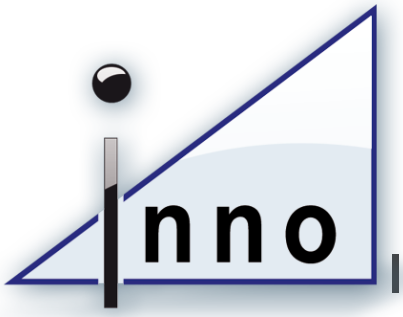
IPv6 Observatory

Global IPv6 survey



Franck Le Gall – inno TSD

IPv6 Observatory workshop • Brussels, 17 December 2013

Global IPv6 Deployment Monitoring Survey

❑ Aim

- Establish comprehensive view of present IPv6 penetration and future IPv6 deployment plans by surveying Internet providers and users in the RIR communities around the world

❑ Process

- Close collaboration with AFRINIC, APNIC, ARIN, LACNIC and RIPE NCC
- Survey kept short and focused on essentials. Changes to the survey were kept to a minimum and are taken into account in the analysis
- Privacy guaranteed

❑ History

- ARIN carried out such a survey with its members in March 2008, a starting point for the current survey
- RIPE NCC and APNIC carried out this same survey in 2009
- In 2010, 2011, 2012 and 2013, all RIRs participated to the survey making it truly global

Summary report on 2013 results

1 – Respondents' profile

2 – Main results

Section 1 – Respondents' profile

- Respondents' profile remained generally consistent over the years, and again in 2013
- Main change in 2013 is in responding countries, not in global spread nor in composition of sort of responders
  - "government" respondents continued to grow in numbers, which may be congruent with higher policy interest in IPv6
- *Median respondent*
  - *for-profit ISP in the RIPE NCC region that signed a registration services agreement and serves up to 10,000 customers with less than 50 personnel.*

In which country/economy is your organization registered?

- 1515 respondents from 131 countries/economies
- Top 10 respondent countries in 2013

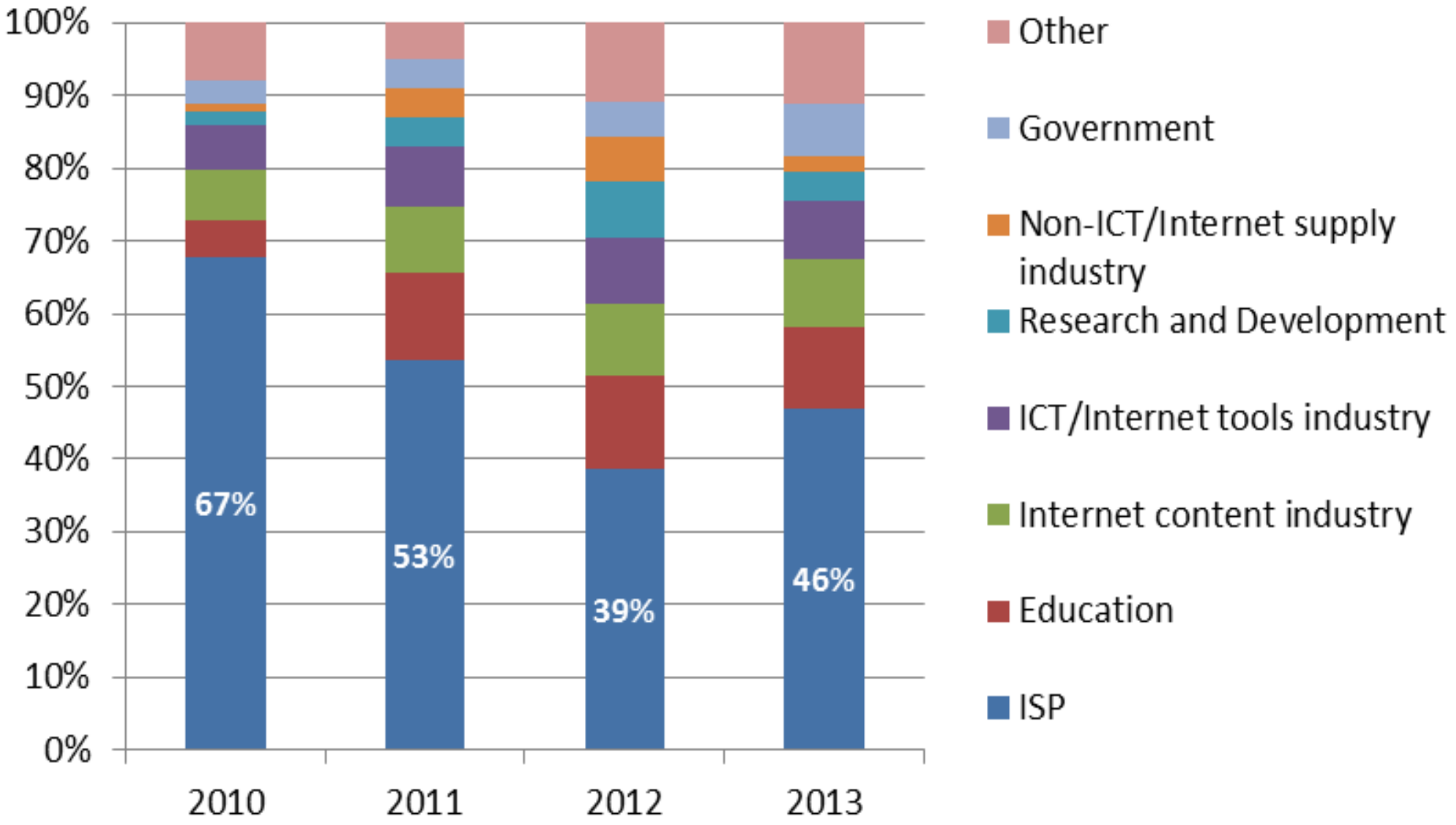
1.	**USA**	**215**	**6.**	**Brazil***	**47**
2.	Germany	74	7.	France	47
3.	**United Kingdom**	**66**	**8.**	**India***	**47**
4.	Russia	53	9.	Indonesia*	40
5.	**Netherlands**	**48**	**10.**	**Australia**	**35**
		* New in Top 10			

Notable Changes

- Taiwan from 104 to 17 respondents
- Germany from 341 to 74 respondents
- USA from 306 to 215 respondents
- Brazil, India and Indonesia new

source: IPv6 observatory

Which category which best describes your organization?



