

RIPE NCC Member and Stakeholder Survey 2011
October 24, 2011

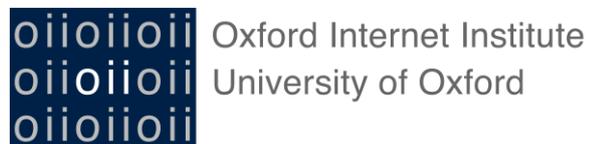




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A. Executive Summary

Background

The RIPE NCC is an independent, not-for-profit membership organisation that supports the infrastructure of the Internet through technical coordination in its service region and through collaboration globally with the other Regional Internet Registries. The most prominent activity of the RIPE NCC is to act as the Regional Internet Registry (RIR) providing global Internet resources and related services (IPv4, IPv6 and AS Number resources) to members in the RIPE NCC service region. The RIPE NCC also provides services for the benefit of the Internet community at large.

The membership consists mainly of Internet Service Providers (ISPs), telecommunication organisations and large corporations located in Europe, the Middle East and parts of Central Asia. In 2011, the RIPE NCC had approximately 7,250 members.

RIPE (Réseaux IP Européens) was formed in 1989 and is a collaborative forum open to all parties interested in wide area IP networks in Europe and beyond. The objective of RIPE is to ensure the administrative and technical coordination necessary to enable the operation of the Internet within the RIPE NCC service region.

Although similar in name, the RIPE NCC and RIPE are different entities. The RIPE NCC provides administrative support to RIPE, such as the facilitation of RIPE Meetings, and provides support to RIPE Working Groups.

The 2011 Survey

The RIPE NCC Membership and Stakeholder Survey 2011 is the fifth of its kind that the RIPE NCC has commissioned since 2002, and it is the first to ask the opinions of both RIPE NCC members and non-members. The survey asked members and stakeholders to rate and comment on the current RIPE NCC service offering, proposed services and activities, and the direction the organisation should take in the coming years.

To ensure the anonymity of respondents and the neutral analysis of results, the RIPE NCC commissioned an independent organisation with experience in the Internet industry and with conducting industry analyses, the Oxford Internet Institute (OII), to conduct the 2011 survey on its behalf. The OII analysis team was led by Visiting Research Associate Desiree Miloshevic together with Research Assistants Scott Hale and Ginette Law.

The RIPE NCC Senior Management and Executive Board tasked the OII with:

- Getting feedback from RIPE NCC members and stakeholders on the performance of the RIPE NCC
- Soliciting the opinion of members and stakeholders on the direction the RIPE NCC should take in the coming years
- Identifying the key areas in which the RIPE NCC should concentrate its efforts
- Examining the requirements of members and stakeholders in the different geographical areas of the RIPE NCC service region
- Attracting as many responses as possible

The survey was formulated with the assistance of experienced, neutral, external consultants who travelled to cities in the RIPE NCC service region to consult with RIPE NCC members and other stakeholders to find out the issues that concerned them and to get their opinions on the issues that should be raised in the survey.

RIPE NCC members from all categories, from Extra Small to Extra Large, were consulted, as well as representatives from government, regulatory bodies and other Internet stakeholders in the RIPE NCC service region. Participants in the focus groups received a list of subject areas for discussion prior to the meetings so that they could prepare for the focus group sessions.

The seven cities that hosted a focus group meeting were chosen to represent a diverse range of areas and interests in the RIPE NCC service region:

- Dubai
- Frankfurt
- London
- Moscow
- Prague
- Milan
- Stockholm

RIPE NCC members and other stakeholders who attended the focus groups informed the consultants of the issues that concerned them most. The survey questionnaire was formulated using this feedback as a basis. The following 12 sections comprised the survey:

The survey questions were divided into twelve sections:

1. General RIPE NCC services
2. Resource Distribution
3. Billing and Administration Services
4. Multistakeholder Interaction
5. RIPE NCC Information Services and RIPE Labs
6. Policy Development
7. Communications
8. RIPE Database and DNS Services
9. IPv4 Address Space Administration
10. IPv6 Deployment
11. Training and Education
12. Internet Governance and External Relations

The survey was launched on 8 May 2011 and closed on 22 June 2011. The third-party SurveyMonkey tool was used to collect responses. In some cases, members and stakeholders were asked to rate services that were in development rather than full service offerings at that time. Most questions asked respondents to rate statements on a scale from “Strongly disagree” to “Strongly agree”. They also had the opportunity to leave comments in each section. The Appendices to the survey report contain the comments made by respondents.

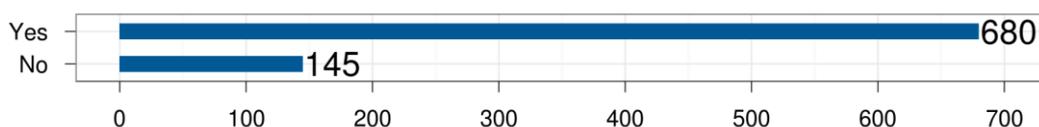
It should also be noted that qualitative data and comments collective through this online survey may at times be biased or not fully represent the RIPE NCC’s membership and community. Open-ended questions were not compulsory to answer. Data was only collected in English. Many people who participated in the survey may not have sufficient English skills or knowledge about their organisation to feel inclined to leave comments. Nonetheless, the data collected for this study (both quantitative and qualitative) provide rich information that should help the RIPE NCC meet its objectives.

The survey received a total of 1,266 responses, although 441 of these responses answered only the first question and so were discarded from the analysis. The remaining figure of 825 is the most responses a RIPE NCC survey has received to date. All questions were optional; so the response rate for a single question may be less than 825.

Valid responses to survey

RIPE NCC member = Yes

Non-RIPE NCC member = No



Key Findings

There was a strong vote of confidence in the performance of the RIPE NCC, especially in its core business. Respondents scored the RIPE NCC's performance in resource registration an average 6.44 out of 7, and their overall satisfaction with the RIPE NCC an average 5.96. These are very strong results, especially since there were very few low score responses to these questions.

Questions relating to the RIPE Database, Reverse DNS, the Routing Information Service (RIS) and Billing and Administration also scored highly. There was also strong support for the RIPE NCC's operational model.

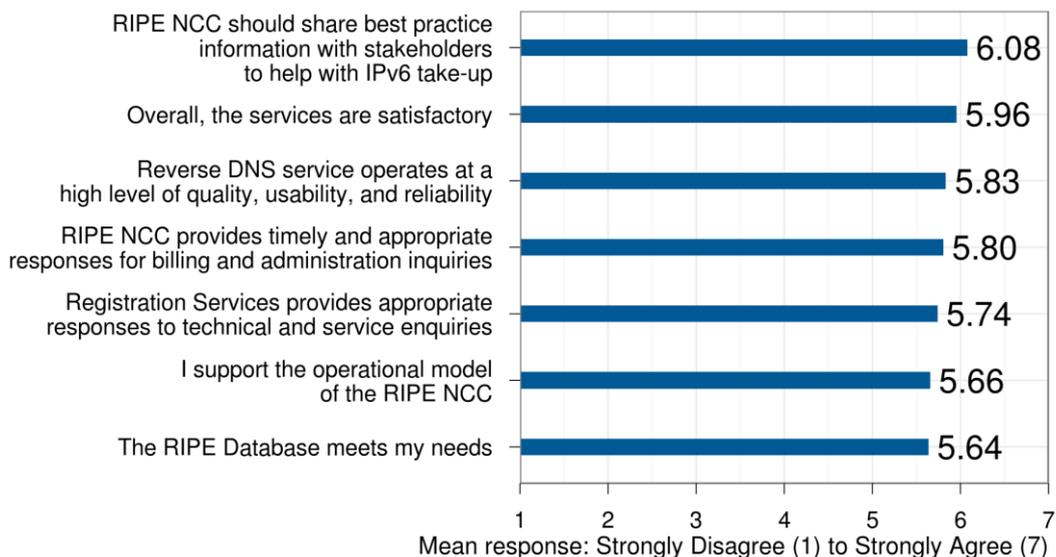
A common thread that emerged through the survey was that the RIPE NCC should find ways to involve RIPE NCC members and other stakeholders who currently do not participate in RIPE community discussions or activities, whether through lack of interest, awareness or knowledge.

A more detailed look at the key findings from the survey is available in Section B – Survey Results.

