

RIPE60 IPv6 WG meeting



Mobile broadband and IPv6 in Slovenia



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Agenda



- Few words about go6 institute
- IPv6 in Tušmobil cellular network
- IPv6 in Mobitel cellular network
- Q&A



Go6 institute



- IPv6 initiative in Slovenia
- Not-for-profit organisation
- Strategic partnership with Arnes and LTFE
- Open platform, based on membership (major ISP, mobile operators, content providers, integrators,...)
- Financially supported by members of go6 platform
- Steered by go6 expert council, formed from representatives of government, telco&post regulator, academic research network, faculty, Slo IPv6 WG chair and industry

Go6 activities



- IPv6 working group – IP experts from industry
- Slovenian IPv6 summits (3rd coming next week)
- Initial IPv6 consulting to members of platform
- 6DEPLOY workshops – organizing events
- Operating and hosting 6DEPLOY lab
- A+P RFC draft (draft-ymbk-aplusp)
- Go6 academy – aggregation of IPv6 education
- Go6lab – testing, testing, testing...

Mission, goal, quest...

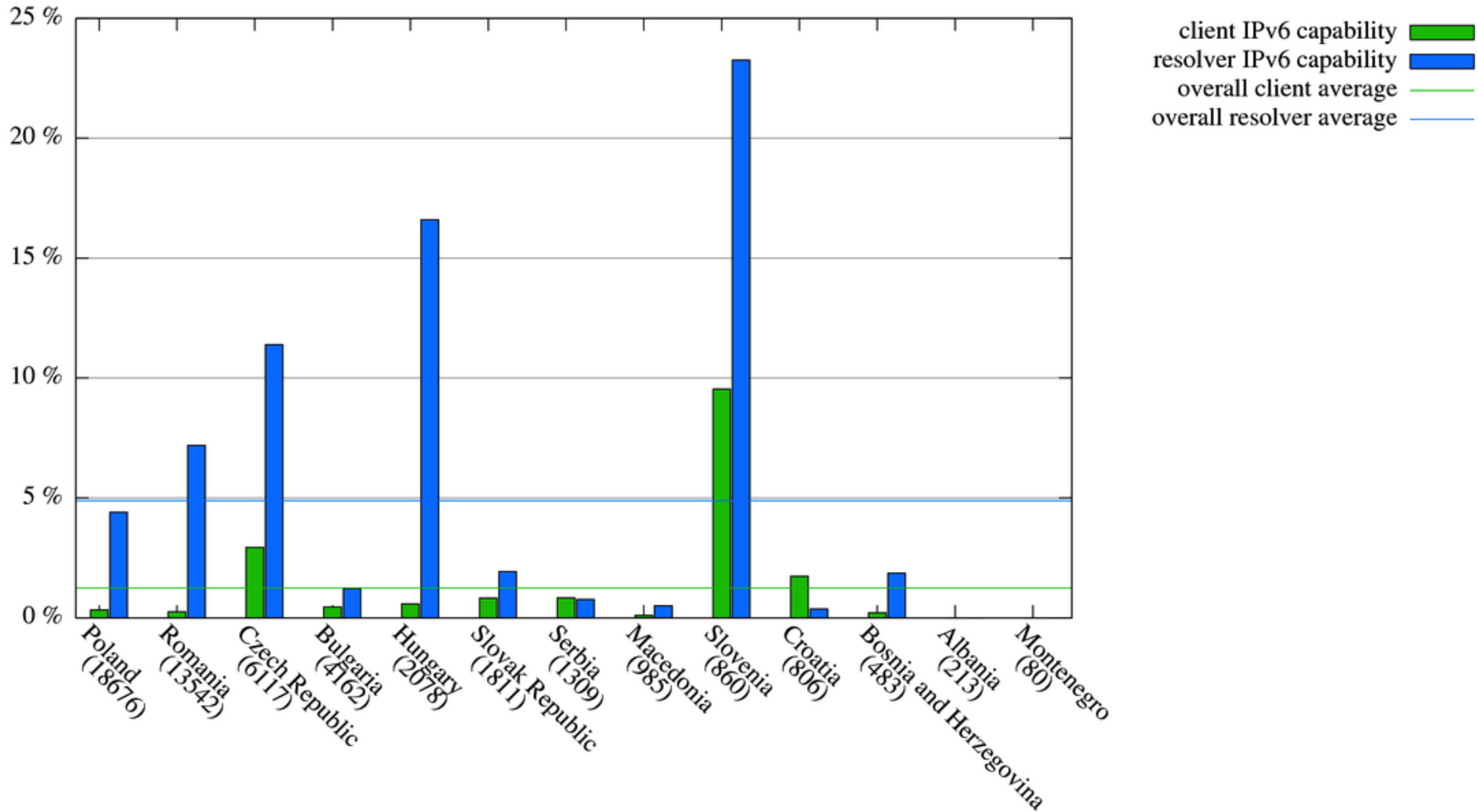


