RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Activity Plan and Budget 2020

RIPE NCC Activity Plan and Budget 2020

The RIPE NCC Activity Plan and Budget 2020 documents the activities we plan to undertake in 2020 along with their associated costs. Costs are provided in terms of Full Time Employees (FTEs), Operational Costs (OPEX) and Capital Expenditure (CAPEX). The document also includes a section outlining our strategic focus points.

This document is the clearest way that RIPE NCC members can learn about, comment on and ultimately shape the direction we will take next year. We see this as an integral part of maintaining the trust of our members, by ensuring high standards of transparency and accountability.

It is important that members are aware of how to provide feedback on the Activity Plan and Budget. We publish a draft version of the document before discussions take place in the RIPE NCC Services Working Group and the RIPE NCC General Meeting (GM) in October. Members are also encouraged to ask questions and discuss the document on the RIPE NCC Membership Discussion mailing list (members-discuss@ripe.net).

The feedback received over this period is then incorporated into a final Activity Plan and Budget that is approved by the RIPE NCC 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	Member input incorporated into Activity Plan and Budget	Final version of Activity Plan and Budget published
Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Changes to this Activity Plan

We perform a wide range of activities, something that has traditionally been reflected in the wordcount of past Activity Plans. In recent years we have been looking for ways to make it easier for members to get an accurate but concise overview of our plans. For this year's document, we decided to focus on *what is changing*. We have therefore removed several layers of sub-activities with mostly descriptive content that rarely changed. To compensate, we have included links where members can learn more about an activity if needed. Next year, we plan to optimise our Activity Plan and Budget further still by seeking closer alignment between our activities and our internal organisational structure. This will help maintain a clear overview of our use of funds as our internal structure evolves and will help us better illustrate links between our internal activities and our strategic priorities.

As in previous activity plans, we indicate whether activities are "Expanding" or "Decreasing", which is defined as a 10% (or greater) increase or decrease over the previous year's budget, or else "Ongoing". We added a new "Notable Investments" column to the table below the Executive Summary, which highlights specific areas of work that will receive more than 100 kEUR investment in 2020.

Executive Summary

Next year we will focus on improving our existing service delivery. No new activities will be introduced in 2020. Instead, our priority will be to invest in modernising our technical infrastructure and making our processes more efficient. We will also continue to evolve the structure of our organisation to optimise service delivery. The results of this ongoing process will be detailed in next year's Activity Plan and Budget.

To support this, and with an ongoing emphasis on cost control, we are planning a budget increase of 4% in 2020 with no increase to our FTE count. This relatively minor increase will accommodate rising standard expenditures resulting from changes in the labour market and will provide for ongoing work needed to meet our commitments to the membership and the RIPE community.

As a result of IPv4 runout, there is a forecast income decrease of 12% in 2020 and we expect that we will end the year with approximately 1,500 fewer RIPE NCC member accounts than we started with (with 23,000 at year's end). Our membership fee will remain at EUR 1,400 per LIR account and there is an anticipated surplus of 3,332 kEUR to potentially be redistributed to the membership. The cost per LIR is expected to be EUR 1,498 – up from EUR 1,367 in the 2019 Budget.

Particular areas of increase include the ongoing development of our RIPE NCC Certified Professionals programme, as well as development of the Resource Certification (RPKI) service. We also anticipate an increase in the amount of legal work in response to regulatory developments that affect our operations, which accounts for the expansion of this activity. With the advent of IPv4 runout, a big part of our activity over the coming period will involve further strengthening the RIPE Registry and our associated processes, including the implementation of a waiting list for returned IPv4 addresses and proactive monitoring of registry data accuracy.

A series of projects in 2020 will investigate the suitability of moving technical infrastructure that is currently maintained in-house to a set of cost-effective cloud solutions. This would include our existing data back-up system, certain administrative systems, and the infrastructure we have in place for storing measurement data collected via our Routing Information Service (RIS), RIPE Atlas and the RIPEstat Data API. The aim in all these projects will be to assess the potential for developing more agile, innovative data storage solutions capable of reducing time to insight whilst ensuring the same high level of resilience provided by the existing setup.

We are currently implementing changes to our internal structure, involving the merger and restructure of some departments, along with an overall move to a flatter organisational structure. An important aim in this will be to ensure that the internal structure of our organisation continues to support those activities that create real value for our members.

The areas of activity supporting these initiatives have been marked as "Expanding" in the document, meaning that the costs for these activities have increased by at least 10% over the 2019 Budget. The Cloud Strategy and Revised Organisational Model projects do not result in notable budget increases for their parent activities, but nevertheless come with associated costs and are listed under the new "Notable Investment" category. The "Other Services" activity has been removed for 2020 and the activities previously included here have been added to the Registry section, which more accurately reflects where this work takes place and accounts for a significant portion of the 10% increase to this activity. The removed section contained some activities related to customer service support that were not accounted for in other areas of activity. It also included the RIPE Database Proxy Service, Near Real time Mirroring (NRTM) and the LISP EID Registry.

Activities in both Management and HR and Finance and Administration will begin to decrease in 2020. This is largely due to efficiency gains we have been able to achieve in 2019. These will be further reinforced next year with the planned improvement and automation of our resource planning system.

Activities that are increasing or decreasing by 10% or more compared to the 2019 Budget

⊕ Expanding	⊖ Decreasing	💡 Notable Investment
› The Registry (10%) › RPKI (156%) › Training (30%) › RIPEstat (19%) › Legal (54%)	› Other Services (-100%)	› Active Registry Monitoring › Certified Professionals / E-Learning Content Development › Cloud Strategy › Revised Organisational Model

Note: activities are deemed to be expanding or decreasing in financial terms only. This does not indicate a higher or lesser degree of importance being placed on an activity. Notable Investments (final column) are defined as activities that cost 100 kEUR or more. The -100% decrease in "Other Services" reflects that this activity has merged with "The Registry".

Overview of 2020 Strategic Focus Points

The strategic focus of the RIPE NCC is to deliver world-class services while engaging to connect people to maintain the resiliency and stability of the Internet. The RIPE NCC Executive Board decided in 2017 that this would be the three-year focus for our organisation, applying from 2018 to 2020. This strategy was based around four key pillars:

> **Service Delivery and the Registry/RIPE Database** – Rethink service delivery, incorporate a professional trust model, and ensure the accuracy of the Registry/RIPE Database.
> **Engagement** – Carry out effective outreach to all stakeholders to stay connected and fulfil our goals.
> **RIR System** – Strengthen the global RIR system and ensure its accountability, transparency and resilience, and allow it to adapt to the changing environment.
> **Member Base** – Understand our members to meet their needs and add value.

Following from this, in 2018 we focused on improving our service delivery model and understanding the needs of our growing membership. In 2019, we focused on accommodating significant member growth, making our infrastructure more robust, improving the efficiency of our operations, strengthening due diligence, making training more effective, and providing tools and measurements to support the operations of our members.

This year, we carried out the RIPE NCC Survey 2019 and the results were overwhelmingly positive, showing clear support for our work over the past two years and the responsible use of member funding. Importantly, the work completed over the past two years gives us a solid position to build on in 2020. Next year our focus will be on improving existing services and processes, maintaining effective member outreach and external engagement, modernising our technical infrastructure, and adapting the internal structure of our organisation so that we remain geared towards high performance and efficient service delivery. Much of this work will be highly innovative in nature.

We expect membership growth to slow considerably following IPv4 runout. At the same time, we will likely see members with multiple LIRs begin to consolidate their resources within a single LIR and close their other accounts. Our earlier work means that we are well prepared and do not view this trend as a threat to our long-term stability.

A series of factors related to IPv4 exhaustion will continue to impact our core registry function following runout, and much of our focus in this area will remain on protecting the resources of our members, processing IPv4 transfers and other registry updates, and ensuring appropriate due diligence. We will continue to look for ways to improve the quality of data in the RIPE Registry, which is the foundation of our role as the authority on Internet number resources in our service region. In 2020, we will become more proactive in detecting incorrect registry data and working with members to get it fixed. The aim of this move towards more active registry maintenance is to eventually develop an automated approach that draws on third-party data sources to identify outdated registry data. Alongside this, we are developing a more streamlined approach that will make most registry updates faster and less burdensome for members, without affecting the quality of our due diligence.