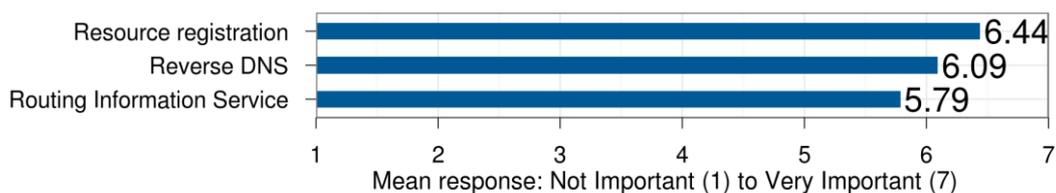
Ratings

Rating questions were on the scale 1-7, with 7 being strongly agree or very important and 1 being strongly disagree or not important.

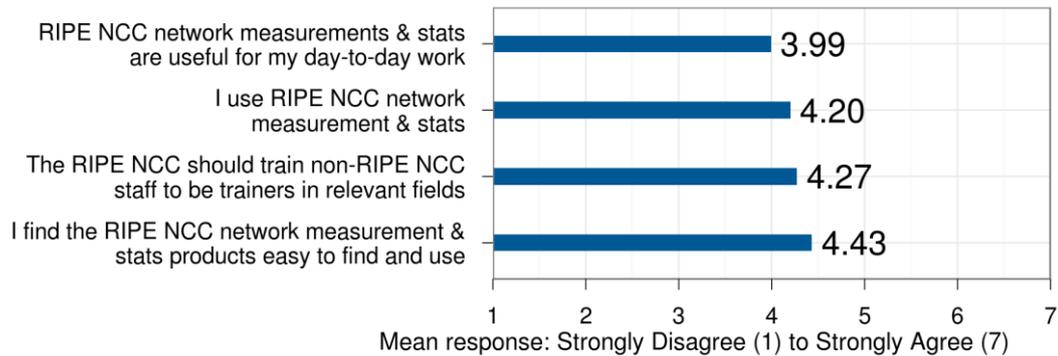
Highest ratings – Support



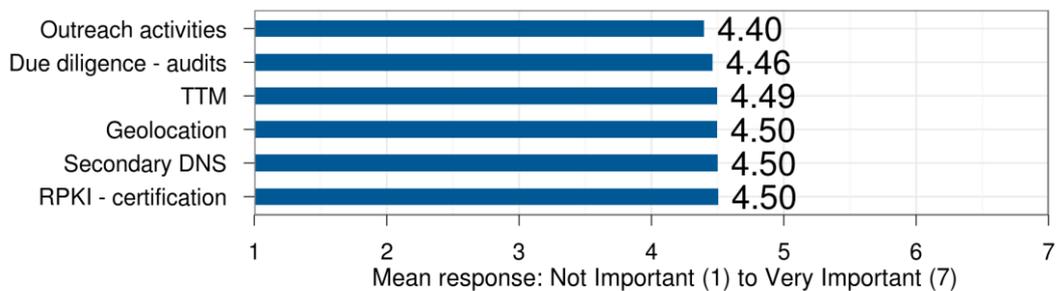
Highest ratings – Importance



Lowest ratings – Support



Lowest ratings – Importance



Action areas

The lower rated areas received ratings in the region 4 to 5. The rating scale used was 1 to 7, so even these lower rated areas attracted strong support from a large section of the membership and stakeholders. However, improvement in the following areas and, in many cases, stepping up efforts to promote them, were requested:

- Network measurements and statistics
- Outreach activities
- RPKI – Certification
- Geolocation
- TTM
- Secondary DNS

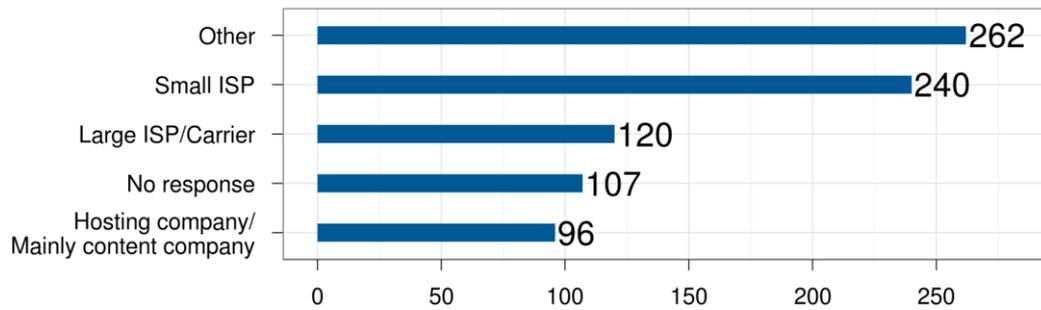
In particular, the scores for network measurements and statistics are relatively low but still positive; and the RIS measurements score among the top 10. This, and other results from the survey, confirm that tools need to be easier to find, use and correlate with each other.

Open questions

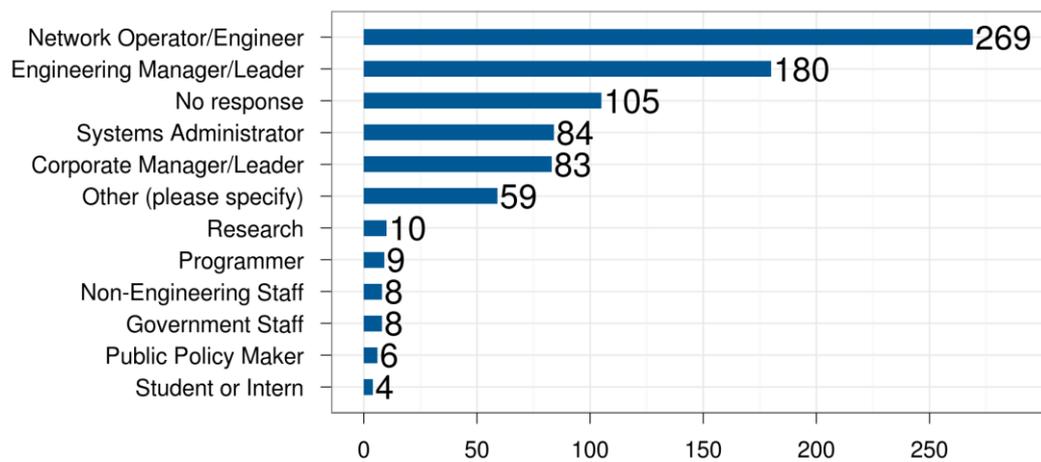
All individual comments are anonymised and provided in Appendix 2. The text in Appendix 2 is the text respondents provided exactly as entered into the survey system and has not been modified.

Respondent Profile (general respondent information)

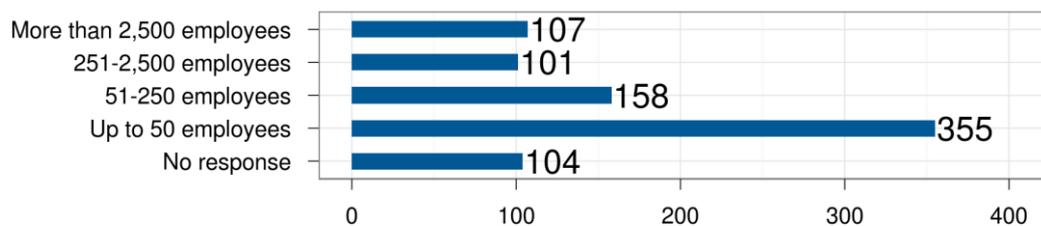
Type of Organisation



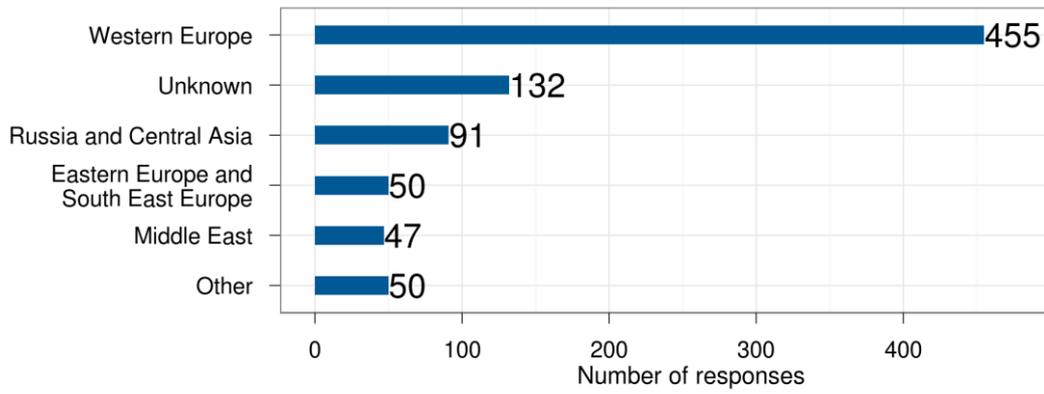
Postion/Title



Size of Company



Responses by Region



B. Survey Results

Overview

The survey questions were divided into twelve sections:

1. General RIPE NCC services
2. Resource Distribution
3. Billing and Administration Services
4. Multistakeholder Interaction
5. RIPE NCC Information Services and RIPE Labs
6. Policy Development
7. Communications
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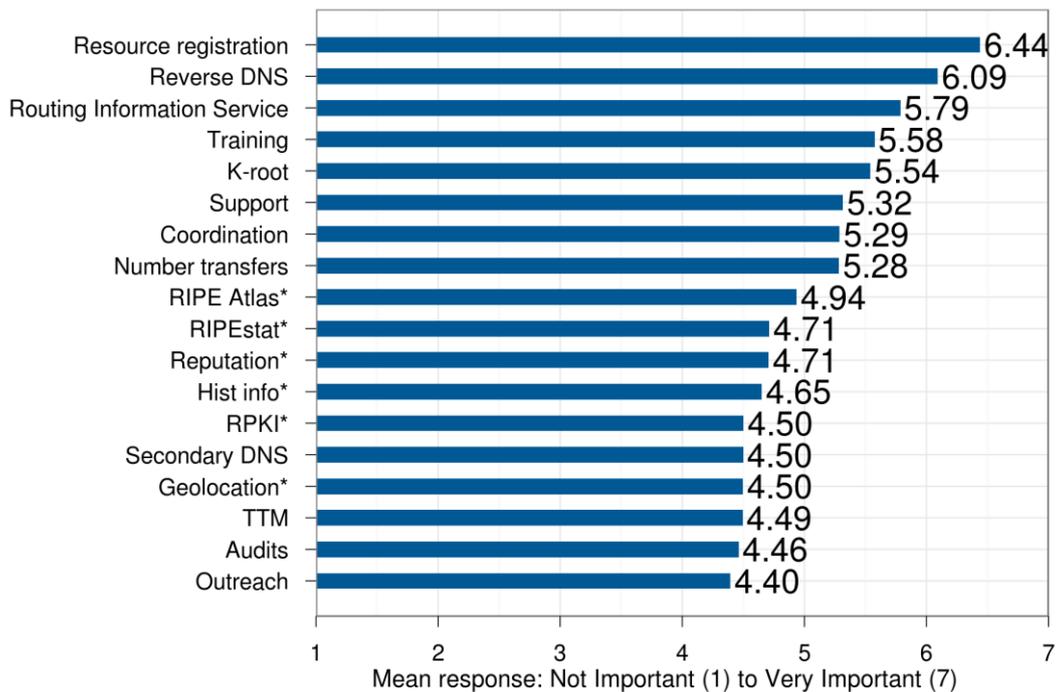
Sections 1, 2 and 3 were intended for RIPE NCC members only. Section 4 on Multi-stakeholder interaction was intended for only non-RIPE NCC members. All respondents were invited to answer all other sections of the survey.

Note: All rating questions in the survey asked respondents to rate on the scale 1-7, with 1 being Strongly Disagree/Not Important and 7 being Strongly Agree/Very Important.

1. RIPE NCC General Services

RIPE NCC members were first asked some general questions regarding their satisfaction with RIPE NCC services. Overall, member respondents seemed generally satisfied with the services provided by the RIPE NCC. The mean score over all services was 5.96.

RIPE NCC Services - Importance



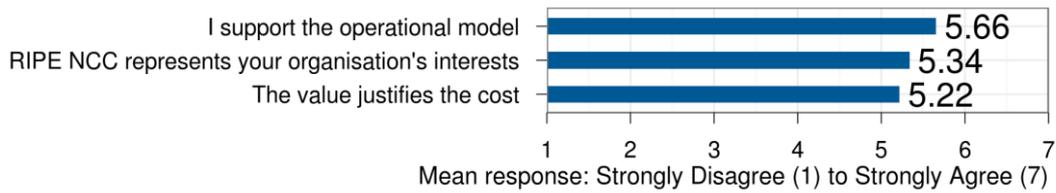
* Proposed service or service in development

In general, all 17 services mentioned were rated as relatively important (5.09). Members who responded to the questions indicated that resource registration (including the RIPE Database) and reverse DNS were most important for them (6.44 and 6.09, respectively). Routing Information Service (RIS) (5.79), Training Services (5.58) and K-root operations (5.54) also received relatively high mean scores.

Outreach activities (4.40), Audits (4.46) and TTM (4.49) received the lowest mean scores from member respondents. RPKI certification, Geolocation and Secondary DNS also received relatively low mean scores (4.50). Some of the services members accorded low scores are proposed services or services in development. They were, in many cases, unaware that the RIPE NCC offered these services, or they accorded low importance to services they did not use or did not have time to research (e.g., K-root, outreach activities, TTM, RIPEstat).

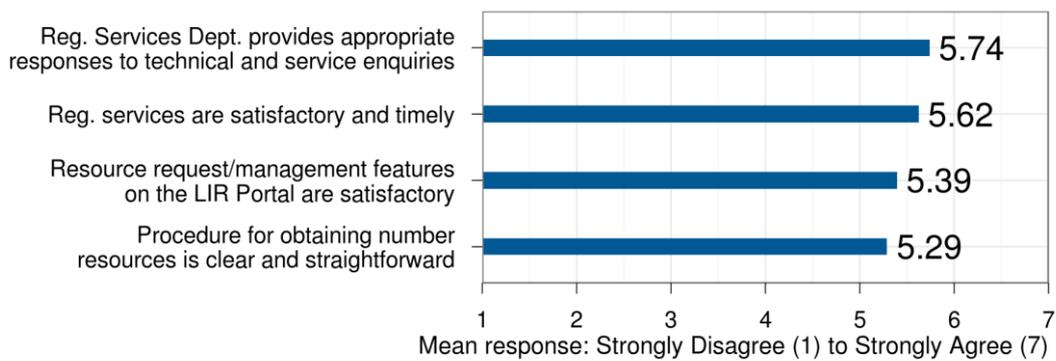
There was strong support in the survey for the operational model of the RIPE NCC. Members also largely felt that the RIPE NCC represented their interests and that the cost of membership was reflected in the value they received.

RIPE NCC - General



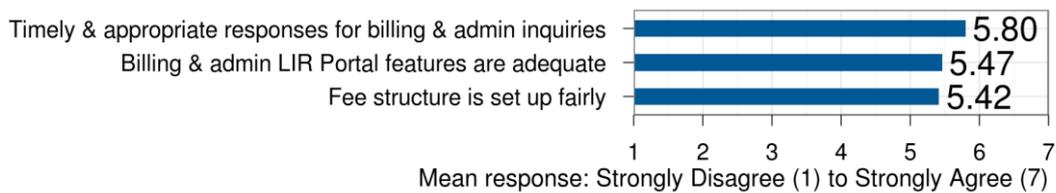
2. Resource Distribution

Only member respondents were asked questions regarding resource distribution. They generally seemed to think that RIPE NCC services related to resource distribution were satisfactory.

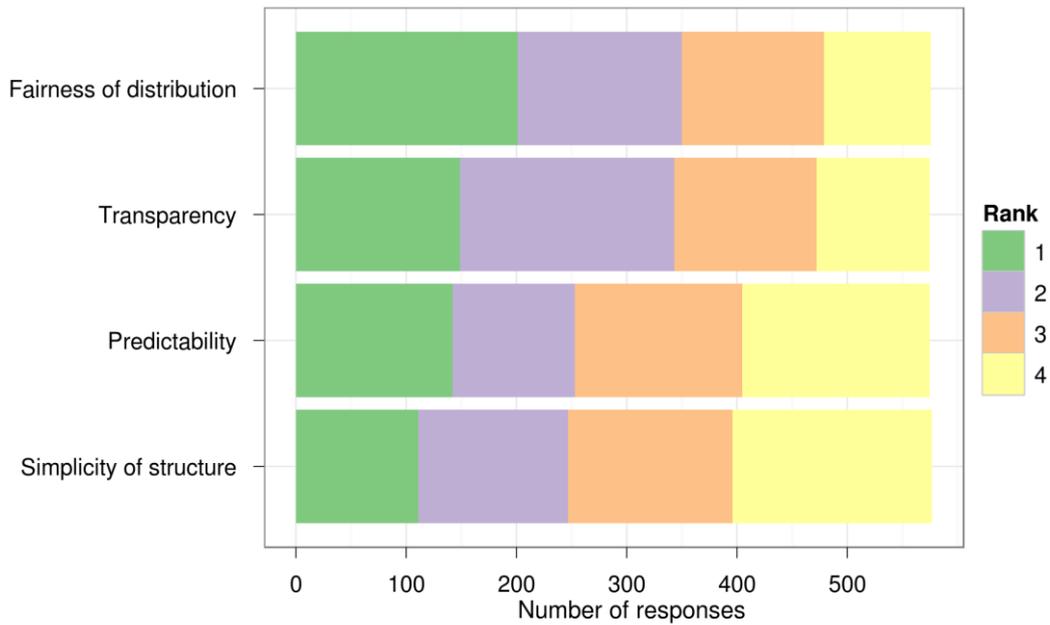


3. Billing and Administration Services

In general, members who responded seemed satisfied with the billing and administration services offered by the RIPE NCC. More than 78 percent of member respondents gave a score of 5 or higher to the following scaled questions related to billing and administration services:

