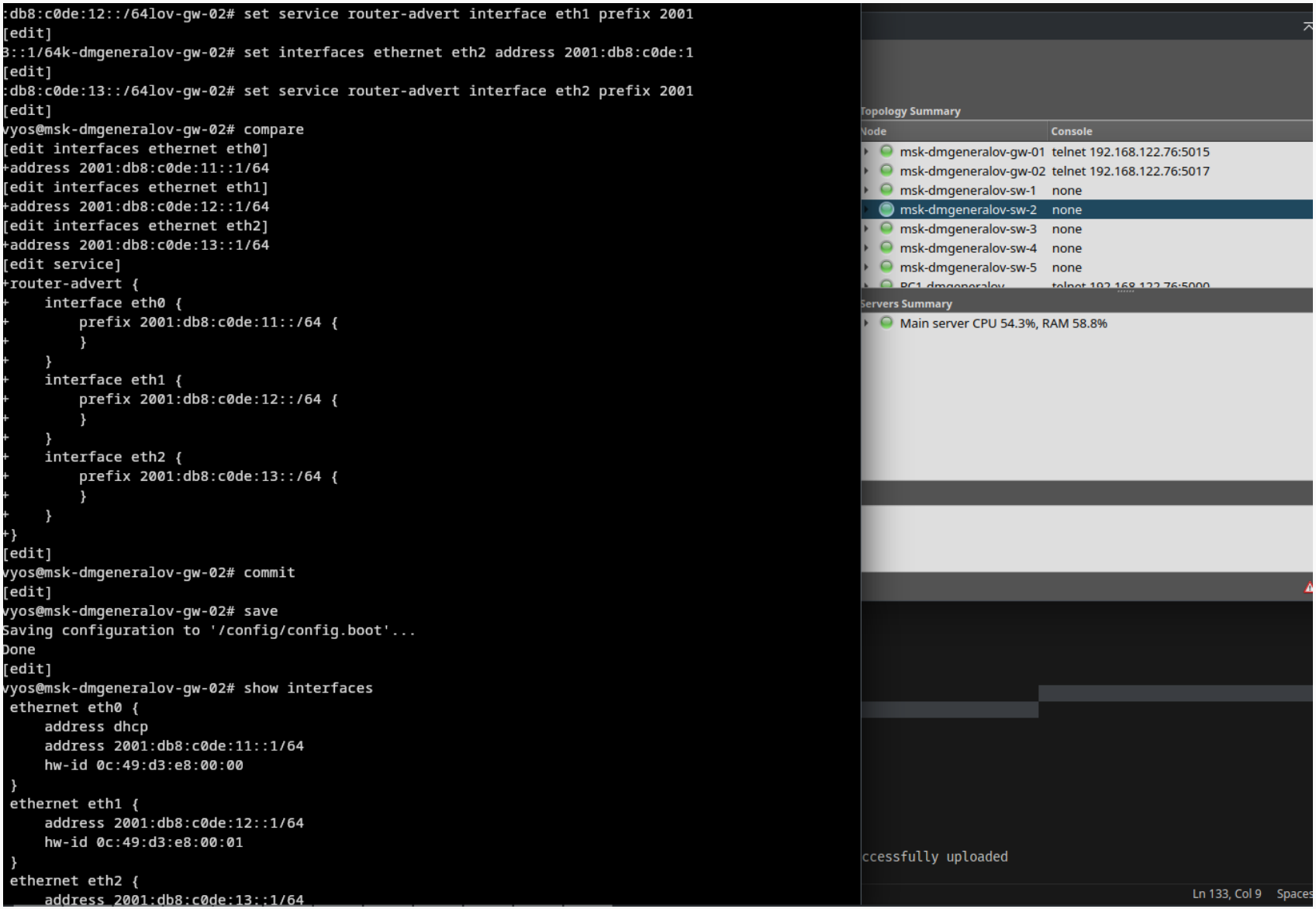


Рис. 10: GNS

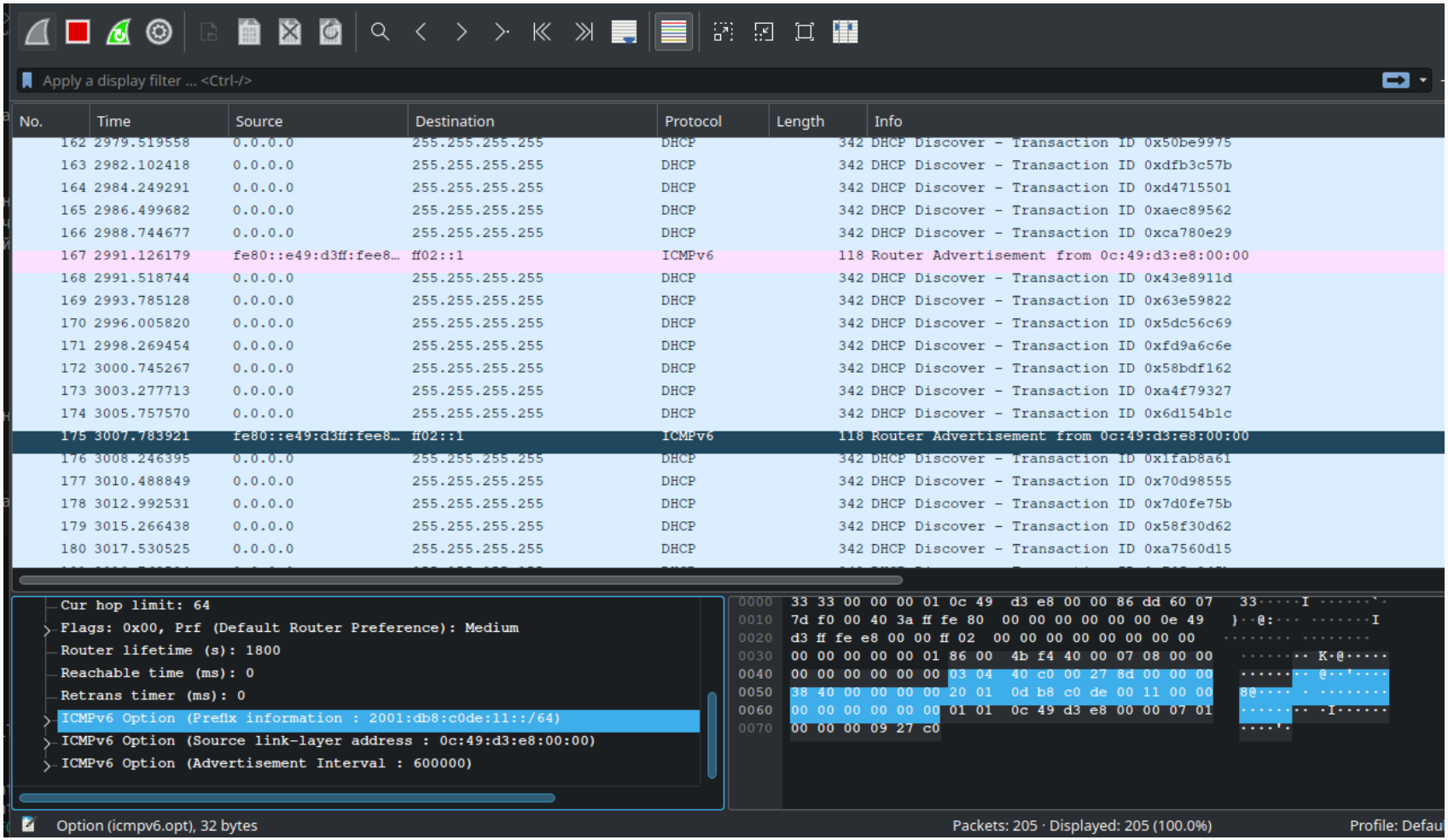

Apply a display filter ... <Ctrl-/>
No. Time Source Destination Protocol Length Info
162 2979.519558 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x50be9975
163 2982.102418 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0xdfb3c57b
164 2984.249291 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0xd4715501
165 2986.499682 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0xaec89562
166 2988.744677 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0xca780e29
167 2991.126179 fe80::e49:d3ff:fee8… ff02::1 ICMPv6 118 Router Advertisement from 0c:49:d3:e8:00:00
168 2991.518744 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x43e8911d
169 2993.785128 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x63e59822
