RIPE NCC Activities & Expenditure 1998

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RIPE NCC

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Document: ripe-162
Updates: ripe-144
See also: ripe-163

1. Scope & Process

This memorandum describes the activities to be performed by the RIPE NCC and the associated expenditure during the year 1998. The companion document "RIPE NCC Charging Scheme 1998" (ripe-163) describes how the necessary revenue is generated.

Traditionally there are several well defined stages in the creation of this document: It is drafted by the RIPE NCC based on input from RIPE and the users of NCC services. Subsequently it is approved, possibly after modification, by the NCC Contributors Committee representing the organisations providing the funding. TERENA finally endorses the document, acknowledging formal responsibility for the execution of the activities. At that point the document is frozen and represents both charter and budget for NCC activities during 1998.

This time the situation is special, because of the establishment of an association which will execute the activities separately from TERENA. This association is dubbed RNA (RIPE NCC Association). RNA will take over the activities on January 1 1998 and will be governed by its members, the NCC contributors. Details about this can be found in document ripe-161. Since

RNA is not formally established, formal decisions cannot be taken within its framework. However since the future members of RNA are constituting the current NCC Contributors Committee, it is logical to follow the traditional procedure for approval of this document.

Status

This document has been approved by the RIPE NCC Contributors Committee on September 23rd 1997 and endorsed by the TERENA General Assembly on October 24th 1997.

Changes

The document itself will not be changed once the process described above is completed. However the last two years of NCC operations experience have shown that revisions are needed during the course of the year. In today's Internet environment it is impossible to plan ahead for more than 15 months as the formal process requires. Any amendments will be made within the structure of RNA and thus require approval by the RNA executive board.

2. Principles for NCC Activities

The RIPE NCC performs activities for the benefit of the Internet service providers (ISPs) in Europe and the surrounding areas; primarily activities that the ISPs need to organise as a group, although they may be competing with each other in other areas.

The RIPE NCC must therefore observe 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.

Activities are defined, performed, discussed and evaluated in an open manner. Results of activities such as software tools are made available to the public. Budgets as well as actual income and expenditure are published. Individual data will be kept in confidence where required. For example the amounts of address space allocated and assigned are published as are database entries of individual assignments including the relevant contact data; however the information supporting individual assignment requests is kept in strict confidence.

While an activity may result in services being provided to an individual ISP, performing the activity as a whole must benefit the European ISPs as a group. For example address space registration services are provided to ISPs individually, but the activity as such benefits all ISPs by distributing address space according to common standards as well as maintaining a neutral and accessible registry. It is because of this distinction that this document is structured around activities, rather than services.

3. Activity Areas

Since 1996 all NCC activities have been grouped into four main categories. We begin with a general description of these categories. The budget itself will be discussed the following section. Detailed descriptions of all activities can be found in the appendices.

Registration Activities

This represents activities related to the NCC's role as Regional Internet Registry (IR) for Europe and the surrounding areas. It includes handling of requests for assignment and allocation of IP address space, management of reverse domain name space associated with this address space, as well as the auditing and quality control necessary to ensure fair and expedient processing of requests. Also included in this area are training of Local Internet Registries, production of documentation related to Internet registration as well as specific activities to ensure a proper and expedient start of new local IRs.

Services performed in this area are only accessible to formally established local IRs contributing to the funding of the NCC.

Coordination Activities

The activities grouped in this area are quite diverse. Their common purpose is to support the coherent operation of the Internet in the European area. An important activity is the provision of access to the RIPE database which provides information about address space and routing policies together with the appropriate contact points. Developing and publishing the RIPE database software is also part of this area, as is the provision of information services for ISPs and the general public via the Internet. Operational coordination also falls into this category, as does the production and publication of software tools for such efforts.

In order to be effective, the services performed in this area have to be accessible to the general Internet public. Contributors to the funding of the NCC will receive precedence over other users when special support is needed.

Administration Activities

This area covers all general administrative overheads which cannot be clearly attributed to a specific activity as well as all regular reports published by the NCC, and administrative support for RIPE. As such it includes the resources needed for charging, billing and the general financial administration.