Recently there has been significant renewed interest in routing security, with an emphasis on Resource Certification (or RPKI). We maintain one of the five global Trust Anchors at the core of the RPKI system, and in 2020 our priority will be to ensure this infrastructure remains stable and secure. We will also work to support RPKI uptake through communications and training efforts and will investigate whether further development of an RPKI validator is practical and needed.

Most of our services run on a complex technical infrastructure that we maintain entirely in-house. This comes at a considerable cost to the membership in terms of CAPEX, OPEX and related obligations in terms of long-term contracts. In 2020, we will investigate whether it would be beneficial to move some of our services to cloud-hosted solutions and adopt a "cloud first" approach to future developments. This would have a number of obvious benefits in terms of reduced costs and maintenance overhead, allowing us to become more agile, and introducing greater scalability and redundancy. Initial areas of investigation include the development of a parallel storage system for RIPE Atlas and RIPEstat that will be hosted on a third-party cloud system. We will also look at moving some of our data back-up systems to the cloud. There are a number of important considerations involved in such an approach, notably issues involving which categories of data and which critical services must remain in-house. We will discuss potential changes further with the RIPE community before any significant actions are taken.

There is a clear trend towards governments and national authorities taking a more active approach to Internet regulation, which can significantly impact the operations of the RIPE NCC and our membership. In 2020, we will continue to develop our programme of external engagement with governments, regulators, law enforcement and other stakeholders. The RIPE NCC is widely regarded as a neutral and trusted source of technical information, which allows us to ensure the perspectives from the RIPE community are represented in public policy discussions about the Internet. An important part of these efforts is educating policy makers about existing Internet governance approaches that may be better-suited to addressing Internet-related policy challenges than traditional regulatory models. We see this as part of our role as stewards of the open and collaborative Internet model, a role we share with our colleagues from the other RIRs, ICANN, ISOC and the IETF. Alongside this work, we anticipate the need to gradually increase our efforts to understand and assess the impact of regulations on our operations and ensure that any changes are implemented properly, as with GDPR in 2019.

We enjoy strong support from our members, the RIPE community and other stakeholders. This was clear from the results of our 2019 survey, which collected feedback from over 4,000 people. Next year we will continue to look at how we can better engage with our members to understand their needs and to raise awareness of key issues like IPv6. This will include additional RIPE NCC-focused events alongside the existing RIPE, ENOG, MENOG and SEE Meetings. We will also continue to look at where we can add value to the operations of our members. In 2020, this will notably include further development of our new Certified Professionals programme and further investment in our online learning resources, both of which are in response to a clear desire from members that was re-confirmed in the recent survey results.

Finally, a key focus over the coming period will be on updating our organisational structure to ensure that we remain a high-performing organisation. We are in the process of moving to a flatter structure in which staff are given

greater accountability and authority over their work. As part of this, we have already seen changes to the way our technical departments are structured, and we are in the process of merging our Customer Services and Registration Services departments, which will support greater consistency and efficiency in processing member requests.

Overview of RIPE NCC Costs per Activity 2020

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. It is possible to click on any Level 1 or Level 2 activity for more detailed information.

Overview of RIPE NCC Budgeted Costs for 2020

|	FTEs	OPEX kEUR	CAPEX kEUR	Change from B2019 in %
1.0 The Registry	**54.9**	**7,092**	**0**	**10%**
1.1 Registry Maintenance	42.5	4,975		7%
1.2 RIPE Database	7.6	996		4%
1.3 Resource Certification (RPKI)	2.0	415		156%
1.4 LIR Portal	2.8	706		4%
2.0 Services	**32.6**	**5,146**	**649**	**12%**
2.1 Training	14.9	2,926		30%
2.2 RIPEstat	9.4	1,160	289	19%
2.3 RIPE Atlas and RIS	8.3	1,060	360	4%
2.4 Other Services	0.0	0		-100%
3.0 Coordination Activities	**43.6**	**10,889**	**696**	**4%**
3.1 DNS and K-root Operations	4.3	1,357	665	4%
3.2 Data Analysis and Scientific Support	4.7	594		4%
3.3 RIPE Labs	1.9	331		4%
3.4 Outreach and Engagement	20.4	4,562		4%
3.5 Good of the Internet Initiative	0.7	481		4%
3.6 IPv6 Support	1.2	121		3%
3.7 RIPE Meetings	6.2	2,148	31	4%
3.8 RIPE Policy and Community Support	1.5	190		4%
3.9 ICANN/IANA/IETF/ISOC/RIRs	2.7	1,105		4%
4.0 Internal	**34.0**	**9,767**	**770**	**-3%**
4.1 IT and Information Security	10.9	3,156	670	-5%
4.2 Facilities (Rent and Utilities)	0.5	1,238	100	4%
4.3 Management and HR	9.0	3,142		-8%
4.4 Finance and Administration	8.5	1,466		-2%
4.5 Legal Activities	2.9	455		54%
4.6 Organisational Activities	2.2	310		4%
RIPE NCC	**165.1**	**32,894**	**2,115**	**4%**
Bad Debts		250		0%
Depreciation		1,300		-7%

RIPE NCC Activities 2020

RIPE NCC Service Region
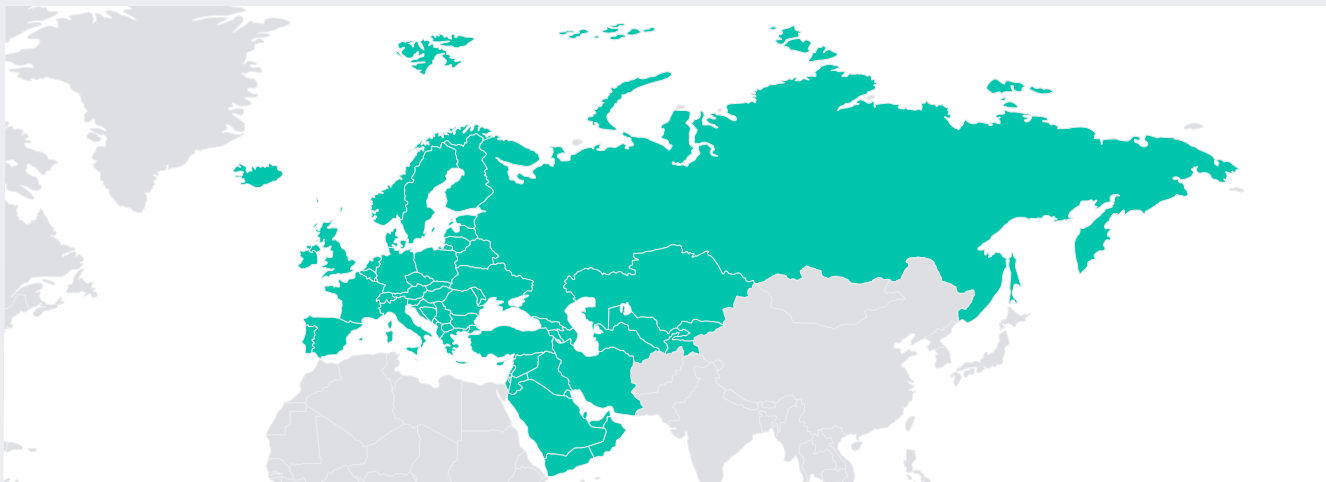
Annual Membership Growth (LIR accounts)

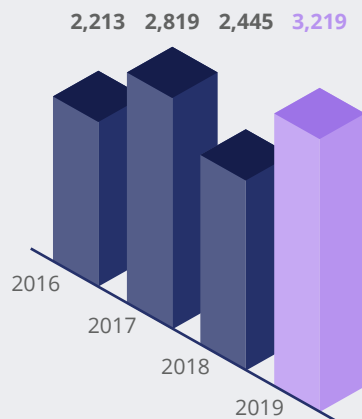17,601   20,875   24,870

2017
2018
2019
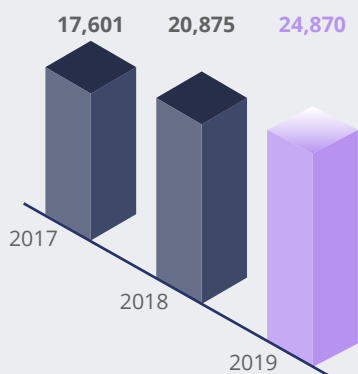
Internet Number Resource Records in the RIPE Registry

