



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

RIPE NCC Charging Scheme Models

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Our Charging Scheme Journey So Far...



- At the last GM, we committed to engaging with members to assess our charging scheme model
- Our current model has been in place for 10 years
- We need to review our model to ensure we are financially stable and charging appropriately
- Survey of members (~800 responses) and Open House to dive into findings
- And we continue the discussion today with concrete proposals

Survey Findings



- There was a clear majority in favour of charging based on resources held
- Most were in favour of retaining a separate charge for Provider Independent address space
- People were neutral on the issue of using the charging scheme to help deploy IPv6
- People were against using the charging scheme to conserve ASNs
- More complex criteria (e.g. charging for amount or complexity of requests) were not popular
- Predictability, simplicity and fairness were three values that gained support as principles the members valued

How Our RIR Colleagues Charge



- AFRINIC, APNIC, ARIN and LACNIC all have resource-based models
- AFRINIC - Price starts at USD 1,400. Has one-time fee for initial allocations.
- APNIC - Price starts at AUD 1,180. Model uses algorithm - Annual fee = (base fee) x (bit factor)^(address bits).
- ARIN - Price starts at USD 250 then doubles per category. USD 256,000 for most expensive category.
- LACNIC - Price starts at USD 600, moving to USD 45,000 for most expensive category.

Our Current Model



- RIPE NCC model is based on principle of one fee per LIR account (EUR 1,400) plus extra charge for PI space (EUR 50)
- Sign-up fee is EUR 1,000 from next year
- PI and multiple accounts mean not all members pay the same:
 - One member pays over EUR 100,000
 - Four members pay over EUR 50,000
 - 90 members pay more than EUR 14,000

Looking Ahead 2023-2028



- Forward-looking model based on continuation
- Assumptions:
 - Slow LIR account decrease (500 per year) to 20,500 (members)
 - Charging Scheme remains as is
 - FTEs remain on budget 2022 level
 - Costs remain on budget 2022 level
 - Model includes 1.8% to 1% yearly inflation

Looking Ahead to 2023 - 2028



In KEUR	B2022	B2023	B2024	B2025	B2026	B2027	B2028
Income	35,600	34,525	33,638	32,750	31,862	31,675	31,488
Personnel	19,361	20,075	20,780	21,403	22,045	22,707	23,388
Other Expenses	14,839	15,386	15,602	15,758	15,915	16,074	16,235
EBITDA	1,400	-936	-2,744	-4,411	-6,098	-7,106	-8,135
EBIT	150	-2,209	-3,784	-5,714	-7,414	-8,435	-9,478
Surplus	400	-1,959	-3,784	-5,464	-7,164	-8,186	-9,228
CAPEX	1,150	1,171	1,187	1,199	1,211	1,223	1,235

Looking Ahead to 2023 - 2028



In KEUR	B2022	B2023	B2024	B2025	B2026	B2027	B2028
Option A							
Clearing House 0% Redistribution	41,231	39,272	35,488	30,024	22,859	14,674	5,445
Ratio	116%	107%	94%	78%	58%	37%	13%
Option B							
Clearing House 50% Redistribution	36,852	34,893	30,858	25,145	17,730	9,295	-184
Ratio	104%	95%	82%	65%	45%	23%	0%
Option C							
Clearing House 100% Redistribution	32,473	30,514	26,730	21,266	14,101	5,916	-3,313
Ratio	92%	83%	71%	55%	36%	15%	-8%

Categories per Resource



Category	Fee	IPv4 Prefix	LIRs	%	IPv6 Prefix	LIRs	%	ASN	LIRs	%
Extra Small	500 EUR	/23	1,957	8%	/29	22,786	96%	1	20,079	84%
Small	1,000 EUR	/21	14,777	62%	/26	942	4%	5	2,992	13%
Medium	2,000 EUR	/19	3,788	16%	/24	41	0%	10	352	1%
Large	4,000 EUR	/17	2,069	9%	/22	13	0%	100	341	1%
Extra Large	8,000 EUR	Bigger	1,198	5%	Bigger	7	0%	Bigger	25	0%
Total			23,789			23,789			23,789	

Category Spread Based on IPv4



- For discussion purposes the IPv4 spread provides best (at this moment) input for charging scheme
- Member spread is calculated based on IPv4 per LIR account

Category	Prefix	LIRs	% LIRs	Members (calculated)
Extra Small	/23	1,957	8%	1,645
Small	/21	14,777	62%	12,423
Medium	/19	3,788	16%	3,185
Large	/17	2,069	9%	1,739
Extra Large	Bigger	1,198	5%	1,007
Total		23,789		20,000

Alternative Model A



- 5 Categories

- Based on resources, IPv6, IPv4, ASNs & PI
- Category 1 Fee 500 EUR
- Category 5 Fee 8,000 EUR