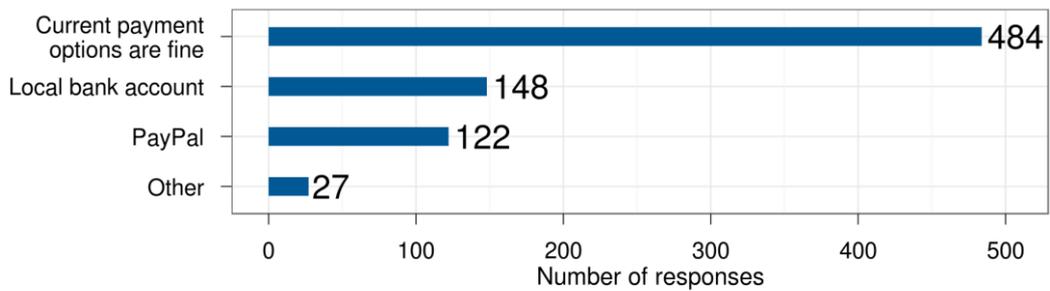


Rate the qualities you would like to see in the RIPE NCC fee structure



The RIPE NCC currently offers two different methods of payments: bank transfers and Triple Deal. Member respondents were asked if there were other payment options they would like to see provided. They were allowed to choose as many answers as they thought appropriate.

Alternative payment options



Frequent comments regarding the RIPE NCC's billing, payment and administration services were:

- Current fee structure does not suit the needs of all members: fees seem disproportionate for smaller and medium size providers in comparison to larger companies who have more resources
- Payment delay is not long enough for very large organisations
- Billing invoices are not received quickly enough by regular mail for some members and sometimes appear to have mistakes that need to be corrected
- An online calculator to show billing category based on resource assignments would be useful and would enable members to make billing predictions based on possible assignments
- More flexibility to change billing scheme (e.g., three months, six months or one year)
- Adjusting billing documents to local requirements would facilitate payments for members in countries with different banking rules and procedures

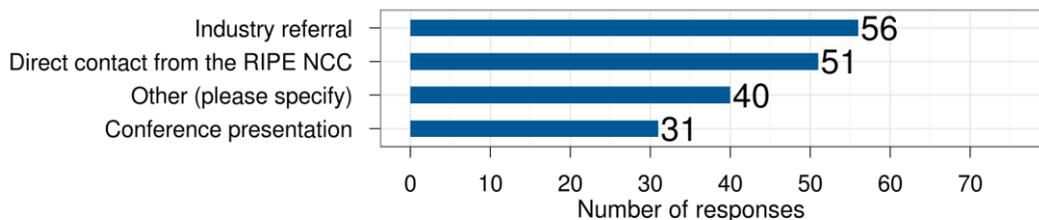
All comments on this section are available in Appendix 2.

4. Multi-stakeholder Interaction

The multi-stakeholder interaction section of the 2011 survey was reserved for non-RIPE NCC members only. Overall, non-member respondents seem to believe that the RIPE NCC'S work was relevant to them. Eighty percent of non-member respondents gave a rating of 5 or higher on the following scaled statement:

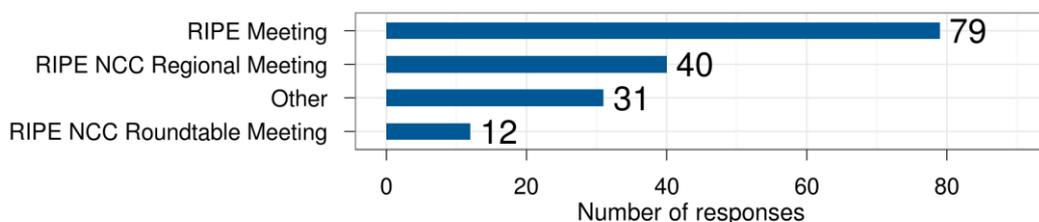
The work carried out by the RIPE NCC is relevant to my activities (5.61).

How did you become aware of RIPE NCC?

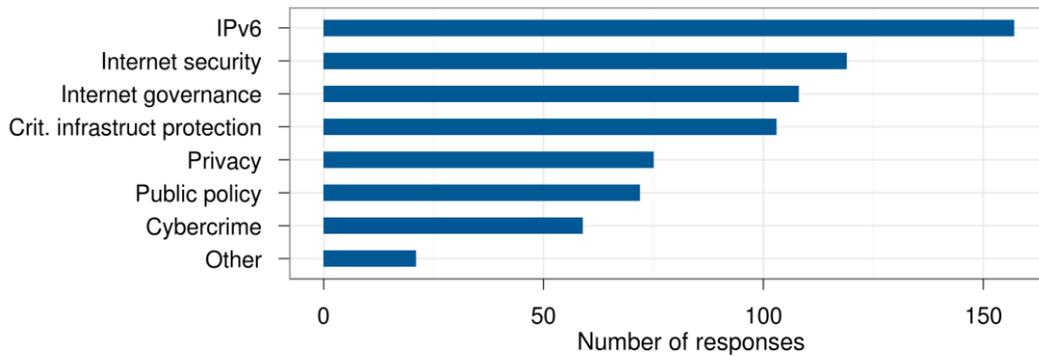


Respondents selecting "other" often specified interpersonal contact through an employee, a colleague, a friend or through another LIR. A few respondents indicated it was simply by searching for RIPE NCC.

Which RIPE NCC organized or sponsored events have you attended?



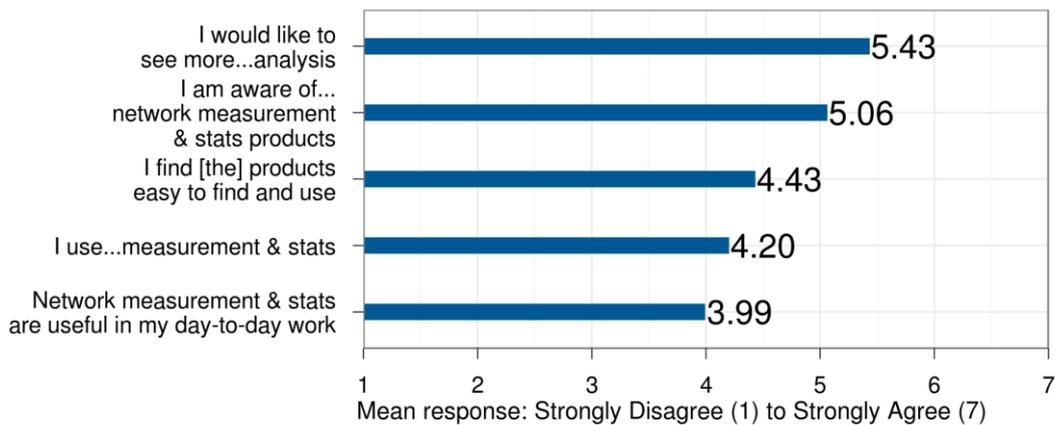
Areas of interest to non-member respondents



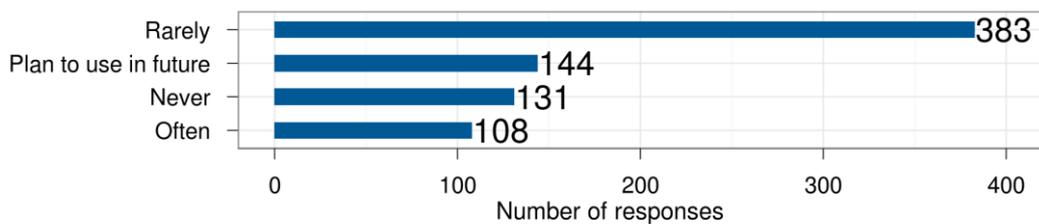
5. RIPE NCC Information Services and RIPE Labs

All members and non-member respondents were asked about RIPE NCC Information Services and their use of RIPE Labs.

