Anycasting
and
the root-servers

Vancouver, Canada

ICANN Meeting

What is Anycasting

- In the case of the root-servers it is the replication of server systems in multiple peering locations.
- Users see same service address everywhere

How the root is different

- The one thing everybody needs, no matter what gTLD or ccTLD is popular among a particular community of interest
- Attractive attack target….often inadvertently
  - 90%+ of root query traffic is the result of error or misconfiguration on a *normal* day.

Technical/Operational Reasons

- Additional capacity
- Localisation of “issues”
  - Attack response
  - Maintenance
- Service improvement (Faster replies)

“Interesting” Reasons

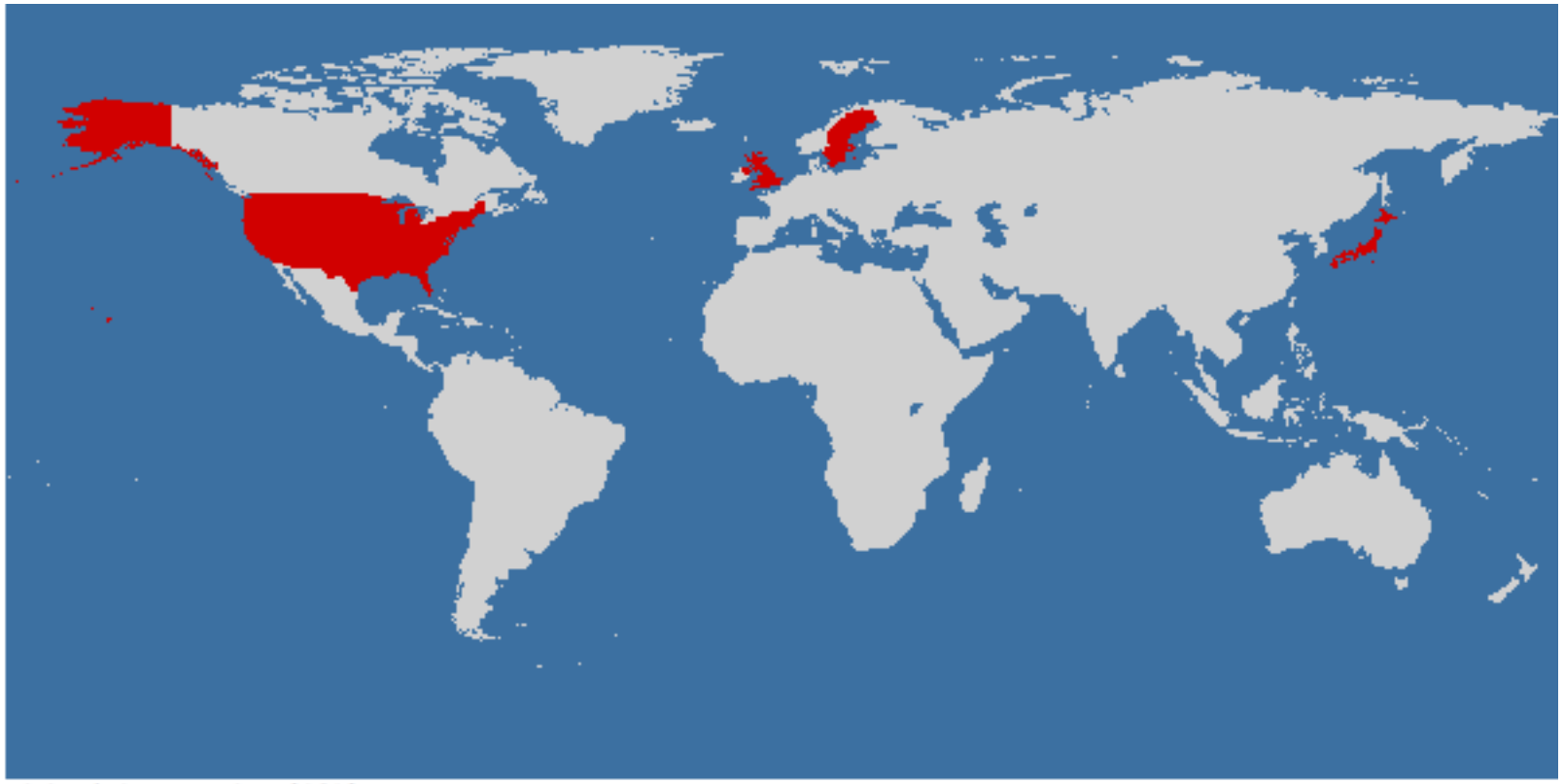
- Politics
  - Solving the issue of centralisation of the roots in one geographical area.
  - Trophy collecting.
- Economics
  - Value-add for local operators

