G::gle IPv6 implementors conference

go6

Mobile broadband and IPv6 in Slovenia

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tus mobil
Čisti računi.

Agenda

- Few words about go6 institute

- IPv6 in Tušmobil cellular network

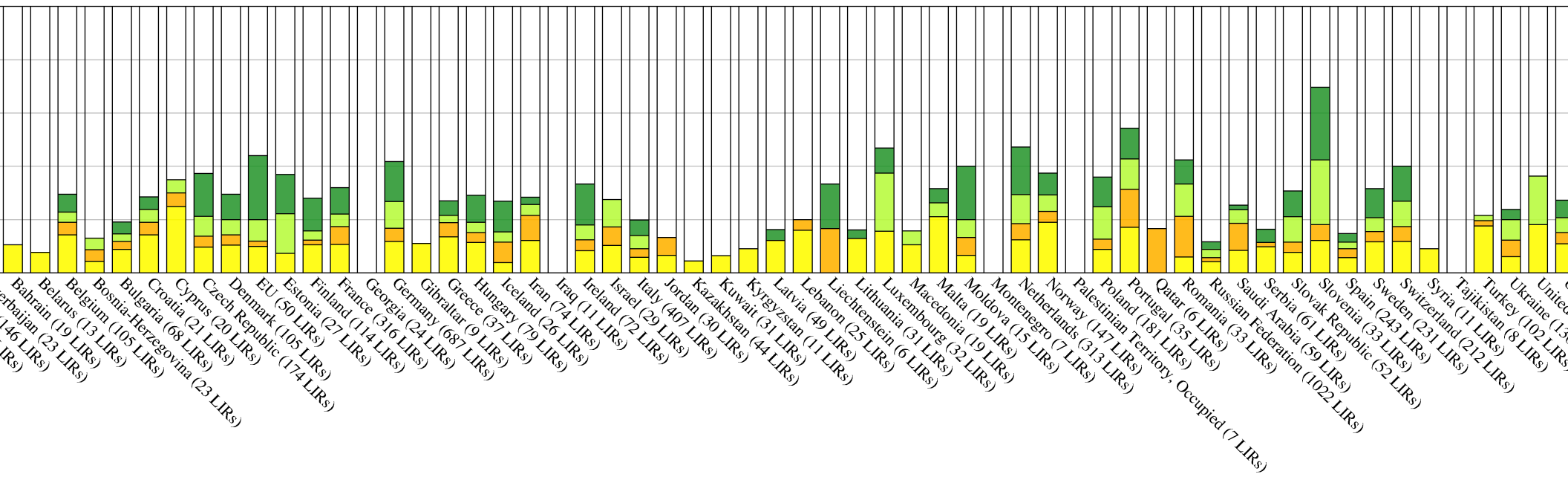- IPv6 in Mobitel cellular network

- Live demo tryout and Q&A

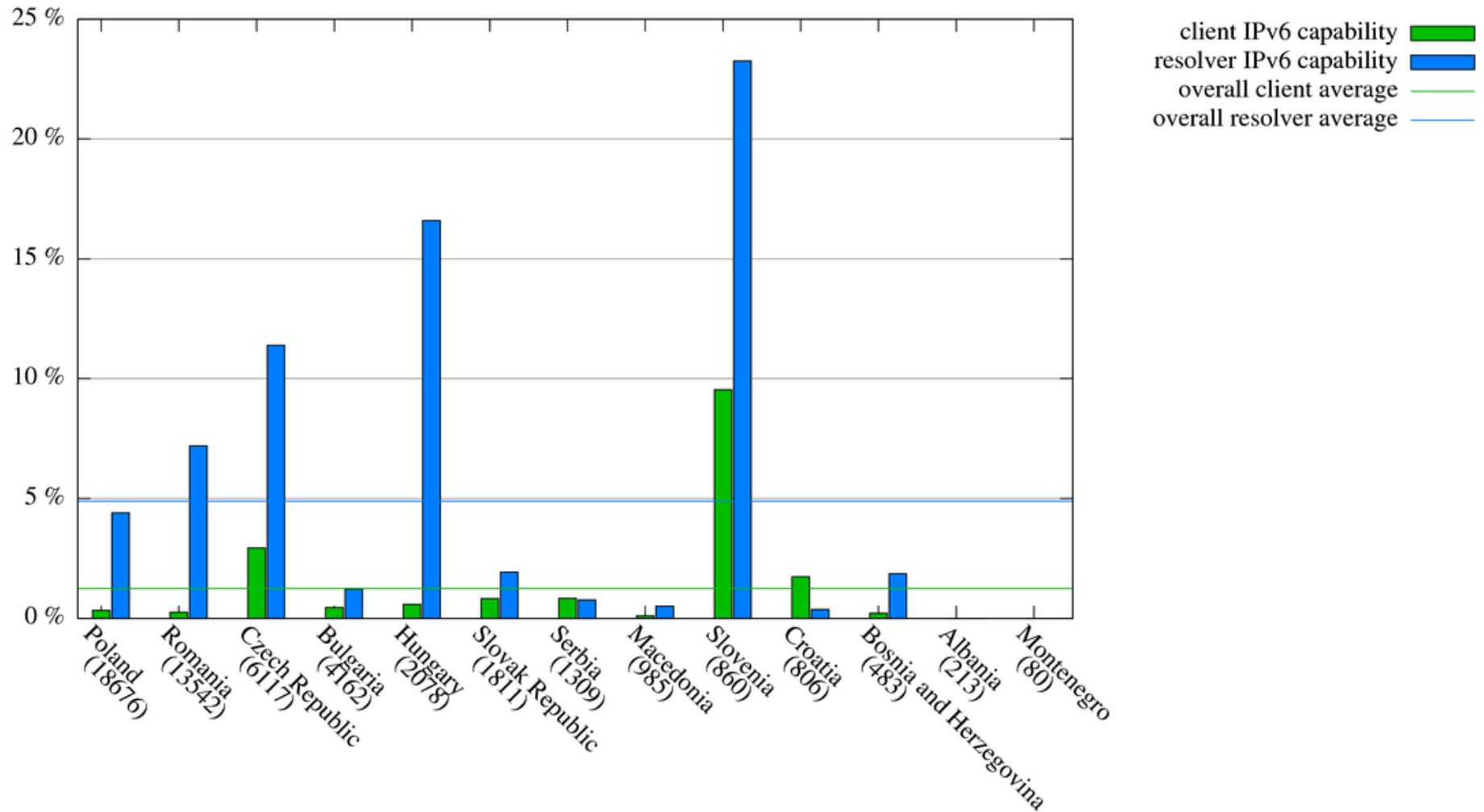# IPv6 in Slovenia

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IPv6 'ripeness'-rating of LIRs per country
(countries with 5+ LIRs)

IPv6 in Slovenia

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

Legend:
- client IPv6 capability (green)
- resolver IPv6 capability (blue)
- overall client average
- overall resolver average

X-axis categories:
Poland (18676), Romania (13542), Czech Republic (6117), Bulgaria (4162), Hungary (2078), Slovak Republic (1811), Serbia (1309), Macedonia (985), Slovenia (860), Croatia (806), Bosnia and Herzegovina (483), Albania (213), Montenegro (80)

