**RIPE NCC**
RIPE NETWORK COORDINATION CENTRE

# Draft Activity Plan and Budget 2022

**Date: October 2021**

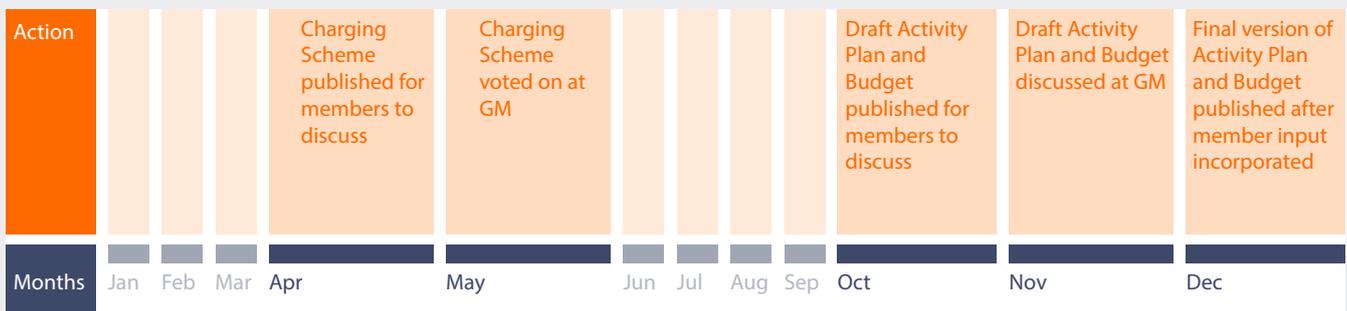# RIPE NCC Draft Activity Plan and Budget 2022

Our Activity Plan and Budget sets out our plans for 2022 along with the associated costs. Costs are provided in terms of Full Time Employees (FTEs), Operational Costs (OPEX) and Capital Expenditure (CAPEX).

This document is the clearest way for members to learn about our plans and influence the direction we take next year. We see this as an integral part of maintaining the trust of the membership, by ensuring high standards of transparency and accountability.

It is important that members understand how to provide feedback. Each year, we publish a draft Activity Plan and Budget within 4-6 weeks of the Autumn RIPE Meeting. At this meeting, time is allocated to discuss our services in the RIPE NCC Services Working Group and during the RIPE NCC General Meeting (GM). We also invite members to ask questions and discuss our plans on the RIPE NCC Membership Discussion mailing list (members-discuss@ripe.net) and the RIPE NCC Services WG mailing list (ncc-services-wg@ripe.net).

The feedback received over this period is then incorporated into a final Activity Plan and Budget that is approved by our Executive Board and published in December.

## Shaping the RIPE NCC's Activities and Budget

| Action | | | | Charging Scheme published for members to discuss | Charging Scheme voted on at GM | | | | | Draft Activity Plan and Budget published for members to discuss | Draft Activity Plan and Budget discussed at GM | Final version of Activity Plan and Budget published after member input incorporated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Months | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |

# Executive Summary

For 2022, we are planning a total budget of 35,450 kEUR, a 6% increase over last year. Our FTE count will grow by 10%, from 170 to 187. In some cases this will be the result of replacing long term contractors in critical roles with full-time staff. This means the impact in terms of overall costs is not as large as it might otherwise be.

We expect to start the year with 22,500 LIRs, which is an overall decrease of 1,069 LIRs compared to the beginning of 2021. This, together with a reduction in the sign-up fee from EUR 2,000 to EUR 1,000, will result in 2,966 kEUR less income compared to 2021.

The membership fee will remain at EUR 1,400 for 2022. The average cost per LIR is expected to grow from an estimated EUR 1,459 to EUR 1,576, which is an 8% increase. We expect to end the year with a surplus of 150 kEUR, which is expected to be 400 kEUR after the Financial Result. It is important to highlight here that 2021 was a year under COVID-19, which meant no staff travel, face-to-face training courses or in-person RIPE Meetings and other events. Our budget for next year anticipates a return to some form of normality in this respect, which increases costs.

While we anticipate an overall decrease of 1,069 LIRs, the amount of administrative work is increasing significantly, as we will have many new LIRs joining and a much larger number closing or consolidating their accounts. This, together with an increase in both the number and complexity of requests, has significantly impacted the workload of our Registry Department. To address the resulting increase in wait times, we plan to hire two additional staff in 2022 under this activity.

Alongside the creation of a new Chief Community Officer position, we examined our external engagement and community activities and aligned them on purpose rather than by individual activity type. These changes will allow for a better purpose driven workflow as well as clearer, more transparent reporting lines. This is reflected in the budget categories in this year's Activity Plan (under 3. External Engagement and Community).

# Overview of 2022 Strategic Focus Points

For the first time, accompanying this year's Activity Plan is the Draft RIPE NCC Strategy 2022-2026, which looks ahead to the next five years. Not all aspects of this strategy will be prominent in every Activity Plan over this period. However, our planning for each year will be informed by this wider strategy and should contribute to it in some way.

The five strategic objectives for the RIPE NCC over the coming five years are:

> Support an open, inclusive and engaged RIPE community
> Operate a trusted, efficient, accurate and resilient Registry
> Enable our members and community to operate one secure, stable and resilient global Internet
> Maintain a stable organisation with a robust governance structure
> Attract engaged, competent and diverse staff

In order to meet our strategic objectives, our focus in 2022 will be in the following areas:

> Maintaining an accurate registry
> Strengthening our RPKI and RIPE Database infrastructure
> Security, risk management and compliance
> Effective engagement and outreach
> Supporting the RIR system and the wider Internet governance ecosystem
> An effective and sustainable organisation

Maintaining a strong and accurate registry will always be a key focus, given our role as Regional Internet Registry for 76 countries. Both our overall workload and the complexity of requests have increased substantially in recent years. Different factors are driving this trend – new LIR applications and the closure and consolidation of existing accounts, a high level of transfer activity together with more complicated transfer requests, increased due diligence and sanctions screening requirements, and the need to prevent fraud and attempts to steal addresses. In 2021, this resulted in increased wait times for member requests and addressing this through hiring additional staff and making our processes more streamlined has been given priority, which should be clear from the budget we are presenting in this document.

The sophisticated and robust technical infrastructure we maintain is a point of pride for our engineering teams. We expect that wider uptake of RPKI will introduce new requirements in terms of resilience and availability, and this is not the only service we plan to improve. Some of this work will involve using the tools and infrastructure available via third-party cloud providers in line with our cloud strategy and in consultation with the RIPE community – freeing up our engineering staff to focus on our core services in the process.

Related to this, given the importance of our work to the operations of our members and the wider Internet community, we need to ensure a strong security framework is in place to protect our infrastructure and services, the integrity of our data, and the IP resources held by our members. The best way to achieve this is by adhering to best practices and established frameworks. We can publish the results of external audits against these frameworks, which will support transparency and trust that we are treating these critical aspects correctly. Also important is ensuring we fully comply with all relevant laws and regulations. A great deal of our focus in 2021 has been on reviewing and updating our processes to ensure we meet these obligations. This has contributed to the longer wait times affecting members. We also need to proactively track any developments in this area that have the potential to impact our operations, so we are prepared if and when they come into effect.

Over the past years, we have steadily grown our engagement capabilities. Our staff run a substantial calendar of events to engage with members, support the RIPE community and also ensure we engage effectively with regulators and policy-makers. All of this activity remains a key priority for 2022. On the political side, we are seeing greater interest on the part of governments to regulate or otherwise shape the Internet, and much of this has the potential to impact our operations. We have also seen developments within RIR communities that could undermine the stability of the current system. We believe it is important to remain active in this space so we can effectively represent the interests of our members and the RIPE community. We also believe that the larger and more engaged RIPE is as a community, the more protected it is against threats.

Finally, it is important to look at how we work internally as an organisation. We employ a highly-motivated and talented staff, and this is what enabled us to adapt so well to the challenges that COVID-19 presented and gives us confidence we can adapt to other challenges that might arise. However, we have been working from home for much longer than anticipated, and the difficulties that come with this are not evenly distributed (often requiring more of those who live alone and those with young families). We need to make sure a healthy work-life balance is maintained, and that new arrivals – who have often not set foot in our offices – are engaged and aligned with our company culture.