130,000

119,000

110,000

2017   2018   2019
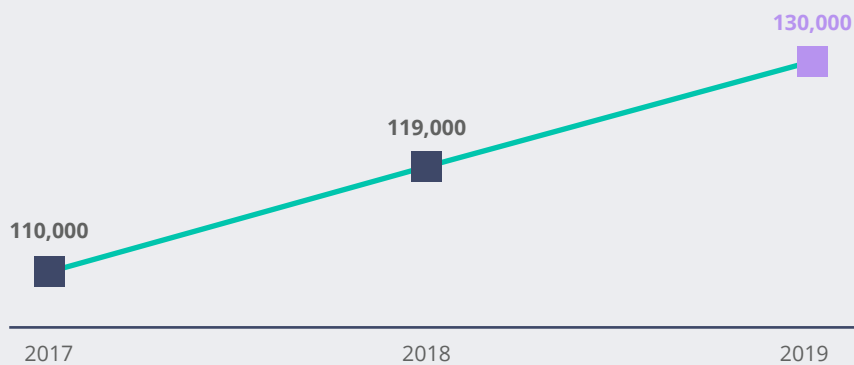
Allocations and Assignments (IPv4, IPv6 and ASNs)

8,100   8,205   8,800   10,757

2016
2017
2018
2019

Assisted Registry Checks

2,213   2,819   2,445   3,219

2016
2017
2018
2019

Resource Certificates Created (RPKI)

3,736   4,713   5,431   8,650

2016
2017
2018
2019
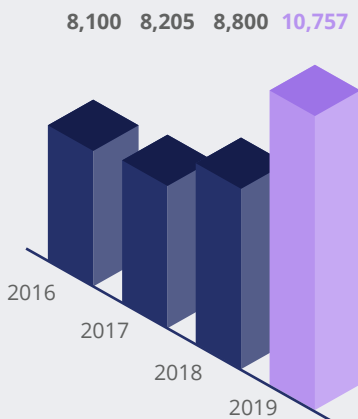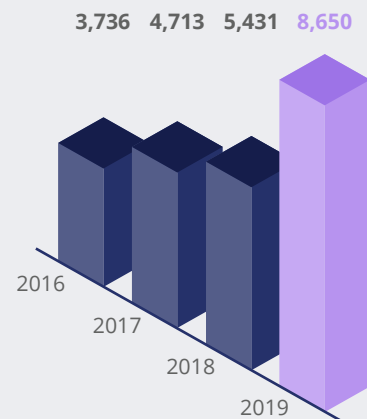
Activity Overviews

For each of the main areas of activity in the following report, we've provided an activity overview that gives anyone reading this document a summary of what to expect in that area in 2020.

1 **Status** - indicates whether the area of activity is expected to expand, decrease, or remain ongoing in 2020

> 'Expanding' - expenses for this activity will increase by more than 10% over the Activity Plan and Budget 2019

> 'Decreasing' - expenses for this activity will decrease by more than 10% over the Activity Plan and Budget 2019

> 'Ongoing' - expenses for this activity deviate less than 10% from the Activity Plan and Budget 2019

2 **FTE** - Full-time equivalents indicates the average amount of personnel assigned to each activity as well as supporting staff over the course of the full year.

3 **OPEX** - Operational expenses are all direct costs that relate to the activity or project, and a portion of overhead that is related to absence (vacation, illness, education) that has been allocated to the project. The overhead allocation is calculated by dividing the percentage of FTEs involved in the activity by the overall number of FTEs. Operational expenses exclude depreciation and bad debt expenses. Sponsorship is reported as Income in the Budget and it offsets the costs of RIPE Meetings, Regional Meetings and RIPE Atlas probes.

4 **CAPEX** - Capital Expenses are all items that are taken as an asset. These items include hardware and software, infrastructure, and office furniture.

5 **Description** - provides a high-level description of the area of activity.

6 **Activities in 2020** - Describes key activities and projects planned to take place in 2020.

7 **Measurable usage** - provides statistics (measured at 30 June 2019 where possible) indicating important trends in this area of activity.

8 **More Information** - A set of links to pages on our website where you can find more information about activities mentioned in each section.

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1.2 RIPE Database

| **2** | **3** | **4** |

1 **Status: Ongoing** | **FTEs:** 7.6 | **Cost:** 996 | **CAPEX:** -

5 **Description**

The RIPE Database contains information about the IP addresses and AS Numbers used by networks in our service region. For these resources, the database contains information about their current holders along with contact details and related attributes. This information is vital for the stability of global Internet routing and allows users to find information for network troubleshooting and Internet coordination. Resource holders are responsible for maintaining their information in the database, while we perform the role of data controller. Our work in this area supports greater integration with the LIR Portal, and also includes related services such as the RIPE Database Proxy Service and the Near Real Time Mirroring (NRTM) service.

6 **Activities 2020**

We will continue to align our Registration Data Access Protocol (RDAP) implementation with the other RIRs. We will work on further GDPR compliance. We will make further improvements to the resilience of the database. We will also respond to requests for new features from the community or after RIPE policy changes, such as modernising the NRTM service (NWI-9) and reducing the number of out-of-region **route** objects. We also aim to make usability improvements to the interfaces for search, **route** object creation, and queries with personal authorisation. Finally, in 2020 we will investigate the suitability of moving some RIPE Database elements onto third-party cloud infrastructure and share our findings with the RIPE community.

7 **RIPE Database queries per minute**
2017: 22,000
2018: 27,000 (+23%)

2019: 42,000 (+56%)

8 **More Information**
> RIPE Database
> Numbered Work Items
> Near Real Time Mirroring (NRTM)

1. The Registry

1.1 Registry Maintenance

Status: Ongoing	FTEs: 42.5	Cost: 4,975	CAPEX: -

Description

We are responsible for allocating and assigning Internet number resources (IPv4/IPv6 addresses and AS Numbers) in our service region. This includes maintaining the RIPE Registry, which contains public and non-public information about the holders of these resources. Public registry data is available (and can be updated) via the RIPE Database.

A customer services function provides support to RIPE NCC 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 2020

We will continue to ensure that the RIPE Registry can accurately deal with IPv4 transfers and the potential for conflicts over address space, which are the product of a growing shortage of IPv4. There will also be a focus on further strengthening our processes for protecting resource holders from attempts to steal their resources and ensuring that sponsoring LIRs carry out their due diligence obligations regarding End User resources. We will continue our work with the other RIRs to improve registry data quality and make this readily available to the Internet community. In 2019, we validated all abuse contact information in the RIPE Database and this will continue as an ongoing activity in 2020 – new abuse contacts will be checked when they are created, as will existing contacts when they are updated.

In 2020, we will take a more proactive approach to monitoring the accuracy of registry data and contacting members when we find outdated information. This will mean that we become less reliant on members initiating registry updates. We aim to eventually develop an automated approach that compares registry data against third-party sources. For example, the system might find where a company name has been updated in a national registry and send a notification if there has not been a corresponding registry update.

At the same time, a more streamlined approach to due diligence (referred to as a "Trust Model" in earlier discussions with the community) will be rolled out over the coming period. This will greatly speed up the majority of registry update requests in low-risk cases where we have a high degree of certainty that the update is legitimate, based on objective and clearly-defined factors. This will reduce the procedural burden on our members and make us more consistent in terms of the documentation we ask for.

Through 2019, we received a high number of new membership applications ahead of runout. In 2020, we anticipate that many additional LIR accounts will be closed once the 24-month holding period that applies to IPv4 /22 allocations and 16-bit ASN assignments expires (as this means that members can transfer their resources to a single account and close the remaining LIRs). This will generate a high numbers of registry update requests as members get their administration in order.

In 2020, we will continue to review our processes to improve the customer experience and increase efficiency. Customer feedback will be actively sought and tracked so that we remain aware of the expectations and opinions of our members.

