APNIC Region Root Server report

DNS Operations Sig

APNIC 18

2 September 2004, Fiji

APNIC's Role in root services

- Facilitate improved root services in AP region
- Provide coordination point in AP region
  - Coordinate with root operators (F,K,I,M)
  - Host discussions during APNIC meetings
- Fund and/or coordinate sponsorship
  - Hardware, hosting, maintenance costs
  - According to individual circumstances

APNIC's Role in root services

- Undertake formal agreements
  - MoUs with root operators (F and I so far)
  - MoUs with hosts
  - APNIC has long standing relationship with RIPE NCC (K)
- No "root operator" responsibility

Summary of Activities

- 5 nodes deployed in 2003
  - HK, KR, CN, TW, SG (F-Root)
- 5 nodes deployed so far in 2004
  - AU (F), HK (I), TH (I), ID (F), MY (I)
  - 2 K-Root deployments expected in 2004
  - Another node in ID (I) expected shortly
- Discussions proceeding
  - Additional countries/regions
  - Increased diversity to complement existing deployments

APNIC assisted root DNS servers

Where is my root coming from?

- For F:
  - Find current nodes at http://f.root-servers.org
  - `dig @f.root-servers.net. HOSTNAME.BIND chaos txt`
  - Should show sensible path to local node
    - In NZ should show path to F-root in Auckland
    - In KR should show path to F-root in Seoul
- For any root:
  - `traceroute i.root-servers.net`
- APNIC encourages participation in BGP peering with critical infrastructure

Example

```
$ dig +short @f.root-servers.net. hostname.bind CHAOS TXT
“sfo2b.f.root-servers.org”
$
```

- Proposal in IETF dnsops WG to implement a more general mechanism, using new elements in query/response cycle – information will be available directly in normal queries.

http://www.iet.org/internet-drafts/draft-ietf-dnsop-serverid-02.txt

Typical Benefits (ID)

See http://lapi.itb.ac.id/~dikshie/f-root/index.html

Measurement point	f-root	f-root	response	response
	before	after	before	after
indo.net.id (Jakarta)	San Jose	Jakarta	>600 ms	2 ms
jalawave.net (Bandung)	San Francisco	Jakarta	440 ms	20 ms
kj.co.id (Jakarta)	Hongkong	Jakarta	540 ms	4 ms
quasar.net.id (Jakarta)	Palo Alto	Jakarta	700 ms	14 ms
vip.net.id (Jakarta)	San Francisco	Jakarta	200 ms	2 ms
lapi.itb.ac.id (Bandung)	Los Angeles	Jakarta	1000 ms	30 ms

Query Load

- From OARC graphs of F-Root service
  - OARC membership required for online access,
    - see http://oarc.isc.org

Location	avg	peak
	Pkt/sec	Pkt/sec
Brisbane	150	300
Jakarta	80	150
Hong Kong	400	700
Beijing	400	700
Seoul	300	500
Singapore	75	400
Taipei	300	700

Questions

Thank You !