

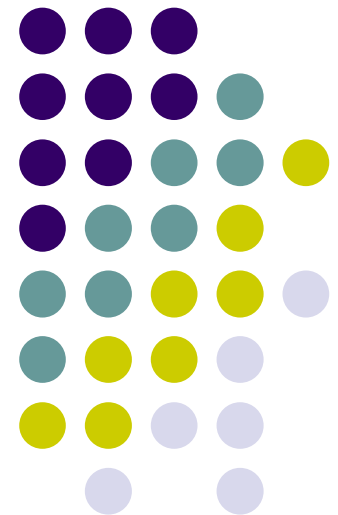
# CERNIC Information Update

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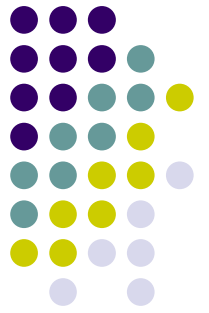
CERNET

ABS2008

Howard Plaza Hotel , Taipei



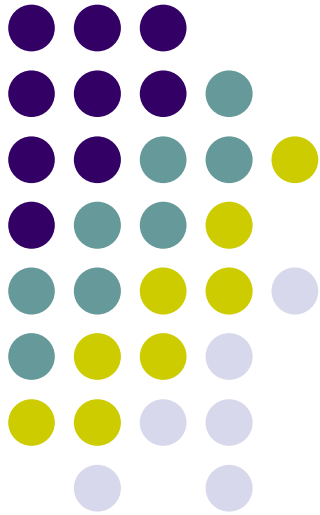
# Agenda

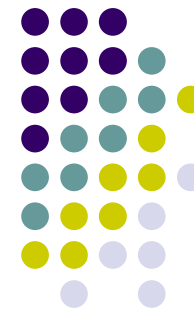


- Resource status
- DNS service to member
  - Service Monitoring
  - Configuration consultant

# Internet Resource

Global  
CERNET  
Campus Network





# Global IPv4 address

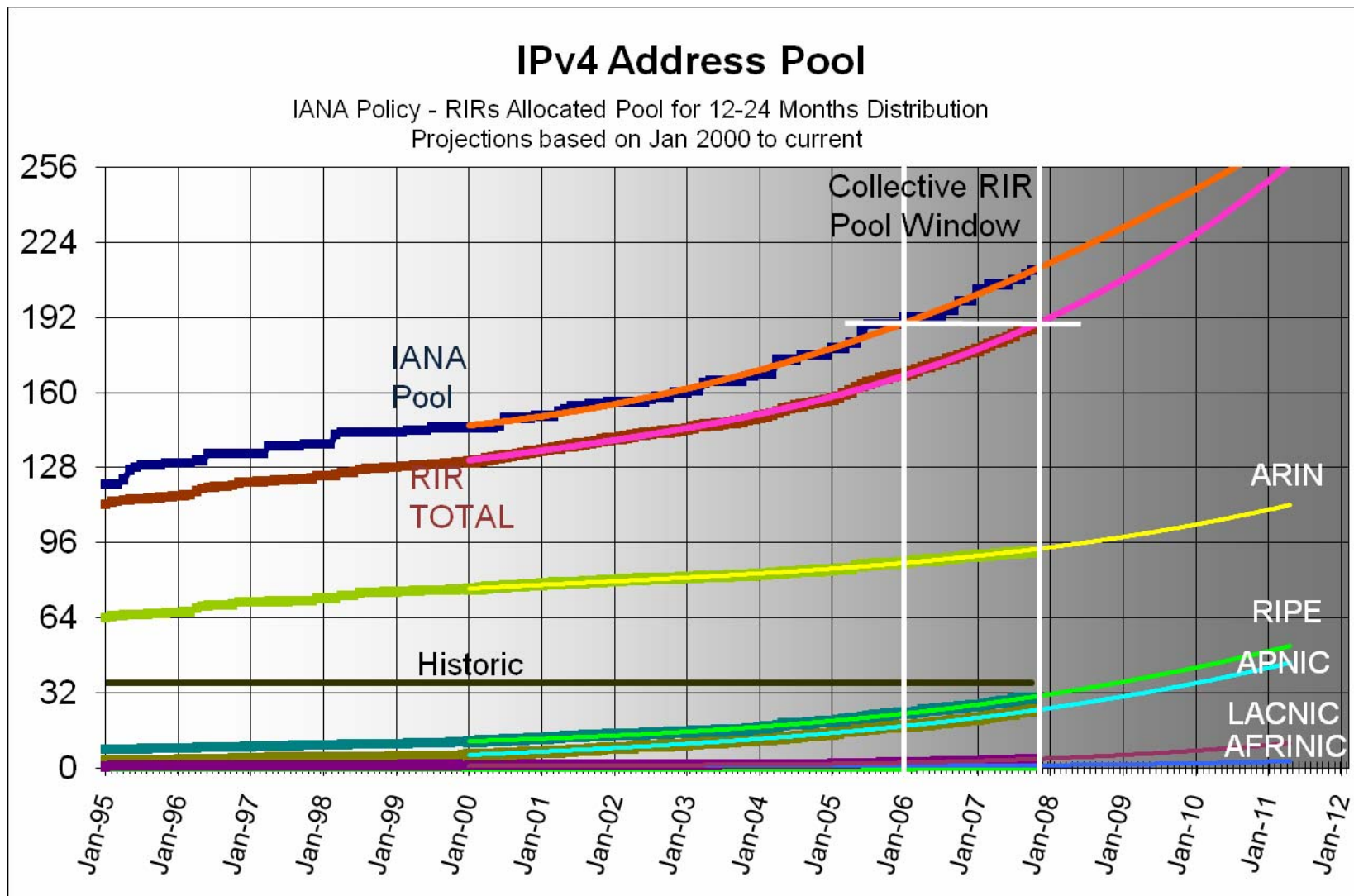
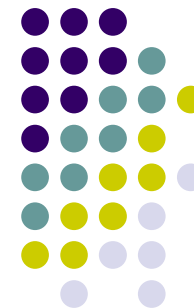
## RIR Allocations: 87\*/8 [1993–2007]

