RIPE NCC Update

Changes, Challenges & Highlights
A little background…
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
  - RIPE community develops policy relating to Internet address space (open)

• 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
Other Things We Do

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

- Members
- Regulators
- Law Enforcement
- Banking & Finance
- Technical Community
- ITU
- Governments
- Other RIRs
- Academia
- OECD
- Mobile Sector
- Enterprise
- Governments
Where Our Members Are Located
Membership Growth

Members

LIRs

Available IPv4 Pool

- Available IPv4 in Last /8
- Available IPv4 Outside Last /8
- Reserved IPv4

Timeline:
- Oct 16
- Jan 17
- Apr 17
- Jul 17
- Oct 17
- Jan 18
- Apr 18
- Jul 18
- Oct 18
- Jan 19
- Apr 19
- Jul 19
- Oct 19

IPv4 Pool:
- 16M
- 12M
- 8M
- 4M
- 0M
IPv4 Transfers

Number of transfers

Number of IPv4 addresses

[Suzanne Taylor | RIPE NCC Roundtable Meeting | 27 January 2020]
LIRs with IPv6
Networks Announcing IPv6

[Graph showing the percentage of ASes announcing IPv6 from Jan 2004 to Jan 2020, with a noticeable increase from Jan 2012 onwards.]
Users Accessing Google Over IPv6

IPv6 Deployment

Belgium: 62% (+6%)
Germany: 48% (+8%)
Greece: 48% (+13%)

Source: https://stats.labs.apnic.net/ipv6
Supporting IPv6

• Still haven’t reached the IPv6 tipping point
• We do everything we can to support IPv6 deployment:
  - Work directly with governments on national strategies
  - Contribute technical expertise to consultations
  - In-person and online training courses
  - Detailed deployment guide and resources
2019 in Review
In 2019, we...

- Processed 6,090 new LIRs accounts
- Made 5,150 /22 IPv4 allocations and 2,116 IPv6 allocations
- Hosted ~2,000 attendees at events we organised
- Held 84 training courses for 1,715 participants in 39 locations
- Provided €237,500 in funding for community projects
RIPE NCC Survey 2019

- Largest survey to date: 4,161 responses
- Translated into eight languages for first time
  - 48% responded in language other than English
- 92% rated RIPE NCC services as good or excellent
- 87% positive ratings of registration services (up from 2016)
- Calls for more accurate data in RIPE Database
- Calls for more RIPE NCC training courses in local languages
- Calls for RIPE NCC to reclaim unused IPv4 address space
Survey: Industry Insights

• Network security biggest challenge for technical community

• 53% need more IPv4 in the next 2-3 years
  - 61% plan to buy on the secondary market
  - 41% plan to use NAT

• 22% have fully deployed IPv6 (21% in 2016)
  - 50% have started; 25% have no plans

• 27% believe regulatory changes will impact them or the RIPE NCC in coming years
  - Key concerns: censorship, national autonomy, high compliance costs
Our Events in 2019
Key Events in 2019

• Roundtable Meetings
  - Brussels - January
  - Kazakhstan - September
  - Dubai - September

• RIPE Meetings
  - Reykjavik - May (742 attendees)
  - Rotterdam - October (736 attendees)
  - Articles on RIPE Labs:
    https://labs.ripe.net/Members/hans_petter_holen/ripe-78-the-big-picture
    https://labs.ripe.net/Members/hans_petter_holen/reporting-back-from-ripe-79
Key Events in 2019

• EuroDIG
  - The Hague - June

• Europol-INTERPOL Cybercrime Conference
  - The Hague - October

• Internet Governance Forum
  - Berlin - November
Key Developments

- IPv4 run-out in November
  - Long-anticipated development
  - Increase in LIR applications
  - Waiting list now in effect for recovered /24 (256 addresses)
  - We will continue to redistribute these small amounts for the foreseeable future
What Run-out Means for the Community

• Extending lifespan of IPv4 - possibly slowing IPv6 adoption
• New actors in RIPE Policy Development Process, and RIPE community generally
• Greater attention and involvement from governments and regulators who view IPv4 as an economic issue
What Run-out Means for the RIPE NCC

- Secondary market reinforces the importance of the registry
- Impacts the dynamic between the RIPE NCC and our members
- Speculators, hoarders and hijackers with greater incentive to abuse the system
- Need to maintain balance between due diligence and not being overly bureaucratic
- Having fewer members could challenge our business model
Interesting IPv4 Facts

- Total IPv4 addresses distributed by the RIPE NCC: 649,925,248
- Total IPv4 blocks transferred: ~13,500
- Biggest IPv4 allocation ever: 90.0.0.0/9 to Orange S.A. in 2006
- The first transfer took place in October 2012
Key Developments

• Changes in RIPE NCC leadership
  - Departures of Axel Pawlik (Managing Director), Paul Rendek (External Relations), Serge Radovcic (Communications) and Dick Leaning (Competent Authorities)
  - Management team in place during transition
  - Expecting new Managing Director in coming months
  - Our commitments to our members and all our stakeholders, across our service region, remain the same
Key Developments

- Abuse-c validation process
  - Policy proposal accepted in June 2018 (co-authored by Europol and Orange)
  - RIPE NCC asked to check abuse contacts in RIPE Database
  - Automated verification tool followed by manual intervention where needed
Key Developments

• Our work with competent authorities
  - Signed MoU in March with UK’s National Crime Agency
  - Met with DG Home and Europol in May to discuss RIPE Database and RIPE Policy Development Process
  - New Public Safety Coordination Group (PSCG) under the NRO to coordinate RIR outreach and cooperation with public safety community
  - Delivered a number of bespoke trainings as well as workshops at ICANN and other RIR meetings
Looking Ahead
The coming year

• Strategic focus: deliver world-class services and help to maintain the resiliency and stability of the Internet
  - Maintain and improve registry
  - Better understand the needs of our members
  - Effective member outreach and external engagement
  - Modernise our technical infrastructure
  - Increase agility to handle emerging challenges
  - Increase accountability and due diligence

https://www.ripe.net/gm/oct-2019/supporting-documents
The coming year

- **RIPE NCC Certified Professionals**
  - Online learning platform
  - Members earn digital badges
  - Proctored exams
  - Extensive job task analysis and stakeholder consultations to align certifications with industry needs

- **RPKI is a priority to improve routing security**

- **Projected 1,500 fewer member accounts**
Major Events in 2020

• EuroDIG
  - Trieste, Italy - June

• Internet Governance Forum
  - Katowice, Poland - November
Major Events in 2020

• **ITU World Telecommunication Standardization Assembly (WTSA)**
  - Hyderabad, India - November
  - Sets the direction for the Standardization Sector (ITU-T) every four years

• **Planning for ITU World Telecommunication Policy Forum (WTPF) in 2021**
  - RIPE NCC participating on informal experts group
Questions

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