N=1515

source: IPv6 observatory

Are you a mobile network operator ?

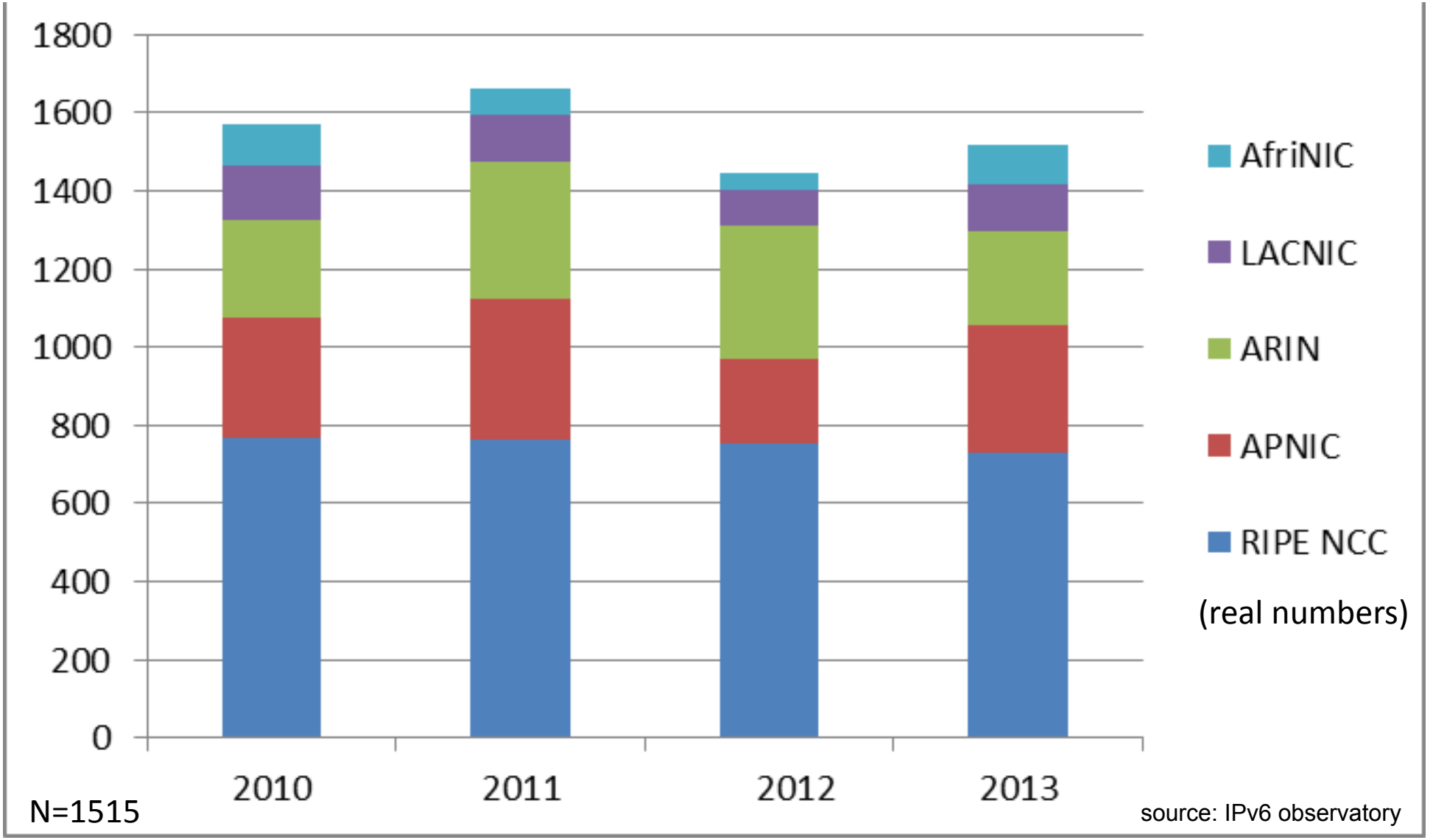
- 2012 12% mobile network operators
- 2013 13% mobile network operators

