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A DNS Database Referral Mechanism

Carol Orange & Wilfried Woeber

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Aims for Users

- Users can:
  - find domain objects in global registry
- but need not:
  - know where authoritive data is

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Aims for Administrators

- DNS administrators can:
  - make authoritive data widely available
- but need not:
  - maintain multiple data sets

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New "refer:" Attribute

refer: <type> <host> <port>

where:

<type> is style of whois service
- RIPE, InterNIC , SIMPLE

<host> is DNS name of whois server

<port> is TCP port number

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Examples

refer: RIPE domain-registry.nl 43

refer: InterNIC whois.internic.net

refer: SIMPLE my.dns.tld

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Algorithm

Given a query for “xxx.yyy.zz”

If object xxx.yyy.zz found

If “refer:” in object

forward query

Else

return object to requester

Else search for yyy.zz, etc.

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Request Forwarding

Three options:

a) Query server; forward response
b) Return object with referral data as now
c) Send query to server with address of sender

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Considerations - Option a)

a) is nice because:
– it will run with only changes to RIPE Database server

a) is not nice because:
– scalability is limited

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Considerations - Option b)

b) is nice because:

– it will scale with Internet growth

b) is not nice because:

– it will take significant time to get working

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Proposal

- Start with a)
  - get functionality now!
- If usage indicates
  - develop referral aware clients
  - support a) and b)
- If server load too high
  - eliminate support for a)

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Discussion Points

- Who determines whether a) or b) ?
  - The whois server (RIPE) performing function + client using it
    - as proposed here
  - The referred to whois server
    - Robert Martin-Legene
    - Antonio-Blasco Bonito

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Credit for Useful Input

Piet Beertema
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Chris Fletcher
Daniel Karrenberg
David Kessens
Robert Martin-Legene
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