RIPE NCC Charging Scheme 2009

Introduction

The purpose of the RIPE NCC Charging Scheme is to define the annual service fee charged to members and to set the sign-up fee for new members. As Internet number resources do not have a value in themselves, the RIPE NCC charges an annual service fee based on the services that a member receives from the RIPE NCC. These services are related to the distribution of Internet number resources to the member. The annual service fee charged to each member is related to the workload involved in providing the services requested by that member. The annual service fee charged to a member is based on the billing category of that member as defined by the Charging Scheme. The billing categories are based on the amount of Internet number resources allocated or assigned over time at the request of the member.

RIPE NCC Charging Scheme 2009

The highlights of the Charging Scheme 2009 are the following:

- The service fee per billing category will remain the same as in 2008
- The administration fee has been abolished
- Changes made to the Billing Score Algorithm to reflect the new Direct End User Assignment policy (policy 2007-01)
- A new Direct End User Assignment Charging Scheme

Furthermore for 2009, the Charging Scheme structure remains the same as in the Charging Scheme 2008.

The annual service fees for 2009 have been kept at the same level as 2008 and 2007. Stable and predictable service fees allow members a measure of consistency that can help when planning and budgeting. The administration fee charged for the merger or takeover of members, has been abolished to encourage members to keep their records with the RIPE NCC in-line with their actual network and corporate developments. As a result of policy proposal 2007-01, "Direct Internet Resource Assignments to End Users from the RIPE NCC", the Billing Score Algorithms for AS Numbers, IPv4 PI assignments and IPv6 PI assignments have been changed from a one-time score to a recurring score. In addition, a Charging Scheme for Direct End Users is defined.

RIPE NCC Annual Service Fees 2009

The service fees for 2009 are fixed annual charges for the RIPE NCC membership and are based on the billing category of a member. For the 2009 service fees, and for a comparison with the service fees since 2005, see the following table:

Annual service fee (in EUR)	2005	2006	2007	2008	2009
Extra Small	1,750	1,500	1,300	1,300	1,300
Small	2,250	2,000	1,800	1,800	1,800
Medium	3,150	2,750	2,550	2,550	2,550
Large	4,750	4,250	4,100	4,100	4,100
Extra Large	6,500	5,750	5,500	5,500	5,500
Sign-up Fee	2,000	2,000	2,000	2,000	2,000
Administration Fee	1,250	1,000	1,000	1,000	-

Membership Growth Projections

Over the past few years, the RIPE NCC has used different statistical models and external factors to forecast membership developments. In 2008, the RIPE NCC, together with an external consultancy company, developed an extensive future scenario. The combination of the statistical forecast, the scenario analysis and external factors forecast that a net growth of approximately 686 members (13%) is expected over 2008. For 2009, taking into account expected member closures, a net growth of 725 members (12%) is expected.

This table shows the actual membership numbers at the end of 2005, 2006 and 2007, as well as the projected membership numbers for the end of 2008 and the predicted membership numbers used to calculate the 2009 budget.

Number of LIRs	2005	2006	2007	July 2008	Projection 2008	Budget 2009
Extra Small	1,366	1,553	1,977	1,765	2,037	1,436
Small	1,971	2,202	2,314	2,761	2,755	3,674
Medium	697	768	860	1,011	1,009	1,336
Large	137	160	175	203	202	267
Extra Large	39	39	43	52	52	67
Total membership	4,210	4,722	5,369	5,792	6,055	6,780
Net Growth	386	512	647	423	686	725
Net Growth %	10 %	12 %	14 %	8 %	13 %	12 %

Each member receives a score according to the Billing Score Algorithm (see Appendix 1). All members are ranked in ascending order. Members with the same score get identical rankings. The billing categories are defined using the following cumulative boundaries:

- Up to 20% of the members will make up the Extra Small billing category
- Up to 75% of the members will make up the Extra Small and Small billing categories
- Up to 95% of the members will make up the Medium billing category and all smaller billing categories
- Up to 99% of the members will make up the Large billing category and all smaller billing categories
- The remaining members will make up the Extra Large billing category

Percentage of Total Members per Billing Category

Billing Category	2005	2006	2007	Jul 2008	Target 2009
Extra Small	32 %	33 %	37 %	30 %	20 %
Small	47 %	47 %	43 %	48 %	55 %
Medium	17 %	16 %	16 %	17 %	20 %
Large	3 %	3 %	3 %	4 %	4 %
Extra Large	1 %	1 %	1 %	1 %	1 %

Note: The percentages for 2009 may deviate slightly. If a set of members with the same score falls across the boundary between two billing categories they will be part of the higher billing category.

The Billing Score Algorithm will be run after the members at the General Meeting has approved the Charging Scheme 2009. The billing scores for members will be determined based on data from 30 September, 2008. Every member will be notified of their billing score and billing category by email.