- We make people talk to each other about IPv6
- We push IPv6 deployment in Slovenia
- We aggregate knowledge and make it available between members of go6 platform
- We connect government, regulator, ISP's and industry between each other
- We make competition companies talk to each other to make IPv6 deployment easier
- We became IPv6 pivot point in Slovenia
- ...and it works 😊

IPv6 in Slovenia



Native IPv6 in web clients and resolvers they use (Eastern Europe)

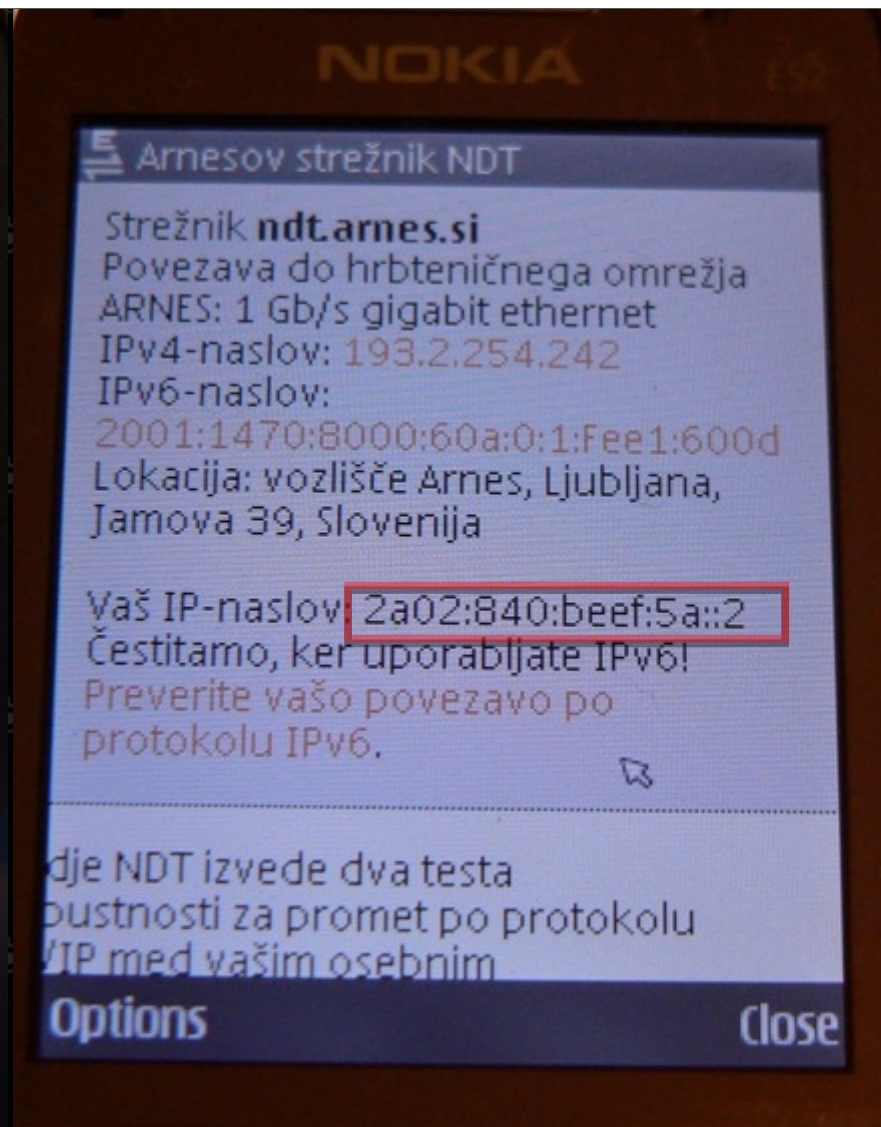
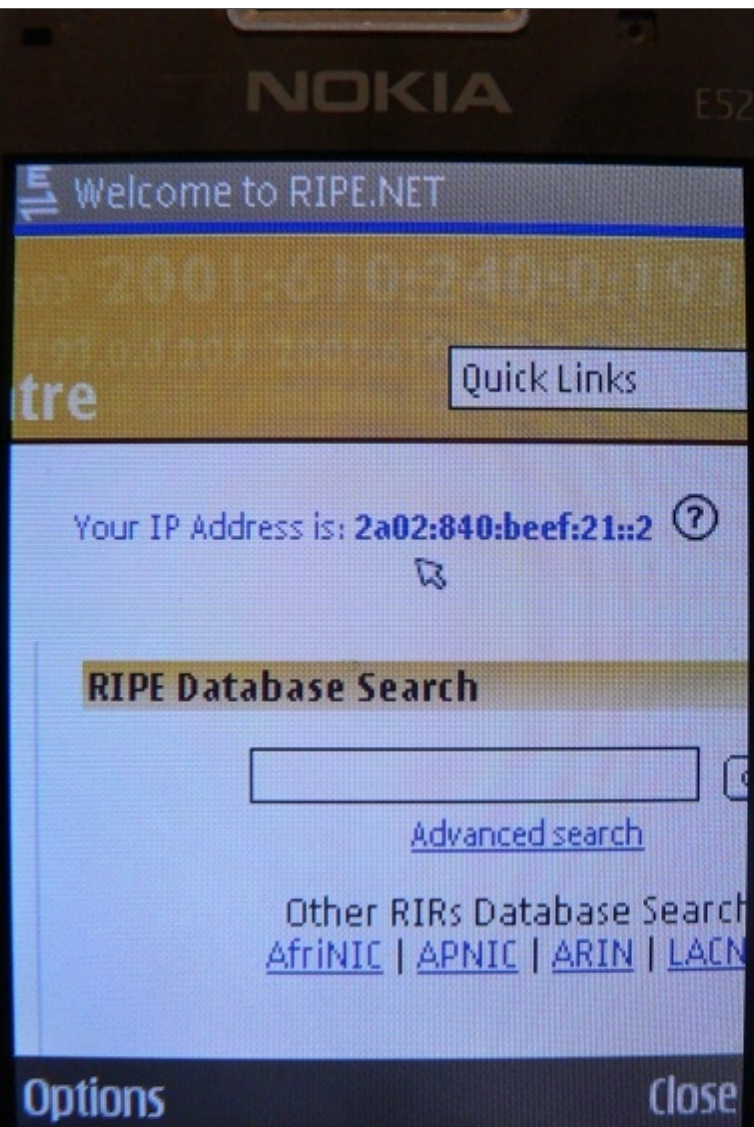


