IPv6 Deployment Survey

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Setting the scene

- The Internet has become a fundamental infrastructure, worldwide, for economic and social activity, and its usage continues to grow exponentially:
  - More users
  - New applications (eg mobile, RFID etc)

- The transition from IPv4 to IPv6 is the only sustainable option, in the long run.
- A smooth transition requires understanding the challenges, and a timely start.

Global IPv6 Deployment Monitoring Survey

- Aim is to establish the best possible comprehensive view of present IPv6 penetration and future plans of IPv6 deployment
- Best way to establish this is to ask the Internet providers and users, basically: the RIR communities around the world
- ARIN carried out such a survey with its members in March 2008, a starting point for the currently proposed survey
- RIPE NCC and APNIC carried out this same survey in 2009. In 2010 and in 2011, all RIRs participated to the survey making it truly global:
  - Survey was prepared and carried out by GNKS in close collaboration with RIPE NCC, APNIC, ARIN, AFRINIC and LACNIC
  - Survey was kept short, and focused on essentials
  - Privacy is guaranteed
- Every year, the last question is whether the survey should take place again, next year. In 2009, 2010 and 2011 more than 90% said "yes"

Summary report on 2011 results

1 – respondents profile

2 – experience and assumptions

3 - planning

Section 1 – Respondents profile

- With more than 1600 respondents from all over the world, there was a similar response in 2011 as in 2010, across the board
- 53% of the respondents are ISP, 74% of all respondents is from the commercial sector, and responses come truly from all over the world
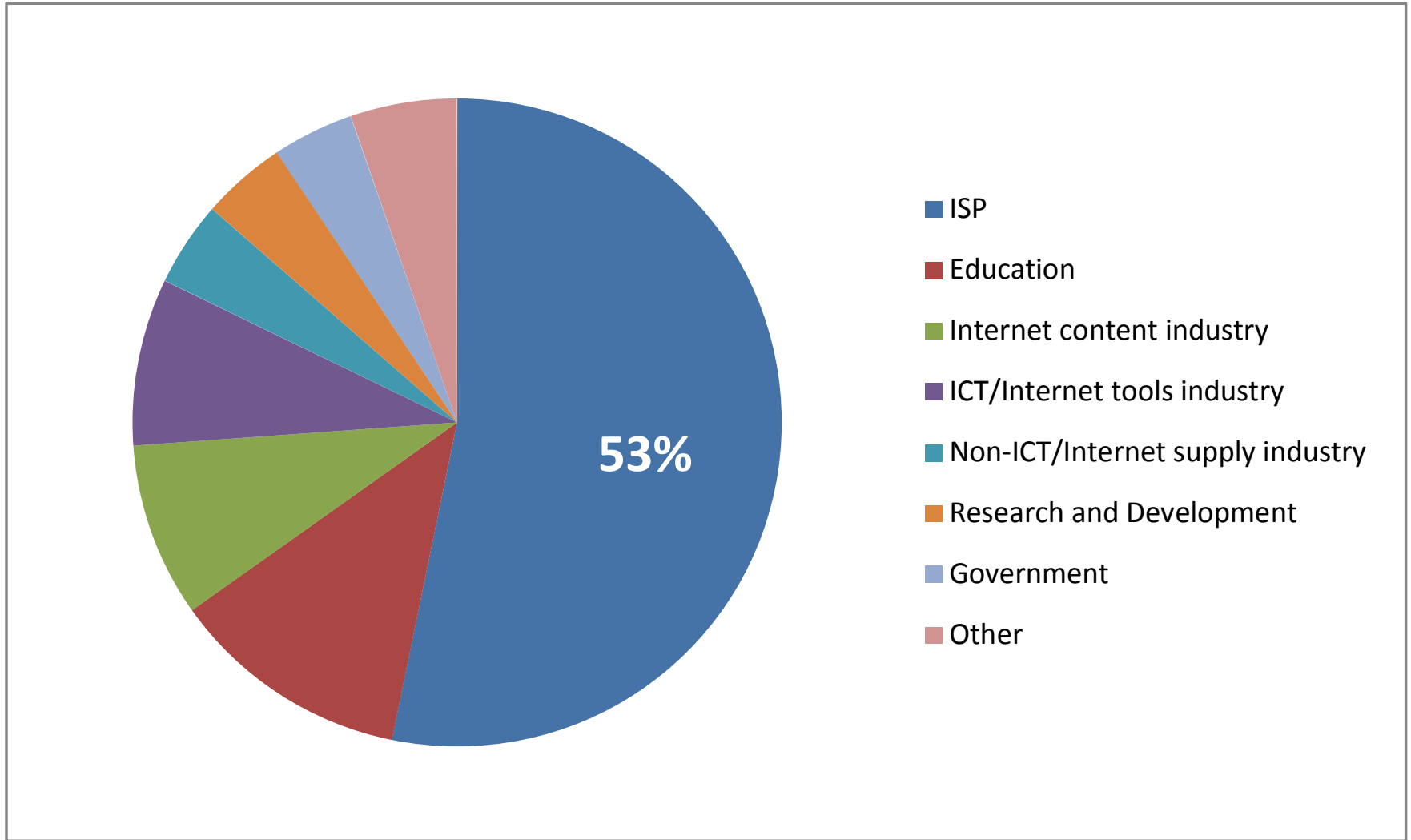
Q1 - Response to questionnaire

- 1656 respondents from 135 countries/economies
  - 15 countries > 29 respondents   = 1029
  - 22 countries 7< x < 30 respondents   = 356
  - 29 countries 3< x < 8 respondents   = 154
  - 37 countries with 2 or 3 respondents   = 85
  - 32 countries with 1 respondent   = 32

- Top 10 respondent countries 2011

1. USA	321	6. Netherlands	60
2. UK	81	7. Russia	56
3. Germany	79	8. France	46
4. Australia	76	9. New Zealand	44
5. Taiwan*	61	10. Italy*	42

* New in Top 10

Q2 - Respondent categories

53%

- ■ ISP
- ■ Education
- ■ Internet content industry
- ■ ICT/Internet tools industry
- ■ Non-ICT/Internet supply industry
- ■ Research and Development
- ■ Government
- ■ Other

*slightly less ISPs as compared to 2010 (58%), further similar to 2010

source: GNKS 2011

Q3 – Financial status
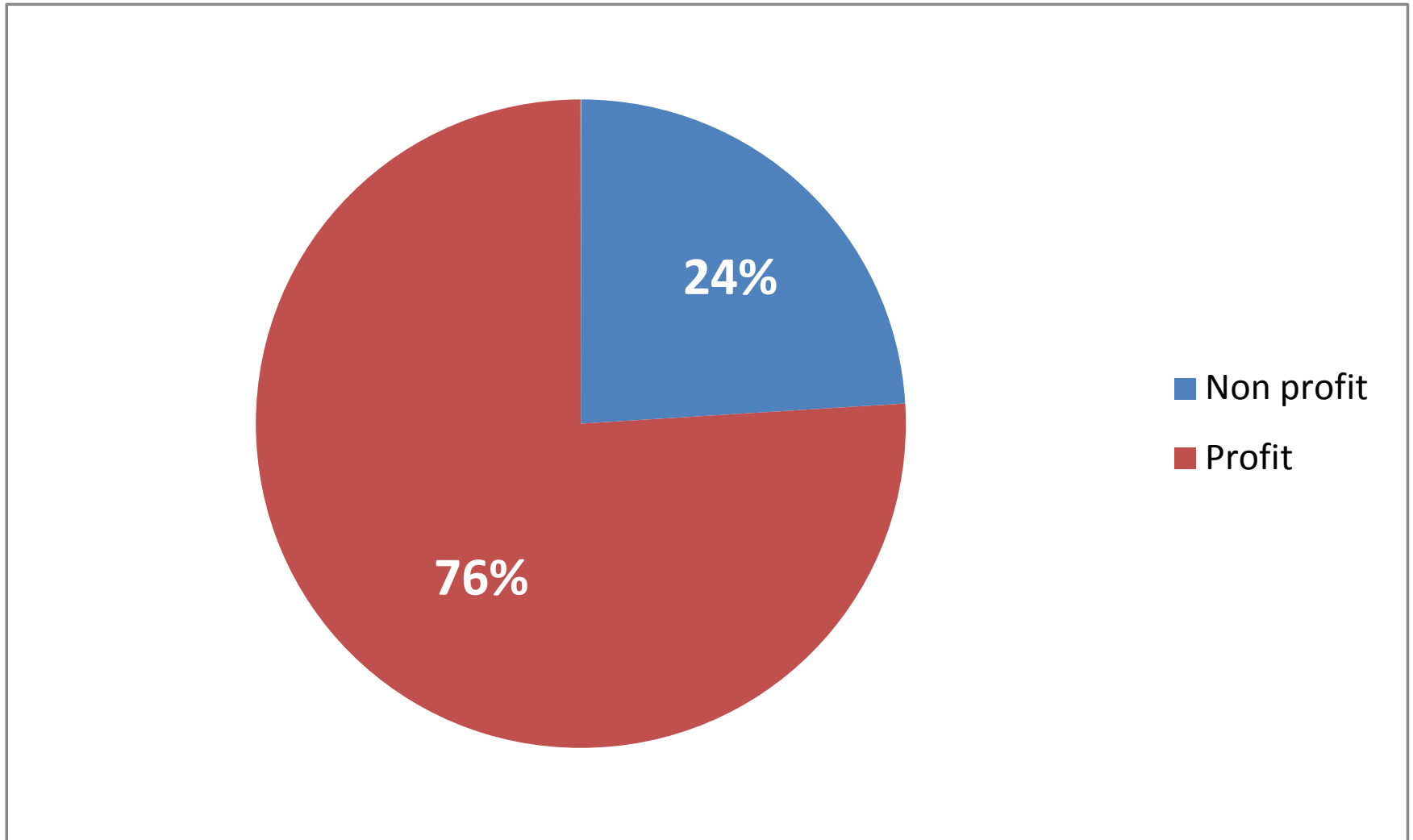
24%

76%

■ Non profit

■ Profit

*No significant changes as compared to 2010

Q4 – To which RIR ...

