

APNIC fee structure – APNIC 21 Discussion Paper

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1 Introduction

In this paper, a possible new structure for APNIC membership fees is introduced for discussion. The new structure includes fees for regular APNIC members and for NIR members, and removes the existing “per address” fee for allocations to NIRs.

This paper will be presented for informational purposes at the APNIC 21 meeting in Perth, Australia. The proposed fee structure should be considered as a “candidate” only, and it is not being presented for formal consideration at this meeting. However, discussions at APNIC 21 may lead to a formal proposal at a future meeting.

2 Rationale

In this section, the fundamental principles for revision of the APNIC fee structure are discussed.

2.1 Overall revenue maintenance

The current APNIC annual fee structure has been in place since the establishment of APNIC’s membership structure in 1996. Additional membership categories have been added, however the fee levels for existing categories have remained constant, as have the NIR per-address fees.

For the past 4 years APNIC has operated on balanced budgets in which no operational surplus has been expected. During the same time, operational activities and services have increased, as have outreach, training, information and related activities. With additional demands such as increasing ICANN fees and participation in new events such as World Summit for Information Society and Internet Governance Forum, it seems that APNIC’s annual result may be in deficit in future years, which will erode APNIC’s capital reserve and restrict our ability to provide needed services.

Under any new fee structure, overall APNIC revenue should be maintained, and preferably adjusted for the effects of inflation and devaluation of the US dollar.

The candidate structure discussed in this document is designed to increase overall APNIC revenue by 10-15%, based on current membership numbers. In addition, it is designed to be more sustainable in the event of the establishment of new NIRs, and loss of members to those NIRs.

2.2 Annual fee calculation

The candidate fee structure would have an annual fee based on IP address holdings, like the current structure, which is as follows (considering IPv4 space only):

Prefix (v4)	Prefix (v6)	Tier	Annual
>/10	>/23	Extra Large	40000
10	23	Very Large	20000
13	26	Large	10000
16	29	Medium	5000
19	32	Small	2500
22	35	Very small	1250

It is assumed that APNIC will use a similar method of calculating fees based on address holdings. Under the current structure, the annual fee doubles with each additional 3 bits of address space, starting at a fee of \$1250 for a /22. Under the new structure, the fee doubles with each additional 2 bits, starting with a fee of \$360 per annum for a /24.

2.3 Fairness with respect to large and small members

It has been suggested that the current fee structure favours large members, whose effective annual cost per address is much lower than that of small members. The following table illustrates this problem, under the current IPv4 structure:

IPv4 Prefix	Addresses	Annual Fee	Effective cost/addr
20	4096	2500	\$0.610
16	65536	5000	\$0.076
12	1048576	20000	\$0.019
8	16777216	40000	\$0.002

Accordingly, an APNIC member holding a /20 incurs an effective annual cost per address which is 256 times higher than that of a member holding a /8.

In addition, it has been suggested that the current fee level for small members (for instance, \$1250 minimum annual fee; or \$2500 for a member holding a minimum allocation of or /20 or /21) is too high for small companies. Therefore the candidate new structure incorporates lower “entry level” fees (\$320 minimum annual fee, or \$1440 for a member holding a /20 or /21)

2.4 NIR fees

Under the current APNIC fee structure, NIRs must pay “per address” fees for each allocation of address space. This fee is paid once only, and no further fees are payable by NIRs in respect of those allocations. However the fee can result in very large payments to APNIC, for instance a /10 allocation to a very large NIR member incurs a fee of \$83,886.08

NIRs pay annual fees according to total address allocations, according to the same system as normal APNIC members. Therefore under the current fee structure, most NIRs pay the maximum annual fee of \$80,000

Under the new structure members of NIRs would pay annual fees according to the same fee structure, but with an overall discount of in recognition of services provided by the NIR. The discount level proposed in this discussion paper is 50%.

Note that per-address fees would be abolished completely under this structure.

2.5 Voting

Members of NIRs would be entitled to join APNIC as members, and to vote directly in APNIC membership votes. It is expected that voting entitlements of such organisations would be assigned in proportion to the fees paid.

NIRs themselves would continue to maintain membership status and pay fees in accordance with their historical address holdings (allocated directly to NIRs prior to the current “direct allocation” system).

3 Proposed (Candidate) Fee Structure

3.1 Tier assessment for IPv4 address space

The candidate fee structure would calculate annual fees from IPv4 holdings as follows.

Prefix	Tier	Member	NIR Member
>/6	K	368640	184320
6	J	184320	92160
8	I	92160	46080
10	H	46080	23040
12	G	23040	11520
14	F	11520	5760
16	E	5760	2880
18	D	2880	1440
20	C	1440	720
22	B	720	360
24	A	360	180

According to this table, a member with total address holdings of greater than /18 but less than or equal to /16 would be designated as “Tier E” and annual fee of \$5760. If that member is serviced by an NIR, then its fee is reduced by 50% to \$2880.

