Internet Address Space in Europe

RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE NCC's Contribution to the European Economy

As a part of the technical core of the Internet, the RIPE NCC significantly contributes to the European economy and its reliance on a stable, open Internet. By allocating Internet number resources, such as IP addresses, it enables millions of European businesses to develop innovative applications and lets European citizens enjoy the myriad benefits generated by digitalisation.

The RIPE NCC's core mission highlights its contribution to the European Digital Single Market:

- As an authority on unique Internet number resources, we enable our members to **operate and develop the Internet**
- As a neutral source of information and knowledge, we actively contribute to a **stable and innovative Internet**
- We are a trusted steward of the **open, inclusive, collaborative Internet model**, connecting people, communities and stakeholders

EU Policies of Interest to the RIPE NCC

The RIPE NCC follows EU regulation developments both to understand how proposed legislation could affect the RIPE NCC and its members, as well as to contribute its own technical expertise and the views of the European technical community in the policy-making process.

The RIPE NCC's members include many different Internet stakeholders, from Internet service providers, content hosting providers and mobile network operators, to top-level domain and country-code top-level domain operators within the EU – all of whom are greatly affected by EU policies that influence the technical operation of the Internet.

In particular, the RIPE NCC pays close attention to the following topics, which are the most relevant to its own operations or those of its members:
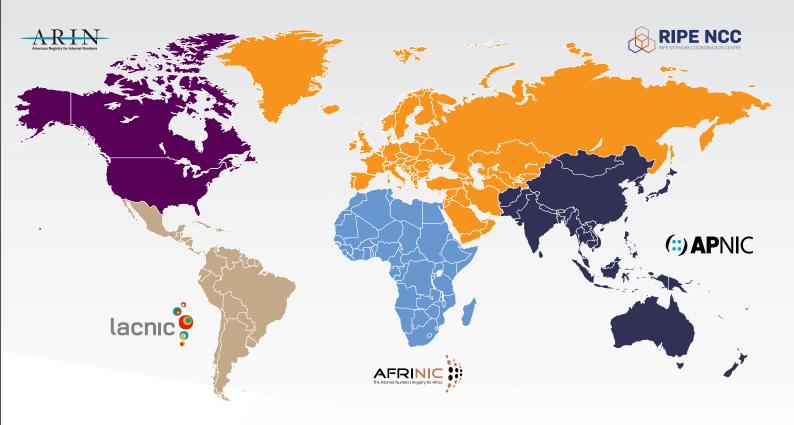
Cybersecurity

Data Protection

Cooperation with Law Enforcement

Intermediary Liability

RIPE and the Policy Development Process

RIPE is a collaborative forum established in 1989. It is open to all parties with an interest in wide-area IP networks, the technical development of the Internet and the way it is structured, managed or governed. The "RIPE community" is the collective term for any individual or organisation, whether members of the RIPE NCC or not, participating in RIPE.

The RIPE community develops and sets policies for the technical coordination of the Internet and the distribution of Internet number resources in the RIPE NCC's service region through a long-established, open, bottom-up process of discussion and consensus-based decision-making.

Anyone in the RIPE community can suggest a new policy or a change to an existing policy; you do not have to be a member of the RIPE NCC. The RIPE NCC undertakes an extensive impact analysis on any proposed policy to evaluate its compliance with EU law. Once a policy has been adopted by the RIPE community, the RIPE NCC is responsible for implementing it.

RIPE policies cover topics like the size of allocation of IP addresses that an organisation can receive, which information must be accessible in the RIPE Database, and rules for transferring IP addresses between different companies.

More information about the RIPE policy development process can be found at:
ripe.net/pdp

Quick Overview

As one of five Regional Internet Registries operating across the globe, the RIPE NCC provides Internet address space (IP addresses) for Europe, the Middle East and parts of Central Asia. It is an independent, not-for-profit membership organisation based in Amsterdam, the Netherlands. It supports more than 20,000 members in 76 countries in its service region.

