



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE NCC Charging Scheme Models

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Charging Scheme 2024 Consultation - March 2023



Cunningham's Law

“The best way to get the right answer on the Internet is not ask a question; it's to post the wrong answer”

Why are we doing this engagement?



- Further refine Category model with your feedback
 - If refinement is successful, with approval from Executive Board submit to GM
- Present different Charging Scheme models to the GM
 - So the GM can actually consider different Charging Scheme options
 - Final vote will remain with General Meeting
- Attempt to address expressed unfairness with current model
 - All LIR accounts (23,412) pay the same fee
- Possibility to start removing the need for multiple LIRs over time
 - Invoice and administration based on Members (20,254), not LIR account

Member and Community Input - Consultation 2021



- Lots of input and comment at GM - but not directly on the two proposals
- Questions on why exactly we need to change the current model
- Some pushback on connecting the model to the IPv4 market
- Comments on fairness and paying per resources held - request for model that reflects address distribution more fairly
- Issue of multiple LIRs was brought forward and continues on APWG list
- Ability to see how proposed models would apply was requested (this is in development)

Starting Point Category Model 2021



- 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)

Current Modelling of Category-based Model



- Price list & Base Membership fee
 - Still under discussion
- Explanation & details of categories
 - Still under discussion
- Independent resource assignment fee
 - Still under discussion
- ASN Fee
 - Still under discussion
- Other fees
 - Still under discussion
- IPv4 Waiting List
 - Still under discussion
- Still under discussion
- **Meaning we want your input**
 - To further refine the model
 - And with that be able to present the Executive Board and the General meeting with a model that has substance
 - And that is as fair as possible

Price List & Base Membership Fee



Price list

Overall Category price

Category Base	200
Category 1	400
Category 2	800
Category 3	1.600
Category 4	3.200
Category 5	6.400

PI	50
ASN	50
Transfer	500
Merger & Acquisition	500
New /24 IPv4 Fee	5.000

- Price list
 - To be set annually with vote by General Meeting
- Base membership fee
 - Would be applicable to all members
 - If no resource held, this would be the full membership fee
 - As soon as a single resource is received, a category fee would be added
- Other fees
 - Additional charging options to consider

Explanation & Details of Categories



- Drivers for category determination
 - Quantity of resources per category
 - Highest score out of the 4 determines the category that drives the Membership fee
- Provides ability to charge members
 - Based on total resources, not based on one LIR-one fee
 - More for high-resource allocations
 - Less for low-resource allocations
 - Added flexibility due to multiple input factors, price per category, limits per category
- Start of sunseting multiple LIR accounts per member
 - Moving to member-based charging

Example of Determination Category Score



<p>Category Score</p> <p>IPv4 1</p> <p>IPv6 0</p> <p>ASN 0</p> <p>Independent 0</p> <p>Final Category 1</p>	<p>Category Score</p> <p>IPv4 1</p> <p>IPv6 2</p> <p>ASN 1</p> <p>Independent 2</p> <p>Final Category 2</p>	<p>Category Score</p> <p>IPv4 1</p> <p>IPv6 2</p> <p>ASN 1</p> <p>Independent 3</p> <p>Final Category 3</p>
<p>Category Score</p> <p>IPv4 4</p> <p>IPv6 3</p> <p>ASN 3</p> <p>Independent 0</p> <p>Final Category 4</p>	<p>Category Score</p> <p>IPv4 0</p> <p>IPv6 5</p> <p>ASN 4</p> <p>Independent 4</p> <p>Final Category 5</p>	<p>Category Score</p> <p>IPv4 0</p> <p>IPv6 0</p> <p>ASN 5</p> <p>Independent 0</p> <p>Final Category 5</p>

Categories



Limit Per Category

IPv4

Category 1	512	/23
Category 2	2.048	/21
Category 3	8.192	/19
Category 4	32.768	/17
Category 5	More	

- Limit per Category and resources included
 - To be set with vote by GM
- Changes in limits and resource included
 - To be approved by vote GM

