Yeti Naming Scheme

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Yeti DNS Virtual Meeting #2 on 2016-03-24
Yeti Name Scheme and Glue issue

**Yeti Root server name**

- bii.dns-lab.net
- yeti-ns.wide.ad.jp
- yeti-ns.tisf.net
- yeti-ns.as59715.net
- dahu1.yeti.eu.org
- ns-yeti.bondis.org
- yeti-ns.ix.ru
- yeti.bofh.priv.at.
- ns2.ipv6.ernet.in
- yeti-dns01.dnsworkshop.org
- yeti-ns.conit.co
- dahu2.yeti.eu.org
- yeti.aquaray.com
- yeti-ns.switch.ch
- yeti-ns.lab.nic.cl

**Findings & bugs**

- **Root Glue issues (Resolved!)**
  - Current root servers answer for the `root-servers.net` zone, but Yeti root server does not (independent domain). Without this setup, BIND 9 does not include glue in answers to priming queries.
  - Resolved! With a patch for BIND9

- **Related issues**
  - .arpa. zone issue
  - Unused Glue issue

2015.10.31 Yeti Workshop, Yokohama
Some related documents

Initializing a DNS Resolver with Priming Queries (draft-ietf-dnsop-resolver-priming-07)

- Renumbering issue
- More root server possibility
- DNSSEC and naming scheme

“At the time this document is being published, there is little use to performing DNSSEC validation on the priming query because the "root-servers.net" zone is not signed, and so a man-in-the-middle attack on the priming query can result in malicious data in the responses. However, if the "root-servers.net" zone is later signed, or if the root server operators choose a different zone to identify themselves and that zone is signed, having DNSSEC validation for the priming queries might be valuable.”
Some related documents

History and Technical Analysis of the Naming Scheme used for Individual Root Servers (RSSAC Caucus Document, under development)

• Root server zone architecture
  – The root zone is authoritative for the root servers
  – The root zone is not authoritative (another zone associated to the root servers)
    • Two zones are hosted in the same set of servers (IANA root)
    • Two zones are hosted in different set of servers

• Analysis of name scheme
  – The current naming scheme: [a-m].root-servers.net, not authoritative, multiple RTT to validate the name
  – Naming Scheme Without Zone Cuts: single-label name or multiple-label name, authoritative, single RTT, DS is not needed (non-delegated)
  – Naming Scheme With Zone Cuts: root-servers. Or yeti-dns.
  – Naming Scheme with Alternative Root Server Functions Designation
    • Single Root Server FQDN (unique name in NS RR)
    • Multiple Root Server FQDN (different groups)
    • Multiple Independent Root Servers FQDNs (Yeti dose this)
One case analysis

- Non-delegated TLD root-servers: [a-m].root-servers.

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<th>Priming Resolution Response size</th>
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Experiment on Yeti naming Scheme

• Requirement
  – Enable DNSSEC for priming exchange (authenticate all information)
  – Reduce the RTT time for DNSSEC resolutions

• Possible proposals:
  – Introduce a special TLD like yeti. or yeti-dns.
  – Each root server has a hostname, like bii.yeti-dns as the name of BII root server
  – Delegated name or not? It’s a question