Legend:
- RIPE NCC
- APNIC
- ARIN
- LACNIC
- AFRINIC

Pie values: 46%, 22%, 21%, 7%, 4%
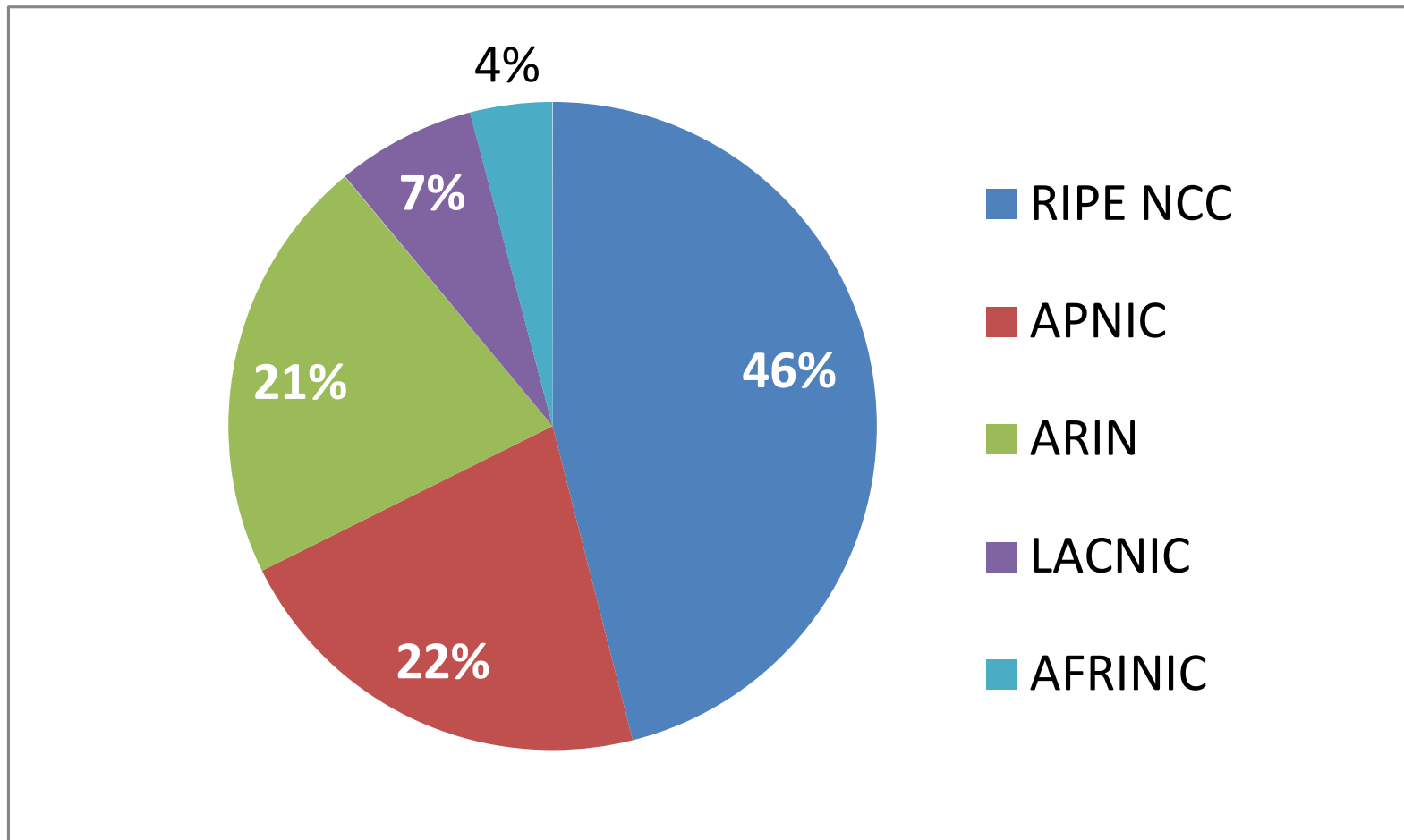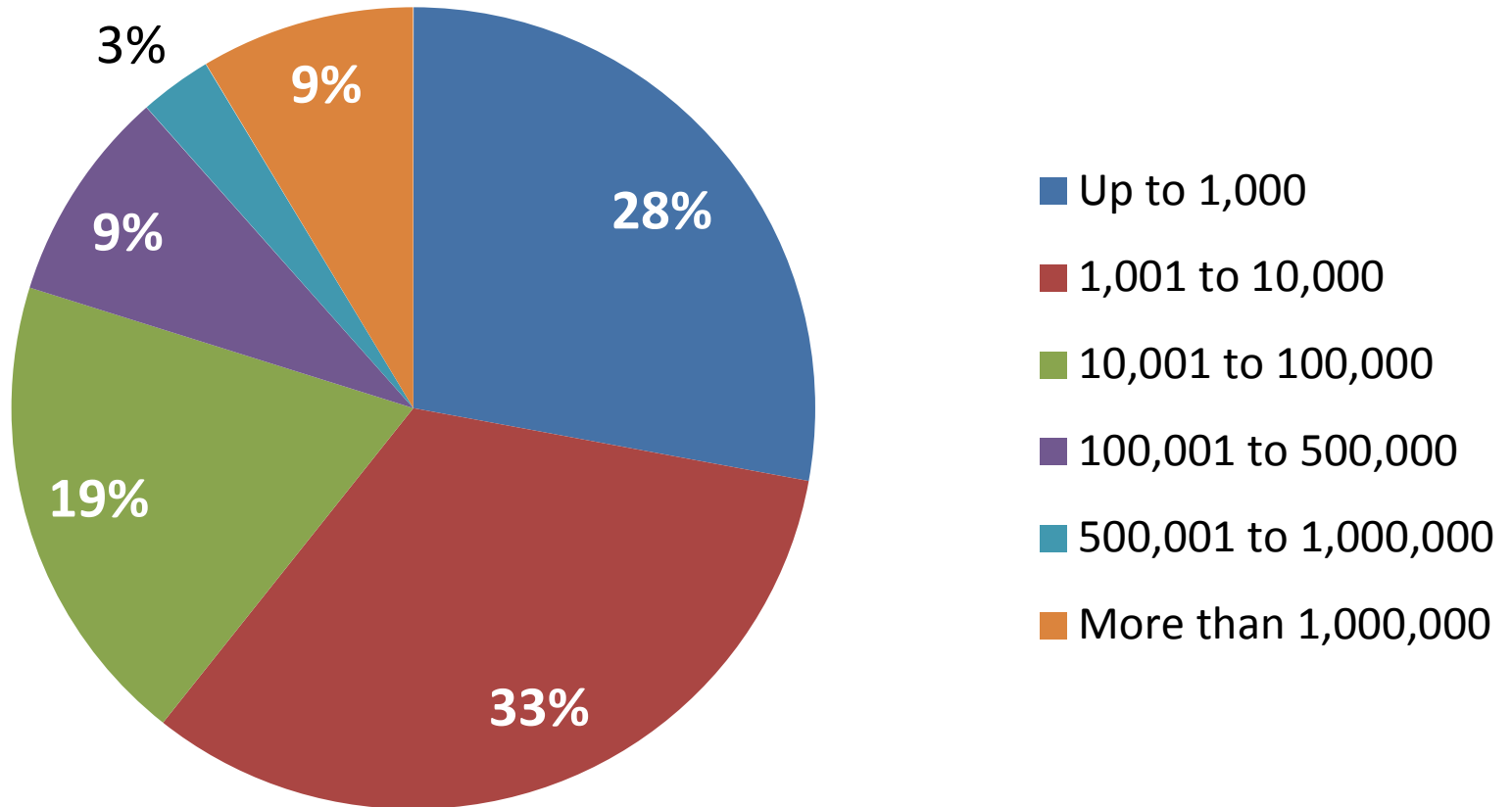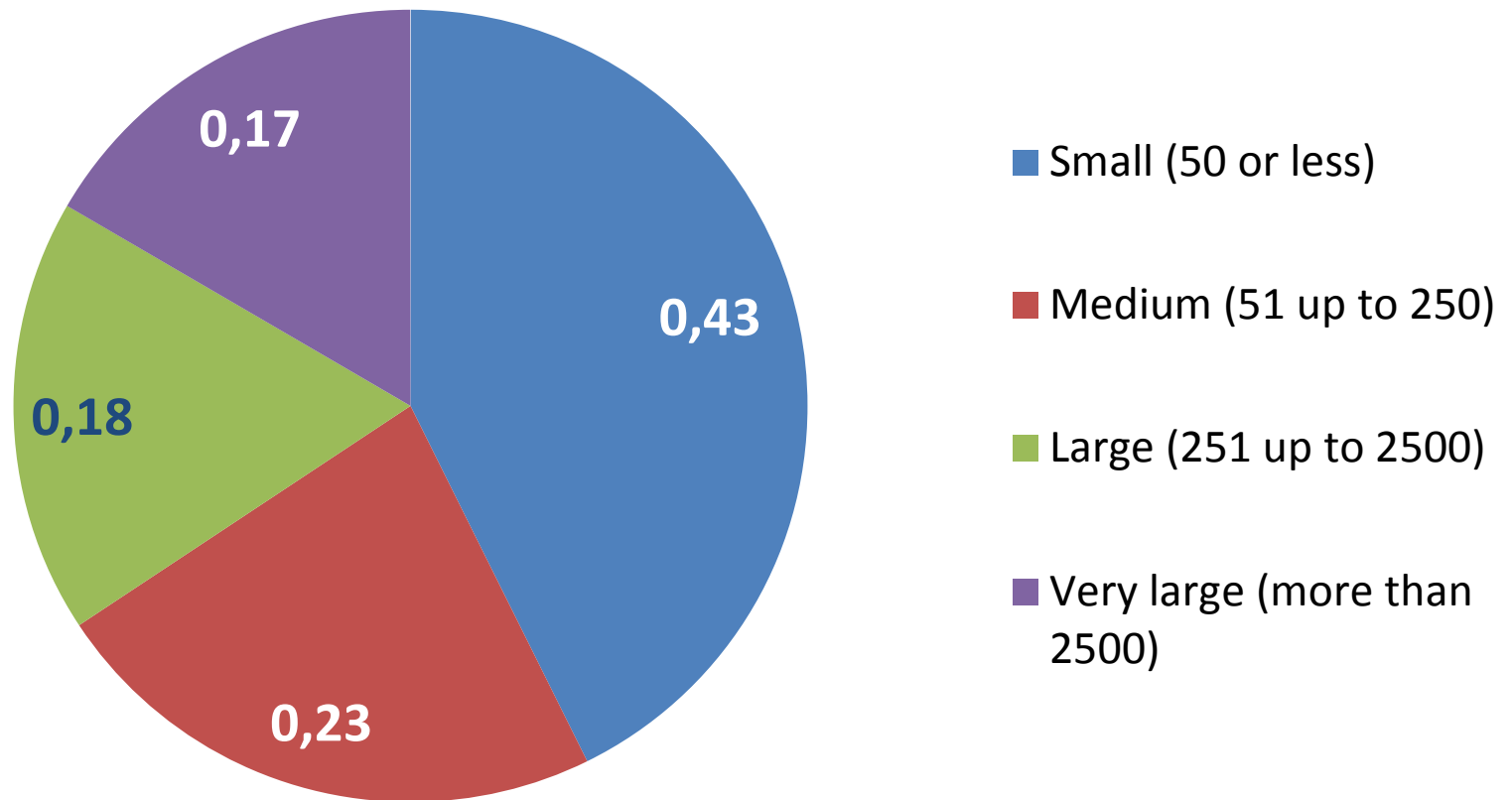
Q5 - Has your organization signed a Registration Services Agreement with your RIR?   54% says "Yes", 16% "No", 29% does not know.

