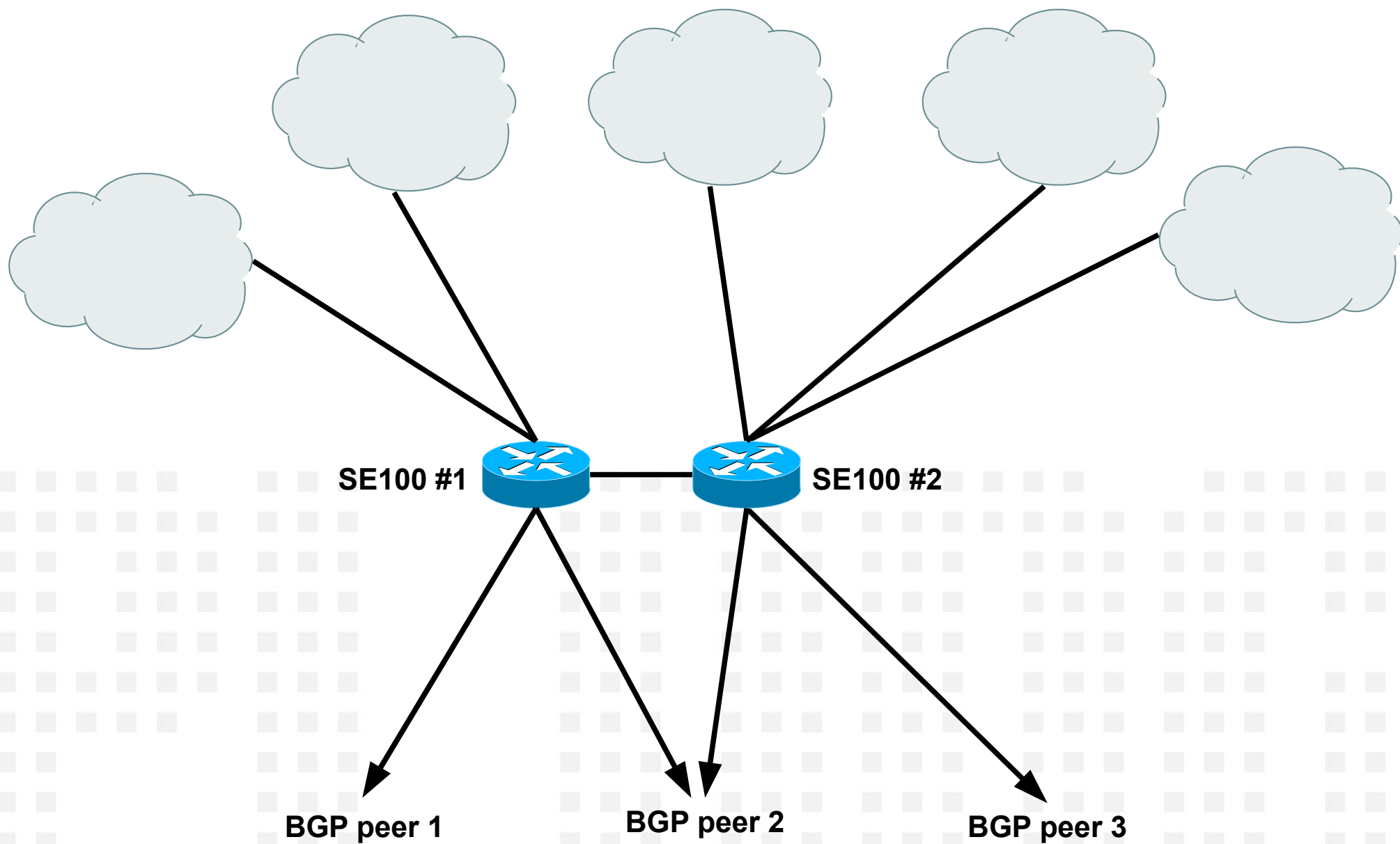


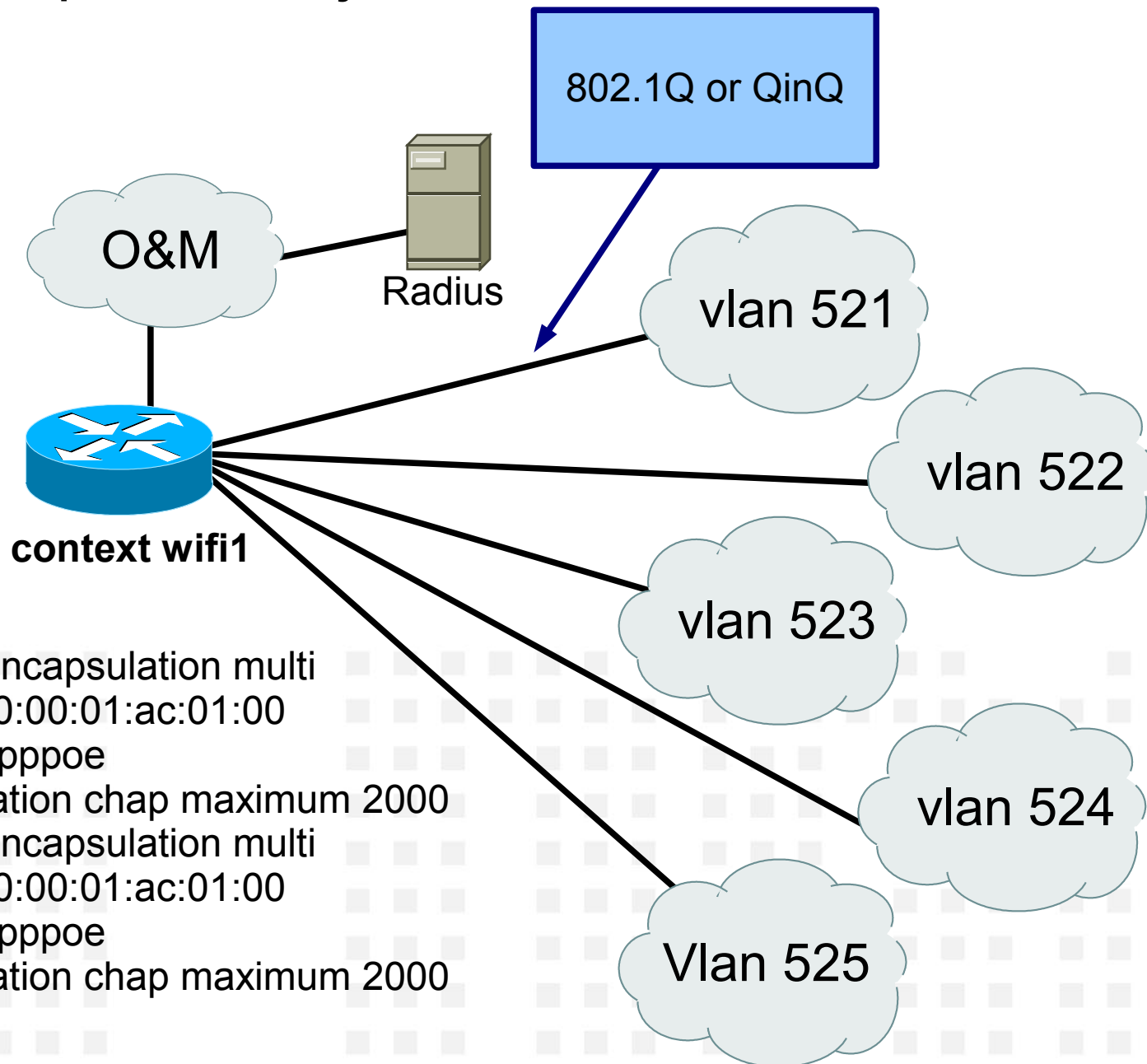
Obsługa abonentów poprzez sieć L2 i L3, czyli ciąg dalszy centralnego BRASa w sieci

