

ENUM at the RIPE NCC

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Overview

- RIPE NCC and ENUM
- Request Process
- Delegations made recently
- Query Statistics
- DNS Improvements
- Working Groups
- Questions

RIPE NCC and ENUM

- Tasked by IAB to operate the e164.arpa domain
- Receive delegation requests
- Review technical dns quality of request
- Announce request to public and ITU
- When no objections received perform delegation
- e164.arpa operated at no charge to all
- <http://www.ripe.net/enum/instructions.html>

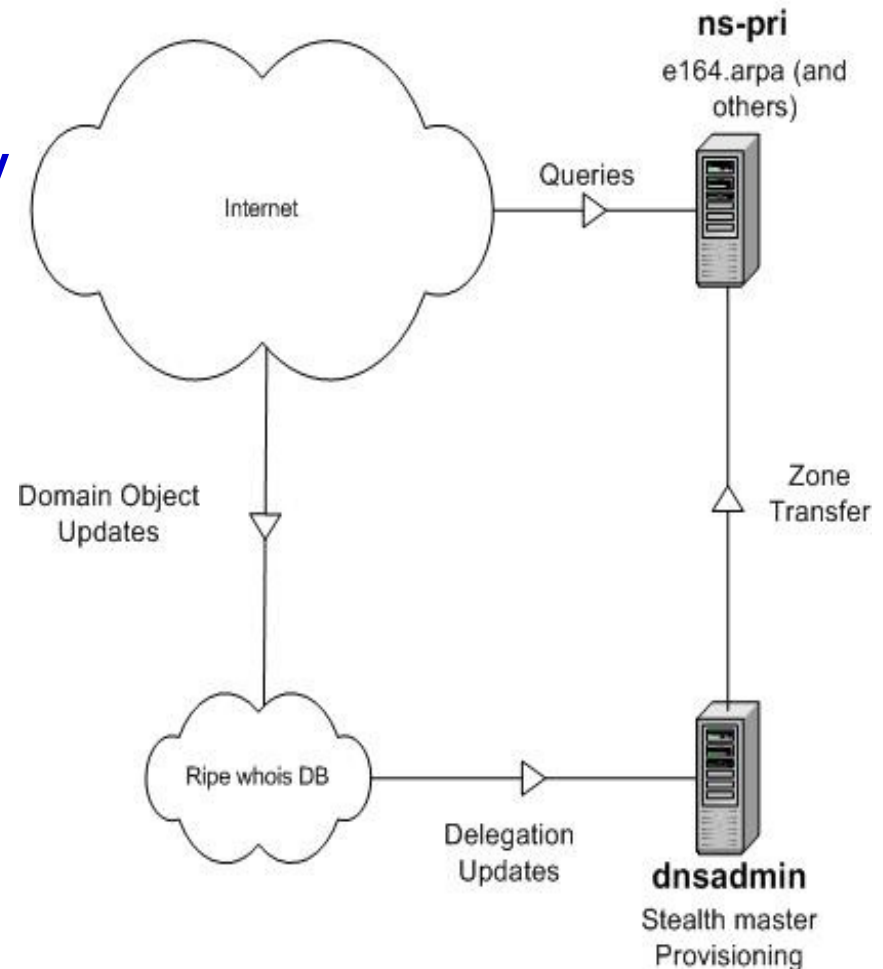


RIPE NCC ENUM Team

- Technical contact
 - Andrei Robachevsky
 - Brett Carr
- External Relations
 - Axel Pawlik
 - Paul Rendek
- Registration Services
 - 3 'ENUMsters'
- DNS Provisioning System

DNS Provisioning System

- Domain object submitted
- Checks made on dns validity
- Domain object updated
- dnsadmin notices change
- e164.arpa zone updated
- Queries referred to new delegation point(s)



Request Process

- ENUM request form updated in August
 - Simpler format
 - Clearer wording
 - <http://www.ripe.net/ripe/docs/enum-request.html>
 - Supporting notes document
 - <http://www.ripe.net/ripe/docs/enumrequest-support.html>



New Delegations Made in last 12 months.