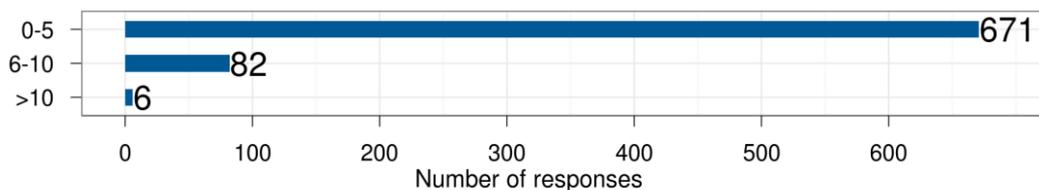
Information Services - General



How often do you use RIPE Labs?



How many times per month do you use RIPE Labs?



Non-member respondent comments regarding how to improve RIPE NCC measurements and statistics can broadly be summarised as follows:

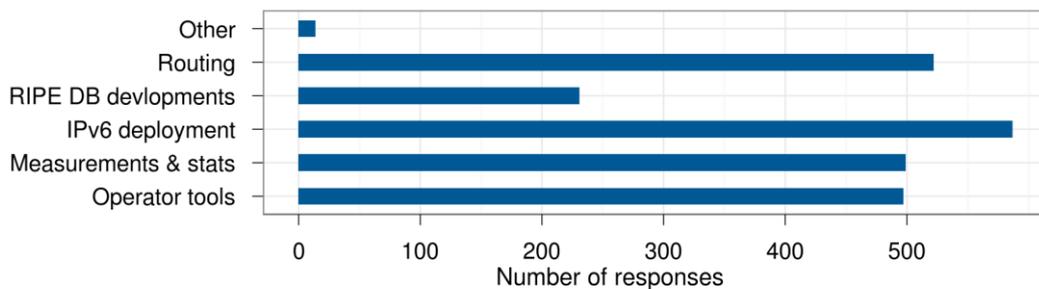
- RIPE Atlas is useful, but more awareness, visibility and accessibility to this service is needed
- Some non-members are still waiting for an Atlas probe
- More measurement points, data and probes are requested

Many member respondents shared their opinion with regards to how to improve RIPE NCC measurements and statistics. Similar comments often came up and can be summed up as:

- Consider including more measurements and statistics
- Several commented that they've never used this service
- User interface and tools can be improved
- Some pending requests for Atlas probes

In terms of subjects that respondents would like to see measurements and statistics on, there was very high interest shown for IPv6 deployment followed by Routing. Measurements and Statistics, and Operator Tools also seemed of great interest to respondents.

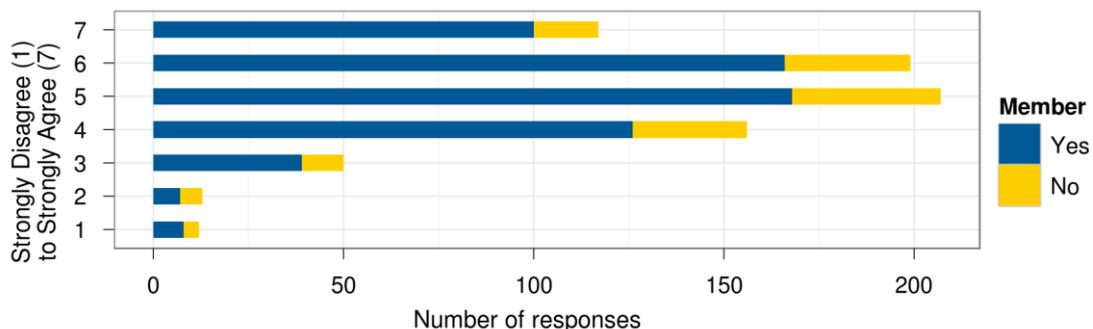
Subject areas on RIPE Labs of interest



6. Policy Development

All respondents were asked if they thought the RIPE Policy Development Process was an effective way of developing Internet number resource management policy. In general, respondents seem to agree with this. Fifty-four percent of respondents who answered this question gave a ranked score of 5 or higher.

Please rate: The RIPE Policy Development Process is an effective way of developing Internet number resource management policy

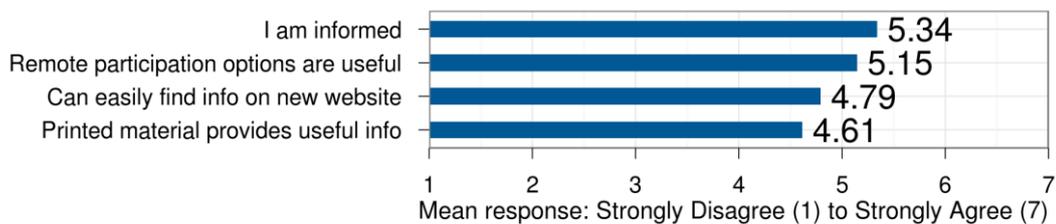


Some members commented on RIPE’s “slow” and “complex” procedure in developing policy. The principal reason given for this was the consensus-driven process that is currently implemented. Similar to non-member comments, some felt that this process needed to be more transparent and improved. Although certain members commented on the ineffectiveness of such a process, they acknowledged that they had no alternative solution and that the consensus-driven process was “fair” and “gave the best results”. A view was expressed that a lot of time in policy development was spent talking about aspects based on “feelings/intuition” rather than having discussions based on “evidence”.

7. Communications

Respondents generally tended to agree that they were adequately informed about the RIPE NCC’s activities and developments. Both members and non-members suggested communication channels on various platforms such as video conferencing, Twitter, YouTube, Skype or another type of IRC platform.

Communications - General



Members and non-members alike commented on reducing the amount of printed material produced by the RIPE NCC. Comments on this matter include “no need for printed material these days”, “if it’s important and relevant then have it on the website”, “paper is so 1997” and “remove posted [mailed] communications, pass the cost savings back to members”. Some suggested that material be published in PDF format and made available online.

8. RIPE Database and DNS Services

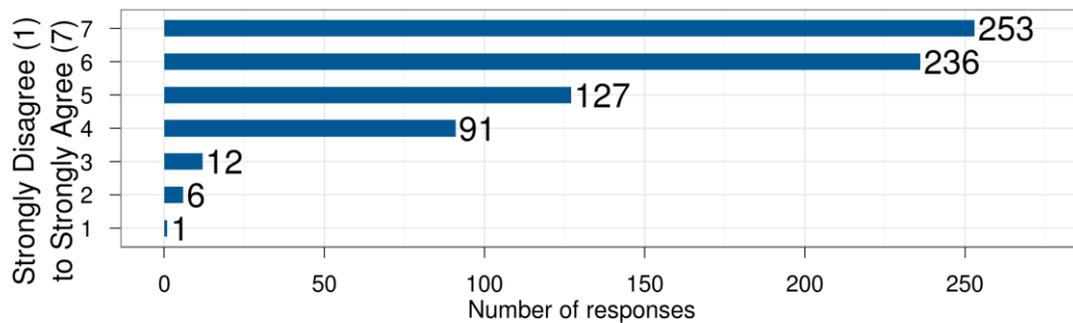
Respondents generally tended to think that the RIPE Database met their needs (5.64).

They were asked if there were any additional fields or further information on Internet number resources that they wished to see in the RIPE Database. Comments made by members and non-members were very similar and can be summarised as followed:

- The quality and usefulness of the data is very important
- Provide information on sponsoring LIRs
- Give geolocation and visual representations of data
- Have a more user-friendly interface

Respondents were also asked about reverse DNS services. Roughly 85% gave a ranking of 5 or higher regarding the quality, usability and reliability of reverse DNS services.

The RIPE NCC's reverse DNS service operates at a high level of quality, usability and reliability

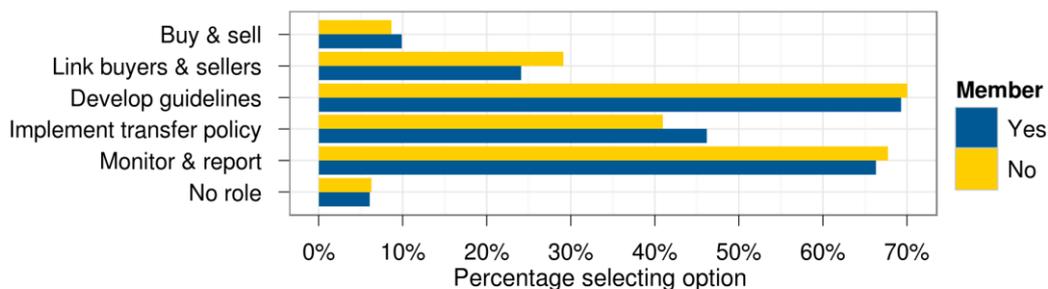


Although this is generally positive, some members said they had not used DNS or had not tried it yet. Several respondents, both members and non-members, stated that they sometimes ran into problems while using DNS services. Individual comments on these issues are available in Appendix 2.

