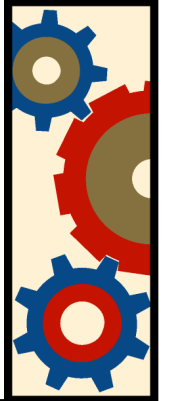# INTERNET SYSTEMS CONSORTIUM

# 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 |
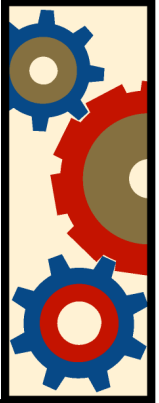
# Observed traffic levels

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



IP Version Carrying DNS Queries
From Feb 20, 2008, 12:54:18 To Feb 20, 2008, 16:54:18 UTC
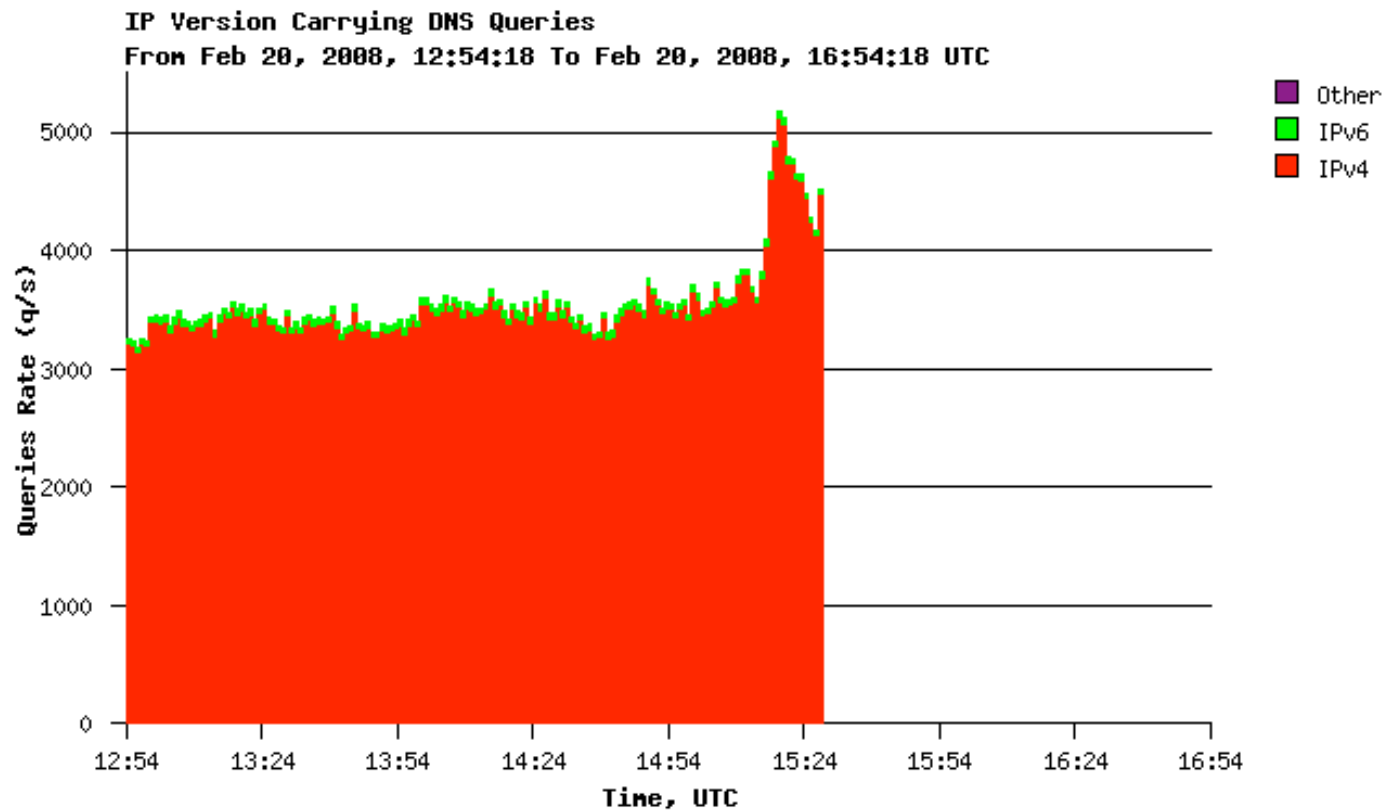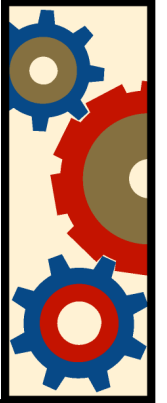
# Observed query levels on F root (ISC)

- 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 (!?)
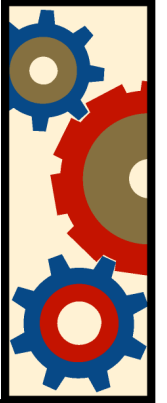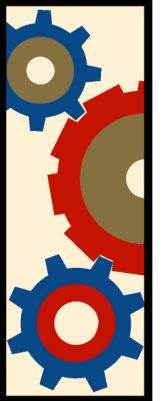
# Peering with F root over IPv6

- We are ready almost everywhere, so let us know and we will peer with you, enable IPv6 or help enable IPv6 at the IXP.

- Have a look at http://www.isc.org/ops/f-root/ for a list of sites. If the site is not yet IPv6 enabled we can work together to bring it up.

# 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

# INTERNET SYSTEMS CONSORTIUM

# Questions?