The RIPE Network Coordination Centre

1998 Annual Report

Table of Contents

The 1998 Annual Report can be found at:
http://www.ripe.net/annual-report/98ar.html

1. Foreword

1998 has marked the seventh year of RIPE NCC operations and the first year of its existence as an independent association.

During this year the membership has grown by more than one third to 1,263 members from 76 countries. The membership has continued to take an active interest. Participation in the various RIPE working groups that provide guidance to NCC operations is strong and constructive. The general meeting of the association saw constructive discussion and strong support for the association and its board. We thank the membership for the guidance and support they have provided.

The staff has grown to 50 people, a very international group comprising 18 nationalities and a lot of professional expertise. They have continued to provide the membership with professional services in an impeccably neutral and impartial way. We thank all of them for their contribution to the success of the RIPE NCC in 1998.

The coming year will further see the formalisation of Internet administration through the Internet Corporation for Assigned Names and Numbers (ICANN). Administration of Internet resources will be subject to scrutiny from many parties: governments, consumers, various industry groups and, last but not least, the membership of the RIPE NCC association.

The challenge before us is to play an active role in the process of formalisation, building on the structures we have developed over the years and keeping the interests of the membership in mind. The individual members will have to take an active rather than passive role in this at all levels as awareness of the importance of these issues increases. Members will have to defend the RIPE NCC as a reliable and open institution of industry self-regulation. This must take place at all levels including local forums, national groupings, RIPE and the RIPE NCC association itself, as well as global forums. Without active involvement from the membership it will be impossible for the RIPE NCC to play an effective role in the further formalisation of Internet administration.

Keith Mitchell	**Daniel Karrenberg**
Chairman of the Board	**General Manager**

2. Outlook for 1999

1999 will be the 8th year of RIPE NCC operations and the second year of the RIPE NCC association as an independent legal entity. The Internet will continue to grow at least as quickly as before and the main challenge of the NCC will be to grow with it.

At the 1998 Annual General Meeting the membership unanimously approved both the activity plan and the charging scheme for 1999. This provides a sound vote of confidence on which the RIPE NCC will build its activities and services in the coming year.

Activities will include the development of internal software tools that will further ensure the delivery of efficient and consistent services. New software tools will be developed for the community providing easier access to existing registration and database services. Existing documentation and training will be revised and additional material developed. Additional topics such as Routing Policy Specification Language (RPSL) and IPv6 address space distribution will be included in the training programme.

An important source of information and documentation is the RIPE NCC Web site. In 1999, the RIPE NCC will introduce a revised Web site to structure and effectively present the enormous amount of information currently available on the site.

In the area of database services, the RIPE database working group has advised the RIPE NCC to fully concentrate efforts on the re-implementation of the RIPE database software. As a result, the development of new functionality to the existing code will cease in early 1999. The new software is expected to be operational in the autumn of 1999.

In addition to planned developments in core services the RIPE NCC, together with suggestions from RIPE, will investigate new projects and work towards developing them into new services. Due to its unique position, the RIPE NCC can play an important role in the field of technical coordination among its members and beyond. In 1999, the Test Traffic Project will complete its initial phase and develop into a service.

In all areas of activity the RIPE NCC will continue to cooperate shared resources with related industry parties, specifically the other Regional Internet Registries (RIRs), to provide consistent services. During 1999 we expect the emergence of further RIRs, most notably an African RIR which is expected to provide operational coordination in part of the current RIPE NCC service region.

The coming year will also see further formalisation of the administrative structures of the Internet. The RIPE NCC will actively take part in these discussions and work constructively with all concerned while representing the interests of the RIPE NCC membership in particular and the wider RIPE community in general.

3. RIPE NCC Information and Overview

The RIPE Network Coordination Centre (RIPE NCC) has emerged from RIPE (see section 5). As the Internet grew, a need for a bottom-up self regulatory entity for operational coordination was identified. The most important tasks were seen to be maintaining a database of all IP network numbers used in Europe and carrying out the activities of a ‘delegated IP registry’ for Europe.