Number of Resource Records the RIPE NCC is Responsible for:
2017: 110,000
2018: 119,00 (+8%)

2019: 130,000 (+9%)   ↗

LIR Accounts:
2016: 15,008
2017: 17,601 (+17%)
2018: 20,875 (+19%)

2019: 24,870 (+19%)   ↗

More Information
› Abuse-c Information
› Assisted Registry Check (ARC)
› Address Hijacking
› Resource Transfers
› New Membership Applications
› Due Diligence Information
› Billing Information
› Closure of Members

1.2 RIPE Database

Status: Ongoing	**FTEs:** 7.6	**Cost:** 996	**CAPEX:** -

Description

The RIPE Database contains information about the IP addresses and AS Numbers used by networks in our service region. For these resources, the database contains information about their current holders along with contact details and related attributes. This information is vital for the stability of global Internet routing and allows users to find information for network troubleshooting and Internet coordination. Resource holders are responsible for maintaining their information in the database, while we perform the role of data controller. Our work in this area supports greater integration with the LIR Portal, and also includes related services such as the RIPE Database Proxy Service and the Near Real Time Mirroring (NRTM) service.

Activities 2020

Making sure that we align our Registration Data Access Protocol (RDAP) implementation with the other RIRs is an ongoing focus in 2020. We will continue to make further improvements to the resilience of the database, and ensure that we remain responsive to requests for new features that come from the community or follow from RIPE policy changes. A particular instance of this is the work we will be doing to further modernise the NRTM service (NWI-9) and reduce the number of out-of-region **route** objects. Alongside this, our efforts will be ongoing in ensuring full compliance with GDPR.

In 2020, we aim to make usability improvements to the interfaces for search, **route** object creation, and queries with personal authorisation. As part of the strategy for investigating cloud storage solutions, we will assess the suitability of moving some RIPE Database elements onto third-party cloud infrastructure and share our findings with the RIPE community.

RIPE Database queries per minute:

2017: 22,000
2018: 27,000 (+23%)

2019: 42,000 (+56%)

More Information
› RIPE Database
› Numbered Work Items
› Near Real Time Mirroring (NRTM)

1.3 Resource Certification (RPKI)

Status: Expanding	FTEs: 2.0	Cost: 415	CAPEX: -

Description

RPKI is a community-driven system that allows networks to receive digital certificates which prove they are the legitimate holder of their IP addresses and AS Numbers. The certificate-holder can use this to make statements about their resources that can be used to secure Internet routing, particularly BGP Origin Validation. RPKI is a valuable step towards full BGP security, including path validation as developed by the IETF's SIDR Working Group.

Activities 2020

We have recently seen significant RPKI uptake, as greater attention is being paid to the security of Internet routing. Our priority over the coming period will be to improve the resiliency and security of the RPKI Trust Anchor and Certificate Authority so that network operators can trust in the system. As part of this, we intend to use an external party to conduct a risk and security analysis of the RPKI infrastructure, which mostly accounts for the budgeted increase for this activity.

Initially, our RPKI validator was the only production-grade tool that allowed network operators to perform origin validation. A positive development recently has been the development of alternative validators by other organisations, which means a greater diversity of tools for network operators to choose from. However, our own validator needs further development if it is to remain a worthwhile option alongside these newer tools. In 2020 we will therefore investigate whether further development of our own RPKI validator is practical and needed.

Finally, results from the RIPE NCC Survey 2019 indicated that around half of our members do not know what RPKI is or how it can be used to support their operations. In 2020 we will work to raise awareness of the RPKI system and its benefits. We will do this through organising RPKI "Deployathons" (RPKI-focused Hackathons), outreach and promotion, and training.

Resource Certificates created:

2017: 4,713
2018: 5,431 (+15%)

2019: 8,650 (+59%)

RIPE NCC-announced IPv4 space covered by ROAs:

2017: 14% prefixes; 28% addresses
2018: 18% prefixes; 30% addresses

2019: 37% prefixes; 48% addresses

More Information

> Resource Public Key Infrastructure

1.4 LIR Portal

Status: Ongoing   **FTEs:** 2.8   **Cost:** 706   **CAPEX:** -

Description

Functioning 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 the interface to view and update their contact, billing and resource information, make resource requests, check the status of open tickets, and register for RIPE NCC General Meetings, all without any need to contact RIPE NCC staff. The LIR Portal contains a clean user interface with easy-to-use wizards and is closely integrated with the RIPE Database.

Activities 2020

In 2019, we worked on creating tooling to process organisational change requests and on handling registry changes for multiple LIRs in a more efficient and accurate way. We have also been adapting our systems to prepare for IPv4 runout, i.e. requesting and allowing allocations of /22s as a group of smaller ranges, implementation of a waiting list, and so on.

These efforts will continue in 2020. We will focus on developing further tooling to increase the efficiency of registry update requests. Further usability improvements will focus on a unified and more mobile-friendly user experience across all ripe. net applications. We will also provide more information about the status of tickets and uploaded documents in the LIR Portal and will expand our efforts to monitor and measure registry accuracy. Finally, we will become more efficient in processing GDPR requests to remove personal data.

Page views per month (logged in):
2017: ~108,000
2018: ~88,000 (-18.5%)

2019: ~90,000 (+2.3%)

More Information
› LIR Portal
› Requesting Resources Through the LIR Portal

2. Services

Training course locations in 2019

RIPE Atlas at a glance

Results collected
~7,763**/second**

RIPE Atlas visitors
155,722

Countries covered
180

Originating ASNs covered

IPv4	IPv6
3,519	1,459

Active probes
10,315

RIPE Atlas Anchors
479
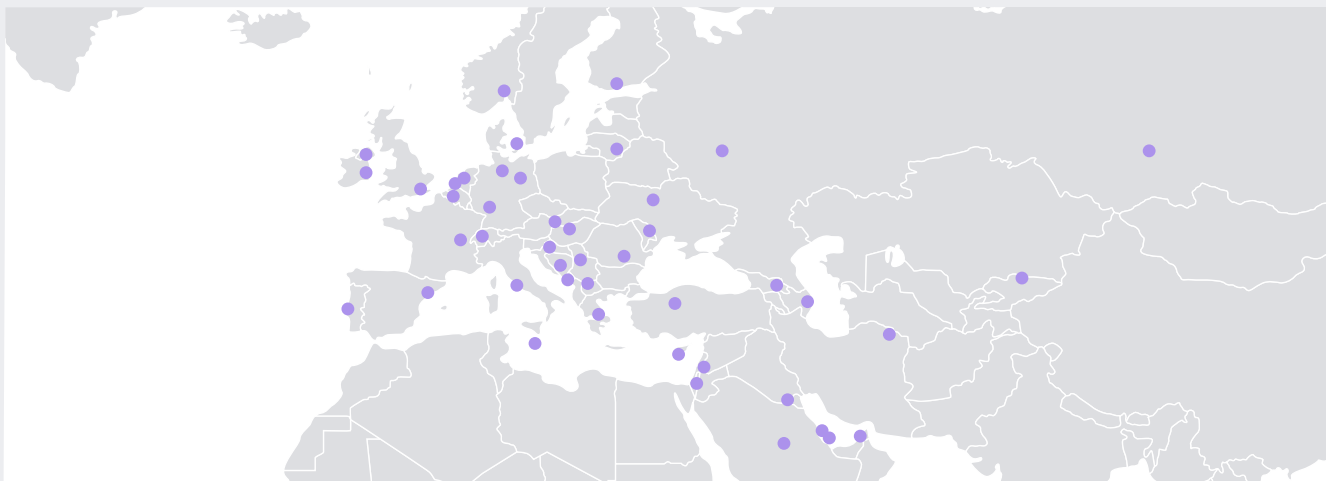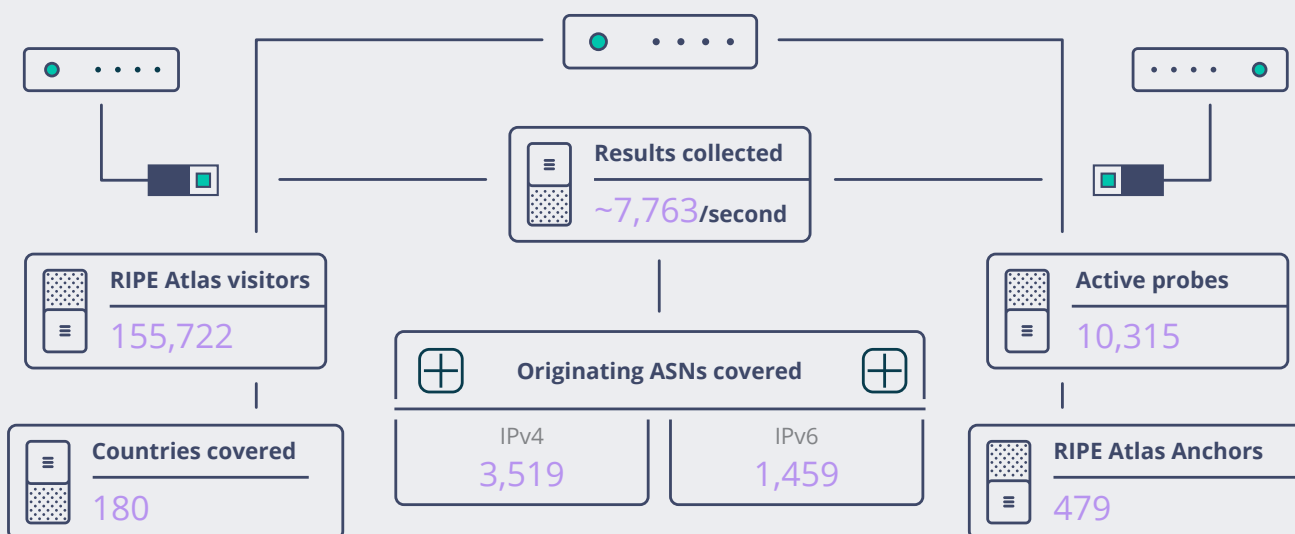
RIPEstat queries per day
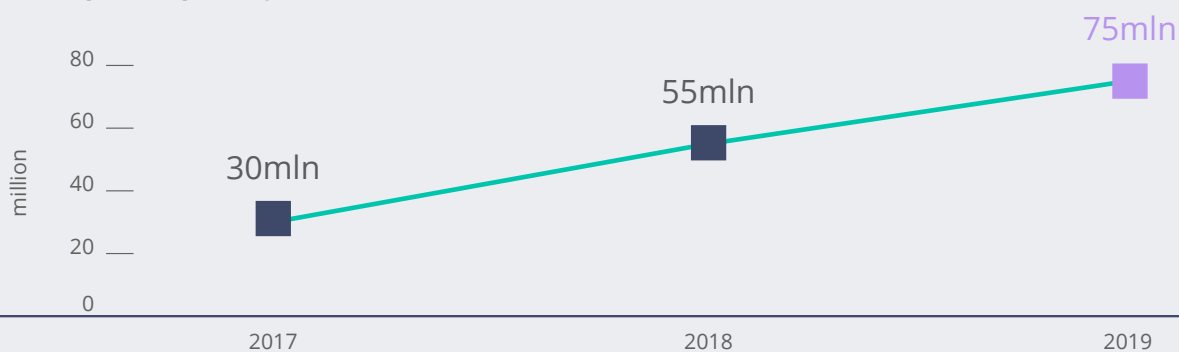
2.1 Training

