APNIC Membership Fees

APNIC 22

5-8 September 2006

What's coming up...

- Background
- Current structure and issues
- Fee structure principles
- Proposed fee structure
- Impact
- Discussion

Background

- Current fee structure established 1996
  - Optional tier selection (Small/Medium/Large)
  - Annual fees (USD 2,500/5,000/10,000 per annum)
  - NIR member fees (USD 1,000 per annum each)
- Some adjustments
  - NIR per-address fees (1997)
  - Mandatory tier selection (1999)
  - Additional tiers (1999, 2001)
- Fee structure problems
  - NIR fee structure discussions (APNIC-12, 2001, TW)
  - Presentation at APNIC 21
  - Proposal updated since APNIC 21
    - This presentation contains latest figures

Annual financial results
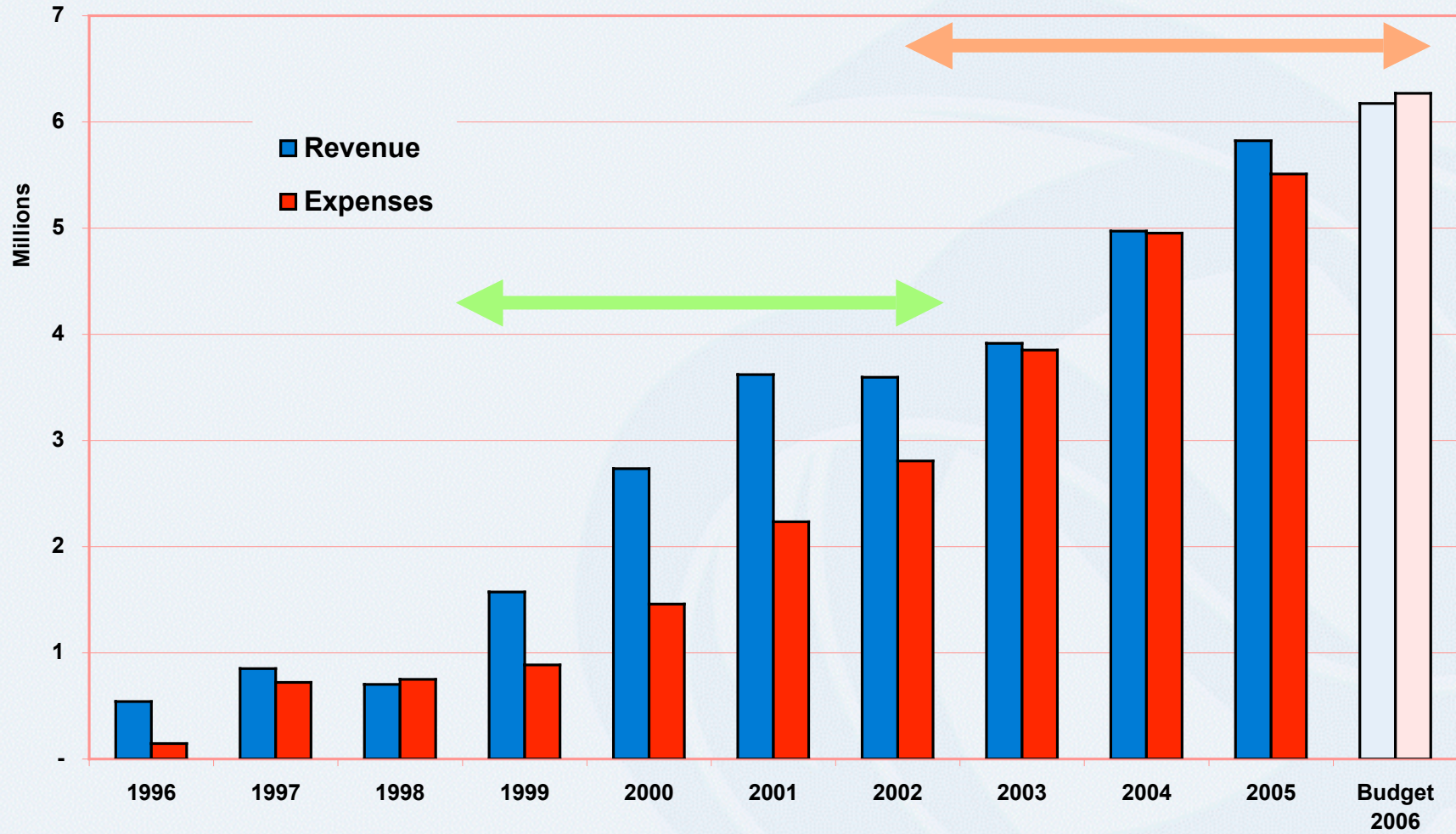
APNIC's new activities in recent years