9. IPv4 Address Space Administration

The RIPE NCC sought to understand what kind of role it should play in facilitating IPv4 address transfers. Respondents were asked to choose their preference from a list of roles.

Role the RIPE NCC should play in IPv4 address administration

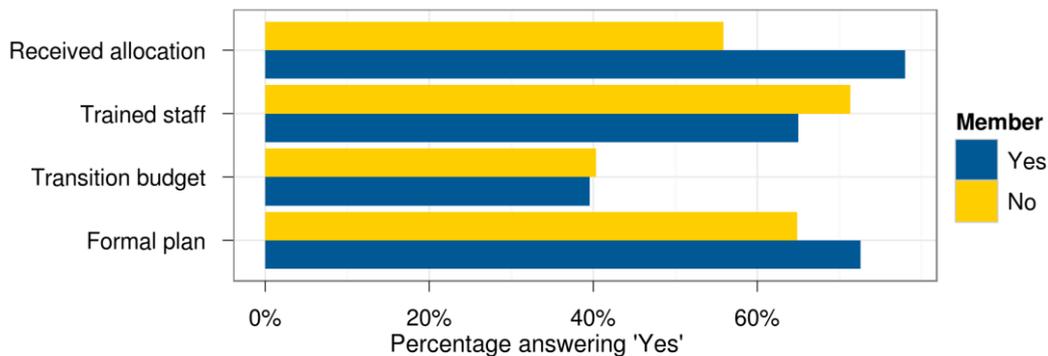


Respondents were also asked if the certification of Internet number resources was something they would consider using operationally. The mean score was 4.79. Individual comments on this, and other matters related to IPv4, are available in Appendix 2.

10. IPv6 Deployment

The section of the survey with the greatest number of responses was the one regarding IPv6 deployment, demonstrating how important the RIPE community sees this issue. The majority of respondents indicated that their organisation had a formal plan for IPv6 deployment, but many also said that they had no organisational budget reserved for IPv6 transition.

IPv6 readiness



RIPE NCC members were more likely to say that their organisation had a formal plan as well as say that they had staff trained for IPv6 deployment and that their organisation had received an IPv6 allocation/assignment. Non-members, however, were slightly more likely to say that their organisation had an IPv6 transition budget. It is important to note that certain respondents, especially non-members, may have responded no to these questions because they are not aware or informed about their organisation's IPv6 deployment plans.

Respondents were asked why their organisation had not received an IPv6 allocation or assignment if they indicated so. Both members and non-members gave similar reasons. These can broadly be summarised as follows:

- In the process of making a request or have not yet started
- Deemed unnecessary/lack of interest
- Lack of demand from users or customers
- Insufficient equipment and staff to support IPv6
- Transition costs are expensive
- IPv4 is sufficient for the organisation's needs

When closely examining these reasons, it becomes evident that many are interrelated. First, it is important to note that in some cases the question did not apply to certain respondents, who indicated that their organisation had not made the request. Often, these respondents were from an ISP organisation or did not have the technical knowledge in order to respond to the question properly.

Nonetheless, various respondents indicated that the main reason they had not yet made the transition was simply because their organisation was in the process of development or have not yet started. Such comments suggest that there is at least the eventual intention to request an IPv6 allocation or assignment.

Yet some respondents indicated they had "no plan to move to IPv6". This may be due to several different reasons. Some respondents stated that their organisation deemed the transition unnecessary or that there was a lack of interest or understanding on what it involved, especially at a managerial level.

Reasons for not deploying IPv6 are numerous. In general, the cause is not due to a sense of unwillingness on the respondents' behalf. More often than not, the reasons are external factors outside of respondents' control.

Respondents also indicated areas where they need assistance in deploying IPv6. The comments that most often arose were as follows:

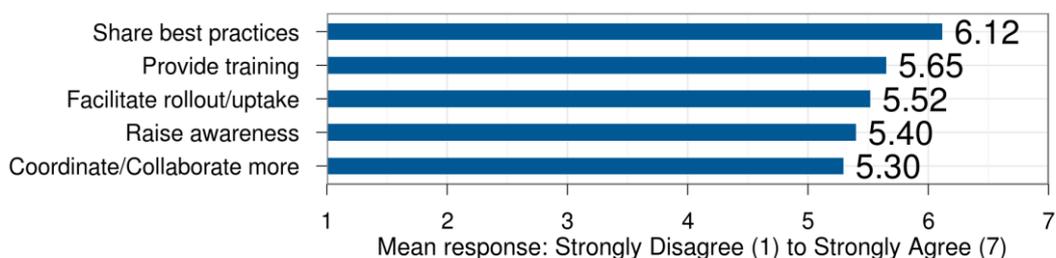
- Give examples and case studies of IPv6 deployment
- Offer more information/courses/training online and in different languages (better inform on the benefits of IPv6 and how to transition)
- Provide documents to help organisations develop a strategy plan
- Increase awareness on the issue
- Be more involved with certain stakeholders (e.g., inform ISPs and clients of the benefits and reasons to transfer, and get hardware vendors to provide technical changes in necessary hardware)
- Develop technical solutions to better support IPv6
- Provide financial support/funding for transition
- Formulate clear and forceful policies and strategies for IPv6 transitions
- Offer various incentives or create mechanisms to encourage direct action

Respondents were asked what information was needed to make a decision to deploy IPv6 in the next 24 months. Responses from members and non-members were similar and repeated points already mentioned above. They mainly indicated that they needed the following:

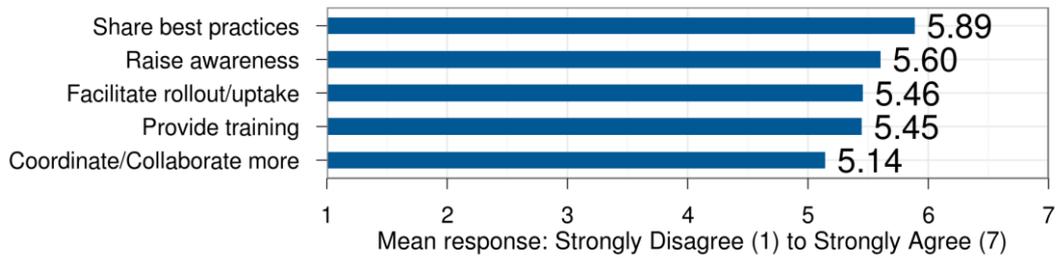
- More case study examples
- Step-by-step documentation on the procedures
- Statistics on customer demand and deployment in their region
- Lists of hardware and software that are IPv6 compatible
- Better technical support for deployment

Overall, respondents seem to support the idea of the RIPE NCC playing a strong role in encouraging IPv6 deployment.

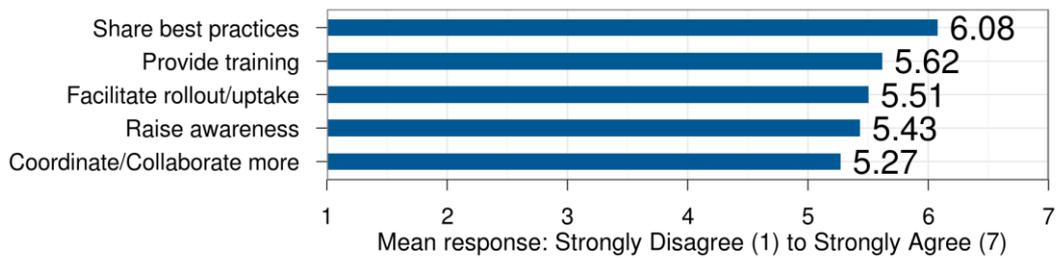
RIPE NCC members on the role the RIPE NCC should play



Non-RIPE NCC members on the role the RIPE NCC should play



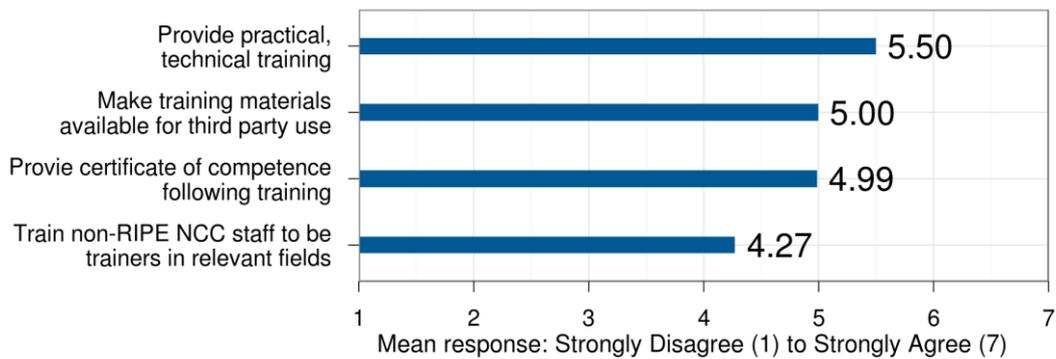
RIPE NCC members and non-members



Certain respondents wished to see the RIPE NCC take a more forceful action in encouraging related stakeholders to make the transition towards IPv6. They stressed that little more can be done by only talking to ISPs and technical staff. In short, the RIPE NCC is regarded as playing a very important role in the deployment and transition to IPv6. Many respondents seem to have either already made the move or are in the process of making the change.

