RIPE ncc

Reśeaux IP Européens
Network Coordination Centre

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ABSTRACT

In this report, we provide a summary of our income, activities and expenditure during the 1995 calendar year.

1. Introduction

The RIPE Network Coordination Centre started operations in April 1992. It supports RIPE activities that cannot be effectively performed by volunteers from the participating organisations. Key services performed by the RIPE NCC include:

- Maintenance of the RIPE Network Management Database
- Regional Internet Registry
- Domain name system (DNS) coordination
- Repository for network operations software
- Maintenance of the RIPE document store
- Interactive Information Services

At the start of 1995, just over 1 million computers in Europe and surrounding areas were reachable via networks coordinated by RIPE. By the close of 1995, this figure had risen to more than 2.2 million. As can be seen in Figure 1, this is a continuation of the exponential growth in RIPE coordinated networks that has taken place in the early 1990s.

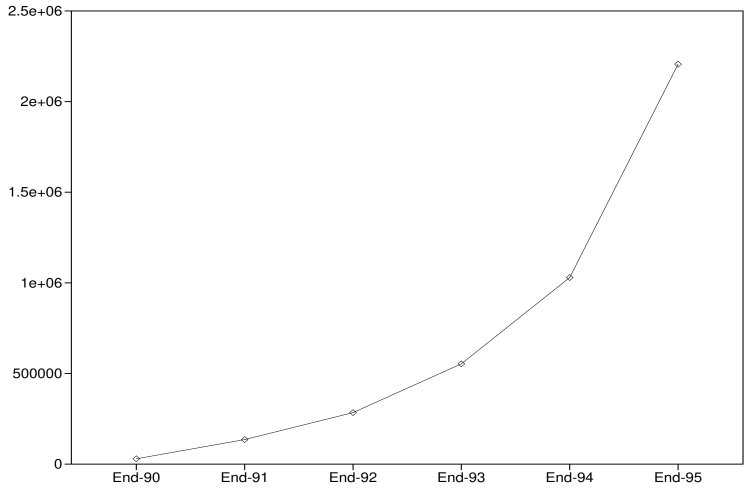

Figure 1: RIPE Network Hostcount 1991-1995

The TERENA association provides the formal framework for the NCC. Funding for the operation of the NCC is provided by the Internet service providers in Europe and surrounding areas.

General information about the NCC, its funding, organisation and activities can be found in the following documents:

ripe-125	RIPE NCC Activity Plan
ripe-133	RIPE NCC Activities & Expenditure 1996
ripe-134	RIPE NCC Revenue & Charging 1996
ripe-132	RIPE NCC Contributors Committee, Minutes Sept 1995

In this report, we aim to offer the RIPE community in general and the RIPE NCC Contributors Committee in particular a summary of our income, activities and expenditure during the 1995 calendar year.

2. Summary 1995

As can be seen in Figure 2, the explosive growth in the number of hosts reachable via RIPE networks has been paralleled by an explosive growth in the number of local IRs in the RIPE NCC service area.

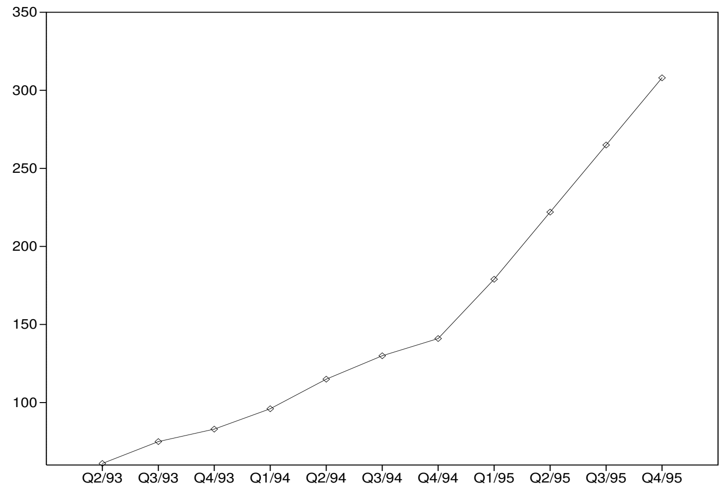

Figure 2: Local IRs served by the RIPE NCC

In Table 1 below, we see the number of Internet service providers operating a local Internet Registry increased accordingly from 141 at the start of 1995 to 308 at the year's close.

