RIPE NCC Revenue & Charging 1996

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Document: ripe-134
See also: ripe-132, ripe-133

Scope

This memorandum describes the RIPE NCC revenue plan and charging model for the year 1996. The companion document "RIPE NCC Activities & Expenditure 1996" describes the activities funded.

This document was drafted by the RIPE NCC and subsequently amended according to the decisions of the NCC Contributors Committee about the *tariff structure* as per point 3.3 of the committee's terms of reference. See the committee minutes (ripe-132) for detailed information about the decision making process. TERENA has subsequently approved the tariff structure.

1. Customers & Workload

The bulk of resources expended by the RIPE NCC is proportional to the number of local Internet Registries which in turn is mostly equivalent to the number of serious Internet service providers. Consequently the resources needed are derived from these local IRs. Their number has been growing steadily ever since the NCC has started operations.

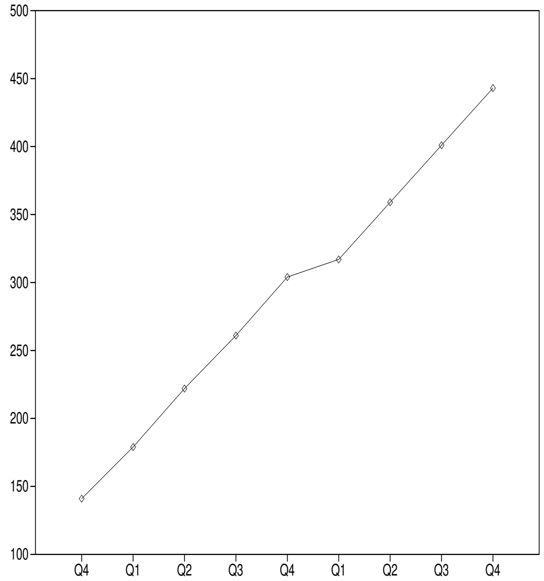
Recently the growth rate has considerably increased. In Q1/95, after the introduction of the current charging scheme, a sharp increase in the number of local IRs was observed. This trend continued in Q2/95 and still continues to this day. For details see the report on the 1995 revenue situation.

The table below gives an overview of the observed and expected number of registries:

Registries	Observed			Expected					
	Q4 94	Q1 95	Q2 95	Q3 95	Q4 95	Q1 96	Q2 96	Q3 96	Q4 96
Large ISP	17	17	19	20	22	24	26	28	30
Medium ISP	28	31	35	38	42	46	50	54	58
Small ISP	51	84	119	153	188	222	256	290	324
Enterprise	14	15	17	18	20	22	24	26	28
Last Resort	31	32	32	32	32	3	3	3	3
TOTAL	**141**	**179**	**222**	**261**	**304**	**317**	**359**	**401**	**443**

The new category *Supernational ISP* is not presented separately in 1996 since these are expected to be conglomerations of large ISP.

The figure below illustrates that we expect the total number of registries is expected to grow linearily during 1996:



The irregularity between Q4.95 and Q1/96 is caused by the expected closure of almost all *Last Resort* registries. Since these registries did not contribute to funding in the past, this development has no effect on the expected revenue. Otherwise the almost linear prediction looks very simple at first glance. Some other indicators predict more than linear growth while others predict slightly less than linear growth. These numbers represent the best possible estimates the RIPE NCC is able produce. We now have mechanisms in place to detect deviations from expected figures very quickly and take necessary actions. For Q3/95 the deviations between planned and expected numbers have been minimal.

2. Possible Charging Models

In September 1994 the Contributors Committee approved the 1995 charging model while at the same time asking the NCC to propose a more usage based charging model for 1996. I agreed to propose such model(s) by July 1995.

Unfortunately the NCC has so far not been able to develop such charging models for a number of reasons:

In september 1994 it was expected that the 1995 charging model would be agreed within a few days, or weeks at most. However it was not before Q2/1995 that the matter was finally resolved.

It was also expected that funding for NCC operations in 1994 was sufficient. It turned out that due to the 1994 model of voluntary contributions as well as deficiencies in invoicing, insufficient revenue was generated to fund operations in 1994. Consequently the NCC had to invest considerably more resources than expected to set up a customer database and to tightly control invoicing as well. This has been highly successful. See the last 1995 revenue report for details.

Finally, the growth rate of the workload was expected to remain constant. It turned out that the growth rate has increased sharply in Q1/95 and this trend continued to date.

Due to these unexpected developments, the NCC has had not enough resources to seriously develop usage based charging models. In particular due to the first two developments, the NCC has not been able to hire sufficient staff for all activities. This has been aggrevated by the increased growth rate of the workload. At the moment a major catch-up operation is being conducted to rectify this situation.

It should be noted that developing usage based charging models is a complex task requiring careful analysis of measured data. Making the wrong choices can have quite serious consequences for the stability and even the existence of the NCC. Some have advocated models based closely on the resources actually spent at the NCC for processing requests for each customer. Such models require the existence of an adequate request tracking and accounting system for a number of months in order to develop the necessary data. Even if one were to use data already measured, such as the amount of address space assigned/allocated developing models takes processing the data, evaluating it and discussing with all concerned.