- coś o mnie
- dlaczego kontynuacja tematu ?

Obecna struktura sieci



PPPoE - implementacja



```

port ethernet 2/3
dot1q pvc 521 encapsulation multi
mac-address 00:00:01:ac:01:00
circuit protocol pppoe
bind authentication chap maximum 2000
dot1q pvc 522 encapsulation multi
mac-address 00:00:01:ac:01:00
circuit protocol pppoe
bind authentication chap maximum 2000
  
```

PPPoE implmentacja - cont.



```
[local]RedBack_SE100#context wifi1
[wifi1]RedBack_SE100#show config
Building configuration...
```

Current configuration:

```
!
context wifi1
 domain wifi advertise
!
```

```
...
[wifi1]RedBack_SE100#context voip1
[voip1]RedBack_SE100#show config
Building configuration...
```

Current configuration:

```
!
context voip1
 domain voip advertise
!
```

```
...
[voip1]RedBack_SE100#context sgt-tv
[sgt-tv]RedBack_SE100#show config
Building configuration...
```

Current configuration:

```
!
context sgt-tv
!
```

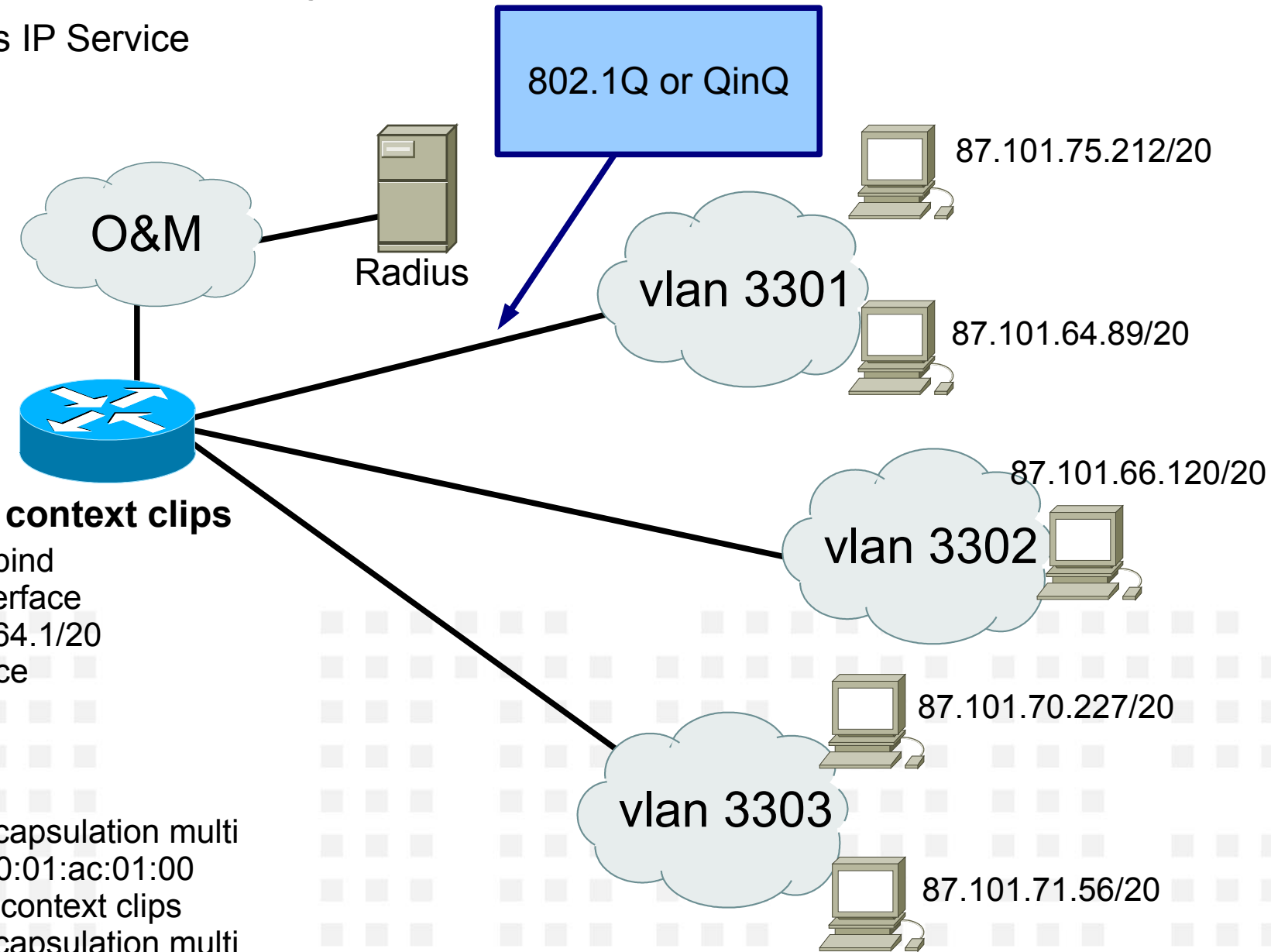
```
[voip1]RedBack_SE100#context local
[local]RedBack_SE100#show config
```

```
!
...
!
pppoe services marked-domains
pppoe tag ac-name leon-ac01
pppoe always-send-padt
!
```

```
...
```