- ICANN meetings and fees
  - Substantial expense item since 1999
- MyAPNIC
  - Major service platform, under ongoing development
- Root servers
  - 19 servers deployed in AP region
- Research and development
  - AS numbers, resource certification, resource projections, …
- Training
  - Increased course content, e-learning
- Meetings
  - Participation mechanisms: transcription, web/audio/podcast, …
- Information and outreach
  - APster, website, educational materials
- WSIS, IGF, other "political" demands
  - Unpredictable in future years

Current structure and issues

APNIC

Current fee structure

- Annual membership fees

IPv4 Prefix	IPv6 Prefix	Membership Tier	Annual fee
>/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

- Annual assessment of address space holdings
- Fixed tiers with large increments
- Annual fee is fixed for 1 year from renewal

Current fee structure

- "Per address" fee

Membership Tier	Per addr fee
Extra Large	0.02
Very Large	0.03
Large	0.06
Medium	0.11
Small	0.16
Very small	n/a

- Fee paid once only, for each allocation to NIR
- Allocation contributes to NIR tier assessment and voting rights
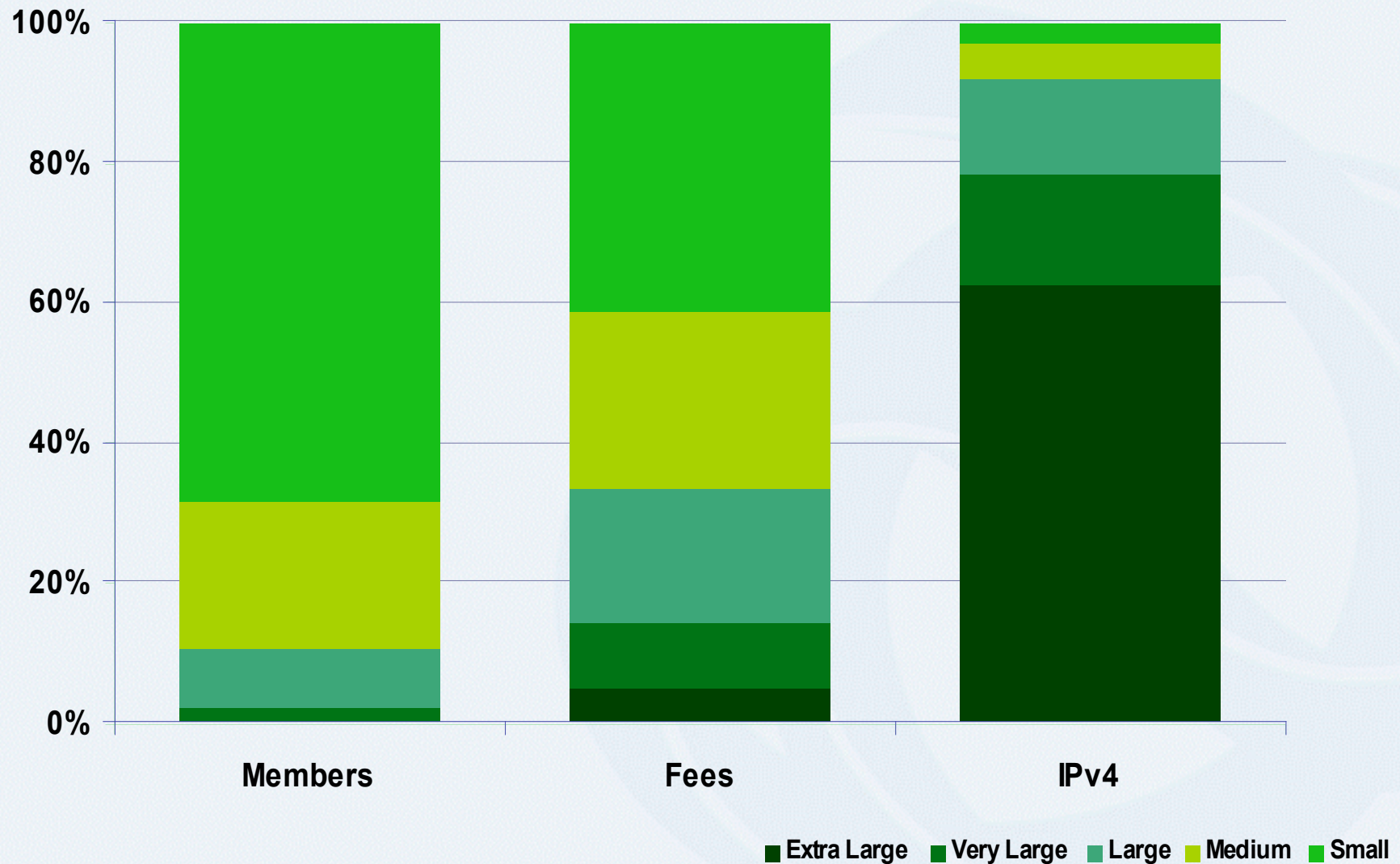- No voting rights for NIR members

