

LIR IPv6 Address Needs

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Overview

- Why?
- Current situation
- Methodology
- Numbers
- Questions

Why?

- IPv6 in initial deployment stage
 - Allocation rate increasing
- 3 IPv6 allocations from IANA to RIPE NCC in 2003
- First /27 allocation to LIR
- How much IPv6 space will LIRs need?

Current situation

- /32 minimum allocations for LIRs
- RIPE NCC reserves 3 bits
- /23 allocations to RIRs from IANA
- 286 allocations made to LIRs so far

IPv6 Unicast Address Space

2000::/6
2400::/6
2800::/6
2C00::/6
3000::/6
3400::/6
3800::/6
3C00::/6

Current IPv6 Unicast /6's. 2000::/6 and 3C00::/6 have been allocated from.

2000::/7
2200::/7
2400::/7
2600::/7
2800::/7
2A00::/7
2C00::/7
2E00::/7
3000::/7
3200::/7
3400::/7
3600::/7
3800::/7
3A00::/7
3C00::/7
3E00::/7

Current IPv6 Unicast /7's. 2000::/7 and 3E00::/7 have been allocated from.

2000::/8
2100::/8
2200::/8
2300::/8
2400::/8
2500::/8
2600::/8
2700::/8
2800::/8
2900::/8
2A00::/8
2B00::/8
2C00::/8
2D00::/8
2E00::/8
2F00::/8
3000::/8
3100::/8
3200::/8
3300::/8
3400::/8
3500::/8
3600::/8
3700::/8
3800::/8
3900::/8
3A00::/8
3B00::/8
3C00::/8
3D00::/8
3E00::/8
3F00::/8

Current IPv6 Unicast /8's. 2000::/8 and 3F00::/8 have been allocated from.

Hard to Predict the Future

- Indication needed, not hard numbers
- Currently large address space requests for broadband connectivity
- More growth in broadband connectivity predicted
- Broadband providers do IPv6 now

