IPv6 Deployment Overview

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Overview

• Proportion of economies with IPv4 & IPv6 address space
• Proportion of LIRs (ISPs) with IPv6 address space
• Diversity of IPv6 routing for ccTLDs’ nameservers
• IPv6 glue registration
APEC Members with IPv4 & IPv6

IPv4

APEC Members with IPv4 100%

APNIC

APEC Members with IPv6 100%
## RIRs serving APEC Members

<table>
<thead>
<tr>
<th>Country</th>
<th>RIR</th>
<th>Country</th>
<th>RIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU</td>
<td>APNIC</td>
<td>US</td>
<td>ARIN</td>
</tr>
<tr>
<td>BN</td>
<td>APNIC</td>
<td>TW</td>
<td>APNIC</td>
</tr>
<tr>
<td>CA</td>
<td>ARIN</td>
<td>HK</td>
<td>APNIC</td>
</tr>
<tr>
<td>ID</td>
<td>APNIC</td>
<td>CN</td>
<td>APNIC</td>
</tr>
<tr>
<td>JP</td>
<td>APNIC</td>
<td>MX</td>
<td>LACNIC</td>
</tr>
<tr>
<td>KR</td>
<td>APNIC</td>
<td>PG</td>
<td>APNIC</td>
</tr>
<tr>
<td>MY</td>
<td>APNIC</td>
<td>CL</td>
<td>LACNIC</td>
</tr>
<tr>
<td>NZ</td>
<td>APNIC</td>
<td>PE</td>
<td>LACNIC</td>
</tr>
<tr>
<td>PH</td>
<td>APNIC</td>
<td>RU</td>
<td>RIPE NCC</td>
</tr>
<tr>
<td>SG</td>
<td>APNIC</td>
<td>VN</td>
<td>APNIC</td>
</tr>
<tr>
<td>TH</td>
<td>APNIC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Percentage of LIRs with IPv6**

On 2008-10-12, 2122 LIR blocks (2000::/4) allocated by RIRs:

<table>
<thead>
<tr>
<th>RIR</th>
<th>alloc.</th>
<th>members</th>
<th>perc.</th>
<th>on 2008-05-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARIN</td>
<td>487</td>
<td>~ 3200</td>
<td>15.2%</td>
<td>408 (+19%)</td>
</tr>
<tr>
<td>APNIC</td>
<td>430</td>
<td>~ 2863</td>
<td>15.0%</td>
<td>366 (+17%)</td>
</tr>
<tr>
<td>RIPE</td>
<td>1052</td>
<td>~ 5920</td>
<td>17.7%</td>
<td>878 (+20%)</td>
</tr>
<tr>
<td>LACNIC</td>
<td>101</td>
<td>~ 1006</td>
<td>10.1%</td>
<td>95 (+6%)</td>
</tr>
<tr>
<td>AfriNIC</td>
<td>52</td>
<td>~ 347</td>
<td>15.0%</td>
<td>43 (+21%)</td>
</tr>
</tbody>
</table>

- note: not counting /48 microallocs and /35⇒/32 extentions
- actual percentage with IPv6 similar among regions
- 949 (R56: 799) allocations visible in routing table (only 45%)
IPv6 Network Diversity in ccTLDs

None  1 Link  2 Links  3+ Links
How to encourage support for IPv6

• Difficult to deploy without paying customers. Demand can be generated.
  • Australia, looking at procurement policy in 2009
  • US DoD requires IPv6 support from network equipment suppliers
  • EU Communication suggests members make sure contract renewals include IPv6 support
Glue Registration in DNS

- ORG
- EXAMPLE
- NS
Glue Registration in DNS

ORG

EXAMPLE

NS 192.0.2.53
    2001:DB8::53
IPv6 glue registration in DNS

• Needs support from domain registries
• Needs support from domain registrars
• Needs support from re-sellers
• Not all registrars support IPv6 glue registration
• ICANN regularly reaches out to registrars on this issue
IPv6 support from TLD registries

“ICANN wants all registry operators to support IPv6, and is planning (subject to community and Board review) to require operators of new gTLD registries to accept IPv6 addresses as glue records and to offer IPv6 transport for its name servers, Whois and SRS”
IPv6 Content at ICANN in Seoul

- IPv6 deployment discussions
- Registries, registrars and others
References

• RIR daily statistical files
  • ftp://ftp.lacnic.net/pub/stats/
  • ftp://ftp.apnic.net/pub/stats/

• Gert Doering’s IPv6 routing table analysis, RIPE 58
  • http://www.space.net/~gert/RIPE/R58-v6-table/

• Sixxs Registrar IPv6 Glue Support Page
  • http://www.sixxs.net/faq/dns/?faq=ipv6glue
Thank you