*No significant changes as compared to 2010

Q6 – How large is your customer base

Pie chart legend:
- Up to 1,000 — 28%
- 1,001 to 10,000 — 33%
- 10,001 to 100,000 — 19%
- 100,001 to 500,000 — 9%
- 500,001 to 1,000,000 — 3%
- More than 1,000,000 — 9%

ISPs only - *No significant changes as compared to 2010

source: GNKS 2011

Q9 - What is the size of your organization (employees)?

Legend:
- ■ Small (50 or less) — 0,43
- ■ Medium (51 up to 250) — 0,23
- ■ Large (251 up to 2500) — 0,18
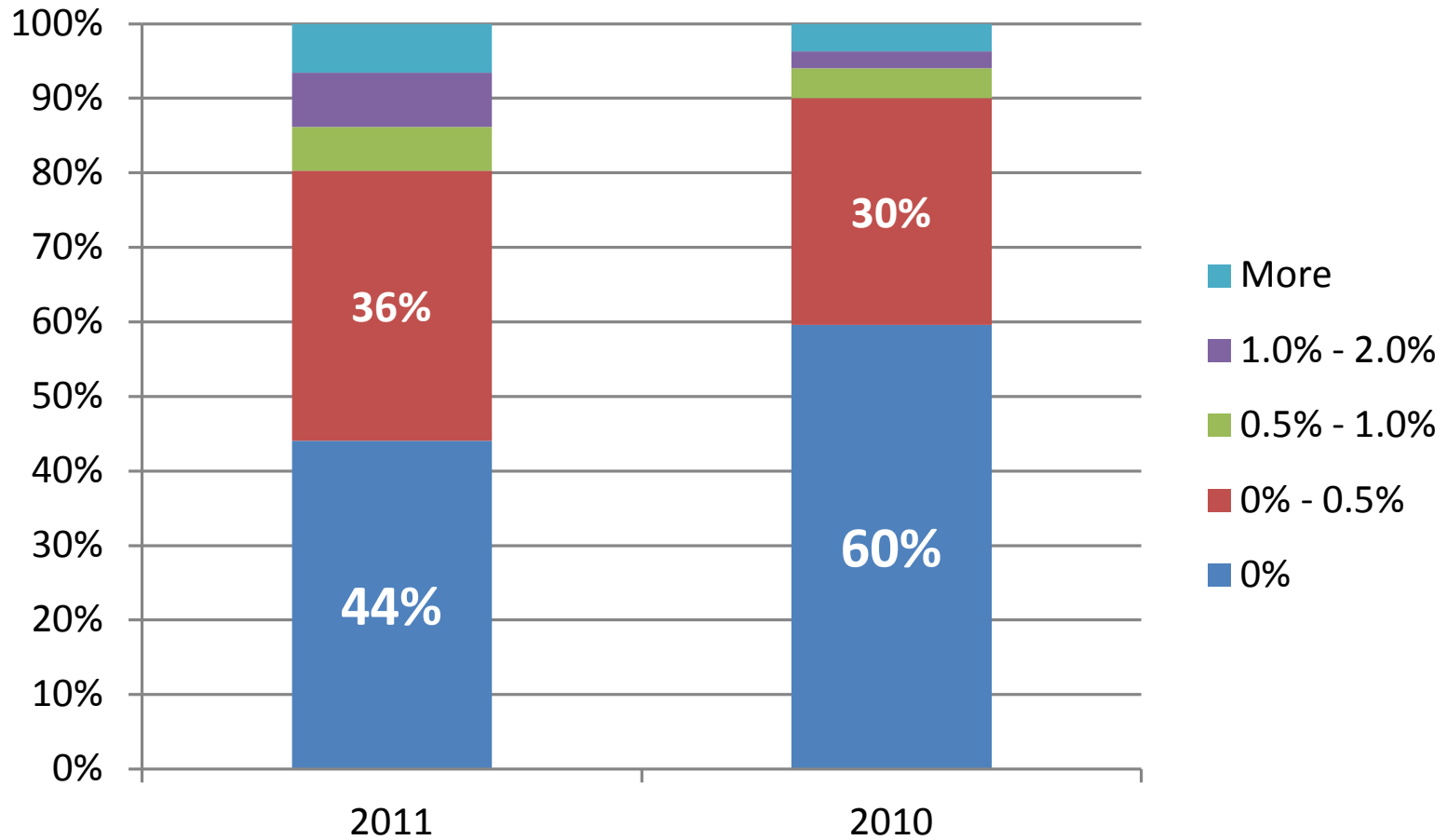- ■ Very large (more than 2500) — 0,17

*No significant changes as compared to 2010

source: GNKS 2011
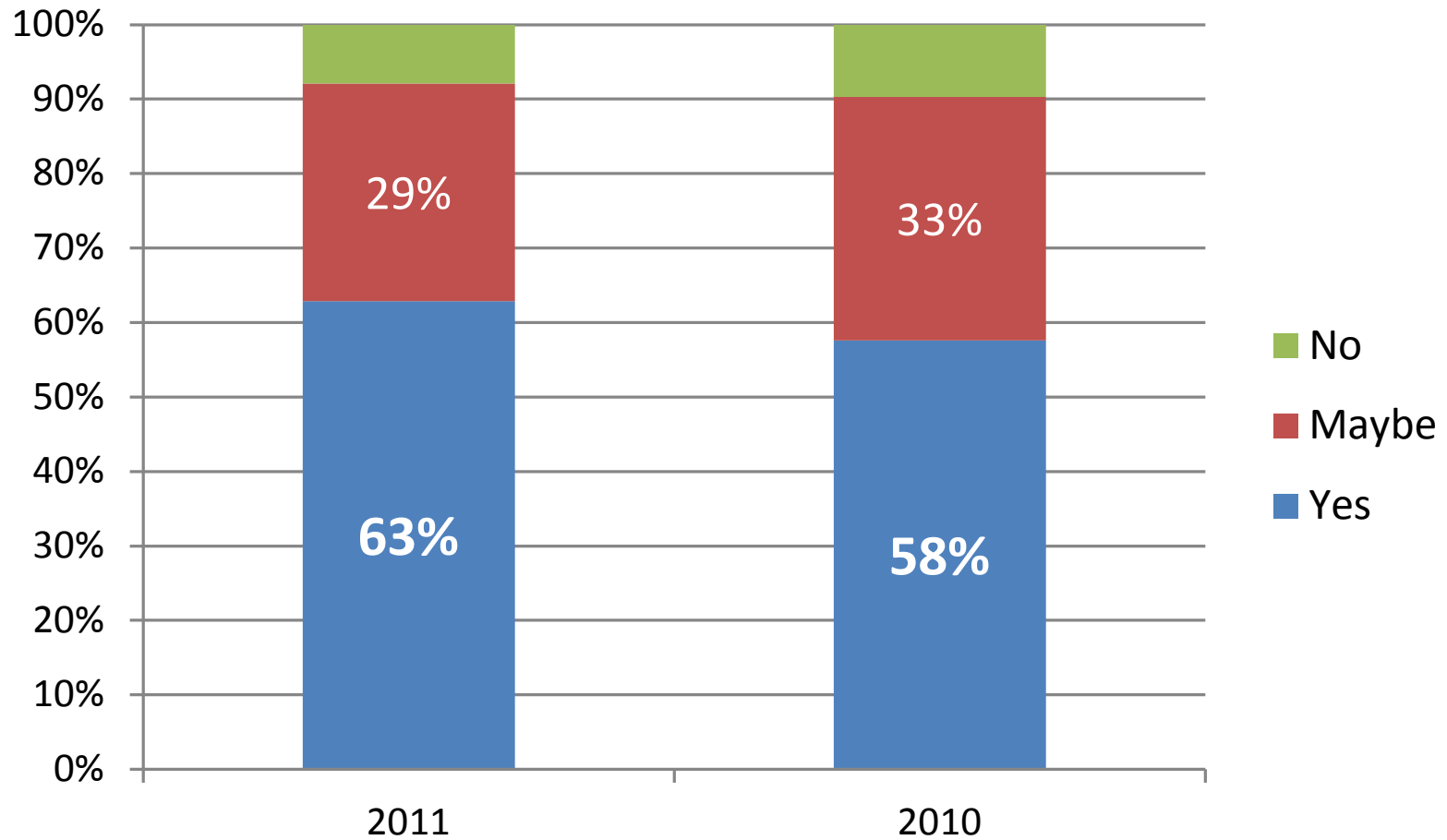
Section 2 – experience and assumptions

