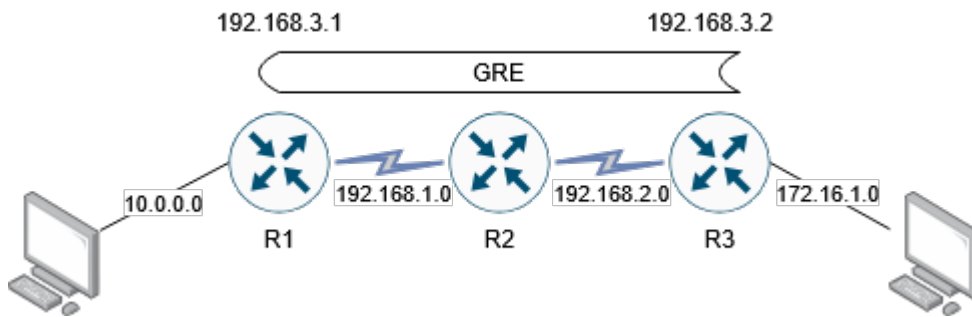


Cisco: GRE tunnel



Notes:

test:

```
PC2#ping 10.0.0.254
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.0.0.254, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 44/56/76 ms
PC2#traceroute 10.0.0.254
Type escape sequence to abort.
Tracing the route to 10.0.0.254

 0 172.16.1.1 32 msec 32 msec 32 msec
 1 172.16.1.1 32 msec 32 msec 32 msec
 2 192.168.3.1 28 msec 20 msec 44 msec
 3 10.0.0.254 44 msec 60 msec 64 msec
PC2#
```

Plik Edytuj Widok Idź Przechwytyj Analizuj Statystyki Telefonia Bezprzewodowe Narzędzia Pomoc

Zastosuj filtr wyświetlania ... <Ctrl-/>

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	N/A	N/A	SLARP	24	Line keepalive, outgoing sequence 109, returned sequence 96
2	0.219543	N/A	N/A	SLARP	24	Line keepalive, outgoing sequence 97, returned sequence 109
3	6.229144	N/A	N/A	CDP	336	Device ID: R1 Port ID: Serial0/0
4	9.986646	N/A	N/A	SLARP	24	Line keepalive, outgoing sequence 110, returned sequence 97
5	10.203046	N/A	N/A	SLARP	24	Line keepalive, outgoing sequence 98, returned sequence 110
6	14.192722	172.16.1.254	10.0.0.254	ICMP	128	Echo (ping) request id=0x0003, seq=0/0, ttl=254 (reply in 7)
7	14.222167	10.0.0.254	172.16.1.254	ICMP	128	Echo (ping) reply id=0x0003, seq=0/0, ttl=254 (request in 6)
8	14.252833	172.16.1.254	10.0.0.254	ICMP	128	Echo (ping) request id=0x0003, seq=1/256, ttl=254 (reply in 9)
9	14.283464	10.0.0.254	172.16.1.254	ICMP	128	Echo (ping) reply id=0x0003, seq=1/256, ttl=254 (request in 8)
10	14.313908	172.16.1.254	10.0.0.254	ICMP	128	Echo (ping) request id=0x0003, seq=2/512, ttl=254 (reply in 11)
11	14.344413	10.0.0.254	172.16.1.254	ICMP	128	Echo (ping) reply id=0x0003, seq=2/512, ttl=254 (request in 10)
12	14.377087	172.16.1.254	10.0.0.254	ICMP	128	Echo (ping) request id=0x0003, seq=3/768, ttl=254 (reply in 13)
13	14.407389	10.0.0.254	172.16.1.254	ICMP	128	Echo (ping) reply id=0x0003, seq=3/768, ttl=254 (request in 12)
14	14.438640	172.16.1.254	10.0.0.254	ICMP	128	Echo (ping) request id=0x0003, seq=4/1024, ttl=254 (reply in 15)
15	14.469912	10.0.0.254	172.16.1.254	ICMP	128	Echo (ping) reply id=0x0003, seq=4/1024, ttl=254 (request in 14)
16	19.987292	N/A	N/A	SLARP	24	Line keepalive, outgoing sequence 111, returned sequence 98
17	20.281196	N/A	N/A	SLARP	24	Line keepalive, outgoing sequence 99, returned sequence 111
18	29.966966	N/A	N/A	SLARP	24	Line keepalive, outgoing sequence 112, returned sequence 99

