DNS Monitoring from the RIPE NCC

DNSMON

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What is DNSMON?

- Globally distributed DNS monitoring system
  - Run and maintained by the RIPE NCC
- ~80 nodes, built on RIPE NCC TTM
- Monitors root, and ~30 TLDs and ENUM tier-1
- Around ~250 servers monitored
- Multiple viewpoints
DNSMON website

http://dnsmon.ripe.net
TTM - Test Traffic Measurements

- One way measurements of delay/loss/jitter
- Uses GPS for timing
- All data freely available

http://www.ripe.net/ttm
Probe locations
Probe arrangement
Monitoring methodology
Per probe view
Methodology
Methodology
DNS server view - .VA
Overall domain view
Methodology
Anycast monitoring
Anycast servers
Total number of anycast servers seen

167 sites
383 servers detected
Anycast implementations

<table>
<thead>
<tr>
<th>root</th>
<th>Sites</th>
<th>Servers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>&gt; 30</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>46</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>H</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>I</td>
<td>31</td>
<td>1-2</td>
</tr>
<tr>
<td>J</td>
<td>52</td>
<td>&gt; 2</td>
</tr>
<tr>
<td>K</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>L</td>
<td>2</td>
<td>42</td>
</tr>
<tr>
<td>M</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>
Anycast ‘stability’ - k1.amsix

24 Hours

48 Hours

7 Days

14 Days
Summary

• Global distributed DNS monitoring system
  - Many redundant nodes, completely reliable
• Complemented by TTM
  - DNSMON subscribers can use TTM for free
  - Combine for enhanced troubleshooting
• RIPE NCC is independent and unbiased
  - Numbers can be trusted by you and your stakeholders
• Open to all ccTLD operators
  - Three charging bands - 2k, 4k, 6k Euro annually
  - Operated on a cost recovery basis, we’re not for profit
More services...

- NCC operates many other useful services
  - Routing Information Service (RIS)
- Combined toolkit is very powerful
  - Not yet fully aligned
  - ... but we’re working on it
- See more at http://is-portal.ripe.net

- All tools are under active development
  - Feedback always welcomed via dnsmon@ripe.net
Questions?