- No significant change compared to 2012
- No data from earlier years

N=1515

source: IPv6 observatory

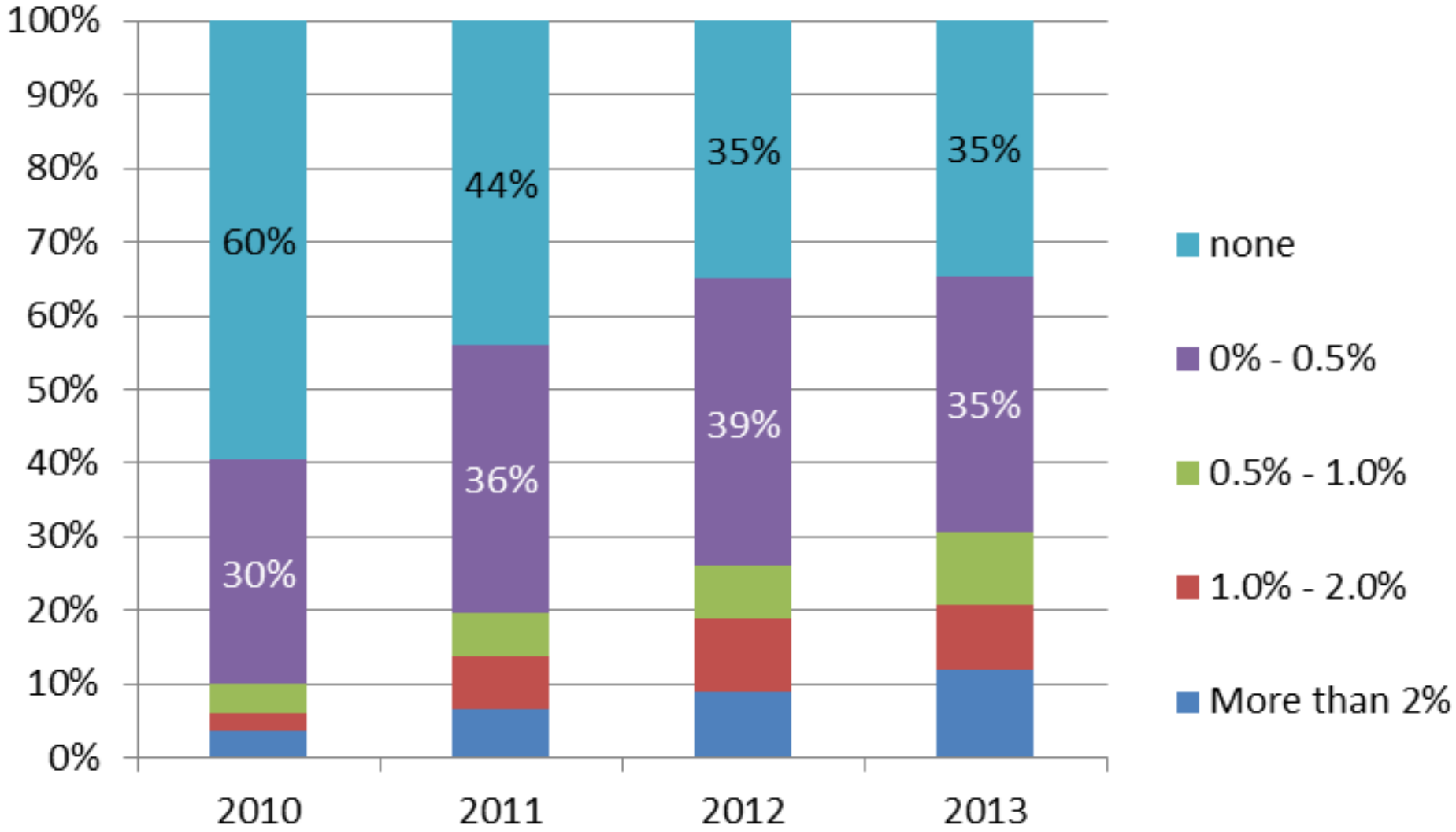
To which RIR does your country/economy belong?



Section 2 – Main results

- Experience and assumptions
  - Overall, most ISPs have IPv6 experience (65% of respondents) & this is stable across years
  - Significance of IPv6 as a service is increasing:
    - More ISPs indicate more significant usage by their clients (now 31%, >0.5% from last year's 26%)
    - Promoting IPv6 to customers is even more part of the "mix" (now 72%, up from 63% in 2012)
  - Biggest hurdle still vendor support
    - 61% of respondents, no significant change
  - Biggest problem lack of user demand (55%)
- Planning
  - IPv6 Preparedness among ISPs continues to grow
    - Implementing IPv6 capability
    - Planning for deployment
    - Preparing for increasing demand from customers
  - Deployment continues to improve
    - Yet 10% of ISP respondents do not foresee offering IPv6 to consumers within 4 years
    - 6% indicate no plans within 4 years to businesses
  - Many are waiting for large scale usage of IPv6 (which is still not happening)