CLIPS implementatacja

ClientLess IP Service



```

interface clips multibind
description GW interface
ip address 87.101.64.1/20
dhcp server interface
ip arp proxy-arp

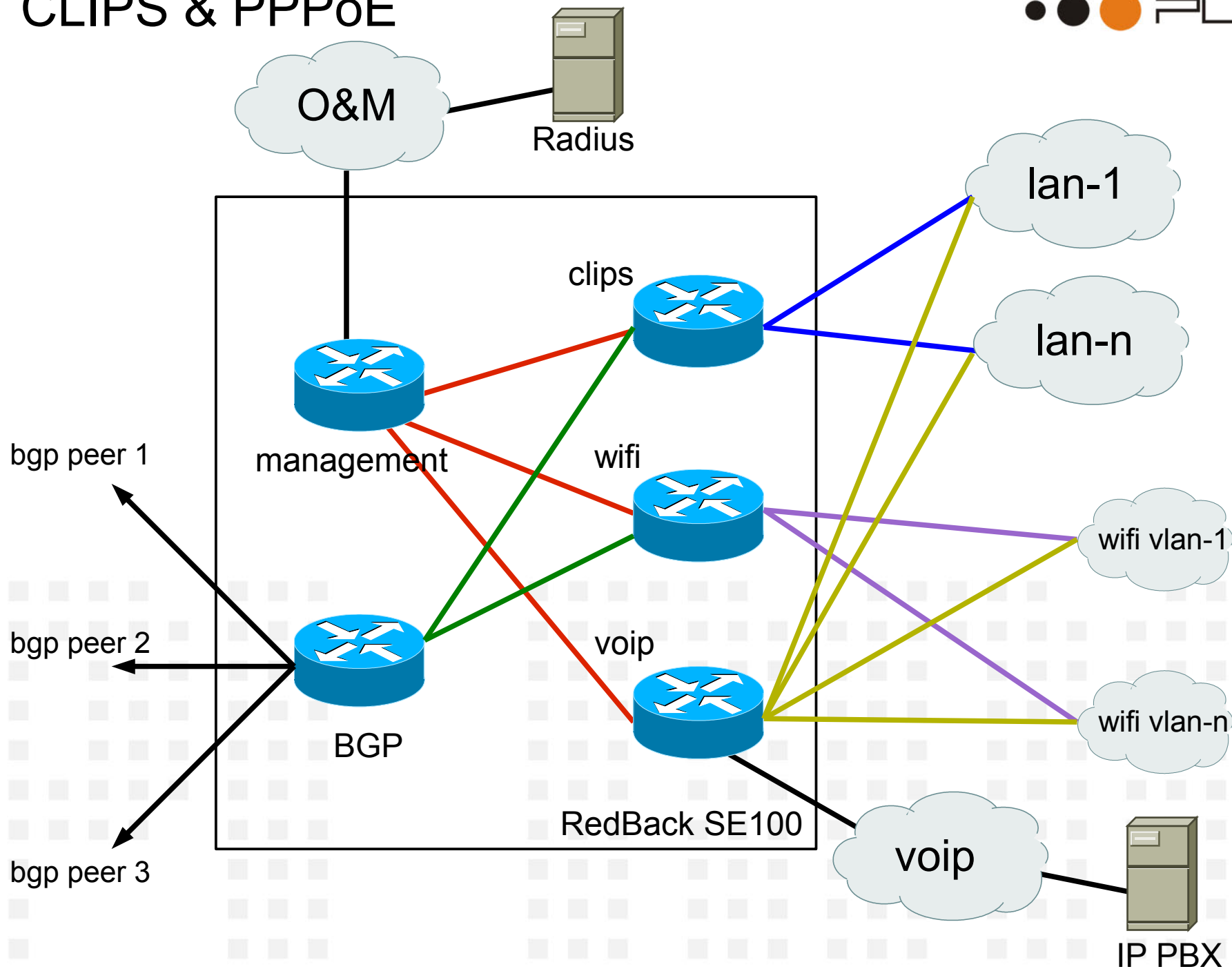
```

```

port ethernet 2/3
dot1q pvc 3301 encapsulation multi
mac-address 00:00:01:ac:01:00
service clips dhcp context clips
dot1q pvc 3302 encapsulation multi
mac-address 00:00:01:ac:01:00
service clips dhcp context clips

```

CLIPS & PPPoE



CLIPS & PPPoE



```
# regular DHCP + PPPoE
```

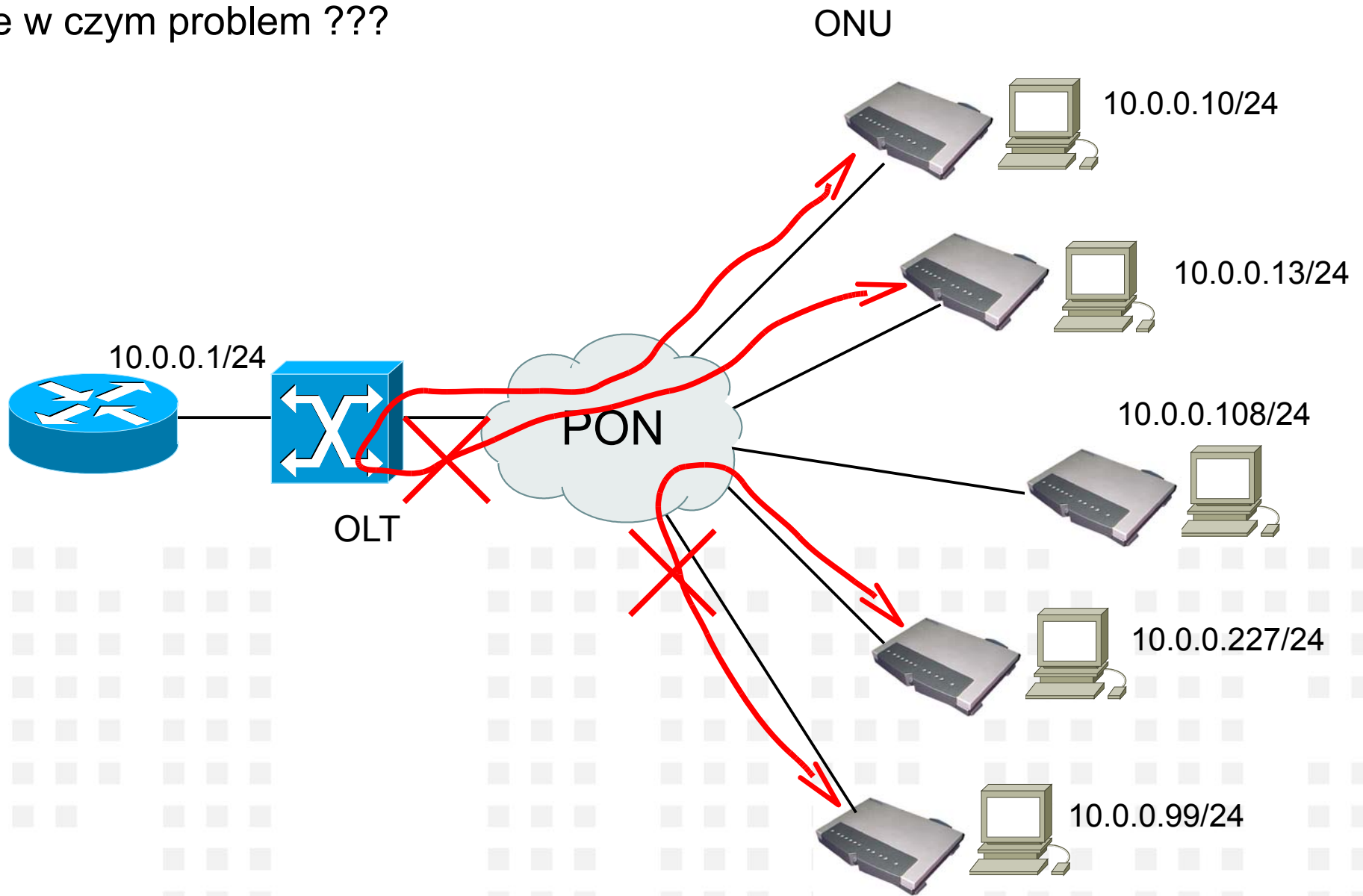
```
!  
port ethernet 2/3  
  encapsulation dot1q  
  dot1q pvc 5 encapsulation multi  
  bind interface vlan5 bgp1  
  circuit protocol pppoe  
  bind authentication chap maximum 100  
!
```

```
# CLIPS (DHCP) + PPPoE
```

```
!  
port ethernet 2/3  
  encapsulation dot1q  
  dot1q pvc 10 encapsulation multi  
  service clips dhcp context clips  
  circuit protocol pppoe  
  bind authentication chap maximum 100  
!
```