- More ISPs are confronted with customers wanting to use IPv6 (56%), and only 7% does not consider deploying IPv6 (yet)
- Overall, less respondents indicate reasons to *not* consider IPv6 deployment, and hurdles seem to get less high – except for information security issues
- By July 2011, 27% of all ISPs were still to deploy IPv6
- Deployed IPv6 is overwhelmingly native, and dual-stack

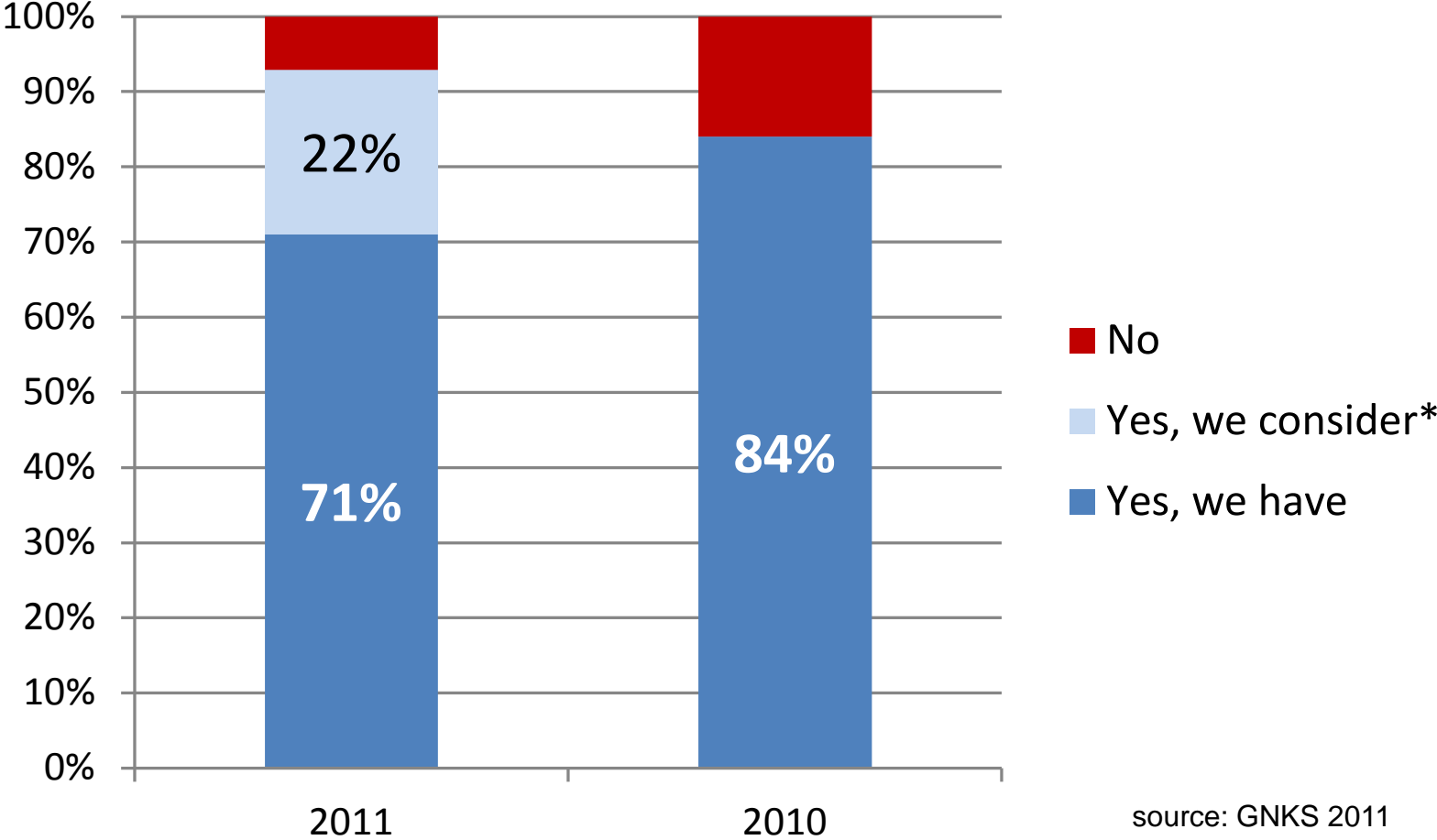# Q7 - What percentage of your customer base uses IPv6 connectivity?

source: GNKS 2011

ISPs only

# Q8 - Do you consider promoting IPv6 uptake to your customers?

Legend:
- No (green)
- Maybe (red)
- Yes (blue)

2011: Yes 63%, Maybe 29%
2010: Yes 58%, Maybe 33%

source: GNKS 2011

ISPs only

Q10 - Does your organization have, or consider having an IPv6 allocation and/or assignment?
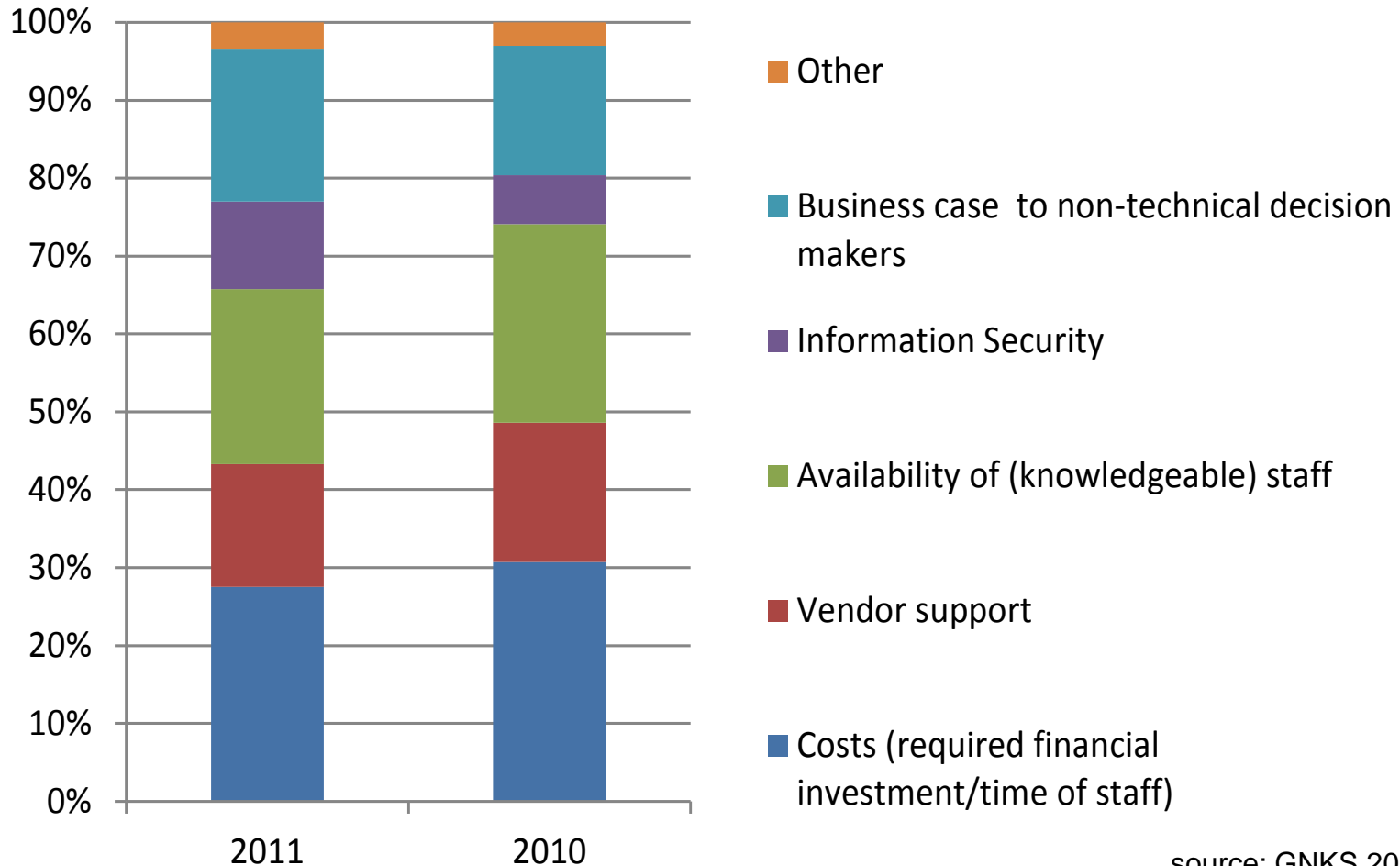

source: GNKS 2011

* "consider" was not a seperate option in survey 2010 but combined in "Yes"

Q11 - Why doesn't your organization consider having an IPv6 allocation/assignment?

