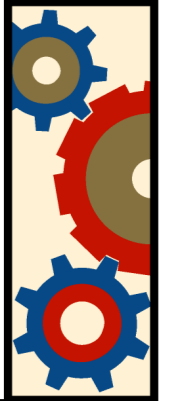




# **BIND, AAAA and the root servers**

**João Damas  
Peter Losher**

# Finally, AAAA records for the root servers

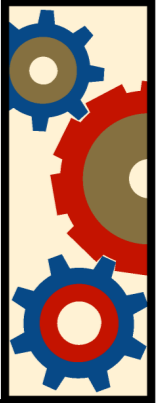


On February 4th, 2008 IANA introduced, for the first time, IPv6 addresses in the root-servers.net zone.

Initially, 6 (out of 13) root servers are providing service over IPv6:

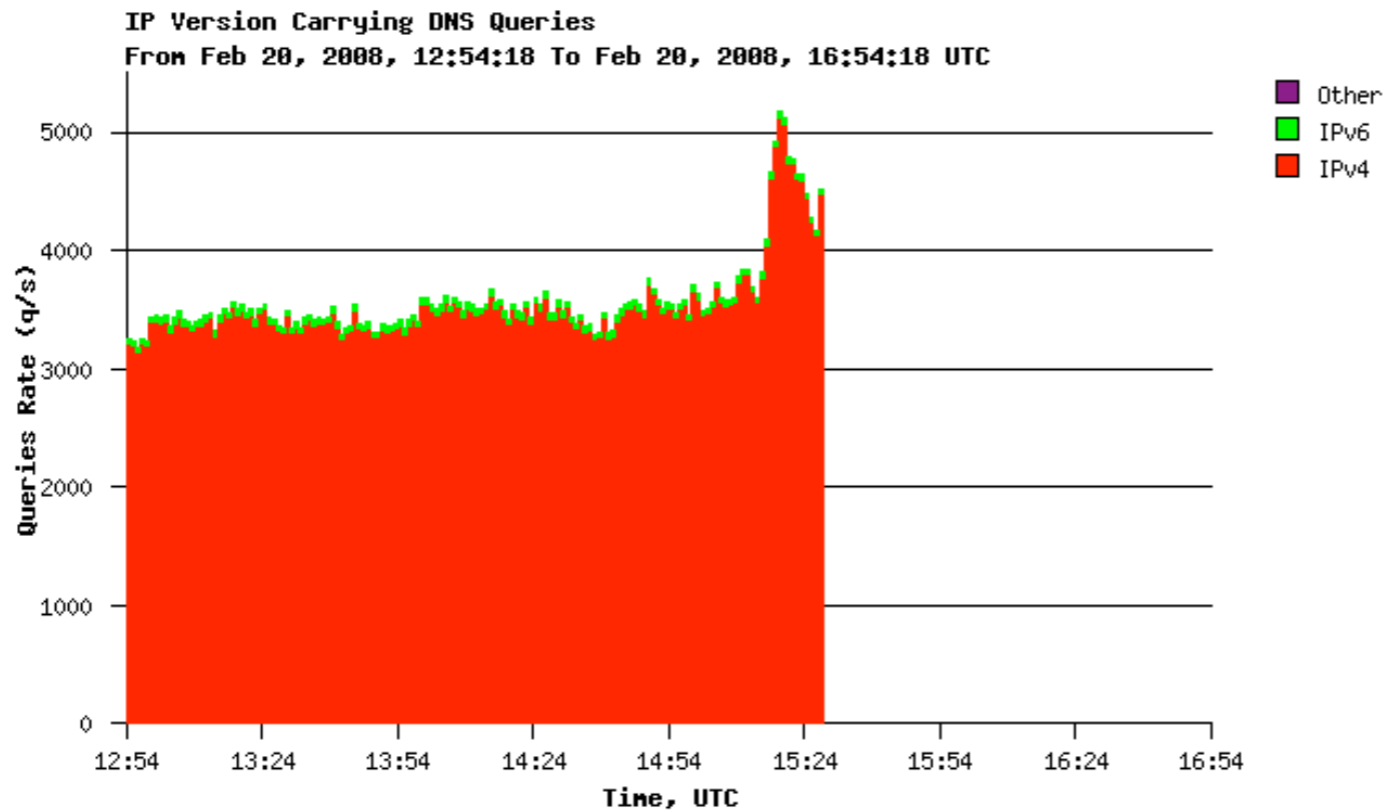
Name	Address	Prefix Length
A.ROOT-SERVERS.NET	2001:503:ba3e::	/48
F.ROOT-SERVERS.NET	2001:500:2f::f	/48, /47
H.ROOT-SERVERS.NET	2001:500:1::803f	/48
J.ROOT-SERVERS.NET	2001:503:c27::2:	/48
K.ROOT-SERVERS.NET	2001:7fd::1	/32
M.ROOT-SERVERS.NET	2001:dc3::35	/32