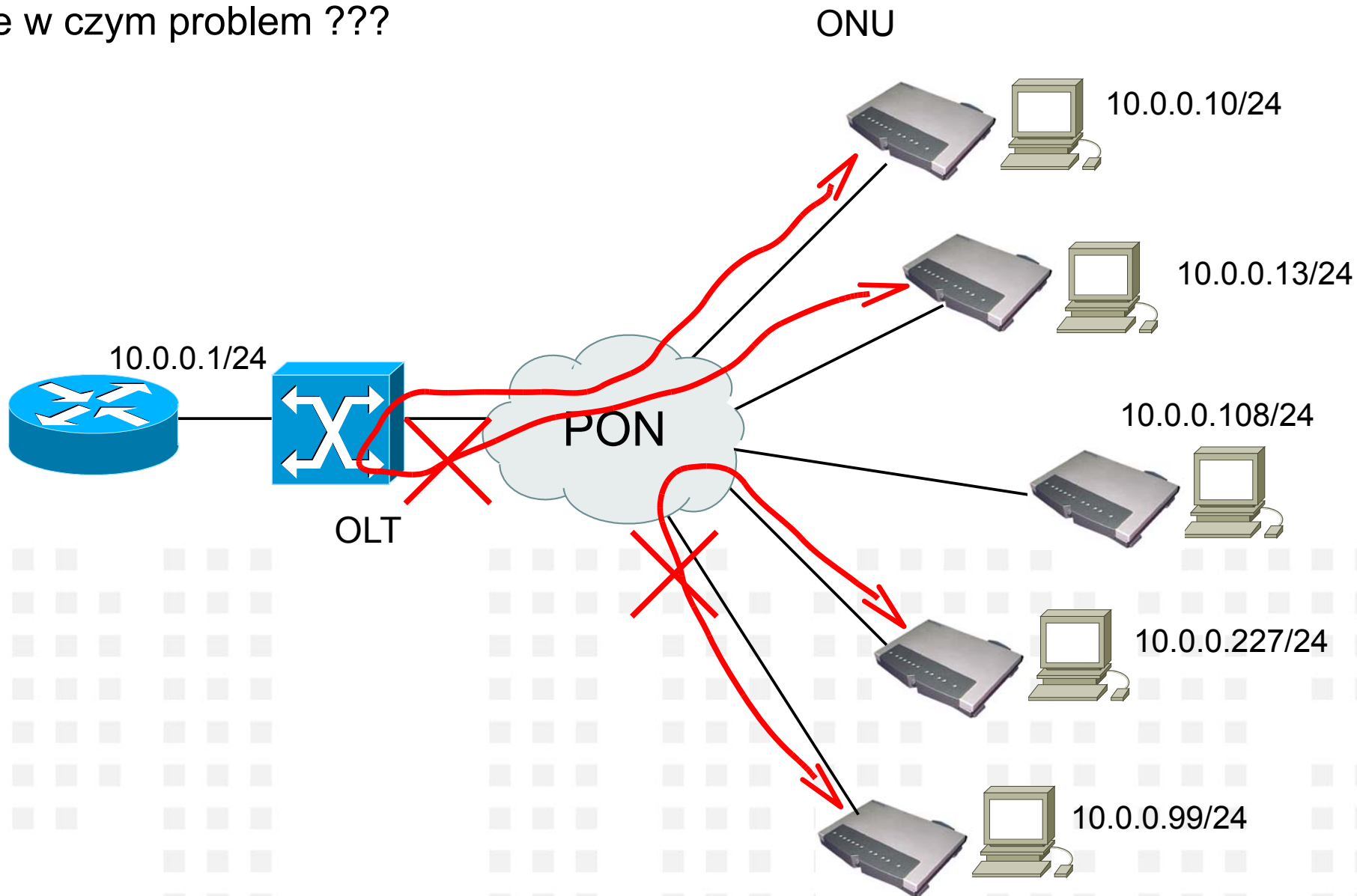
Wprowadzamy GEAPON

Ale w czym problem ???