*GNKS Consult 2011
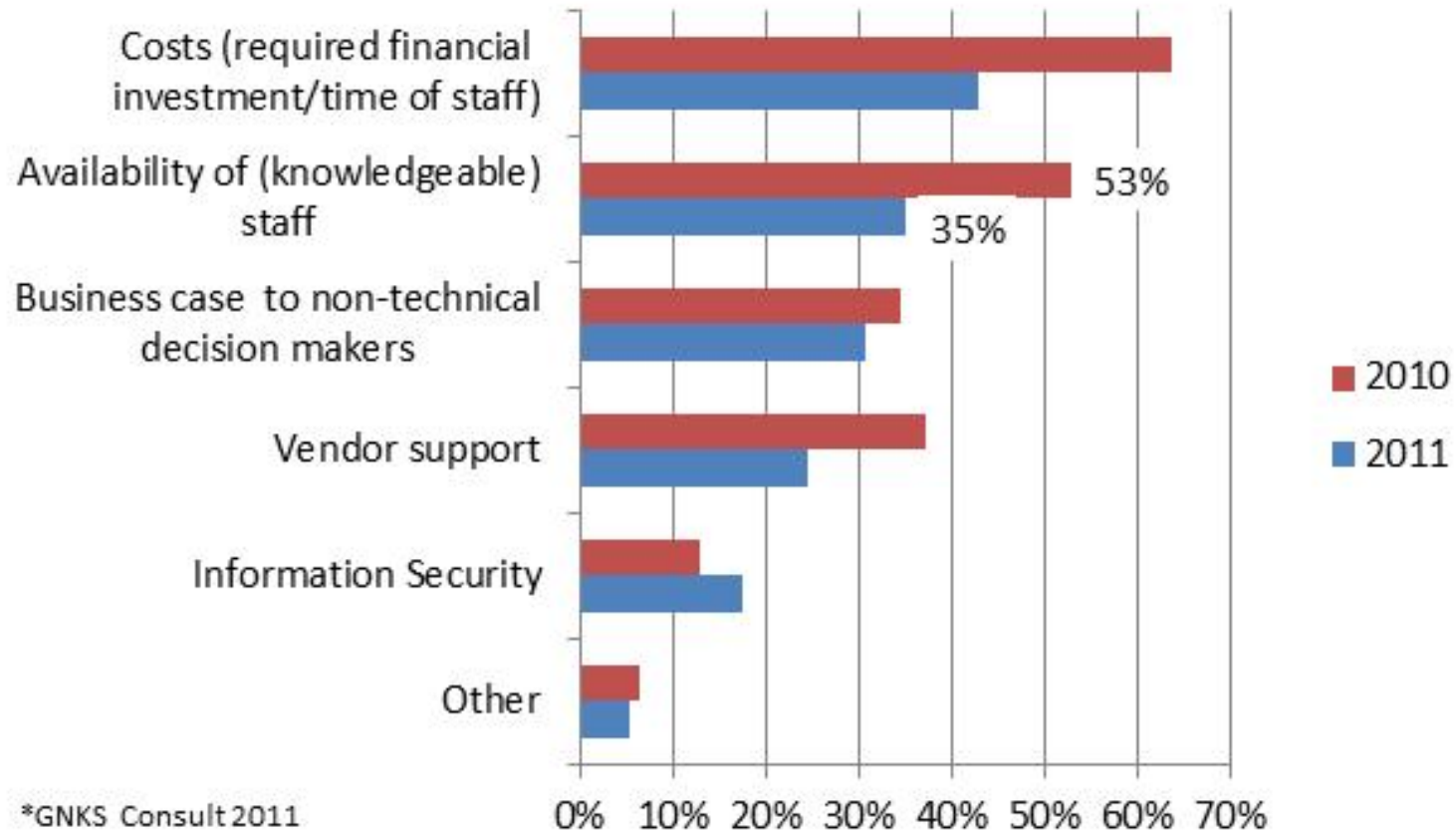
* Responses to survey Q12 - what you expect to be the biggest hurdle(s) to your organization if you were to deploy IPv6? Only by respondents who do *not* have plans to implement IPv6, yet: 16% of all respondents in 2010, 7% of all respondents in 2011.
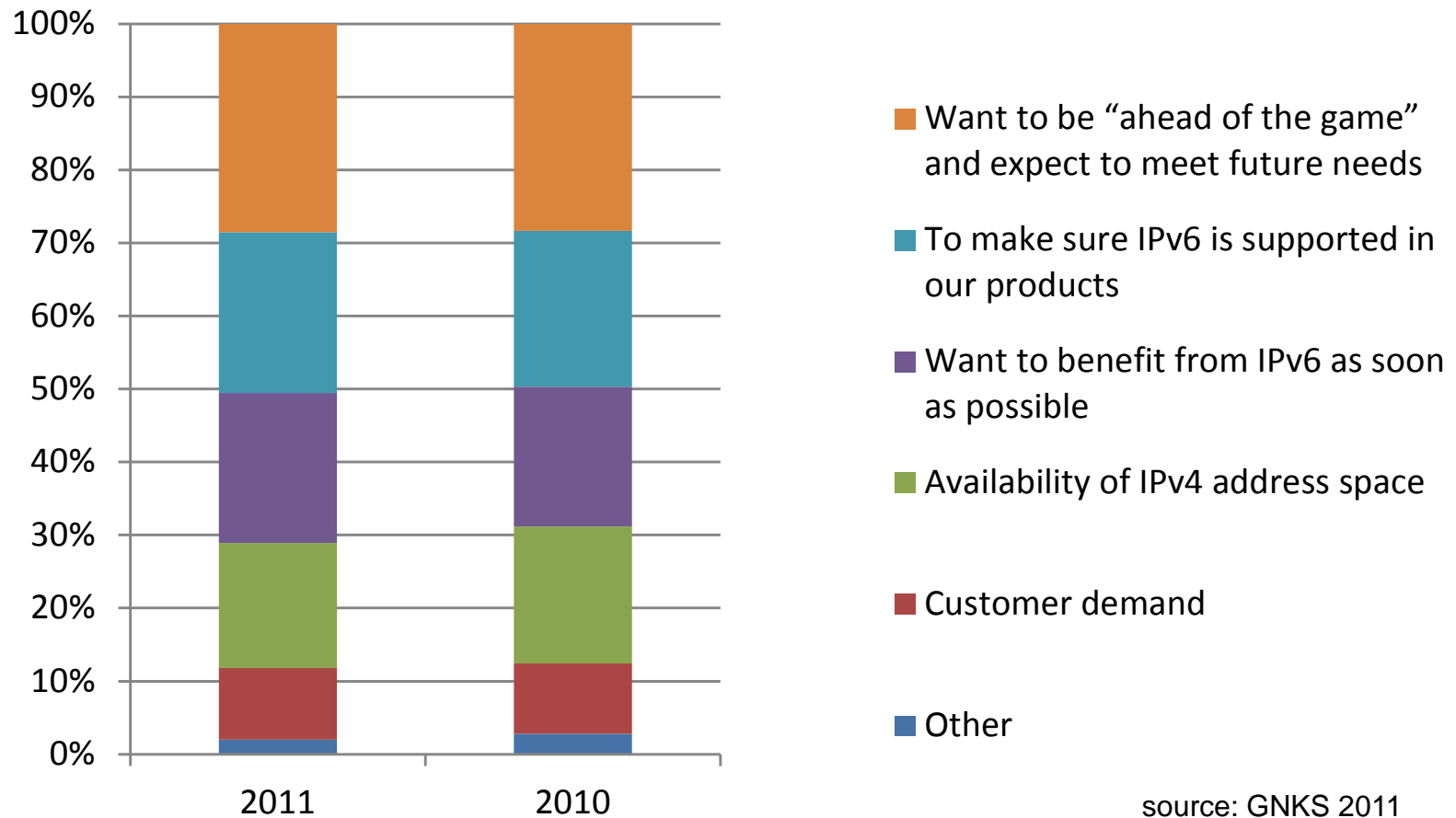
Q12 - what you expect to be the biggest hurdle(s) to your organization if you were to deploy IPv6?


source: GNKS 2011

Please note these are responses from the 7% indicated to not consider having an IPv6 allocation/assignment,i.e. In 2011 less than half of the number of respondents of 2010.

Q13 - What motivated your organization to consider having an IPv6 allocation/assignment?

Legend:
- Want to be "ahead of the game" and expect to meet future needs
- To make sure IPv6 is supported in our products
- Want to benefit from IPv6 as soon as possible
- Availability of IPv4 address space
- Customer demand
- Other