# Overview of RIPE NCC Costs per Activity 2022

On the following page is an overview of the Full-Time Equivalents (FTEs), Operational Expenses (OPEX) and Capital Expenses (CAPEX) per activity. All amounts are in kEUR. The overview is presented on two levels. Each activity is linked to the relevant section in the document.
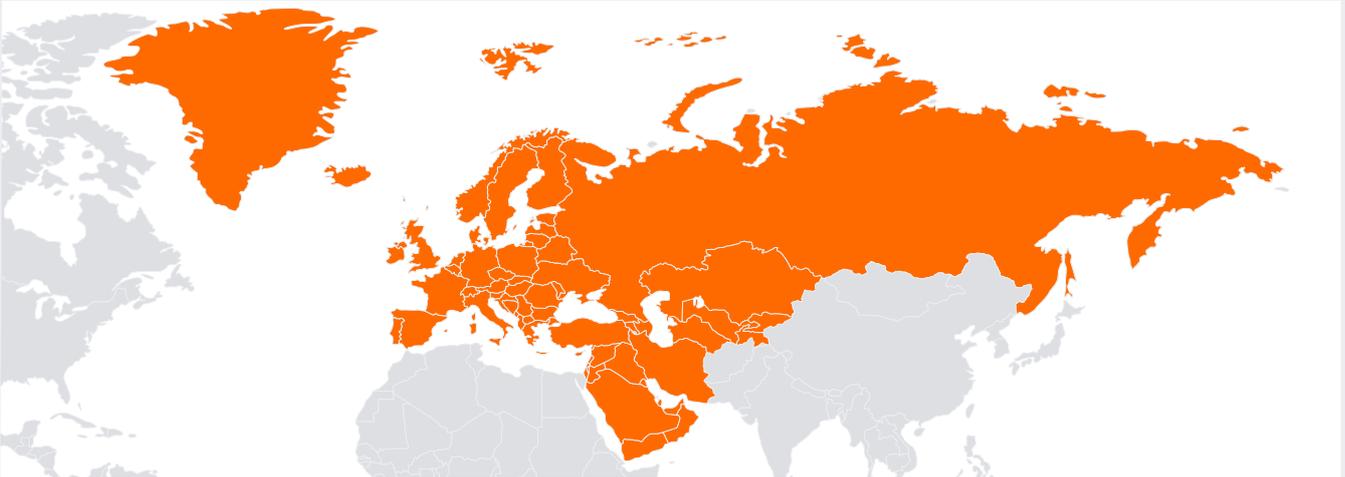
### Overview of Costs Per Activity 2022

| | FTEs | OPEX kEUR | CAPEX kEUR |
|---|---|---|---|
| **1. The Registry** | **68.7** | **9,000** | **-** |
| 1.1 Registration of IP Addresses and ASNs | 3.0 | 350 | - |
| 1.2 Processing Registry Updates | 16.7 | 2,000 | - |
| 1.3 Membership Administration | 8.0 | 800 | - |
| 1.4 Registry Accuracy and Investigations | 13.0 | 1,700 | - |
| 1.5 LIR Portal | 15.0 | 1,650 | - |
| 1.6 RPKI | 9.0 | 1,900 | - |
| 1.7 RIPE Database | 4.0 | 600 | - |
| | | | |
| **2. Information Services** | **43.0** | **7,200** | **900** |
| 2.1 DNS and K-Root | 4.0 | 650 | 150 |
| 2.2 RIPE Atlas | 8.0 | 1,100 | 50 |
| 2.3 RIPEstat | 8.0 | 900 | 50 |
| 2.4 RIS | 5.0 | 600 | 250 |
| 2.5 Research | 4.0 | 450 | - |
| 2.6 IT Support | 14.0 | 3,500 | 400 |
| | | | |
| **3. External Engagement and Community** | **41.0** | **9,000** | **-** |
| 3.1 Community Building and Member Engagement | 20.0 | 5,000 | - |
| 3.2 Community Learning and Development | 16.0 | 2,600 | - |
| 3.3 Community Coordination and Collaboration | 5.0 | 1,400 | - |
| | | | |
| **4. Maintaining a Strong Organisation** | **34.1** | **9,000** | **250** |
| 4.1 Facilities | 3.8 | 2,150 | 250 |
| 4.2 HR | 4.4 | 1,000 | - |
| 4.3 Legal | 5.0 | 900 | - |
| 4.4 Finance | 8.0 | 1,400 | - |
| 4.5 Information Security, Risk and Compliance | 7.0 | 1,800 | - |
| 4.6 Office of the Managing Director | 4.9 | 1,500 | - |
| 4.7 RIPE Chair | 1.0 | 250 | - |
| | | | |
| **RIPE NCC** | **186.8** | **34,200** | **1,150** |
| Bad Debts | - | 250 | - |
| Depreciation | - | 1,000 | - |
| | | | |
| **RIPE NCC Total** | **186.8** | **35,450** | **1,150** |

# RIPE NCC Activities 2021

## RIPE NCC Service Region



## Size of RIPE NCC Membership (LIRs)

**20,875  24,870  25,352  21,500**



2018
2019
2020
2021
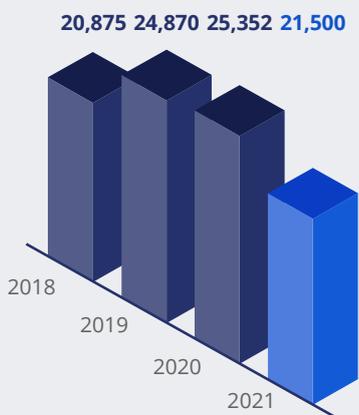
## Internet Number Resource Records in the RIPE Registry



145,000
140,000
130,000
119,000

2018        2019        2020        2021
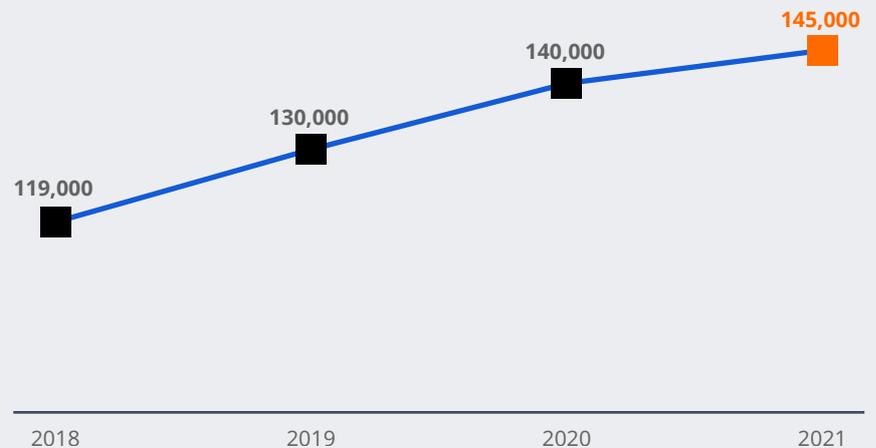
## Allocations and Assignments (IPv4, IPv6 and ASNs)

**8,800  10,757  9,242  7,295**
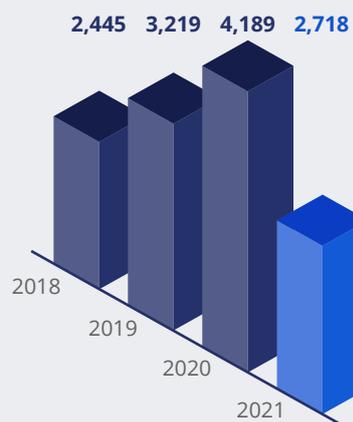


2018
2019
2020
2021

## Assisted Registry Checks Completed

**2,445  3,219  4,189  2,718**



2018
2019
2020
2021
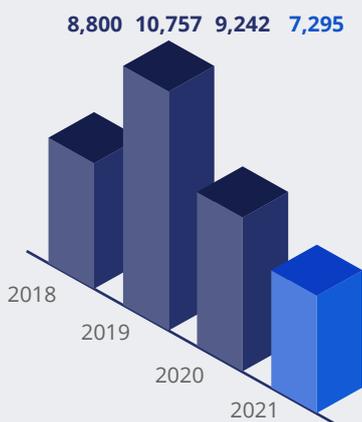
## Resource Certificates Created (RPKI)

**5,431  8,650  12,158  15,355**



2018
2019
2020
2021
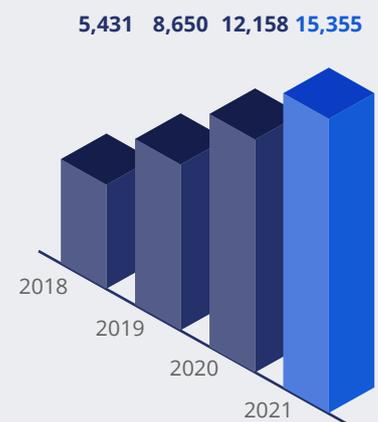
# Activity Overviews

For each of the main areas of activity, we have provided an overview that gives anyone reading this document a summary of what to expect in that area in 2022. All statistics under 'Measurable Usage' relate to a specific period: numbers stated for 2021 are taken from 1 July 2020 - 30 June 2021. The same months are used for 2019, 2020 (and so on) for consistency.