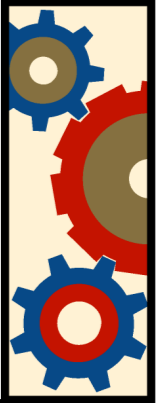




# Observed traffic levels

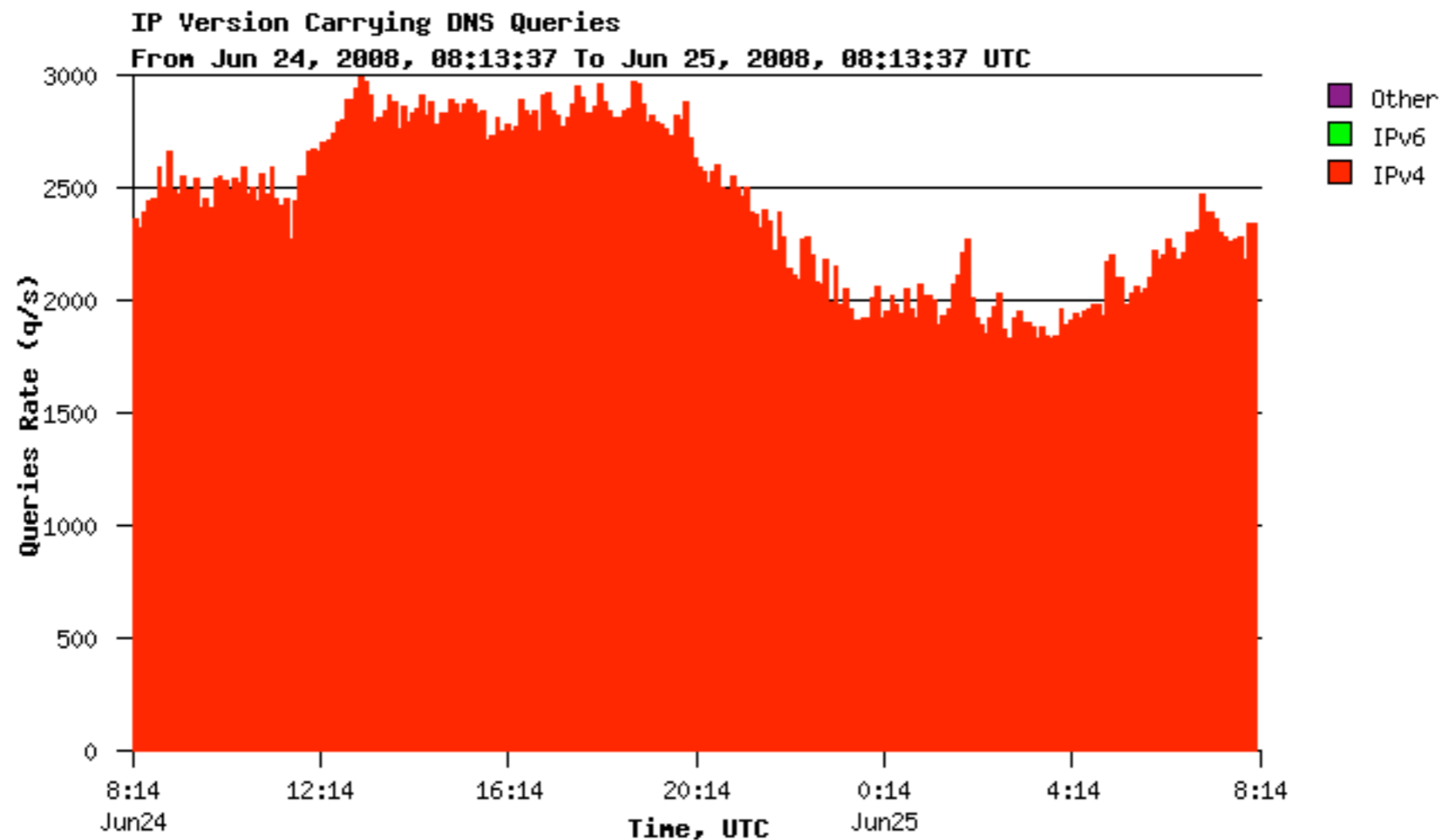
- Not very high, similar on all servers that have reported stats. Around 80-100 qps.

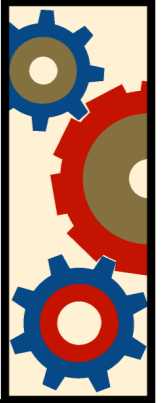




# Observed traffic levels

- Relative number of IPv6 queries has decreased since the first days





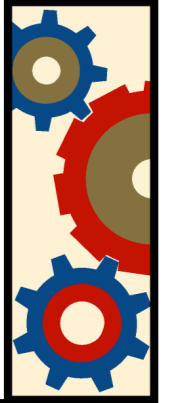
# Observed query levels on F root (ISC)

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- F root is using anycast in IPv6 in exactly the same way as we do for IPv4.
  - hence the two prefix lengths, /47, /48 to prevent black-holing
  - 13 nodes providing IPv6 service currently
- Most traffic is going to the European nodes, in particular Paris and Amsterdam, followed by New York and the global nodes in the Bay Area. Very little in Japan (!?)



# BIND changes



- BIND itself doesn't need any code changes
  - ISC will provide an updated copy of the built-in root server list (named.ca, root.cache,...) shipped with BIND to include the new IPv6 addresses starting with BIND 9.5
  - In the meantime you can fetch a copy from `ftp://rs.internic.net/domain`





**Questions?**