Category IPv4



Price list		Limit Per Category		Members Per Category	
Overall Category price		IPv4		IPv4	
Category Base	200	Category base	0	0 resources	1542
Category 1	400	Category 1	512 /23	Category 1	2272
Category 2	800	Category 2	2.048 /21	Category 2	9917
Category 3	1.600	Category 3	8.192 /19	Category 3	3560
Category 4	3.200	Category 4	32.768 /17	Category 4	1872
Category 5	6.400	Category 5	More	Category 5	1091
PI		Limit Per Category (Alternative)		Members Per Category (alternative)	
PI	50	IPv4		IPv4	
ASN	50	Category base	0	0 resources	1542
Transfer	500	Category 1	1.024 /22	Category 1	10083
Merger & Acquisition	500	Category 2	4.096 /20	Category 2	4013
New /24 IPv4 Fee	5.000	Category 3	16.384 /18	Category 3	2827
		Category 4	65.536 /16	Category 4	1105
		Category 5	More	Category 5	684

Category IPv4



- Included in Category
 - IPv4 Allocation
 - Excluding Legacy
 - Excluding Independent resources
- What we want your feedback on:
 - What to and what not to include in category
 - What limits are fair
 - Changing limits of category will have an effect on the pricing per category
 - Number of Categories

Category IPv6



Price list

Overall Category price

Category Base	200
Category 1	400
Category 2	800
Category 3	1.600
Category 4	3.200
Category 5	6.400

PI	50
ASN	50
Transfer	500
Merger & Acquisition	500
New /24 IPv4 Fee	5000

Limit Per Category

IPv6

Category base	0
Category 1	633.825.300 /29
Category 2	5.070.602.400 /26
Category 3	20.282.409.603 /24
Category 4	81.129.638.414 /22
Category 5	More

Members Per Category

IPv6

0 resources	5047
Category 1	13599
Category 2	1454
Category 3	113
Category 4	29
Category 5	12

Category IPv6



- Included in Category
 - IPv6 Allocation
 - Excluding Independent resources
- What we want your feedback on:
 - What to and what not to include in category
 - What limits are fair
 - Changing limits of category can/will have an effect on the pricing per category
 - Number of Categories

Category ASN



Price list		Limit Per Category		Members Per Category	
Overall Category price		ASN		ASN	
Category Base	200	Category base	0	0 resources	4976
Category 1	400	Category 1	1	Category 1	12574
Category 2	800	Category 2	5	Category 2	2510
Category 3	1.600	Category 3	20	Category 3	182
Category 4	3.200	Category 4	50	Category 4	7
Category 5	6.400	Category 5	More	Category 5	5
PI	50				
ASN	50				
Transfer	500				
Merger & Acquisition	500				
New /24 IPv4 Fee	5000				

Category ASN



- Included in Category
 - ASN assignments
 - Excluding Legacy
 - Excluding Sponsored
- What we want your feedback on:
 - What to and what not to include in category
 - What limits are fair
 - Changing limits of category can/will have an effect on the pricing per category
 - Number of Categories
 - Include in category calculations Yes/No

Category-independent Resources



Price list		Limit Per Category		Members Per Category	
Overall Category price		Independent		Independent	
Category Base	200	Category base	0	0 resources	15218
Category 1	400	Category 1	1	Category 1	1831
Category 2	800	Category 2	5	Category 2	2068
Category 3	1.600	Category 3	20	Category 3	806
Category 4	3.200	Category 4	50	Category 4	190
Category 5	6.400	Category 5	More	Category 5	141
PI	50				
ASN	50				
Transfer	500				
Merger & Acquisition	500				
New /24 IPv4 Fee	5000				

Category-independent Resources



- Included in Category
 - All other resources not included in previous three categories
 - e.g. IPv4/6 PI, Legacy
 - Based on assignments (not number of IP's)
- What we want your feedback on:
 - What to and what not to include in this category
 - What limits are fair
 - Changing limits of category can/will have an effect on the pricing per category
 - Number of categories
 - Include in category calculations Yes/No