170 2996.005820 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x5dc56c69
171 2998.269454 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0xfd9a6c6e
172 3000.745267 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x58bdf162
173 3003.277713 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0xa4f79327
174 3005.757570 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x6d154b1c
175 3007.783921 fe80::e49:d3ff:fee8… ff02::1 ICMPv6 118 Router Advertisement from 0c:49:d3:e8:00:00
176 3008.246395 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x1fab8a61
177 3010.488849 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x70d98555
178 3012.992531 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x7d0fe75b
179 3015.266438 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0x58f30d62
180 3017.530525 0.0.0.0 255.255.255.255 DHCP 342 DHCP Discover - Transaction ID 0xa7560d15
Cur hop limit: 64
Flags: 0x00, Prf (Default Router Preference): Medium
Router lifetime (s): 1800
Reachable time (ms): 0
Retrans timer (ms): 0
ICMPv6 Option (Prefix information : 2001:db8:c0de:11::/64)
ICMPv6 Option (Source link-layer address : 0c:49:d3:e8:00:00)
ICMPv6 Option (Advertisement Interval : 600000)
0000 33 33 00 00 00 01 0c 49 d3 e8 00 00 86 dd 60 07
0010 7d f0 00 40 3a ff fe 80 00 00 00 00 00 00 0e 49
0020 d3 ff fe e8 00 00 ff 02 00 00 00 00 00 00 00 00
0030 00 00 00 00 00 01 86 00 4b f4 40 00 07 08 00 00
0040 00 00 00 00 00 00 03 04 40 c0 00 27 8d 00 00 00
0050 38 40 00 00 00 00 20 01 0d b8 c0 de 00 11 00 00
0060 00 00 00 00 00 00 01 01 0c 49 d3 e8 00 00 07 01
0070 00 00 00 09 27 c0
Option (icmpv6.opt), 32 bytes
Packets: 205 · Displayed: 205 (100.0%)
Profile: Defau