New Activities

This area represents those activities that are either entirely unforeseen or cannot be fully specified at the time of this writing. The existence of this area gives the NCC the flexibility to react quickly to the rapidly changing needs in today's Internet. Activities in this area are often suggested by the appropriate RIPE working group.

If the activities turn out to need long term support they may become a regular NCC activity funded by all contributors later. If the activities are short term but substantial or continued support by all contributors is not appropriate, they may be continued as special projects for which funding is sought separately among interested parties.

These new activities are executed under the guidance of the RIPE working groups. It is assumed that representatives of the contributors participate actively in these working groups.

The PRIDE project and the creation of the routing registry in general are good examples of such activities as is the startup of IPv6 coordination.

4. Growth Plan and Budget

The number of local Internet registries is still increasing rapidly. The projections for 1998 are as follows:

Registries	Observed		Projected					
	Q1 1997	Q2 1997	Q3 1997	Q4 1997	Q1 1998	Q2 1998	Q3 1998	Q4 1998
Large ISP	48	48	49	49	65	65	65	65
Medium ISP	93	109	109	109	170	170	170	170
Small ISP	491	567	653	744	758	849	940	1031
Last Resort	0	0	0	0	0	0	0	0
TOTAL	**632**	**725**	**811**	**902**	**993**	**1084**	**1175**	**1266**

We expect a linear growth of approximately one new local IR per calender day, which is consistent with our observations over most of 1997. Note that the total number of registries is somewhat lower than forecast in September 1996 (ripe-144). One reason for this is that the predicted small increase in the growth rate has been absent. The main reason though is that a thorough clean-up operation resulted in the closure of a substantial number of inactive registries during Q1 1997.

While the relative growth of 40% predicted for 1998 is the lowest in the NCC's history, it is still large in absolute terms. It requires close attention and adaequate resources.

Reliability and Quality

During 1997 the RIPE NCC has received a number of requests for a significant increase of activities in a number of important areas. We have included in this plan those activities that are appropriate following the principles described in section 2, are considered high priority by the community, are consistent with our focus of quality and reliability, and that we expect to be able to execute successfully.

The stability of the NCC is of vital importance to the community in general and the LIRs in particular. Reliable registration and coordination services are essential for the functioning of the Internet. The Internet continues to develop from something new and experimental towards a public utility, and the RIPE NCC has to follow this evolution. This increases the requirement for resilience and reliability. Recent operational problems with key Internet resources have demonstrated this very clearly. Resilience and reliability however are not free, they cost resources.

Also Internet governance comes under increased scrutiny from all sides including governments and various interest groups. This scrutiny requires the NCC to demonstrate that it does a good and impartial job in order to defend itself and the concept of industry self regulation.

During 1998 the RIPE NCC will focus on both quality and reliability for all its activities. Activities that are focussed on these issues. especially in the RIPE database area, will be increased.

Registration Activities

We will continue to provide the high level of responsiveness we were able to achieve in 1997. Workflow management will keep step with growth and quality control efforts will continue to be ramped up. Liaison activities with other regional registries and IANA will continue. In order to maintain quality and efectiveness we will intensify and improve the training facilities offered to both new and existing local IRs.

Resources used by these activities will grow roughly in step with the growth in LIRs.

Coordination Activities

Coordination activities will focus on three areas: information services, DNS coordination and the RIPE database, with the RIPE database receiving most of the attention. Database consistency, security and exchange will be addressed. The database software itself is nearing the end of its useful life and will be replaced.

All this requires relatively more resources than the activities performed in 1997.

Administration Activities

These activities are increasing very slightly as required by the need for stability and the establishment of the RIPE NCC Association (see ripe-161).

New activities

The relative size of this area will remain constant as we focus on the deployment phase of the test traffic measurement project and retain sufficient room for unforeseen new activities.