3.2 Tier assessment for IPv6 address space

Membership tiers for holdings of IPv6 could be calculated as follows.

Prefix	Tier	Member	NIR Member
>/12	K	368640	184320
12	J	184320	92160
16	I	92160	46080
20	H	46080	23040
24	G	23040	11520
28	F	11520	5760
32	E	5760	2880
36	D	2880	1440
40	C	1440	720
44	B	720	360
48	A	360	180

Note that this structure involves a doubling of annual fees for each additional 4 bits of address space. This provides substantial discounts for large members, which may need to be considered more carefully in light of future information about IPv6 address space distribution.

For members holding both IPv4 and IPv6 address space, the current APNIC policy is that the applicable membership tier is calculated separately for IPv4 and IPv6, and the larger of those tiers is then assigned to the member.

4 Impact Assessment

4.1 Regular APNIC members

As at the date of writing, APNIC has 1162 members including 6 NIRs. The current address holdings of those members is known, and their effective membership tier and annual fees can be calculated, for both the existing (Old) and candidate (New) fee structures, as follows.

Impact Assessment				
Prefix	Count	New	Old	Increase
6	3	184320	40000	144320
7	1	184320	40000	144320
8	4	92160	40000	52160
9	0	92160	40000	52160
10	0	46080	20000	26080
11	5	46080	20000	26080
12	15	23040	20000	3040
13	13	23040	10000	13040
14	22	11520	10000	1520
15	30	11520	10000	1520
16	49	5760	5000	760
17	51	5760	5000	760
18	89	2880	5000	-2120
19	244	2880	2500	380
20	269	1440	2500	-1060
21	141	1440	2500	-1060
22	69	720	1250	-530

23	59	720	1250	-530
24	98	360	1250	-890

The above table provides a means for calculating total annual APNIC membership revenues, as follows:

Prefix	Count	New	Old
6	3	552960	120000
7	1	184320	40000
8	4	368640	160000
9	0	0	0
10	0	0	0
11	5	230400	100000
12	15	345600	300000
13	13	299520	130000
14	22	253440	220000
15	30	345600	300000
16	49	282240	245000
17	51	293760	255000
18	89	256320	445000
19	244	702720	610000
20	269	387360	672500
21	141	203040	352500
22	69	49680	86250
23	59	42480	73750
24	98	35280	122500
		4833360	4232500

This represents an effective increase in membership fee revenue of 14%.

4.2 Members of NIRs

Under the direct allocation mechanism, APNIC Secretariat has details of a majority of active members of NIRs, and the address space holdings of those organisations. These are summarised as follows:

Count of Member	Tier									Grand Total	
	A	B	C	D	E	F	G	H	I		
APJII			33	2	2						37
CNNIC		2	33	25	14	10	4	1			89
JPNIC	9	3	77	50	19	10	4	2			174
KRNIC		1	4	15	8	2	3		1		34
TWNIC		1	6	3	1	4			1		16
VNNIC	2	1	7		3	1	1				15
Grand Total	11	8	160	95	47	27	12	4	1		365

From these figures, effective annual member fees can be calculated, as follows. Note that these fees do not incorporate the proposed discount for members of NIRs.

Sum of Fee	Tier									Grand Total
NIR	A	B	C	D	E	F	G	H	I	Grand Total
APJII			44880	5440	10880					61200
CNNIC		1360	44880	68000	76160	108800	87040	43520		429760
JPNIC	3060	2040	104720	136000	103360	108800	87040	87040		632060
KRNIC		680	5440	40800	43520	21760	65280		87040	264520
TWNIC		680	8160	8160	5440	43520		43520		109480
VNNIC	680	680	9520		16320	10880	21760			59840
Grand Total	3740	5440	217600	258400	255680	293760	261120	174080	87040	1556860

With a 50% discount applied to members of NIRs, the total annual fee revenue from members of NIRs would be \$778,430.

The expected revenue from this source in 2006 is \$700,000; therefore the expected revenue above represents an 11% increase on this level.

5 Implementation

Although this paper is presented for discussion purposes and not for a specific decision by APNIC members, it is useful to consider implementation issues.

5.1 Impact on Members

A fee structure change of the extent discussed here has implications for budgets of all APNIC members, since all are affected. It is suggested that any decision must provide sufficient advance notice of the change in order that members' budget cycles can accommodate the change.

Additionally, it is suggested that such a change could be introduced over a period of more than 1 year, and that during the transition period, an averaging formula used to reduce the immediate impact on each individual member. The details of this formula are not considered here.

5.2 Impact on APNIC Secretariat

This type of change would introduce many tasks for implementation by the APNIC Secretariat, including revision to critical accounting and online systems, as well as to documentation and related areas. While such changes are extensive, it is expected that all could be accommodated within any reasonable implementation period for such a change.