- APNIC 26 29.89% +7
- RIPENCC 26 29.89% +4
- ARIN 27 31.03% +0
- LACNIC 6 6.90% +2
- AfrinIC 2 2.30% +1

IANA

Reserved:

59 \* /8



Update to: [http://www.cisco.com/web/about/ac123/ac147/archived\\_issues/ipj\\_8-3/ipj\\_8-3.pdf](http://www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_8-3/ipj_8-3.pdf)

Exhaustion of the central IANA pool - orange

Exhaustion of the collective RIR pools - magenta

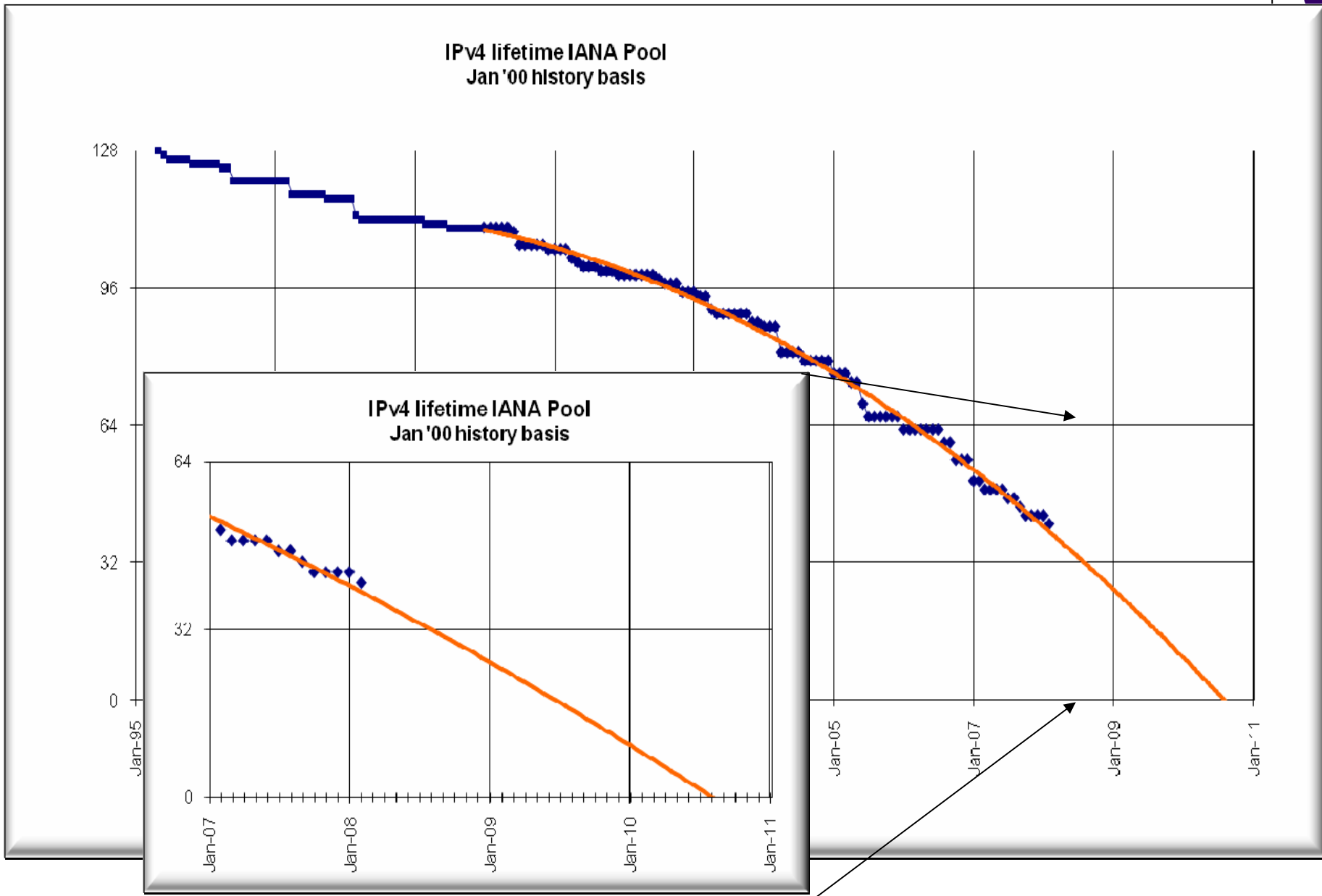
Relative distribution rates between the RIRs