source: GNKS 2011

Please note these are responses from the 93% indicated to have or consider having an IPv6 allocation/assignment. Also note that there is no considerable change.
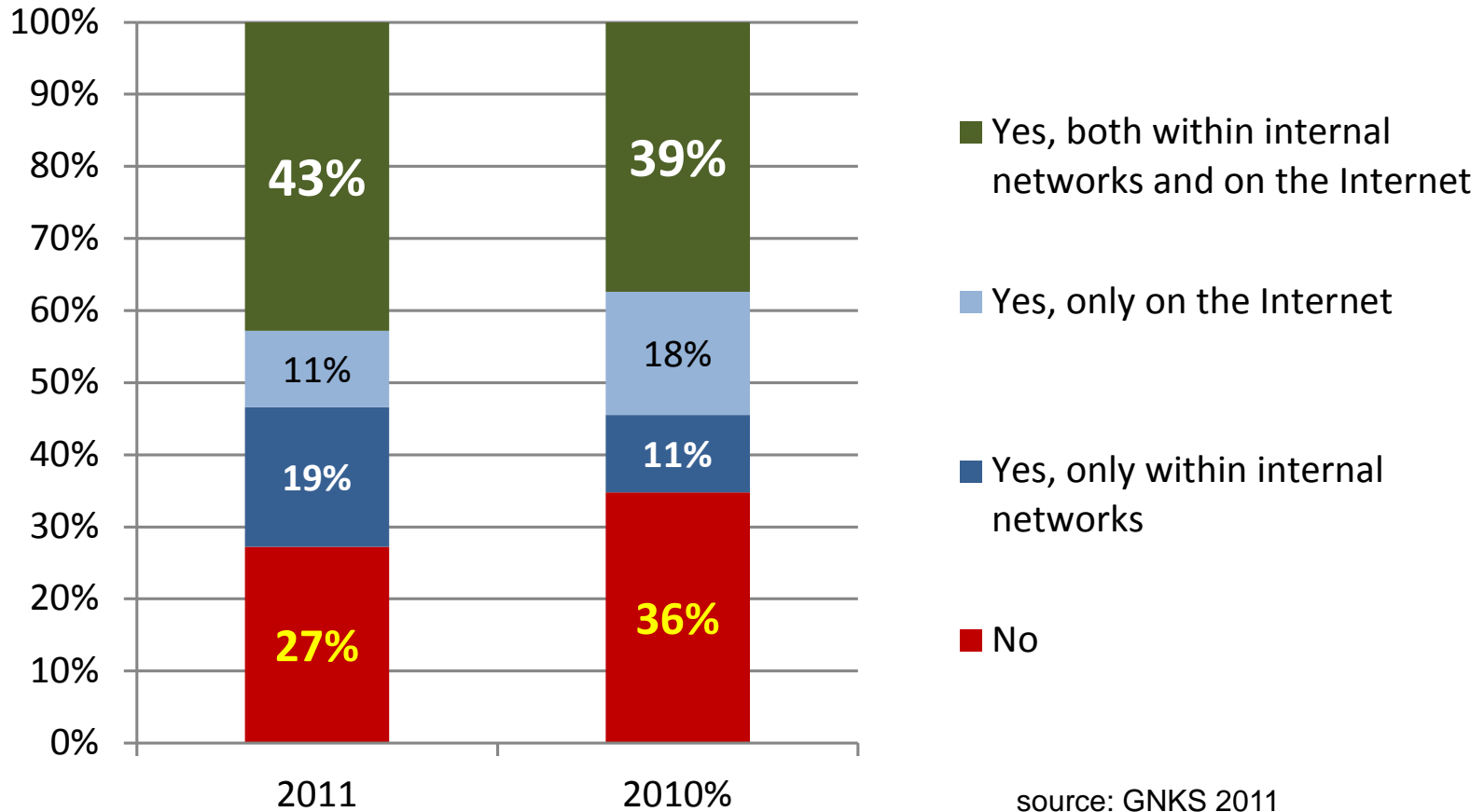
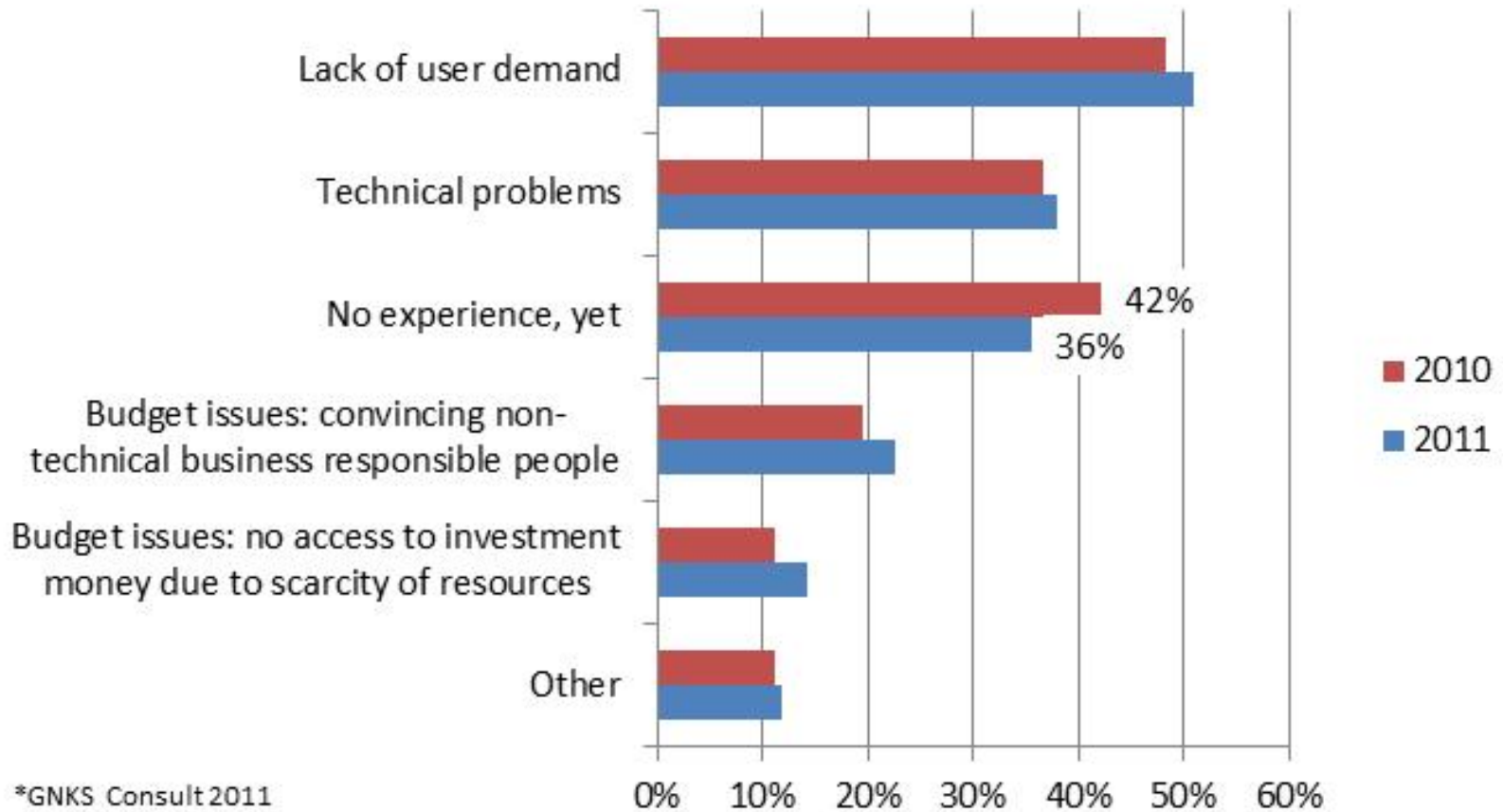# Q16 - What are likely to be the biggest hurdle(s) when deploying IPv6?
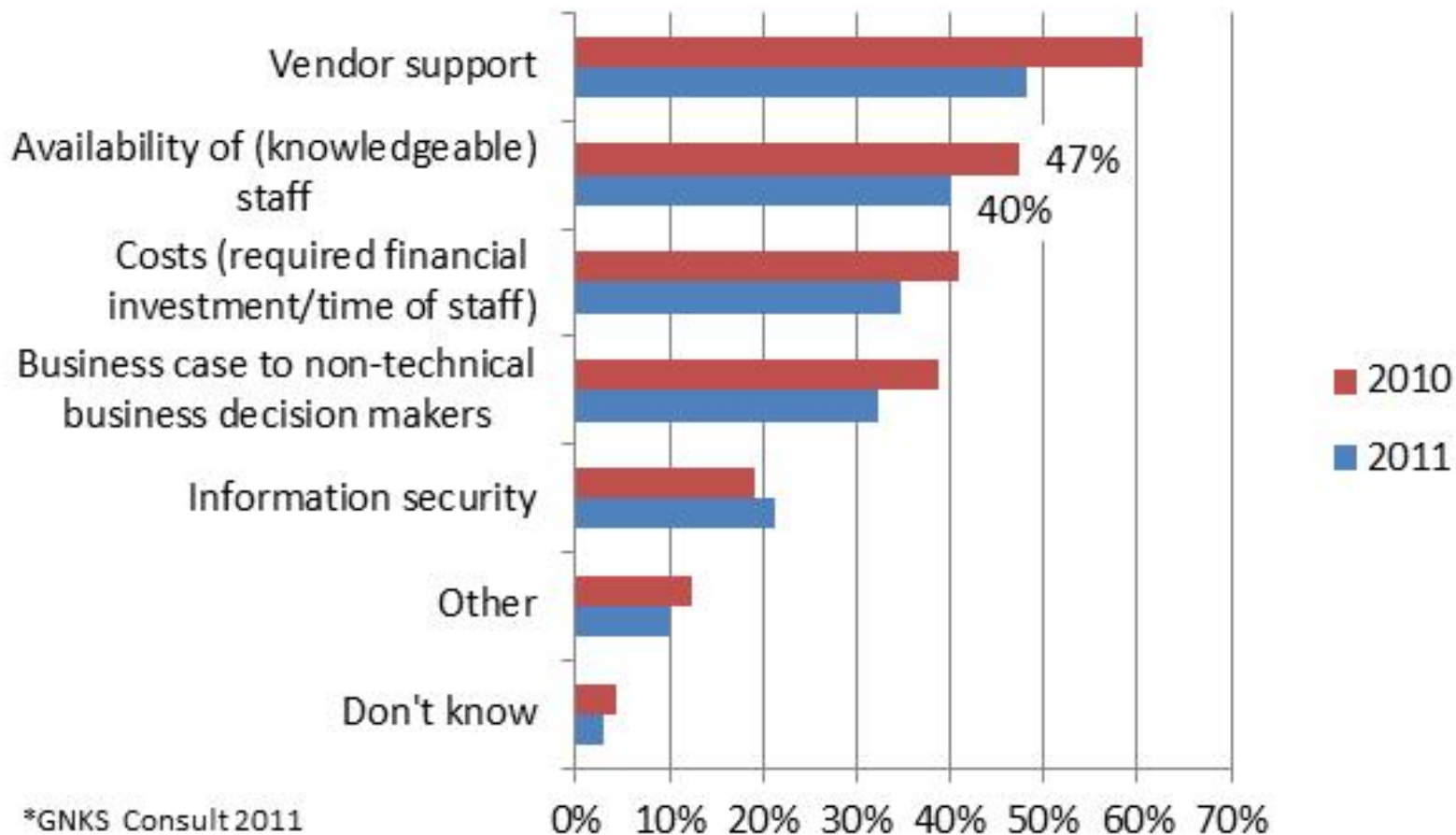
*GNKS Consult 2011

* Responses to survey Q16 - What are likely to be the biggest hurdle(s) when deploying IPv6? Based on experience with organisations who implemented IPv6 (71% in 2011) or have started planning for its implementation (22% in 2011).

# Q15 - Does your organization have an IPv6 presence ?

source: GNKS 2011

Q17 - What are the biggest problems with IPv6 in production?