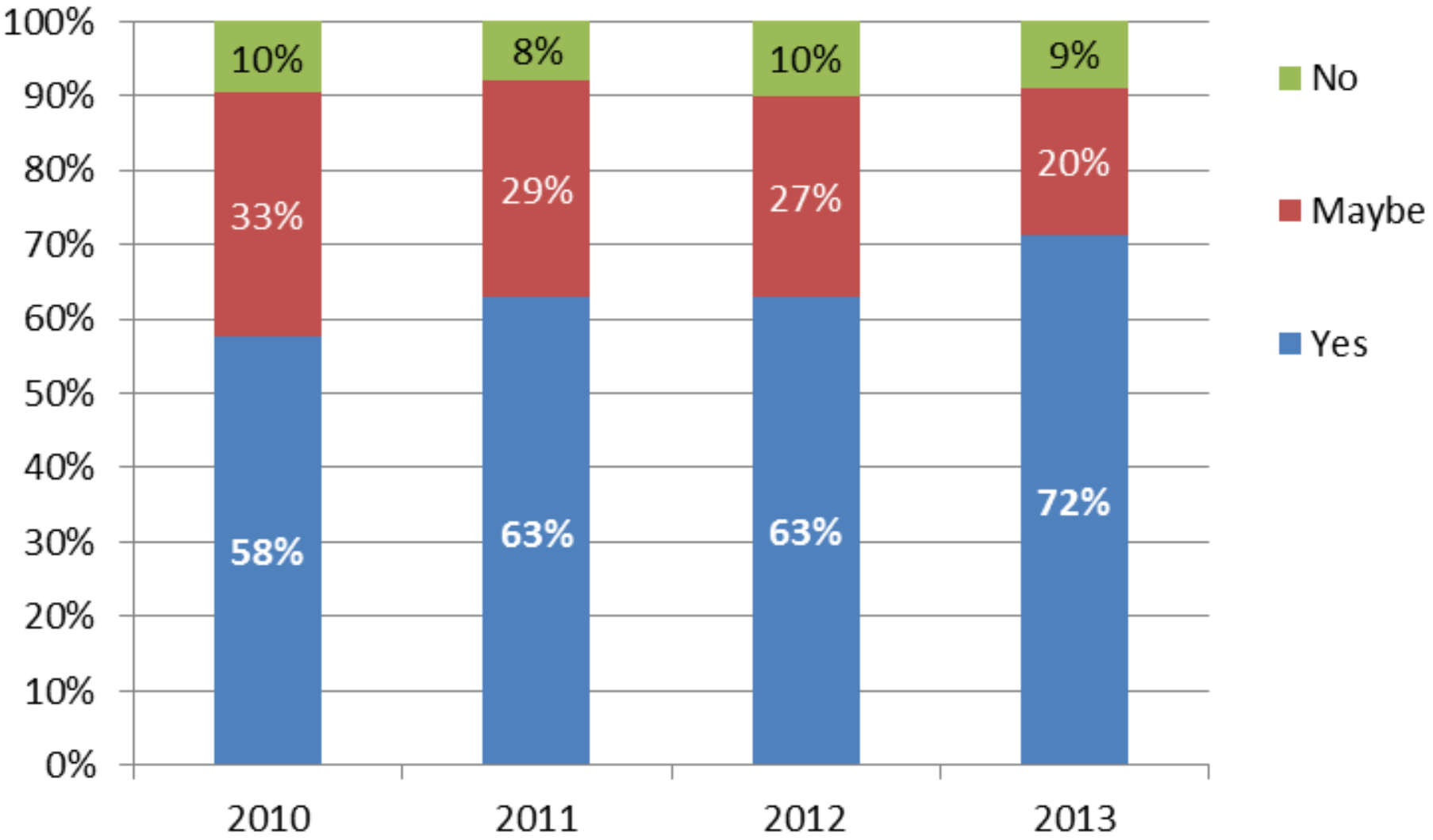
What percentage of your customer base uses IPv6 connectivity?



N=639 ISPs only

source: IPv6 observatory

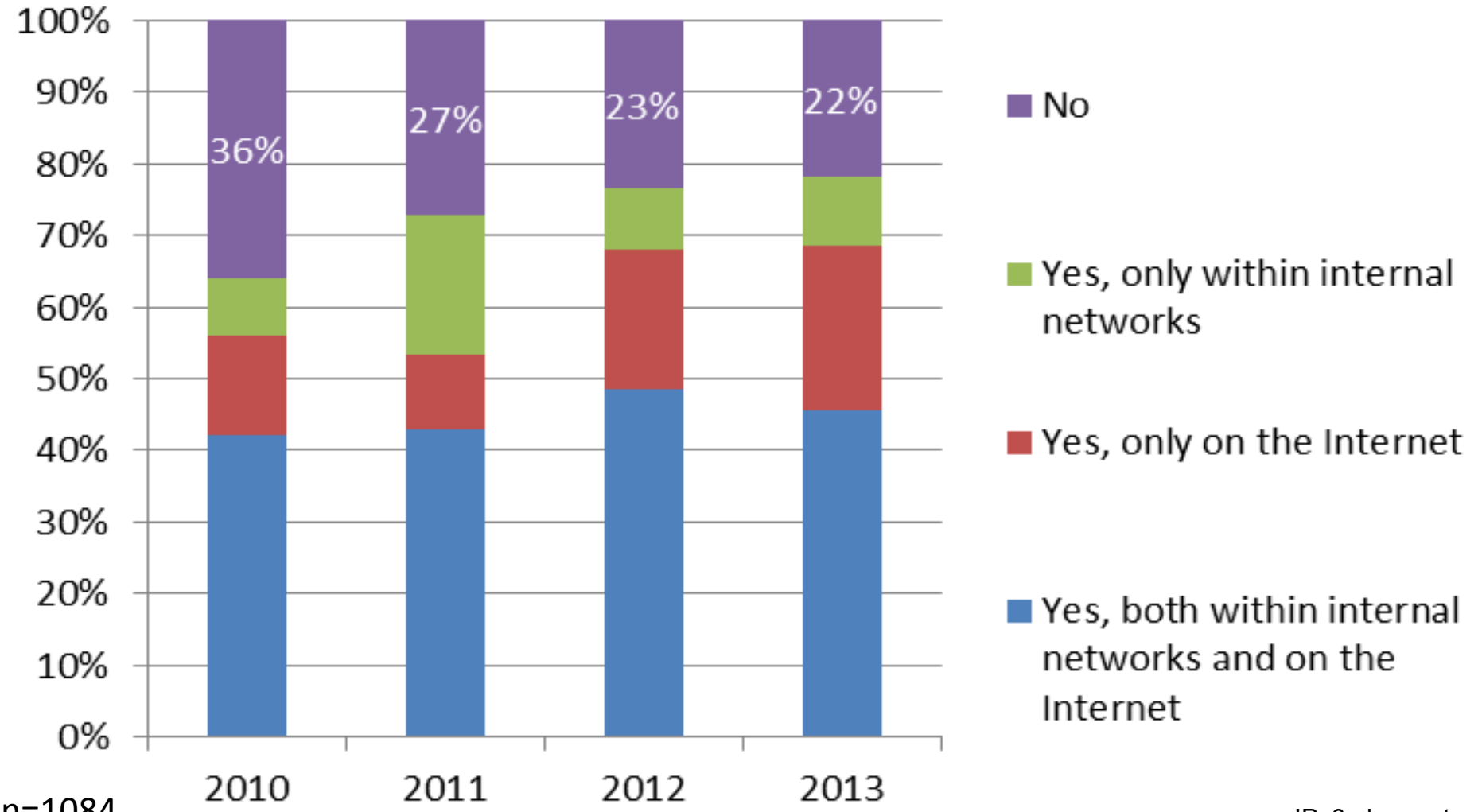
Do you consider promoting IPv6 uptake to your customers?