- > Internet Protocol Version 4, Src: 192.168.2.2, Dst: 192.168.1.1
- > Generic Routing Encapsulation (IP)
 - > Flags and Version: 0x0000
 - Protocol Type: IP (0x0800)
- > Internet Protocol Version 4, Src: 172.16.1.254, Dst: 10.0.0.254
 - 0100 = Version: 4
 - 0101 = Header Length: 20 bytes (5)
 - > Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
 - Total Length: 100
 - Identification: 0x000f (15)
 - > 000. = Flags: 0x0
 - ...0 0000 0000 0000 = Fragment Offset: 0
 - Time to Live: 254
 - Protocol: ICMP (1)
 - Header Checksum: 0x037e [validation disabled]
 - [Header checksum status: Unverified]
 - Source Address: 172.16.1.254
 - Destination Address: 10.0.0.254
- > Internet Control Message Protocol

```

0000  0f 00 08 00 45 00 00 7c 00 10 00 00 fe 2f 37 ef
0010  c0 a8 02 02 c0 a8 01 01 00 00 08 00 45 00 00 64
0020  00 0f 00 00 fe 01 03 7e ac 10 01 fe 0a 00 00 fe
0030  08 00 17 9f 00 03 00 00 00 00 00 00 10 66 98
0040  ab cd ab cd ab cd ab cd ab cd ab cd ab cd ab cd
0050  ab cd ab cd ab cd ab cd ab cd ab cd ab cd ab cd
0060  ab cd ab cd ab cd ab cd ab cd ab cd ab cd ab cd
0070  ab cd ab cd ab cd ab cd ab cd ab cd ab cd ab cd

```

wireshark_-J6YG82.pcapng | Pakietów: 19 · Wyświetlanych: 19 (100.0%) | Profil: Default

R1:

```

interface Tunnel0
  ip address 192.168.3.1 255.255.255.0
  tunnel source 192.168.1.1
  tunnel destination 192.168.2.2

```

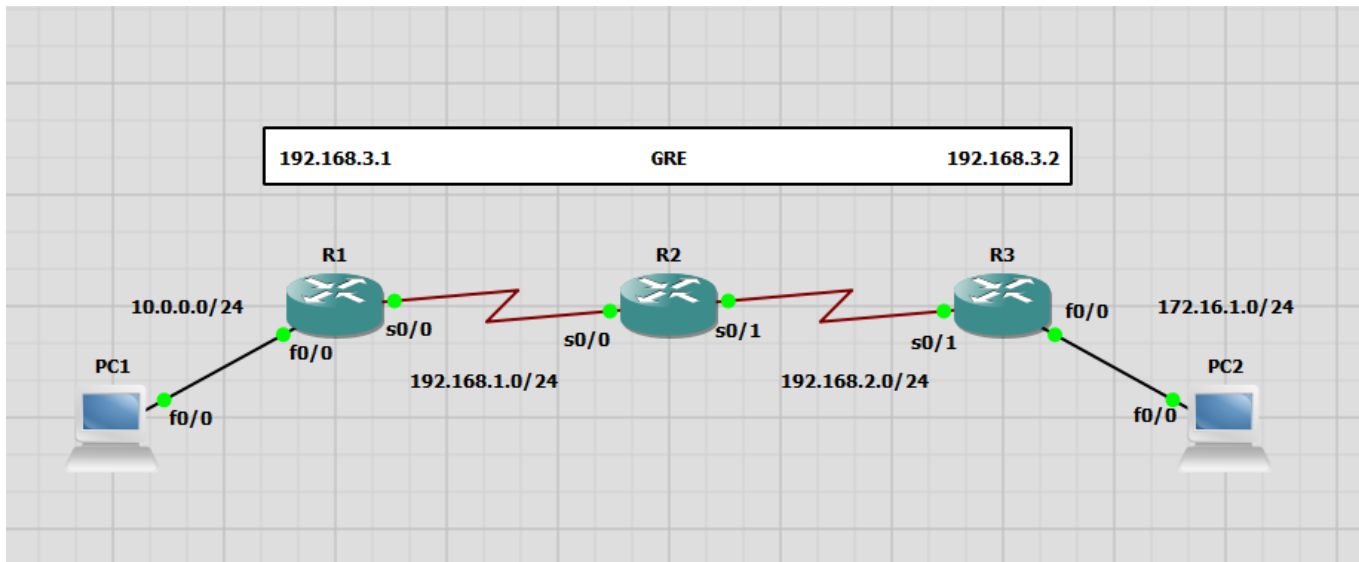
R3:

```

interface Tunnel0
  ip address 192.168.3.2 255.255.255.0
  tunnel source 192.168.2.2
  tunnel destination 192.168.1.1