Рис. 11: GNS

GNS

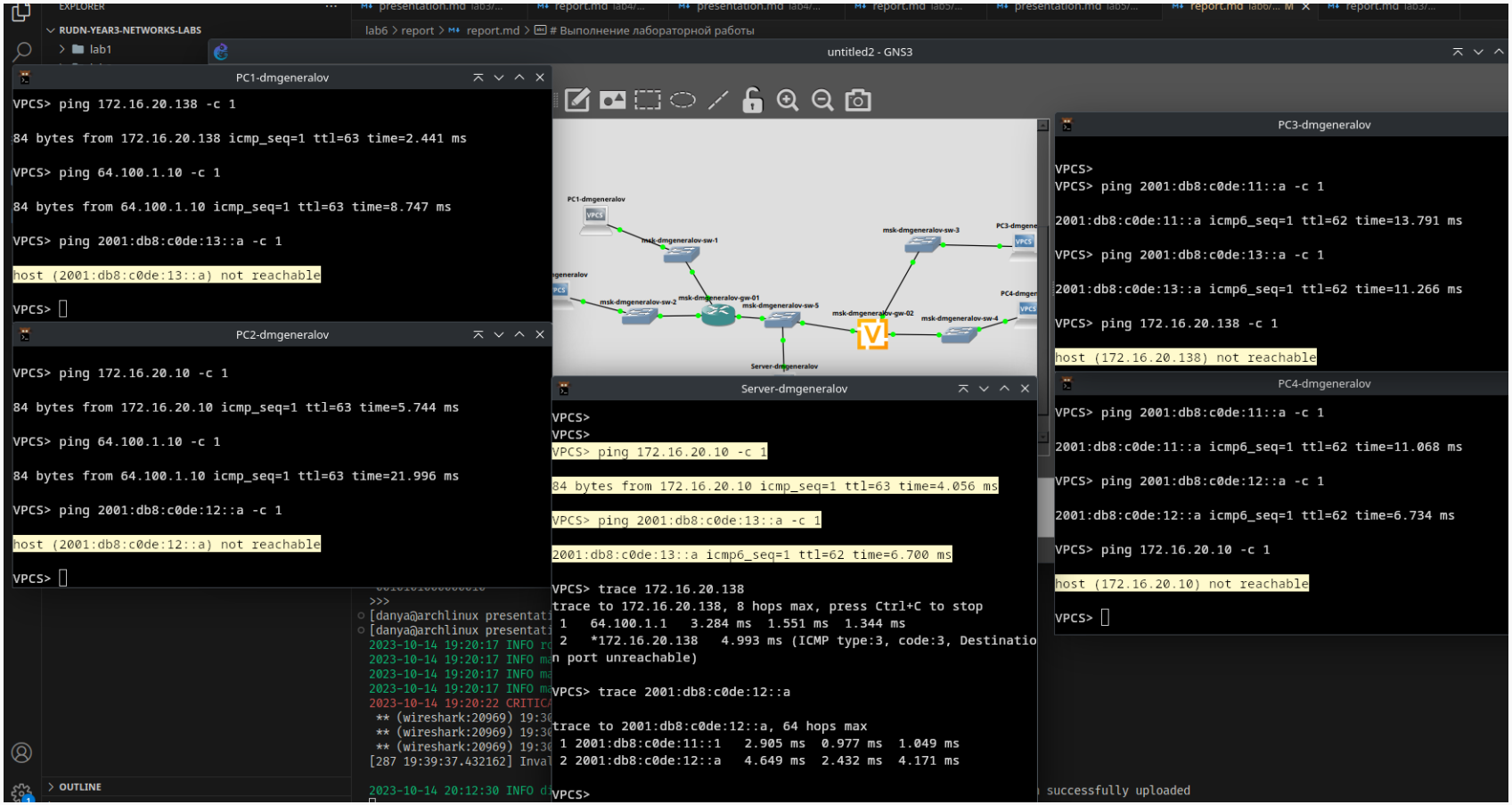