# 1. The Registry

## 1.1 Registration of IP Addresses and ASNs

| **FTEs:** 3.0 | **Cost:** 350 | **CAPEX:** - |
|---|---|---|

### Description

As an authority on unique Internet number resources, we enable our members to operate and develop the Internet. We are responsible for allocating and assigning IP addresses and AS Numbers within our service region, according to policies that have been set by the RIPE community. This includes allocating recovered IPv4 addresses via a waiting list and efforts to ensure these addresses are fully routable.

### Activities in 2022

Our workload remains comparable to 2020 levels, though there may be an increase in the last quarter due to an expected increase in new LIR applications, but this should fade away once the IPv4 pool is exhausted again.

### Number of Resource Records the RIPE NCC is Responsible for

**2018:** 119,00 (+8%)
**2019:** 130,000 (+9%)
**2020:** 140,000 (+8%)

2021: 145,000 (+4%)

### More Information

› Request IPv6
› Request an AS Number
› What is IPv4 Run-out?
› How the IPv4 Waiting List Works
› IPv4 Waiting List

## 1.2 Processing Registry Updates

| **FTEs:** 16.7 | **Cost:** 2,000 | **CAPEX:** - |

### Description

The RIPE Registry contains both public and non-public information about IP resource holders and provides transparency to the transfer market. When resources are transferred to another network or a member changes their company structure or legal name, we review and process the associated updates to the registry information, which often requires supporting documentation.

We work to ensure that the RIPE Registry can accurately deal with IPv4 transfers and potential conflicts over address space. Since the run-out in 2019, the number of IPv4 address transfers is still increasing, and we continue to deal with fraud cases and disputes over holdership.

We also support the RIPE Policy Development Process (PDP), providing assistance to RIPE working groups, analysing the impact of specific proposals and encouraging participation from a wider group of stakeholders.

### Activities in 2022

We have seen a very sharp increase in the number of transfers in 2021, when compared to previous years. In 2022, we will be increasing staff levels and looking into ways to increase efficiency and improve response times for the membership. We have also significantly improved our sanctions processes, which has added to the complexity of work in this area.

We plan to review our internal controls and control framework. This will include external auditing and the definition of a control framework based on international standards (e.g. ISO / COSO).

### Resources Transferred
**2018:** 3,445 (+46%)
**2019:** 4,744 (+38%)
**2020:** 4,254 (-10%)

2021: 6,759 (+59%) 

### LIR Mergers
**2018:** 206 (-16%)
**2019:** 327 (+59%)
**2020:** 438 (+34%)

2021: 424 (-3%) 

### More Information
> Resource Transfers
> Inter-RIR Transfers
> Mergers and Acquisitions

## 1.3 Membership Administration

| **FTEs:** 8.0 | **Cost:** 800 | **CAPEX:** - |
|---|---|---|

### Description

Our customer services staff provide support to members and others who use our services, such as legacy resource holders. This includes responding to queries and processing membership applications, administrative and contractual changes, billing enquiries and account closures.

### Activities in 2022

The number of LIRs has continued to decline as we see a long-standing consolidation effect following IPv4 run-out. This is partially offset by new members joining the RIPE NCC. The one-time IPv4 /24 allocation each new LIR can request remains a powerful incentive to join the organisation. The number of new LIR applications in 2022 will depend on the size of the IPv4 Waiting List queue and the expectation of new addresses being released from quarantine.

Sanctions checks for new LIR applications have increased our workload significantly and can require investigations, which has created delays. We have hired temporary staff to implement automated sanctions monitoring, and this continues to help to make things faster.

To track and monitor our processes, we are developing a stronger set of KPIs.

### LIR Accounts

**2018:** 20,875 (+19%)
**2019:** 24,870 (+19%)
**2020:** 25,352 (+2%)

2021: 21,500 (-15)

### More Information

› New Membership Applications
› Due Diligence Information
› Billing Information
› Closure of Members

## 1.4 Registry Accuracy and Investigations

| **FTEs:** 13.0 | **Cost:** 1,700 | **CAPEX:** - |

### Description

We are responsible for operating the RIPE Registry and ensuring its integrity. An important part of this work is to verify the information and supporting documents we receive. We also proactively check the accuracy of registry data, which is primarily done through our Assisted Registry Check (ARC) activity.

### Activities in 2022

The investigation team's workload has been focused on sanctions checks and in 2022 we plan to automate much of this work. We will also continue active registry monitoring, which is partially in place for sanctions and improving Assisted Registry Checks. The next step is to roll out monitoring for changes in legal structure which began in 2021 and will continue in 2022.

### Investigations Completed

**2018:** 194 (+177%)
**2019:** 181 (-7%)
**2020:** 251 (+39%)

2021: 692 (+175%)

### Assisted Registry Checks Completed

**2018:** 2,310 (-12%)
**2019:** 3,051 (+32%)
**2020:** 4,202 (+38%)

2021: 2,718 (-35%)

### More Information

› Abuse-c Information
› Assisted Registry Check (ARC)
› Address Hijacking

## 1.5 LIR Portal

| FTEs: 15.0 | Cost: 1,650 | CAPEX: - |

### Description

As the main interface for our core services, the LIR Portal allows members to securely manage their Internet number resources and related registration information. Members can use it to update their contact, billing and resource information, make resource requests, check the status of tickets, and register for RIPE NCC General Meetings. The LIR Portal provides a clean user interface with easy-to-use wizards and is closely integrated with the RIPE Database, registry software and our ticketing system. We are constantly working to streamline and automate our procedures, improve the user interface and maintain healthy back-office systems used by our staff.

### Activities in 2022

We will continue to focus on ensuring the accuracy and integrity of the RIPE Registry, which will include working on compliance efforts for GDPR and EU sanctions, our automated registry monitoring and the use of digital identification. Work on improving the ticketing system will begin in Q4 2021 and will continue into 2022.

We will also improve the security of internal and external services; this includes adding features to the security of RIPE NCC Access, enhancing API security management and continued audits of important applications. We expect to see a decrease in expenses compared to 2021 alongside an increase in FTEs. This is the result of replacing a contractor role with a full-time staff member.

### Page Views Per Month (Logged In)
**2018:** ~88,000 (-19%)
**2019:** ~90,000 (+2%)
**2020:** ~99,000 (+10%)

2021: ~89,500 (-9%)

### More Information
> LIR Portal
> Requesting Resources Through the LIR Portal

## 1.6 RPKI

| FTEs: 9.0 | Cost: 1,900 | CAPEX: - |

### Description

RPKI allows networks to receive digital certificates which prove that they are the legitimate holder of their IP resources. These certificates are useful for securing Internet routing, notably through BGP Origin Validation. RPKI is a valuable step towards full BGP security, including path validation as developed by the IETF's Secure Inter-Domain Routing Operations (sidrops) Working Group.

### Activities in 2022

RPKI is one of our key focus areas for 2022. The priority here will be on security and resilience. We will scale up our repositories to improve availability and strengthen our core infrastructure which will increase costs. We will upgrade our HSMs (Hardware Security Modules) which hold our members' keys, as these are nearing the end of their lifecycle. After defining the SOC 2 audit framework in 2021, we will publish a transparent SOC 3 report of our findings in 2022. We are also looking into ways to further increase the transparency of our trust anchor and certificate authority. We plan to hire three additional staff for this activity, replacing contractors in critical positions. We have increased our RPKI budget by 1,000 kEUR overall.

### Resource Certifications Created

**2018:** 5,431 (+15%)
**2019:** 8,650 (+59%)
**2020:** 12,158 (+40%)

2021: 15,355 (+26%) ↗

### IPv4 Space the RIPE NCC is Responsible for That is Covered by ROAs

**2018:** 18% prefixes; 30% addresses
**2019:** 37% prefixes; 48% addresses
**2020:** 46% prefixes; 55% addresses

2021: 49% IPv4 addresses; ↗

32% of IPv6 addresses ↘

### More Information

› Resource Public Key Infrastructure
› RPKI Roadmap

## 1.7 RIPE Database

| FTEs: 4.0 | Cost: 600 | CAPEX: - |
|---|---|---|

### Description

The RIPE Database contains public information about the IP addresses and AS Numbers used by networks in our service region. The RIPE Database also has information about these networks along with contact details and related attributes. This information is vital for the stability of Internet routing and allows users to find information for network troubleshooting and coordination.

