RIPE NCC DNS Update

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RIPE NCC

Overview

- Introduction
- DNSSEC CPU/Network usage
- Improvements to auth servers
- DNSSEC Statistics
- K Root update
- Lameness checking update
- ns.ripe.net, lameness and reverse delegation policy
- Future plans

Introduction

- New dns-services department formed Dec 2006
- Manager – Brett Carr

- K Root/AS112 – Anand Buddhev

- Auth Services/DNSSEC – Vacant Position
- Issues and problems to dns-help@ripe.net

DNSSEC Resource usage

- Ripe-352 predicted
  100% increase in network usage
  4% increase in cpu usage
- Post dnssec deployment we saw
  60% increase in network usage
  40% increase in cpu usage (from 8.77% to 12.34%)
- Reasons:
  Network: BIND version caused a decrease in additional section.
  CPU: Nothing obvious, different hardware, OS. Lab environment.
- Current status:
  CPU and network usage much higher due to increased query load
  2005 – Approx 2000 queries per second
  2007 – Approx 5000 queries per second

Improvements to Auth Servers

- ns-pri.ripe.net
  - OS upgrade
  - Upgraded to NSD
  - New dual core hardware
- ns.ripe.net
  - OS upgrade, 64 bit linux
  - New dual core hardware
- ns-tld.ripe.net
  - OS upgrade
  - New dual core hardware
- ns-sec.ripe.net
  - OS upgrade
  - New dual core hardware