Support Activities

Of course the NCC also executes a number of internal activities in support of the externally visible ones. During 1998 the focus of the internal activities will be that of operational reliability. One example of this is further increasing the resilience of the NCC's computing resources, 24x7 operational coverage and increased attention to operational security.

Budget

Based on the growth projection and the required activities the operating costs during 1998 are as follows:

Activity Area	**1997**	**%**	**1998**	**%**	delta
Registration	1064	54	**1516**	44	452
Coordination	442	22	**972**	28	530
Administration	311	16	**663**	19	35
New	166	8	**306**	9	140
TOTAL (kECU)	**1983**		**3457**		**1474**

The growth in operating costs is significantly higher than the growth in local IRs because of the increased need for reliability and the increase in coordination activities. However we strongly believe that the investment in reliability and the increased activities are needed for the success and stability of the RIPE NCC. This plan represents good value for money for the RIPE NCC contributors.

Of course the growth has been planned carefully. The plans are ambitious but realistic. For illustration purposes a summary of the staffing plan is shown below.

Department	**FTEs** Q2 1997	Q4 1997	Q2 1998	Q4 1998
Management	4	4	4	4
Registration	10	11	13	14
Engineering	10	12	17	18
Administration	4	7	9	9
Total	**28**	**34**	**43**	**45**

Note that there is no direct relationship between the breakdown by activity area and that by department because staff from several departments may work on a particular activity.

In order to keep the growth in staff down we will consciously make use of consultants for non continuing activities wherever this is possible.

Of course we will also closely monitor the growth in local IRs and adapt the plans to changes in the growth pattern.

5. Challenges

The main challenge for the NCC -as for the Internet- remains to manage its growth while remaining stable, reliable and innovative at the same time. We have planned the growth of the NCC as carefully and realistically as possible while maintaining enough flexibility to react to the changing environment. This plan represents a good basis in material resources but the success of the NCC will depend on finding and keeping the people who make it happen.

Appendices

All activities will be described in appendices grouped activity by area. The descriptions list related activities as well as links to the relevant RIPE working groups. Wherever an activity is starting or increasing significantly during the year this is indicated. Finally special budgeting considerations are listed where appropriate.

Appendix R - Registration Activities

This represents activities related to the NCC's role as Regional Internet Registry (IR) for Europe and the surrounding areas. Services performed in this area are only accessible to formally established Local IRs contributing to the funding of the NCC.

R1 Regional Internet Registry

The RIPE NCC provides Internet registration services for Europe and surrounding areas; it acts as a Regional Internet Registry.

The overall goal of this activity is to provide fair, impartial and stable distribution of Internet numbers, especially address space in Europe and the surrounding areas. The specific goals for the distribution of address space are uniqueness of addresses, conservation of the remaining IPv4 address space, aggregation of routing information and registration of network management information.

To determine the resources needed we assume a constant linear growth of approximately one new LIR per calender day. This is the growth we have been observing during the majority of 1997. we have also observed no major trend in the numbers of requests other that they grow roughly with the number of LIRs.

We thus assume no significant shifts in the resources needed to perform activities R.1.1 - R.1.5 reliably. The basic procedures did not change and apart from improvements of existing tools no additional software has been produced.

To be able to perform registration activities existing tools are used and new tools will be developed.

Because the amount of requests staff continues to grow, work flow management will receive increased attention and resources in 1998.

Common to all of registration activities is liaison with the RIPE Local IR WG about general application of procedures and policies.

R1.1 First Address Space Assignment

Description:

The RIPE NCC will give special attention to requests from LIRs for their first address space. It will help to make the first assignment and allocate an aggregateable range of addresses for further assignments.

Goal:

This will help Local IRs to successfully process their first request and to have a better understanding of the procedures for further requests. It will also help to build a good working relationship between the RIPE NCC and the Local IR. Furthermore it will enable neutral and impartial treatment of all Local IR's.

