

A CONTINUOUS THREE BIT FEE MODEL

TWNIC



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THE GOAL

- TO INCREASE THE APNIC REVENUE WITHOUT SIGNIFICANTLY CHANGING THE CURRENT FEE STRUCTURE
- TO INCREASE THE STABILITY OF APNIC FEE STRUCTURE
- CARE FOR LDACS



ASSUMPTIONS

- ALL MEMBERS UNDER NIR ARE TREATED AS A UNITY TO APNIC
- NIR IS TREATED AS A LARGE LIR WITH SOME ADDITIONAL CONTRIBUTIONS

THE THREE BIT CONTINUOUS FEE MODEL



- THE THREE BIT CONTINUOUS FEE MODEL IS A MODIFICATION OF THE CURRENT STEPWISE MODEL TO A CONTINUOUS MODEL ACCORDING TO THE FOLLOWING FORMULA:
- PARAMETERS FOR IPv4
 - Minimum prefix (MP = /21)
 - Minimum fee level (MF = 2500)
 - Prefix factor (PF = 3)

$$P = 32 - \log_2(IP)$$

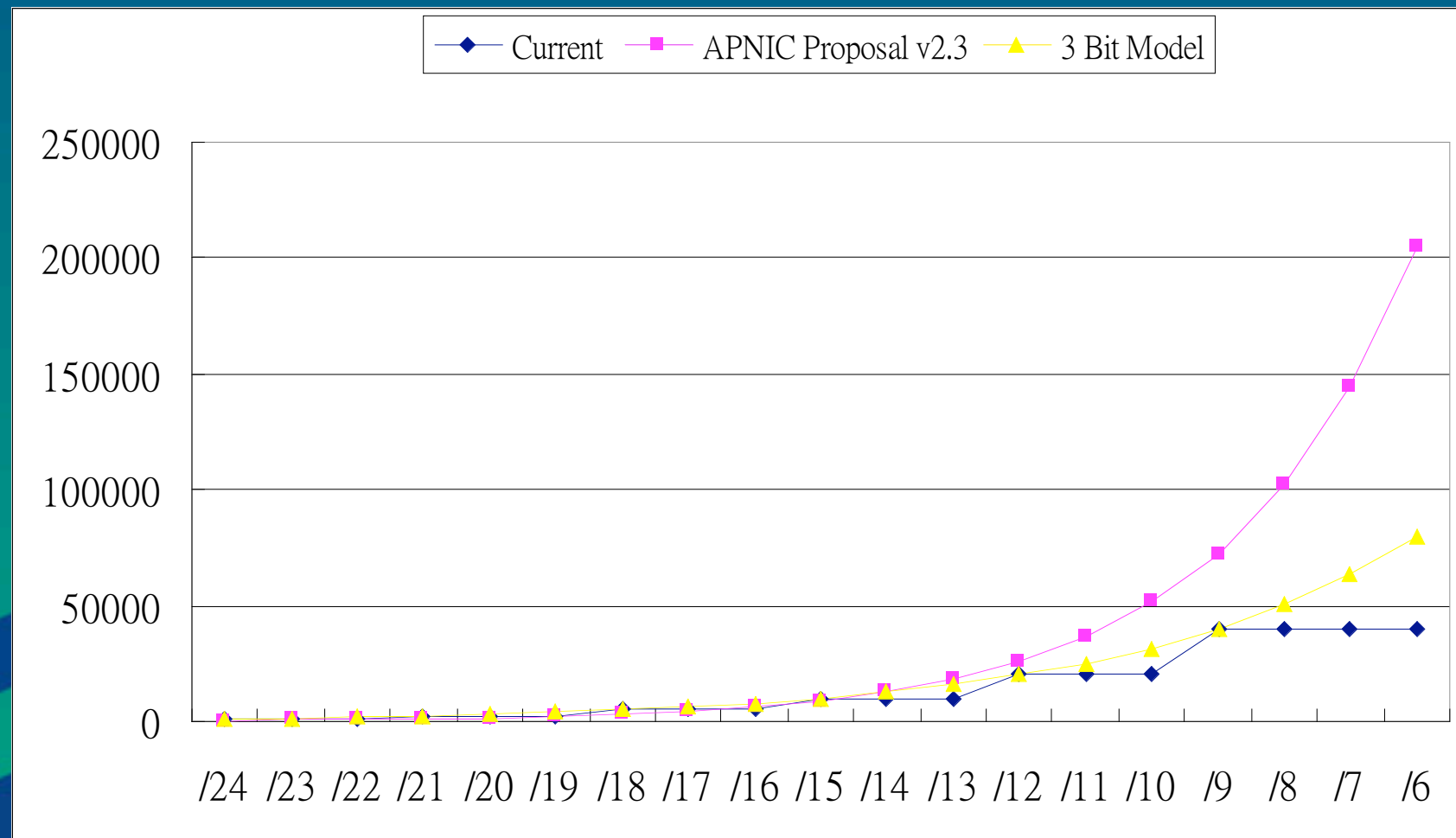
$$Fee = MF \times 2^{((MP-P)/PF)}$$

ADDITIONAL CONTRIBUTION FROM NIRS



- INSTEAD OF USING YEARLY INCREMENT OF ADDRESS PER YEARS AS A BASIS, ONE CALCULATES ALL THE ADDRESSES LOCATED TO MEMBERS OF NIRS SINCE 2003.
- THE FEE WILL BE CALCULATED ACCORDING TO THE AVERAGE OF THE TOTAL ADDRESS OVER THE NUMBER OF YEARS SINCE 2003 AND α VALUE.

COMPARE DIFFERENT MODELS



COMPARE DIFFERENT MODELS



Prefix (/)	IPv4 address	Current	Lump sum 3 bit	Increase of Lump Sum 3 bit	v2.3	Increase of v2.3
6	67108864	40000	80000.00	100.00%	204,800	412.00%
8	16777216	40000	50396.84	25.99%	102,400	156.00%
10	4194304	20000	31748.02	58.74%	51,200	156.00%
12	1048576	20000	20000.00	0.00%	25,600	28.00%
14	262144	10000	12599.21	25.99%	12,800	28.00%
16	65536	5000	7937.01	58.74%	6,400	28.00%
18	16384	5000	5000.00	0.00%	3,200	-36.00%
20	4096	2500	3149.80	25.99%	1,600	-36.00%
22	1024	1250	1984.25	58.74%	800	-36.00%
24	256	1250	1250.00	0.00%	400	-68.00%
non	non	625				

IMPACT – APNIC REGULAR MEMBERS



Prefix(/)	Number	Current Membership	IPv4 address	Average Prefix	Current	v2.3	Lump Sum 3 bit