Current issues – fairness

- Costs – Small vs large members
  - Effective cost for small and large ISPs

IPv4 Prefix	Addresses	Annual fee	Fee/address
/20	4096	2500	$0.610
/16	65536	5000	$0.076
/12	1048576	20000	$0.019
/8	16777216	40000	$0.002

- Fairness of this structure is questionable

Current issues – fairness

Current issues – NIRs

Bar chart legend: **Members**, **NIRs**, **NIR members**

Categories: Number, IPv4 (/8), Fees, Votes

- Number: 1261 (Members), 6 (NIRs), 535 (NIR members)
- IPv4 (/8): 6.78 (Members), 5.00 (NIRs), 3.65 (NIR members)
- Fees: $4,376,250 (Members), $190,000 (NIRs), $700,000 (NIR members)
- Votes: 7050 (Members), 304 (NIRs)
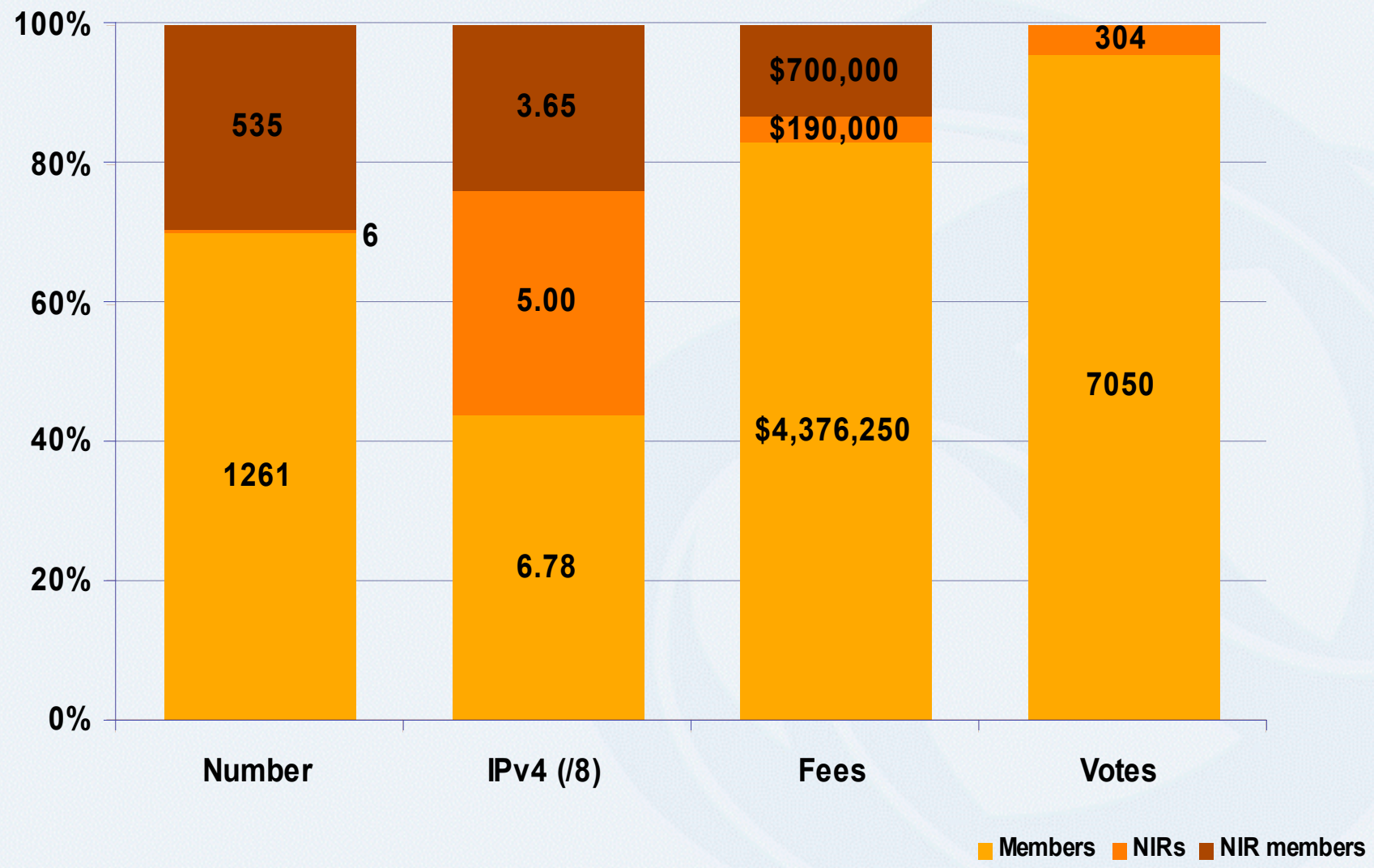
Fee structure principles