The RIPE NCC provides Internet number resources (IP addresses and Autonomous System Numbers) to its members, which include Internet service providers, governments, academic institutions, corporations and other organisations running large Internet networks. It also offers other services related to the technical coordination of the Internet.

The RIPE NCC provides administrative support to Réseaux IP Européens (RIPE), a collaborative forum open to all parties with an interest in wide-area IP networks and the technical development of the Internet.

The RIPE NCC is open, transparent and impartial. It has no commercial interests or influences and operates as a bottom-up and self-governing organisation. This means that the policies and procedures that govern the way the RIPE NCC operates are proposed, discussed and accepted by its members and the RIPE community.

More information about the RIPE NCC can be found at:
ripe.net/about-us

Technical Background

Every device connected to the Internet needs to have a unique numerical identifier. **Internet Protocol (IP) addresses**, such as 193.0.6.139, are the numerical addresses used to identify each device connected to the Internet.

Domain names that you type into your browser (ending in .com, .org, .eu, etc.) are the human-readable versions of a particular IP address. An example of a domain name is "www.ripe.net".

Today, there are two versions of IP addresses in use: **IPv4** and **IPv6**. The number of unused IPv4 addresses is quickly running out, and network operators need to switch to IPv6 now in order to safeguard the future growth of the Internet.

Autonomous Systems are the different networks that make up the "network of networks" that comprises the global Internet. There are more than 60,000 in total, and each of these networks also has a unique numerical identifier, called an **Autonomous System Number (ASN).**

Regional Internet Registries (RIRs), including the RIPE NCC, allocate and register these Internet number resources (IPv4, IPv6 and ASNs) to members in their respective service regions and maintain the authoritative databases of these registrations. Members then distribute IP addresses to their customers or end users.

20,000
Members

76
Countries

831+ million
IPv4 addresses under administration, or 22% of global IPv4 address space

Internet Governance

The RIPE NCC engages in a number of activities that fall under the scope of "Internet governance", which includes working with the technical community, governments, regulators, civil society and law enforcement agencies to ensure the future growth and continued stability of the Internet.

In these venues, the RIPE NCC contributes to discussions around Internet governance topics from a technical perspective in order to share best practices and expertise with decision makers and other industry leaders.

The RIPE NCC collaborates with the following organisations:

- European Union
- Number Resource Organization (NRO)
- Internet Engineering Task Force (IETF)
- Internet Assigned Numbers Authority (IANA)
- ICANN (Internet Corporation for Assigned Names and Numbers)
- European Dialogue on Internet Governance (EuroDIG)
- ITU (International Telecommunication Union)
- OECD (Organisation for Economic Co-operation and Development)
- Internet Governance Forum (IGF)

ripe.net/participate/internet-governance

RIPE NCC Services and Activities

In addition to providing Internet number resources, the RIPE NCC also supports the operation and development of the Internet for the benefit of the Internet community as a whole:

DATABASE SERVICES
Maintenance of the **RIPE Database**, the authoritative record of which address space has been registered to RIPE members

INFORMATION SERVICES
Country reports, Internet connectivity and reachability measurements (**RIPE Atlas**), detailed information about IP addresses (**RIPEstat**), exchange of best practices and leading research (**RIPE Labs**), collaboration with governments on **IPv6 deployment**

TECHNICAL SERVICES
Operation of **K-root**, one of the world's 13 root name servers that translate domain names (such as www.ripe.net) into IP addresses

COMMUNITY SUPPORT AND OUTREACH
Development of policies governing the allocation of Internet address space via the RIPE community; **Roundtable Meetings** for governments, regulators and law enforcement agencies; **RIPE Academic Cooperation Initiative**; many regional events for local technical communities; and the **RIPE NCC Community Projects Fund**

TRAINING SERVICES
Delivery of more than a hundred training courses to thousands of its members across its service region each year, free online training through the RIPE NCC Academy, and tailored training for law enforcement, governments and regulators

More information on the RIPE NCC's Activity Plan and Budget at:
ripe.net/ripe/docs/ap

January 2023