Resource holders are responsible for maintaining their own information in the database, while we perform the role of data controller. Our work in this area also supports integration with the LIR Portal and includes related services such as the RIPE Database Proxy Service and Near Real Time Mirroring (NRTM).

### Activities in 2022

Our focus for the RIPE Database will be on infrastructure, data accuracy, and improvements to security and usability. We plan to work on improvements to the search UI and on next-generation NRTM. The RIPE Database Task Force has also been reviewing the purpose of the database and we may need to implement changes as a result of this work.

We are working to improve the infrastructure of the RIPE Database, aligned with our cloud strategy and with community involvement.

### RIPE Database Queries Per Minute

**2018:** 27,000 (+23%)
**2019:** 42,000 (+56%)
**2020:** 60,000 (+42%)

2021: 48,000 (-20%)

### More Information

- › RIPE Database
- › Numbered Work Items
- › Near Real Time Mirroring (NRTM)
- › RIPE Database Requirements Task Force

# 2. Information Services

## RIS Connections



● Peer locations
◉ Route collectors

## RIPE Atlas at a glance



**Results collected**
~1,000 million/**day**

**Active probes**
11,500

**Users (people who visited with RIPE Access accounts)**
~56,400

**ASNs covered**

| IPv4 | IPv6 |
|------|------|
| 3,673 (5.10%) | 1,635 (6%) |

**RIPE Atlas anchors**
830
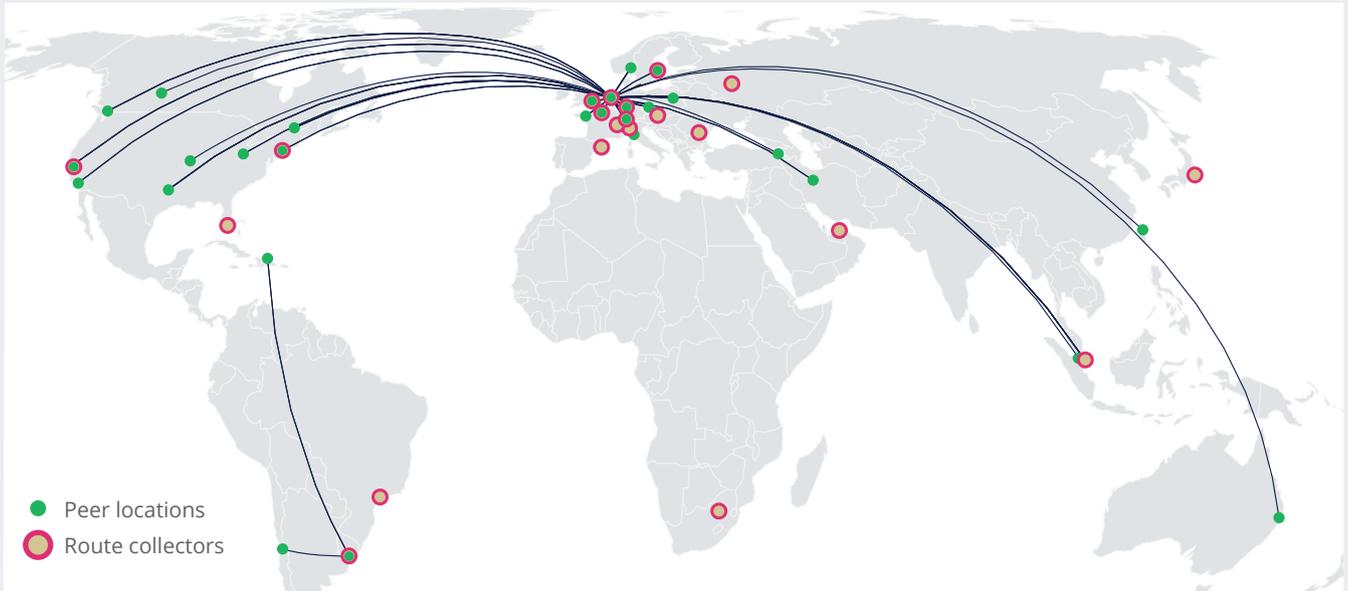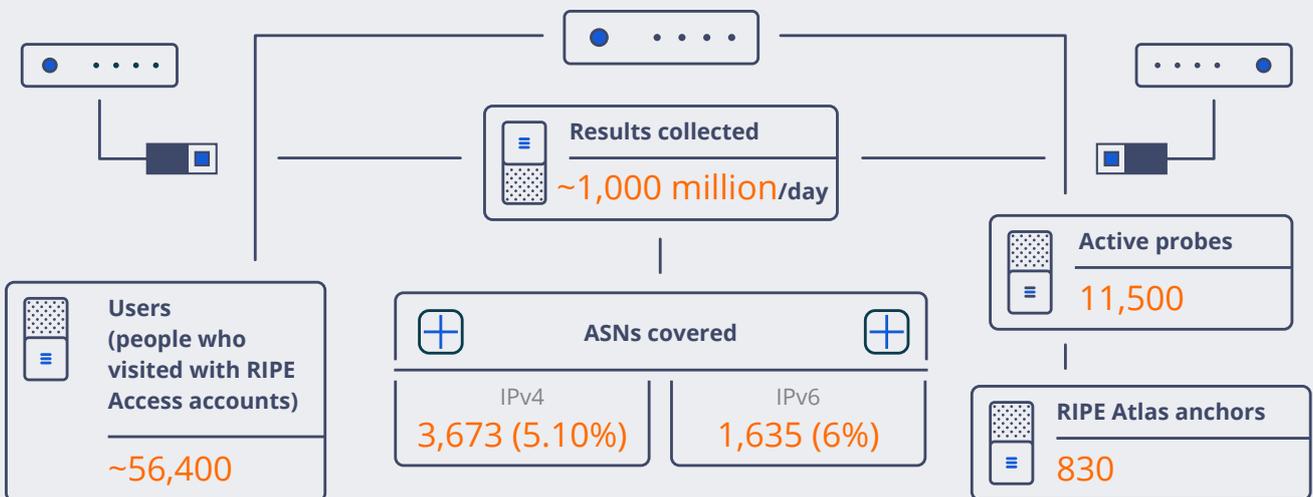
## RIPEstat queries per day



55mln — 2018
75mln — 2019
98mln — 2020
67mln — 2021

million
100
80
60
40
20
0
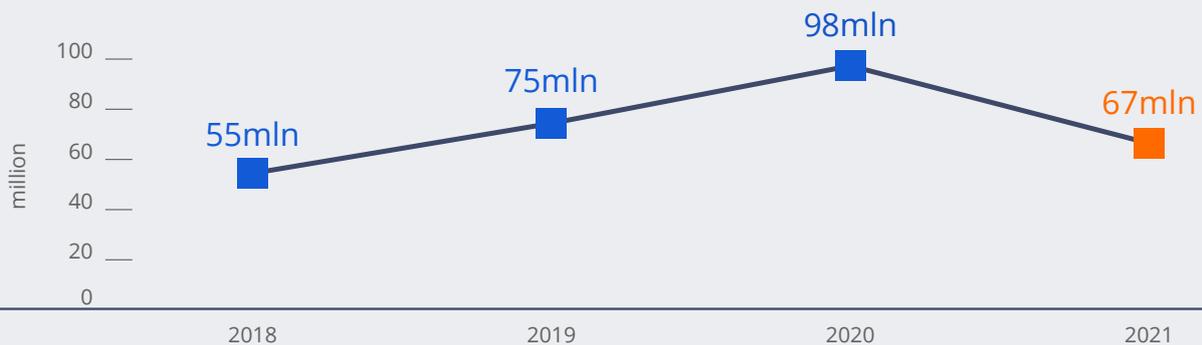
## 2.1 DNS and K-Root

| **FTEs:** 4.0 | **Cost:** 650 | **CAPEX:** 150 |
| --- | --- | --- |

### Description

We provide stable DNS support for our registered resources and global secondary services to some ccTLDs, as well as reverse DNS services for the IPv4 and IPv6 address space we manage. For reverse DNS (rDNS) associated with the address space managed by other RIRs, we provide secondary DNS services to support the reliability of reverse lookups.

### Activities in 2022

In 2022, we will continue our preparations to offer Hosted Authoritative DNS to the wider community and will move to the next phase of this work, which involves preparing a web application for members to apply for hosting where we can receive incoming requests and members can ask follow-up questions. Our focus will also be on increasing the capacity of our current sites and looking to open a fourth location.

We will see a decrease in FTEs and expenses in this activity as we shift staff resources between budget categories.

