

IPv6 Operation and Transitional Issues

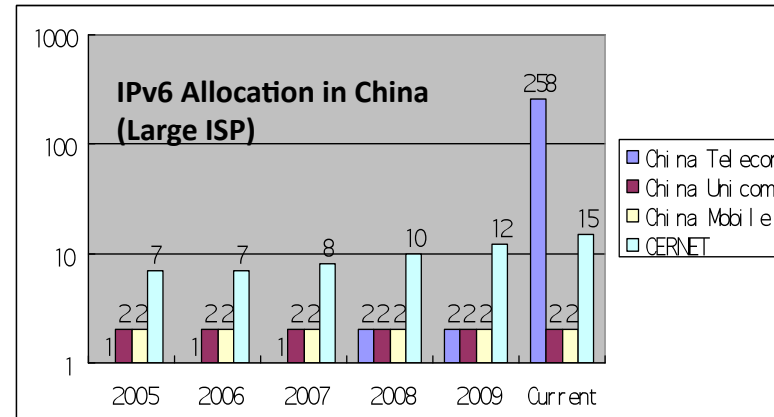
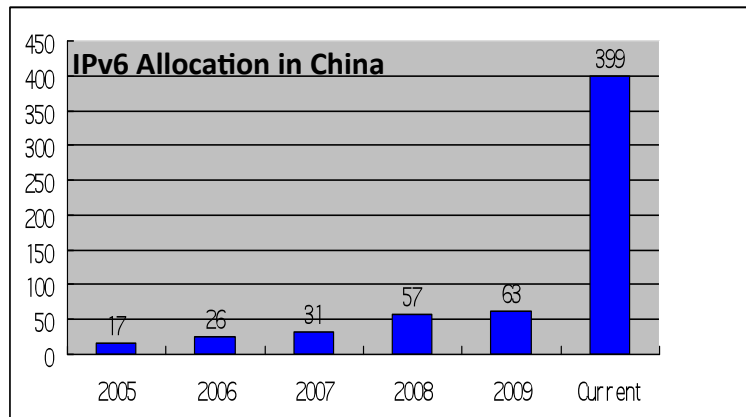
-- From NIR and ccTLD Operator

Dr. Xiaodong Lee
CNNIC

IPv6 Allocation in China and CNNIC

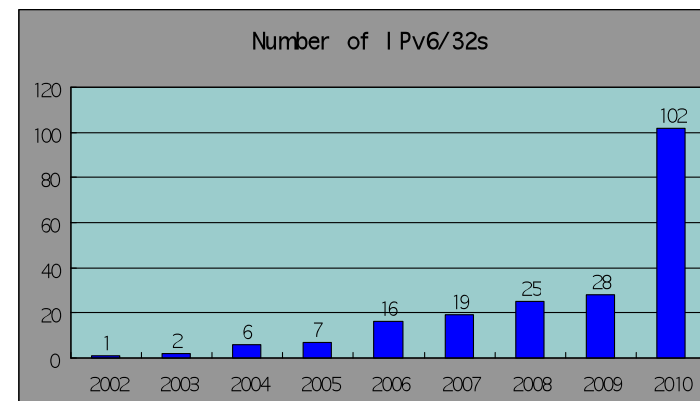
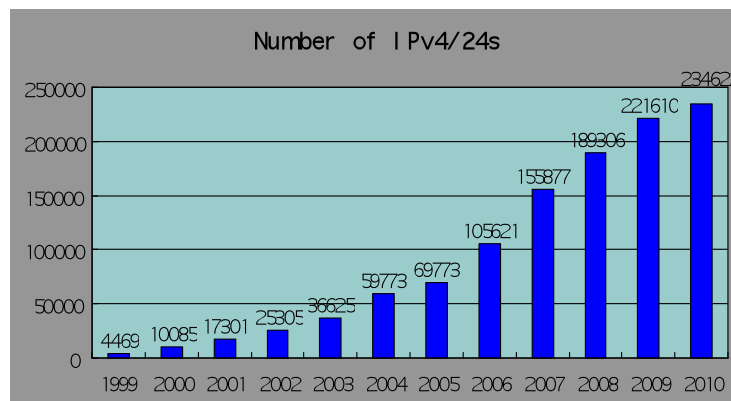
China IPv6 allocation has a Big Increase in 2010

- 399 /32s ranks 13th globally
- China Telecom taking the lead in IPv6 allocation
- CNNIC's effort in IPv6 Promotion