ISPs only N=646

source: IPv6 observatory

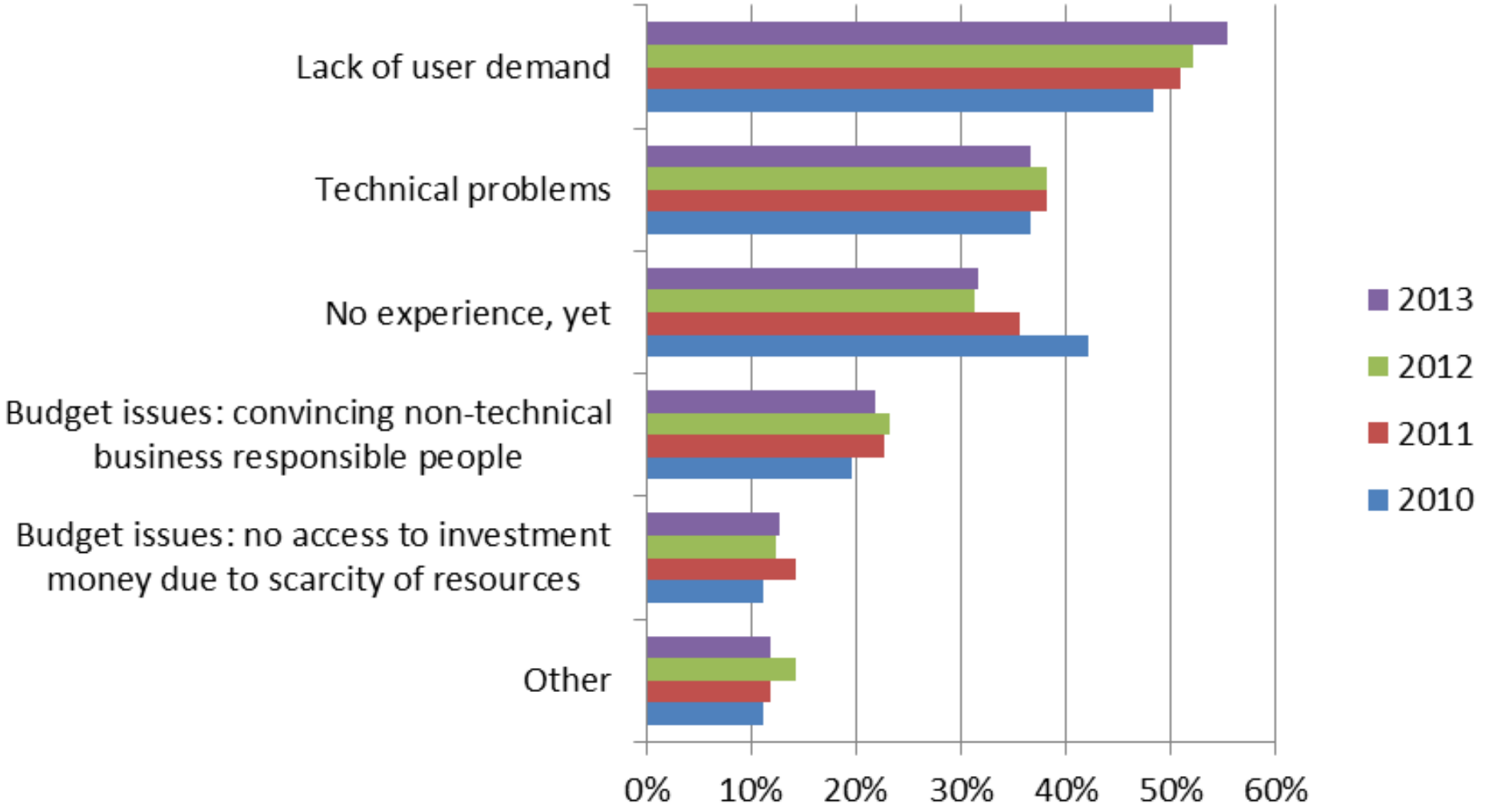
Does your organization have an IPv6 presence ?