11. Training and Education

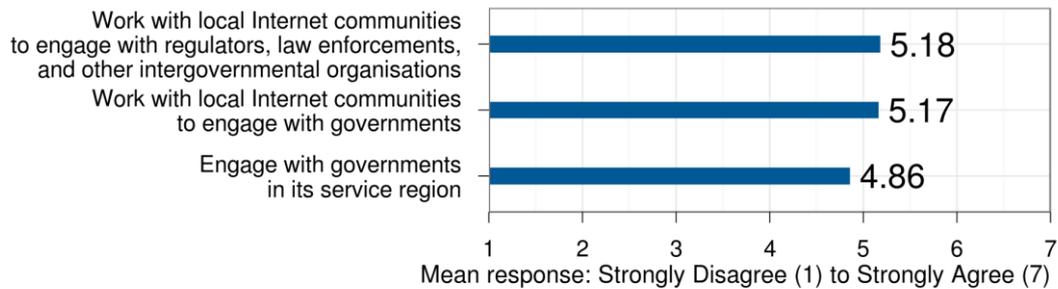
Overall, respondents seemed generally satisfied with the RIPE NCC’s training and education services.



RIPE NCC members seem to support training and education services, but comments indicate that not everyone agrees on with whom the RIPE NCC should share these services. Some respondents indicated that the RIPE NCC should not provide training on subjects that are already available commercially. Others requested better quality online training and documentation as well as additional “live” (either online or in-person) training in different countries and in different languages. The importance of properly trained staff in technical expertise was also mentioned frequently.

12. Internet Governance and External Relations

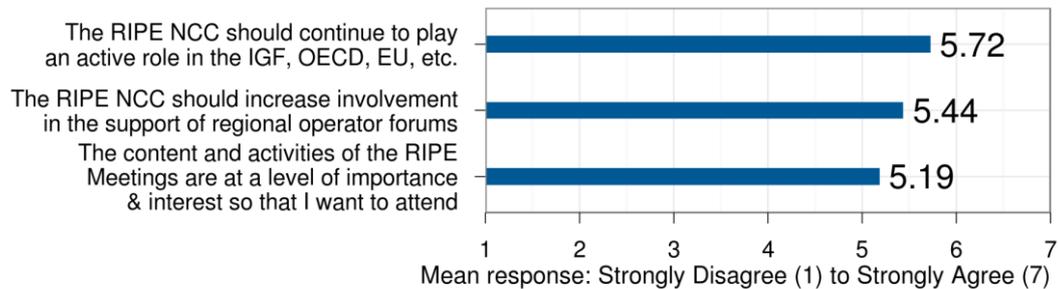
Although this section was open to all respondents, there was broad agreement from RIPE NCC members and non-members that the RIPE NCC should work with local Internet communities to engage with governments and with other stakeholders in the regions.



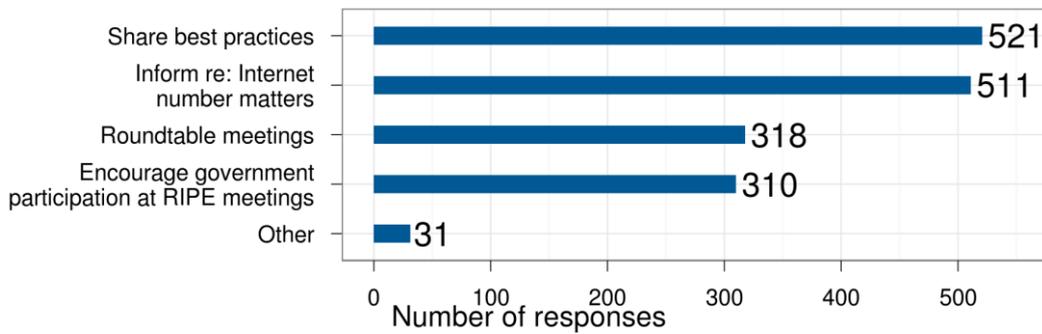
Some respondents suggested other ways for the RIPE NCC to engage with governments. These can broadly be summarised as:

- Act to ensure stability of the Internet infrastructure, regardless of government interference
- Enable more direct, open and transparent interactions between governments and Internet communities
- Collaborate with other international organisations and stakeholders such as ICANN, academic institutes, and commercial and industrial associations

Respondents were also asked how they felt about other topics related to Internet governance and external relations. Overall, they generally agreed with the statements below:



A large number of respondents favoured the sharing of best practices and providing information on Internet number resource-related matters as the best way the RIPE NCC could allocate its resources to Internet governance and external relations.



Comments suggest that respondents would like the RIPE NCC to continue to play an active role with other stakeholder organisations rather than be involved with national or local government bodies.

Overall, comments from respondents seem to indicate that the RIPE NCC should better define its role or position regarding Internet governance and external relations. Often, sentiments on what this role should be were not unanimous. There were however indicators that the RIPE NCC should focus attention more on increasing relations with international organisations and Internet bodies, rather than with national or local governments. Opinions on how the RIPE NCC should proceed on these issues diverged.

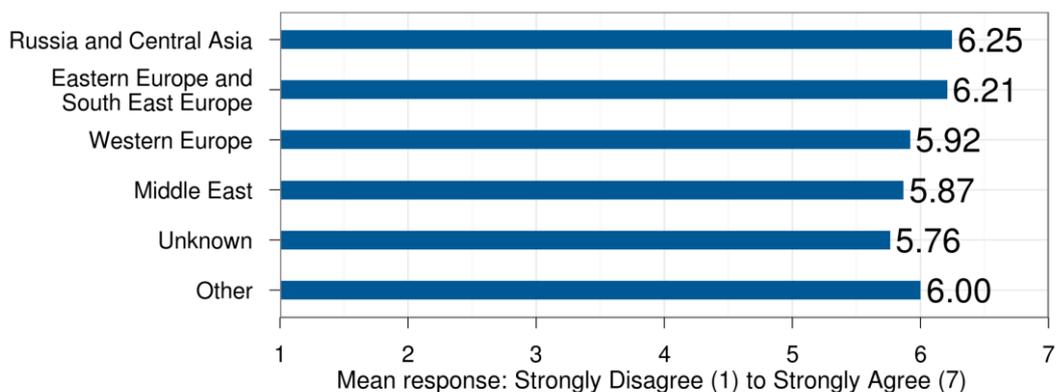
There are also signs that the RIPE NCC should find ways to make meetings and activities more inclusive and accessible to new members, members in different regions and related stakeholders.

13. Stakeholder Responses by Region

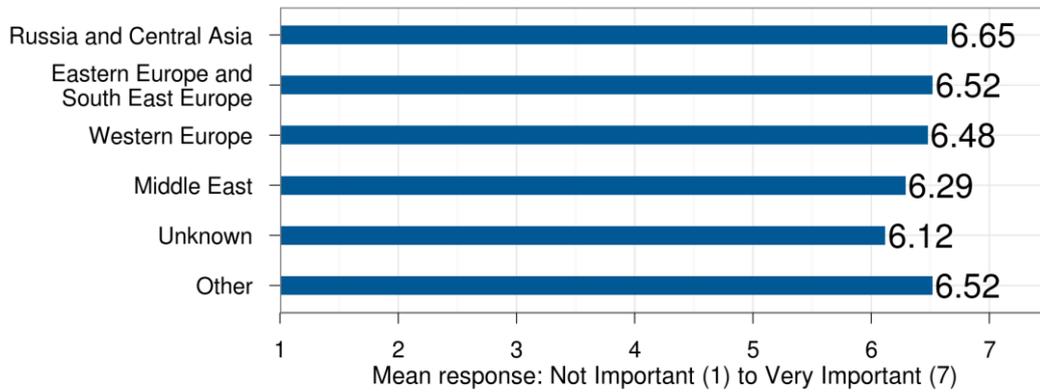
The Russia and Central Asia region consistently gave the highest ratings on the RIPE NCC. The Middle East and the Eastern Europe and South East Europe regions were consistently above the overall average.