Related Activities:

R1.8

RIPE Working Group Advising:

RIPE Local IR WG

R1.2 Assignment Approval

Description:

Some IP address requests require approval from the RIPE NCC, specially when they are above a threshold size. The RIPE NCC will evaluate these IP address requests. Sometimes local IRs will also request the opinion of the NCC about assignments even when it is not strictly required. The RIPE NCC will furthermore give recommendation and guidelines for future requests.

Goal:

This activity will ensure uniform application of policies and assignment criteria by all Local IRs and will help to make a Local IR familiar with request evaluation. It will support Local IRs in their operations and help them to process increasing request sizes. It will also enable fair operations of all Local IRs.

Related Activities:

R1.7, R1.8

RIPE Working Group Advising:

RIPE Local IR WG

R1.3 PI Assignment

Description:

The RIPE NCC will process all requests for PI (provider independent) address space submitted by Local IRs.

Goal:

This activity will prevent fragmentation of the local IR's allocated address space by making the PI assignment from an address pool managed by the RIPE NCC. This will promote aggregation of routing information.

RIPE Working Group Advising:

RIPE Local IR WG

R1.4 Address Allocation

Description:

The RIPE NCC will allocate address space to Local IRs for further assignment to end users. This activity will also contain auditing of assignments made from previous allocations. A tool will be developed to support the allocation process and to ensure best aggregation possible.

Goal:

This activity will help to ensure fair distribution of address space. It will also support the efficient use of address space in order to conserve the remaining IPv4 address space and to aggregate routing information.

Related Activities:

R1.7, R1.8

RIPE Working Group Advising:

RIPE Local IR WG

R1.5 AS Number Assignments

Description:

The RIPE NCC will assign AS numbers according to global and local policies. It will register these numbers and the associated routing policies.

Goal:

This activity will ensure uniqueness of AS numbers and help in collecting data for the Routing Registry.

Related Activities:

C1.6

RIPE Working Group Advising:

RIPE Local IR WG

R1.6 Reverse DNS Delegation

Description:

The RIPE NCC will delegate reverse DNS zones for the address ranges allocated or assigned via the RIPE NCC. In order to provide this service the RIPE NCC will provide reliable name servers and try to avoid pollution of the DNS in the zones delegated to the RIPE NCC. Therefore the RIPE NCC will check all zones under its responsibility for proper set-up and functioning.

Goal:

This activity will be necessary to ensure proper address-to-name mapping for addresses allocated to the RIPE NCC.

RIPE Working Group Advising:

RIPE Local IR WG

R1.7 Consistency & Auditing

Description:

The RIPE NCC will actively check the quality and validity of registry data. This will also include the production of statistics on address space usage.

In order to ensure a fair address space distribution, the RIPE NCC will regularly check that assignment guidelines are applied equally.

This activity is separated from the other registration activities because it needs to be defined and executed somewhat independently from the day-to-day processing of requests.

Of course consistency checking and auditing will still be performed within other activities as well. This particular activity is to provide the parts that have to be done independently of processing individual requests.

Goal:

This activity will promote consistent and fair application of assignment criteria w.r.t. conservation of address space and aggregation of routing information. This activity will also help to identify parts of the procedures themselves that cause problems. These observations will be reported back to the RIPE Local IR working group for further investigation and improvement of the procedures.

Related Activities:

all registration activities

RIPE Working Group Advising:

RIPE Local IR WG

R1.8 Registration Activities Quality Management

Description:

Because of the size of registration activities and the continuing growth it is important to systematically monitor the quality of registration activities within the NCC. This becomes even more important as the quality and fairness of industry self-regulation activities in the Internet environment comes under increased scrutiny from many directions including governments and consumers.

The NCC will continuously develop quality measures for registration activities and monitor them. Part of this activity will be to give careful attention to customer questions and suggestions. This will also include proposals for possible automation and other improvements of internal procedures. Eventually this activity may lead to seeking a formal quality management certification.

Of course quality control will still be performed within other registration activities as well. This particular activity is to provide the parts that have to be done independently of processing individual requests. This will also be managed and executed separately from day-to-day request processing.

Goal:

This activity will help to maintain a high quality of services provided.