Time depth of collective RIR pools on pub date - white

Time depth between exhaustion events - diff between orange & magenta

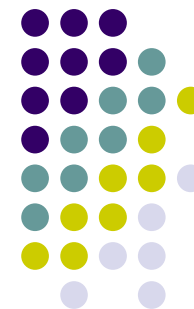
By - Tony Hain

Asia Broadband Summit 2008



Update to: [http://www.cisco.com/web/about/ac123/ac147/archived\\_issues/ipj\\_8-3/ipj\\_8-3.pdf](http://www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_8-3/ipj_8-3.pdf)

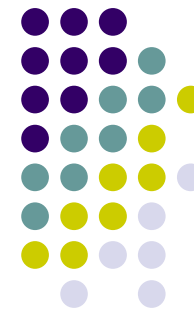
BY Tony Hain, Cisco



# Global IPv4 assignment

By end of Oct. 2007, 2549119180 has been assigned.

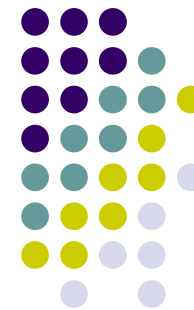
Region/Country	IP address	Population	Net user	%	Average
US	1402523136	301967681	210575287	69.7%	6.7
JP	140791040	128646345	87540000	68.0%	1.6
CN	132505600	1317431495	162000000	12.3%	0.8
EU	120310236	/	/	/	
GB	83220602	60363602	37600000	62.3%	2.2
CA	73735680	32440970	22000000	67.8%	3.4
DE	72375984	82509367	50426117	61.1%	1.4
FR	67811872	61350009	32925953	53.7%	2.0
KR	58651136	51300989	34120000	66.5%	1.7
AU	32782848	20984595	15085600	71.9%	2.2