Across practically all questions, the Western Europe region ratings were slightly below the overall average. Some examples of key questions are given below.

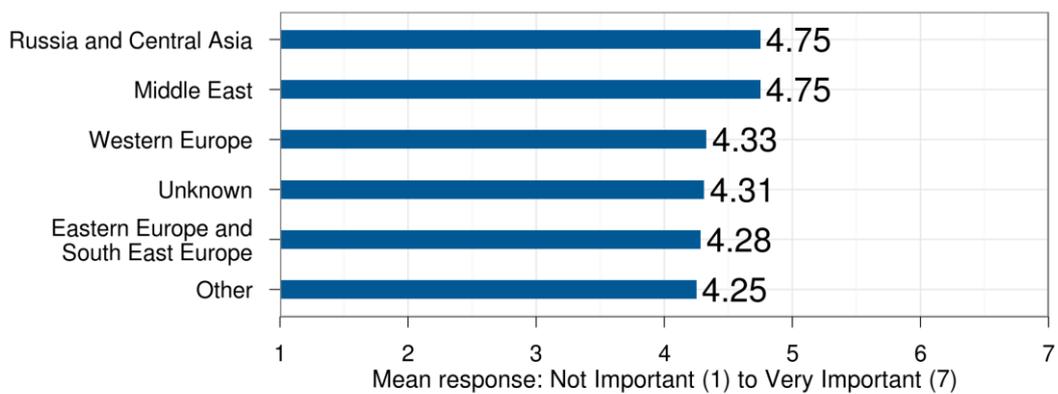
Overall, the services provided by the RIPE NCC are satisfactory



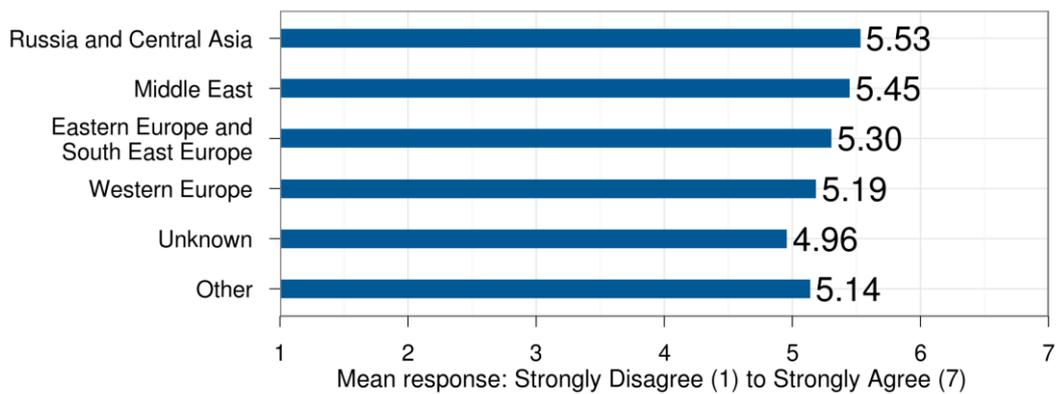
Resource registration including the RIPE Database – Importance



Outreach activities – Importance



The value members get from the RIPE NCC justifies the cost



C. Key Findings

General Services

Overall, member respondents feel that the RIPE NCC is doing a good job, as evidenced by the high score of 5.96 received for “General satisfaction with the RIPE NCC.” There was also strong support for the operational model of the RIPE NCC, which scored 5.66.

The services that scored as being most important for RIPE NCC member respondents were:

- RIPE Database/Registration Services
- Reverse DNS
- Registration Information Service (RIS)
- Training Services
- K-root
- Meetings

Of the requests for improvements to RIPE NCC services, the most notable were:

- More multiplatform services, such as live chat and video conferencing
- The RIPE Database should be easier to update
- More statistics that are also easier to find
- More user-friendly interfaces

Resource Distribution

All statements on resource distribution services scored highly, receiving scores above five. In this section, RIPE NCC indicated that the following areas where services could be added or improved upon:

- Make resource distribution as straightforward and transparent as possible
- Make the LIR Portal more user-friendly
- Have clear and simple guidelines on resource distribution
- Improve response quality and speed for helpdesk services
- Provide more guidelines and support for new members

Billing and Administration Services

Members appear to be satisfied with the RIPE NCC’s billing and administration services. They also provided suggestions to help them with payment and billing:

- Accept payments from credit cards and allow members to use PayPal
- Fairness should be the most important factor in any fee structure
- Review the fee structure for small and medium-sized organisations
- Facilitate alternative payment methods for members living in countries with complicated banking systems

Multi-stakeholder Interaction

Non-member stakeholders who participated in this survey generally seemed to appreciate the RIPE NCC’s work in the community. These respondents were most interested in IPv6, Internet security and Internet governance.

Non-member respondents also requested that the RIPE NCC should:

- Continue the current work and actions with multi-stakeholder groups
- Develop further awareness around RIPE Meetings and activities among multi-stakeholders, in all parts in the RIPE NCC service region

RIPE NCC Information Services and RIPE Labs

Most respondents are aware of RIPE NCC Information Services and RIPE Labs but felt they could benefit from awareness raising and promotion. Common requests in this section were:

- Provide more statistics, measurements and analysis
- Have easier access to tools and user-friendly interfaces
- Improve tools such as BGPlay and add more measurement points and probes
- Produce more articles on IPv6 deployment, routing, measurements and statistics, and operator tools
- Refine the RIPE Atlas probe service

Policy Development

Respondents in this section generally felt that the RIPE Policy Development Process was somewhat difficult to use but was the fairest approach to arriving at policy for the RIPE community. Suggestions on improving the process were:

- Encourage RIPE NCC members and other stakeholders who never participate in policy development to become more involved in the process
- Use the current consensus-driven approach but try to implement measures to speed up the process
- The RIPE NCC should provide more impact analysis to help the community

Communications

By and large, respondents were satisfied with the RIPE NCC's communication services. There was general support for reducing the amount of printed material and focusing instead on communicating through electronic means.

Email was by far the most preferred method of receiving information, but there was also plenty of support for:

- A live chat service
- Educational and informational videos
- Development of social media (especially Twitter) to communicate and inform
- Provision of RSS feeds
- Creating an online newsletter that would be regularly updated
- Having the ability to opt in and opt out of receiving certain types of emailed communication

RIPE Database and DNS Services

The RIPE Database and DNS Services were clearly highly valued by respondents. There were a number of useful suggestions for further development of these services:

- Improve the quality and usefulness of data in the RIPE Database
- Show the date of modifications to data in the RIPE Database
- Develop geolocation services
- Show sponsoring LIRs in the RIPE Database
- Fix bugs in DNS Services

IPv4 Address Administration

There is a strong sense that the RIPE NCC has a role to play in IPv4 address administration. The majority of respondents want the RIPE NCC to develop guidelines for IPv4 transfer and believe that the RIPE NCC should monitor and report these transfers.

Other points that came across strongly in the survey include:

- The RIPE NCC should take a strong stance on IPv4 address administration
- The RIPE NCC should check the usage of IP address blocks and expose LIRs who do not use them correctly

IPv6 Deployment

Most respondents' organisations have a formal plan for IPv6 deployment. However, many do not have a budget for IPv6 transition. There was again a strong sense that the RIPE NCC should play a pivotal role in IPv6 deployment, especially by sharing best practice information with stakeholders and providing adequate support to take up IPv6.

Other points that were raised were:

- Increase information, support and resources on IPv6 deployment and offer them in different languages
- Act as a liaison between different stakeholders so each party can understand their role and responsibility in IPv6 deployment

Training and Education

Training and education was highly appreciated as a RIPE NCC service. Many thought that the training and education services are very good and important. However, some felt the training should focus more on the technical/practical side, as well as attempt to offer training or material that is not already available or commercialised.

Other areas identified were:

- Offer more online and multilingual training
- Hold training session in more countries
- Make training materials available for members
- Ensure trainers have the technical knowledge necessary to administer training
- Provide more instructional videos and practical guides

Internet Governance and External Relations

Respondents felt that the RIPE NCC had a role to play in informing about best practices in Internet governance and resource management. There was an inclination for building relationships with other concerned organisations and bodies in the Internet community. A common thread, in this and other sections, was that the RIPE NCC needs to find ways to involve stakeholders and members who do not usually participate in RIPE community discussions and activities.

The main findings that emerged from this section can be summarised as:

- Continue to clearly define the RIPE NCC's role or position regarding Internet governance and external relations
- Provide outreach to other sectors
- Provide more regional outreach
- Play an active role in intergovernmental organisations and discussions
- Make RIPE Meetings and other RIPE NCC activities more accessible to new members and related stakeholders in all regions