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
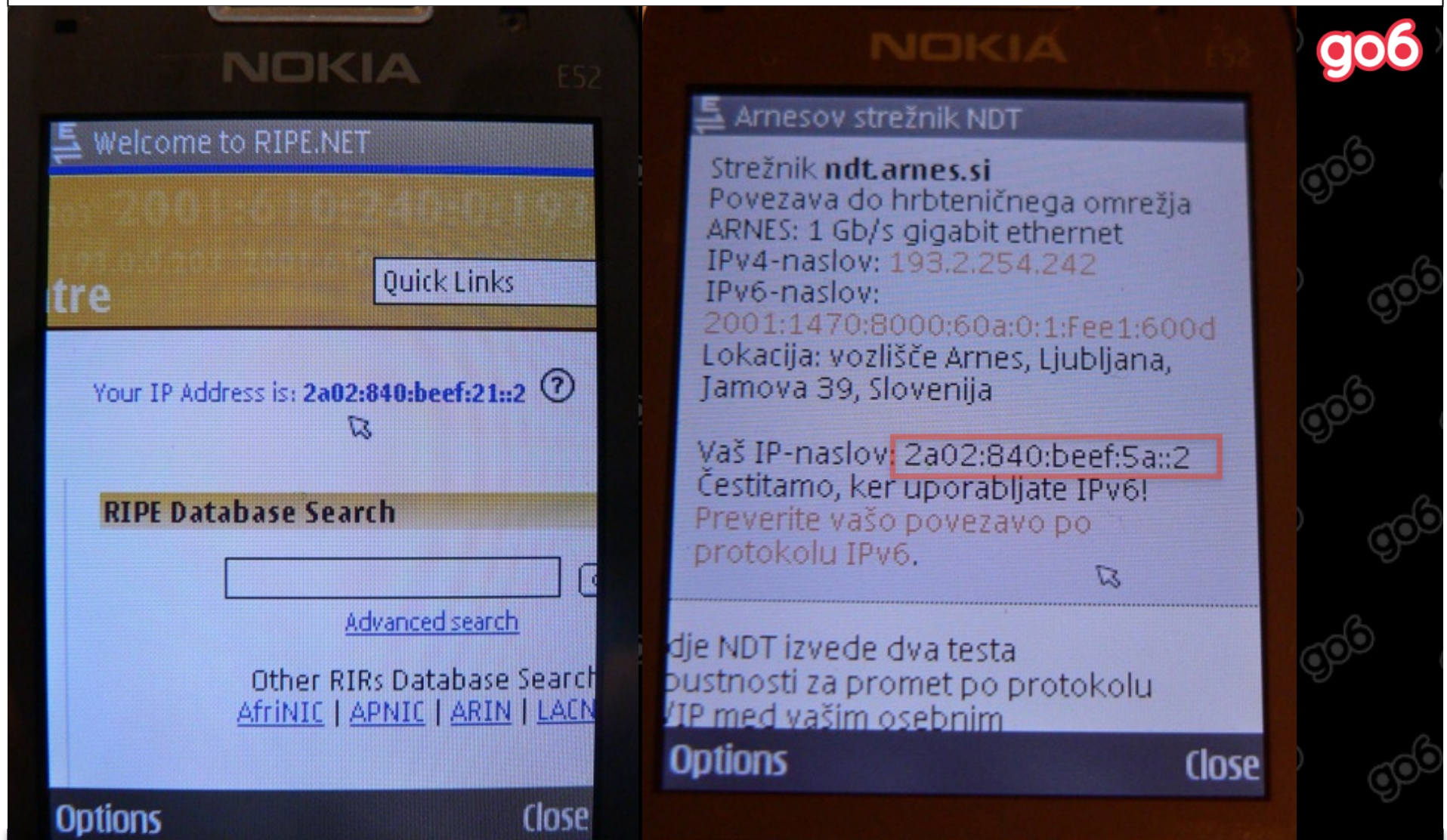
- ...and it works ☺

Disclaimer:

IPv6 in Slovenia is being promoted by the Go6 institute, this is an industry body (important mesagge here: self regulation can work!!!) and here is one of our succes 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
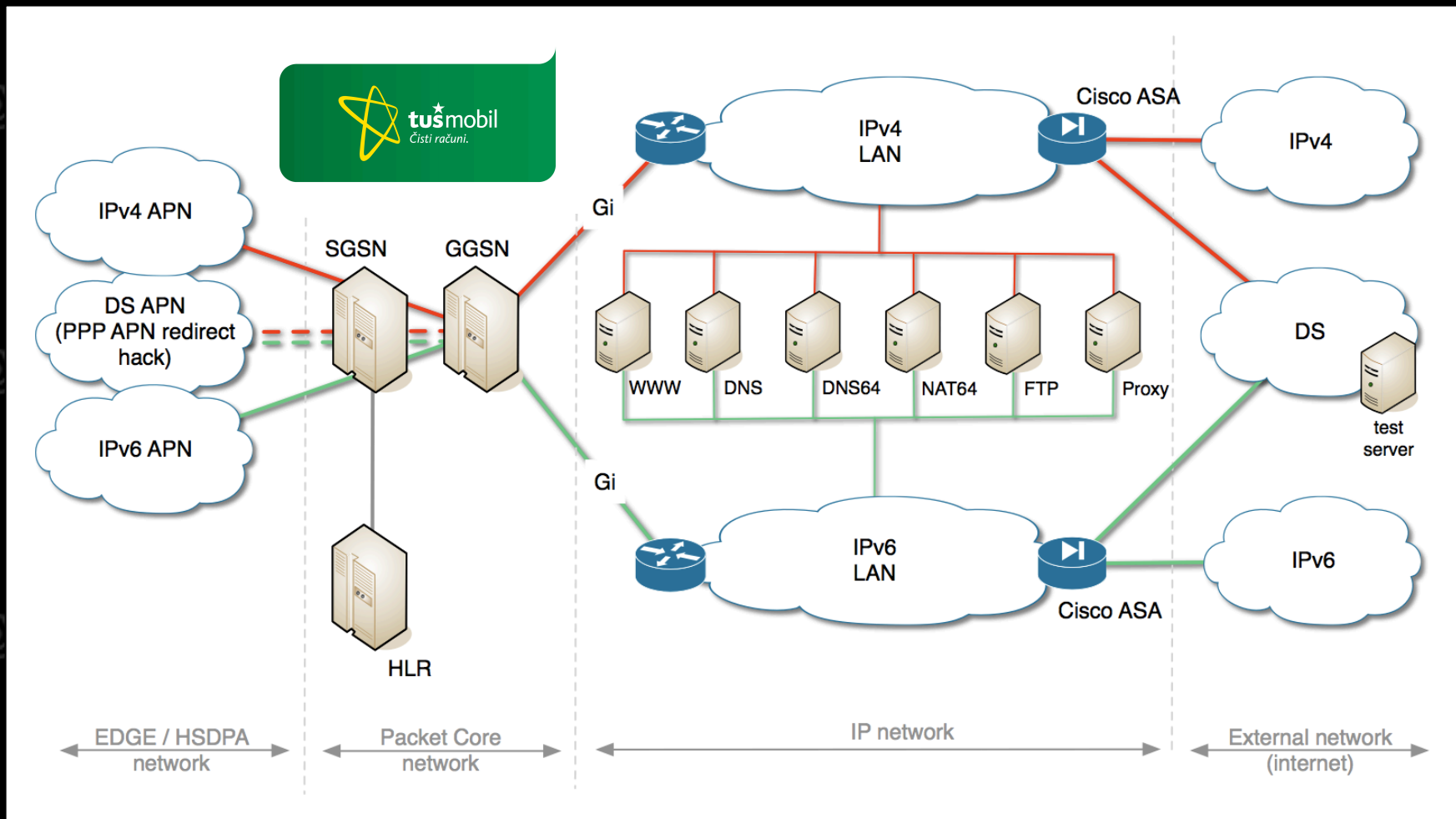
Tušmobil - 2a02:840::/32AS41828