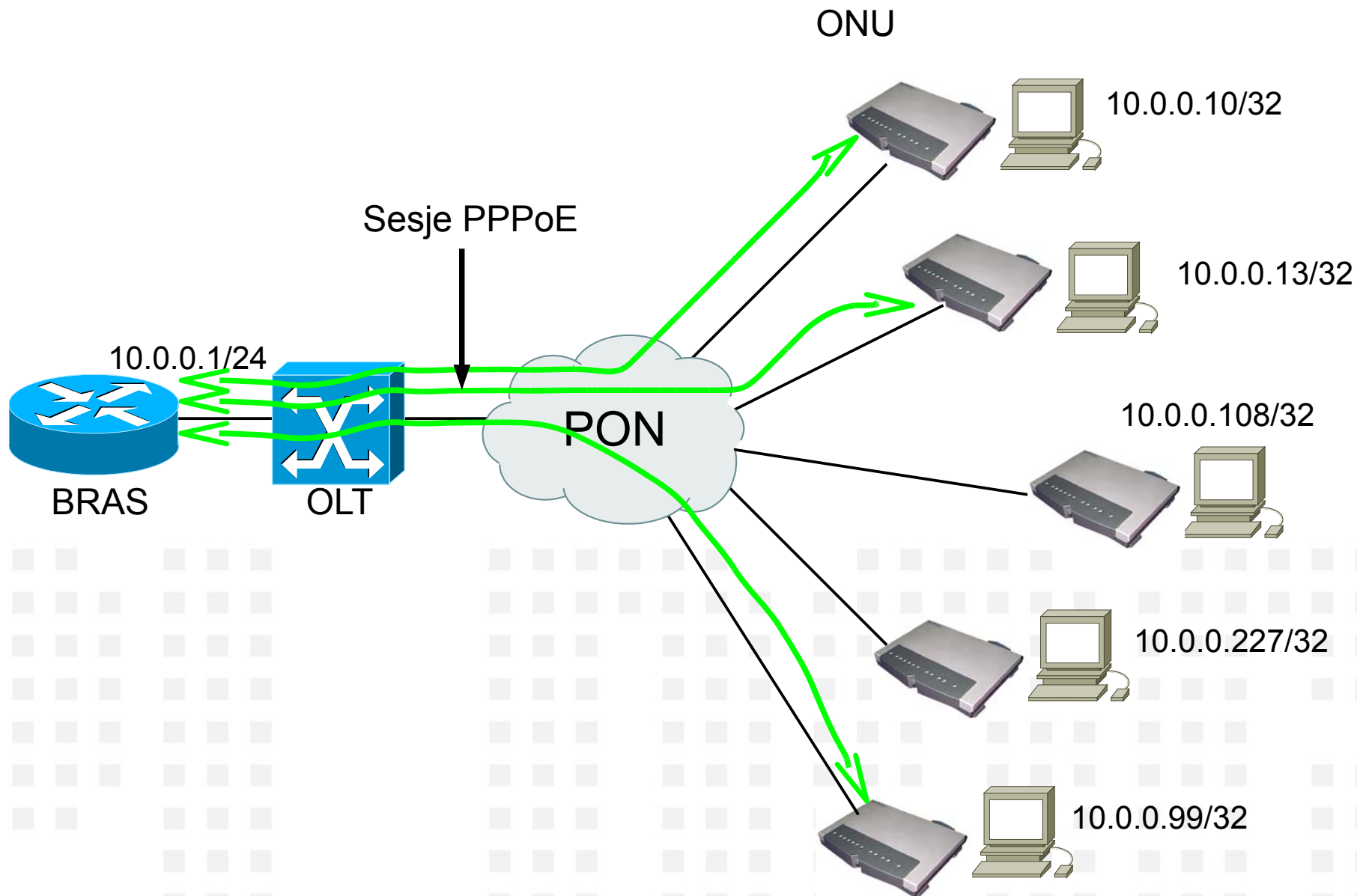


Wprowadzamy GEAPON

Ale w czym problem ???

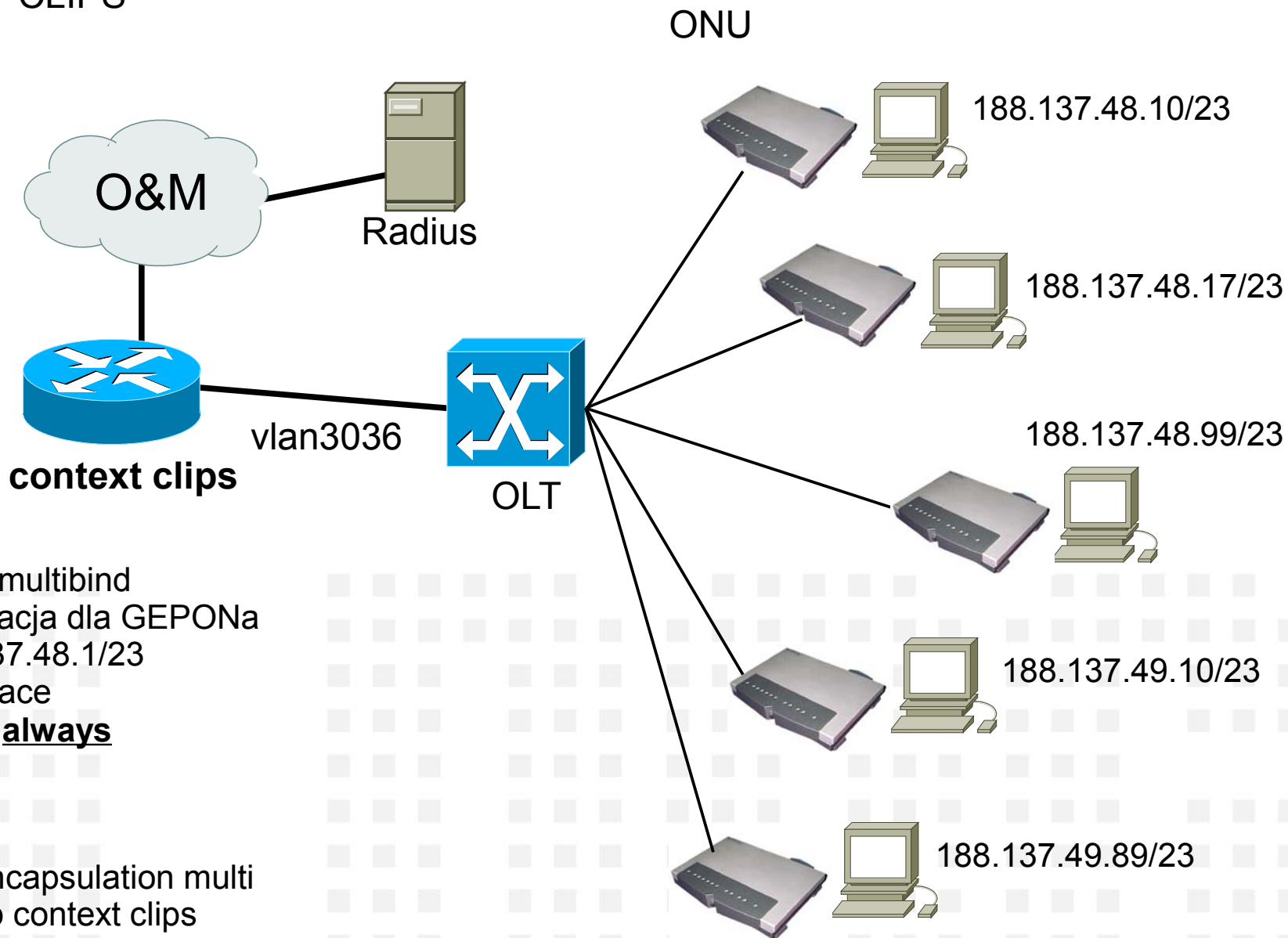


Jak to podobno zrobić Dialog ?



