



# DNS Server Monitoring Update

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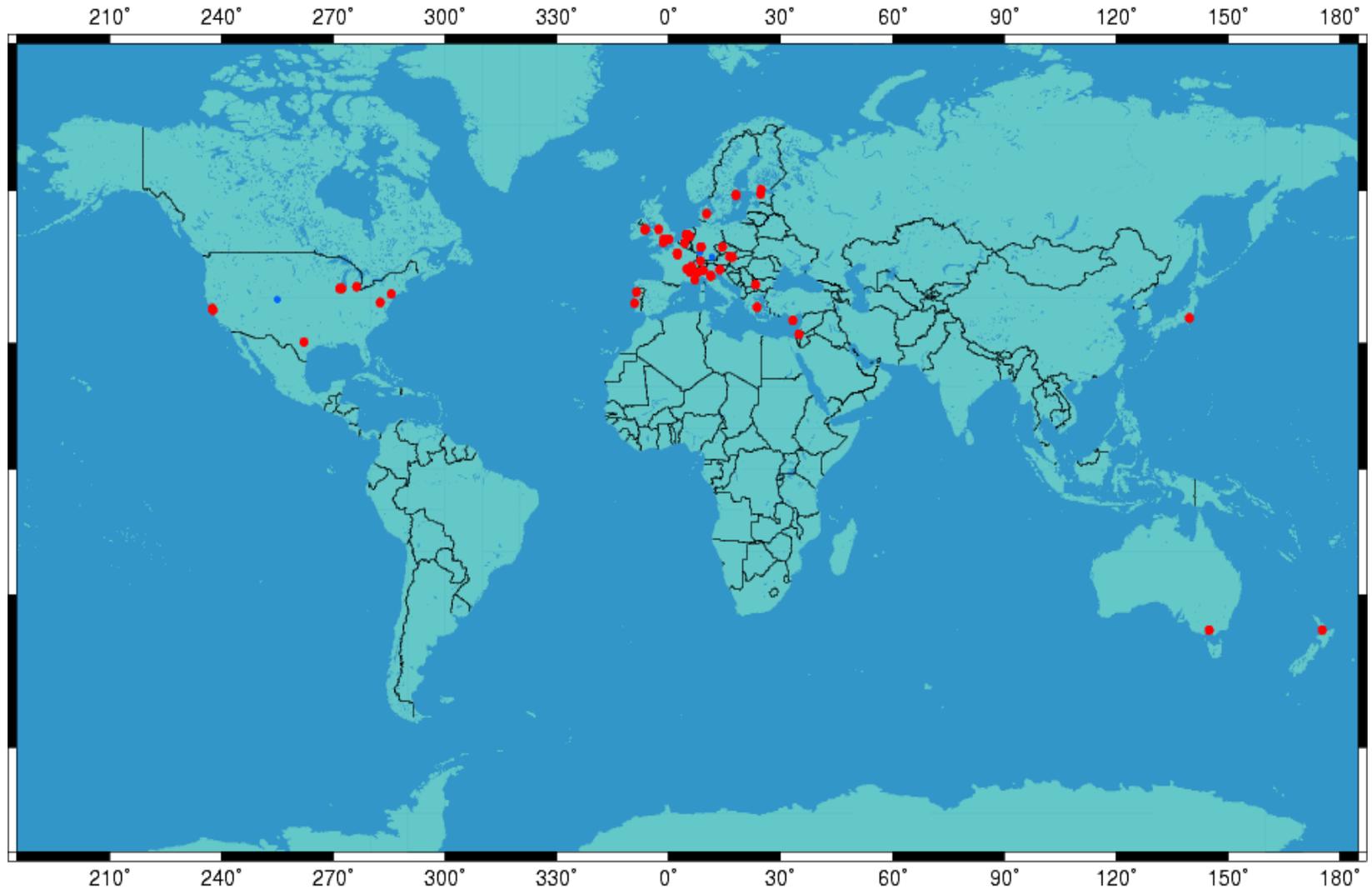
# Why it is Measured

- There are a lot of bad measurements out there!
  - Ping - what does it measure??
  - From single locations ...
- People (press, regulators) use them!
- Better Measurements are Needed
  - From multiple points
  - Real DNS traffic

# What is Measured

- Real DNS queries
- Poisson distributed, 60/hour
- From 50+ points around the world
- Response time
- Server instance ID (anycast, load balancing)
- SOA version number
- Server software version

# DNS Probe Locations



# New Features

- Autonomous measurement software.  
No central `ssh` triggering any more.
- Query for server instance & software version
- Poisson distributed measurements
- Better data about unanswered queries
  - Which try failed?
- Nicier plots, ... well working on them ;-)

# How to Read the Graphs

- Views
  - *Server view*: shows quality of service provided by the server (to all probe locations)
  - *Domain view*: shows overview (average of averages) for all servers serving a specific domain
  - *Probe view*: shows quality of service provided by all servers at a particular location
- Two Plots (so far)
  - *Delay*: shows response times (colored for drops)
  - *Drops*: shows percentage of unanswered queries

# “Legend”

- Black: no data available.
- Red: drop rate  $\geq 90\%$
- Orange (in delay plots):  $66\% < \text{drop rate} < 90\%$
  
- More white and less red/orange is better.  
Black does not matter.
  
- Look for vertical patterns
  - Server view: issue close to server (across all probes)
  - Probe view: issue close to probe (across all servers)



# Live Demonstration

<http://dnsmon.ripe.net/>



# What is **Not** Measured

- DNS queries used in actual name resolution
- DNS **service** (as opposed to **server**) quality
- global service quality: 50+ points, RIPE region bias
- Effects that last less than about a minute

But still very comprehensive measurements!

# Plans

- Modelling resolver behavior in order to approximate *service* quality
- More servers / ccTLDs
- More probes: Measurements from your site?
  
- Alpha (soon beta) site available

<http://dnsmon.ripe.net/>