The billing category for each member can also be seen by selecting the relevant member from the full list of members, listed per country, available at:
http://www.ripe.net/membership/indices/

Change Matrix - Expected Movement of Members Between the Billing Categories for 2009
The Change Matrix indicates the percentage of members currently in a certain billing category that are expected to move to a different billing category for 2009. Due to the fact that all new Local Internet Registries (LIRs) start as Extra Small, the migration from Extra Small to other categories is higher than the migration from other categories. In total 25% of members is expected to move to a different billing category.

For example, the matrix shows that for 2009:
- 45% of the members currently in the Extra Small billing category will move to the Small category
- 4% of the members currently in the Extra Small billing category will move to the Medium category
- Less than 1% of the members currently in the Extra Small billing category will move to the Large category
- None of the members currently in the Extra Small billing category will move to the Extra Large category
- The other 51% of the members will remain in the Extra Small billing category

BILLING CATEGORY	Change to Extra Small	Change to Small	Change to Medium	Change to Large	Change to Extra Large	2009 TOTAL CHANGE
Extra Small		45%	4%	<1%	-	**49%**
Small	4%		8%	<1%	-	**12%**
Medium	-	10%		6%	-	**16%**
Large	-	<1%	14%		7%	**21%**
Extra Large	-	-	-	13%		**13%**

Note: In the table above, "-" indicates that no registries are expected to move to a particular category.

Appendix 1: Billing Score Algorithm

A member's billing category is set based on the member's Billing Algorithm score. This score is based on Internet number resource allocations or assignments made over time at the member's request. The scoring system takes into account all:

- IPv4 allocations
- IPv6 allocations
- IPv4 Provider Independent (PI) assignments
- IPv6 PI assignments
- AS Number assignments

For the purpose of this scoring algorithm, an allocation of IPv4 /21 is equivalent (≜) to one IPv6 /32 allocation or to one AS Number. The following table shows how scoring units are determined based on resource usage. To establish scoring units based on larger or smaller resource usage, the same ratio applies.

IPv4 Allocation	IPv6 Allocation	AS Number Assignment	IPv4 PI Assignment	IPv6 PI Assignment	Scoring Unit
/ 22 ≜	/ 33 ≜		/ 25 ≜		0.5
/ 21 ≜	/ 32 ≜	1 ≜	/ 24 ≜	1 ≜	1
/ 20 ≜	/ 31 ≜	2 ≜	/ 23 ≜	2 ≜	2
/ 19 ≜	/ 30 ≜	4 ≜	/ 22 ≜	4 ≜	4

Using this matching system, the following algorithm is run to determine the total score per member:

$$S\ (reg) = \sum_{i=1}^{N} a_i * t_i$$

a_i = Scoring unit
t_i = Time function of allocation/assignment i (year of allocation – 1992)
N = Number of allocations/assignments

The total score per member is the sum of all allocation and assignment scores for that member with a time factor applied to give more weight to recent allocations and assignments. Thus, the relative weight of a given allocation or assignment decreases over time.

Appendix 2: Service Fees for Direct End User Assignments

Upon conclusion of the End User Assignment Agreement, the End User shall pay to the RIPE NCC an Administration Fee, equal to the Sign-up Fee for new members. During the term of the agreement, the End User shall pay a periodical Maintenance Fee based on End User's billing category.

An End User's billing category is set based on the End User's Billing Algorithm score. This score is based on the Internet number resource allocations and assignments made over time at the End User's request. The scoring system takes into account all:

- IPv4 Provider Independent (PI) assignments
- IPv6 PI assignments
- AS Number assignments

For the purpose of this scoring algorithm and to relate and equate the different Internet number resources to each other, one AS Number is equivalent ($\triangleq$) to one IPv4 /24 PI assignment or to one IPv6 PI assignment. The following table shows how scoring units are determined based on resource usage. To establish scoring units based on larger or smaller resource usage, the same ratio applies.

AS Number Assignment	IPv4 PI Assignment	IPv6 PI Assignment	Scoring Unit
	/ 25 $\triangleq$		0.5
1 $\triangleq$	/ 24 $\triangleq$	1 $\triangleq$	1
2 $\triangleq$	/ 23 $\triangleq$	2 $\triangleq$	2
4 $\triangleq$	/ 22 $\triangleq$	4 $\triangleq$	4

Using this matching system, the following algorithm is run to determine the total score per End User:

$$S (reg) = \sum_{i=1}^{N} a_i * t_i$$

a_i = Scoring unit
t_i = Time function of assignment i (year of assignment – 1992)
N = Number of assignments

The total score per End User is the sum of all assignment scores for that End User with a time factor applied to give more weight to recent assignments. Thus, the relative weight of a given assignment decreases over time. Based on the billing category boundaries determined by the Charging Scheme, the End User is assigned a billing category. For new End Users the billing category will be Extra Small for the first year.