Lack of user demand

Technical problems

No experience, yet — 42% / 36%

Budget issues: convincing non-technical business responsible people

Budget issues: no access to investment money due to scarcity of resources

Other

Legend: ■ 2010 ■ 2011

*GNKS Consult 2011
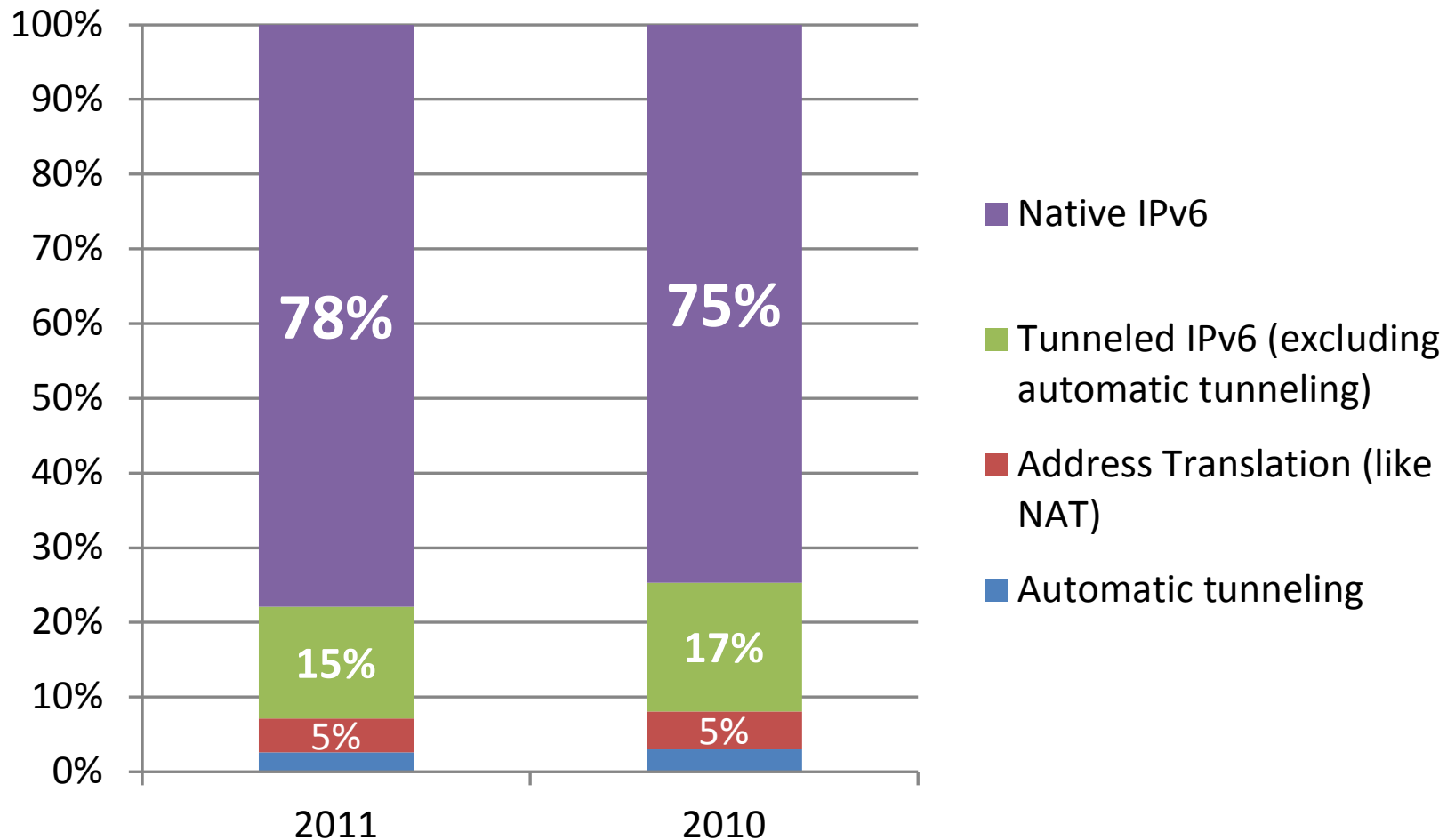
0% 10% 20% 30% 40% 50% 60%

* Responses to survey Q17 - What are the biggest problems with IPv6 in production? Based on experience with organisations who have IPv6 in production.
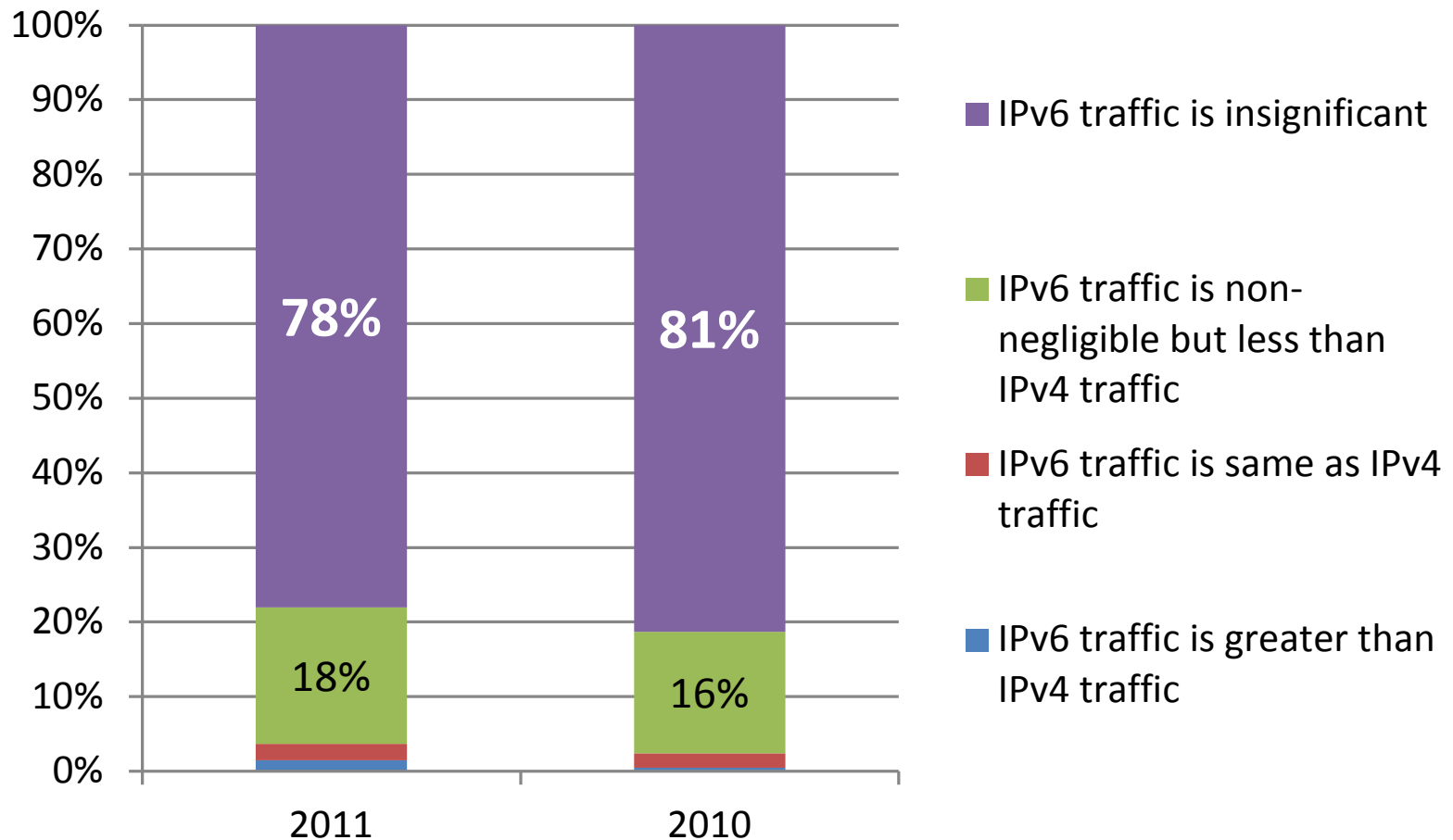
Q18 - your organization's IPv6 setup
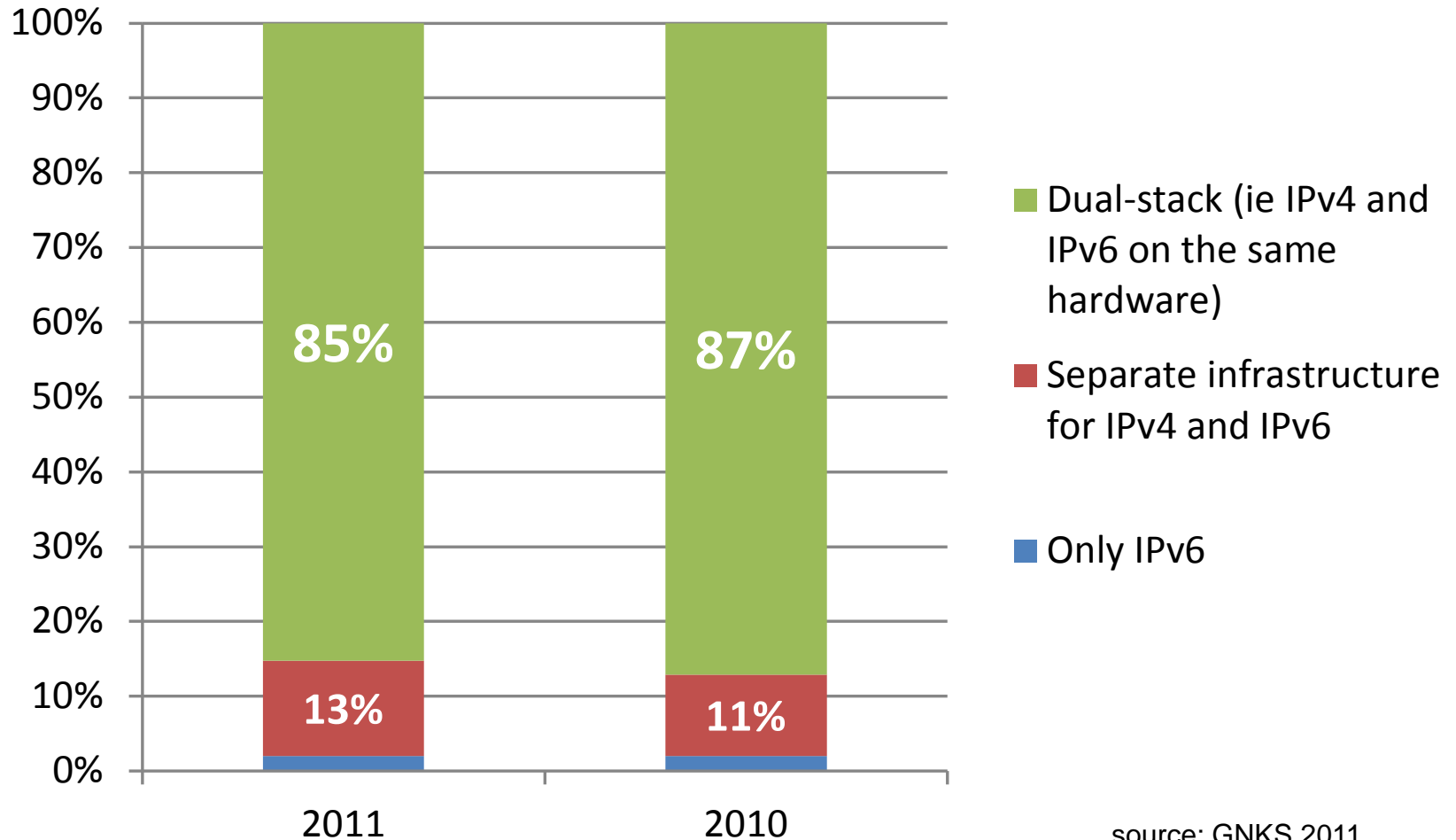
source: GNKS 2011

Q19 - nature of your organization's IPv6 production services

source: GNKS 2011

Q20 - If your organization has IPv6 in production, how does the amount of IPv6 traffic compare to your IPv4 traffic?

