

# Yeti Naming Scheme



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# 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 dose 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.

## Priming Resolution Response size

ADDITIONAL section	Empty	A/AAAA
Priming Response Size	224*	751**

## DNSSEC Priming resolution

ADDITIONAL section	Empty	(A/AAAA, RRSIG)	(A/AAAA, RRSIG) + (DNSKEY, RRSIG)
Priming Response Size	382*	4089**	4511***

# 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