Related Activities:

All registration activities and related administrative support activities.

RIPE Working Group Advising:

RIPE Local IR WG

R2 Initial Contact for new Local IRs

The initial support for newly established registries is independent from other registration activities. It is not initiated by a request sent to the RIPE NCC but is part of the process to open a Local IR. During this phase additional clarification and explanation is involved to make the new Local IR familiar with all procedures necessary to operate an Internet registry.

R2.1 Initial Contact & Registry Setup

Description:

The RIPE NCC will provide initial support to Local IRs during their start up phase. It will support and provide information to potential Local IRs.

Goal:

This activity will support new Local IRs during their start up phase, so that they feel comfortable with tools, procedures and guidelines. It will also give potential Local IRs enough information so that they can make an informed choice as to whether become a Local IR or not.

Related Activities:

R2.2

RIPE Working Group Advising:

RIPE Local IR WG

R2.2 Training Courses

Description:

The RIPE NCC will develop and deliver Training Courses for Local IRs. The course material will include IP address assignment and allocation procedures and policies, delegation of reverse domains and how to you use the RIPE database.

Goal:

The goal of this activity is to make new Local IRs familiar with procedures and policies as well as to keep established Local IRs up to date with new guidelines and developments. This will facilitate smooth operations between the RIPE NCC and the Local IRs. By establishing a consistent application of policies we will also enable fair distribution of address space among the community.

RIPE Working Group Advising:

RIPE Local IR WG

R3 Liaison & Coordination

Description:

In order to execute its activities the RIPE NCC has to act as liaison and coordinate with a variety of organisations as well as track the activities of others. Examples of such organisations are IANA, IETF, RIPE, NANOG, ARIN, and APNIC. It is often difficult to attribute liaison and coordination resources to specific activities. Therefore it is an activity in its own right.

Goal:

To keep the necessary liaison and coordination relationships with other relevant organisations.

Budgeting:

Costs for this activity are split evenly between the registration and coordination budget lines.

Appendix C - Coordination Activities

The activities grouped in this area are quite diverse. Their common purpose is to support the coherent operation of the Internet in the European area.

In order to be effective the services performed in this area have to be accessible to the general Internet public. However contributors to the funding of the NCC will receive precedence when special support is needed.

C1 RIPE Database Maintenance and Development

Description:

The RIPE NCC will assure the reliability of the RIPE database and extend its functionality as needed. The quality of data will be improved, both by improving consistency and providing reliable security mechanisms. C1 activities include the NCC work related to the RIPE database software and the quality of registry data.

Goal:

The RIPE database is the core software on which the RIPE Regional IP Registry and the RIPE Routing Registry are based. Reliability and good functionality of the RIPE database is essential for the NCC and local IRs. This set of activities is designed to continue consistent support and provide a reliable service both in the short and long term, as well as to continue developments according to the needs of the RIPE community.

RIPE Working Group Advising:

RIPE Database WG

C1.1 User Support and Software Maintenance

Description:

The RIPE NCC will manage the <ripe-dbm@ripe.net> role mailbox, and address user questions in a timely fashion. The NCC will also perform basic software maintenance activities including bug fixes and minor modifications. At the same time, the RIPE NCC will provide robust portable releases with fixed bugs and new features. It will also work on maintaining and improving user documentation.

Goal:

This activity is intended to provide a timely response to user enquiries. It will also help assure the smooth running of the registry system. By maintaining public releases, RIPE NCC hopes to encourage all registries making use of the software and acquiring the newest improvements in a timely fashion. This encourages data exchange and cooperation among registries.

RIPE Working Group Advising:

RIPE Database WG

C1.2 New Database Features

Description:

The RIPE NCC will design and implement new database features as requested by the user community. The NCC will perform the development work based on the priorities established in the appropriate working groups.

Goal:

The purpose of this activity is to provide new functionality as the RIPE database user community expresses the need for it.

