RIPE NCC Update

Changes, Challenges and Highlights
Who We Are

• We are one of five Regional Internet Registries (RIRs)
  - We distribute and maintain the registry of IP address space for Europe, the Middle East and parts of Central Asia
  - Our members are ISPs and other organisations running their own networks

• We also provide a number of technical services and tools, including K-root

• We are a source of technical expertise for a range of stakeholders
Our Mission

• Support development of local technical communities
• Understand challenges faced by members across our service region
• Understand public sector concerns and provide relevant information
• Represent members and community in Internet governance and policy arenas
• Spread know-how, share best practices and tools
Our Place in the Ecosystem

- Members
- Banking & Finance
- Governments
- Mobile Sector
- Regulators
- Technical Community
- Academia
- OECD
- Law Enforcement
- ITU
- Other RIRs
- Enterprise
Where We Went in 2018

Includes RIPE Meetings, Regional Meetings, Member Lunches, Training Courses, Roundtable Meetings, Hackathons and other RIPE NCC events
Key Events in 2018

- Two RIPE Meetings, largest ever (Marseille in May and Amsterdam in October)
- ITU Plenipotentiary in Dubai in November
- Internet Governance Forum in Paris in November
- Meeting with Europol’s European Cybercrime Centre (EC3) in The Hague in September
- Roundtable Meetings in Brussels and Saudi Arabia
Membership
Where Our Members Are Located
Where Our Members Are Located
Membership Growth

- **Members**
- **LIRs**

Bar chart showing membership growth from 2012 to 2019:
- 2012: 7500
- 2013: 8000
- 2014: 8500
- 2015: 9000
- 2016: 9500
- 2017: 10000
- 2018: 10500
- 2019: 11000
IPv4
IPv4 Run-out

- Four of five RIRs have little (or no) IPv4 left to distribute
- New LIRs can still receive a small amount
- Policy is defined by the technical community
IPv4 Run-out Effects

- Increasing number of LIRs
  - Members opening multiple LIRs

- More mergers and acquisitions > more complexity

- More problematic cases
  - Increased number of fraudulent cases - especially from offshore tax havens
  - Increased hijacking attempts and lengthy disputes

- Thriving IPv4 transfer market
Problematic Cases

![Bar chart showing the increase in problematic cases from 2015 to 2018. The chart has a y-axis representing the number of cases ranging from 0 to 250 and an x-axis representing the years 2015 to 2018. The number of cases increases from 2015 to 2018.]
Member Closures

- Generally fewer than five closures per year
- Number increased dramatically in 2018
  - We closed 203 LIRs belonging to 40 members
Protecting the RIPE Database

• What we’re doing:
  - Continually increasing due diligence procedures

• What you can do:
  - Help us by flagging errors, inconsistencies
  - Keep information sources like Chamber of Commerce records accurate
IPv4 Transfers
IPv6
Still Waiting for the Tipping Point…

• Many of our members aren’t rushing to deploy IPv6
  - Seen as expensive
  - No customer demand
  - Technical workarounds

• We support IPv6 deployment
  - Technical training courses
  - IPv6 for governments program
  - Extensive deployment guide and resources
LIRs with IPv6
Networks Announcing IPv6
Users Accessing Google Over IPv6

IPv6 Globally

Source: https://stats.labs.apnic.net/ipv6
Belgium

Belgacom/Proxymus 58%
Telenet 73%
Brutele 80%
Mobistar (ex KPN) 0%
Base (Telenet) 0%

Source: https://stats.labs.apnic.net/ipv6
Germany

DE
Capable: 40.12%

Source: https://stats.labs.apnic.net/ipv6

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<th>Company</th>
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<tbody>
<tr>
<td>DTAG</td>
<td>63%</td>
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<tr>
<td>Vodafone</td>
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<tr>
<td>Kabeldeustchland</td>
<td>66%</td>
</tr>
<tr>
<td>UPC/LGI</td>
<td>65%</td>
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<tr>
<td>1&amp;1</td>
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Greece

| Source: https://stats.labs.apnic.net/ipv6 |

- OTE: 55%
- Vodafone/Panafon: 10%
- Forthnet: 52%
- WIND: 0%
UK and Finland

Sky Broadband 83%
BT 42%
NTL 0%
Orange 41%
O2 Online 0%
Talk Talk 0%
Hutchison 3G 0%
Vodafone 0%

FI
Capable: 28.55%

GB
Capable: 28.29%

Source: https://stats.labs.apnic.net/ipv6

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<tr>
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Policy
Implemented in 2018

- **NWI-5 Out of Region Objects**
  - Changes the way out-of-region objects are managed in the RIPE Database
  - Solves issues related to prefix hijacking

- **Abuse-c Validation**
  - Annual validation of abuse-c email addresses in the RIPE Database (currently more than 70,000)
  - First policy proposal made by Europol
Looking Ahead
Top Issues in 2019

• Catering for an expected 4,000 new LIR accounts!

• Ensuring registry accuracy

• Managing changing circumstances
  - Hitting zero IPv4 to allocate

• Launching new activities:
  - Abuse-c validation
  - RIPE NCC Academy credentialing
Questions

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