⊕ **Status: Expanding**	**FTEs:** 14.9	**Cost:** 2,926	**CAPEX:** -

Description

We provide regular face-to-face training courses across our service region on daily operations and specialised areas, such as IPv6 and routing security. In addition to this, we provide online training courses and learning resources, including certified training through the RIPE NCC Academy. This activity is expanding due to the introduction of RIPE NCC Certified Professionals in the Academy.

Our training activities help people to understand our processes and how to request Internet number resources. They build knowledge of relevant technologies, best practices and RIPE policies. They also support awareness of the tools and services that we provide, and allow members and non-members convenient access to learning materials online.

Activities 2020

We will further develop the RIPE NCC Certified Professionals programme. The certification process will include online proctoring and will allow us to issue verified and relevant certificates that have real value for participants. In 2020, we will focus on introducing certification for our RIPE Database and IPv6 courses. As the programme uses an external proctoring service to oversee exams, we are developing a funding model that will accommodate costs for both members and non-members who wish to gain certification, the details of which will be made available to the community.

Also in 2020, we will develop new online learning content in the areas of IPv6 and BGP. These courses will be aligned with the RIPE NCC Certified Professionals programme. In addition to this, we will rewrite some of our face-to-face training course content to ensure the same alignment.

Webinars:
2017: 55
2018: 33

2019: 34 ↗

Training Courses and Workshops:
2017: 96
2018: 97

2019: 108 ↗

More Information
› Training Courses
› RIPE Academy
› RIPE NCC Certified Professionals

2.2 RIPEstat

⊕ **Status: Expanding**	**FTEs:** 9.4	**Cost:** 1,160	**CAPEX:** 289

Description

RIPEstat is a web-based interface with current and historical information about IP addresses and AS Numbers and related information for hostnames and countries. It presents registration, routing and DNS data, geographical information, abuse contacts and more. RIPEstat draws from both internal RIPE NCC datasets as well as external sources. RIPEstat provides additional targeted analysis options specifically for members and will soon provide members with routing-specific functions.

Activities 2020

As part of an overall move towards using cloud storage solutions for improved efficiency, we will investigate introducing cloud support for the RIPEstat Data API. This work accounts for the expansion of this activity. Extended collaboration with the other RIRs in 2020 will aid the development of new visualisations and analytic tools. Ongoing work will also include providing more data sets and further developing the user interface.

Queries per day:
2017: 30 million
2018: 55 million (+83%)

2019: 75 million (+35%) ↗

More Information
› RIPEstat
› RIPEstat User Statistics
› NetOX (collaboration with APNIC)

2.3 RIPE Atlas and RIS

| Status: Ongoing | | | **FTEs:** 8.3 | **Cost:** :1,060 | **CAPEX:** 360 |

Description

RIPE Atlas is a leading Internet active measurement network that collects unique data, providing both live and historical information about the reliability, reachability and connectivity of networks. We also operate the Routing Information Service (RIS), which collects routing data from a number of key locations. We run these globally-distributed measurement networks for the purpose of collecting data on Internet infrastructure, usage and development. The measurement data that RIPE Atlas provides can be used to analyse the operation and growth of the Internet. RIS data is used in both RIPEstat and RIPE Atlas and can interface with other network monitoring tools.

Activities 2020

We will seek to improve the efficiency of the systems we use to manage the data collected by RIPE Atlas and RIS. This will be supported in part by investigating cloud storage solutions that we will run in parallel with our existing storage infrastructure for the purpose of identifying and evaluating potential benefits. As part of our work to develop non-hardware solutions for RIPE Atlas, we will move to the next stage of a project to develop software probes. We will also work to make RIPE Atlas more self-sustaining. With RIS, we will aim to get closer to real-time measurement results and improve the publicly-available information about the service.

Connected RIPE Atlas probes:
2017: 9,860
2018: 10,370

2019: 10,315

Measurement Results per Day:
2017: ~420 million
2018: ~490 million

2019: ~600 million

RIPE Atlas anchors:
2017: 250
2018: 322

2019: 479

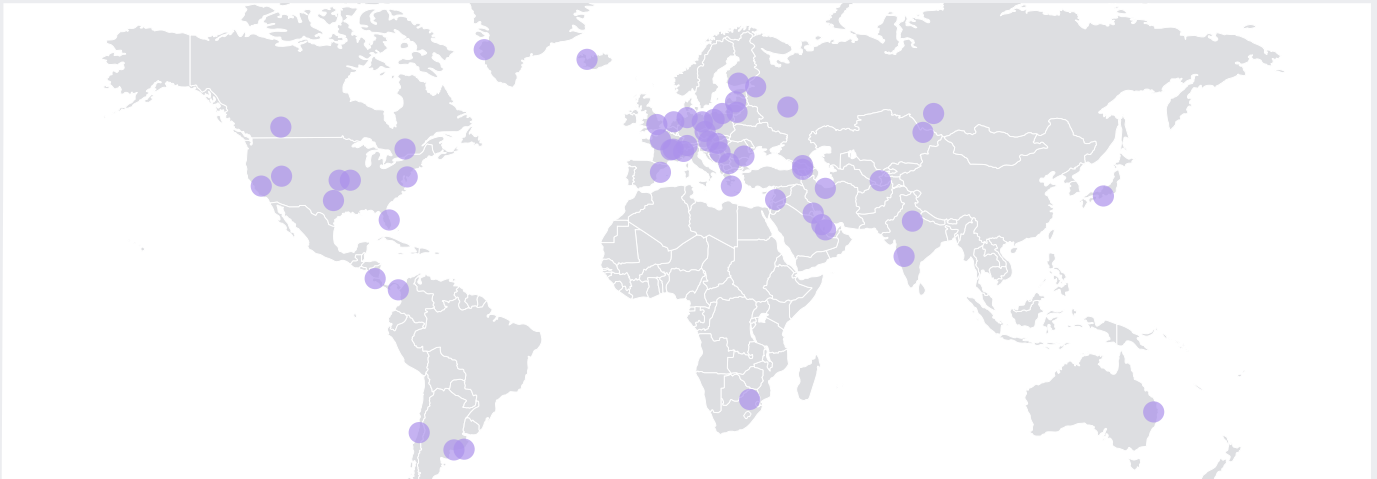### More Information
> RIPE Atlas
> RIPE Atlas Network Coverage
> RIPE Atlas Use Cases
> Routing Information Service (RIS)