Related Activities:

C1.1

RIPE Working Group Advising:

RIPE Database WG

C1.3 Database Security

Description:

The RIPE NCC will document, design, and implement security mechanisms for the RIPE Database. The mechanisms will be designed to allow proper authorization (what is a user permitted to do), authentication (is he who we think he is?), signing and integrity (did the object change somehow?).

The NCC will then prepare and deploy training courses for members of the RIPE database community in which they can learn how they can put the new mechanisms to effective use.

A task force has been established to guide this activity.

Goal:

This acticity is intended to provide mechanisms which allow users to protect the data they submit in the RIPE database, and which allow those who query the data to treat it with an appropriate degree of trust. The mechanisms must be selected to be widely available. Those users who do not wish to make use of them should not be inconvenienced by them in any way.

Related Activities:

C1.1 C1.2

RIPE Working Group Advising:

RIPE Database Security Task Force
RIPE Database WG

C1.4 Consistency & Accuracy

Description:

The RIPE NCC will try to prevent inconsistencies and inaccuracies in the RIPE Database contents by improving syntax checks, modifying contact reference mechanisms, and educating users.

In the meantime, the RIPE NCC will perform database cleanup activities to improve the quality of data already in the RIPE database. This will include reporting problems to contacts where possible, and providing tools which enable users to clean up their data. The NCC will also produce regular "State of the Database Reports" in order to enable others to judge the quality of the data they find in the database.

Goal:

The value of the RIPE database for its users depends on the quality of data in the database. The quality of the data depends on the accuracy of the data in each object as well as a consistent reference mechanism which leads to the contact objects,

The goal of this activity is to monitor and improve the consistency and accuracy of the data maintained in the RIPE database.

RIPE Working Group Advising:

RIPE Database WG

C1.5 Database Availability and Exchange

Description:

The RIPE NCC will provide access to the RIPE Database via whois servers, and by supporting other sites in mirroring the data. Support will be given to local IRs in setting up secondary database servers, for example. Meanwhile, the RIPE NCC will actively pursue and coordinate data exchange both with other regional IP registries and other Routing Registries.

Goal:

This activity is intended to enable RIPE database users to acquire the information they need in a timely fashion, and to help those outside the RIPE region acquire information in the RIPE database as easily as possible. This is essential for both the IP and the Routing registries.

RIPE Working Group Advising:

RIPE Database WG

C1.6 Routing Registry Tool Deployment and Training

Description:

The RIPE NCC will incorporate RPSL extensions in the RIPE Database code and support the transition from ripe-181 to RPSL.

The RIPE NCC will deploy new RR tools and in particular the RA toolset. These tools will be made available to members of the RIPE community. The NCC will design and deploy a training course to teach the RPSL language and the use of the RR tools in configuring routers and examining policies and routing in the Internet. Note: The support of the PRIDE toolset will be discontinued as it is becoming obsolete.

Goal:

Based on RIPE work the IETF is developing a new standard language for the Routing Registry: RPSL. RPSL can be used to express a number of routing policies which are commonly used, but cannot be described using ripe-181.

Meanwhile useful RR tools are currently being developed elsewhere. In particular the RA toolset can be used to define routing registry objects, and to evaluate currently registered objects in the process. There is also a tool called "rtconfig", which allows router configurations to be generated from the contents of the routing registry. The goal of this activity is to enable members of the RIPE community to exploit RPSL and the new RR tools.

RIPE Working Group Advising:

RIPE Routing WG

C1.7 Redesign & Reimplement RIPE Database Code

Description:

The RIPE NCC will redesign and implement the RIPE database. The new system should be compatible with the old, but should have the following improvements: The system should prevent inconsistencies as much as feasible, contain security mechanisms, as well as any extended functionality added to the current database code before its deployment. The system must be easily extended and the design and code must be well documented.

Goal:

The RIPE Database is the very heart of the European Internet Registry and many other RIPE NCC activities. It has become an essential resource for European ISPs. Thus the reliability of the database software is essential. Moreover due to the changing needs in the Internet world, extensibility of the code is essential. We expect that the current database software will reach the end of its useful life cycle within 12-18 months from now. Many changes and extensions have made it both difficult to maintain and difficult to extend. The aim of this activity is to re-implement the RIPE Database software in order to produce a stable software base which can be reliably extended for future needs.