# IPv4 address allocation (\* /16)

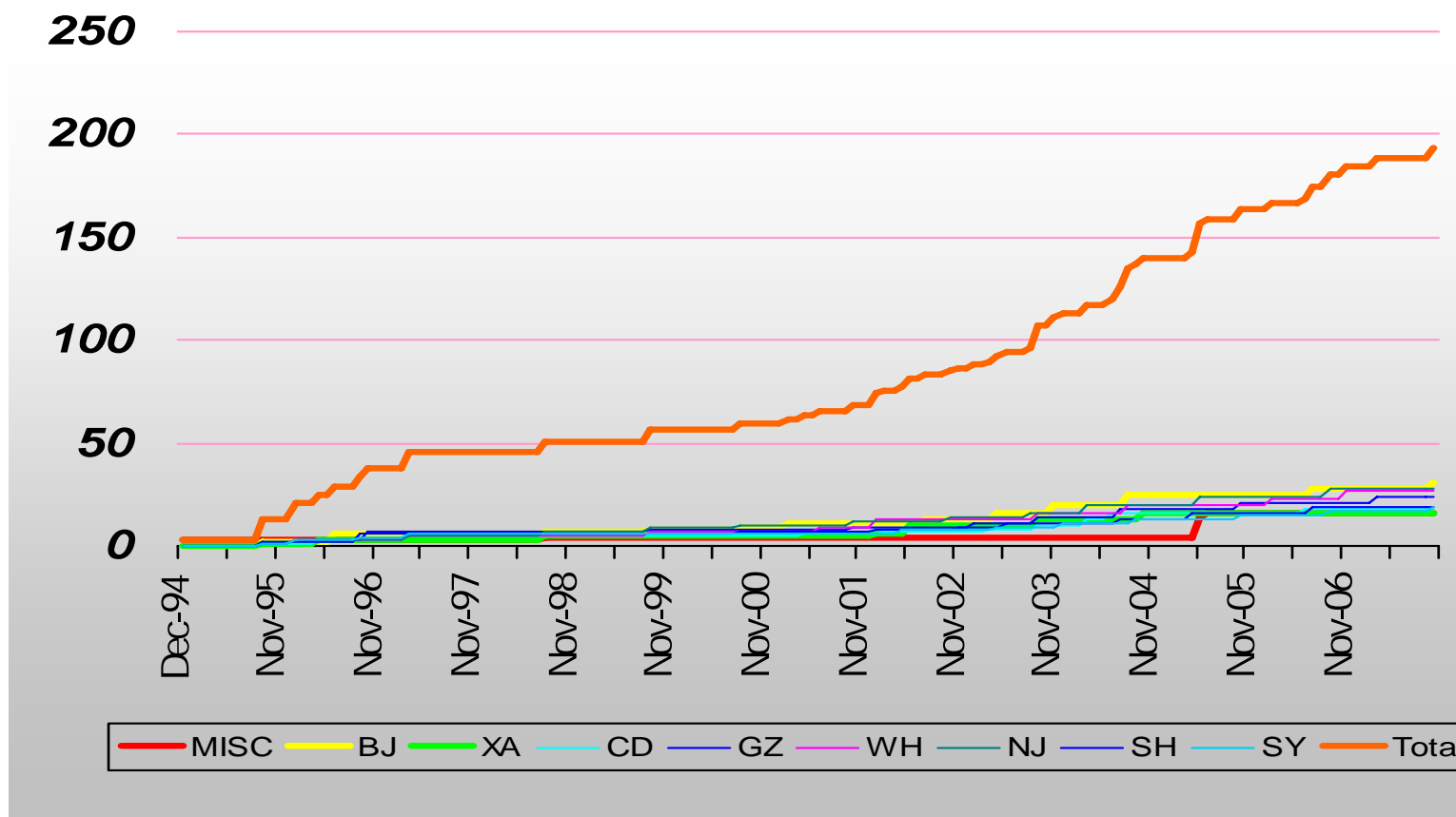
IPv4	0611	0612	0701	0702	0703	0704	0705	0706	0707	0708	0709	0710	Total
CN	113	11	38	52	61	45	85	29	114	31	32	40	650
US	12	26	38	8	13	29	58	31	30	48	8	7	306
FR	17	0	0	4	65	0	16	0	81	0	1	40	226
DE	35	2	34	8	5	3	0	65	10	1	1	43	205
KR	35	1	20	13	16	2	12	1	0	36	4	9	151
JP	12	9	10	13	2	7	15	2	4	27	10	8	119
IN	1	16	0	5	0	0	6	0	4	66	3	1	104
GB	1	1	1	1	4	2	9	64	2	1	1	9	96
IT	0	2	1	68	5	0	1	1	0	0	0	1	80
MX	16	0	0	0	0	0	0	0	48	0	0	0	64

