Lame DNS Server Sweeping

DNS Operations Sig
APNIC 18
2 September 2004, Fiji

Problem Summary

- Lame DNS reverse delegations can cause problems across the Internet:
  - Delays in service binding for clients using affected address ranges:
    - Timeouts in reverse-address lookup
    - Receiving party tries to resolve the calling source address.

- Refusal of service due to failures during DNS processing

Problem Summary

- Increased DNS traffic
  - between caching DNS nameservers and the listed DNS authority chain down from the root
    - Processing requests which can only fail after timeout
  - Measurable load on critical Infrastructure
    - The RIRs have been requested to investigate and reduce this traffic

Problem Summary

- Lame DNS reverse delegations affect
  - The users of the network in question
  - Unrelated third parties
- End users cannot resolve problem directly
  - Due to hierarchical nature of authoritative delegation
- If the network administrators do not correct errors in their DNS configurations
  - RIR has to resume control of the delegated domain
    - pending the delegate resuming control
  - disable the listing of the misconfigured servers

Adopted proposal (from AMM16/17)

- Identify potential lameness
  - two points of test, AU & JP
- Test the DNS reverse delegation
  - 15 day test period
- Attempt to notify the domain holder
  - 45 day notice period
- Disable lame DNS reverse delegation
  - If not corrected at end of notice period

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Project Deliverables

- Web based tools to support maintenance of Reverse DNS
  - Implemented in MyAPNIC, in deployment
- SQL based engine backing DNS
  - Implemented, in testing
    - presented in database sig
  - Integrated data management
    - lame status checking, de-listing functions
    - Will interoperate with new DNS generation system
- Support systems for APNIC staff
  - In early design phases
    - Contact scheduling system for HM dept
- Service delivery expected in 4Q04

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Current status of listed NS in DB

Status	Total	
NS Disabled by Domain Admin	0	(for future services)
Live NS	168,042	61,963 domains
In 15 day period	12,471	9,571 domains
In 45 day period	11,544	6,982 domains
Disabled by APNIC	0	Will increase when policy goes live

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LAME-ness summary

- lame nameservers = 24,015 (12.180%)
  - Many unstable (flapping) rather than persistently lame
  - Noted 'aggregation' towards a top-10 list of NS which serve many domains
    - Likely to be initial contact list for Hostmasters
  - Privacy issues prevent listing on web
    - Focus on communication with lame domain admin directly via email, phone etc

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Resources   **Training/Events**   **Administration**   **Technical**   **Security**   **Preferences**   **Signoff**

Good morning **TESTER**.
Have a good day!

REMINDER

[12 March 2004]

APNIC 18

31 August - 3 September
2004
Sheraton Fiji Resorts, Nadi,
Fiji. Hosted by Telecom Fiji and
Connect Fiji.

Accomodation

APNIC has arranged a block
booking with Sheraton Fiji
Resorts, including special
rates for meeting attendees.

Sponsorship

Interested organisations are
invited to sponsor APNIC 18.

More information

More meeting information will
be available shortly. Please
send any meeting related
inquiries to the APNIC
Secretariat at
meetings@apnic.net.

[17 June 2004]

**APNIC 18 - Call for
proposals**

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Resources

Reverse DNS within 202.171.16.0/20

Reverse Domain	Zone Contact	Name Server	Maintained By	Changed	Delete

Upload | Download

Add reverse DNS record

Address range: Use CIDR address prefix notation. Multiple range allowed e.g. 202.12.28.0/22 202.120.0.0/20	`202.12.28.0/22`
Name servers: Must list fully qualified domain name (not IP address or reverse name) of at least 2 (two) servers e.g. ns1.example.com ns2.example.com	`ns1.example.com` `ns2.example.com`
Maintainer (optional): If not specified, the records will be protected by your inetnum's maintainer	`maint-ap-example`
Please make sure that your name servers are up and running and are authoritative for the zone.	

Next

Questions

Thank You !