Principles

- Overall revenue maintenance
  - APNIC revenues should be predictable
  - Mitigate impact of new NIRs forming
- Revenue adjustment
  - For effects of inflation and foreign exchange
  - Plan to increase revenue by at least 10-15% over expectations of current structure
- Annual fee calculation
  - Base annual fees on address holdings
  - Reflects size of organisation & capacity to pay

Principles

- NIR fees
  - NIR member fees based on regular fee structure
  - With agreed discount in recognition of NIR services and costs
- Fairness
  - More equitable distribution of funding responsibility, according to capacity to pay
- Voting
  - Members of NIRs should be entitled to vote
  - Voting entitlement proportional to overall fee contribution

Feedback at and since APNIC 21

- **General interest in overall structure**
  - Agreement to continue discussion
- **Highest tiers represent very large increase**
  - Should be capped at a lower level, at least initially
- **What about IPv6?**
  - Need to specify prefix and fee levels
- **Impact on NIRs**
  - Full impact was not clear
  - Concern expressed about fee increases

Proposed fee structure and impact

Asia Pacific Network Information Centre

APNIC

Current structure – parameters

- Minimum address space level (up to /22)
- Minimum fee level (currently $1250)
- Address space increment (3 bits per tier)
- Fee increment (x2 per tier)

IPv4 Prefix	IPv6 Prefix	Tier	Annual
>/10	>/23	Extra Large	40000
/10	/23	Very Large	20000
/13	/26	Large	10000
/16	/29	Medium	5000
/19	/32	Small	2500
up to /22	up to /35	Very small	1250
None	None	Associate	625

Proposed structure – parameters

- Minimum fee level: $360
  - Since APNIC21: Added tier for "no address space": $180
- Minimum tier: up to /24
  - Since APNIC21: Maximum tier: >/10
  - IPv6: /48
- Fee increment: x2 per tier
- Address space increment: 2 bits per tier
  - IPv6: x4 per tier

New fee structure – proposal

IPv4 Prefix	IPv6 Prefix	Tier	Annual fee
>/10	>/20	I	92160
/10	/20	H	46080
/12	/24	G	23040
/14	/28	F	11520
/16	/32	E	5760
/18	/36	D	2880
/20	/40	C	1440
/22	/44	B	720
up to /24	up to /48	A	360
None	None	X	180

Impact – regular members

Prefix	Count	New	Current	Increase
6	1	92160	40000	52160
7	0	92160	40000	52160
8	1	92160	40000	52160
9	3	92160	40000	52160
10	1	46080	20000	26080
11	4	46080	20000	26080
12	14	23040	20000	3040
13	18	23040	10000	13040
14	22	11520	10000	1520
15	39	11520	10000	1520
16	63	5760	5000	760
17	52	5760	5000	760
18	93	2880	5000	-2120
19	227	2880	2500	380
20	254	1440	2500	-1060
21	191	1440	2500	-1060
22	62	720	1250	-530
23	56	720	1250	-530
24	62	360	1250	-890
None	98	180	625	-445
	1261			

