RIPE NCC
RIPE NETWORK COORDINATION CENTRE

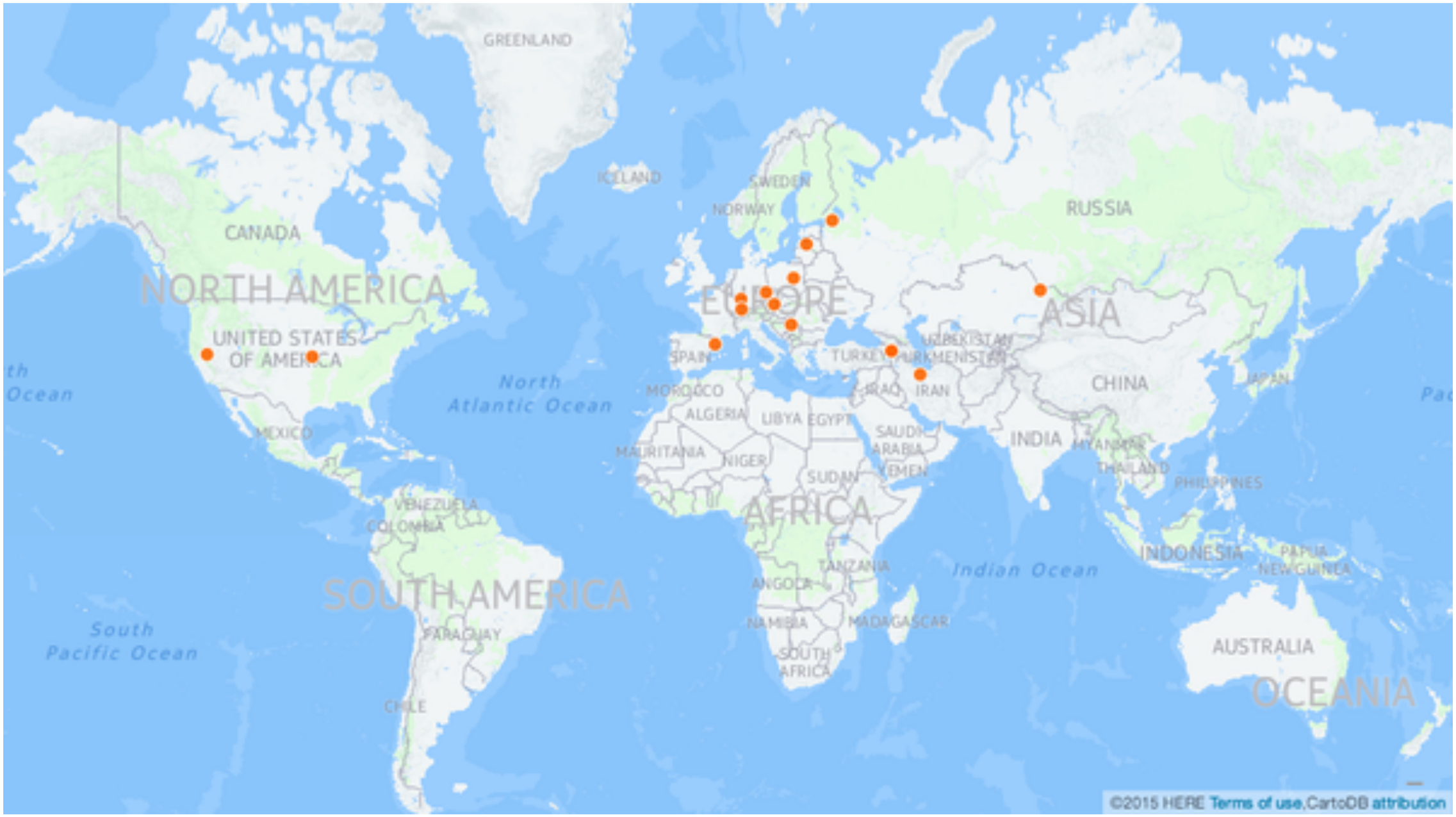
RIPE NCC DNS Update

Anand Buddhdev | Nov 2015 | RIPE 71

K-root

50,000 q/s

New K-root Locations



K-root Operations

- Business as usual
- Single server model for new nodes
- Diversity
  - BIND, Knot and NSD
  - BIRD and ExaBGP
  - Juniper and Cisco
- Generally, latency is now lower
- RIPE Labs articles: https://labs.ripe.net

Other DNS Services

100,000 q/s

Reverse DNS and ENUM

- New provisioning software
- Python, dnspython and netaddr
- Takes input from RIPE Database and other RIRs
- Adapts to transferred address space
  - Uses RIR extended delegated stats files
  - Creates and fetches zonelets
- Dumps plain text zones to disk
  - Can be loaded into any DNS server

Secondary DNS

- Other RIR zones
- ccTLDs
- Large LIR reverse zones
  - Automatic secondary on ns.ripe.net

Secondary DNS for ccTLDs

- Focus group set up at RIPE 67
- Outcome of discussion presented at RIPE 68
- RIPE Document draft published last week
- Please review and comment

Infrastructure

- Virtual server for provisioning zones
- Two DNSSEC signers
- Two distribution masters
- Anycasted cluster in three locations
  - Three servers and a router at each site

DNSSEC

Algorithm Roll-over

- Motivation
  - Community request
  - Increase security
  - Practice and share experiences
- Required software update on signers
  - Most software has little or no support for algorithm roll-over
- Testing in October 2015
- Our experience published: https://labs.ripe.net/

Summary of Roll-over Testing

- KSK and ZSK must be rolled together
- All records must be signed by both ZSKs
  - Zone size and responses will temporarily be larger
- Introduce signatures before keys
- Keep old keys and signatures in zone until the DS record is updated
- Roll-over VERY carefully! :)

Roll-over Plan

- Roll-over will begin shortly after RIPE 71
- Upgrade from SHA1 to SHA256
- Slow start
  - RIPE meeting reverse DNS zones first
  - RIPE NCC internal reverse DNS zones
  - RIPE NCC parent reverse DNS zones
  - Forward zones, including ripe.net and e164.arpa

RIPE Atlas DNS Measurements

- 15 common query types currently allowed
- Users request more types for testing
- Should we allow:
  - Only registered in IANA registry
  - All types
  - All except some
- Come and see us, or email atlas@ripe.net to provide suggestions

Questions

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