3. Coordination Activities

K-root Locations

RIPE Labs Statistics

114 articles	**216,470** unique page views	**143,000** unique visitors	Popular content **Routing, BGP, RPKI, Security**	Staff **54** External **60** total **114**

RIPE 77 Amsterdam

Attendees

Returning **572**   Total **800**   Newcomer **228**
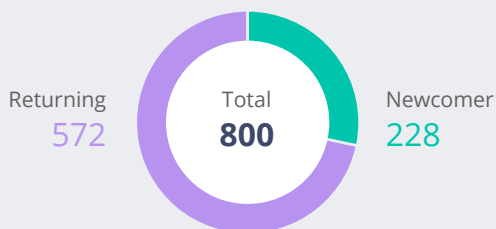
64 countries present at the meeting   **16** Sponsors

NL	DE	US	UK	FR
129	**128**	**88**	**64**	**40**
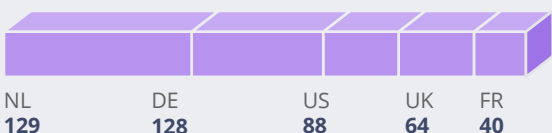
Top 5 Countries

RIPE 78 Reykjavik

Attendees

Returning **542**   Total **742**   Newcomer **200**
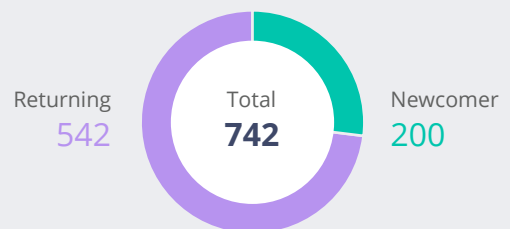
60 countries present at the meeting   **12** Sponsors

DE	US	UK	NL	IS
137	**96**	**55**	**55**	**38**
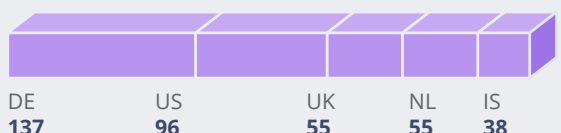
Top 5 Countries

3.1 DNS and K-root Operations

	Status: Ongoing	**FTEs:** 4.3	**Cost:** 1,357	**CAPEX:** 665

Description

We provide DNS coordination and support activities as well as reverse DNS services for the IPv4 and IPv6 address space that we manage. We operate, as a public service, one of the 13 root name servers of the DNS (K-root). 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. We also provide a secondary service for ccTLD operators.

We provide reverse DNS services for RIPE NCC members with registered IP addresses. Our work in this area makes a significant contribution to the stability and diversity of the DNS root name server system and guarantees the neutral and professional delivery of key high-level DNS services.

Activities 2020

There will be ongoing focus on improving the resilience, capacity and global distribution of our authoritative DNS services platform, which supports reverse DNS operations as well as ripe.net and ccTLD services. We will further increase the resiliency of our DNS infrastructure to mitigate the impact of rising attacks on the DNS. Having finished the initial phase of this work, which focused on increasing the capacity of the current sites, our focus in the year ahead will shift to introducing new sites for our reverse DNS infrastructure.

K-root Instances:

2017: 53

2018: 61 (+15%)

2019: 68 (+11%)

More Information

> DNS
> K-root

3.2 Data Analysis and Scientific Support

Status: Ongoing	**FTEs:** 4.7	**Cost:** 594	**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 various RIPE NCC-related statistics and accurate methodological analyses of Internet events provides valuable information and can act as an early warning for the operator community. Prototype tools have the potential to become future RIPE NCC services that benefit our membership and the wider community.

Activities 2020

We will maintain our work on scientific publications and analyses, including country or region-focused reports, following our 2019 studies of the Internet in Saudi Arabia and Russia that were well received. We will continue to develop prototypes that can become future RIPE NCC services if they show enough operational value. We will also review our information-gathering mechanisms to see if they can be improved.

We have developed a structured collaborative research program with external parties with a dedicated budget that helps to attract interns and researchers from around the world to spend several weeks at the RIPE NCC, where they work closely with our own staff. This activity will continue in 2020. Applications will be open and any research results will be made publicly available.

More Information

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

3.3 RIPE Labs

Status: Ongoing	**FTEs:** 1.9	**Cost:** 331	**CAPEX:** -

Description

RIPE Labs is an online publication that network operators and other RIPE community members can use to publish their research and ideas. It contains a wide range of Internet-related studies, operator tools, statistics, analyses and prototypes. RIPE Labs is also an important tool for RIPE NCC staff to seek feedback on specific plans or approaches or to report on developments. More recently, it also contains reporting on RIPE NCC Hackathons and hosts a resource centre for Network Operator Groups (NOGs) in our service region.

RIPE Labs keeps the network operator community informed about new ideas and prototypes that RIPE NCC staff are working on. It also provides a platform for community members to present and discuss their research, acting as an important channel for feedback. RIPE Labs also contains a dashboard with a wide range of RIPE NCC-related statistics.

Activities 2020

We will continue to reach out to the wider community to attract content from researchers, network operators and experts in other fields who can give insight to the RIPE community. In the past year, approximately 143,000 unique visitors came to RIPE Labs.

RIPE Labs has become a resource centre for NOGs in our service region. We attach great importance to the development of local networking communities, and we are happy to support both new and established NOGs. We can provide sponsorship, expertise and a platform on RIPE Labs to share information and learn from the experiences of similar communities. We will continue to develop this area on RIPE Labs, helping to meet the strategic goals of increasing engagement with our members and getting to better know them and their needs.

With two RIPE NCC Hackathons planned for 2020, RIPE Labs will continue to serve the valuable function of promoting and publishing the work and research that emerges from these events, and so help foster engagement with talented people who produce innovations that the whole community can benefit from.

Articles published:

2017: 155

2018: 196

2019: 114 (-41%)

More Information

- ❯ RIPE Labs
- ❯ RIPE NCC Hackathons
- ❯ Network Operator Groups

3.4 Outreach and Engagement

Status: Ongoing   **FTEs:** 20.4   **Cost:** 4,562   **CAPEX:** -

Description

We engage with a number of different external parties – including our members, the technical community, governments, law enforcement and others – to understand and respond to their needs. This activity supports the legitimacy of the community-driven approach to policy-making, as practiced by the RIPE community. It also means that we are able to meaningfully contribute to policy discussions on global Internet administration and governance, and can raise issues of concern to our membership or the RIPE community in the appropriate venues.

Activities 2020

in 2020 we will be investigating alternative approaches to get through to our members. This will likely include a greater focus on online tools and resources that allow us to reach a broad audience (e.g podcasts). At the same time as we look for a more broad approach, we will continue to use targeted Member Lunches in specific cities to meet with our members and have in-depth conversations to gather their feedback and raise awareness.

We organise a number of meetings and events to engage with various stakeholders, including RIPE NCC Regional Meetings, sectoral member engagement events, RIPE NCC Days, and RIPE NCC Roundtable Meetings for Governments and Regulators. In addition to events that we organise, we also support a wide range of local community-driven events, including Network Operator Group meetings and national and regional Internet governance events, through direct funding and by contributing content and expertise.