RIPE Working Group Advising:

RIPE Database WG

C2 Information Services

Description:

The RIPE NCC will provide services and technical infrastructure to facilitate exchange of information within the RIPE community and RIPE working groups in particular. This includes the management of mailing lists, and provision of the www.ripe.net web site. Moreover content of the web and ftp sites will be maintained and extended.

Goal:

The RIPE NCC is known to be a neutral source of authoritative information on the Internet in Europe and beyond. This activity is designed to ensure that it continues to be a useful resource to the ISPs in Europe.

C2.1 Mailing List Management

Description:

The RIPE NCC will maintain high quality mailing lists for exchanging information among members of the RIPE community. Effort will be spent to prevent spam (unsolicited advertising) on the lists, to improve the quality of the address lists in order to minimize bounces, and to support subscribers with problems. The processing of mailing list traffic will be constantly monitored.

Goal:

The mailing lists maintained by the RIPE NCC have a history of constructive and concise discussions on issues of import to the RIPE community. Mailing list maintainers are facing new challenges ranging from unsolicited messages (spam) to increased size and usage of lists. This activity is intended to maintain the quality of the mailing lists in the face of increased usage and new challenges. This serves to facilitate discussion and consensus forming in the RIPE community.

C2.2 Maintenance of Information Services

Description:

The RIPE NCC will maintain a WWW server at http://www.ripe.net/ and the accompanying <webmaster@ripe.net> role mailbox to provide help and information to users. This includes the following detailed activities: Implement minor modifications and add new content to the web and ftp sites. The NCC will also monitor the content on the web site to be sure it is accurate and will assure a consistent and user friendly style is used on all web pages.

Goal:

The purpose of this activity is to assure that the information and services on the RIPE NCC web site are up to date and working well and that user needs are responded to in a timely fashion.

Related Activities:

C2.3

RIPE Working Group Advising:

all

C2.3 Extension of Information Services

Description:

The RIPE NCC web site will be extended to provide new tools and services as needed, in particular for local IRs.

Goal:

This activity is intended to provide new website services such as automated forms for IP requests and on-line payment mechanisms.

Related Activities:

C2.2

RIPE Working Group Advising:

all

C3 DNS Coordination

The RIPE NCC does not provide domain name registration services. It does however provide DNS coordination and support activities as well as registration of reverse address mapping domain registrations within the in-addr.arpa domain.

C3.1 European Root Name Servers

Description:

The RIPE NCC will support the operation of the root name servers located in Europe and the surrounding area. In particular it will operate the server currently located at the LINX in London (k.root-servers.net).

Goal:

Those few DNS name servers serving the "." (root) zone are critical elements of the Internet infrastructure that should be operated in a neutral and professional way. The goal of this activity is to ensure that this happens.

RIPE Working Group Advising:

RIPE DNS WG

C3.2 Secondary DNS Service

Description:

The RIPE NCC will provide secondary name service and limited support to those country TLD administrators that whish to use it. The RIPE NCC will assist IANA in the administration of those TLDs as described in RFC1591.

Goal:

Many users in Europe depend on DNS name servers serving the zones of two letter ISO3166 country code top level domains. Name service for these zones should be reliable. New countries should be supported to establish their country code TLDs.

RIPE Working Group Advising:

RIPE DNS WG

C3.3 DNS Hostcount

Description:

The RIPE NCC will provide monthly statistics on the number of hosts connected to the Internet in Europe and surrounding areas. The statistics are gathered in collaboration with numerous organisations doing local counts per country TLD.

Goal:

The goal of this activity is to collect and publish uniform time series data about the growth of the Internet in the region. It continues a time series started in October 1990. The information is considered very useful by organisations operating in this region.