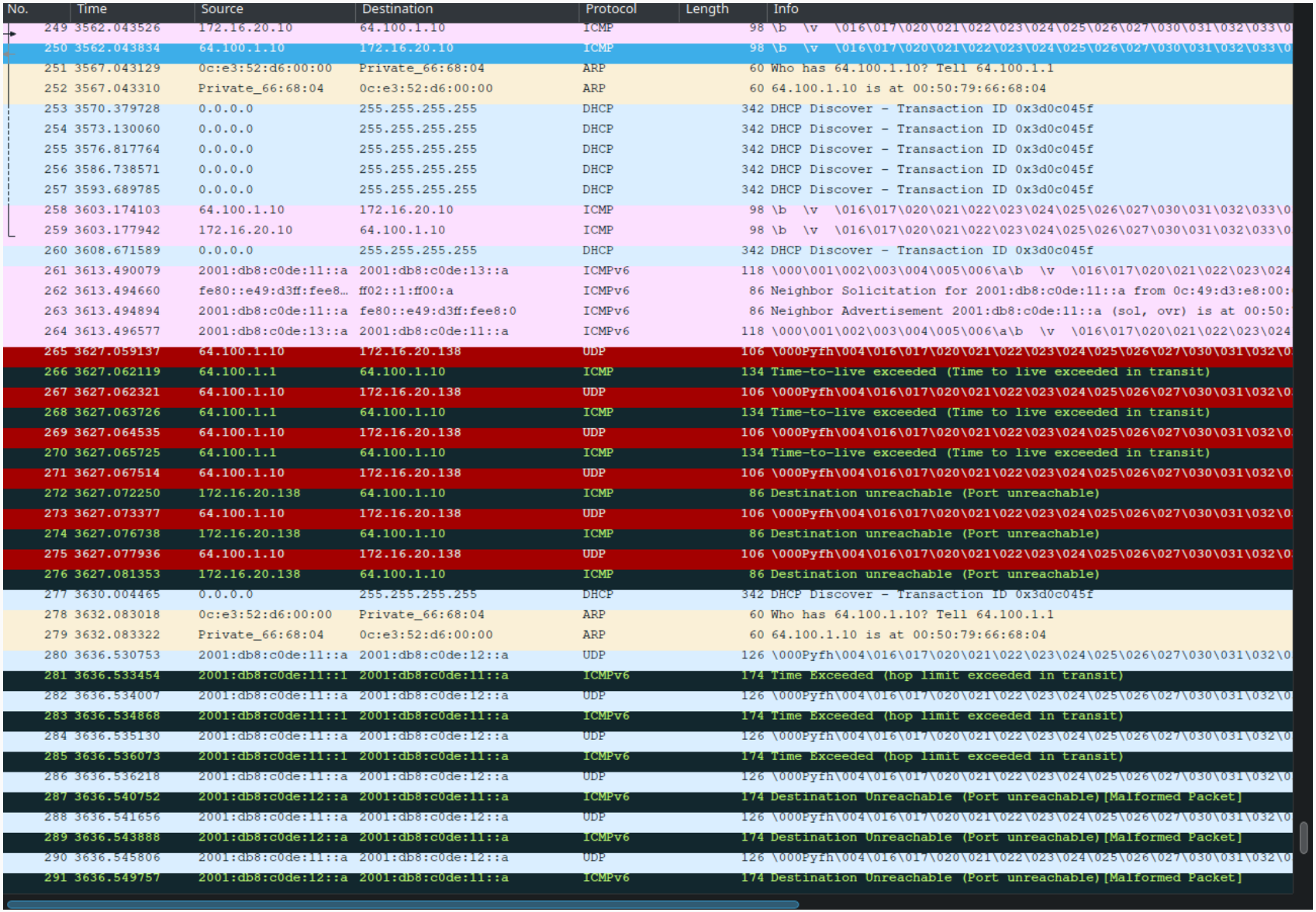