### K-root Instances

**2018:** 61 (+15%)
**2019:** 68 (+11%)
**2020:** 78 (+14%)

2021: 84 (+7%)

### More Information

› DNS
› K-root
› Hosted DNS Application Update (RIPE Labs)

## 2.2  RIPE Atlas

**FTEs:** 8.0   **Cost:** 1,100   **CAPEX:** 50

**Description**

RIPE Atlas is a leading Internet measurement network that provides live and historical information about the connectivity of networks around the world. We run this globally-distributed network to collect data on Internet infrastructure, usage and development. The data that RIPE Atlas provides can be used to analyse the operation and growth of the Internet.

**Activities in 2022**

We continue to work on user-friendly dashboards and APIs that make RIPE Atlas more intuitive to use. Atlas UI work slowed during 2021 due to staff shortages. We are looking to hire two additional FTEs in this area and expect to pick up speed again in 2022.

We are committed to maintaining the network at its current level in terms of hardware probes and next year will begin distributing the new version 5 hardware probes. In 2022, we will also pursue sponsorships to expand the network.

We are introducing new features and visualisations to keep users engaged with RIPE Atlas. We will also continue to evaluate the service and provide data using additional methods such as publishing RIPE Atlas measurements via Google's BigQuery platform.

**Connected RIPE Atlas Probes**

**2018:** 10,370 (+5%)
**2019:** 10,315 (-0.5%)
**2020:** 11,000 (+7%)

2021: 11,500 (+5%)

**Measurement Results per Day**

**2018:** ~490 million (+17%)
**2019:** ~600 million (+22%)
**2020:** ~900 million (+50%)

2021: ~1000 million (+11%)

**RIPE Atlas Anchors**

**2018:** 322 (+29%)
**2019:** 479 (+49%)
**2020:** 650 (+36%)

2021: 830 (+28%)

**More Information**

› RIPE Atlas
› RIPE Atlas Network Coverage
› RIPE Atlas Use Cases
› Announcing RIPE Atlas Data on Google's BigQuery Platform

## 2.3 RIPEstat

| | | |
|---|---|---|
| **FTEs:** 8.0 | **Cost:** 900 | **CAPEX:** 50 |

### Description

RIPEstat is a web-based interface that provides current and historical information about IP addresses, AS Numbers and related information for hostnames and countries. This includes registration information, routing and DNS data, geographical information, abuse contacts and more. RIPEstat draws from both internal RIPE NCC datasets as well as external sources.

### Activities in 2022

In 2022, we will develop more automatic service monitoring, make further improvements to the new UI and continue reworking BGPlay. In consultation with the community, we will continue to investigate moving some parts of RIPEstat to the cloud which will allow us to provide a more efficient service and reduce latency.

### Queries Per Day

**2018:** 55 million (+83%)
**2019:** 75 million (+35%)
**2020:** 98 million (+30%)

## 2021: 67 million (-31%)

*The decrease is due to new API interfaces which provide richer functionality and therefore fewer redundant API calls.*

### More Information

› RIPEstat
› RIPEstat Data API
› RIPEstat User Statistics
› NetOX (collaboration with APNIC)
› Inforedes (collaboration with LACNIC)
› AIRRS (collaboration with AFRINIC)

## 2.4 RIS

| FTEs: 5.0 | Cost: 600 | CAPEX: 250 |

### Description

The Routing Information Service (RIS) uses a globally distributed set of Remote Route Collectors (RRCs), usually located at Internet Exchange Points, to collect and store Internet routing data. Volunteers peer with our RRCs using the BGP protocol and RIS stores the update and withdraw messages. RIS data is used in both RIPEstat and RIPE Atlas and can interface with other network monitoring tools.

### Activities in 2022

In 2022, we will migrate RIS data processing jobs to newer systems. We will work on our RIS peering strategy to improve the quality of our data collection, and will update the documentation on our website. We will see a decrease in budget here as services move to IT once they become more stable.

### Route Collectors

**2018:** 20 (+10%)
**2019:** 21 (+5%)
**2020:** 21 (0%)

2021: 22 (+5%) ↗

### Peers

**2018:** 792 (+8%)
**2019:** 1,003 (+27%)
**2020:** 1,261 (+26%)

2021: 1,371 (+9%) ↗

### More Information

› Routing Information Service (RIS)

## 2.5 Research

| FTEs: 4.0 | Cost: 450 | CAPEX: - |
|---|---|---|

### Description

We have a long tradition of providing the operator community with data analysis on the state of the Internet and developing innovative tools to help the community understand various aspects of routing, DNS, reachability and other topics. We also collaborate with members of the research community. Regular reporting and analysis of RIPE NCC related statistics and accurate methodological analyses of Internet events provide valuable information that can act as an early warning for the community.

### Activities in 2022

We will continue to develop country or region-focused Internet reports. In 2021 we also started translating these reports into the local language and this will be our approach going forward. We will also continue to collaborate with industry partners, like-minded operators and research institutions to provide a better understanding of Internet behaviour. This activity includes direct partnerships with individuals or teams that are interested in Internet measurement.

We see a decrease in budget under this activity as Google BigQuery costs are moved under IT Services.

### More Information

> RIPE NCC Country Report: Mediterranean Europe
> RIPE NCC Country Report: Saudi Arabia
> RIPE NCC Country Report: Russia
> RIPE NCC Prototype Tools and Visualisations

## 2.6 IT Support

| **FTEs:** 14.0 | **Cost:** 3,500 | **CAPEX:** 400 |
| --- | --- | --- |

### Description

Our IT activity provides the backend, infrastructure and network support for all of our internal and external services. We run a state-of-the-art, secure and redundant IT platform with 24/7 support for our services as well as efficient internal support for staff. Members can flag technical emergencies outside regular office hours so they can be addressed directly.

### Activities in 2022

In 2021, we worked to migrate data that was not business-critical to higher-level service outsourcing solutions, allowing our team to focus on subjects closer to our core business. We will continue this work in 2022, and expect the cloud migration of infrastructure to continue for a number of years in accordance with our published cloud strategy.

We also aim to complete our work on migrating our automation system to Salt. This increases our efficiency in several ways: by allowing easier knowledge transfer, better change management, and improved collaboration. We will also enter the second phase of our work on email infrastructure, with a focus on authentication, mailing list administration and mail flow. We are also working to migrate operation of RIPE Atlas to the IT team. The increase in expenses here is due to the movement of budget from other activities to IT support.

# 3. External Engagement and Community

## Social Media

| Twitter **@ripencc** | Facebook **@ripencc** | Linkedin | Youtube |
|---|---|---|---|
| **17,525** followers | **7,664** followers | **9,879** followers | **3,330** subscribers |

**Follow us** for updates on RIPE NCC events, announcements, webinars, training courses and more.

## RIPE Labs Statistics
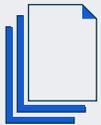
| **146** articles published | **23,079** unique page views per month (average) | **18,110** unique visitors per month (average) | Popular content **Community, RIPE Atlas, Research, Routing, Security** | Articles published by |
|---|---|---|---|---|

Articles published by
staff **82**   external **64**
total **146**

## RIPE 81 Virtual Conference

Attendees
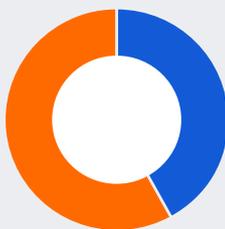
Returning **630**   Newcomer **457**

**85** countries participated at the meeting   **4** Sponsors

| DE **222** | NL **114** | UK **83** | US **55** | IT **47** |
|---|---|---|---|---|
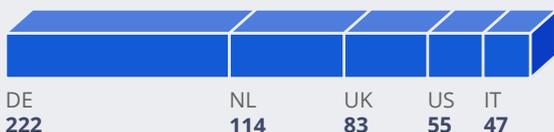
Top 5 Countries

## RIPE 82 Virtual Conference

Attendees
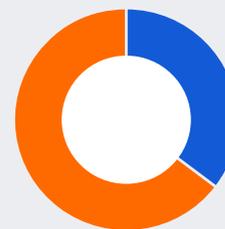
Returning **769**   Newcomer **421**

**95** countries participated at the meeting   **6** Sponsors

| DE **223** | NL **125** | UK **68** | US **53** | IT **51** |
|---|---|---|---|---|

Top 5 Countries

# 3. External Engagement and Community

## 3.1 Community Building and Member Engagement

| FTEs: 20.0 | Cost: 5,000 | CAPEX: - |
|---|---|---|

### Description

The Internet Number System depends on an active and engaged technical community to provide guidance and direction. Supporting this community has always been a driving force behind much of what we do as an organisation, in our role as RIPE secretariat. Engaging with our membership of 20,000+ LIRs is also a priority, as these interactions help us to understand their concerns and find new ways to support their operations.