The RIPE NCC started in April 1992 with Amsterdam as its home base and 3 staff. The activities delivered by the NCC at that time were performed under the umbrella of services provided by the TERENA Association. As the RIPE NCC subsequently outgrew TERENA, it was agreed by membership and TERENA that the RIPE NCC should establish itself as a legal entity operating as a not-for-profit association. Since January 1 1998, the RIPE NCC has been established as a separate, not-for-profit association. Membership is open to anyone using the RIPE NCC services, primarily Internet Service Providers (ISPs).

The mission of the RIPE NCC is to perform activities for the benefit of the membership in Europe and the surrounding areas; primarily activities that the members need to organise as a group, although they may be competing with each other in other areas. While an activity may result in services being provided to an individual member, performing the activity as a whole must benefit the RIPE NCC membership as a group. The RIPE NCC was established as the first of 3 Regional Internet Registries (RIR) which operate in the world today. The other RIRs include APNIC, serving the Asia Pacific Region, and ARIN, serving the Americas and part of Africa.

The current membership of the RIPE NCC stands at 1,263. In 1998, the RIPE NCC secured service contracts with 356 new members. Countries in the RIPE NCC region that experienced the highest growth in new LIRs were: Germany, United Kingdom, Russia, Italy, Switzerland, France and The Netherlands.

The following chart illustrates the real membership figures of small, medium, and large size LIRs for the past two years as well as the projected membership for 1999.

RIPE NCC Real and Projected Membership

	1997	1998	1999
	Real	Real	Projected*
Small	653	935	1193
Medium	188	253	242
Large	66	75	81
Total	907	1263	1516

* the ‘projection’ is as of September 1998

The RIPE NCC currently provides services for members in 76 countries. Its service region includes Europe, the Middle East, parts of Asia (the former USSR), and the northern half of Africa. A detailed map of the service regions can be found at:

http://www.ripe.net/lir/registries/europe.html

The RIPE NCC Service Region

The activities and services of the RIPE NCC are defined, performed, discussed and evaluated in an open manner. New activities are usually suggested from RIPE. The annual activity plan and budget are approved by the membership. The activity plan can be found at:

ftp://ftp.ripe.net/ripe/docs/ripe-162.txt

Results of activities, such as software tools, are made available to the public. Budgets as well as actual income and expenditures are published. Individual data however, is kept in strict confidence.

One of the core activities is to act as the Regional Internet Registry in Europe and the surrounding regions. The service provided to its members ensures the fair distribution of global Internet resources in the RIPE NCC service region required for the stable and reliable operation of the Internet. This includes the handling of requests for assignment and allocation of IP address space, inter-domain routing identifiers, and the management of reverse domain name space. These areas of activity also include auditing and quality control of IP requests, training of LIRs, and producing the documentation related to Local Internet Registries.

Another main activity of the RIPE NCC is to develop and maintain the RIPE database which provides information about address space, domain objects, routing policy, and contact information. Other activities include the administrative support of RIPE, and the research and coordination of new projects such as the Test Traffic Project.

In all of its activities, the RIPE NCC observes strict neutrality and impartiality with respect to individual service providers. In particular it refrains from activities that are clearly in the domain of the ISPs themselves.

More information about the RIPE NCC is available on the Web site at:

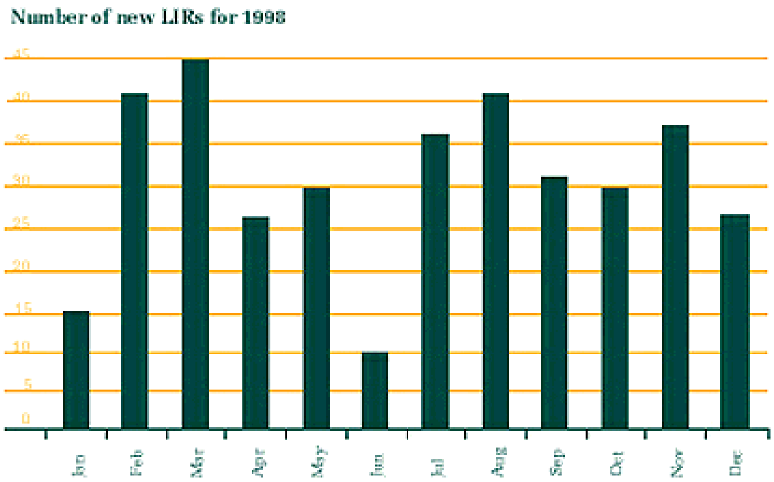
http://www.ripe.net/

4. RIPE NCC Services and Projects

Registration Services

As a Regional Internet Registry, one of the main activities of the RIPE NCC is to provide registration services to its membership. The overall goal of this activity is to provide fair, impartial and stable distribution of Internet numbers, particularly IP address space, in Europe and the surrounding regions.

The tasks performed include the handling of requests for assignment and allocation of Internet addresses and the assignment of routing IDs, as well as the training, auditing and quality control necessary to ensure fair and expedient distribution of these resources. These criteria are also applied when members, acting as LIRs, provide registration services to their customers.



Registration Services currently operates with 14 staff members, 7 of whom began employment at the RIPE NCC during 1998. In the past year, the RIPE NCC has allocated 9,771,034 addresses (approximately 149 /16s) in its service region. A total of 11,260 requests were processed. In the auditing activity, 205 LIRs were audited to check whether they comply with the address assignment and allocation policies and procedures.

Registration Services also provides training courses for the membership. In 1998, the RIPE NCC conducted 27 LIR Training Courses in 13 countries of its service region. Further development of the current training course will continue in 1999 and it is envisaged to extend the existing course portfolio with practical hands-on sections and to produce new courses covering topics in demand such as RPSL (Routing Policy Specification Language) and IPv6 address space distribution.

Another important activity is the coordination of services and policies with the other Regional Internet Registries. Staff members from each Regional Internet Registry met this year at the various meetings directly related to the industry (such as RIPE, IETF, and NANOG meetings) and used the opportunity to coordinate operations and policies. In November, a retreat was organised for the Regional Internet Registries to discuss address assignment policies as well as IPv6. The RIPE NCC continues to work very closely with the other Regional Internet Registries to define guidelines on how IPv6 addresses will be assigned.

The RIPE NCC publishes documents to help its members understand the various procedures and policies. This year, an updated version of the "European Internet Registry Policies and Procedures" document was re-published under the document number ripe-185. In addition, a new document titled "Guidelines for Setting up a Local Internet Registry at the RIPE NCC" (ripe-160) was published to provide the information necessary to establish a new LIR.

The RIPE NCC worked consistently to improve the speed and quality of service delivered to the membership. During 1998, the distribution of the incoming hostmaster mail was automated. In addition, a hostmaster robot was implemented. The robot checks the syntax of the "European IP Address Space Request Form" and transmits errors, warnings and comments back to the sender.

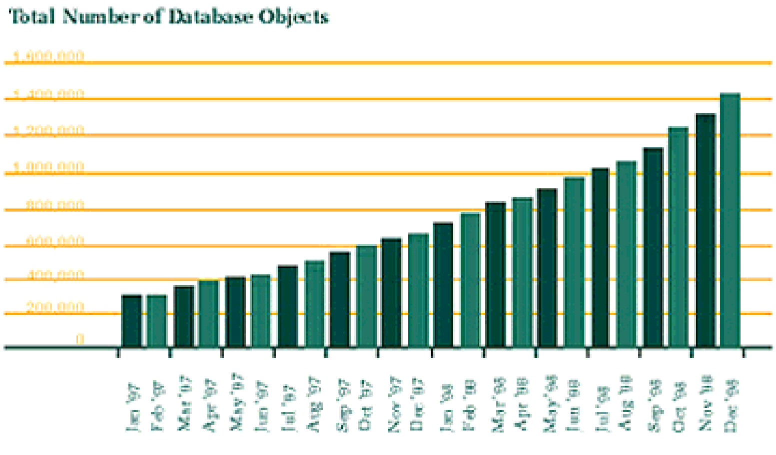
http://www.ripe.net/lir/services/registration.html