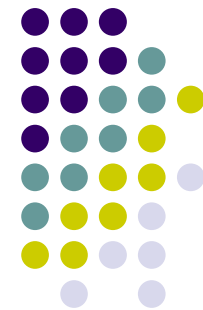




# CERNET IPv4 address (1994-2007)

- By end of Oct. 2007, 12,716,544, ~194B

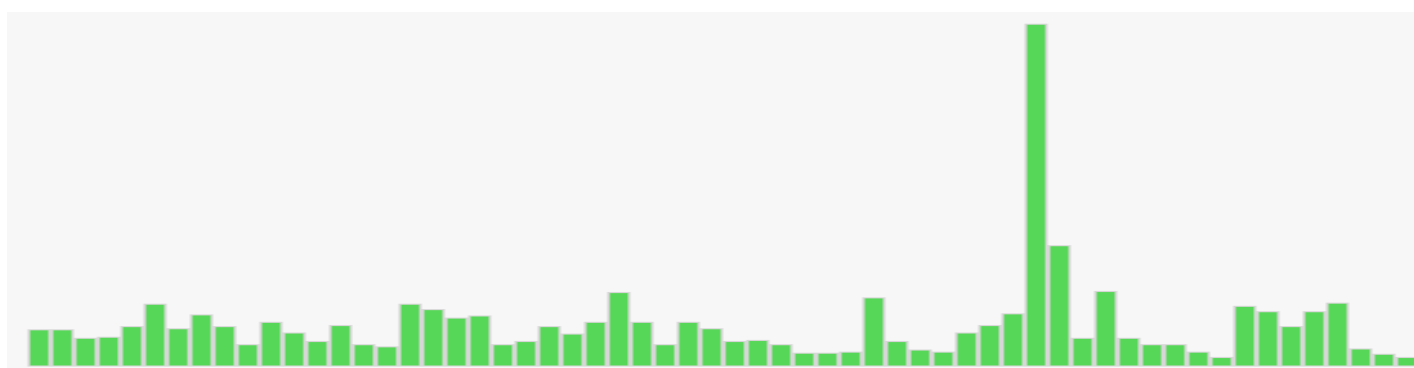




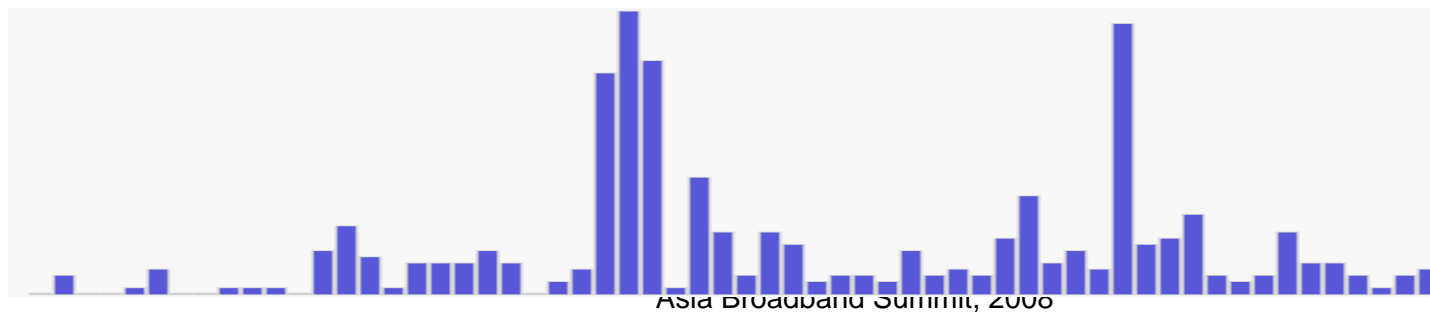
# CERNET stats



IPv4 \*/24  
[64 - 1491]

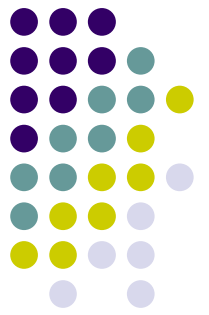


EDU.CN  
[5 - 232]



IPv6 \*/32  
[0 - 46]

Asia Development Summit, 2000

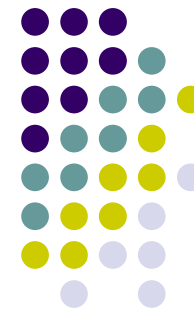


# IPv6 application and assignment Globally

By end of Oct. 2007:

57085 (/32) IPv6 address has been assigned  
2052 Applications.

- APNIC 513 allocations
- RIPE NCC 926 allocations
- ARIN 479 allocations
- LACNIC 90 allocations
- AfrINIC 44 allocations



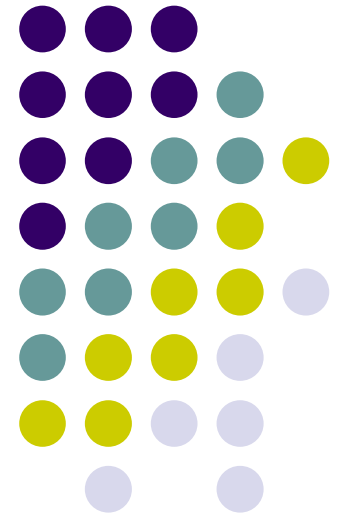
# Who to apply for IPv6

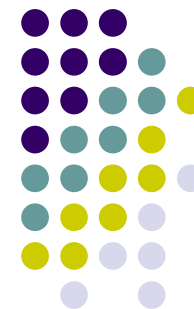
By end of Oct.2007, stats on applicants

1.	DE	9576	142	11.	NL	563	73
2.	JP	8265	202	12.	US	313	426
3.	FR	8230	54	13.	NO	270	20
4.	AU	8205	31	14.	CH	64	40
5.	EU	6152	36	15.	CA	34	45
6.	KR	5178	84	16.	AR	33	12
7.	IT	4129	49	17.	CN	29	28
8.	TW	2307	34	18.	AT	26	34
9.	PL	2086	32	19.	SE	24	42
10.	GB	1142	119	20.	ES	19	25

