

# RIPE NCC Charging Scheme 2008

*RIPE NCC*

Document ID: ripe-438

Date: October 2008

Obsoletes: ripe-420

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## **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 Internet number resources allocated or assigned over time at the request of the member.

## **RIPE NCC Charging Scheme 2008**

For 2008, the Charging Scheme structure and the Billing Score Algorithm for defining billing categories remain the same as in the Charging Scheme 2007.

The highlights of the Charging Scheme 2008 are the following:

- The service fee per billing category will remain the same as in 2007
- There will be no one-time rebate for members as in 2007

The annual service fees for 2008 have been kept at the same level as the Charging Scheme 2007. This will provide a total income for 2008 that matches the RIPE NCC's total expenses for the year. Stable and predictable service fees allow members a measure of consistency that can help when planning and budgeting. It also lowers the risk that the RIPE NCC will need to make significant increases to the annual service fees in any one year to compensate for changing industry conditions.

The one-time rebate that was returned to members has been successful. The RIPE NCC reserves have decreased to approximately the target level set by the RIPE NCC Executive Board. Therefore, for 2008 there will be no rebate to members.

## **RIPE NCC Annual Service Fees 2008**

The service fees for 2008 are fixed annual charges for the RIPE NCC membership and are based on the billing category of a member. For the 2008 service fees, and for a comparison with the service fees since 2004, see the following table:

Annual Service Fee (in EUR)	2004	2005	2006	2007	2008
Extra Small	2,000	1,750	1,500	1,300	1,300
Small	2,500	2,250	2,000	1,800	1,800
Medium	3,500	3,150	2,750	2,550	2,550
Large	5,000	4,750	4,250	4,100	4,100
Extra Large	6,750	6,500	5,750	5,500	5,500
Sign-up Fee	2,500	2,000	2,000	2,000	2,000
Administration Fee	1,250	1,250	1,000	1,000	1,000

### Membership Growth Projections

The RIPE NCC uses several statistical models to forecast membership developments. External factors and industry expectations are then incorporated in order to improve the accuracy of the forecast. Following this procedure, a net growth rate of approximately 12% is expected over 2007. For 2008, taking into account expected member closures, a net growth rate of 10% is expected.

This table shows the actual membership numbers at the end of 2004, 2005 and 2006, as well as the projected membership numbers at the end of 2007 and the predicted membership numbers used for the 2008 budget.

Number of LIRs	2004	2005	2006	Projection 2007	Budget 2008
Extra Small	766	1,366	1,553	1,866	1,560
Small	2,126	1,971	2,202	2,328	2,862
Medium	749	697	768	876	1,041
Large	144	137	160	177	208
Extra Large	39	39	39	44	52
Total Membership	3,824	4,210	4,722	5,291	5,723
Net Growth	336	386	512	569	432
Net Growth %	10 %	10 %	12 %	12%	8%

*Note: New members that are expected in 2008 are included in the Extra Small billing category.*

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	2004	2005	2006	July 2007	Target 2008
Extra Small	19 %	32 %	33 %	32 %	20 %
Small	61 %	47 %	47 %	46 %	55 %
Medium	16 %	17 %	16 %	17 %	20 %
Large	3 %	3 %	3 %	4 %	4 %
Extra Large	1 %	1 %	1 %	1 %	1 %

*Note: These percentages for 2008 may deviate slightly. If a set of members with the same score fall across the boundary between two billing categories they will be part of the next higher billing category.*

The Billing Score Algorithm will be run after the General Meeting has approved the Charging Scheme 2008. The billing scores for members will be determined based on 30 September 2007 data. Every member will be notified of their billing score and billing category by e-mail.

The billing category for each member will also be available by selecting the relevant member from the full list of members by country available at:

<http://www.ripe.net/membership/indices/>

#### Change Matrix - Expected Changes of Members Between the Billing Categories for 2008

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 2008. Due to the fact that all new registries start as Extra Small, the migration from Extra Small to other categories is higher than the migration from other categories.

**For example:** The matrix shows that for 2008:

- 40% of the members currently in the Extra Small billing category will move to the Small category
- 5% 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 55% of the members currently in the Extra Small billing category will remain in the Extra Small billing category

<b>BILLING CATEGORY</b>	Change to Extra Small	Change to Small	Change to Medium	Change to Large	Change to Extra Large	<b>2008 TOTAL CHANGE</b>
Extra Small		40%	5%	<1%	-	<b>45%</b>
Small	6%		7%	<1%	-	<b>14%</b>
Medium	<1%	8%		5%	-	<b>13%</b>
Large	-	1%	6%		6%	<b>13%</b>
Extra Large	-	-	-	7%		<b>7%</b>

*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 resource allocations or assignments made over time at the member's request. The scoring system takes into account all:

- IPv4 allocations
- IPv6 allocations

The scoring system also takes into account any of the following assignments made at the request of the member between 1 October 2006 and 30 September 2007:

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

For the purpose of this scoring algorithm, an allocation of IPv4 /21 is equivalent ( $\triangleq$ ) 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 Direct Assignment	Scoring Unit
		Only includes assignments made between 1 October 2006 – 30 September 2007			
/ 22 $\triangleq$	/ 33 $\triangleq$		/ 25 $\triangleq$		0.5
/ 21 $\triangleq$	/ 32 $\triangleq$	1 $\triangleq$	/ 24 $\triangleq$	1 $\triangleq$	1
/ 20 $\triangleq$	/ 31 $\triangleq$	2 $\triangleq$	/ 23 $\triangleq$	2 $\triangleq$	2
/ 19 $\triangleq$	/ 30 $\triangleq$	4 $\triangleq$	/ 22 $\triangleq$	4 $\triangleq$	4

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

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

$a_i$  = 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: Administration and Maintenance Fees for Direct End Users**

Upon acceptance of the “RIPE NCC End User Assignment Agreement”, the End User shall pay 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 the 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 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 the different Internet number resources to each other, one AS Number is equivalent ( $\hat{=}$ ) 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 $\hat{=}$		0.5
1 $\hat{=}$	/ 24 $\hat{=}$	1 $\hat{=}$	1
2 $\hat{=}$	/ 23 $\hat{=}$	2 $\hat{=}$	2
4 $\hat{=}$	/ 22 $\hat{=}$	4 $\hat{=}$	4

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

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

$a_i$  = 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.