- **+39 – Italy (November 2005)**
- **+81 – Japan (November 2005)**
- **+1 – NANP (February 2006)**
- **+30 – Greece (February 2006)**
- **+359 – Bulgaria (April 2006)**
- **+86 – China (June 2006) (Extension)**
- **+84 – Vietnam (June 2006)**
- **+590 – Guadeloupe (July 2006)**
- **+594 – Guyana (July 2006)**
- **+596 – Martinique (July 2006)**
- **+262 – France de l'océan indien (July 2006)**
- **+508 – Saint Pierre and Miquelon (July 2006)**



Objected Requests

- +379 – Vatican City (October 2005)

Queries per e164.arpa Nameserver

e164.arpa queries August 2006

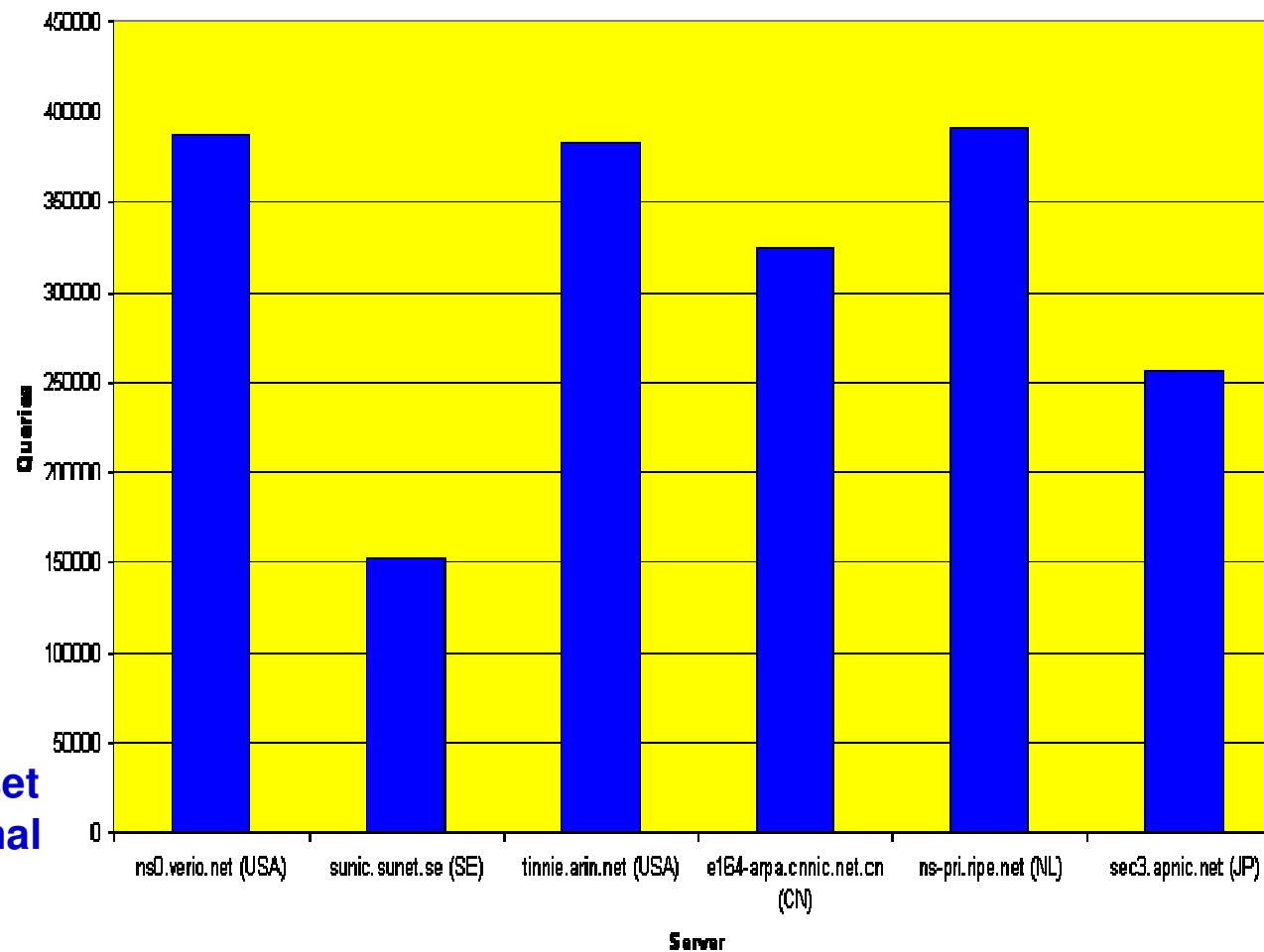
- August 2006

ns-pri.ripe.net	391084
ns0.verio.net	387080
tinnie.arin.net	382847
cnnic.net.cn	324755
sec3.apnic.net	255726
sunic.sunet.se	152300

Total 1893792

42 queries per minute

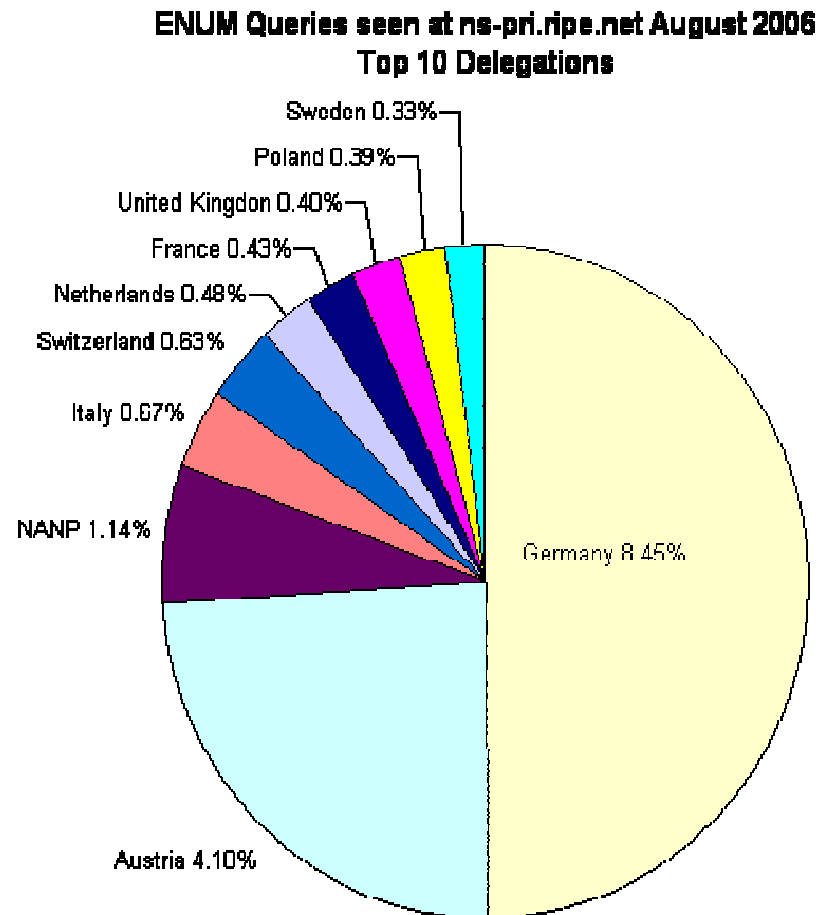
The figures represent a subset of enum queries due to normal dns caching.