Рис. 12: GNS

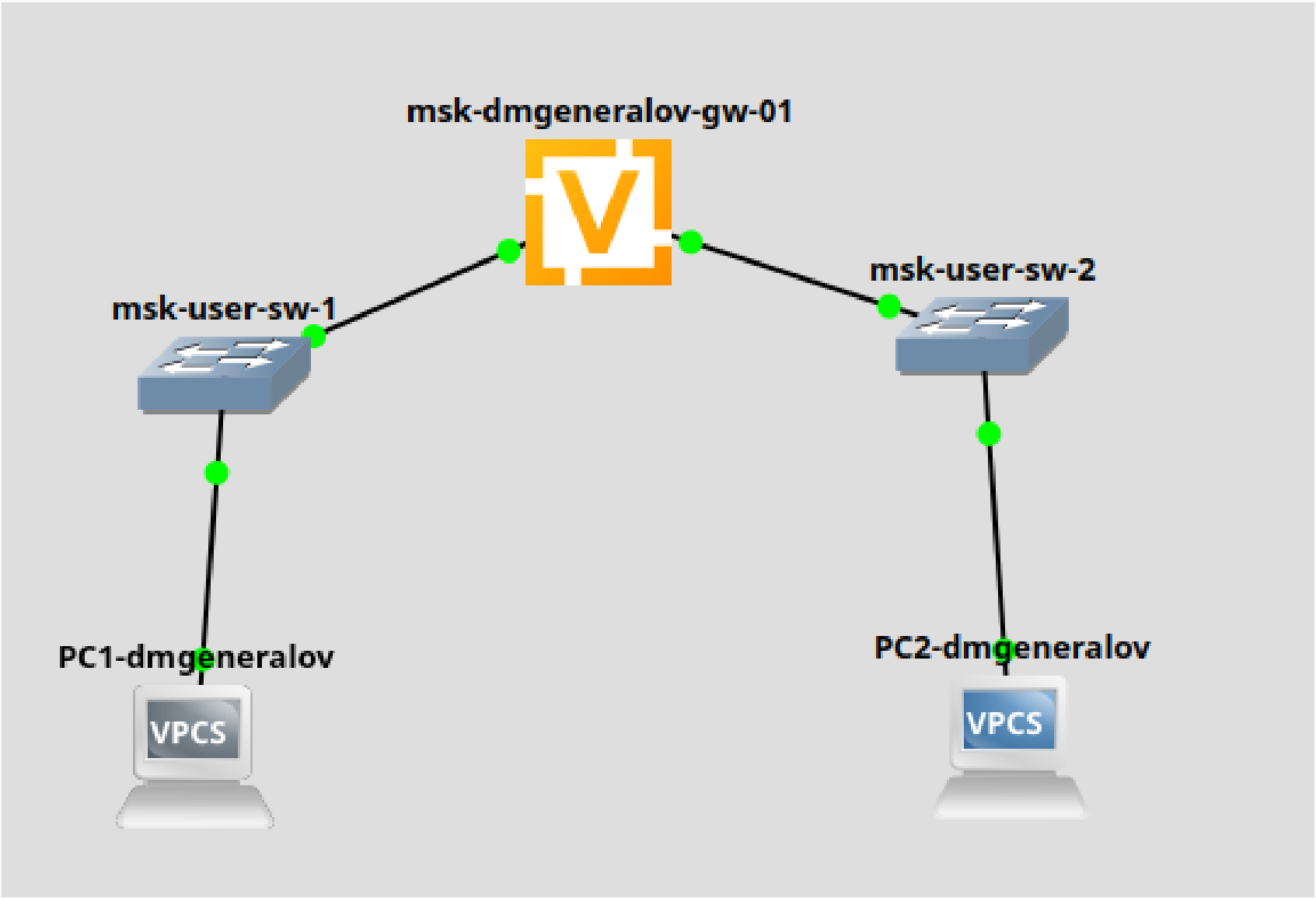
GNS



No.	Time	Source	Destination	Protocol	Length	Info
249	3562.043526	172.16.20.10	64.100.1.10	ICMP	98	\b \v \016\017\020\021\022\023\024\025\026\027\030\031\032\033\0
250	3562.043834	64.100.1.10	172.16.20.10	ICMP	98	\b \v \016\017\020\021\022\023\024\025\026\027\030\031\032\033\0
251	3567.043129	0c:e3:52:d6:00:00	Private_66:68:04	ARP	60	Who has 64.100.1.10? Tell 64.100.1.1
252	3567.043310	Private_66:68:04	0c:e3:52:d6:00:00	ARP	60	64.100.1.10 is at 00:50:79:66:68:04
253	3570.379728	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3d0c045f
254	3573.130060	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3d0c045f
255	3576.817764	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3d0c045f
256	3586.738571	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3d0c045f
257	3593.689785	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3d0c045f
258	3603.174103	64.100.1.10	172.16.20.10	ICMP	98	\b \v \016\017\020\021\022\023\024\025\026\027\030\031\032\033\0
259	3603.177942	172.16.20.10	64.100.1.10	ICMP	98	\b \v \016\017\020\021\022\023\024\025\026\027\030\031\032\033\0
260	3608.671589	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3d0c045f
261	3613.490079	2001:db8:c0de:11::a	2001:db8:c0de:13::a	ICMPv6	118	\000\001\002\003\004\005\006\a\b \v \016\017\020\021\022\023\024
262	3613.494660	fe80::e49:d3ff:fee8…	ff02::1:ff00:a	ICMPv6	86	Neighbor Solicitation for 2001:db8:c0de:11::a from 0c:49:d3:e8:00:
263	3613.494894	2001:db8:c0de:11::a	fe80::e49:d3ff:fee8:0	ICMPv6	86	Neighbor Advertisement 2001:db8:c0de:11::a (sol, ovr) is at 00:50:
264	3613.496577	2001:db8:c0de:13::a	2001:db8:c0de:11::a	ICMPv6	118	\000\001\002\003\004\005\006\a\b \v \016\017\020\021\022\023\024
265	3627.059137	64.100.1.10	172.16.20.138	UDP	106	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
266	3627.062119	64.100.1.1	64.100.1.10	ICMP	134	Time-to-live exceeded (Time to live exceeded in transit)
267	3627.062321	64.100.1.10	172.16.20.138	UDP	106	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
268	3627.063726	64.100.1.1	64.100.1.10	ICMP	134	Time-to-live exceeded (Time to live exceeded in transit)
269	3627.064535	64.100.1.10	172.16.20.138	UDP	106	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
270	3627.065725	64.100.1.1	64.100.1.10	ICMP	134	Time-to-live exceeded (Time to live exceeded in transit)