n=1084

source: IPv6 observatory

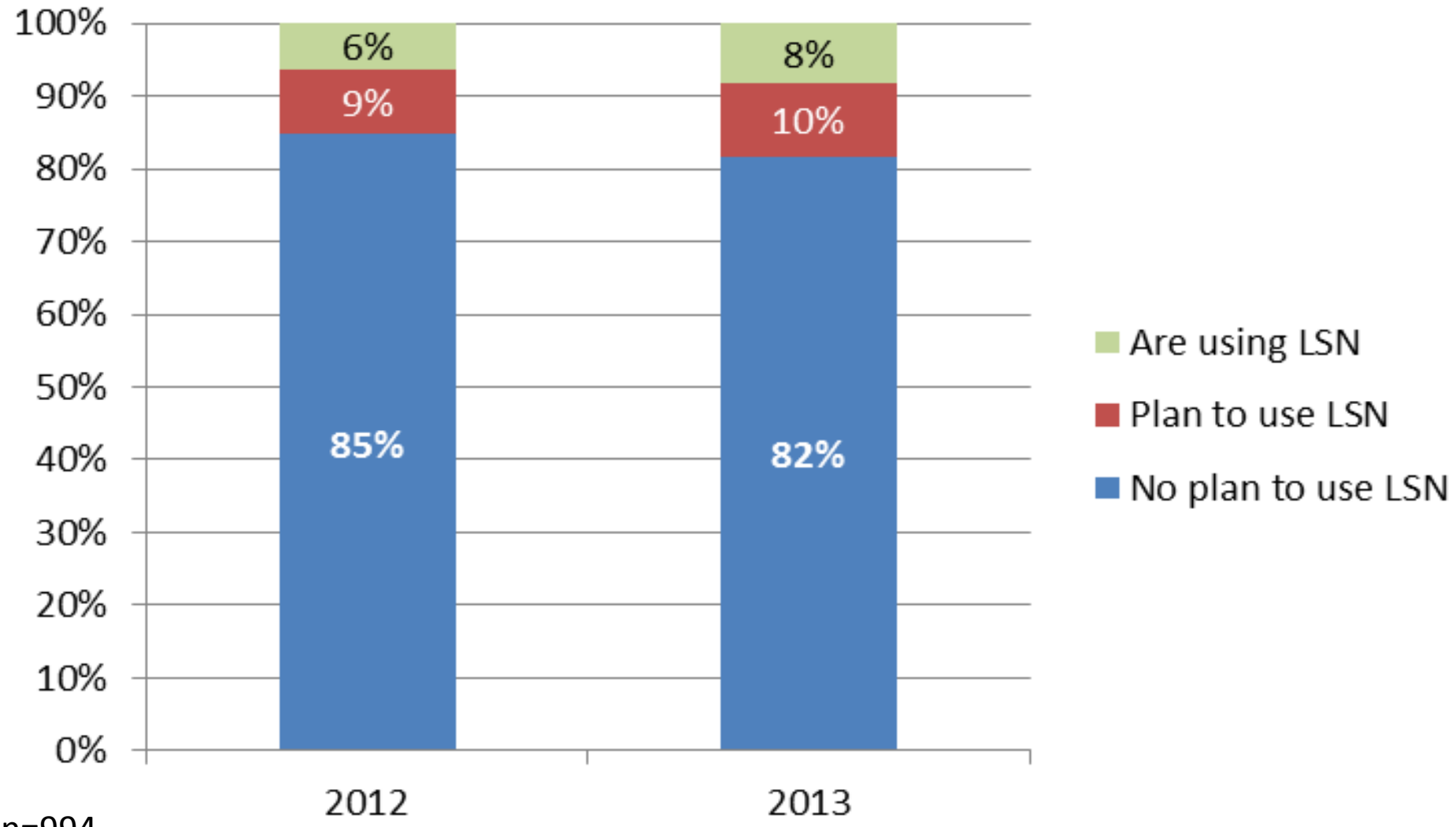
What are the biggest problems with IPv6 in production?



n=1056

source: IPv6 observatory

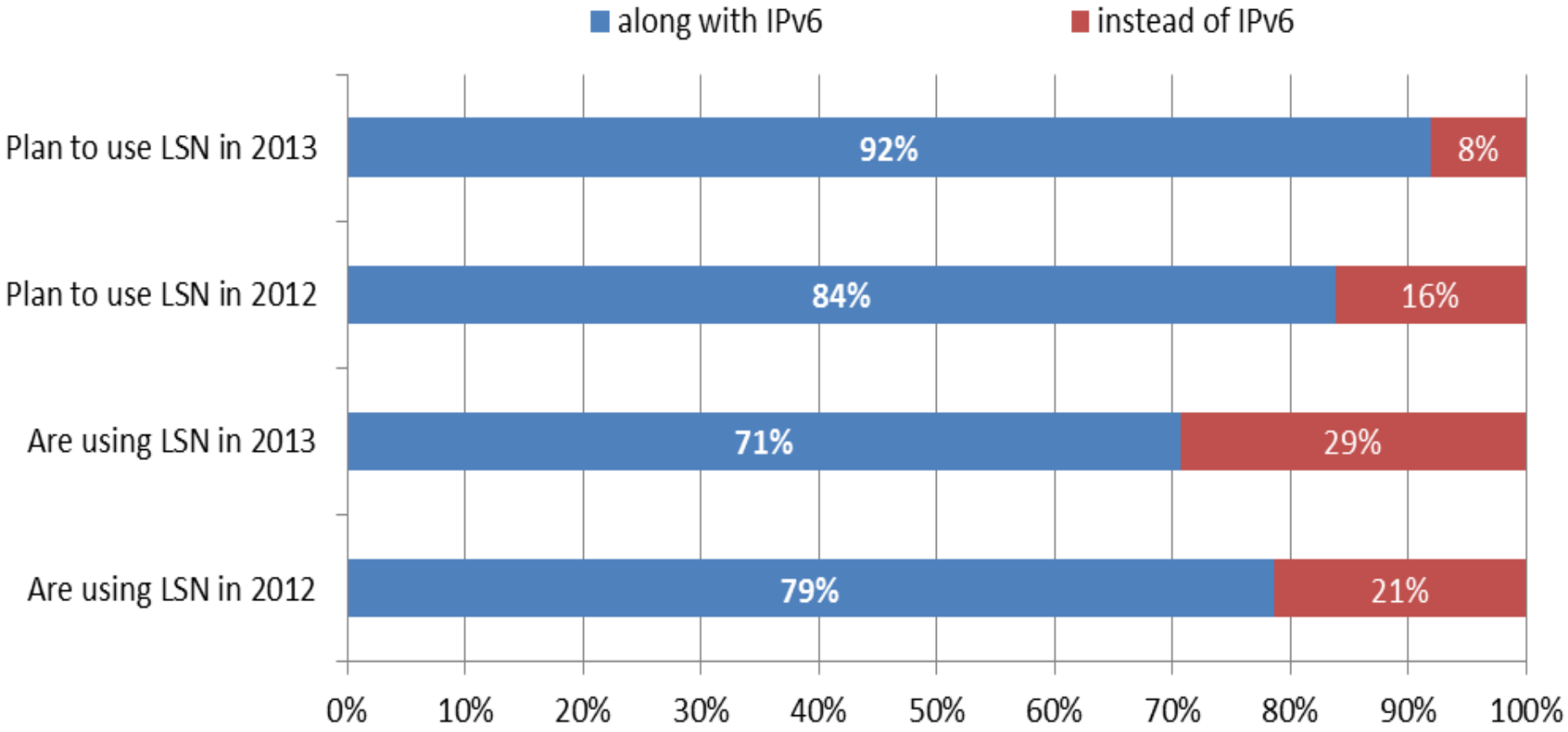
Do you use Large Scale NAT (LSN) aka CGN (Carrier Grade NAT)?