6	1	40,000	43,515,659	6.62	40,000	164,916	69,243
8	1	40,000	11,272,135	8.57	40,000	83,935	44,140
9	3	40,000	5,561,044	9.59	120,000	176,864	104,633
10	1	20,000	2,252,761	10.90	20,000	37,523	25,807
11	6	20,000	1,391,472	11.59	120,000	176,941	131,868
12	15	20,000	733,142	12.52	300,000	321,089	266,267
13	16	10,000	395,113	13.41	160,000	251,432	231,130
14	28	10,000	181,656	14.53	280,000	298,348	312,180
15	36	10,000	93,357	15.49	360,000	274,990	321,501
16	69	5,000	51,645	16.34	345,000	392,015	505,850
17	59	5,000	25,671	17.35	295,000	236,328	342,634
18	90	5,000	12,651	18.37	450,000	253,075	412,842
19	228	2,500	7,063	19.21	570,000	479,052	861,199
20	256	2,500	3,596	20.19	640,000	383,802	772,126
21	224	2,500	1,657	21.31	560,000	227,942	521,798
22	65	1,250	934	22.13	81,250	49,650	125,061
23	60	1,250	495	23.05	75,000	33,375	93,440
24	72	1,250	256	24.00	90,000	28,800	90,000
non	94	625			58,750	17,000	58,750
					4,605,000	3,887,077	5,290,469

THE CALCULATION FROM THE THREE BITS MODEL



- THE CALCULATION FROM THREE BITS MODEL IS AS FOLLOWS:

	Current	APNIC Proposal v2.3	Lump Sum 3Bit Model
LIRs	4,605,000	3,887,077	5,290,469
NIRs Membership fee (NIR's version)	200,000	451,453 (NIR Pools)	304,963
NIRs Additional (NIR's version)	489,680	1,290,712 (NIR Members)	512,381 (ex: $\alpha=1.3$)
Total	5,294,680	5,629,242	6,107,813
Increase		6.32%	15.36%



LDC ISSUES

- TO HAVE A DISCOUNT TO THE APNIC FEE MIGHT NOT BE RIGHT TO THE POINT AND SUFFICIENT
- IN ORDER TO BRIDGE THE DIGITAL DIVIDE, IT IS SUGGESTED THAT APNIC ALLOCATE X% OF ITS REVENUE TO PROJECTS INVOLVING LDC.
- APNIC SHOULD ENCOURAGE NIRS TO WORK WITH THEM IN THE LDC ISSUE



SCALABLE MECHANISM

- IF IT IS DETERMINED THAT APNIC HAVE A FUND SHORTAGE, A SCALABLE FACTOR TO ADJUST THE FEE IS POSSIBLE SUBJECT TO APPROVAL FROM ECS AND MEMBERS MEETING