RIPE Working Group Advising:

RIPE DNS WG

Appendix A - Administration Activities

This area covers the regular reports published by the NCC, administrative support for RIPE, as well as general administrative overheads which cannot be clearly attributed to a specific activity.

A1.1 External Reporting

Description:

The RIPE NCC will keep contributors and other interested parties informed about its activities. This will take the form of constantly updated statistics published on the NCC web site, as well as quarterly and annual reports. The quarterly reports will be more topical and smaller than those hitherto published with the bulk of the statistical information moved to the web site.

Goal:

This activity will provide NCC contributors and other interested parties with open, detailed information as to the RIPE NCC activities.

A1.2 RIPE Meeting

Description:

The RIPE NCC will provide administrative and technical support for the RIPE meetings. These meetings are taking place three times a year. Actual costs regarding venue, equipment hire, and catering will be recouped by sponsorship and the charging of an attendance fee.

Goal:

Support of an infrastructure whereby the RIPE meetings can be held. Guidance and advice from the RIPE WGs is invaluable to the NCC and therefore the meetings are essential.

A1.7 RNA Support

Description:

The RIPE NCC will provide administrative support for the RIPE NCC association, especially for the functioning of the associations formal bodies.

Goal:

Smooth operation of the legal framework of the NCC and good representation of the members.

Appendix N - New Activities

This area represents those activities that are either unforeseen or cannot be fully specified at the time of this writing. The existence of this area gives the NCC the flexibility to react quickly to the rapidly changing needs in today's Internet. Activities in this area are often suggested by the appropriate RIPE working group. By their nature new activities are hard to specify in detail and priorities can change quickly. Activities may be dropped or added as necessary. Priorities and details will be discussed intensively with the relevant RIPE working groups. The activity descriptions below are therefore more of a subjective statement of direction rather than a fixed plan of action. In particular some of the ideas below have not yet been fully discussed in the RIPE working groups concerned.

N1 Unforeseen New Activities

Description:

The RIPE NCC will react to unforeseen urgent requirements for new activities as necessary.

Goal:

In the past the NCC has been requested to start a fair number of unforeseen activities at short notice. Many of them have been successful because this possibility has been designed into the activity plans since the NCC's inception.

RIPE Working Group Advising:

any

N2 Test Traffic Measurement

Description:

The RIPE NCC will compile a ’traffic test station’ to inject, absorb and measure test traffic packets. The RIPE NCC will promote deployment of the station by interested parties as well as collect the measurement data, verify, process and make it publicly available in various forms. Note that this data is different from the routing data (N3) and needs to be collected at different points.

There are many uses for such independently collected and verified data. A near real time stream of measurement data can help to diagnose connectivity problems. Processed statistics can be used to manage and demonstrate quality of ISPs and the Internet as a whole.

The key to this is the independent and impartial collection and publishing of the data. Also essential is good documentation about what is being measured and what is not.

This activity has been started during 1997 in consultation with the relevant RIPE working groups and in coordination with the IPPM WG of the IETF. A prototype implementation and test deployment is expected to occur in 1997. During 1998 this activity will concentrate on an initial deployment of several dozen test stations and the collection and presentation of the data gathered. In the second half of the year we will concentrate on plans for transition to a regular activity which could possibly be funded through its own charging system.

Goal:

This activity is intended to help diagnose real time connectivity problems. Collection of connectivity data needs to be done by a neutral agency. The goal of this activity is to help establish measures for Internet quality.

RIPE Working Group Advising:

RIPE EOF WG

N3 Routing Information Service

Description:

This activity has been described in the 1997 activity plan. Due to time and resource constraints there has been very little progress. In 1998 we do not plan to increase our efforts here but rather concentrate on the test traffic measurement activity. However we have no indications that the requirement for this activity has ceased to exist. Therefore we keep it in the plan with just enough resources allocated to track any developments that might occur elsewhere. Should circumstances change we will step up this activity.

Goal:

The purpose of this activity is to provide access to the routing state at strategic points both in near real time and for selected times in the past and to enable time series analysis of this data.

RIPE Working Group Advising:

RIPE Routing WG