We engage directly with governments, regulators and law enforcement agencies in our service region via events, particularly our RIPE NCC Roundtable Meetings for Governments and Regulators. Our participation in global, regional and national Internet governance discussions helps to ensure that we are prepared to manage the impact of new regulation or legislation on our operations, while also ensuring that RIPE community perspectives and concerns are raised in these venues, and that the role and authority of the RIPE community is understood.

More Information

› Participate in the RIPE Community
› Member Lunches

3.5 Good of the Internet

| Status: Ongoing | FTEs: 0.7 | Cost: 481 | CAPEX: - |

Description

Since 2016, the RIPE NCC Executive Board has annually approved a budget item for activities that contribute to the Good of the Internet. This is intended to provide a means to support worthwhile causes that contribute to the overall development and stability of the Internet in our service region.

Activities 2020

Since 2017, the RIPE NCC Community Projects Fund has provided up to 250,000 Euros annually to projects of value to the operation and resilience of the Internet, with a focus on tools and services benefitting the technical community in our service region. In 2020 a call for funding applicants will be held, with winners announced in the third quarter of the year.

We will also continue to make an annual contribution of EUR 100,000 to the IETF's sustainability, a cause which was endorsed by our members in 2016.

More Information

› RIPE NCC Community Projects Fund
› Rob Blokzijl Foundation
› RIPE NCC Supports Sustainability of the IETF

3.6 IPv6 Support

| Status: Ongoing | FTEs: 1.2 | Cost: 121 | CAPEX: - |

Description

We focus a great deal of our outreach efforts on IPv6 awareness-raising across the full range of RIPE NCC stakeholder groups. This includes work to encourage IPv6 take-up and deployment across our service region and work to educate governments, regulators and other stakeholders about IPv6. This also includes capacity building efforts in the form of training courses and the development of learning materials.

Activities 2020

Following IPv4 runout, 2020 will be an important year for IPv6 deployment. We plan to review the IPv6 material on our website and currently plan to hold at least one IPv6 Week – which is a series of targeted events in a single country. These events include hackathons, training courses, and meetings with governments and other stakeholders. We will also continue to analyse and report on any significant IPv6 developments that we can see in our service region.

More Information

> IPv6 Info Centre
> IPv6 Week Denmark

3.7 RIPE Meetings

⊜ **Status: Ongoing**		**FTEs:** 6.2	**Cost:** 2,148	**CAPEX:** 31

Description

We organise two five-day RIPE Meetings each year at various locations throughout our service region, trying to vary these geographically. RIPE Meetings bring together Internet service providers (ISPs), network operators and other interested parties from all over the world. We provide all administrative, logistical and technical support for the meetings.

RIPE Meetings benefit the entire Internet community by supporting the open, bottom-up, industry self-regulatory structure. They stimulate participation in the RIPE policy-making process and the technical coordination of IP networking. Importantly, RIPE Meetings also facilitate networking opportunities between key players in the Internet industry. And for the RIPE NCC, these events are important source of guidance from the RIPE community, playing a vital role in enabling us to meet our strategic goals.

Activities 2020

RIPE Meetings are becoming increasingly popular and we expect both meetings in 2020 will receive over 700 attendees. For those who are unable to attend RIPE Meetings in person, state of the art webcasting services and live transcription will be made publicly available. The costs of RIPE Meetings are partially offset by sponsorship received from third parties. The two RIPE Meetings in 2020 will be RIPE 80 (Berlin: 11 - 15 May) and RIPE 81 (Milan: 28 September - 2 October).

Attendees per Meeting:
2017: 600+
2018: 650+

2019: 770+ ↗

More Information
› RIPE 78
› RIPE 79
› RIPE Meetings

3.8 RIPE Policy and Community Support

Status: Ongoing	FTEs: 1.5	Cost: 190	CAPEX: -

Description

We provide support to all stakeholders who want to contribute to policy development or who wish to be part of the RIPE community. We support the RIPE Policy Development Process (PDP), providing assistance to RIPE working groups and working group chairs so that they are able to develop policy in a consensus-based, bottom-up manner. We also support the community by anticipating problems related to specific policy proposals and producing analyses of their potential impact.

This activity encourages broader and more effective participation in the RIPE PDP. Impact analyses and other technical input helps to ensure that policy changes produce the desired outcomes. The translation of RIPE policies into RIPE NCC procedures (both of which are publicly documented) helps to ensure a high degree of transparency and consistency.

Activities 2020

We will continue to encourage greater PDP engagement from both technical and non-technical members of the RIPE community. We expect to see a continued trend of policy changes aimed at improving the quality of registration data. While continuing to provide high-level support to everyone interested in the PDP, we will give special attention to trying to involve new participants from parts of the RIPE community that have not traditionally engaged in the PDP. We will also develop tools (interactive presentations, workshops, webinars) that support our outreach activities and increase awareness and participation in the PDP.

New policy proposals by year:

2017: 5

2018: 4 (-20%)

2019: 7 (+75%)

More Information

› RIPE Policy Development

› Current Policy Proposals

3.9 ICANN/IANA/ISOC/RIRs

Status: Ongoing   **FTEs:** 2.7   **Cost:** 1,105   **CAPEX:** -

Description

We are strongly committed to maintaining close relationships with our industry partners, including the other four Regional Internet Registries (RIRs), ICANN, the Internet Engineering Task Force (IETF) and the Internet Society (ISOC). This ensures that we are seen as accountable and legitimate in our role as a Regional Internet Registry and promotes the open, bottom-up, industry self-regulatory structure common to all Internet technical coordination bodies. It also facilitates the coordination necessary to ensure the stable operation and governance of the Internet.

More Information

› Internet Technical Community Coordination
› Number Resource Organization (NRO)

4. Internal

GM Votes

A line graph titled "GM Votes" showing the number of votes from Nov 2010 to May 2019, with annotations:
- (Paper ballots only)
- (Register with BigPulse and send passport)
- (Register with BigPulse only)
- (Register through LIR Portal)

Data points (approximate):
- Nov 2010: ~100
- May 2011: ~300
- Nov 2011: ~340
- Apr 2012: ~340
- Sep 2012: ~350
- May 2013: ~420
- Oct 2013: ~550
- May 2014: ~1,100
- Nov 2014: ~440
- May 2015: ~570
- Nov 2015: ~670
- May 2016: ~1,050
- Oct 2016: ~880
- May 2017: ~1,350
- Oct 2017: ~1,280
- May 2018: ~1,600
- Oct 2018: ~1,200
- May 2019: ~2,100

4.1 IT and Information Security

		FTEs: 10.9	Cost: 3,156	CAPEX: 670
	Status: Ongoing			

Description

Our IT activity provides the back end, infrastructure and network support for all of the internal and external services we provide. Activities in this area allow us to 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 also flag technical emergencies outside of regular office hours so they can be addressed directly.

Activities 2020

We will give special attention to increasing the technical depth of the IT Department in terms of skills. We will also be investigating the use of cloud storage backup, archive data analysis and anomaly detection based on Elasticsearch.

In addition to this we will be developing plans to consolidate our current data centre set-up regarding the Stockholm location, while also carrying out work on our email infrastructure, with a focus on authentication, anti-virus, mail flow for the ENOG mailing lists, and so on.

In terms of Information Security, we will continue strengthening our capabilities to keep up with the current threat and legal landscape. We will continue our implementation of Critical Security Controls (CSC-20), a comprehensive information security measurement framework. This implementation and related information security improvement activities will take two to three years. Other activities will focus on gathering cyber threat intelligence and improving our capabilities to identify and prevent potential information security incidents. We will also continue our outreach efforts with the security community, such as TF-CSIRT (of which the RIPE NCC is a member).

More Information

> Service and Security Announcements
> Report Technical Emergency

4.2 Facilities (Rent and Utilities)

Status: Ongoing   **FTEs:** 0.5   **Cost:** 1,238   **CAPEX:** 100

Description

This activity covers the RIPE NCC's internal administrative function along with the rent and maintenance for all RIPE NCC facilities and equipment. The RIPE NCC has a head office (and external storage) in Amsterdam, a subsidiary office in Dubai, and a small office space in Moscow. Our activities in this area support efficient and centralised administrative services and ensures a secure, healthy and productive environment for RIPE NCC staff.

Activities 2020

We plan to consolidate our insurance portfolio to minimise staff and company exposure. We are also continuing to improve our facilities to ensure they remain at a high standard that fosters a productive work environment. Utility costs for the office location in Amsterdam will increase in 2020.