Database Services

Another important activity is the operation and maintenance of the RIPE whois database and the implementation of new database functionality requested by the membership. The RIPE whois database is located at:

http://www.ripe.net/db/whois.html

With the continuous growth of the Internet, more individuals use the database for operational purposes. During 1998, the number of objects in the database almost doubled from 718,677 to a total of 1,390,040. The following chart illustrates the growth in the number of database objects over the past two years.



During 1998, the database on average received 9,912 queries daily, bringing the total of queries to 5,876,972. Correspondingly, the number of updates to the database in 1998 more than doubled to a total of 195,836. To cope with long-term growth, the RIPE NCC installed new server hardware. In addition, further manpower was allocated to deal with various issues related to user support.

Versions 2.1 to 2.2.1 of the DB software were released. New functionality implemented in the latest release include:

- PGP as an additional authentication mechanism;
- referral mechanism for domain objects;
- cross notification for route objects;
- additional syntax checks to prevent inconsistencies;
- referential integrity checks on updates to prevent dangling references;
- performance improvements.

To deal with increased demand the RIPE NCC has planned to re-implement the entire RIPE DB software and progress has been made; the modification of existing functionality has been completed and the design work for the new code has started and will continue in 1999.

Another activity requiring significant resources is the routing registry, specifically, the transition from ripe-181 format to RPSL. Since May 1998, the RIPE NCC operates a server that writes ripe-181 and reads both RPSL and ripe-181. This is the second phase in a four-phase transition plan. The detailed transition plan can be found at:

ftp://ftp.ripe.net/internet-drafts/draft-ietf-rps-transition-02.txt

At the RIPE meeting held in Edinburgh, Scotland, a RPSL tutorial was made available to all interested participants (in cooperation with ISI, the Information Sciences Institute of the University of Southern California). More information about Database Services can be found at :

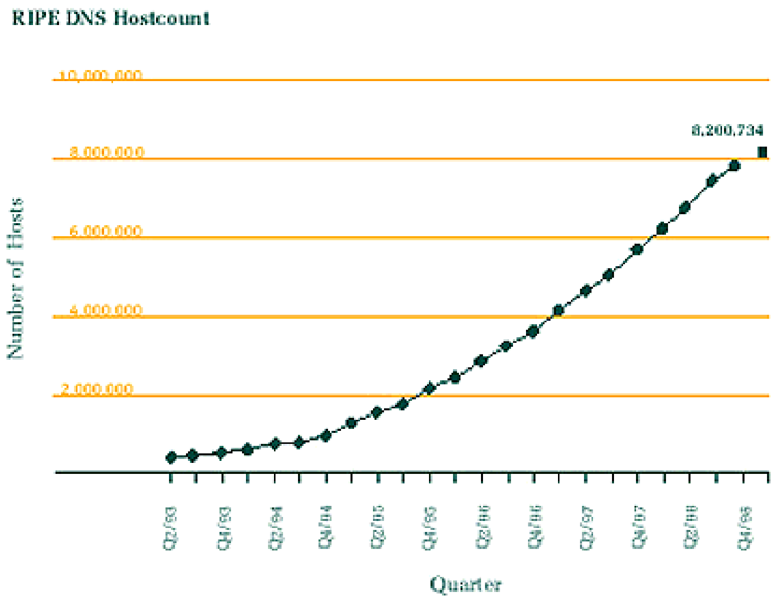
http://www.ripe.net/db/

DNS Services

The RIPE NCC reports on the growth of the European Internet via the RIPE Region Hostcount. Every month all of the DNS zones under the ccTLDs (top level domain) in the RIPE Region are examined. The RIPE NCC then publishes summary statistics derived from this data. The results are available on the RIPE NCC Web site at:

http://www.ripe.net/statistics/

During 1998, the RIPE NCC expanded its data collection to include the entire RIPE NCC service region. As a result, 50 new ccTLDs were added. This increased the total number of hosts by approximately 32,000. The total increase in hosts during 1998 was 2,082,064.