- New Member/Transfers/Merger & Acquisition Fee EUR 500
- Remove need for multiple LIRs (charging per member)
- /24 from free pool - at discounted market value (EUR 5,000 as indication)

Alternative Model A



- Yearly Fee

Category	Fee
Extra Small	500
Small	1,000
Medium	2,000
Large	4,000
Extra Large	8,000

- + One-offs (Only if used)

New Member	Transfer	M&A	/24 IPv4 Free Pool (if Available)	Total
500	X	X	5,000	6,000
X	X	X	X	1,000
X	500	500	X	3,000
X	500	X	X	4,500
X	X	500	5,000	13,500

Alternative Model A



- Yearly Fee Income

Category	Fee	Members	Yearly Income
Extra Small	500	1,645	823 KEUR
Small	1,000	12,423	12,423 KEUR
Medium	2,000	3,185	6,369 KEUR
Large	4,000	1,739	6,958 KEUR
Extra Large	8,000	1,007	8,058 KEUR
Total		20,000	34,630 KEUR

Alternative Model A



- + One-offs Income (Only if used)

Category	Fee	# estimate	One-off Income
New Member	500	600	300 KEUR
Transfer	500	2,000	1,000 KEUR
Merger & Acquisition	500	400	200 KEUR
/24 IPv4 from free pool	5,000	600	3,000 KEUR
Total			4,500 KEUR

- Overall Income total

	In KEUR
Yearly Income	34,630
One-Off income	4,500
Total	39,130

Alternative Model B



- Base Membership fee EUR 200
- PI EUR 50
- ASN EUR 50
- 5 Categories
 - Based on resources: IPv6, IPv4, ASNs & PI
 - Category 1 Fee EUR 400
 - Category 5 Fee EUR 6,400
 - New/Transfer/Merger & Acquisition fee: EUR 500
 - Remove need for multiple LIRs (charging per member)
 - /24 from free pool - at discounted market value (EUR 5,000 as indication)

Alternative Model B



- **Yearly Fee** - (Based on 1 PI & 1 ASN)

Category	Base Fee	PI (* assignments)	ASN (* assignments)	Resource Fee	Total
No Resources	200	X	X	X	200
Extra Small	200	50	50	400	700
Small	200	50	50	800	1,100
Medium	200	50	50	1,600	1,900
Large	200	50	50	3,200	3,500
Extra Large	200	50	50	6,400	6,700

- **+ One-offs** (Only if used)

New Member	Transfer	M&A	/24 IPv4 Free Pool (if Available)	Total
X	X	X	X	200
500	X	X	5,000	6,200
X	X	X	X	1,100
X	500	500	X	2,900
X	500	X	X	4,000
X	X	500	5,000	12,200

Alternative Model B



- Yearly Fee Income

Category	Base Fee	Resource Fee	Members	Yearly Income in KEUR
No Resources	200	X	0	0
Extra Small	200	400	1,646	988
Small	200	800	12,423	12,423
Medium	200	1,600	3,185	5,733
Large	200	3,200	1,739	5,913
Extra Large	200	6,400	1,007	6,646
Total			20,000	31,702

ASN	PI
36,500	21,000
EUR 50	EUR 50
1,825 KEUR	1,050 KEUR

Yearly Income	KEUR
Yearly	31,702
ASN	1,825
PI	1,050
Total	34,577

Alternative Model B



- + One-offs Income (Only if used)

Category	Fee	# estimate	One-off Income
New Member	500	600	300 KEUR
Transfer	500	2,000	1,000 KEUR
Merger & Acquisition	500	400	200 KEUR
/24 IPv4 from free pool	5,000	600	3,000 KEUR
Total			4,500 KEUR

- Overall Income Total

	In KEUR
Yearly Income	34,577
One-Off income	4,500
Total	39,077

Transfer Market



/17 and larger	/18 to /22	/23 and /24
\$38-40 USD per IP	\$38-40 USD per IP	\$38-40 USD per IP

<https://ipv4marketgroup.com/ipv4-pricing/>



Free pool vs Transfer Market

- /24 with 256 addresses at 35 EUR/address = 8,960
- /24 with 256 addresses at 50 EUR/ address = 12,800

- 2021 = 2,000 + 1,400 + 1,400 = 4,800
- 2022 = 1,000 + 1,400 + 1,400 = 3,800
- 2023 ?
 - 1,000 + 400 + 400 = 1,800 depending on new LIR fee
 - «discounted market price»

Discounted Market Price



- How would this work?
 - 1. Define independent source for market price
 - Address Policy WG could play a role here
 - 2. Periodically set market price
 - Monthly or quarterly
 - 3. Apply discount of 20%
 - 4. Discounted market price set at EUR 5,000 for calculation purposes

Next Steps



- The Board would like to get your input today
- We will publish more detailed information and we would like to get your input on members-discuss
- We will propose a model very early before the next General Meeting
- We will adjust based on your input and propose a final RIPE NCC Charging Scheme 2023 for you to vote on



Questions