More Information

› Office Information

4.3 Management and HR

Status: Ongoing   **FTEs:** 9.0   **Cost:** 3,142   **CAPEX:** -

Description

The Management and HR activity encompasses the Senior Management functions, including the Managing Director and the Chief Scientist. The Senior Management Team works closely with the RIPE NCC Executive Board to develop the strategy and vision of the organisation. HR is responsible for the recruitment and effective integration of well-qualified employees from across our service region. This activity area helps to maximise the efficiency of the RIPE NCC's internal structure and ensures productivity by attracting and maintaining a well-trained and highly-engaged workforce.

Activities 2020

We are currently in the process of moving to a self-organised management structure, which will require changes to job grading, rewarding and performance management. A review of the company's organisational culture will be repeated in 2020 to measure progress following initiatives taken over recent years. Steps will also be taken to improve our employer branding, so that we continue to attract high-quality candidates. We will also review our onboarding process to enable new hires to start performing in their roles faster.

More Information

> Staff
> Careers at the RIPE NCC

4.4 Finance and Administration

Status: Ongoing   **FTEs:** 8.5   **Cost:** 1,466   **CAPEX:** -

Description

We maintain high-quality administrative processes and constantly look for ways to increase efficiency. 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, even though this is not required by law. Furthermore, following from this enhanced reporting, we continue to improve our processes to ensure effective cost control and to be able to provide useful management information.

Activities 2020

We will work to enhance our enterprise resource planning (ERP) system, AFAS Online. Our goal will be to reduce the manual workload, make use of paperless payroll execution, and refine our online workflows. This will reduce our reliance on distinct tools, reducing costs and making us more efficient. It will also provide us with better analyses of our internal processes. 2020 will see us taking steps to strengthen and simplify our financial policy and Standard Operating Procedure (SOP) framework. We will also continue to improve our billing processes and investigate more efficient methods for financial reporting.

More Information

> Billing, Payment and Fees

4.5 Legal Activities

Status: Expanding	**FTEs:** 2.9	**Cost:** 455	**CAPEX:** -

Description

Our legal team maintains a comprehensive legal framework that sets out the standards and procedures for our internal and external operations. This framework 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 our procedures are in line with any applicable national and international legislation.

Activities 2020

We will continue to follow legislative developments and coordinate externally to support confidence in the self-governance model of the Internet. We see increased potential for legislation that could impact our operations, which accounts for the expansion of this activity. We will continue to review our existing governance model and procedures. We will support discussions around restructuring the ASO and will help to build the relevant legal framework where needed. Finally, the scarcity of IPv4 addresses has greatly increased the complexity of the legal requests we receive, due to a greater number of mergers and transfers and a growing number of disputes and abuse complaints.

More Information

> Legal Information

4.6 Organisational Activities

Status: Ongoing	**FTEs:** 2.2	**Cost:** 310	**CAPEX:** -

Description

We support twice-yearly RIPE NCC General Meetings (GMs), which are held alongside the RIPE Meetings. At these GMs, members vote annually on the RIPE NCC Financial Report and on the Charging Scheme for the following year. Members can also exercise their rights to vote in Executive Board elections and on resolutions, such as amendments to the RIPE NCC Articles of Association. We also support a neutral and objective arbitration panel that exists to resolve any disputes relating to our services and evaluate any resource requests made by the RIPE NCC for our own infrastructure or services.

Activities 2020

In 2020, we will continue to work to ensure that RIPE NCC General Meetings enjoy strong participation from a well-informed membership. As in previous years, we will prepare a number of documents throughout 2020 whose chief purpose will be to report all relevant aspects of our progress to our membership. This will include the Annual Report and Financial Report for 2019, the Activity Plan and Budget for 2021, and the Charging Scheme for 2021. As per usual, we will provide remote participation facilities and electronic voting capabilities for those members who are unable to attend the GM in person but who wish to follow proceedings and vote in elections and on resolutions.

In 2020, the RIPE NCC Arbitration panel will have its usual annual meeting to discuss procedures, cases and the status of the panel itself, and the RIPE NCC Executive Board will conduct several meetings aimed at dealing with strategic and financial issues pertinent to the organisation as well as our relationship with industry partners.

We have combined the supporting roles of two teams (Facilities, Administration and Reception and the Management Assistants) into one team: Central Support. With this merger, we intend to streamline our internal processes and improve our internal administrative support to adapt to the changing needs of the new company structure.

In 2019, we began an Integrated Risk Management (IRM) program that resulted in a company-wide risk management policy, with defined internal and external KPIs and clear roles and accountabilities for staff within the organisation. In 2020, we will create a new Risk Analyst position to manage this as an ongoing activity within our organisation.

More Information

> RIPE NCC Executive Board
> List of Arbiters
> RIPE NCC General Meetings

5. Unforeseen Activities

There may be activities that are not entirely foreseen at the time of writing the Activity Plan and Budget 2020 or have started recently and are not at the stage where they can be estimated to have a material financial impact. A quick, well-focused reaction to the changing environment and 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, and when there is any material financial impact, the Executive Board must approve the resulting action to be taken.

Budget Figures 2020
RIPE NCC Budgeted Statement of Income and Expenditure 2020 (in kEUR)

	Budget 2020	Budget 2019	Budget 2020 vs Budget 2019	
Income				
Service Fees Existing Members	34,300	29,400	4,900	17%
Independent Resource Fees	1,086	1,086	-	0%
Service Fees New Members	350	3,467	(3,117)	-90%
Re-opening Fees	200	200	-	0%
Members Fees	**35,936**	**34,153**	**1,783**	**5%**
Member Sign-up Fees	1,000	8,000	(7,000)	-88%
RIPE Meeting	235	235	-	0%
Sponsorship	255	255	-	0%
Other Income	50	50	-	0%
Total Income	**37,476**	**42,693**	**(5,217)**	**-12%**
Expenditure				
Salary Components - Personnel	12,613	11,701	912	8%
Secondary Benefits - Personnel	3,191	2,967	224	8%
Miscellaneous - Personnel	2,871	3,057	(186)	-6%
Subtotal Personnel	**18,676**	**17,725**	**951**	**5%**
Housing	923	927	(4)	0%
Office Costs	3,179	3,115	64	2%
Marketing/ER	757	809	(52)	-6%
Contributions	846	816	30	4%
IT Infrastructure	3,121	3,030	91	3%
Travel	1,655	1,588	67	4%
Consultancy	3,390	3,253	137	4%
Bank Charges	347	337	10	3%
Bad Debts	250	250	-	0%
Depreciation	1,300	1,400	(100)	-7%
Total Expenses	**34,444**	**33,250**	**1,194**	**4%**
Surplus Before Financial Result	**3,032**	**9,443**	**(6,411)**	**-68%**
Result on Interest Income	300	300	-	0%
Result Revaluation Government Bonds	0	-		
Financial Result	300	300	-	0%
Surplus/Deficit	**3,332**	**9,743**	**(6,411)**	**-66%**
FTE's	**165**	**165**	**-**	**0%**
Capital Expenditure (CAPEX)	**2,115**	**2,115**	**-**	**0%**
Number of LIRs	**23,000**	**24,325**	**(1,325)**	**-5%**
Expense per LIR	1,498	1,367	131	10%
Average Salary (Component) per Employee	76	71	6	8%
Average Personnel Costs per employee	113	107	6	5%

Note on the Budget 2020 figures:

All figures are drawn up in compliance with the general accounting standards in the Netherlands (Dutch GAAP).

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 RIPE NCC Reserves with a Redistribution in 2020 (in kEUR)

Year	Surplus	Addition to the Capital	Capital at 31 December	Expenses Per Year	% of Expenses
2013	1,732	-	21,912	19,330	113%
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%
LE 2019	-	-	25,461	31,250	81%
B 2020	-	-	25,461	34,444	74%

Development of RIPE NCC Reserves without a Redistribution in 2020 (in kEUR)

Year	Surplus	Addition to the Capital	Capital at 31 December	Expenses Per Year	% of Expenses
2013	1,732	-	21,912	19,330	113%
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%
LE 2019	11,112	11,112	36,573	30,750	119%
B 2020	2,509	2,509	39,082	34,444	113%