Number of Local IRs					
Type	Q4 1994	Q1 1995	Q2 1995	Q3 1995	Q4 1995
Large	17	17	19	25	28
Medium	28	31	35	36	40
Small	51	84	119	159	196
Enterprise	14	15	17	15	16
Last Resort	31	32	32	30	28
TOTAL	141	179	222	265	308

Table 1: Local IR's served by th RIPE NCC

This growth resulted in a tremendous increase in the RIPE NCC workload, in particular that generated for registration services. The NCC hostmaster staff was severely understaffed for the first half of the year resulting in an ever increasing wait queue for IP related requests. After hiring and training a number of new hostmasters in the latter part of the year, the queue was reduced and finally eliminated near the close of the year. At the close of 1995, there were six registration services staff, one of which worked part time.

Due to the amount of work generated by registration services, there was little room for significant progress in technical areas. For example, it was not possible for the staff to perform Routing Registry activities nor to start up new technical activities.

Nevertheless, progress was made in automating DNS reverse delegation procedures, reducing response times for these requests significantly. Moreover maintenance and development of the RIPE database continued without interruption.

Finally, the interactive information services provided by the NCC were continued. This includes the maintenance of the RIPE document store. Of course, these documents together with the complete set of RFCs, the newest Internet drafts, and numerous other useful documents for Internet operations were made readily available.

3. 1995 Income and Expenditures

As reported above, the number of local IRs in the service area of the RIPE NCC more than doubled during the 1995 calendar year. The increase in activities was accompanied by associated increases in income and expenditure.

Income

For services performed in 1995, a total of 986 kECU was invoiced. Due to some extenuating circumstances, 12 kECU were actually invoiced at the start of 1996. By the end of 1995, we had received 818 kECU of the total invoiced for the year.

Our total cash income in the 1995 calendar year was 977 kECU, 159 kECU of which came from late payments for services performed in the 1994 calendar year.

Expenditure

The budget for RIPE NCC expenditure for 1995 approved by the NCC contributors in September 1994 was 407kECU. This was increased in June 1995 to 529kECU to enable the NCC to cope with the unexpected growth in workload. In Table 2, we summarise the expenditure in 1995 according to service category.

1995 Budget & Expenditure		
Activity	Budget	Expense
Registration Services	358	326
Other Services	71	94
Admin & Reporting	78	78
New Activities	22	37
TOTAL (kECU)	529	535

Table 2: Expenditure 1995

At the end of the year, the total expenditure was 535 kECU, within 2% of the budget. However, one can see in the table that some services required more resources than predicted whereas registration services required slightly less.

In 1995, significant resources were spent on RIPE database maintenance activities. Because these activities fall under "other services", this resulted in more resources being required for that area than had been foreseen. Likewise, the resources required for the development of automatic tools for reverse delegations were attributed to "new activities", resulting in more expenditure than predicted in this area. The result was a reduction in the resources required for reverse delegation activities. This accounts for the actual expenses for registration services being slightly lower than had had been budgeted in June 1995. Moreover, this effort resulted in a significant and lasting reduction in the amount of work required to perform this particular registration service.

The activities which fall into each category are summarised below. There are of course sporadic activities which do not fall neatly into a specific service category. Depending on the nature of the activity, the associated expenditure is attributed to "other services" or "new activities".

Registration Services

The following activities are included in the *Registration Services* category:

- IP Assignments
- IP Allocations
- RIPE Database Maintenance (information)
- Local IR Training Courses
- RIPE Database Exchange
- DNS Management (reverse delegations)
- Routing Registry Maintenance (little or no time in ’95)
- PRIDE Tool Maintenance (little or no time in ’95)
- Coordination of local IR’s
- Local IR referral services

Other Services

Under the heading *Other Services* we include activities such as:

- Database Maintenance (software, technical support)
- DNS Secondary servers and Quality Control
- RIPE Document Store maintenance
- Interactive Information Server

Administration and Reporting

This category includes the following activities.

- Customer support
- Billing activities
- Financial planning and control
- Quarterly and annual reports
- RIPE Meeting Support

New Activities

New activities which took place 1995 include:

- Development of automatic checking for reverse delegation requests.
- Database software developments.

Summary

Note that the income received (818 kECU) in 1995 for services provided in the same year is 153% of the expenditures (535 kECU) for that year. This allowed us to build financial reserves which is essential to the long term stability of the NCC, and enabled us to reduce our fees for 1996.