# DNS service

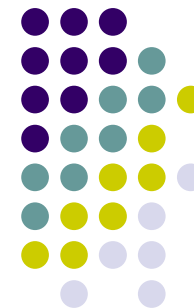
Service monitoring  
Security monitoring  
Configuration



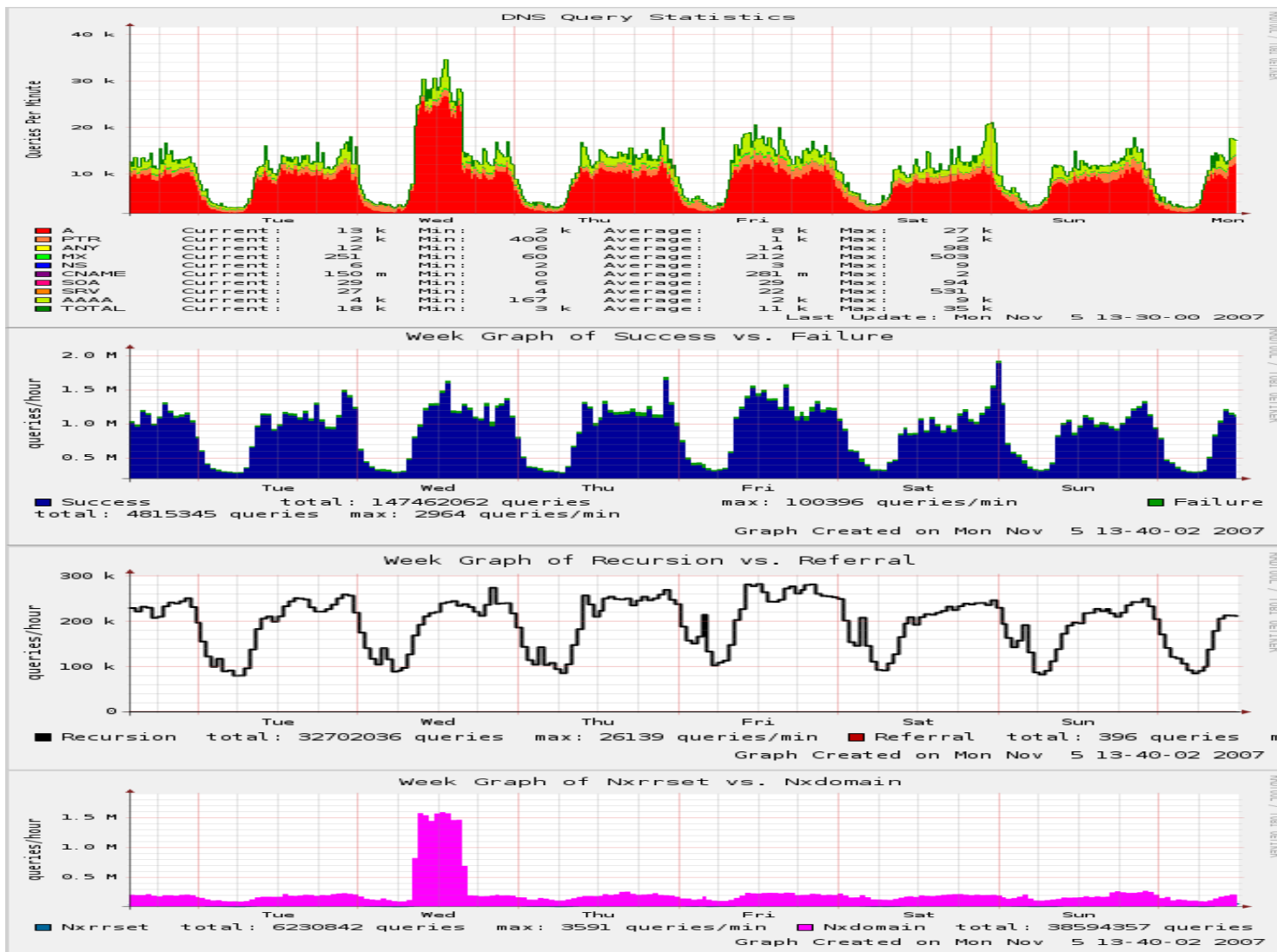


# DNS resolution monitoring

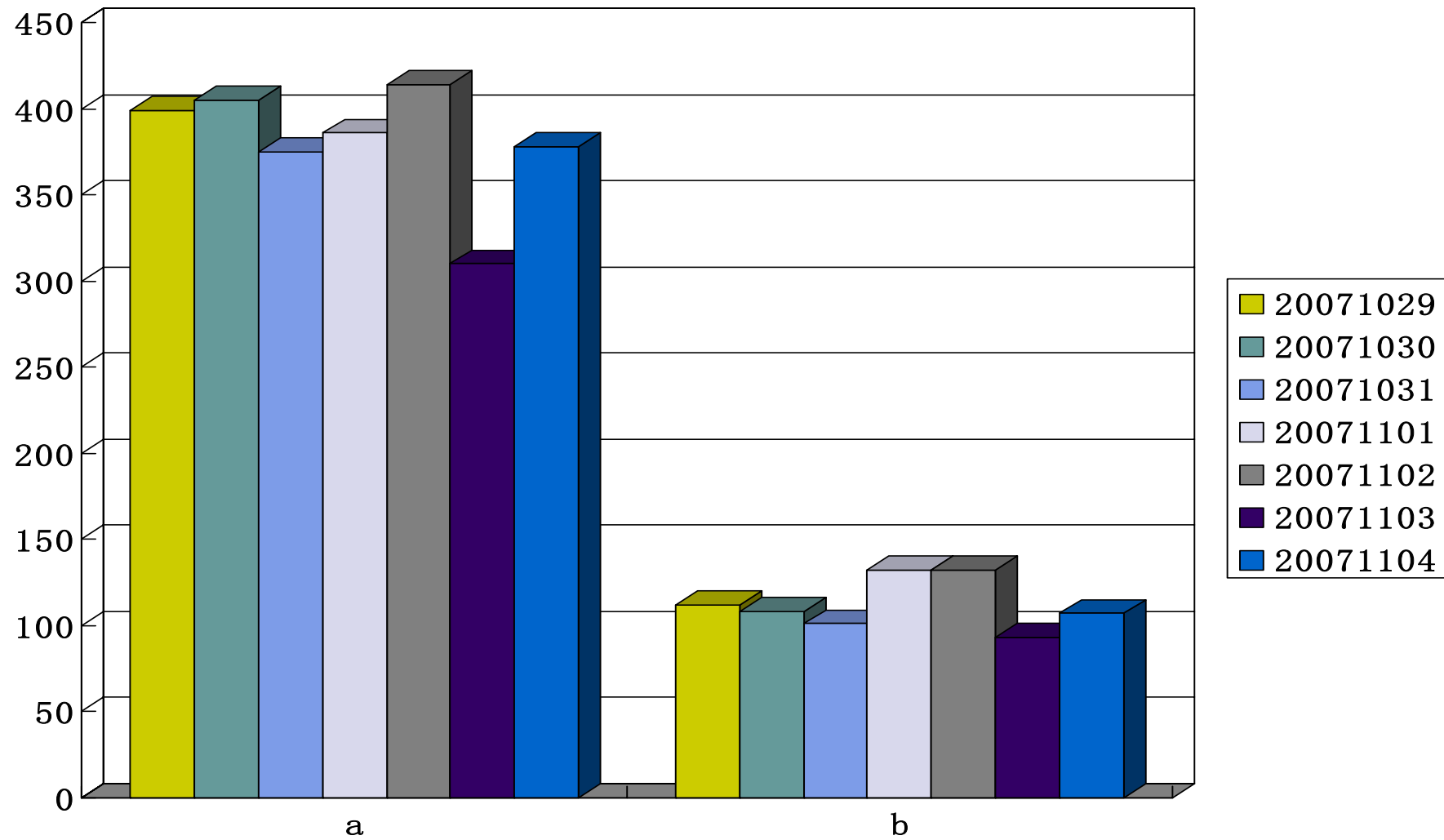
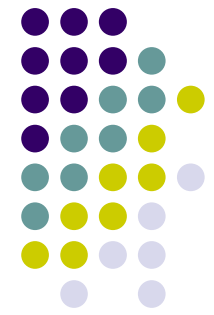
1	Info	<a href="#">10.in-addr.arpa+as112rs</a>	202.38.119.2	named-status= 1	6/14 11:40
2	Info	<a href="#">edu.cn+cernet2-dns1</a>	202.38.109.8	named-status= 1	6/14 11:40
3	Info	<a href="#">edu.cn+cernet2-dns2</a>	202.38.120.242	named-status= 1	6/14 11:40
4	Info	<a href="#">com.cn+cernic-cns</a>	202.112.0.24	named-status= 1	6/14 11:40
5	Info	<a href="#">org.cn+cernic-cns</a>	202.112.0.24	named-status= 1	6/14 11:40
6	Info	<a href="#">edu.cn+cernic-dns</a>	202.112.0.35	named-status= 1	6/14 11:40
7	Info	<a href="#">edu.cn+cernic-dns2</a>	202.112.0.13	named-status= 1	6/14 11:40
8	Info	<a href="#">edu.cn+cernic-dnsa</a>	202.112.0.53	named-status= 1	6/14 11:40
9	Info	<a href="#">edu.cn+cernic-dnsb</a>	202.112.0.23	named-status= 1	6/14 11:40
10	Info	<a href="#">cn+cernic-ns</a>	202.112.0.44	named-status= 1	6/14 11:40
11	Info	<a href="#">edu.cn+cernic-ns2</a>	202.112.0.33	named-status= 1	6/14 11:40
