

RIPE NCC Response to BEREC Public Consultation on Draft Net-Neutrality Regulatory Assessment Methodology

The RIPE NCC appreciates the opportunity to comment on the draft Net-Neutrality Regulatory Assessment Methodology via this public consultation.

We are happy to see that the guidelines (paragraph 3.1.4) recommend the use of IPv6. However, given that the IPv6 transition is already taking place in many European markets, we would recommend stronger language here. The current text “should be possible to” implies that support for IPv6 is a desirable but optional functionality.

In this context we would like to note that several national governments in the European Union have committed themselves to making IPv6 support mandatory for all government-led ICT projects and procurements, such as the Netherlands, Czech Republic and Slovakia.

We would also like to draw your attention to industry developments around the provisioning of “IPv6-only” Internet access products as an alternative to the recommended simultaneous use of IPv4 and IPv6 in a so-called “dual stack” configuration.

This technology is becoming increasingly popular in wireless networks where a dual stack setup is technically complex, or in situations where the Internet access service (IAS) does not have enough globally unique or network unique (RFC 1918) IPv4 addresses to provision its entire customer base.

In these scenarios an IAS can choose to provision a customer with IPv6-only, together with a specialised translation service (NAT64 or 464-XLAT) that allows the customer to access IPv4-based services and resources using the IPv6 protocol to connect to this translating device sitting inside the IAS network.

We recommend adding some additional requirements to the proposed measurement that describe this particular network configuration and the possible effect it could have on the measured results.

Measurement clients should recognise the existence of IPv6-only networks and act accordingly. Most importantly, they should not report that an IPv4 connection is being blocked when the client is unable to obtain an IPv4 address from the local network but IPv6 is available.

Ideally, implementations that are aware of the IPv4 and IPv6 status of the client should report throughput and other measurements on a per protocol basis. Such a feature could not only allow the assessing National Regulatory Authority to monitor the deployment of IPv6, but could also highlight the negative effects that address sharing (such as Carrier Grade NAT) or the aforementioned NAT64 translation service are expected to introduce on an IAS.

Finally, we would again like to recommend that implementers avoid the use of IP address literals – not only to determine the presence of IPv6-only but also for any

other scenarios. Rather, they should make use of unique DNS labels and hostnames that point to either protocol or a particular measurement target.

The RIPE NCC and RIPE community can provide further details and background on the technologies described above and we are happy to assist BEREC and its stakeholders to further develop the recommendations as outlined above.

About the RIPE NCC

The RIPE NCC is the Regional Internet Registry (RIR) for Europe, the Middle East and parts of Central Asia. We allocate and assign Internet number resources to networks in our service region.

We're a not-for-profit organisation that works to support the RIPE (Réseaux IP Européens) community and the wider Internet community. The RIPE NCC membership consists of over 16,000 Internet service providers, academic networks, telecommunication organisations, enterprise networks and other organisations.

We also maintain several technical elements vital to the Internet infrastructure on behalf of the wider Internet community, including the RIPE Database and K-root, one of 13 root name servers.