# RIPE NCC DNS Update

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# The DNS Services Team

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# Our services

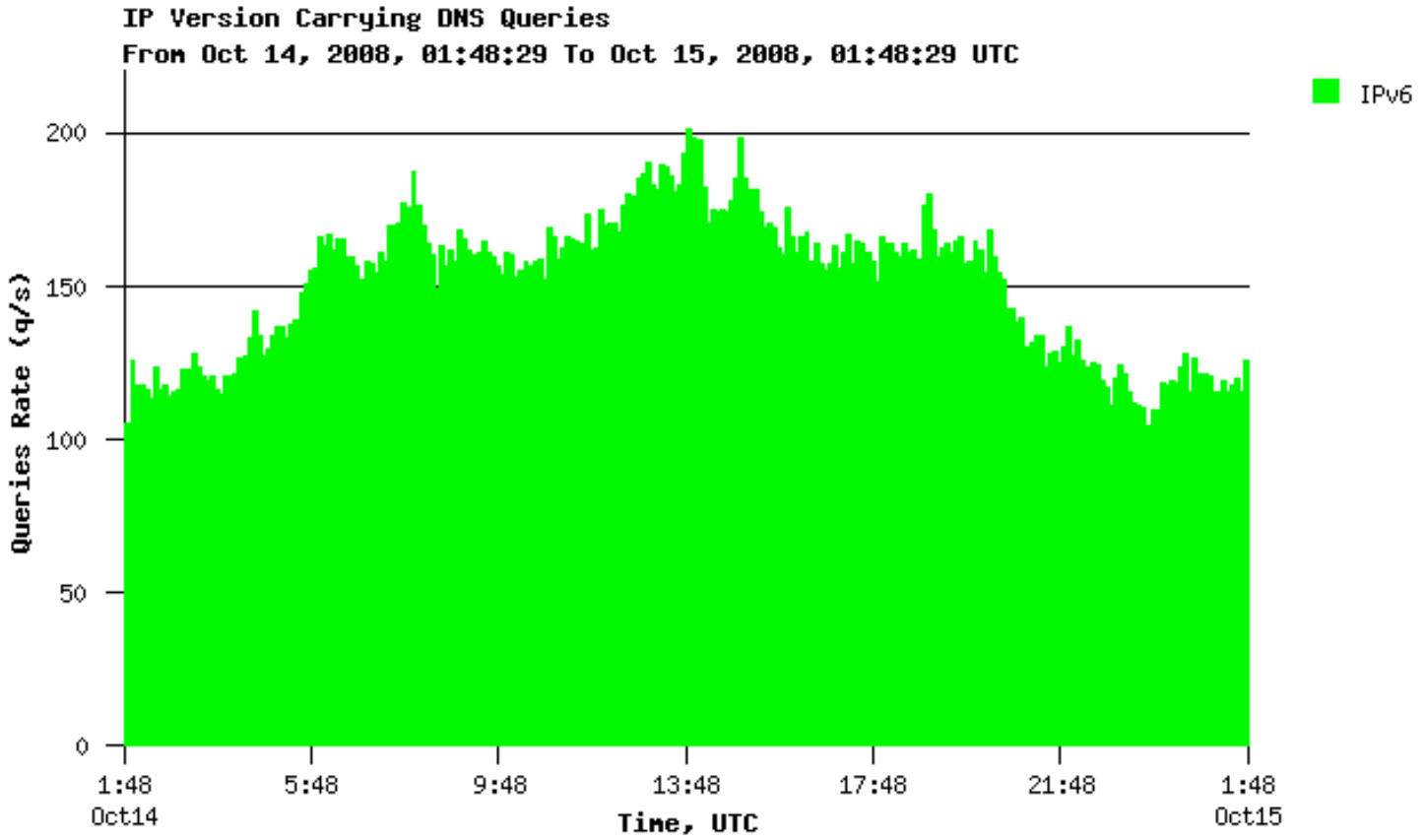
- K-root
- Reverse DNS for IPv4 and IPv6 allocations
- Secondary DNS services for some ccTLDs
- DNS operations of the ENUM (e164.arpa) zone
- An AS112 node
- DNS Security (signed reverse and forward zones)
- RIPE NCC internal
  se
  rvices (management of ripe.net and related zones)

# K-root

- Operations are stable with 17 instances
- Traffic policy changes:
  - Local instances announced /24 with NO_EXPORT
  - Global instances announce /23
  - No more path prepend
- Currently peaks of 20,000 q/s

# K-root IPv6 (2001:7fd::1)

- 7 instances provide service over IPv6



# K-root future plans

- Another round of hardware replacement
- IPv6 in London and Tokyo
- Promotion of Frankfurt instance to Global status
- Further K-root instance deployment in co-operation with other Regional Internet Registries

# Reverse DNS

- Reverse DNS provisioning system now fully supports IPv6
- ns.ripe.net receives ~ 30,000 q/s
- After RIPE 57, we will add a second server to share the load of ns.ripe.net, and increase resiliency

# DNSSEC infrastructure

- Totals at RIPE 56
  - Total primary zones 127
  - Signed zones 63
  - NS records 836126
  - DS records 104
- Totals at RIPE 57
  - Total primary zones 127
  - Signed zones 63
  - NS records 894226
  - DS records 156