A jak my to zrobiliśmy ??

GEPON + CLIPS



```

interface GEPON multibind
description Adresacja dla GEPONa
ip address 188.137.48.1/23
dhcp server interface
ip arp proxy-arp always

```

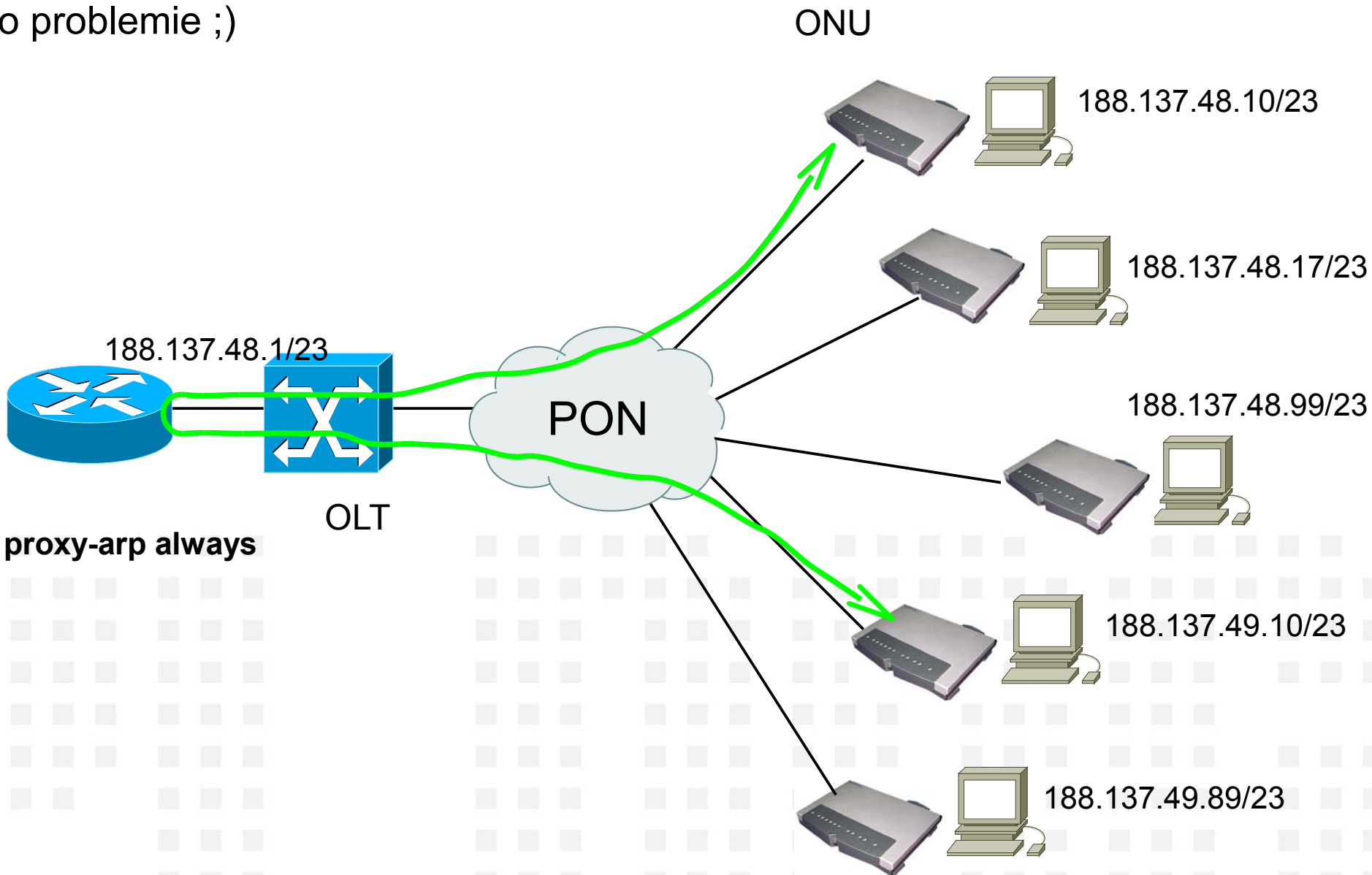
```

port ethernet 2/4
dot1q pvc 3301 encapsulation multi
service clips dhcp context clips