Many different activities are included here. We organise two RIPE Meetings each year – these five-day events provide a core focal point which most of the community's activities are orientated around. We also support the ENOG, MENOG and SEE communities and facilitate their meetings. We help Network Operator Groups (NOGs) and regional or national Internet Governance Forums (IGFs) through funding, logistical support and by sending staff to attend or present. We run hackathons and provide RIPE Labs as a platform for the community to publish ideas and research. We manage the RIPE NCC Community Projects Fund, which supports projects that have value to the operation of the Internet (EUR 250,000 awarded each year since 2016). The RIPE Academic Cooperation Initiative (RACI) develops links between academic communities and RIPE.

This activity also ensures a high standard of accuracy and transparency in our reporting and when responding to questions from our membership or the community. We also provide and manage platforms to access information, including ripe.net, RIPE Labs, mailing lists and publish key RIPE NCC documents, including the Annual Report and the Activity Plan and Budget.

### Activities in 2022

While the COVID-19 pandemic remains a factor at the time of writing, we expect physical meetings to become a realistic option again in 2022. Due to public health restrictions we will be exploring hybrid virtual/physical RIPE Meetings, following earlier successes with virtual hubs. Similarly, now that we have developed capabilities in terms of virtual events (via the Meetecho platform especially), we expect to continue running a mix of virtual and physical meetings over the long term. The costs for RIPE Meetings in 2022 will reflect this with a decrease of 250 kEUR (as we will focus on hybrid meetings, we will lead by example and send fewer staff to attend in person).

In 2021, we launched a project to translate key information for members into five languages. This will continue next year and probably become an ongoing activity. Over the COVID-19 period we installed a new media room in our office. We will use this to experiment with other mediums such as videos and podcasts that may help us to engage with the membership at scale. Finally, recognising that mailing lists may limit participation from some members, we will investigate whether alternatives such as web forums can help to improve engagement.

### More Information

- ❯ RIPE NCC Open House
- ❯ RIPE NCC Member Lunches
- ❯ Meetings and Events
- ❯ Participate in the RIPE Community
- ❯ RIPE Meetings
- ❯ RACI
- ❯ RIPE NCC Hackathons
- ❯ RIPE Policy Development
- ❯ Current Policy Proposals
- ❯ RIPE NCC Community Projects Fund
- ❯ Rob Blokzijl Foundation

## 3.2 Community Learning and Development

| **FTEs:** 16.0 | **Cost:** 2,600 | **CAPEX:** - |
| --- | --- | --- |

### Description

A key part of our work has always been to support our membership through learning and development activities across our service region. Having the relevant skills and awareness of best current practices helps members to make informed decisions and improvements to their local Internet. We provide both face-to-face and online education in daily operations and specialised areas like IPv6 and routing security. We also provide e-learning courses and micro-learnings through the RIPE NCC Academy which allow people to study at their own pace. Our RIPE NCC Certified Professionals Programme helps people to get recognised for their expertise, allowing them to sit an exam and earn verifiable digital badges and certificates.

### Activities in 2022

We expect that we will return to face-to-face training courses, which have been on hold since 2020 due to the pandemic. We will ensure the necessary safety measures for participants and trainers and revise our processes to align with national and regional regulations. While COVID-19 forced us to switch to delivering our training courses entirely through webinars and E-learning, we have seen that this can help us to reach a wider section of members and so they will remain an important part of our training programme. We have therefore shifted some of our budget from face-to-face training to Certified Professionals in light of COVID-19 and working remotely becoming more prevalent. We are also increasing our promotional efforts for our Certified Professionals programme and plan to explore the possibility of running it as a cost recovery programme in the coming years.

### Webinars

**2018:** 33 (-40%)
**2019:** 34 (+3%)
**2020:** 53 (+56%)

2021: 97 (+83%) ↗

### Training Courses and Workshops

**2018:** 97 (+1%)
**2019:** 108 (+11%)
**2020:** 64 (-41%)

2021: 0 (-100%) ↘

### More Information

› Training courses
› Webinars
› RIPE NCC Academy
› RIPE NCC Certified Professionals

## 3.3 Community Coordination and Collaboration

| FTEs: 5.0 | Cost: 1,400 | CAPEX: – |

### Description

The RIPE NCC is part of a much larger community-led system of Internet governance that is based on an inclusive multistakeholder approach. We work to support and defend this system, often using the RIPE community as an example of how well it works in practice.

We are committed to maintaining close relationships with our industry partners, working with our sister Regional Internet Registries (RIRs) under the umbrella of the Number Resource Organization (NRO), as well as with ICANN, the Internet Engineering Task Force (IETF) and the Internet Society (ISOC). Effective coordination between these technical coordination bodies is vital to ensure the stable operation and governance of the Internet. We also support and participate in community-driven Internet governance events, including the global Internet Governance Forum (IGF) where we participate both as the RIPE NCC and as part of the NRO.

At a time of increased government focus on digital issues, it is important that we continue to engage directly with governments, regulators and law enforcement agencies in our service region. Through targeted events, publications and outreach, we provide policy makers and agencies with informed perspective on issues relevant to our membership and the RIPE community. Engagement with public authorities also ensures that we are aware of legislative developments that can affect our operations or our ability to carry out our mission as a Regional Internet Registry.

### Activities in 2022

We are optimistic that physical meetings will return in 2022. Regardless, we will continue to deliver targeted events, such as our Roundtable Meetings for Governments and Regulators, whether in person or virtual. Growing international tensions means there is more political focus on seeking national or regional autonomy and global cooperation and alignment among government stakeholders becomes a challenge. In these situations, we might choose to focus on more but smaller events that allow like-minded stakeholders to come together without the immediate need to focus on global disagreements. As the world returns to 'normal', we expect there to be some catch-up, also because a number of big conferences were postponed during the pandemic. For example, the ITU is now planning three major assemblies in 2022, instead of having one each year from 2020 to 2022.

We will continue our work to respond to public consultations and other opportunities to provide information and expertise to policymakers. We expect this work to grow alongside an increase in the number of legislative proposals. In response, we will increase our outreach efforts to share the technical community's perspective regarding the potential impacts proposals can have.

There is a slight decrease of FTEs in this activity, which is the result of shifting staff between budgeting categories rather than a reduction in this activity.

| | |
|---|---|
| ITU Development Sector Membership | 7,5 kEUR |
| ITU Tech sector membership | 30 kEUR |
| ITU Plenipotentiary participation | 12 kEUR |

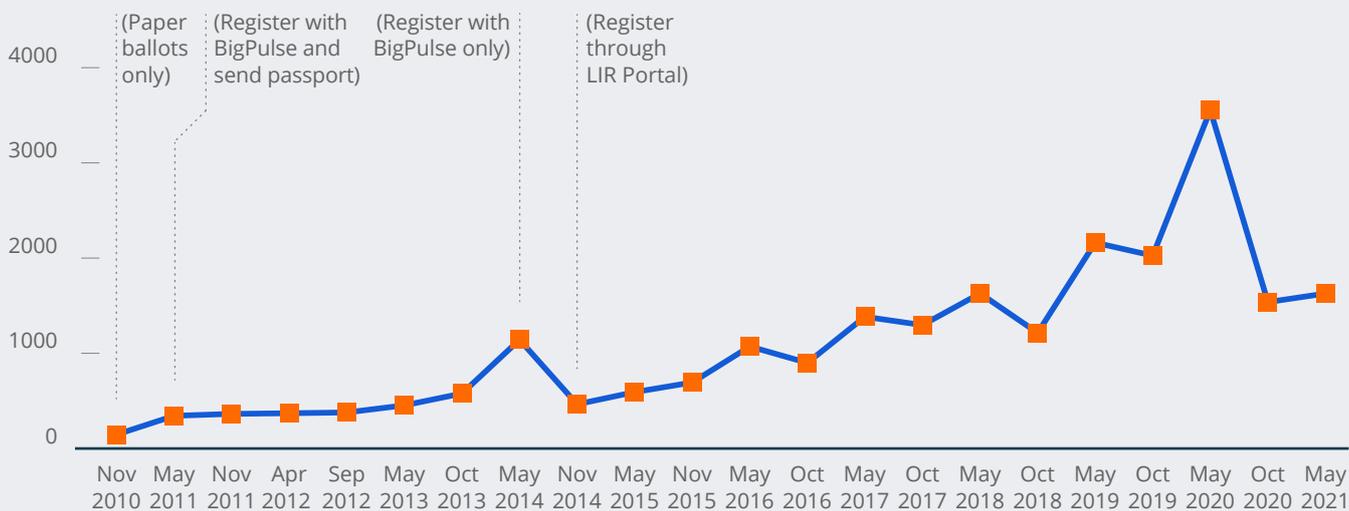### More Information

› RIPE NCC Roundtable Meetings for Governments and Regulators
› Internet Technical Community Coordination
› Number Resource Organization (NRO)