Overall Score - Member spread



Members			Members Per Category		
Members Per Category			IPv4		
Category Base	451	2,23%	0 resources	1542	0 resources
Category 1	2921	14,42%	Category 1	2272	Category 1
Category 2	10110	49,92%	Category 2	9917	Category 2
Category 3	3736	18,45%	Category 3	3560	Category 3
Category 4	1894	9,35%	Category 4	1872	Category 4
Category 5	1142	5,64%	Category 5	1091	Category 5
	20254		ASN		
			0 resources	4976	0 resources
			Category 1	12574	Category 1
			Category 2	2510	Category 2
			Category 3	182	Category 3
			Category 4	7	Category 4
			Category 5	5	Category 5
			Independent		
			0 resources	15218	0 resources
			Category 1	1831	Category 1
			Category 2	2068	Category 2
			Category 3	806	Category 3
			Category 4	190	Category 4
			Category 5	141	Category 5

Overall Score - Member spread



Members Alternative			Member Pers Category			
Members Per Category			IPv4		IPv6	
Category Base	451	2,23%	0 resources	1542	0 resources	5047
Category 1	9875	48,76%	Category 1	10083	Category 1	13599
Category 2	4961	24,49%	Category 2	4013	Category 2	1454
Category 3	3077	15,19%	Category 3	2827	Category 3	113
Category 4	1149	5,67%	Category 4	1105	Category 4	29
Category 5	741	3,66%	Category 5	684	Category 5	12
	20254		ASN		Independent	
			0 resources	4976	0 resources	15218
			Category 1	12574	Category 1	1831
			Category 2	2510	Category 2	2068
			Category 3	182	Category 3	806
			Category 4	7	Category 4	190
			Category 5	5	Category 5	141

Separate Charge - Independent Resources



- No change from current charging Scheme
 - EUR 50 charge per assignment
 - Resources falling under this charge are:
 - IPv4 PI assignments
 - IPv6 PI assignments
 - Anycast assignments
 - IPv4 IXP assignments
 - IPv6 IXP assignments
 - Legacy IPv4 resources registrations through a sponsoring LIR
- Is separate charge + effect on category fair?

Separate Charge - ASN Fee



- New charging option
 - EUR 50 charge per assignment
 - Resources falling under this charge are:
 - ASN INFRA
 - ASN Sponsored
 - ASN Legacy
- Is separate charge + effect on category fair?

Separate Charge - Other Fees



- For your consideration
 - Fee for transfer of resources
 - Charge for administrative work
 - For incoming or outgoing resource (or possibly both)
 - Merger & Acquisition Fee
 - Charge for administrative work
 - Any other option we should consider?

IPv4 Waiting List



- Current thinking
- If category model would be approved by GM for 2024
 - LIR account can not be phased out immediately, looking at our PDP
 - Category model will need to facilitate waiting list based on LIR account
 - Resources of all LIR held by members
 - Would be totalled for Charging Scheme to determine Category
 - To join waiting list a member would have to have an eligible LIR account
 - And join the waiting list as per current policy
 - or create a New LIR account & Pay the sign-up fee

IPv4 Waiting List



- Current thinking
 - Existing member
 - Other than New LIR sign-up fee, no additional costs
 - When /24 is allocated, new IPv4 fee would be payable
 - Fixed fee ranging from 1k to 5k (or possibly a discounted market fee)
 - Allocated resources would be added in category calculation
 - For the next billing year
 - Or determination of average score (quarterly), to reduce effect of moving resources

IPv4 Waiting List



- Current thinking
 - New member
 - New Member sign-up fee (essentially opening New LIR account)
 - Plus base membership fee (possibly pro-rata)
 - If 0 resources, yearly fee would remain at base membership fee
 - When /24 is allocated, new IPv4 fee would be payable
 - Fixed fee ranging from 1k to 5k (or possibly a discounted market fee)
 - Allocated resources would be added in category calculation
 - For the next billing year
 - Or determination on average score (quarterly), to reduce effect of moving resources

The Registry Considerations



- ASN's
 - Currently not charged
 - Significant workload +- 250 resource requests per month
 - A charge would incentivise updating unused or not needed resources
- Transfers
 - Several hundred policy transfers each month
 - Work-intensive to ensure compliance & due diligence requirements
- Waiting list
 - Joining waiting list should be attractive for newcomers
 - And a disincentive to join with a lot of multiple LIR accounts
- Charging categories
 - Resources should be charged fairly and equally
 - To ensure responsible resource management
 - Prevent attempts to “game” the charging scheme