```

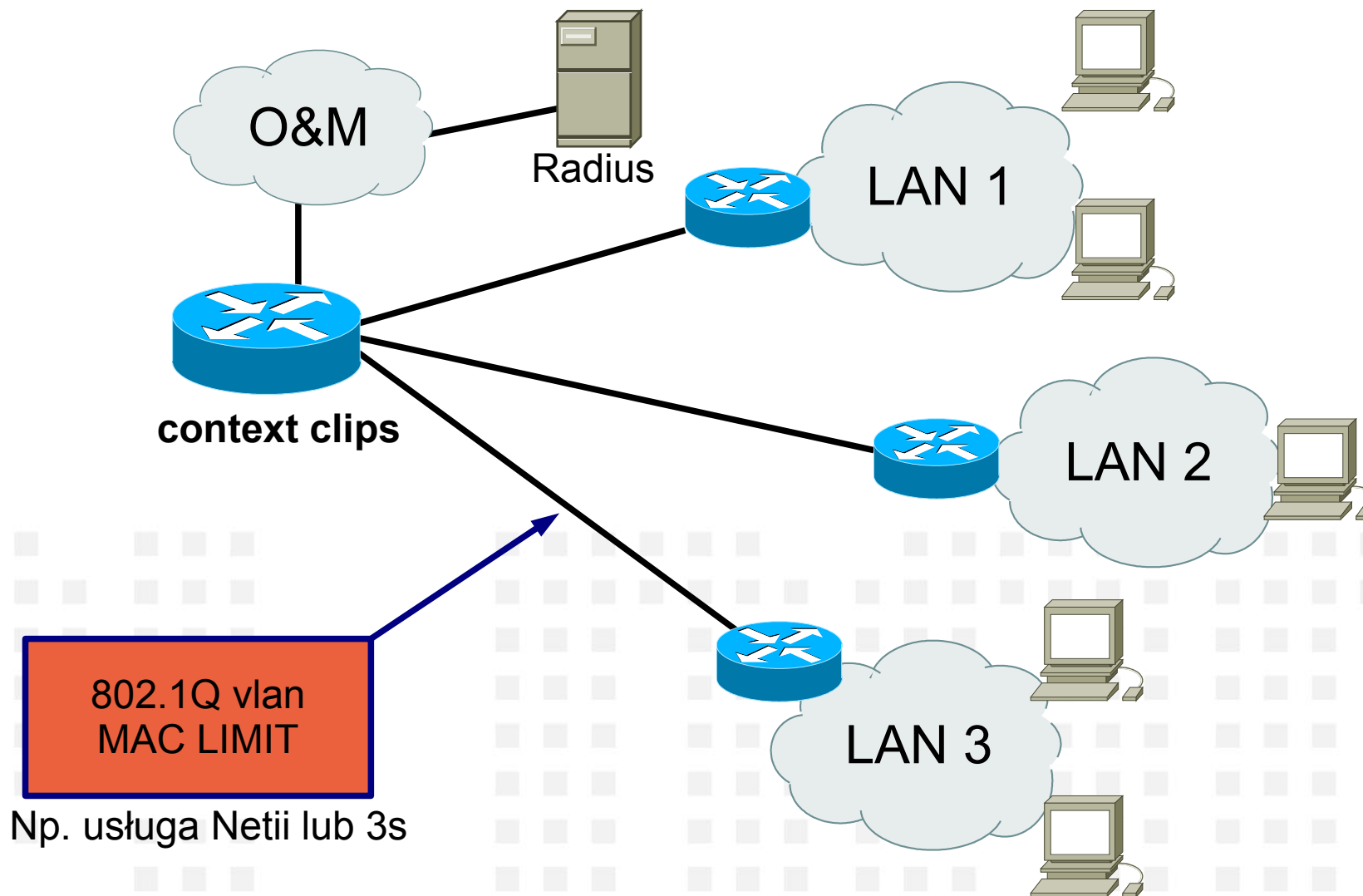
GEPON + CLIPS cont.

I po problemie ;)

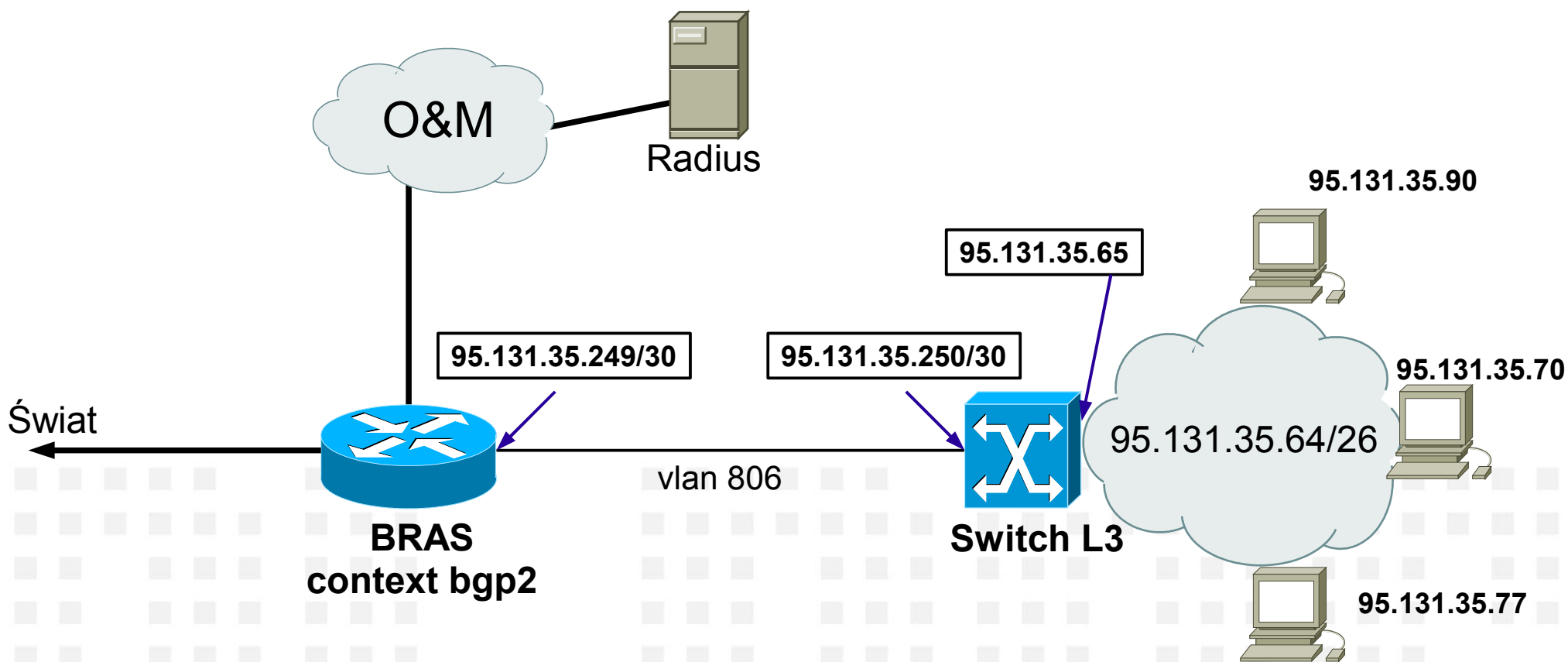


ip arp proxy-arp always

CLIPS po L3 ???



CLIPS po L3



CLIPS po L3 – L3 router

L3 router

ExtremeNetworks x450

```
create vlan test-clipsL3
config vlan test-clipsL3 tag 806
config vlan test-clipsL3 add ports 1 tagged
config vlan test-clipsL3 ipaddress 95.131.35.250/30
```

```
create vlan test-clipsL3-LAN1
config vlan test-clipsL3-LAN1 add ports 2 untagged
config vlan test-clipsL3 ipaddress 95.131.35.65/26
```

```
config iproute add default 95.131.35.249
enable ipforwarding
enable bootprelay vr "VR-Default"
configure bootprelay add 95.131.35.249 vr "VR-Default"
#
```

```
SummitX450-24x.9 # show vlan
```

Name	VID	Protocol	Addr	Flags	Proto	Ports	Virtual
test-clipsL3-LAN	4093	95.131.35.65	/26	-f	ANY	1 /1	VR-Default
test-clipsL3-p2p	806	95.131.35.250	/30	-f	ANY	1 /1	VR-Default