12	Info	<a href="#">edu.cn+cernic-rootbj2</a>	219.243.224.5	named-status= 1	6/14 11:40
13	Info	<a href="#">.+cernic-rootbj2</a>	219.243.224.5	named-status= 1	6/14 11:40
14	Info	<a href="#">edu.cn+cernic-rootbjf</a>	219.243.224.1	named-status= 1	6/14 11:40
15	Info	<a href="#">.+cernic-rootbjf</a>	219.243.224.1	named-status= 1	6/14 11:40
16	Info	<a href="#">edu.cn+cernic-rootgz3</a>	219.243.239.5	named-status= 1	6/14 11:40
17	Info	<a href="#">.+cernic-rootgz3</a>	219.243.239.5	named-status= 1	6/14 11:40
18	Info	<a href="#">.+cernic-rootgzc</a>	219.243.239.1	named-status= 1	6/14 11:40
19	Info	<a href="#">edu.cn+cernic-rootgzc</a>	219.243.239.1	named-status= 1	6/14 11:40
20	Info	<a href="#">edu.cn+cernic-rootsh4</a>	219.243.249.5	named-status= 1	6/14 11:40
21	Info	<a href="#">.+cernic-rootsh4</a>	219.243.249.5	named-status= 1	6/14 11:40
22	Info	<a href="#">edu.cn+cernic-rootshd</a>	219.243.249.1	named-status= 1	6/14 11:40
23	Info	<a href="#">.+cernic-rootshd</a>	219.243.249.1	named-status= 1	6/14 11:40
24	Info	<a href="#">edu.hk+cernic-sns</a>	202.112.0.34	named-status= 1	6/14 11:40
25	Info	<a href="#">com.hk+cernic-sns</a>	202.112.0.34	named-status= 1	6/14 11:40
