BIND, AAAA and the root servers

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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:

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Prefix Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.ROOT-SERVERS.NET</td>
<td>2001:503:ba3e::</td>
<td>/48</td>
</tr>
<tr>
<td>F.ROOT-SERVERS.NET</td>
<td>2001:500:2f::f</td>
<td>/48, /47</td>
</tr>
<tr>
<td>H.ROOT-SERVERS.NET</td>
<td>2001:500:1::803f</td>
<td>/48</td>
</tr>
<tr>
<td>K.ROOT-SERVERS.NET</td>
<td>2001:7fd::1</td>
<td>/32</td>
</tr>
<tr>
<td>M.ROOT-SERVERS.NET</td>
<td>2001:dc3::35</td>
<td>/32</td>
</tr>
</tbody>
</table>
Observed traffic levels

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

![Graph showing IP Version Carrying DNS Queries from Feb 29, 2008, 12:54:18 to Feb 29, 2008, 16:54:18 UTC]
Observed traffic levels

- Relative number of IPv6 queries has decreased since the first days
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 (!?)
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?