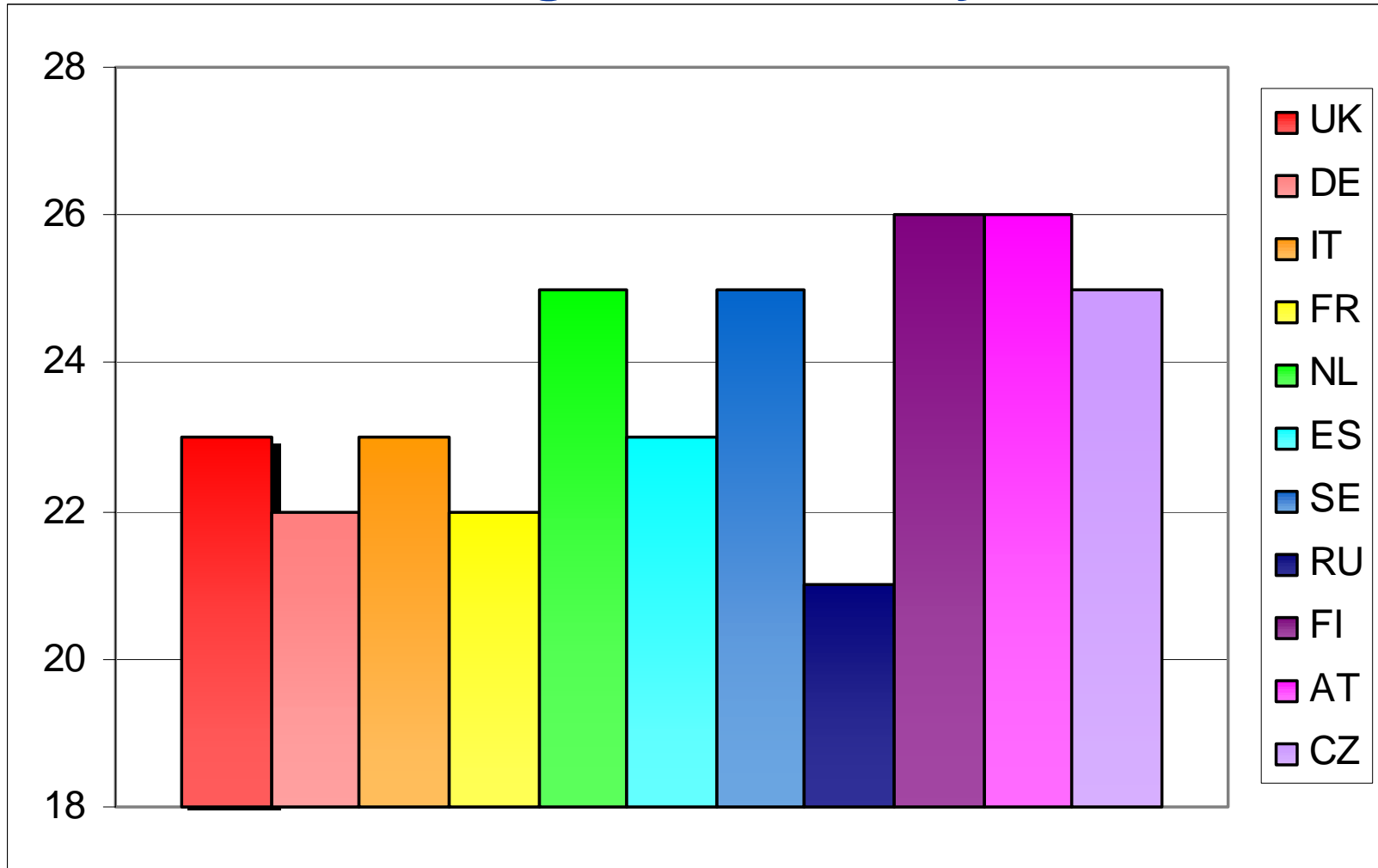
Assumptions

- IPv6 will be ubiquitous
- Broadband connectivity will be dual-stacked
 - /48 per broadband connection
- Broadband connections for households will be common

Methodology

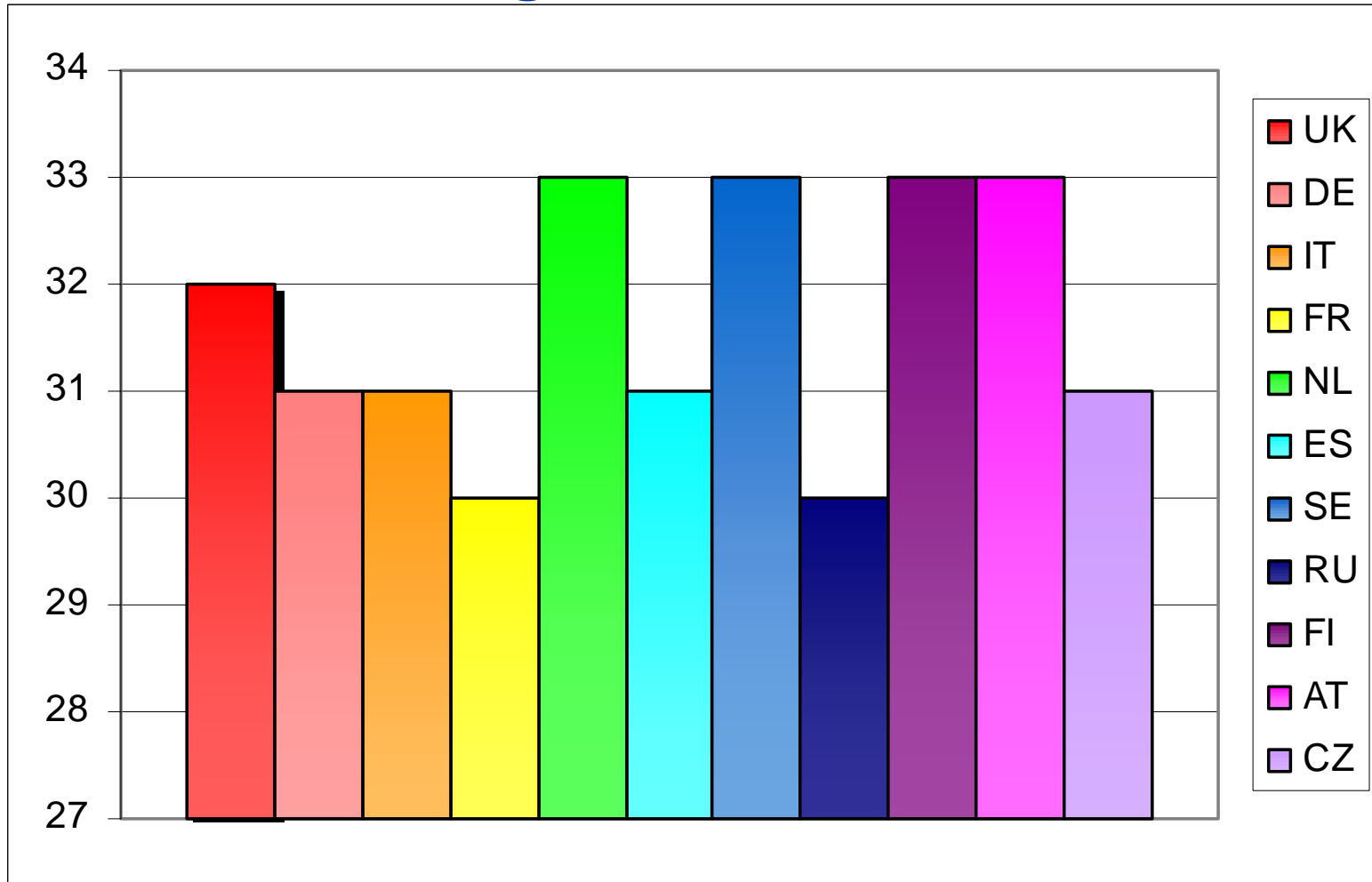
- Top countries for IPv4 and IPv6 usage
 - 11 countries (out of 90 In the RIPE NCC service region)
 - 2327 LIRs (out of 3488 RIPE NCC members)
- Estimates based on number of households
 - From UN statistics
 - For different percentages of broadband connectivity
 - Based loosely on ITU statistics
 - Assuming even spread of customers over LIRs
- Allocation size deduced from customer numbers and HD ratio

