

# RIPE NCC DNS Update

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# DNS Update - Agenda

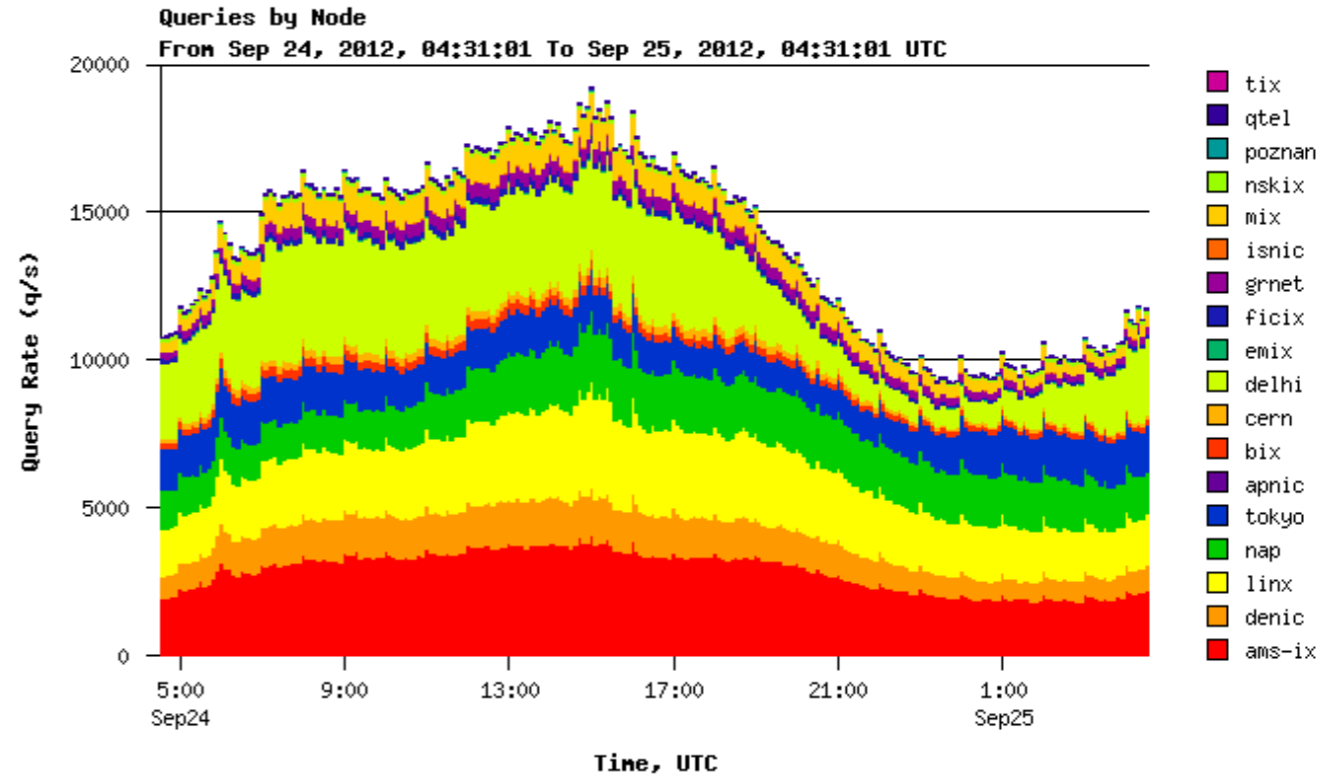
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## Presentation agenda

- K-root - operational status
- Other DNS services, DNSSEC & ENUM updates
- DNS delegation checking software (DNSCheck)
- Reverse DNS outage
- K-root "ideas"

# K-root Operational Update

- No major changes, operations stable, 18 instances
- Partly performed planned maintenance (IOS updates) during summer, more in Q4
- Future plans: Member K-root instances



# Other DNS services

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- All RIPE NCC's DNS zones now hosted on our anycast clusters
  - Incl. reverse DNS, secondary services, etc.
  - Two instances: London and Amsterdam
  - Plan to add a third instance in early 2013

# Some statistics...

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- ccTLD service
  - 76 ccTLDs (including 4 IDN ccTLDs) use our secondary DNS service
- ns.ripe.net
  - Migration to new cluster was waiting on re-delegation of CM ccTLD.
  - As of 12 July 2012 the migration is complete.
- ENUM summary
  - 52 delegations in the ENUM zone, Voxbone and Azerbaijan added - more details in the ENUM wg update (Thursday)

# DNSSEC status

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## DNSSEC

- Currently 126 signed zones (incl. ripe.net, reverse zones, ENUM and other zones)
- All relevant zones have chains of trust now
- KSK roll-over coming up in November 2012
- Count of signed reverse zones: 641 (RIPE64:~550)
  - Measured by number of DS records
  - Conclusion: modest growth in DNSSEC utilisation

# DNS delegation checking changed

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- Now using DNSCheck, developed by .SE registry
  - cleaner code, more modular, better maintainable
  - Delegation checks are more aligned with current best practices
- Replaces both delegation checker code in DB updates, as well as the existing web front-end

# Reverse DNS incident - 13 July 2012

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- Detailed sequence of events published on RIPE Labs and DNS WG list
- Short summary:
  - Unexplained accident caused loss of part the zone files from our provisioning system
  - Several concatenated operational and procedural failures caused serious impact (backups missing, cold-start provisioning not working, etc.)



# Reverse DNS incident - 13 July 2012 (2)

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*So, what did we learn from all this*

- **Communication:** improved communication procedures to issue more frequent updates, will improve 24/7 reachability of the NCC
  - **Organisational:** processes between departments (e.g. missing backups)
  - **Procedural:** again: 4 eyes principle; routine operations to include procedure review (incl.e.g. cold start provisioning, backup restores)
  - **Technical:** verify backup process, replace provisioning mechanism, add built-in checks
- Full report will be delivered during coming month.

# K-root “ideas”

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## K-root *member instance*

- Current model
  - *global* nodes, serving “everyone”
  - *local* nodes serving specific region
    - using BGP peerings with *no-export* community string
- New model (current status: *an idea being discussed*)
  - Add “smaller” K-root instance option, only serving single AS (IGP or static, member does internal routing only)

# K Root “ideas” – Member instance

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## Advantages

- Easier deployment and spread of K root instances
- Clear separation of responsibilities
- A ‘growth path’ to local instance could be possible
- We welcome mailing list discussion

*Note: earlier requestors for local instance could consider this model too; we plan no local deployments in short term*

# K Root “ideas” – Relaxing the routing model

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## K Root – Local vs. Global Instance Routing model

- Current situation:
  - Local nodes: BGP peering, mandate *no-export*
  - Member requests to remove *no-export*
  - Concerns with potential impact in case of, e.g., underdimensioned network, routing issue, etc.
- We will consider working with individual local K hosts to loosen the *no-export* restriction in a managed and cooperative way.

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# Questions?

# Full list of ccTLD secondary zones

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- ad ae af al am an ar ba bg bi bj bt ci cm cr cu cw
- dz er et gd gp gs gu gy il is jm
- jo xn--mgbayh7gpa
- kg kz xn--80ao21a lk lv ly
- ma mc md mg mm mt mu mw nc ne np
- om ph ps py qa xn--wgbl6a rs sa sd sm sn sv
- sy xn--ogbpf8fl sz tc th tj to tp tr tt ua ug uy
- va vg vn zw