A quick review of DNSSEC Validation in today's Internet

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What is being measured?

• Clients who will perform DNSSEC validation of a domain name
  – Using RSA/SHA-1 as the crypto algorithm
  – Who will not resolve a badly-signed domain name

• We are NOT measuring:
  – Validating resolvers
  – Signed domains
The Global Validation Picture

http://stats.labs.apnic.net/dnssec
The Global Validation Picture

Google’s PDNS

http://stats.labs.apnic.net/dnssec
The Global Picture

Use of DNSSEC Validation for World (XA)
The Global Picture

Use of DNSSEC Validation for World (XA)
Some have been Validating for many years

Sweden – 80 %

Comcast – 90%

Estonia – 60 %

Romania – 45 %
Recent DNSSEC Validation

DNSSEC Per-Country Deployment for AS28573: CLARO S.A., Brazil (BR)

Claro, BR – 90%

DNSSEC Per-Country Deployment for AS6677: ICENET-AS1 Siminn hf, Iceland (IS)

ICENET, IS – 90%

Use of DNSSEC Validation for Faroe Islands (FO)

Faroe Islands - 90%

Use of DNSSEC Validation for New Zealand (NZ)

New Zealand - 50%
Finland

Use of DNSSEC Validation for Finland (FI)
## Finland - Top 10 ISPs

<table>
<thead>
<tr>
<th>ASN</th>
<th>AS Name</th>
<th>DNSSEC Validates</th>
<th>Uses Google PDNS</th>
<th>Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS16086</td>
<td>DNA DNA Oy</td>
<td>0.86%</td>
<td>1.47%</td>
<td>315,616</td>
</tr>
<tr>
<td>AS719</td>
<td>ELISA-AS Elisa Oy</td>
<td>0.61%</td>
<td>0.59%</td>
<td>271,716</td>
</tr>
<tr>
<td>AS1759</td>
<td>TSF-IP-CORE TeliaSonera Finland Oy</td>
<td>95.40%</td>
<td>3.57%</td>
<td>246,397</td>
</tr>
<tr>
<td>AS790</td>
<td>EUNETFI Elisa Oy</td>
<td>0.12%</td>
<td>0.21%</td>
<td>121,194</td>
</tr>
<tr>
<td>AS15527</td>
<td>ANVIA Anvia Oy</td>
<td>23.06%</td>
<td>23.80%</td>
<td>12,730</td>
</tr>
<tr>
<td>AS1741</td>
<td>FUNETAS CSC - Tieto-tietotekniikan keskus Oy</td>
<td>31.17%</td>
<td>7.32%</td>
<td>8,581</td>
</tr>
<tr>
<td>AS29422</td>
<td>NBLNETWORKS-AS Nebula Oy</td>
<td>86.33%</td>
<td>14.27%</td>
<td>4,967</td>
</tr>
<tr>
<td>AS39599</td>
<td>SSOPT-AS Louna Palvelut Oy</td>
<td>2.98%</td>
<td>4.26%</td>
<td>4,934</td>
</tr>
<tr>
<td>AS24751</td>
<td>MULTIFI-AS Jakobstadsnejdens Telefon Ab</td>
<td>85.11%</td>
<td>23.11%</td>
<td>4,400</td>
</tr>
<tr>
<td>AS3238</td>
<td>ALCOM Alands Datakommunikation Ab</td>
<td>37.23%</td>
<td>59.65%</td>
<td>4,392</td>
</tr>
</tbody>
</table>
• Much of the African continent and parts of Asia still show high DNSSEC validation rates due to their use of Google’s Public DNS service (which currently receives 12% of the Internet’s query load)
• Comcast resolvers are a major validation system in North America and this resolver collection performs the second highest volume of validation
• Recent areas of switching on DNSSEC validation in DNS resolvers are in Iceland, Norway, Brazil, Nepal, New Zealand and Papua New Guinea
But

- Growth of validation deployment has slowed
  - 80% of all current queries request DNSSEC credentials
  - 26% of all current queries perform DNSSEC validation
  - 11% of current queries turn to a non-validating resolver upon SERVFAIL
  - 15% of current queries will perform validation and live with the outcome
Thanks!

DNSSEC Reports: http://stats.labs.apnic.net/dnssec