Queries per Delegation – Top 10 (received at ns-pri.ripe.net in August 2006)

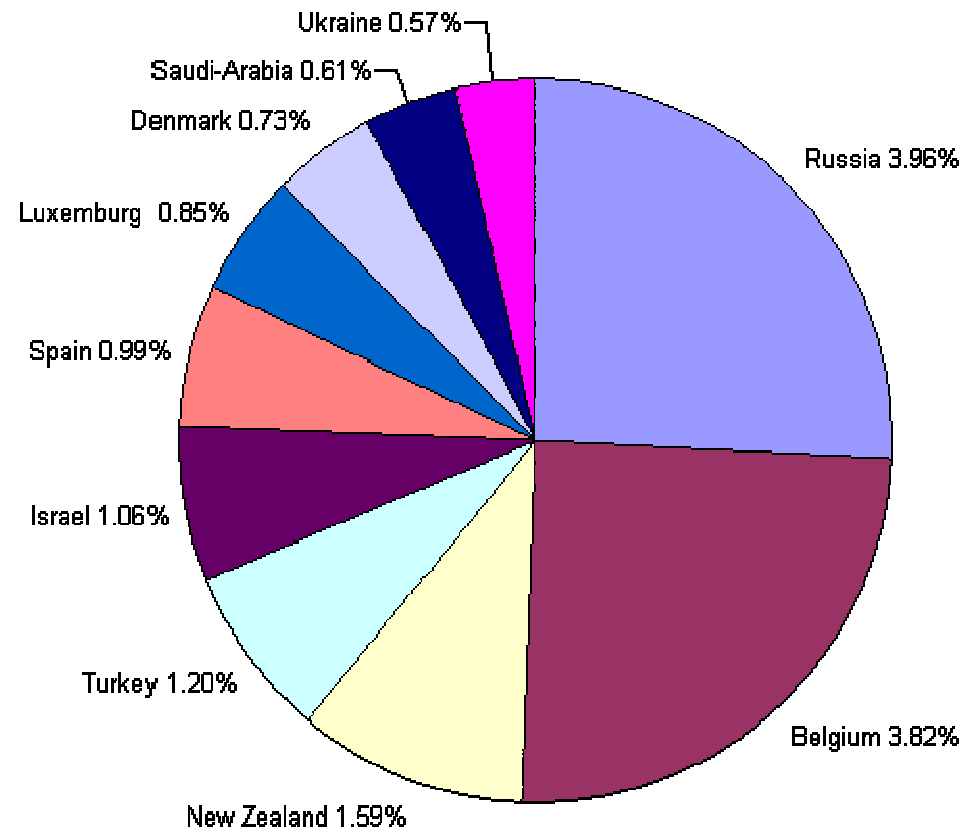
- Average 8.76 queries per minute
- 9.4.e164.arpa averages 0.74 queries per minute

These numbers are averages for a subset of ENUM DNS queries



Queries for Undelegated Zones - Top 10

Enum queries for undelegated e164.arpa Zones seen at ns-pri.ripe.net
August 2006





Invalid Queries

- Total invalid queries 25922 (6.6%)
- Queries prefixed with 0 8918
- Queries prefixed with 0.0 4966
- Rest:
 - Missing seperator 3100.e164.arpa
 - Strange prefixes 4.4.+e164.arpa
 - Incorrect prefixes 1.8.8.e164.arpa
- Probably misconfigured equipment



DNS Improvements

- DNS delegation checks
 - Made with web checker
 - <http://www.ripe.net/cgi-bin/delcheck/delcheck2.cgi>
- Ongoing DNS quality checks
 - Under development
- IPv6 DNS glue
 - DOMAIN class changed
 - Glue works - see 1.8.e164.arpa



IPv6 Glue Example – 1.8.e164.arpa

% Information related to '1.8.e164.arpa'

domain: 1.8.e164.arpa
descr: Ministry of Internal Affairs and Communications
admin-c: JP11
tech-c: JP3
zone-c: JP5
nserver: a.ns.1.8.e164.arpa 202.11.16.56
nserver: a.ns.1.8.e164.arpa 2001:218:2003:0:0:0:0:53
nserver: b.ns.1.8.e164.arpa 61.200.83.228
notify: enum@soumu.go.jp
mnt-by: JPENUM-MNT
mnt-lower: JPENUM-MNT
changed: enum@soumu.go.jp 20051128
changed: hostmaster@ripe.net 20060809
source: RIPE



RIPE Working Groups

- Enum working group
- DNS working group
- RIPE meeting, Amsterdam 2-6 October

Questions?