dnssec statistics

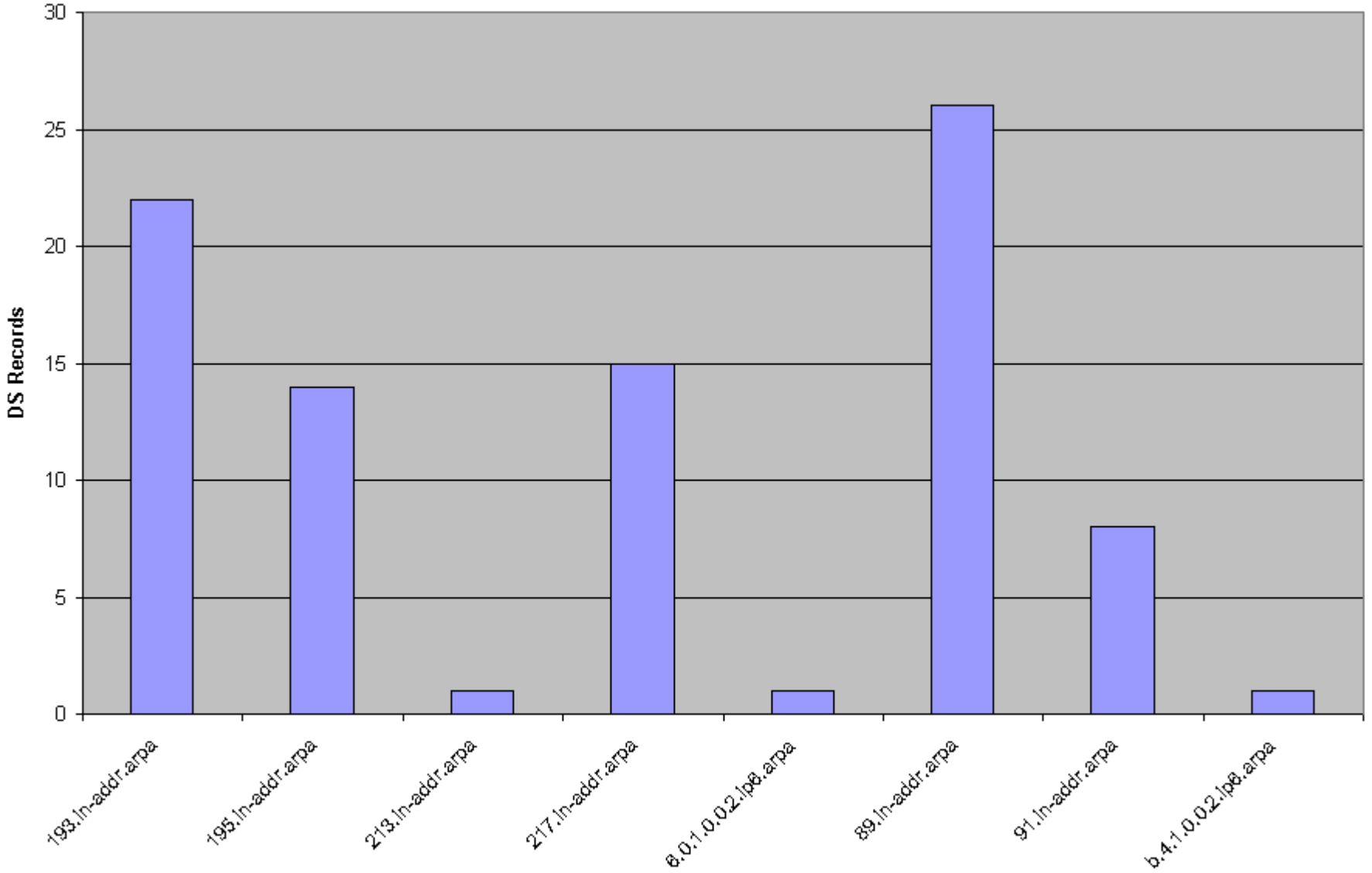
- Totals at RIPE 53

Total primary zones		113
Signed zones		72
NS Records		521811 (225432 sets)
DS Records		61
RIPE	NCC	14
Other		47

- Totals at RIPE 54

Total primary zones		126
Signed zones		72
NS Records		565088 (241977 sets) (7% increase)
DS Records		88 (44% increase)
RIPE	NCC	14
Other		74

DS Record Distribution



K Root Update

- Planning for OS upgrade
- Hardware upgrades
- Investigating possibility of further deployments
- Planning for production ipv6 support

Lameness Checking Update

- Proposal got consensus from WG, published as ripe-400
- Software currently being developed
- Prototype is running
- Full system will be up and running before RIPE 55
- Inform admins of lame zones and report stats at www.ripe.net
- Prototype shows …..

Lameness Checking Update

- Prototype has been run against 1 /8's (193)
- queried zones: 9613
- total nameservers: 22722
- total *nameserver/ip resolved pairs*: 22923
- total *lame* server/ips: 2738
- total unresolved servers: 787
- Lameness 15%
- total unique RNAME contacts: 2527

Lame zones on ns.ripe.net

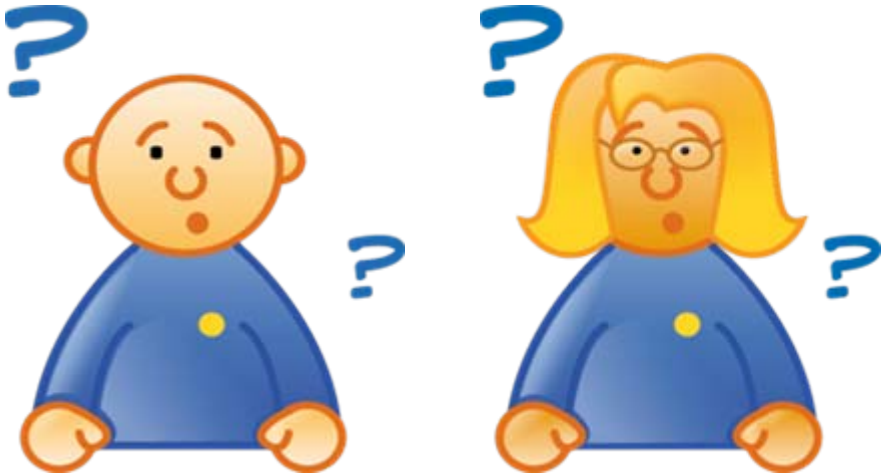
- ns.ripe.net runs secondary for 3000+ /16 reverses.
- Checked for lame zones early 2006. (138 Lame Zones)
- All administrators contacted, high success rate. (80%)
- Lameness proposal should deal with ongoing problem.
- Periodic checks will be made on ns.ripe.net's zones.

Reverse Delegations and ns.ripe.net

- Reverse delegation requires various conditions to be satisfied.
- IPv4:If your zone is a /16 **we require** ns.ripe.net as a secondary.
- IPv6:If your zone is a /32 **you may** use ns.ripe.net as a secondary
- Inconsistency between ipv4 and ipv6
- Choices
  - Require for both
  - Optional for both
  - No service
- RIPE NCC propose to use optional for both ipv4(/16) and ipv6(/32)

Future Plans

- Internal provisioning system OS/Hardware upgrades
- Finalise lameness checking
- Possible new K nodes
- Full production support for ipv6 on K.



Questions?