```

GNS3



R1 configuration:

```
Building configuration...

Current configuration : 1482 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R1
!
boot-start-marker
boot-end-marker
!
!
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
ip cef
!
!
!
!
no ip domain lookup
!
multilink bundle-name authenticated
!
!
!
!
!
```

```
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
archive  
  log config  
  hidekeys  
!  
!  
!  
!  
ip tcp synwait-time 5  
!  
!  
!  
interface Tunnel0  
  ip address 192.168.3.1 255.255.255.0  
  tunnel source 192.168.1.1  
  tunnel destination 192.168.2.2  
!  
interface FastEthernet0/0  
  ip address 10.0.0.1 255.255.255.0  
  duplex auto  
  speed auto  
!  
interface Serial0/0  
  ip address 192.168.1.1 255.255.255.0  
  clock rate 2000000  
!  
interface FastEthernet0/1  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial0/1  
  no ip address  
  shutdown  
  clock rate 2000000  
!  
interface Serial0/2
```



```
login
!  
!  
end
```

R2 configuration:

```
Destination filename [startup-config]?  
Building configuration...  
[OK]  
R2#  
*Mar  1 00:09:02.183: %LINEPROTO-5-UPDOWN: Line protocol on Interface  
Serial0/1, changed state to up  
R2#show run  
Building configuration...  
  
Current configuration : 1285 bytes  
!  
version 12.4  
service timestamps debug datetime msec  
service timestamps log datetime msec  
no service password-encryption  
!  
hostname R2  
!  
boot-start-marker  
boot-end-marker  
!  
!  
no aaa new-model  
memory-size iomem 5  
no ip icmp rate-limit unreachable  
ip cef  
!  
!  
!  
no ip domain lookup  
!  
multilink bundle-name authenticated  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!
```

```
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
archive  
  log config  
    hidekeys  
!  
!  
!  
!  
ip tcp synwait-time 5  
!  
!  
!  
!  
interface FastEthernet0/0  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial0/0  
  ip address 192.168.1.2 255.255.255.0  
  clock rate 2000000  
!  
interface FastEthernet0/1  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial0/1  
  ip address 192.168.2.1 255.255.255.0  
  clock rate 2000000  
!  
interface Serial0/2  
  no ip address  
  shutdown  
  clock rate 2000000  
!  
interface FastEthernet1/0  
  no ip address  
  shutdown  
  duplex auto
```

```
speed auto
!
interface FastEthernet2/0
  no ip address
  shutdown
  duplex auto
  speed auto
!
ip forward-protocol nd
!
!
no ip http server
no ip http secure-server
!
no cdp log mismatch duplex
!
!
!
!
!
!
control-plane
!
!
!
!
!
!
!
!
!
!
line con 0
  exec-timeout 0 0
  privilege level 15
  logging synchronous
line aux 0
  exec-timeout 0 0
  privilege level 15
  logging synchronous
line vty 0 4
  login
!
!
end
```

R3 configuration:

```
Building configuration...
```

```
Current configuration : 1482 bytes
```

```
!  
version 12.4  
service timestamps debug datetime msec  
service timestamps log datetime msec  
no service password-encryption  
!  
hostname R3  
!  
boot-start-marker  
boot-end-marker  
!  
!  
no aaa new-model  
memory-size iomem 5  
no ip icmp rate-limit unreachable  
ip cef  
!  
!  
!  
no ip domain lookup  
!  
multilink bundle-name authenticated  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
!  
archive  
  log config  
  hidekeys  
!  
!  
!  
!
```

```
ip tcp synwait-time 5
!
!
!
!
interface Tunnel0
 ip address 192.168.3.2 255.255.255.0
 tunnel source 192.168.2.2
 tunnel destination 192.168.1.1
!
interface FastEthernet0/0
 ip address 172.16.1.1 255.255.255.0
 duplex auto
 speed auto
!
interface Serial0/0
 no ip address
 shutdown
 clock rate 2000000
!
interface FastEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface Serial0/1
 ip address 192.168.2.2 255.255.255.0
 clock rate 2000000
!
interface Serial0/2
 no ip address
 shutdown
 clock rate 2000000
!
interface FastEthernet1/0
 no ip address
 shutdown
 duplex auto
 speed auto
!
interface FastEthernet2/0
 no ip address
 shutdown
 duplex auto
 speed auto
!
ip forward-protocol nd
ip route 0.0.0.0 0.0.0.0 192.168.2.1
ip route 10.0.0.0 255.255.255.0 192.168.3.1
!
```

```
!  
no ip http server  
no ip http secure-server  
!  
no cdp log mismatch duplex  
!  
!  
!  
!  
!  
control-plane  
!  
!  
!  
!  
!  
!  
!  
!  
!  
line con 0  
  exec-timeout 0 0  
  privilege level 15  
  logging synchronous  
line aux 0  
  exec-timeout 0 0  
  privilege level 15  
  logging synchronous  
line vty 0 4  
  login  
!  
!  
end
```