# 4. Maintaining a Strong Organisation

## GM Votes

(Paper ballots only)

(Register with BigPulse and send passport)

(Register with BigPulse only)

(Register through LIR Portal)

| 4000 | 3000 | 2000 | 1000 | 0 |

Nov 2010 · May 2011 · Nov 2011 · Apr 2012 · Sep 2012 · May 2013 · Oct 2013 · May 2014 · Nov 2014 · May 2015 · Nov 2015 · May 2016 · Oct 2016 · May 2017 · Oct 2017 · May 2018 · Oct 2018 · May 2019 · Oct 2019 · May 2020 · Oct 2020 · May 2021

## RIPE NCC Organisation Structure

**RIPE NCC Membership**

**Executive Board**

**Managing Director**

| **The Registry** | **Information Services** | **Community & Engagement** | **Organisational Sustainability** |
|---|---|---|---|
| • Registration of IP Addresses and ASNs<br>• Processing Registry Updates<br>• Membership Administration<br>• Registry Accuracy and Investigations<br>• LIR Portal<br>• RPKI<br>• RIPE Database | • DNS and K-Root<br>• RIPE Atlas<br>• RIPEstat<br>• RIS<br>• IT Security<br>• Research<br>• IT Support | • Membership Engagement<br>• Community Development<br>• Public Authority Engagement<br>• Internet Governance<br>• Training and E-learning services<br>• Certified Professionals<br>• Good of the Internet | • Facilities and Administration<br>• HR<br>• Legal<br>• Finance<br>• Information Security and Compliance<br>• Chief Scientist<br>• Global Strategic Engagement Advisor |
| **Policy Development** | **Global Information Infrastructure** | **Communications** | **Chief Scientist** |
| **Product Management** | **Information Technology** | **Community Development** | **Facilities & Admin** |
| **Registry Services** | **Research & Development** | **Events** | **Finance** |
| **Software Engineering** | | **Learning & Development** | **Human Resources** |
| | | **Public Authority Engagement** | **Information Security & Compliance** |
| | | **Web Services** | **Legal** |

## 4.1 Facilities

| **FTEs:** 3.8 | **Cost:** 2,150 | **CAPEX:** 250 |
| --- | --- | --- |

### Description

This activity covers our internal administrative function along with the rent and maintenance for all facilities and equipment. We have our head office in Amsterdam (as well as external storage), an office in Dubai, and a small office space in Moscow. Our activities in this area support efficient and centralised administrative services and provide a secure, healthy and productive environment for RIPE NCC staff.

### Activities in 2022

In light of COVID-19, we will focus on supporting a more hybrid way of working in 2022, with staff coming to the office to meet and collaborate but working from home remains the norm. This will lead to a decrease in expenses. We will review our current safety measures to make sure they match current and future regulations and will change our office set-up if required.

### More Information

> Office Information

## 4.2 HR

| FTEs: 4.4 | Cost: 1,000 | CAPEX: - |
|---|---|---|

### Description

The RIPE NCC is dependent on attracting and retaining qualified and engaged people from across our service region to reflect the diversity of our membership and to guarantee our staff has the right skills to carry out the work essential to meet our members needs. HR supports the organisation in hiring, onboarding and growing the talent of all employees in all parts of the organisation.

### Activities in 2022

COVID-19 created many new challenges for our staff. We will make sure they remain engaged and keep a healthy work-life balance. This is important whether staff are working from home or the office. We also plan to launch a leadership and talent development programme and improve our performance management, which will require additional staff and increase costs.

To support a truly diverse staff, we will also investigate the possibility of working from locations outside the Netherlands, to the extent that this is possible within the limits of tax and other regulations and contributes to our vision, mission and strategy.

### More Information

› Staff
› Careers at the RIPE NCC

## 4.3 Legal

| FTEs: 5.0 | Cost: 900 | CAPEX: - |
| --- | --- | --- |

### Description

We maintain a comprehensive legal framework that sets out the standards and procedures for our internal and external operations. This is essential to ensure that we remain accountable for all our activities, that our exposure to liability is limited and that we remain able to support the RIPE community. A key aim is to make sure that our members have confidence in the self-regulatory system under which we operate and in existing Internet governance structures more generally. We also work to ensure that our legal framework and procedures are consistent with applicable national and international legislation.

### Activities in 2022

We will continue to follow developments relating to GDPR and other applicable privacy-related laws and regulations and ensure that our procedures and framework remain up-to-date. This includes evaluating any third party cloud services we may use. We may also update our service agreements in line with our review of e-signatures.

Our Legal team will also work closely with their Community Coordination and Collaboration colleagues in relation to regulatory matters and Internet governance.

### More Information

> Legal Information

## 4.3.1 Sanctions

### Description
As a membership organisation that is legally based in the Netherlands, we must be able to demonstrate full compliance with all applicable sanctions under Dutch law.

### Activities in 2022
We have improved and automated our monitoring of membership information in our registry against EU sanctions. We remain committed to pursuing all legal means to ensure we can provide uninterrupted services to all members. We will continue to seek a permanent solution for sanctions that minimises the potential impact on our members.

### More Information
> Caught in the Middle: Regulatory Impact and our Mission as the RIPE NCC (RIPE Labs)
> Sanctions and the RIPE NCC: Current Status and Executive Board Position (April 2020)
> Sanctions and the RIPE NCC: Status Update (June 2020)
> RIPE NCC Sanctions Update (March 2021)

## 4.4 Finance

| FTEs: 8.0 | Cost: 1,400 | CAPEX: - |
|---|---|---|

### Description

High-quality administrative processes ensure that we make efficient use of our resources. Our accounting, administration and reporting adheres to the General Dutch Accounting Standards and aims to provide a true and fair view of our financial situation, beyond what is required by law. We maintain processes to ensure effective cost control and provide useful financial reporting to inform management decisions.

### Activities in 2022

Improvements to our enterprise resource planning (ERP) system, AFAS Online, have made our internal administration much more efficient. We will further develop this in the coming year, with a focus on our management reporting and project management. We will also work on a new charging scheme and related aspects, which will ultimately depend on the principles that the Executive Board wishes to apply following consultation with the membership.

### More Information

› Billing, Payment and Fees

## 4.5 Information Security, Risk and Compliance

| FTEs: 7.0 | Cost: 1,800 | CAPEX: - |
|---|---|---|

### Description

Both our members and the RIPE community trust us to maintain an accurate registry of IP resources and provide services that support their operations. Our services not only have to be secured against intrusion, but we also need to make sure our infrastructure is not used to attack others. Considering the services we run, including RIPE Atlas with its 10,000+ probes or our globally distributed K-root nodes, there is a lot at stake. We also need to provide a secure computing platform for our staff that allows them to perform their duties from the office, at home or abroad.

To maintain trust, we are strengthening our internal policies and processes to ensure the security and integrity of our network, information and systems. We have established a new organisational unit that combines the resources for IT security, Risk and Compliance. Centralising these capabilities supports a better internal focus on these key aspects, together with clear accountability.

### Activities in 2022

The overall driver for 2022 is to share more detail about our security measures. Aligning with formal frameworks, such as ISO 27001 and SOC2/SOC3, will allow us to receive formal external assurance reports. We intend to publish the results of these external assessments for transparency. Alongside this, we will continue our work in providing a third-party assurance report for RPKI and the registry in 2022 and 2023.

We will also continue to focus on compliance. With 76 countries in our service region, and a growing trend of local, regional and global regulation targeting Internet-related services (or that have the potential to affect our mission), we need to identify relevant laws or regulations early so we can develop an approach that ensures our compliance and can be executed when needed. We will also update and improve our risk management framework to provide an agile and automated approach throughout the organisation.

To supplement our existing responsible disclosure policy, we are planning to implement a bug bounty program for some of our services. To handle the increasing volume of threats, we will also implement a Security Orchestration, Automation and Response system, and extend the security team to 24-hour coverage alongside our IT and service operations teams.

We will also increase our cooperation with security organisations, most notably by supporting an independent TF-CSIRT which supports an open, transparent and inclusive security culture that is consistent with the values of the RIPE community. In line with the increased focus on information security, risk and compliance, this activity is increasing in our 2022 budget.

### More Information

> Responsible Disclosure Policy
> Service Announcements
> Service and Security Announcements
> Report Technical Emergency

## 4.6 Office of the Managing Director

| **FTEs:** 4.9 | **Cost:** 1,500 | **CAPEX:** - |
|---|---|---|

### Description

The Managing Director of the RIPE NCC is responsible for the day-to-day operation of the organisation and is invited to attend meetings of the Executive Board as set out in the Articles of Association. The Managing Director also serves on the Executive Council of the Number Resource Organization (NRO) which acts as a coordinating body for the world's Regional Internet Registries (RIRs).