# DNSSEC Future plans

- A review of the policies and procedures
- Hardware replacement
- Development of better tools to ease key management and zone signing

# DNSMON Enhancements

- Improved stability
- IPv6 support
- Single sign-on
- More probe locations (Australia, Russia, Brazil)
- Real-time alarms (packet loss, response time)
- Monitoring for tier-1 ENUM domains
  - New ENUM category: €500 per year
  - Contact dnsmon-sales@ripe.net

# ENUM

- Operations are stable
- No new delegations since RIPE 56
- DNSSEC available since March 2008
- Two zones have secure delegations
- More details and NXDOMAIN analysis in ENUM working group presentation

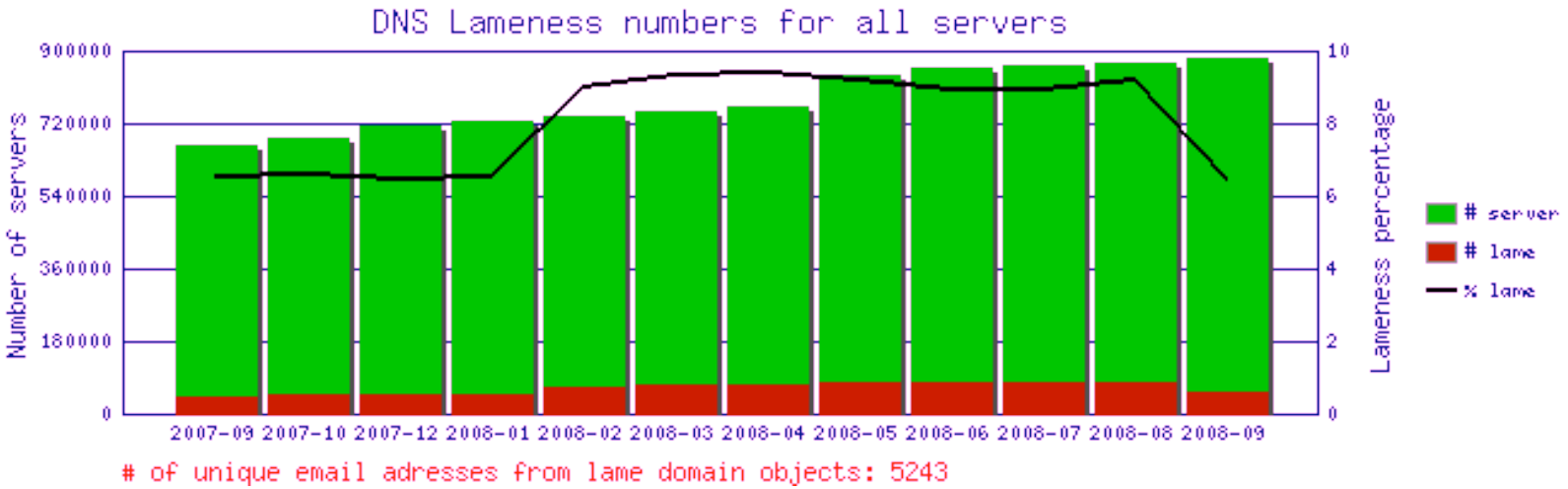
# Secondary Service for ccTLDs

- Overview
  - RIPE NCC provides this service for several ccTLDs on a best-effort basis, free of charge
  - Potential competition with RIPE NCC members
- Future plans
  - We are phasing out this service for large and developed ccTLDs
  - **LT, RO, IE, HK and SK being phased out in this iteration**

# Reverse DNS Lameness

- Data for the past year

http://www.ripe.net/info/stats/dns-lameness/



# Lameness statistics

- Average: just over 6%
- Minimum: 0.5% (90.in-addr.arpa)
- Ma
  ximum: 20% (95.in-addr.arpa; 1 of 5 servers lame)
- 5243 unique contacts
  (collecte
  d
  from zone SOA records and the RIPE Database)

# Email alerts

- A limited and controlled test in September 2008
- Two issues were detected:
  - IPv6 DNS queries were not reliable
  - Email generation code had some bugs
- We have identified the IPv6 issues and the bugs in the code and are correcting them
- Email alerts from early 2009

# Domain object statistics (24 Nov '08)

- Total: 390803
- IPv4 reverse: 379962 (97%)
  - /8: 32
  - /16: 5276
  - /24: 374654 (95%)
- IPv6 reverse: 657
- ENUM: 45
- TLD: 49
- Sub-TLD: 8021
- Other: 2069

# Examples of “other” objects

- domain: x.y.194.in-addr-arpa
- domain: x.y.212in-addr.arpa
- domain: 0-255.x.y.193.in-addr.arpa
- domain: 8-15.x.y.193.in-addr.arpa
- domain: 0.x.y.194.in-addr.arpa
- domain: 3.x.y.212.in-addr.arpa

Ignored by the provisioning system!

None of these can be created today!

# Forward domain objects

- Ignored by the RIPE NCC provisioning system
- Some ccTLD objects have a refer attribute for redirecting queries to the appropriate registry
- Some ccTLD registries use(d) the RIPE Database for documentation and perhaps provisioning
- Many forward domain objects are not consistent with registry data

# Questions?