Impact – NIRs

Prefix	Count	New	Current	Increase
6	1	92160	40000	52160
7	1	92160	40000	52160
8	1	92160	40000	52160
9	1	92160	40000	52160
12	1	23040	20000	3040
15	1	11520	10000	1520
	6			

Impact – NIR members

NIR	A	B	C	D	E	F	G	H	I	Grand Total
CNNIC-CN		1	40	34	23	19	5	2		124
IDNIC-ID		2	70	6	4					82
JPNIC-JP	12	6	81	61	22	18	7	2	1	210
KRNIC-KR		2	4	23	28	6	3	2	1	69
TWNIC-TW		1	12	9	4	4	1	1		32
VNNIC-VN	3	1	7	2	2	2	1			18
Grand Total	15	13	214	135	83	49	17	7	2	535

NIR	A	B	C	D	E	F	G	H	I	Grand Total
CNNIC-CN		360	28800	48960	66240	1E+05	57600	46080		357480
IDNIC-ID		720	50400	8640	11520					71280
JPNIC-JP	2160	2160	58320	87840	63360	1E+05	80640	46080	46080	490320
KRNIC-KR		720	2880	33120	80640	34560	34560	46080	46080	278640
TWNIC-TW		360	8640	12960	11520	23040	11520	23040		91080
VNNIC-VN	540	360	5040	2880	5760	11520	11520			37620
Grand Total	2700	4680	2E+05	2E+05	2E+05	3E+05	2E+05	2E+05	92160	1326420

Impact – APNIC budget

	Number	IPv4 (/8)	New	Current	Increase
Members	1261	6.78	$4,480,920	$4,376,250	2%
NIRs	6	5.00	$403,200	$190,000	112%
NIR members	535	3.65	$1,326,420	$700,000	89%
Total	1802	15.43	$6,210,540	$5,266,250	18%

Feedback since publication

- **Reason for overall revenue increase?**
  - Request for 3-year budget and activity plan
- **Tier/level should not be capped**
  - Highest levels are heavily discounted already
- **Historical addresses should be included**
  - In order to distribute responsibility fairly
- **Economic circumstances should be considered**
  - e.g. Development index of country
- **Tiers can be abolished completely**
  - Use continuous formula instead
- **NIR members should not be counted**
  - Voting and fee collection are too complex
  - NIR role should be respected

Further work

Continuous Formula?

- Parameters for IPv4
  - Minimum prefix (MP = /24)
  - Minimum fee level (MF = 360)
  - Prefix factor (PF = 2)

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

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

- Don't PANIC – Use MyAPNIC!

Continuous Formula?

Addresses	Prefix	Fee Factor	Total Fee	Comment
256	/24.0000	1.0000	$360.00	Minimum
1024	/22.0000	2.0000	$720.00	/22
1025	/21.9986	2.0010	$720.35	/22 + 1
65536	/16.0000	16.0000	$5,760.00	/16
69632	/15.9125	16.4924	$5,937.27	/16 + /20
16777216	/8.0000	256.0000	$92,160.00	/8
16777472	/8.0000	256.0020	$92,160.70	/8 + /24
16846848	/7.9940	256.5307	$92,351.05	/8 + /16 + /20
67108864	/6.0000	512.0000	$184,320.00	/6 (uncapped)

- Note – no longer "rounding up"
  - Minimum fee level needs to be raised
  - e.g. MF = $440

Discount for developing economies?

- Discount for specific economies
  - based on UN or World Bank classification
- Examples
  - Many associations, NGOs, events/conferences
  - Commonly 25-50% discount
  - http://www.w3.org/Consortium/fee-200504