What does a root anycast instance look like

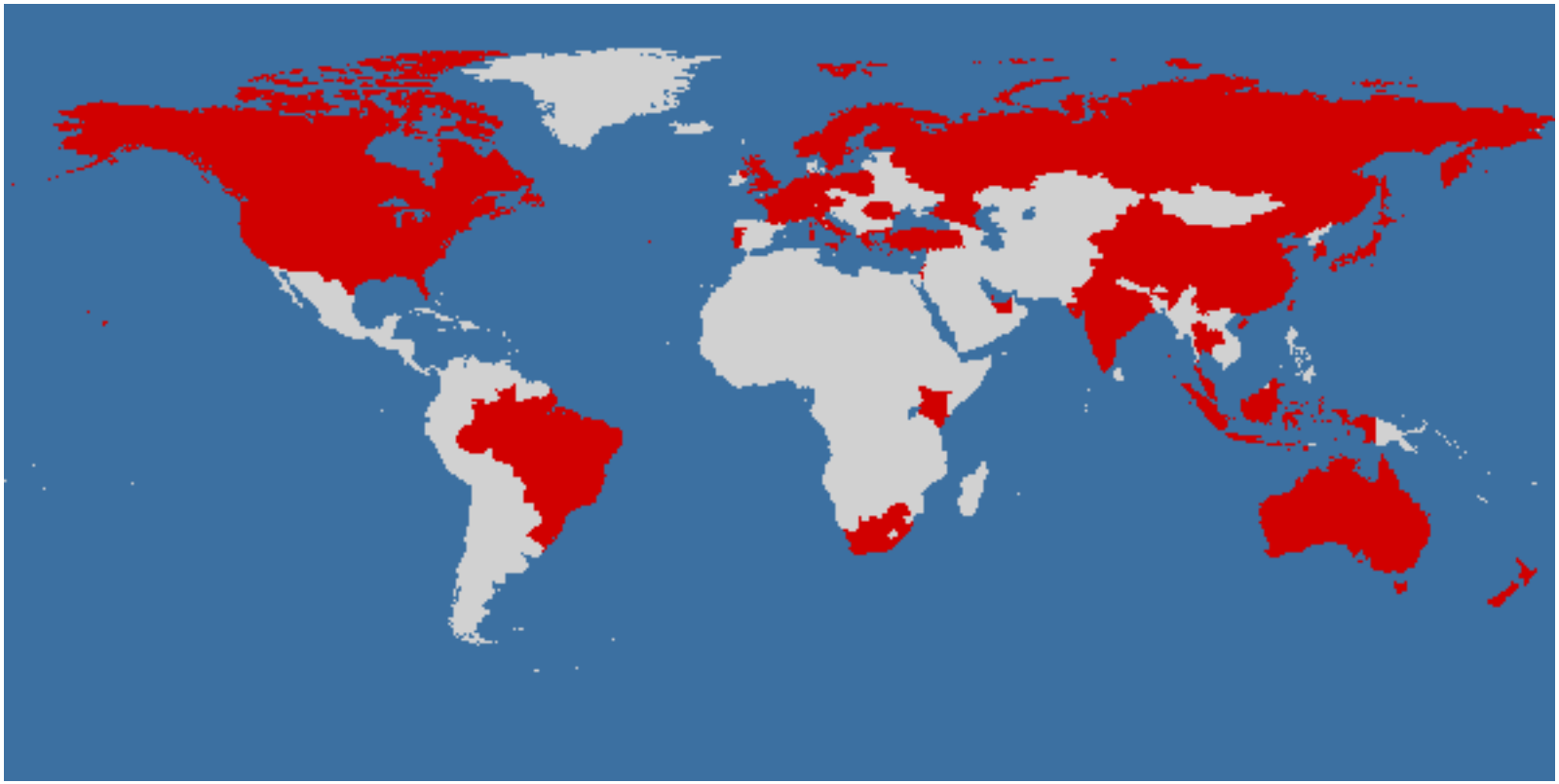
- Main forms of anycasting
  - Visible within limited topology
    - Only to those connected to an exchange
    - Using “No Export”
  - Globally visible
- Management by root-server operator
  - Partnership: local support, operator responsibility

Originally all Root Servers in USA

Root Servers added to j-m



My Latest Count (112+)



Will this continue?

- The number of root servers is growing.
  - As Internet continues to grow, so does the need for good DNS service
  - More than 70% are now situated outside the USA.

So probably….yes!

How do we get one?

- Talk to a root-server operator.
  - Is clear from www.root-servers.org who is anycasting.
  - There are requirements for hosting a server.
    - Talk to the operators to get details of their requirement set.
    - It’s ok to have more than one server ;)