CLIPS po L3 – BRAS



```
# BRAS
# Ericsson/Redback SE100

!
context bgp2
!
no ip domain-lookup
!
interface to-l3-router
ip address 95.131.35.249/30
ip access-group acl-for-l3-relays-only in
!
interface vlan300
description ATMAN - transit.global
ip address 212.91.8.246/30
!
interface vlan796
description crowley-decix AS49001
ip address 93.159.57.138/30
!
interface vlan806 multibind
description clipsL3
ip address 95.131.35.126/26
dhcp server interface
no logging console
!

!
ip access-list acl-for-l3-relays-only
seq 10 permit ip host 95.131.35.250
seq 11 permit ip host 95.131.35.65
!
aaa authentication subscriber none
!
subscriber default
dhcp max-addr 1
dns primary 195.66.73.2
dns secondary 195.66.73.11
!
ip route 95.131.35.64/26 95.131.35.250 connected tag 777
!
dhcp server policy
option domain-name-server 195.66.73.2 195.66.73.11
subnet 95.131.35.64/26 name clipsL3
range 95.131.35.70 95.131.35.100
option router 95.131.35.65
!
!
port ethernet 2/16
auto-negotiate flc tx&rx force enable
no shutdown
encapsulation dot1q
dot1q pvc 806
bind interface to-l3-router bgp2
service clips dhcp context bgp2
!
```

CLIPS po L3 – BRAS



```
[bgp2]R1_SE100#show subscribers active
```

```
00:00:24:c5:03:e0
```

```
Session state Up
```

```
Circuit 2/16 vlan-id 806 clips 212855
```

```
Internal Circuit 2/16:1023:63/7/2/46895
```

```
Interface bound vlan806
```

```
Current port-limit unlimited
```

```
dns primary 195.66.73.2 (applied from sub_default)
```

```
dns secondary 195.66.73.11 (applied from sub_default)
```

```
dhcp max-addr 1 (applied)
```

```
IP host entries installed by DHCP: (max_addr 1 cur_entries 1)
```

```
95.131.35.70 00:00:24:c5:03:e0
```

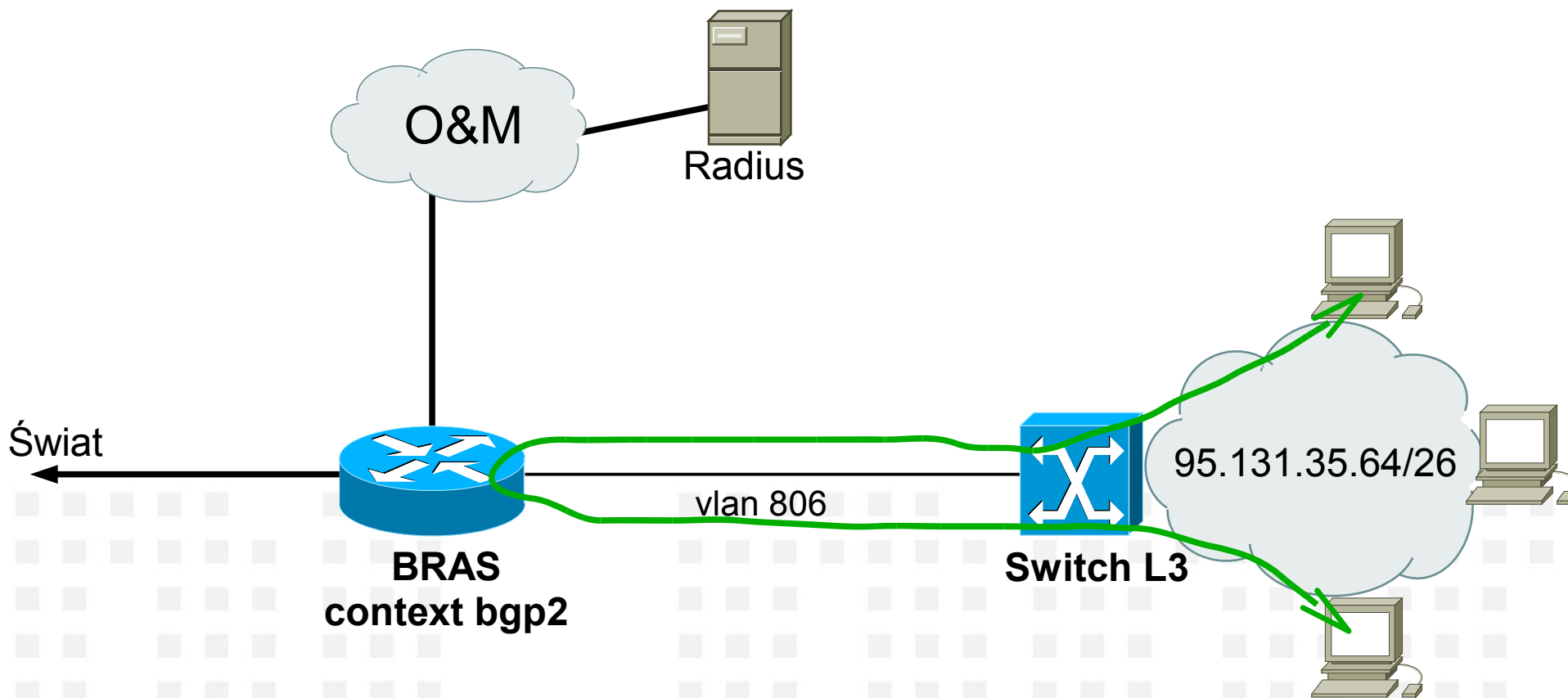
```
[bgp2]R1_SE100#show circuit
```

Circuit	Internal Id	Encap	State	Bound to
2/16 vlan-id 806	1/2/636	dot1q	Up	to-l3-router@bgp2
2/16 vlan-id 806 clips 212855	7/2/46895	dot1q clips	Up	vlan806@bgp2

```
[bgp2]R1_SE100#show bindings
```

Circuit	State	Encaps	Bind Type	Bind Name
2/16 vlan-id 806	Up	dot1q	interface	to-l3-router@bgp2
2/16 vlan-id 806 clips 212855	Up	dot1q clips	authen	00:00:24:c5:03:e0

CLIPS po L3 – Zapętlić ruch przez BRAS



Ale po co ???

Cisco – private vlan z forwardowaniem ruchu na wybrany port

Co z obsługą RouteSerwerów ??

Wprowadzone od SEOS 6.4.1.1.. ale....



Co z Ipv6 dla abonentów (BRAS) ??

Wprowadzone w SEOS 6.3.1.2
Oraz w SEOS 6.4.1.1.. ale....

W przypadku pytań:

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