

Use of ICMPv6 node information query for reverse DNS lookup

draft-itojun-ipv6-nodeinfo-revlookup-00.txt

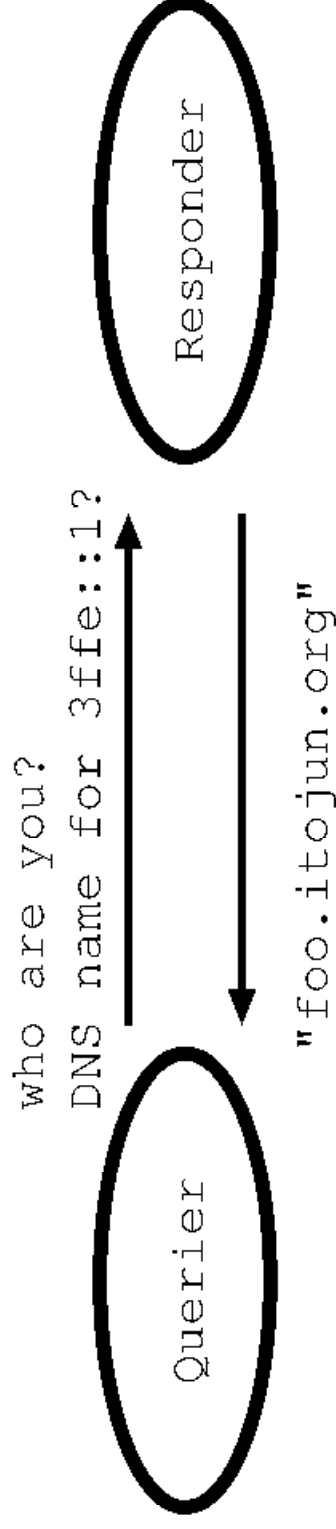
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Motivation

- **We will see more addresses without PTR records**
 - Stateless autoconfig
 - Temporary/privacy address
- **PTR does not work with scoped address**
- **DNS dynamic update deployment takes time**
 - TSIG key distribution issue
- **So, why not propose an alternative way?**

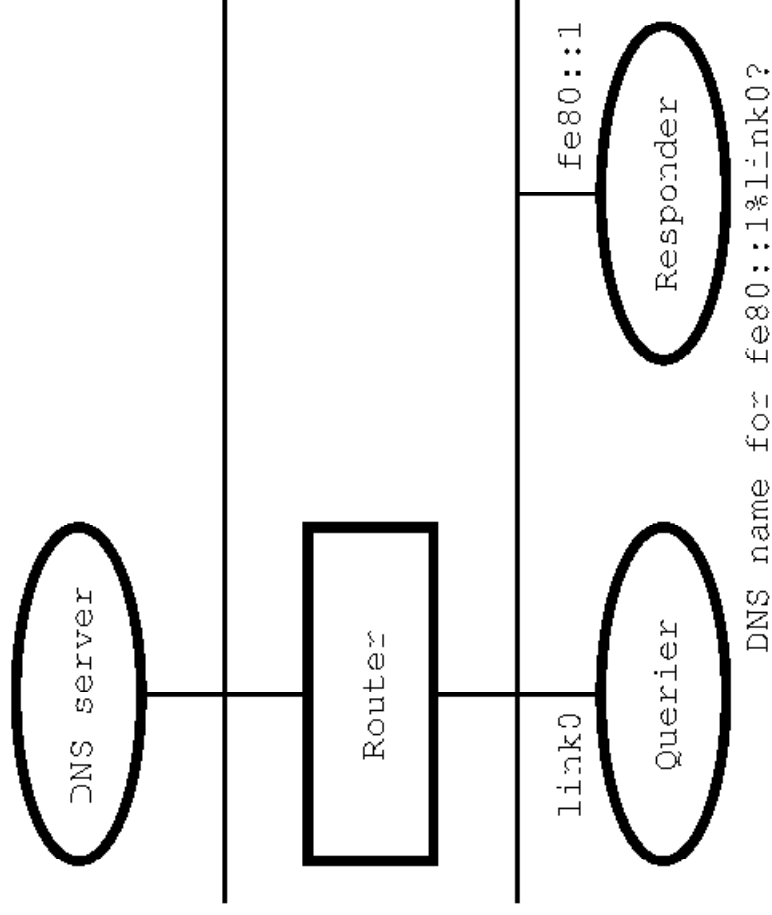
Protocol

- **Querier -> Responder**
 - ICMPv6 Node information query, Qtype = 2 (DNS name)
- **Responder -> Querier**
 - ICMPv6 Node information reply, with DNS name



Scoped address

- **DNS: doesn't work**
 - The view of scope zone differs
 - DNS payload format does not handle scope zones
- **This approach: works okay**
 - Querier is the node itself



Differences w/ PTR

- **Is the DNS name really belong to the node?**
 - (Reverse record w/o forward zone admins' knowing)
 - Anyone can claim "www.ietf.org", same as PTR
- **Integrity between forward and reverse lookup**
 - DNSSEC doesn't help, same as PTR
- **Malicious response injected from outsider**
 - DNSSEC helps here, PTR has an advantage
 - With ICMPv6, we need PKI infrastructure + IPsec
- **Admin diffs**
 - PTR: DNS zone admin needs to configure single DNS server
 - ICMPv6: every node has to be configured with a DNS name

Summary

- **An alternative way to perform reverse lookup**
- **Friendly with scoped addresses**
 - Works even for link-locals
 - Site-local - see the other discussion...
- **Some behavior differences with PTR**
- **Easy to implement**
 - Responder: KAME/USAGI kernel has it in ICMPv6 processing
 - Querier: KAME revlookupd, ping6 -w
- **Shouldn't trust reverse mapping too much anyways,**
btw

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