Discount for developing economies?
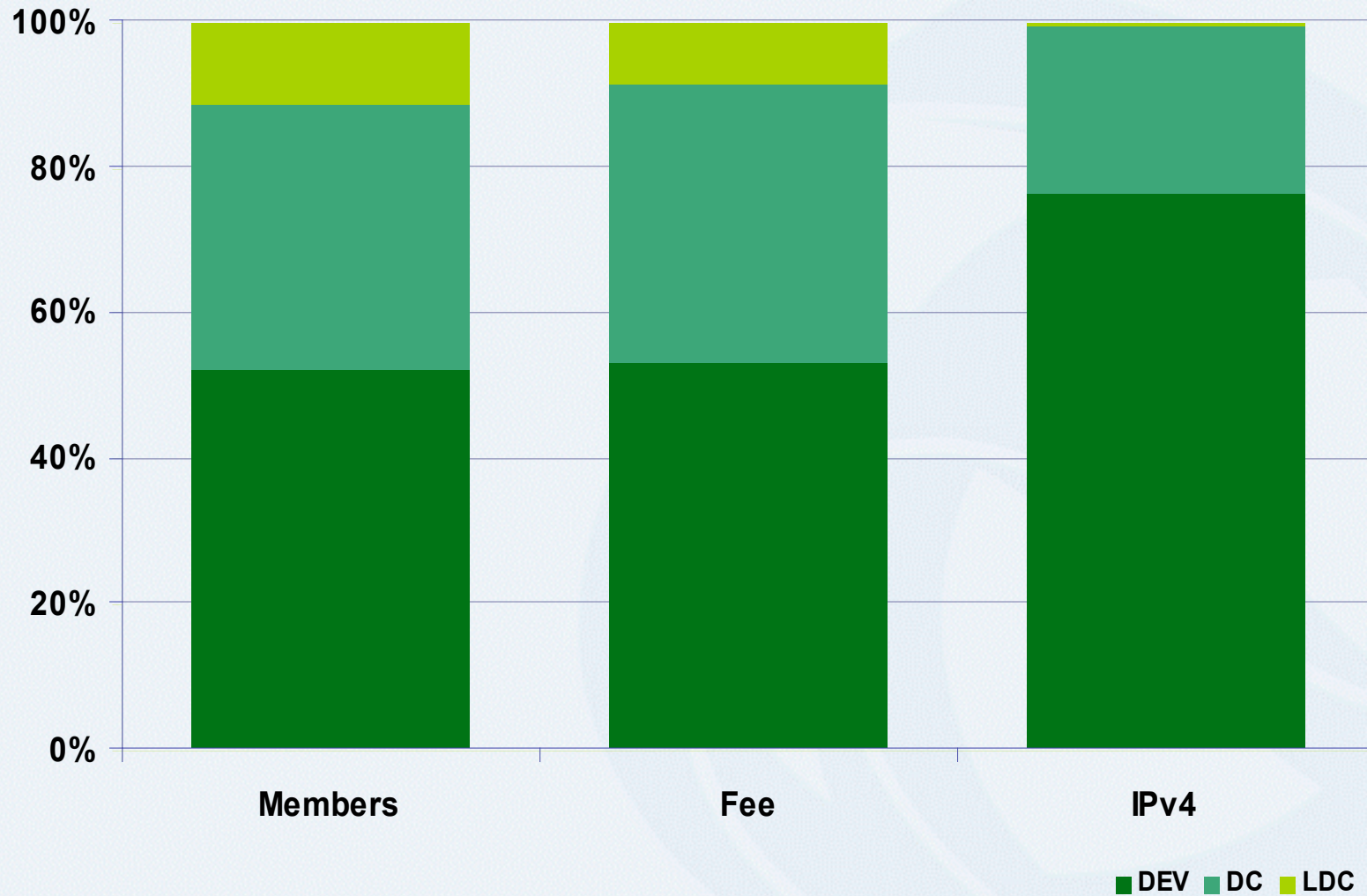
Discount for developing economies?

- Developed economies(8)
  - au,hk,jp,mo,nz,sg,kr,tw
- DC – Developing Economies (35)
  - as,io,bn,cn,cx,cc,ck,fj,pf,tf,gu,in,id,kp,my, mh,mu,fm,mn,nr,nc,nu,nf,mp,pk,pw,pg,ph, pn,lk,th,tk, to,vn,wf
- LDC – Least-Developed economies (14)
  - af,bd,bt,kh,tl,ki,la,mv,mm,np,ws,sb,tv,vu
  - Propose discount for this category only?
  - For example – 25%?

Other questions

- Remove cap on largest fees?
- NIRs
  - Consider as single member?
  - Or, fee structure for NIRs' members?
- Voting entitlement
  - Formula based on annual fee?
  - Voting for NIRs' members?
  - e.g. 1 vote per $360

Discussion…

Thanks