Disclaimer:

IPv6 in Slovenia is being promoted by the Go6 institute, this is an industry body (important message here: self regulation can work!!!) and here is one of our success stories.

Go6 as an IPv6 catalyst got 2 mobile operators **together** deploying IPv6 on 3GPP **at the same time** and here is how they did it.

Tušmobil - 2a02:840::/32AS41828



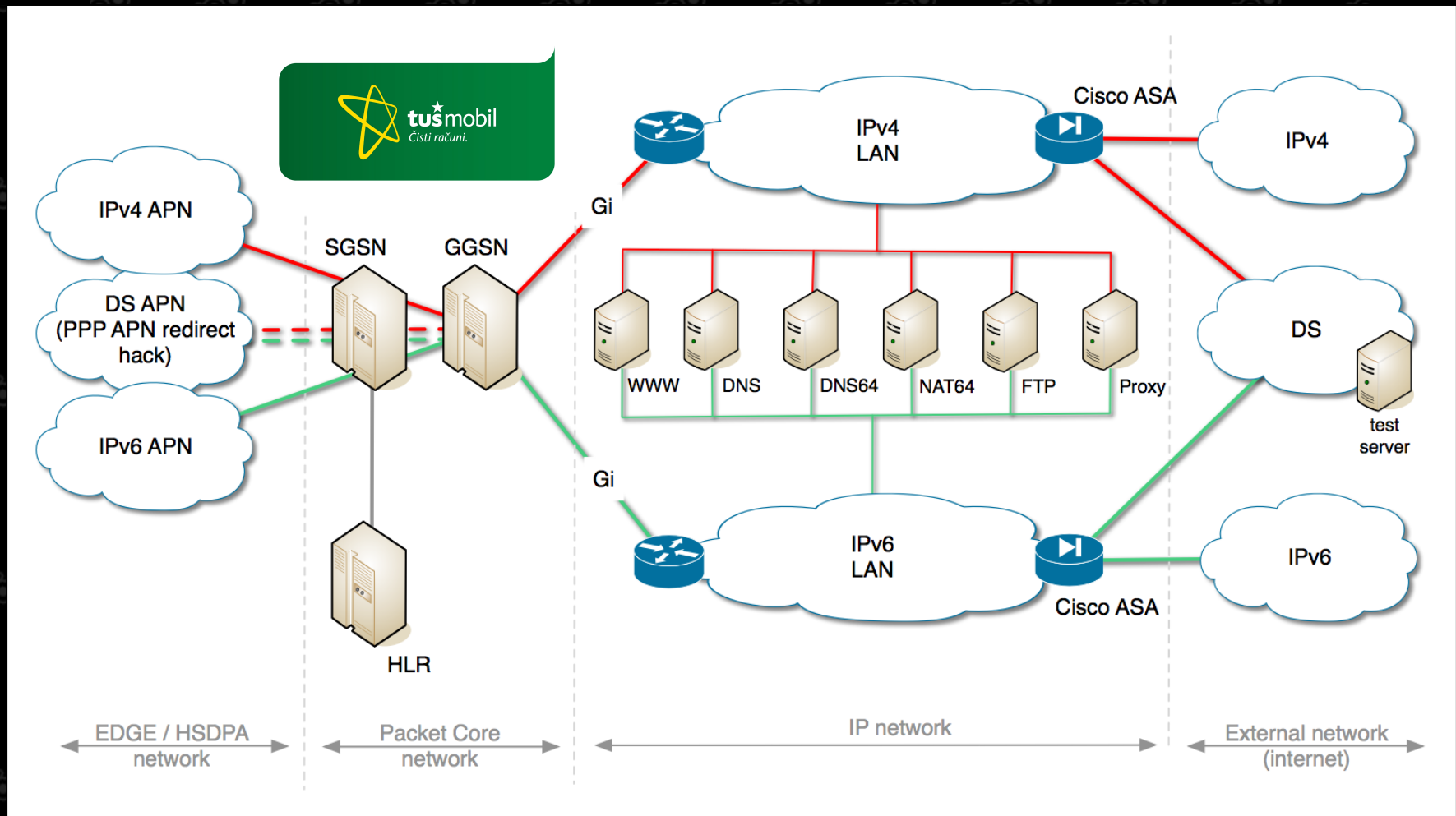
IMAP login log record:

```
Mar 5 12:07:47 go6lab dovecot: imap-login:  
Login: user=, method=PLAIN,  
rip=2a02:840:beef:4c::2,  
lip=2a02:e8:0:1::babe:face, TLS
```

SMTP log record (sending mail):

```
Mar 5 12:18:32 go6lab  
postfix/smtpd[24374]: 4AB9F2378666:  
client=unknown[2a02:840:beef:47::2],  
sasl_method=LOGIN, sasl_username=jan
```

Tušmobil - 2a02:840::/32 AS41828



Versions of software used:

- SGSN NSN, SG6
- GGSN NSN, FlexiISN v 3.2 CD7
- Firewall Cisco ASA v7.2
- DNS64 totd 1.5.1
- NAT64 ecdysis-nf-nat64-20100226 @gentoo 2.6.3
- Mobile Nokia e52

Mobitel - 2a02:e20::/32AS29276

NOKIA ES2

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2001:610:240:0:193

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2a02:e20:c000:102:fdaa:eccc:e0a0:c70e

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Možnosti Zapri

3G Arnesov strežnik NDT

Strežnik **ndt.arnes.si**
Povezava do hrbteničnega omrežja
ARNES: 1 Gb/s gigabit ethernet
IPv4-naslov: 193.2.254.242
IPv6-naslov:
2001:1470:8000:60a:0:1:fee1:600d
Lokacija: vozlišče Arnes, Ljubljana,
Jamova 39, Slovenija

Vaš IP-naslov:
2a02:e20:c000:101:2524:e756:99cf:d20

Čestitamo, ker uporabljate IPv6!
Preverite vašo povezavo po
protokolu IPv6.