The Office of the Managing Director consists of an Executive Assistant and Management Assistant who support the Managing director and the Executive Board, and two advisors. Our Global Strategic Engagement Advisor and Chief Scientist are also included in this activity, as well as the contributions we make to external organisations (see table below).

As our environment becomes more uncertain and affected by political developments, we need to adapt and respond quickly. We will have therefore continue to update our leadership philosophy and internal structure to ensure we remain geared towards high performance and quality service delivery. An important part of this is having a clear vision and mission and a five-year strategic plan that provides direction for all of our activities.

### Activities in 2022

In 2022 we will continue to support the Internet Number Registry System by participation in the Number Resource Organization (NRO) and contributing to strategy development. We will continue to support technical standardisation work in the IETF and follow and engage in global discussions in various Internet Governance Forums. We will continue to make a series of annual contributions to organisations that play an important administrative role in the global governance of the Internet. These are listed in the table below for transparency.

Internally, we are focusing on the development and continuous improvement of leadership within the organisation alongside a review of our organisational structure to ensure it remains efficient and fit for purpose.

| | |
|---|---|
| NRO shared costs contribution | 140k EUR |
| NRO ICANN contribution for IANA number functions | 300k EUR |
| IETF Endowment contribution | 100k EUR |
| ISOC Platinum membership | 50k USD |

## 4.7 RIPE Chair

| FTEs: 1.0 | Cost: 250 | CAPEX: - |
| --- | --- | --- |

### Description

The RIPE Chair Team is responsible for ensuring that RIPE functions properly and plays an important role in its development as a community. In 2019, the process of selecting the RIPE Chair and a Vice Chair was started by the community. The processes the community used to make its selections are outlined in RIPE Documents (ripe-727 and ripe-728). This was the first time that the RIPE Chair was selected by the community through a consensus-based process. In April 2020, Hans Petter Holen stepped down as RIPE Chair, and in July 2020 Mirjam Kühne was selected as the new RIPE Chair and Niall O'Reilly was selected as the RIPE Vice Chair. Mirjam and Niall assumed their roles in September 2020.

### Activities in 2022

As secretariat for the RIPE community, we fund the work of the RIPE Chair Team. In 2020, our Executive Board agreed to remunerate this role in a five-year contract that stipulates the independence of the chair from the RIPE NCC. We also fund the travel and expenses incurred by the RIPE Chair Team in carrying out their duties. The total financial commitment for this activity is budgeted at 250 kEur for 2022.

# 5. Unforeseen Activities

There may be activities that were not entirely foreseen at the time of writing this document or that started recently and are not at the stage where they can be estimated to have a material financial impact. Reacting quickly to changes in the environment or new requirements of the RIPE NCC membership and other stakeholders is always a goal of the RIPE NCC. In line with good corporate governance, any unforeseen activities that arise are developed in close consultation with the RIPE NCC Executive Board. When there is any material financial impact, the Executive Board must approve the resulting action.

The Joint RIR Stability Fund is also in place to mitigate and prepare for unforeseen regional and global disruptions or threats and safeguard the stability of the RIR system. The RIPE NCC is committed to a maximum contribution of 1,000 kEUR via the fund, which would come out of our reserves if activated.

# Budget Figures 2022

**RIPE NCC Budgeted Statement of Income and Expenditure 2022 (in kEUR)**

| Income | B2022 | B2021 | Budget 2022 vs Budget 2021 | | LE2021 |
|---|---|---|---|---|---|
| Service Fees Existing Members | - | 33,320 | (1,820) | -5% | 32,800 |
| Independent Resource Fees | 31,500 | 1,056 | (6) | -1% | 1,050 |
| Service Fees New Members | 1,050 | 1,050 | - | - | 2,050 |
| Re-opening Fees | 100 | 200 | (100) | -50% | 100 |
| **Member Fees** | **33,700** | **35,626** | **(1,926)** | **-5%** | **36,000** |
| Member Sign-up Fees | 1,200 | 2,400 | (1,200) | -50% | 5,400 |
| RIPE Meeting | 250 | 235 | 15 | 6% | - |
| Sponsorship | 250 | 255 | (5) | -2% | 50 |
| Certified Professionals | 150 | - | 150 | - | - |
| Other Income | 50 | 50 | - | - | - |
| **Total income** | **35,600** | **38,566** | **(2,966)** | **-8%** | **41,450** |
| **Expenditures** | | | | | |
| **Personnel** | **19,342** | **17,318** | **2,024** | **12%** | **17,100** |
| Housing & Insurances | 1,244 | 1,104 | 140 | 13% | 1,130 |
| Office Expenses | 736 | 871 | (135) | -15% | 350 |
| Contributions | 946 | 876 | 70 | 8% | 900 |
| Information Technology | 3,687 | 2,687 | 1,000 | 37% | 3,550 |
| Travel | 817 | 823 | (6) | -1% | 50 |
| Consultancy | 4,382 | 4,057 | 325 | 8% | 3,600 |
| Outreach & PR | 2,756 | 3,910 | (1,154) | -30% | 1,300 |
| Bank Charges | 290 | 334 | (44) | -13% | 270 |
| Depreciation | 1,000 | 1,227 | (227) | -19% | 1,100 |
| Bad Debt & Unforeseen | 250 | 350 | (100) | -29% | 350 |
| **Total expenses** | **35,450** | **33,557** | **1,893** | **6%** | **29,700** |
| **Surplus Before Financial Result** | **150** | **5,009** | **(4,859)** | **-97%** | **11,750** |
| Result on Interest Income | 150 | 150 | - | - | 30 |
| Result on Exchange Differences | - | - | - | - | (30) |
| Result Revaluation Financial Fixed Assets | 100 | 100 | - | - | (100) |
| **Financial Result** | **250** | **250** | **-** | **-** | **(100)** |
| **Surplus/Deficit** | **400** | **5,259** | **(4,859)** | **-92%** | **11,650** |
| **FTEs** | **186.8** | **169.5** | **17.3** | **10%** | **162.8** |
| **Capital Expenditure (CAPEX)** | **1,150** | **1,072** | **78** | **7%** | **500** |
| **Number of LIRs** | **22,500** | **23,000** | **(500)** | **-2%** | **22,500** |
| Expense per LIR | 1,576 | 1,459 | 117 | 8% | 1,320 |
| Average Personnel Costs per Employee | 104 | 102 | 2 | 2% | 105 |
| Number of Trips | 527 | 578 | (51) | -9% | 1 |

# Development of the RIPE NCC Reserves

The Table below shows the RIPE NCC's capital development. The RIPE NCC Capital consists of the Clearing House and any addition to the Clearing House, either from capital gains or from an accumulation of the surplus.

## Development of the RIPE NCC Reserves With a Redistribution in 2022 (in kEUR)

| Year | Surplus | Addition to the Capital | Capital at 31 December | Expenses Per Year | % of Expenses |
|---|---|---|---|---|---|
| 2014 | 3,414 | - | 25,326 | 21,224 | 119% |
| 2015 | (262) | - | 25,064 | 21,978 | 114% |
| 2016 | 325 | - | 25,389 | 23,528 | 108% |
| 2017 | (173) | - | 25,216 | 25,848 | 98% |
| 2018 | 245 | - | 25,461 | 28,089 | 91% |
| 2019 | 6,774 | 6,774 | 32,235 | 32,118 | 100% |
| 2020 | 238 | - | 32,473 | 29,093 | 112% |
| 2021 LE | 8,758 | - | 41,231 | 29,700 | 139% |
| 2022 Budget | 320 | - | 41,551 | 35,450 | 117% |

## Development of the RIPE NCC Reserves Without a Redistribution in 2022 (in kEUR)

| Year | Surplus | Addition to the Capital | Capital at 31 December | Expenses Per Year | % of Expenses |
|---|---|---|---|---|---|
| 2014 | 3,414 | - | 25,326 | 21,224 | 119% |
| 2015 | (262) | - | 25,064 | 21,978 | 114% |
| 2016 | 325 | - | 25,389 | 23,528 | 108% |
| 2017 | (173) | - | 25,216 | 25,848 | 98% |
| 2018 | 245 | - | 25,461 | 28,089 | 91% |
| 2019 | 6,774 | 6,774 | 32,235 | 32,118 | 100% |
| 2020 | 238 | - | 32,473 | 29,700 | 109% |
| 2021 LE | 8,758 | 8,758 | 41,231 | 29,700 | 139% |
| 2022 Budget | 320 | 320 | 41,551 | 35,450 | 117% |