26	Info	<a href="#">cn+cnnic-ns</a>	159.226.1.1	named-status= 1	6/14 11:40
27	Info	<a href="#">com.cn+cnnic-sns1</a>	159.226.1.3	named-status= 1	6/14 11:40
28	Info	<a href="#">edu.cn+cuhk-ns2</a>	137.189.6.21	named-status= 1	6/14 11:40
29	Info	<a href="#">tsinghua.edu.cn+cuhk-ns2</a>	137.189.6.21	named-status= 1	6/14 11:40
30	Info	<a href="#">tsinghua.edu.cn+tsinghua-dns1</a>	166.111.8.30	named-status= 1	6/14 11:40
31	Info	<a href="#">tsinghua.edu.cn+tsinghua-dns2</a>	166.111.8.31	named-status= 1	6/14 11:40



# Campus Network DNS request monitoring

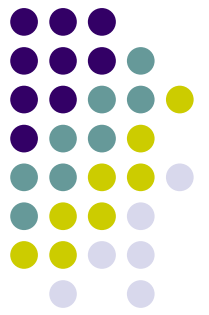


# DNS traffic sample(MB)



Asia Broadband Summit, 2008

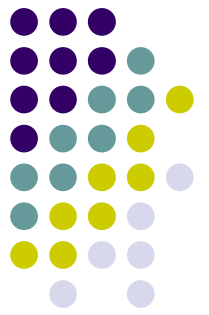




# Configuration Sample

- named.conf

```
acl mynets { 127.0.0.1; 166.111.0.0/16; 59.66.0.0/16; };
options {
    allow-query { mynets; };
    recursion yes;
    allow-recursion { mynets; };
    .....
};
zone "mydom.edu.cn" {
    allow-query { any; };
    .....
};
```



# Summery

- Service enhancement
- DNS monitoring and configuration
- Security concerns

=> Member service and NIC Forum

<http://www.nic.edu.cn/member/>

<http://forum.nic.edu.cn/nicbbs/>