271	3627.067514	64.100.1.10	172.16.20.138	UDP	106	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
272	3627.072250	172.16.20.138	64.100.1.10	ICMP	86	Destination unreachable (Port unreachable)
273	3627.073377	64.100.1.10	172.16.20.138	UDP	106	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
274	3627.076738	172.16.20.138	64.100.1.10	ICMP	86	Destination unreachable (Port unreachable)
275	3627.077936	64.100.1.10	172.16.20.138	UDP	106	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
276	3627.081353	172.16.20.138	64.100.1.10	ICMP	86	Destination unreachable (Port unreachable)
277	3630.004465	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3d0c045f
278	3632.083018	0c:e3:52:d6:00:00	Private_66:68:04	ARP	60	Who has 64.100.1.10? Tell 64.100.1.1
279	3632.083322	Private_66:68:04	0c:e3:52:d6:00:00	ARP	60	64.100.1.10 is at 00:50:79:66:68:04
280	3636.530753	2001:db8:c0de:11::a	2001:db8:c0de:12::a	UDP	126	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
281	3636.533454	2001:db8:c0de:11::1	2001:db8:c0de:11::a	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
282	3636.534007	2001:db8:c0de:11::a	2001:db8:c0de:12::a	UDP	126	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
283	3636.534868	2001:db8:c0de:11::1	2001:db8:c0de:11::a	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
284	3636.535130	2001:db8:c0de:11::a	2001:db8:c0de:12::a	UDP	126	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
285	3636.536073	2001:db8:c0de:11::1	2001:db8:c0de:11::a	ICMPv6	174	Time Exceeded (hop limit exceeded in transit)
286	3636.536218	2001:db8:c0de:11::a	2001:db8:c0de:12::a	UDP	126	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
287	3636.540752	2001:db8:c0de:12::a	2001:db8:c0de:11::a	ICMPv6	174	Destination Unreachable (Port unreachable)[Malformed Packet]
288	3636.541656	2001:db8:c0de:11::a	2001:db8:c0de:12::a	UDP	126	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
289	3636.543888	2001:db8:c0de:12::a	2001:db8:c0de:11::a	ICMPv6	174	Destination Unreachable (Port unreachable)[Malformed Packet]
290	3636.545806	2001:db8:c0de:11::a	2001:db8:c0de:12::a	UDP	126	\000Pyfh\004\016\017\020\021\022\023\024\025\026\027\030\031\032\0
291	3636.549757	2001:db8:c0de:12::a	2001:db8:c0de:11::a	ICMPv6	174	Destination Unreachable (Port unreachable)[Malformed Packet]