The resources necessary for all this were expected to be available in September 1994 but for the reasons above they have not yet been available.

Consequently we will proceed in 1996 with a charging model very similar to the one used in 1995.

3. 1996 Charging Model

The 1995 RIPE NCC charging model is documented in detail elsewhere. There are two main components: a fixed registry fee depending on the self determined size of the registry and a signup fee for new registries. For detailed information on how the changes to the model were defined, see the minutes of the Contributors Committee meeting (ripe-132).

The Registry Fee

In 1996 the same basic model is used but fees for ISP local IRs are reduced by 25% and an additional category "supernational" is added. Service to *last resort* local IRs is no longer free of charge. This results in the following annual fees:

Category	1995 Fee	1996 Fee
Supernational ISP		n*8500
Large ISP	12000	8500
Medium ISP	6000	4500
Small ISP	2000	1500
Enterprise	1000	1000
Last Resort	0	1500/4500/8500

New registries pay the fees pro-rata based on the quarters of the year they are active.

Supernational ISPs

The supernational category was created in order to allow ISPs who provide services in many different regions to operate their registry services under a central umbrella. The basic attributes of this category are as follows:

- Pays a fee of *n* times the fee for the LARGE category, where *n* is an integer >=2.
- The *maximum* number of contact points to the NCC is equal to *n*.
- The *maximum* address space allocation for a *supernational* registry is *n* times the normal maximum (currently /16) for *n*<5 and 1.5 times *n* for *n*>=5. Address allocation figures are *maximum* values and allocations are still determined by documented need and subject to normal allocation rules.

For detailed arrangements contact the NCC at `<billing@ripe.net>.`

The Signup Fee

The signup fee is intended to fund special activities and training for new registries. Currently the revenue generated is structurally more than what is needed for these extra activities. On the other hand the signup fee has also proven to be an effective barrier preventing the creation of many small registries especially towards the end of the year, when the registry fees for small registries get very low. In addition to helping to conserve address space and promoting routing aggregation this has prevented putting unnecessary additional load on the NCC. Furthermore new registries usually place a bigger load on registration services which is hard to quantify because of their lack of experience. The signup fee can provide some compensation for this.

For the reasons above the signup fee is kept at ECU 2000.

Fee Waivers

In the past NCC fees have been waived for new registries in areas where the Internet is just establishing. The NCC contributors have concluded that it is not their task to sponsor registration services in such areas and therefore have decided that no such fee waivers will be granted anymore. New registries should look for sponsorship elsewhere. They can contact the RIPE NCC for guidance if the wish.

Invoicing Information

Detailed information about invoicing procedures can be found in:

`ftp://ftp.ripe.net/ripe/new-registry/billing-96.txt`

4. Expected Revenue

The table below details the expected revenue based on the proposed model and the expected number of local registries:

Revenue (kECU)	Observed		Expected					
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	95	95	95	95	96	96	96	96
Contributions	**573**	**663**	**712**	**742**	**770**	**836**	**880**	**902**
Committed	440	579	606	631	655	711	748	767
Invoiced	353	530						
Signup Fees	**74**	**160**	**238**	**324**	**84**	**168**	**252**	**336**
Committed(*)	74	160	238	324	84	168	252	336
Invoiced	74	119						
Totals	**647**	**823**	**950**	**1066**	**854**	**1004**	**1132**	**1238**
Committed	514	739	844	955	739	879	1000	**1103**
Invoiced	427	649						
Received	195	448						

(*) Commitments for signup fees are not recorded separately at this point in time, however, the commitment rate of new registries is almost 100%.

The table shows that we can expect to have, by the end of 1996, commitments for an amount of at least 1103 kECU, which exceeds the expenditure of 916 kECU currently planned. The rationale for this is given by reading the table as explained in the following paragraphs.

The first (bold) lines in each section represent the amounts to be received assuming all registries would contribute what is due following the proposed charging scheme.

The *Committed* lines represent the amount committed by signed service agreements assuming that all 1995 agreements are extended into 1996 and that the number of registries grows as estimated. The *Invoiced* lines represent the amount for which invoices have been sent out. It must be noted that amounts committed and invoiced are not directly comparable, because commitments are made on an yearly basis, while part of the invoicing is done half-yearly or quarterly.

The *Received* line gives the total amount of funds received.

The projected *Contribution* numbers are derived from the estimated number of registries by applying the respective charging scheme. The commitments projected are at 85% of the due value, which is very conservative as the bulk of the non-committed registries have been carried from previous years and new registries tend to sign the agreement. This predicts the income for the RIPE NCC core services from the existing registries as well as possible, but conservatively.

The projected *Signup Fees* are also algorithmically derived from the registry projection shown in section 1.

5. Summary

Due to unexpected developments it has so far not been possible to develop more usage based charging models. Therefore the successful model from 1995 will continue to be used in 1996 with a 25% reduction in registry fees for all ISP registries and a new supernational ISP category. The signup fee will be unchanged. Last Resort local IRs will no longer receive service free of charge. No fee-waivers will be provided for start-up registries. This will produce sufficient revenue to sustain the NCC through the consolidation period in 1996.