•As the NIR, CNNIC set up IP Address Allocation Confederation in China

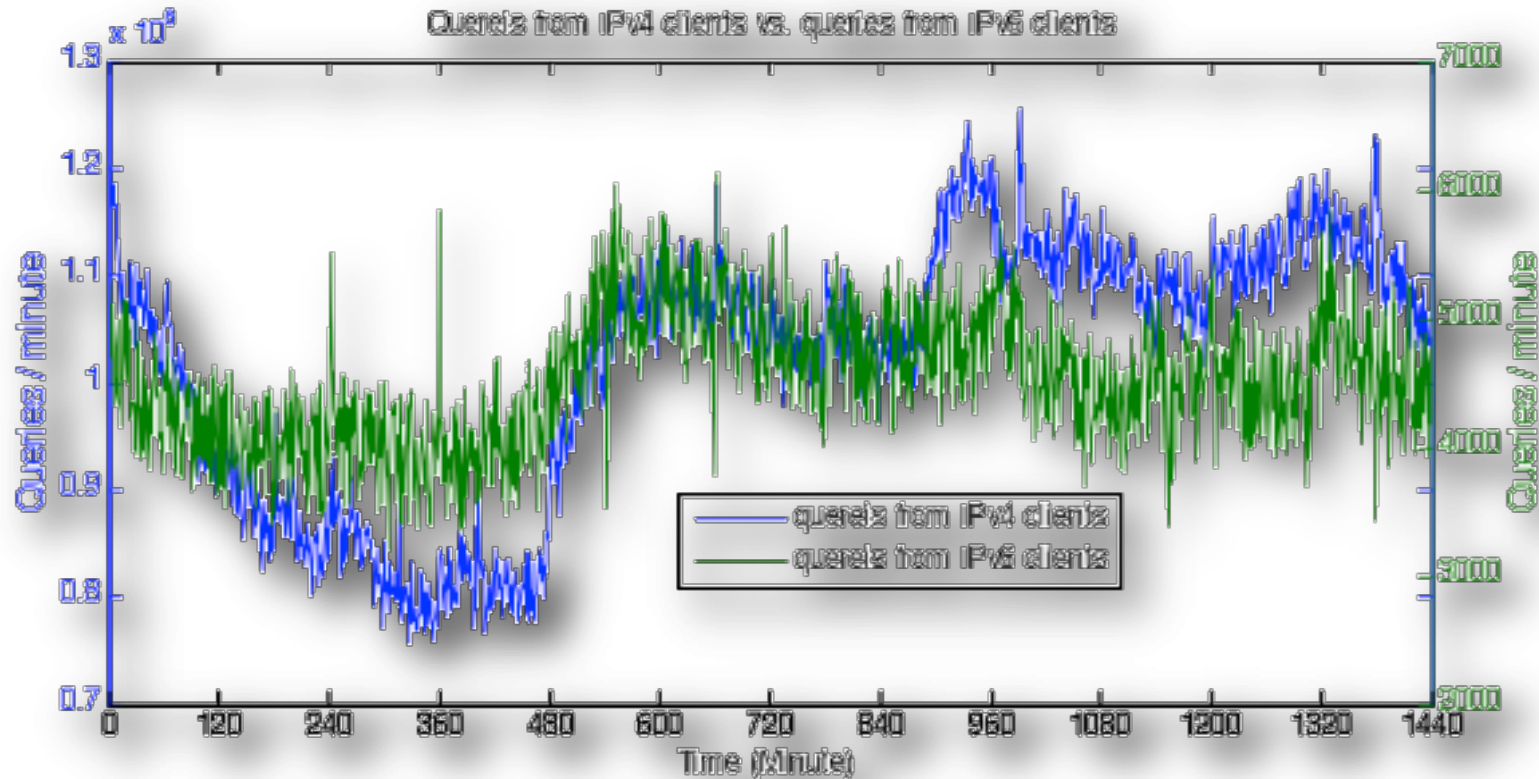
- Confederation Members: 276 (end of July)
- IPv4 Allocation : 234622*/24s (25% in China), IPv6 Allocation : 102*/32s
- ASNs : 274(2-byte), 10(4-byte)



IPv6 Services in CNNIC

- As NIR and ccTLD Operator, CNNIC provides IPv6 services to Internet community.
 - Resolution
 - .CN provides IPv6 resolution on Dec 23, 2004
 - a.dns.cn AAAA IPv6 address = 2001:dc7::1
 - d.dns.cn AAAA IPv6 address = 2001:dc7:1000::1
 - 10 global DNS nodes, 3 of them support dual-stack
 - Beijing, Hong Kong, California
 - Registration
 - Provided in 2008, only one IPv6 domain registered
 - Whois
 - Provided in 2008, less than 20 QPH.
 - Homepage
 - Provided in 2009, less than 50 QPH.