Рис. 13: GNS

GNS


msk-dmgeneralov-gw-01
msk-user-sw-1
msk-user-sw-2
PC1-dmgeneralov
PC2-dmgeneralov
VPCS
VPCS

GNS

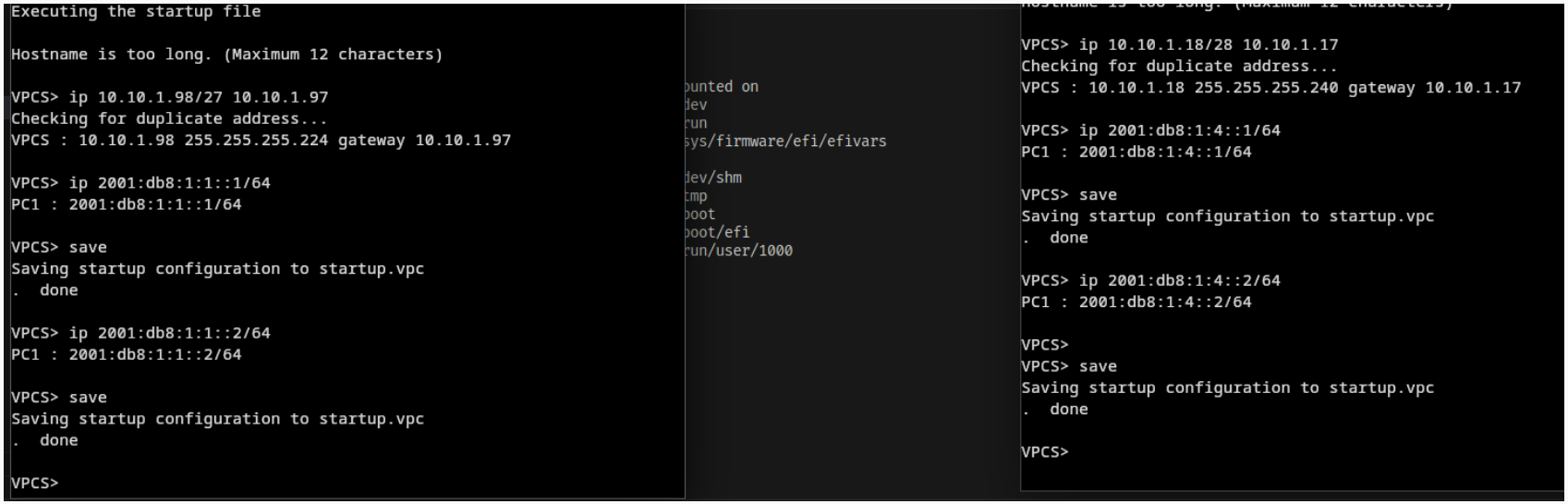


Рис. 15: GNS

```
vyos@msk-dmgeneralov-gw-01# show
interfaces {
    ethernet eth0 {
        address 10.10.1.97/27
        hw-id 0c:42:3e:4d:00:00
    }
    ethernet eth1 {
        address 10.10.1.17/28
        address 2001:db8:1:4::1/64
        hw-id 0c:42:3e:4d:00:01
    }
    ethernet eth2 {
        hw-id 0c:42:3e:4d:00:02
    }
    loopback lo {
    }
}
service {
    router-advert {
        interface eth0 {
            prefix 2001:db8:1:1::/64 {
            }
        }
        interface eth1 {
            prefix 2001:db8:1:4::/64 {
            }
```

GNS

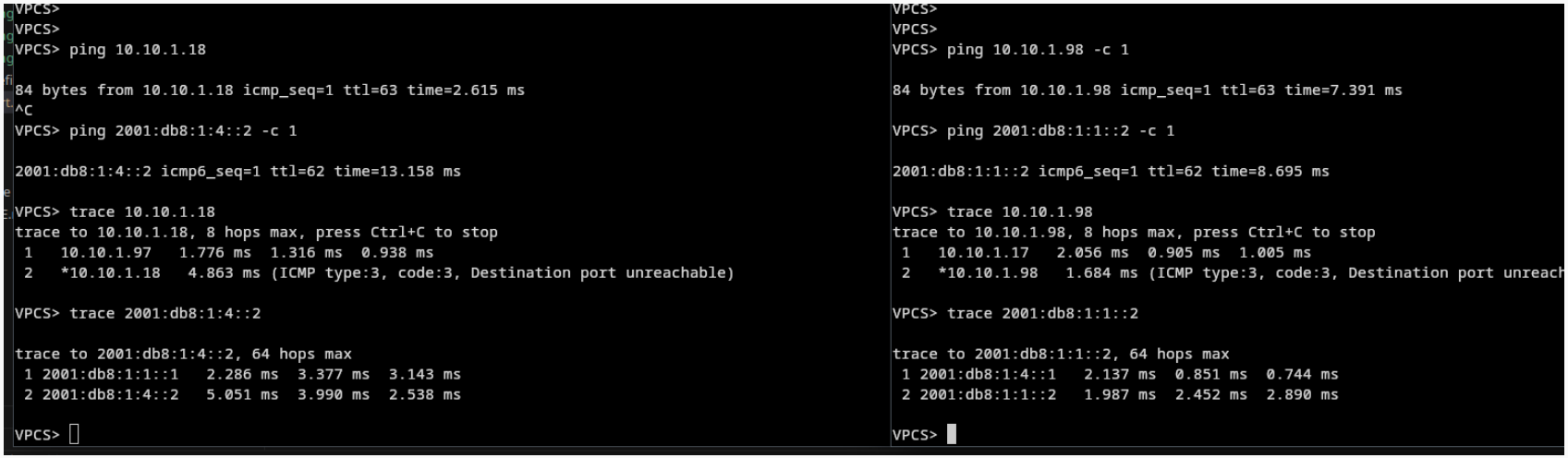


Рис. 17: GNS

Вывод

Я получил опыт настройки сетей с протоколом IPv4 и IPv6.