



# Presentation on the Scoring Algorithm and Charging Scheme

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# Scoring Algorithm 2003

$N(R) =$



- $N(R)$ : Score of Registry  $N$
- $i$ : year
- $Y$ : Current Year
- $k_i$ : Number of IPv4 addresses allocated in year  $i$



# Calculation of Sizes 2003

- Scores were normalized versus Max score value
- All registries score between 1-1000
- 3 “Membership” categories / sizes
- Boundaries were set according to ripe-document: RIPE NCC Activities, Expenditure and Charging Scheme ripe-255 (Small 76%, Med. 20%, Large 4%)



# 2003 Scheme Problems

- Charging Scheme 2003 unclear, complex structure and did not meet the changes in our membership
- Charge linked to address space and not for services rendered
- Size cannot be calculated by LIRs as they cannot normalize their score versus the max score
- Only takes IPv4 allocations into account



# Requirements set for Charging Scheme 2004

- Simple and clear structure
- In line with the development and size of registries
- No direct charge for Addresses, improve charging for Services rendered
- Improve predictability of Income
- Height of fees dependent of Financial developments



# Choices made for Charging Scheme 2004

- Expand the number of billing categories
- Include IPv6 and ASN requests
- Match the initial allocation request of IPv4, IPv6 and ASN
- Keep time factor in algorithm to reflect maintenance (conservation) services of address registration
- Match the boundaries with the existing Charging Scheme and try to determine “natural” boundaries



# Scoring Algorithm 2004

- Size is determined on basis of 2 variables
  - Prefix of the allocation/assignment
  - Age of the allocation/assignment

Registry score = (Alloc1 \* Time)+(Alloc2\*Time)+etc.

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

$a_i$  = Scoring unit

$t_i$  = Time function of allocation/assignment  $i$  ( year of allocation – 1992 )

$N$  = Number of allocations/assignments

# Scoring Algorithm 2004 II

Prefix IPv4	Prefix IPv6	ASN	Scoring unit
IPv4 / 22	IPv6 / 34		0.25
IPv4 / 21	IPv6 / 33		0.5
IPv4 / 20	IPv6 / 32	1 ASN	1
IPv4 / 19	IPv6 / 31		2
IPv4 / 18	IPv6 / 30		4
IPv4 / 17	IPv6 / 29		8



# Billing score my.regid

Alloc/assign	Age	Alloc score	Age score	Score
IPv4 / 19	2000	2	8	16
IPv4 / 19	2002	2	10	20
IPv6 / 32	2003	1	11	11
ASN	2000	1	8	8
Total score my.regid				55



# Billing category my.regid II

Category	Maximum score	Cumulative % of members
EXTRA SMALL	15	19.1%
SMALL	47	75%
MEDIUM	274	95%
LARGE	1,182	99%
EXTRA LARGE	14,320	100%

Category size of my.regid = MEDIUM

# Charging Scheme 2004

LIR billing category	Fee per year
EXTRA SMALL	€ 2,000
SMALL	€ 2,500
MEDIUM	€ 3,500
LARGE	€ 5,000
EXTRA LARGE	€ 6,750
Take-over fee	€ 1,250
Start up fee	€ 2,500

\* Note New Contributors are charged a SMALL registration fee

# Charging Scheme 2005?

# Questions