n=994

source: IPv6 observatory

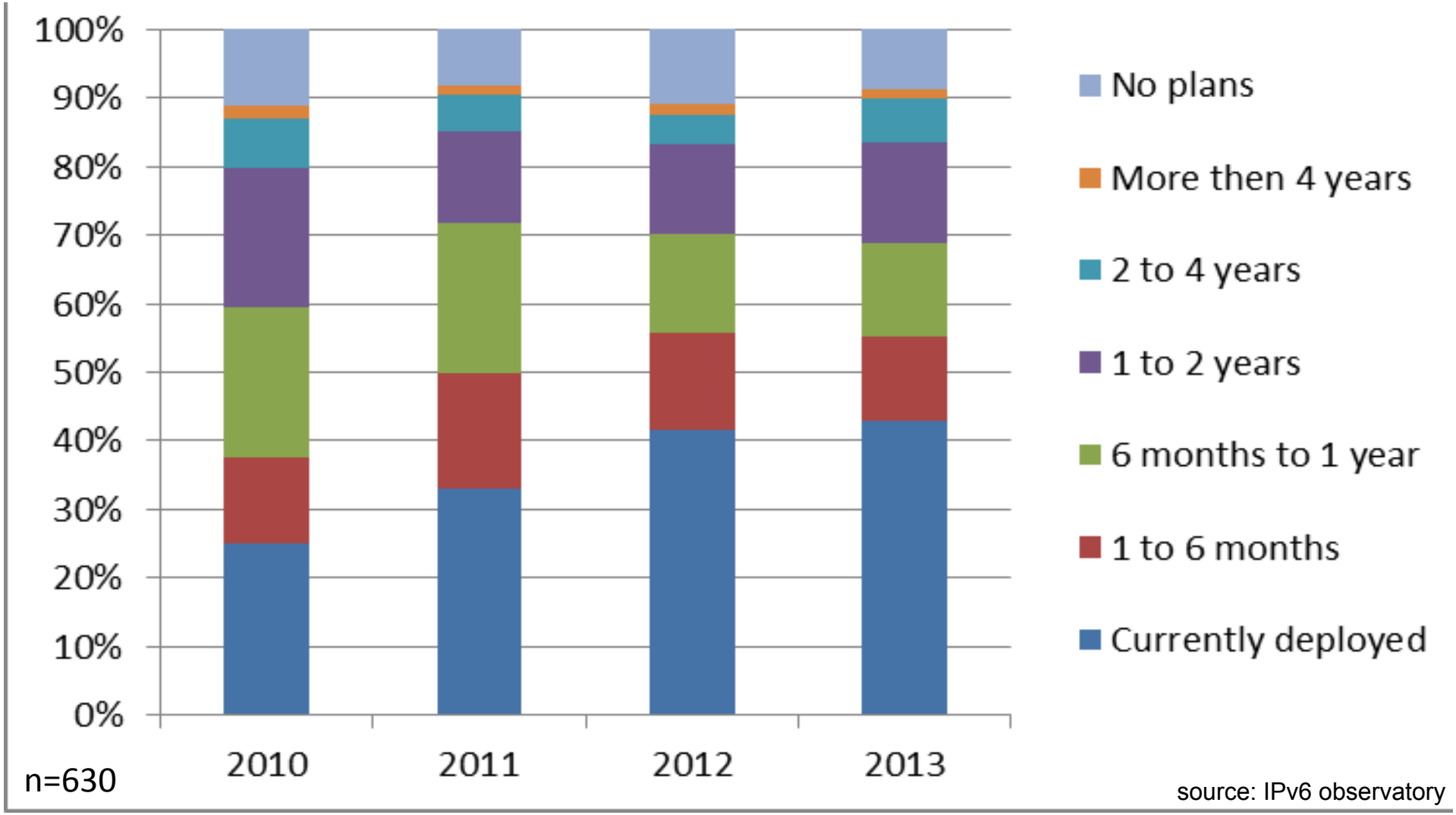
Do you use/plan to use Large Scale NAT (LSN) aka CGN (Carrier Grade NAT) along with or instead of IPv6?