The Next Steps



- With feedback collected, further refine models
- Present category option to the Executive Board
- 12 April: Publication of draft Charging Schemes 2024, including draft category option
- 26 April: Only with Executive Board Approval, category model will be included in submission of final Charging Schemes to the GM
- 24 May: RIPE NCC General Meeting with Charging Scheme vote

Summary



- Nothing is decided - we need your input before we can propose anything
- The final decision will be with the members, as always
- The one-LIR, one-fee model is relatively simple; the category-based model needs strong guidance from you
 - How many categories?
 - What should we charge for separately?
 - Is it right to charge per member rather than per LIR?
 - How can charging choices affect the Registry?
 - How do we achieve fairness, stability, sustainability, simplicity for 20,000 members with vastly different resource holdings, backgrounds, sizes, services, countries, etc. etc. etc...?

The Next GM - Your vote matters



- 24 May 2023 (Rotterdam)
- <https://www.ripe.net/participate/meetings/gm/next-general-meeting>
- <https://my.ripe.net/#/meetings/active>



Questions



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Alternative 1 A Category limits



Price list		Limit Per Category	
Category Base	200	IPv4	IPv6
Category 1	400	Category 1	Category 1
Category 2	800	Category 2	Category 2
Category 3	1.600	Category 3	Category 3
Category 4	3.200	Category 4	Category 4
Category 5	6.400	Category 5	Category 5
PI	50		
ASN	0		
Transfer	0		
Merger & Acquisition	0		
New /24 IPv4 Fee	5.000		

- Category Model, based on IPv4 & IPv6 only

Alternative 1 B Member Spread



Members			Members Per Category			
Members Per Category			IPv4	IPv6		
Category Base	803	3,96%	0 resources	1542	0 resources	5047
Category 1	2957	14,60%	Category 1	2272	Category 1	13599
Category 2	9965	49,20%	Category 2	9917	Category 2	1454
Category 3	3563	17,59%	Category 3	3560	Category 3	113
Category 4	1874	9,25%	Category 4	1872	Category 4	29
Category 5	1092	5,39%	Category 5	1091	Category 5	12
20254						

- Category Model, based on IPv4 & IPv6, only

Alternative 2 A Category limits



Price list		Limit Per Category			
Category Base	300	IPv4		IPv6	
Category 1	350	Category 1	1.024 /22	Category 1	633.825.300 /29
Category 2	700	Category 2	4.096 /20	Category 2	5.070.602.400 /26
Category 3	1.400	Category 3	16.384 /18	Category 3	20.282.409.603 /24
Category 4	8.000	Category 4	65.536 /16	Category 4	81.129.638.414 /22
Category 5	16.000	Category 5	More	Category 5	More
PI	50				
ASN	0				
Transfer	0				
Merger & Acquisition	0				
New /24 IPv4 Fee	2.000				

- Category Model, based on IPv4 & IPv6, alternative

Alternative 2 B Member Spread



Members			Member Pers Category			
Members Per Category			IPv4	IPv6		
Category Base	803	3,96%	0 resources	1542	0 resources	5047
Category 1	10714	52,90%	Category 1	10083	Category 1	13599
Category 2	4104	20,26%	Category 2	4013	Category 2	1454
Category 3	2839	14,02%	Category 3	2827	Category 3	113
Category 4	1109	5,48%	Category 4	1105	Category 4	29
Category 5	685	3,38%	Category 5	684	Category 5	12
20254						

- Category Model, based on IPv4 & IPv6, alternative

Alternative 3 A Category limits



Price list

Category Base	200
Category 1	400
Category 2	800
Category 3	1.600
Category 4	3.200
Category 5	6.400

PI	50
ASN	0
Transfer	0
Merger & Acquisition	0
New /24 IPv4 Fee	2.000

Limit Per Category

IPv4 INFRA

Category 1	512	/23
Category 2	2.048	/21
Category 3	8.192	/19
Category 4	32.768	/17
Category 5	More	

IPv4 Sponsored

Category 1	512	/23
Category 2	2.048	/21
Category 3	8.192	/19
Category 4	32.768	/17
Category 5	More	

IPv6 INFRA

Category 1	633.825.300	/29
Category 2	5.070.602.400	/26
Category 3	20.282.409.603	/24
Category 4	81.129.638.414	/22
Category 5	More	