Test Traffic Project

The Test Traffic Measurements project aims to reliably and impartially measure performance characteristics of the inter-provider Internet. This is achieved by deploying ‘test-boxes’ that send measurement traffic to each other. Packet-loss and delays are measured between the test boxes according to the framework and metrics developed by the IETF. Since the RIPE NCC has an impeccable track record of neutrality and impartiality it is an ideal organisation to perform such measurements in a trusted way.

In the autumn of 1998 the deployment of the initial test network consisting of 22 boxes in 11 countries has been completed. The results look very promising. In the first half of 1999 further verification will be done, 20 new boxes will be deployed and data taking will be largely automated. In the second half of 1999, more complex products from the raw measurements will be developed and a significant number of additional test boxes will be deployed.

RIPE CENTR Project

CENTR, Council of European National Top level domain Registries is a project which was developed during 1997 by RIPE, in particular the Top Level Domain Working Group (TLD-WG).

With the impending formalisation regarding the administration of the Internet domain name system, a TLD-WG task force identified the need for European TLD registries to have a focal point at which to discuss matters of policy affecting ccTLDs and to present the position of participants with one voice. The Project was initiated at a meeting of representatives from European TLD registries on March 2 1998. The registries of 36 countries gave their support to the project which was funded on a voluntary basis for 1998. The RIPE NCC was asked to execute the initial activities of the project while a procedure was drawn up to establish CENTR as a separate legal entity.

CENTR has enjoyed an active first year and has been able to comment and make statements on behalf of the group on matters relating to Internet Governance and the transition from IANA to the newly formed ICANN. CENTR has also been involved and continues to give input to the process to form the Domain Name Support Organisation as required in the ICANN bylaws.

With the assistance of the RIPE NCC, CENTR staged a Workshop for the Technical staff of TLD registries in June and a Managerial workshop in September. Gathering information on the practices of registries has begun and should be published during 1999.

A process is now in place to establish CENTR as a separate legal entity with a small secretariat to continue the work and develop it further. In early 1999, an Executive Committee will be elected by those who have formally committed to join CENTR. This Committee will be entrusted with the task of appointing staff and deciding on a suitable location where to establish CENTR.

All relevant CENTR documents, details of participating registries and CENTR meeting information are located on the CENTR Web site at:

http://www.centr.org/

All relevant TLD-WG documents can be found at:

http://www.ripe.net/wg/tld/index.html

5. RIPE

The RIPE community is an important source of public input for the RIPE NCC. RIPE also plays an influential role in setting the annual activity plan of the RIPE NCC. The staff of the RIPE NCC regularly report at RIPE meetings and ask for feedback from participants on issues relevant to the RIPE community.

RIPE (Réseaux IP Européens) is a collaborative organisation open to all parties operating wide area IP networks in Europe. The objective of RIPE is to ensure the administrative and technical coordination necessary to enable the operation of a pan-European IP network.

The RIPE NCC facilitates the organisation of meetings for the RIPE community. These meetings are held 3 times per year and are open to the public. The main purpose is to discuss technical and policy issues affecting the Internet Service Providers in the RIPE NCC region and beyond.

In each meeting, discussions take place in the form of working groups. These discussions include technical matters such as DNS, routing and databases. Other groups are concerned with policy issues such as IP assignments and allocation policies. The RIPE NCC also provides operational support for the chairpersons of these groups. The chairpersons are usually elected by members of the working group and are not RIPE NCC staff members. To further aid the RIPE community, the RIPE NCC facilitates RIPE working group mailing lists and web pages to allow for open public debate on important Internet issues relevant to the RIPE community.