10% Broadband Penetration Usage Per Country

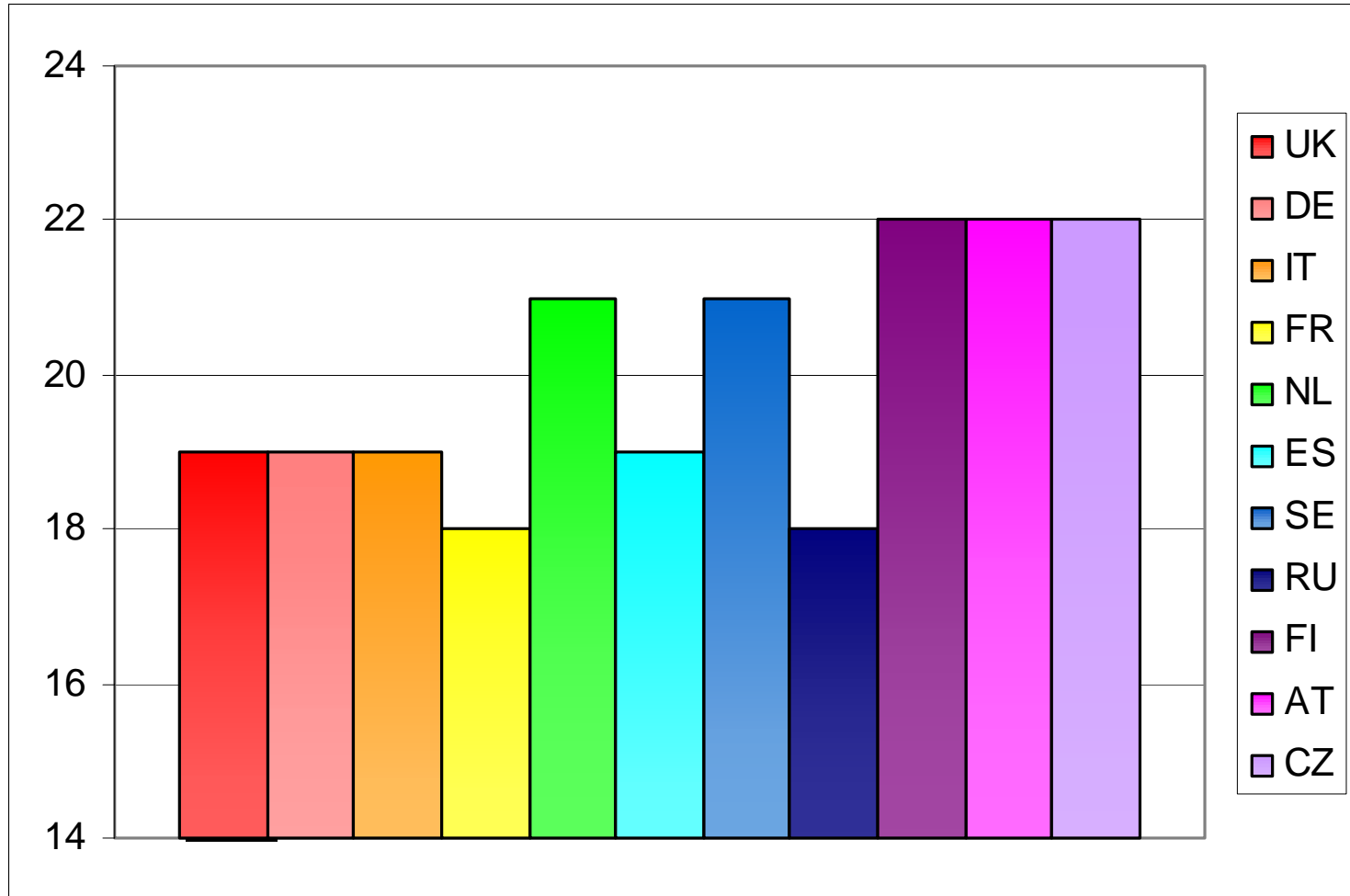


10% Broadband Penetration

Average Allocation Size

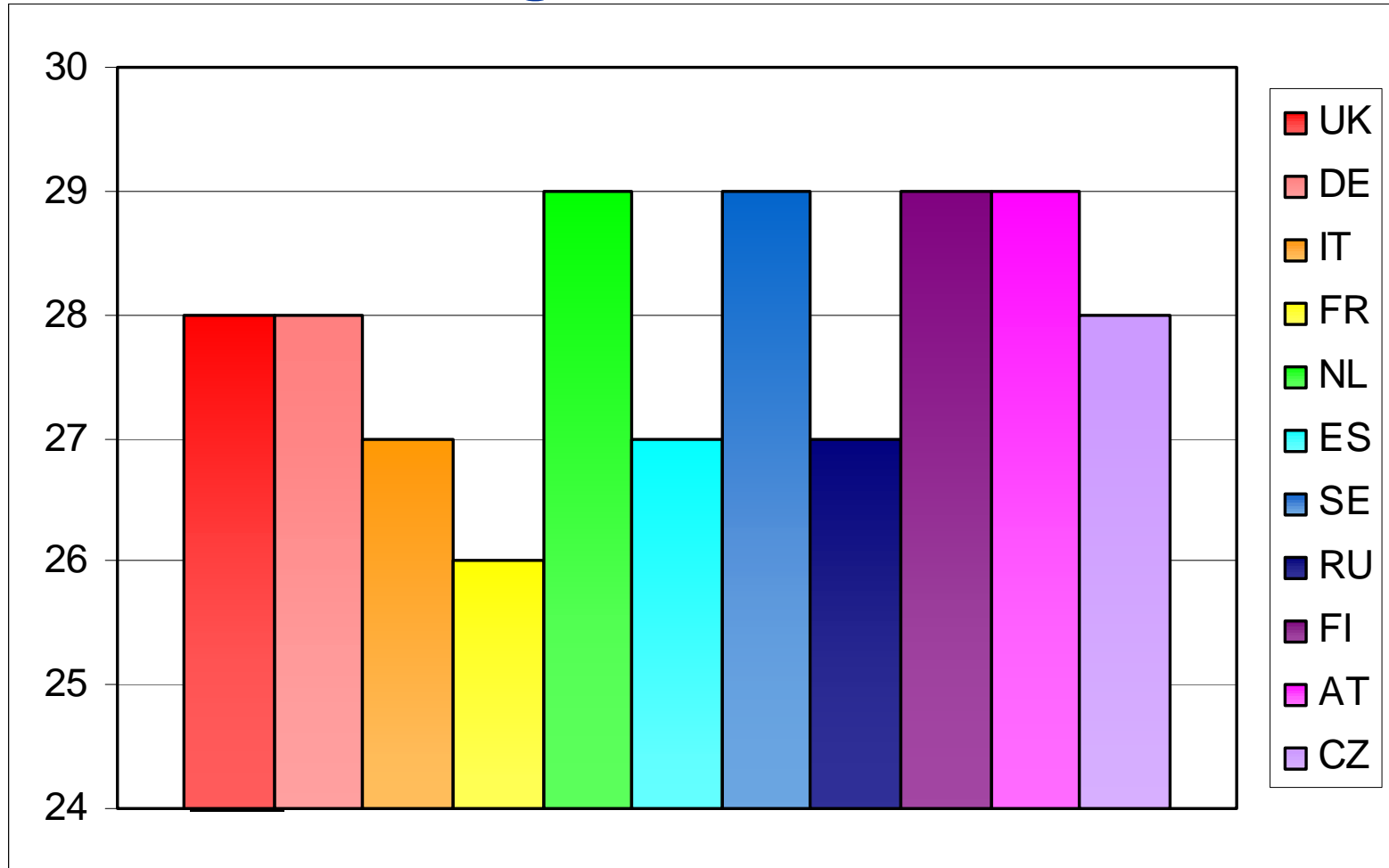


70% Broadband Penetration Usage Per Country

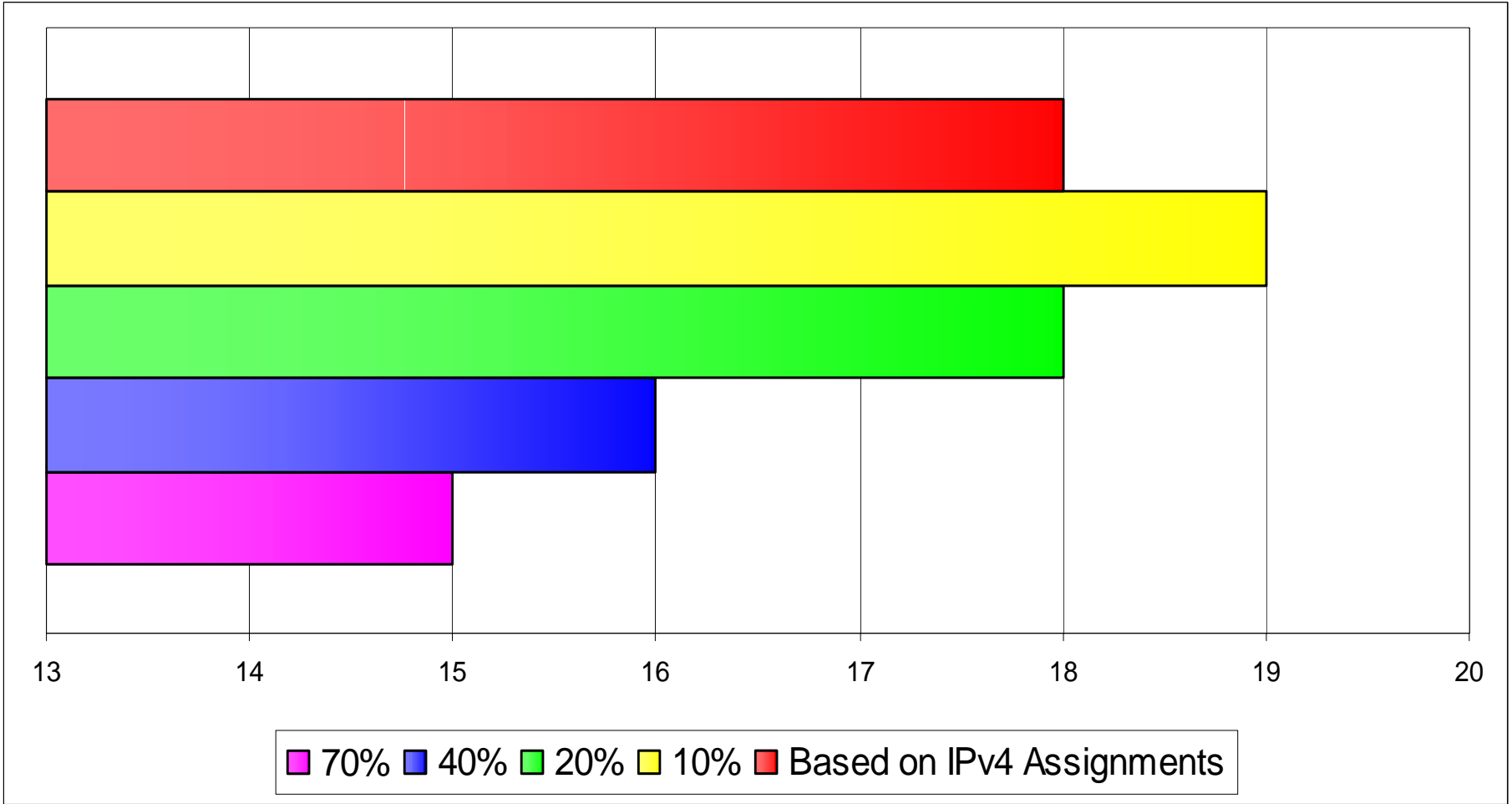


70% Broadband Penetration

Average Allocation Size



Total Address Space Used



Findings

- Total usage between /19 and /15
 - In 11 countries
 - Only broadband
- LIR allocation size from /33 to /26
 - Based on even spread of customers!

Questions!

- How many years should RIRs allocate for?
- How many years should RIRs have space for?
- How much growth in LIRs' allocations should be allowed for?

Thank You!