IPv6 DNS Resolution of .CN



- IPv6 queries for .CN is much less than IPv4 queries.
 - 1,627,295,068 IPv4 QPD , 5,686,447 IPv6 queries QPD (286 : 1)
- IPv6 queries curve is relatively flat, indicates that IPv4 queries is more often triggered by human beings.

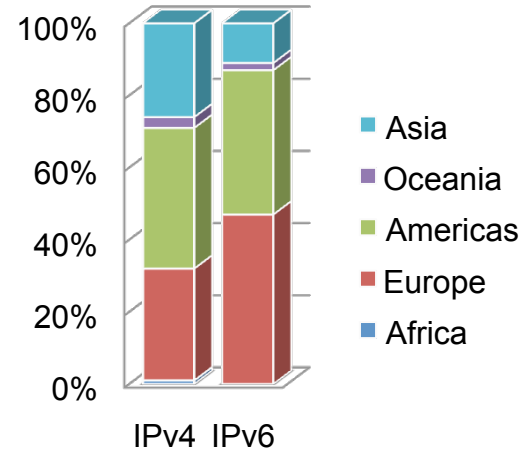
IPv6 Application Observed on .CN DNS

- **Clients**

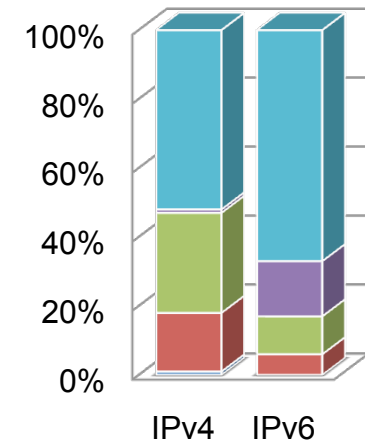
- The portion of IPv6 DNS clients from America and Europe is larger than IPv4 one.
- Compared to IPv4, smaller portion of Asia and Oceania IPv6 clients issues larger portion of queries.

- **Servers**

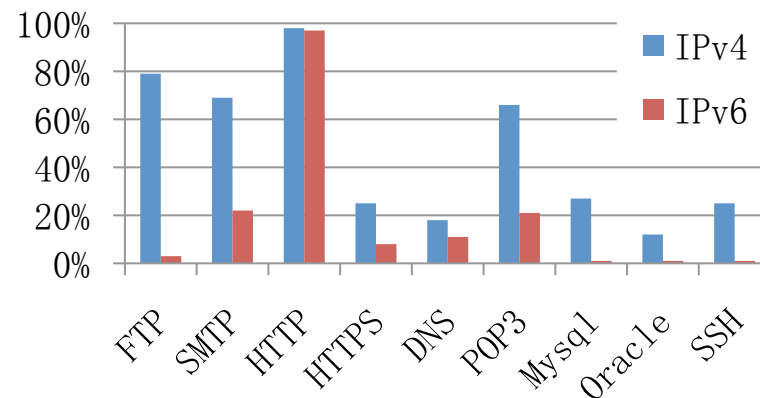
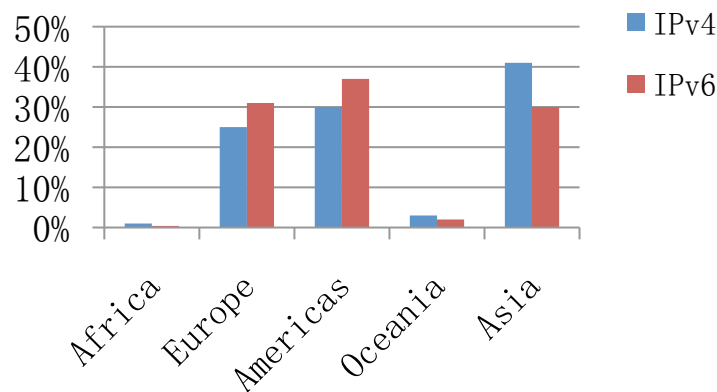
- 17,564,315 IPv4 hosts, 41,377 IPv6 hosts (424:1)
- The Europe and America takes advantage in IPv6 deployment
- The IPv6 Service Types are limited.



Client Population



Client Queries



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