Legend:
- IPv6 traffic is insignificant
- IPv6 traffic is non-negligible but less than IPv4 traffic
- IPv6 traffic is same as IPv4 traffic
- IPv6 traffic is greater than IPv4 traffic

2011: 78%, 18%
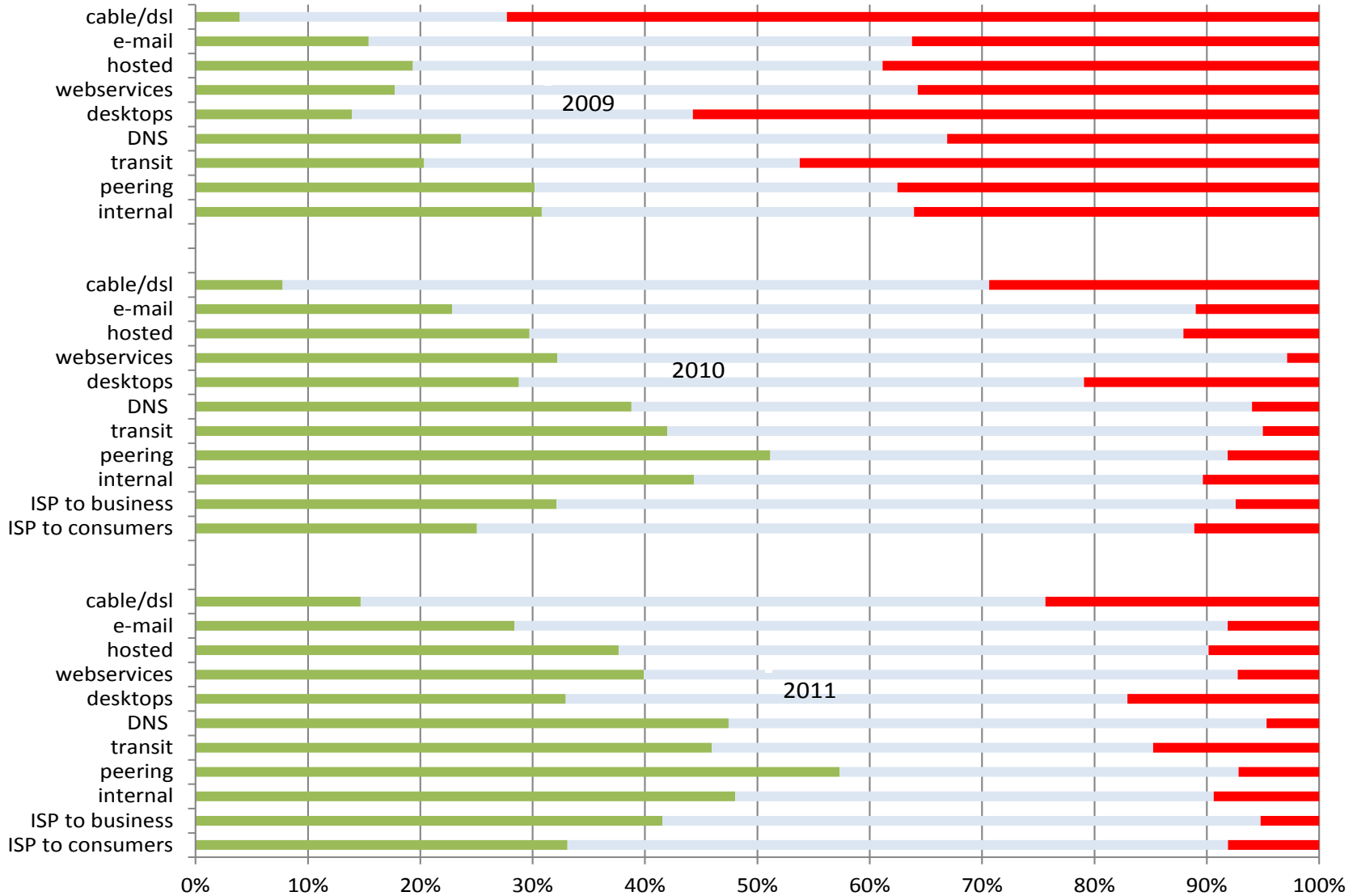2010: 81%, 16%

source: GNKS 2011

Section 3 - planning

- preparedness for IPv6 among ISPs has grown, since the original survey in 2009. Preparedness means here that ISPs are implementing IPv6 capability, plan for the deployment, and prepare for the increasing demand that they expect to come from their customers soon.

- both deployment and planning has improved significantly between June 2009 and June 2010, and even more so towards July 2011 – decreasing the "no plans" even further, and with clear advancement of both plans, and implementation itself.

Q22 - Which best describes your organization's IPv6 implementation (plans)?
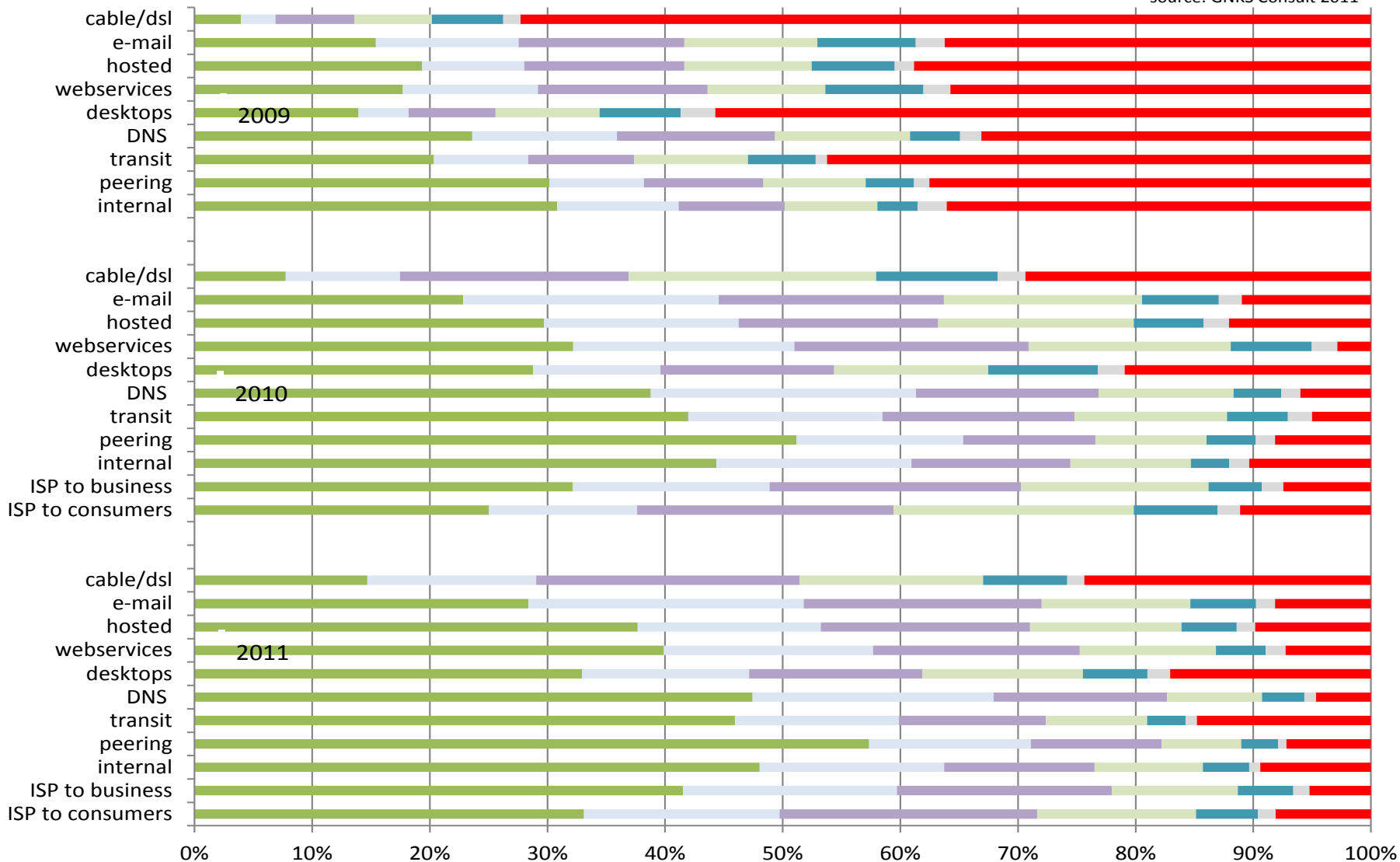

Legend: Deployed, Plans, No plan

source: GNKS Consult 2011

Chart categories (2009, 2010, 2011): cable/dsl, e-mail, hosted, webservices, desktops, DNS, transit, peering, internal, ISP to business, ISP to consumers

Q22 - Which best describes your organization's IPv6 implementation (plans)?

Legend: Currently deployed · 1 to 6 months · '0,5 to 1 year · > 1 year · > 2 years · > 4 years · No plan

source: GNKS Consult 2011

2009 categories: cable/dsl, e-mail, hosted, webservices, desktops, DNS, transit, peering, internal

2010 categories: cable/dsl, e-mail, hosted, webservices, desktops, DNS, transit, peering, internal, ISP to business, ISP to consumers

2011 categories: cable/dsl, e-mail, hosted, webservices, desktops, DNS, transit, peering, internal, ISP to business, ISP to consumers

We thank all respondents for their contributions !

94% of the respondents to the question "Would you be interested to participate again to this survey in a years' time" said:

"Yes"

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