RIPE NCC
Activity Plan

R. Blokzijl

May 5, 1991

ref.: ripe-35

Introduction

This document describes the activity plan for the proposed RIPE Network Coordination Center (NCC). As such it must be regarded as a technical annex to the document proposing the installation of an NCC (ripe-19).

In the NCC proposal it is recommended to have a separate organisation that is responsible for the execution of a certain number of tasks that are indispensible for the proper management of IP networks on a European scale. The nature of these tasks is such that it has proven to be extremely difficult to execute them as a voluntary effort on an ongoing, regular basis. Also the efficiency of the work would be greatly improved with a centralised execution of the tasks.

The individual work items are described below. It should be stressed that regular reporting (weekly, monthly and yearly) on the progress of the work is foreseen for all work items.

1 Technical – Coordination Activities

1. Maintain a database of European IP networks and their management information. The database to be maintained will contain several classes of objects. These objects are described in detail in ripe-13. At the moment the following object classes have been defined:

   (a) Networks

(b) Responsible persons
(c) Domains
(d) Routers
(e) International lines
(f) Name Servers

The NCC will be responsible for the database entries; this includes

(a) collection of database entries
(b) checking of individual entries
(c) checking of consistency and integrity of the database

Weekly reports on changes in the contents of the database will be produced, together with statistics about the number of database entries.

2. Distribution of the database.
Secondary copies of the database can be installed at other sites upon request. It is the responsibility of the NCC to keep track of such secondaries, and to keep the contents consistent.
An up to date record of secondary sites will be maintained on line.

3. Coordination of database exchange with other organisations.
The NCC will coordinate and execute the exchange of database information with NCC's outside Europe. The result will be that for the end user of the database one uniform set of global information will be available.

4. Keep a record of existing IP connectivity in Europe, and between Europe and other continents.
The record shall consist of a set of maps that catalogue the existing connectivity in Europe. These maps fall into three main categories:

(a) International connectivity inside Europe
(b) Connectivity between Europe and other continents
(c) Connectivity inside European countries and or networks

The last category depends heavily on cooperation with individual NOC's.

The maps to be produced will be made available on line in the form of a set of PostScript files for remote retrieval and reproduction. Adequate tools for providing the maps (both hardware and software) must be available.

The updated maps will be published on a monthly basis.

5. Keep an inventory of IP infrastructures not yet interconnected.
   This information will be kept in the same format as the maps of the interconnected networks. The collection and integration of the information depends heavily on the cooperation of individual NOC's.

   The updated maps will be published on a monthly basis.

6. Keep a record of operational contact points.
   This will consist of a list of NOC's and responsible people that will be used as a reference list for the individual NOC's to be used in case of network related incidents, including security incidents.

   Individual NOC's will be able to subscribe to a weekly update service.

7. Maintain a list of recommended DNS software and known bugs.
   The result will be available on a server in the form of software and reports of known bugs, recommendations, etc.

   A subscription service for change and update reports will be maintained.

8. Placement of name servers and backup servers in Europe, and beyond.
   On a regular basis the interworking between the DNS name servers in Europe, and their connections to name servers outside Europe, must be checked. Detected errors and inconsistencies must be reported to the responsible persons; corrective actions must be followed. The result will be a consistent set of name servers.

9. Gather traffic statistics and network performance data.
   Traffic statistics will be gathered in an orderly way from a set of well defined routers. The result will be regular reports on traffic volumes and network performance.

2 Technical – Development Activities

NICs and NOCs and the NCC need special purpose software tools for their work. While some of these tools are available commercially others will have to either be obtained from the public domain or specially developed to suit local needs. The NCC will collect, develop, document and test such tools in order to make them available to the RIPE community. While some basic support will be given the NCC will not provide full support for these tools.

1. Database management tools.
   Tools for management of the database and their maintenance are an important work item for the NCC. The result will be the availability of a consistent database.

2. Database querying tools.
   Development and maintenance of the `whois` utility. The result will be a program, available from a file server, that permits remote interrogation of the database.

3. Tools for gathering and presenting network usage statistics and performance data.
   Software has to be collected, developed and maintained for gathering statistical data. The result will be a set of tools, available from a file server, together with documentation and recommendations for use. This will enable the RIPE community to gather and present statistics in a uniform way.

4. DNS quality control tools.
   Utilities for quality control of the interworking of the DNS name servers will be developed and maintained. The result will be a set of software and documentation, available from a server.

5. Tools for drawing network diagrams.
   Network diagrams have become complicated objects nowadays, and the amount of work needed to draw them is no longer negligible. Some effort should be dedicated to study the possibility to generate them in a more automatic way from existing databases. The result will be more up to date and more accurate network diagrams.

3 Administrative – RIPE Activity Support

The NCC will give the following support to the RIPE activities:

1. Keeping the RIPE document store.
   The NCC will keep RIPE documents on line and easily accessible to the RIPE community.

2. Technical and secretarial support for studies undertaken by RIPE.
   The NCC will provide technical and clerical support for RIPE studies and task forces in order to enhance continuity and coordination of the work between RIPE meetings.

3. Organisational support for RIPE meetings. RIPE meeting attendance is expected to be on the order of 40 persons in the near future. The NCC will provide clerical support to organise these meetings in order to keep them productive.

4 Administrative – Reporting

The NCC will follow the following general reporting procedures:

1. quarterly reports an all activities will be produced for the RIPE participating organisations and the RARE CoA.

2. quarterly reports on outstanding problems will be produced for the RIPE participating organisations and the RARE CoA.

3. the NCC reports on its ongoing work and outstanding problems also to each RIPE meeting. These meetings take currently place three times a year.

4. The NCC will produce annual reports. These will be available on the 31st of January following the year to be reported on.

5 Requirements for an NCC

The following requirements for the running of the RIPE NCC have been identified:

- staff
  - 1.0 FTE NCC manager with proven skills in:
    * Internet network technology, applied to large scale networks
    * Management and communication
    * Working in an international environment

    The NCC manager must be willing to take the position for a period of at least 3 years.
  - 1.0 FTE NCC technical staff with proven skills in:
    * Internet network technology, applied to large scale networks
    * Working in an international environment

    The NCC technical officer must be willing to take the position for a period of at least 1 year.
  - 1.5 FTE Administrative staff, with proven skills in:
    * Administrative work
    * Using advanced computing equipment
    * Working in an international environment

    The NCC administrative officer must be willing to take the position for a period of at least 2 years.
- equipment:

  - work-stations with X-windows capability for staff
  - an adequate minicomputer to support the work-stations and to house the data bases
  - excellent IP networking access, both European and intercontinental
  - excellent mail connectivity
  - support for OSI based services

- office space:

  - 2 offices with the normal operational overheads
  - communication costs allocation

- location:
  It is essential that the actual place where the NCC is located, is close to an operating NOC and other RIPE activities. This will make it possible to keep the number of NCC staff limited, while still providing fertile grounds where NCC activities will flourish.

- travel budget
  it is foreseen that NCC staff will have to make at least the following travels on a yearly basis:

  - attend all RIPE meetings
  - attend 6 meetings in Europe
  - attend 4 meetings outside Europe