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
```
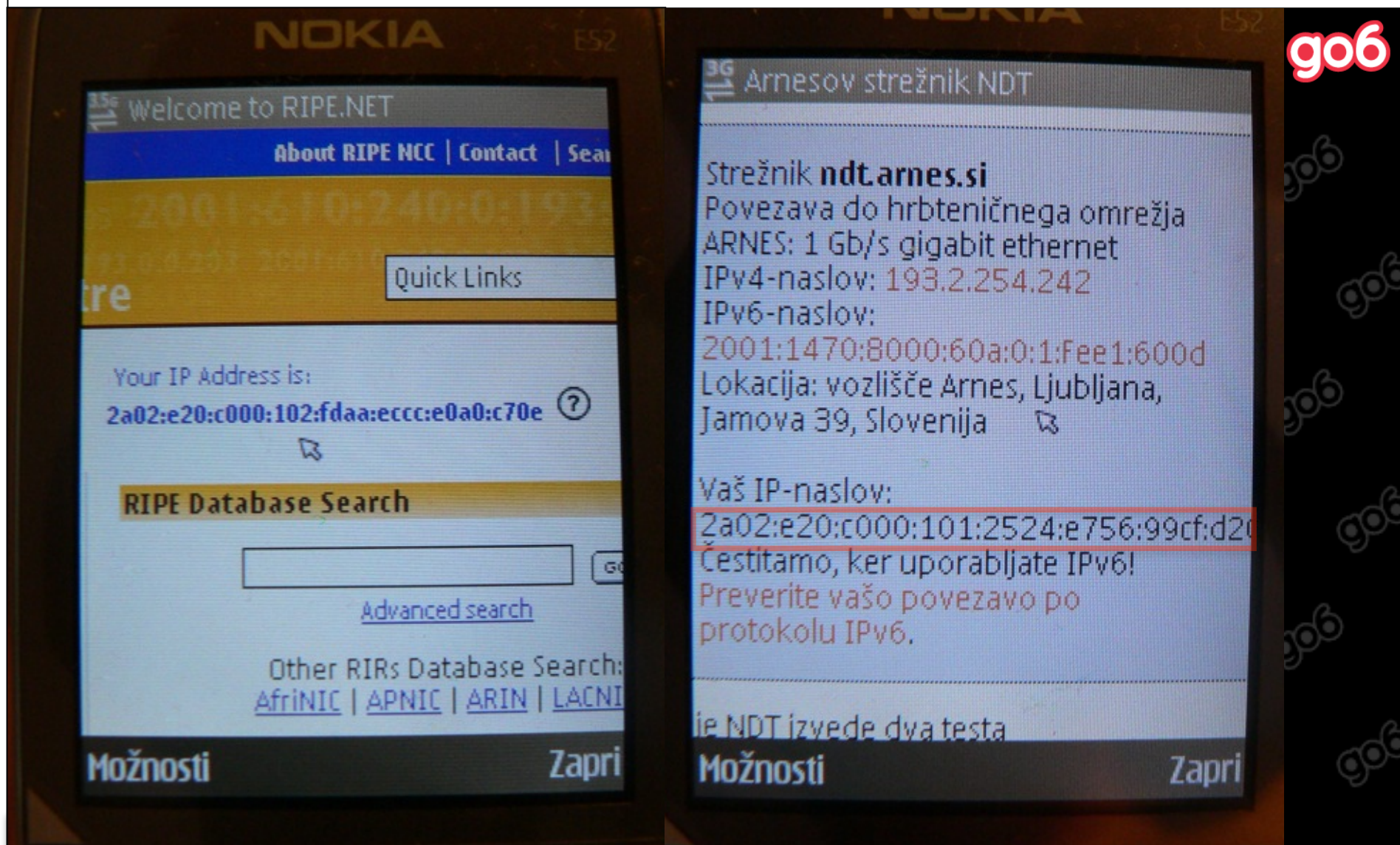
Tušmobil - 2a02:840::/32AS41828

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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
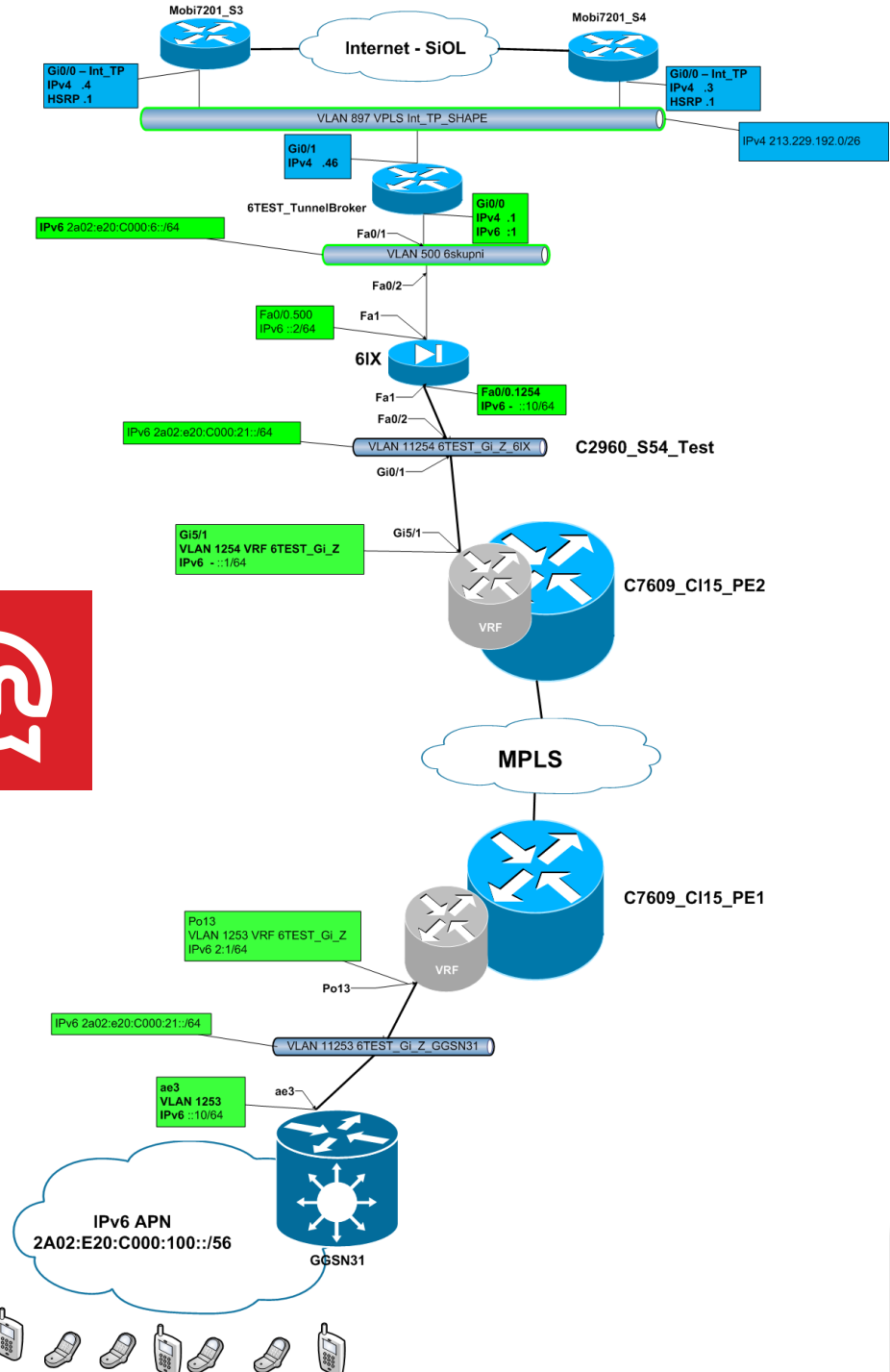
Mobitel - 2a02:e20::/32AS29276

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

Jan Žorž <jan@go6.si>   Mountain View

Mobitel - 2a02:e20::/32 AS29276

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

Contacts...

- 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

Demo?

Nokia N900 phone running Apache server, connected via 2 PDP contexts to APN in Slovenia over cellular network (AT&T randomly used for this purpose)

AAAA record updated with "wget -6" at dhis.org DDNS

http://n900-ipv6.dhis.org/

Let's fetch some data over v6 ☺

Questions?

- Thank you.

http://go6.si/