The RIPE NCC coordinates venues, connectivity, publication of minutes and presentations as well as the general administration of these meetings. In 1998, the following RIPE Meetings were held:

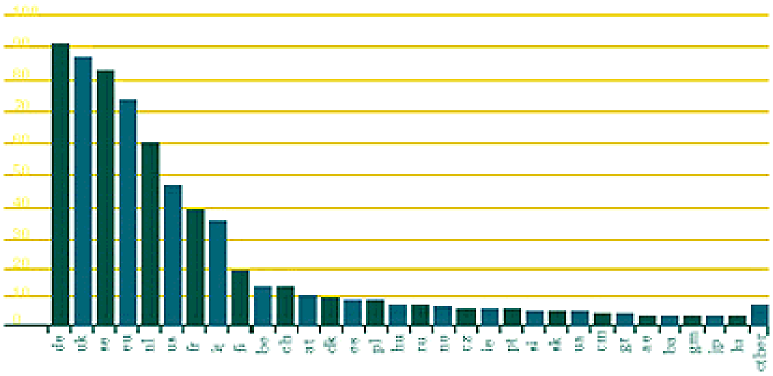
Further detailed information about RIPE can be found on the RIPE NCC Web site at:

http://www.ripe.net/info/ripe/ripe.html

1998 RIPE Meetings

RIPE 29, January 28-30	Amsterdam, The Netherlands	220 Attendees
RIPE 30, May 18-20	Stockholm, Sweden	232 Attendees
RIPE 31, September 23-25	Edinburgh, Scotland	270 Attendees

Number of attendees per country



6. Financial Report 1998

Statement of Income and Expenditures (in k XEU)

	1998		1997	
Income				
Fees	3,996		2,244	
Other income	95		19	
Total income		**4,091**		**2,263**
Expenditure				
Operating costs	2,678		2,093	
Depreciation	249		52	
Total expenses		**2,927**		**2,145**
Surplus before miscellaneous costs		**1,164**		**118**
Miscellaneous costs				
Doubtful debtors/Credit notes	322		245	
Personnel fund	152		315	
Moving expenses	0		60	
Total miscellaneous costs		**474**		**620**
Financial expenses				
Bank interest	-29		-9	
Exchange rate differences	-28		5	
Banking expenses	15		8	
Total financial expenses		**-42**		**4**
Net surplus		**732**		**-506**

Notes to the Statement of Income and Expenditures of RIPE NCC

The Financial Report has been approved by the auditor but has not yet been approved by the Annual General Meeting of the members. The Annual General Meeting of October 1998 agreed that the approval of the audited statements could wait until the 1999 meeting which will be held in the autumn. The full 1998 Financial Report can be found at:

http://www.ripe.net/docs/ripe-193.html

All amounts are expressed in XEU. The principle foreign currency, the Dutch guilder, was converted at a rate of .453 for the year. On December 31, 1998 the XEU was replaced by the EUR using the same rate.

The RIPE NCC had 53 employees as at December 31, 1998. Along with temporary personal, this re-presents 49.9 FTE's (Full Time Equivalent). Salary and related costs account for more than 60% of Total Expenses.

Revenues are higher than were budgeted because the number of MEDIUM and LARGE Local Internet Registries (LIR) was higher than estimated. Interest revenues come from short-term deposits of working capital. Other income is primarily the RIPE meeting plus service charges and interest on outstanding accounts receivable.

The number of LIR's has continued to grow at approximately one per calendar day. At the end of 1998 there were 1,263 Local Internet Registries as compared to 905 in 1997.

The Doubtful Debtors expense will clear out all outstanding debts for all previous years and a large part of 1998 thought to be uncollectible. Any debtors whose debt has been written off will first have to pay all existing debts, a new sign-up fee as well as the annual fee in advance if they wish to use the RIPE NCC services in the future. A debt collection policy has been implemented in the second half of 1998 and it is expected that this amount will be reduced to the budgeted amount in the future.

The Personnel Fund expense was calculated using the number of people with employment contracts of indeterminate time working at the RIPE NCC as at December 31, 1998. The amount includes allowances for vacation pay, the pension and year end payment as well as the employer's part of social premiums payable.

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