IPv6 Sponsored

Category 1	633.825.300	/29
Category 2	5.070.602.400	/26
Category 3	20.282.409.603	/24
Category 4	81.129.638.414	/22
Category 5	More	

ASN

Category 1	1
Category 2	5
Category 3	20
Category 4	50
Category 5	More

- Category Model, based on IPv4/6 INFRA, sponsored & ASN

Alternative 3 B Member Spread



Members

Members Per Category

Category Base	476	2,35%
Category 1	2898	14,31%
Category 2	9765	48,21%
Category 3	3902	19,27%
Category 4	2059	10,17%
Category 5	1154	5,70%

20254

Members Per Category

IPv4 INFRA

0 resources	1236
Category 1	2345
Category 2	9634
Category 3	3883
Category 4	2026
Category 5	1130

IPv4 Sponsored

0 resources	18317
Category 1	750
Category 2	543
Category 3	408
Category 4	165
Category 5	71

IPv6 INFRA

0 resources	4950
Category 1	13457
Category 2	1693
Category 3	113
Category 4	29
Category 5	12

IPv6 Sponsored

0 resources	19396
Category 1	858
Category 2	0
Category 3	0
Category 4	0
Category 5	0

ASN

0 resources	4976
Category 1	12574
Category 2	2510
Category 3	182
Category 4	7
Category 5	5

- Category Model, based on IPv4/6 INFRA, sponsored & ASN

Alternative 4 A Category limits



Price list

Category Base	100
Category 1	75
Category 2	150
Category 3	300
Category 4	600
Category 5	1.200
Category 6	2.400
Category 7	4.800
Category 8	9.600
Category 9	19.200
Category 10	38.400
PI	50
ASN	0
Transfer	0
Merger & Acquisition	0
New /24 IPv4 Fee	2.000

Limit Per Category

IPv4

Category 1	512	/23
Category 2	1.024	/22
Category 3	2.048	/21
Category 4	4.096	/20
Category 5	8.192	/19
Category 6	16.384	/18
Category 7	32.768	/17
Category 8	64.536	/16
Category 9	129.072	/15
Category 10	More	

ASN

Category 1	1
Category 2	4
Category 3	8
Category 4	16
Category 5	32
Category 6	64
Category 7	128
Category 8	256
Category 9	512
Category 10	More

IPv6

Category 1	158.456.325	/31
Category 2	633.825.300	/29
Category 3	2.535.301.200	/27
Category 4	10.141.204.801	/25
Category 5	40.564.819.207	/22
Category 6	162.259.276.829	/21
Category 7	649.037.107.316	/19
Category 8	2.596.148.429.267	/17
Category 9	10.384.593.717.069	/15
Category 10	More	

Independent

Category 1	1
Category 2	4
Category 3	8
Category 4	16
Category 5	32
Category 6	64
Category 7	128
Category 8	256
Category 9	512
Category 10	More

- 10 Category model

Alternative 4 B Member Spread



Members at year end 2022

Members Per Category

Category Base	451	2,23%
Category 1	1391	6,87%
Category 2	9443	46,62%
Category 3	2299	11,35%
Category 4	1979	9,77%
Category 5	1684	8,31%
Category 6	1186	5,86%
Category 7	714	3,53%
Category 8	396	1,96%
Category 9	294	1,45%
Category 10	417	2,06%

20254

Members Per Category

IPv4

0 resources	1542
Category 1	2272
Category 2	7811
Category 3	2106
Category 4	1907
Category 5	1653
Category 6	1174
Category 7	698
Category 8	387
Category 9	290
Category 10	414

ASN

0 resources	4985
Category 1	12574
Category 2	2393
Category 3	224
Category 4	65
Category 5	13
Category 6	0
Category 7	0
Category 8	0
Category 9	0
Category 10	0

IPv6

0 resources	5047
Category 1	4844
Category 2	8755
Category 3	1306
Category 4	201
Category 5	80
Category 6	14
Category 7	6
Category 8	1
Category 9	0
Category 10	0

Independent

0 resources	15218
Category 1	1831
Category 2	1847
Category 3	587
Category 4	366
Category 5	196
Category 6	111
Category 7	53
Category 8	28
Category 9	13
Category 10	4

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