ie NDT izvede dva testa

Možnosti Zapri



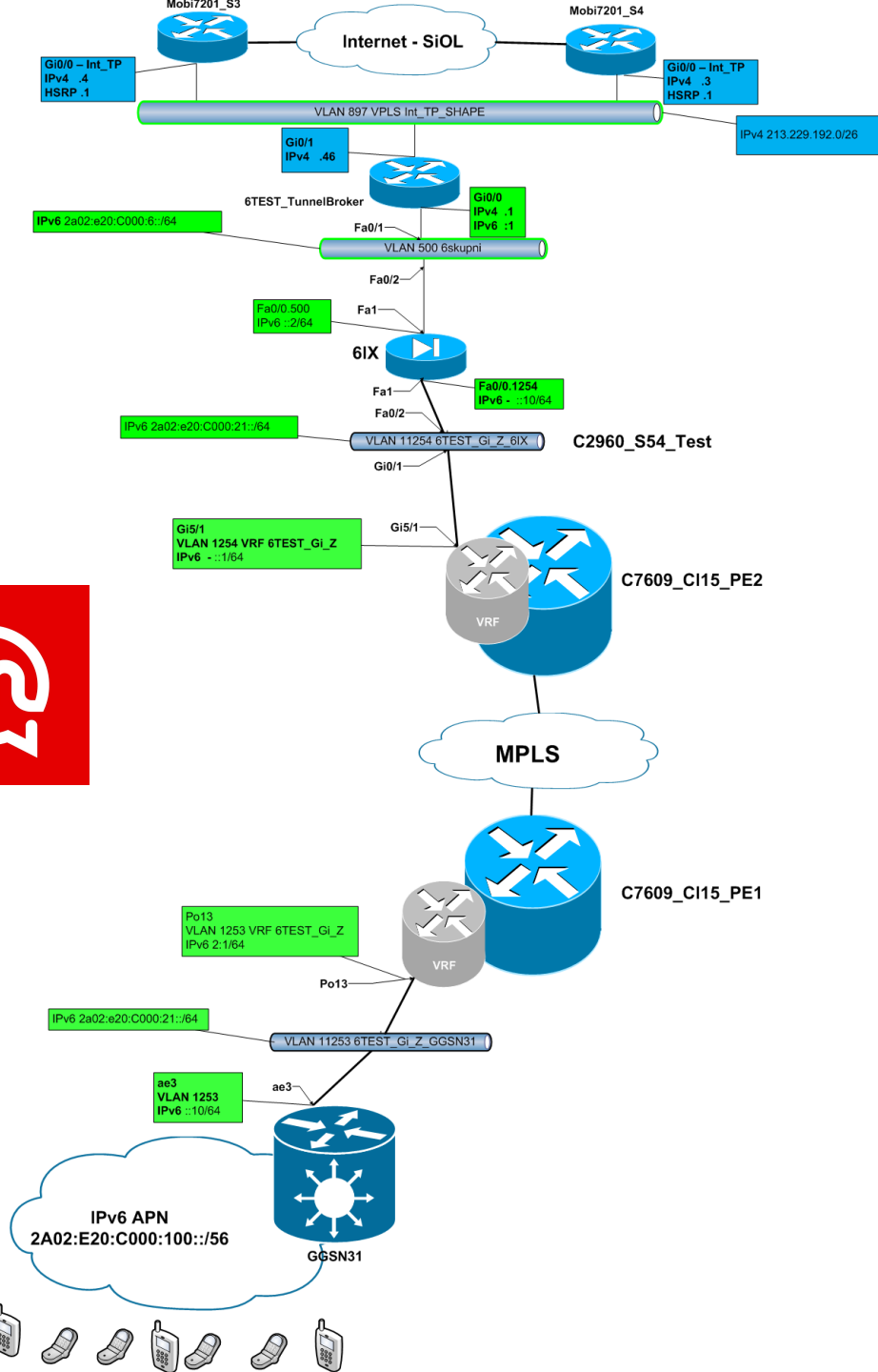
Mobitel and IPv6



- Packet core is IPv6 ready
- IPv6 only PDP context
 - IPv4 and IPv6 in same PDP context not supported jet
- 6VPE over MBICORE
 - Static routing

Terminals

- Each terminal gets /64
- Problems with IPv6 PPP and DNS
 - Manual config
- Limited terminal support
 - Nokia E and N series → OK
 - Window mobile 6.1 → No support
 - Data cards → Natively no support



Versions of software used:

- SGSN Ericsson Mk IV 2008B Dual Access
- GGSN Ericsson/Juniper J120 2009A
- MPLS Cisco 7609 Version 12.2(33)SRC2



Show stoppers...



What is still missing?

- No wide support in mobile terminals (currently symbian only)
- Content based charging – not existent
- Limited or no support for dual-stack in terminals

Q&A



- Questions regarding go6 institute, platform and Slo IPv6 initiative: jan@go6.si
- Questions regarding IPv6 in Tušmobil: miha.petkovsek@tusmobil.si
- Questions regarding IPv6 in Mobitel: primoz.jenko@mobitel.si
- Everything else: jan@go6.si

Questions?



- Thank you.

<http://go6.si/>