n=182 – those that indicated they plan to use, or use LSN

source: IPv6 observatory

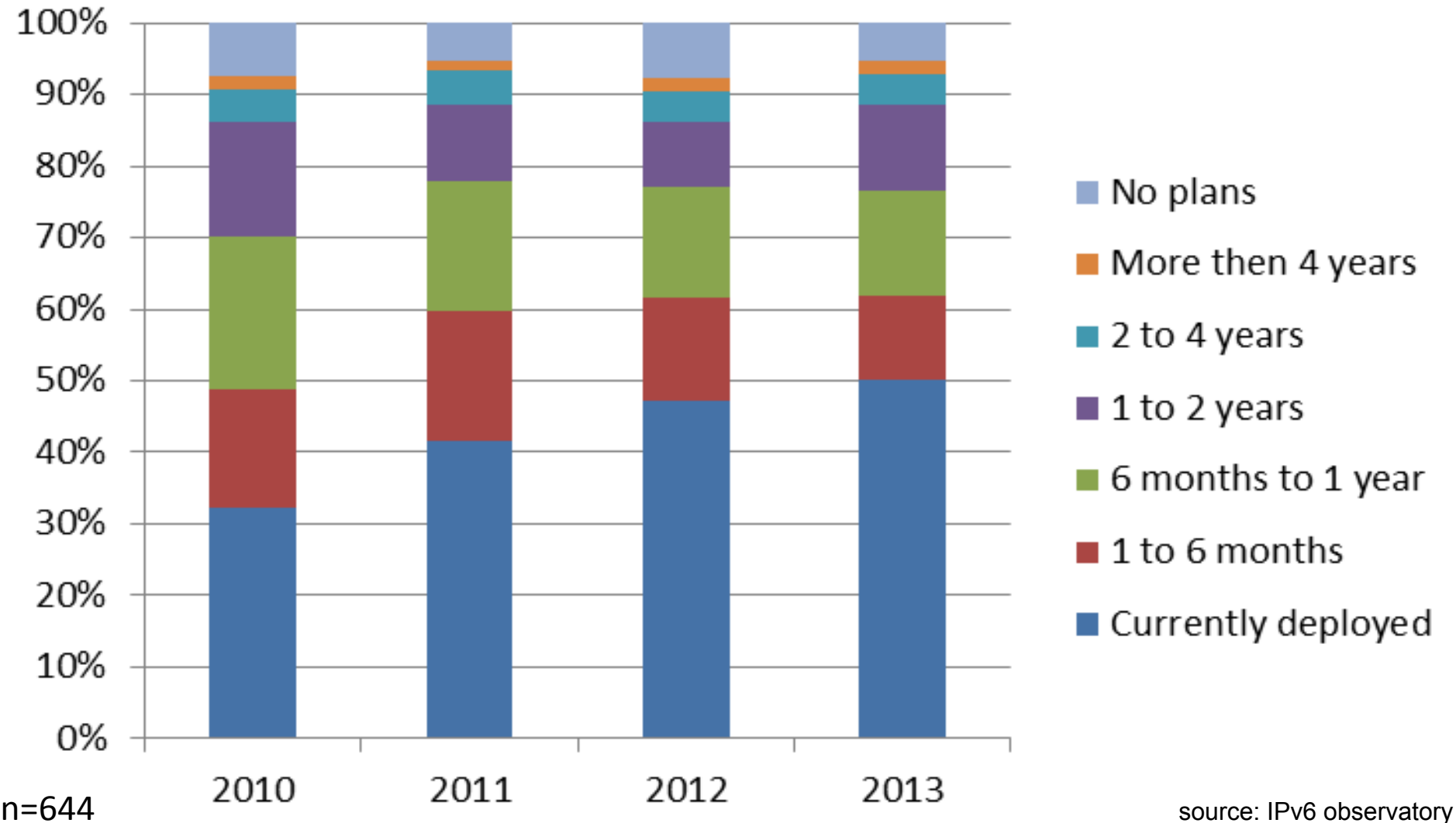
IPv6 implementation plans for ISPs offering services to consumers



n=630

source: IPv6 observatory

IPv6 implementation plans for ISPs offering services to business customers



n=644

source: IPv6 observatory

Are there any services which should be offered, or facilitated, by the Regional Internet Registries which would further enable your organizations' adoption of IPv6?

- 337 responses
- 124 a clear "no"
- Top responses:
  - Training
  - Informing governments
  - Stimulating providers to support IPv6

High level conclusion

- Preparedness for IPv6 deployment continues to increase
  - Generally at high levels
    - Almost half of ISP respondents claim to offer IPv6 to their customers
    - More than 80% will do so within 2 years
- More ISPs are now experiencing more significant usage by their clients
  - 31% experience more than 0.5% usage
  - But usage still very low
- Carrier Grade NAT is generally not used as a solution to replace IPv6
  - 18% of respondents use, or plan to use CGN but more than 70% of those use it along with IPv6 (not instead of)

High level conclusion

- *While a small minority is still banking on their stock of IPv4 addresses for the years to come, most recognize the importance of transitioning to IPv6.*
- *As many are ready with initial preparations and are now waiting for a large scale IPv6 deployment and implementation, large scale deployment pilots would be a prudent way forward.*

An initiative funded by the European Commission (2012-2013), http://www.ipv6observatory.eu, and supported by the NRO, http://www.nro.net/ipv6

We thank all respondents for their contributions !

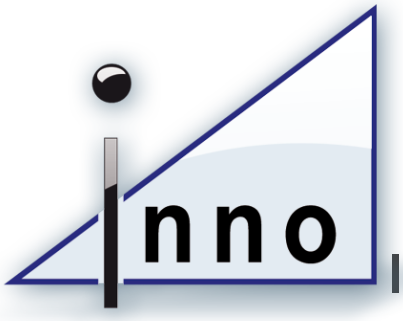
When asked if they'd be interested in participating in this survey again in a years' time 93% of respondents said

"Yes"

Survey prepared by GNKS consult for the IPv6 observatory

IPv6 Observatory

Thank you!



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