# 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



# 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



#### Current status of listed NS in DB

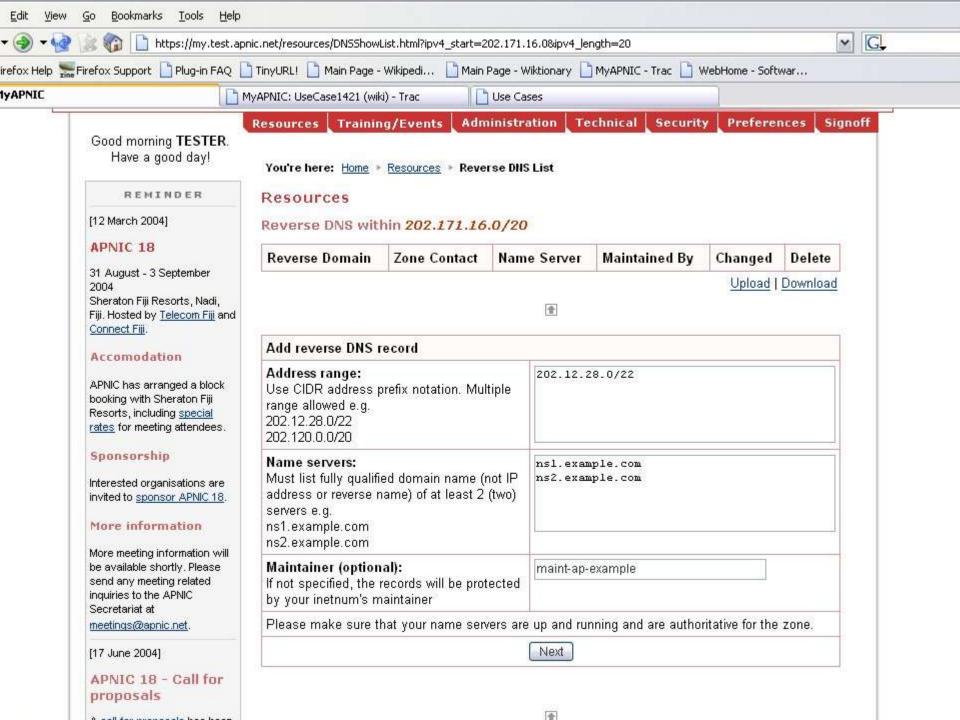
Status	Total	
NS Disabled by	_	
Domain Admin		(for future services)
Live NS	168,042	61,963 domains
In 15 day period	12,471	9,571 domains
In 45 day period	11,544	6,982 domains
Disabled by APNIC	0	Will increase when policy goes live
		pondy good nvo



# **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





#### **Questions**

Thank You!

