LACTLD ANYCAST PROJECT
the practice of making a particular Service Address available in multiple, discrete, autonomous locations, such that datagrams sent are routed to one of several available locations.
An internally-connected collection of hosts and routers that together provide service for an Anycast Service Address.
Increased reliability

anycast improves reliability of DNS through the placement of multiple geographically dispersed servers at the same IP address. The redundancy of these DNS servers makes the service more highly available and reliable.
Load balancing
dynamic layer 3 routing of Anycast IP Addresses
will effectively load balance DNS queries especially
over equal cost route paths.
Improved Performance
packets destined for Anycast DNS servers will be routed to the "nearest" server in the topology. This helps ensure that DNS clients are querying their local servers first before using remote servers based upon routing and topology.
Enhanced security
geographically dispersed DNS servers that operate using the same IP address makes the DNS service more resilient to DoS and/or DDoS attacks because its much tougher to launch attacks on hosts that use duplicated IP address schemes that reside in different parts of the network.
Localized impact of DDoS attacks
successfully launched DoS and/or DDoS
attacks will typically be localized and only
affect a portion of the entire Anycast DNS
group.
Increased availability

A DNS Anycast server that becomes unavailable due to failure or routine maintenance will have very little impact on name resolution service because the service routes are withdrawn from the routing tables. Routing will divert this traffic to new alternate best path servers in the Anycast group.
Collaborative project for LACTLD members

build a dedicated Global Anycast Node to serve LACTLD members.
Shared management among some ops teams members, currently:

NIC.br and NIC.cl and LACNIC

Truly regional Project
Global Anycast Node – a.lactld.org
200.0.68.10 and 2801:14:a000::10
Anycast node
- a1.a.lactld.org, a2.a.lactld.org, a3.a.lactld.org

Participants
- Organizations which hosts a node (DNS server)

Users
- ccTLDs which use the service with its zone, having .<ccTLD> NS a.lactld.org
1. Sharing pgp-encrypted TSIG key for secure transfer
2. Allow AXFR/IXFR from dhm.lactld.org in ccTLD master
3. Transfer tests
4. Resolution tests
5. Sync monitoring
6. Add NS a.lactld.org in ccTLD zone
7. Add NS a.lactld.org in root (IANA)
- a hardware with an out-of-band management interface/virtual console.
  (eg. Dell iDRAC, HP iLO, VNC, etc).
- You need to “speak” BGP.
Hardware configuration

CPU: 1x2GHz
RAM: 16GB
disk: 50GB
Network: 1xGe NIC (2xGe – IX case), out-of-band management interface/virtual console (iDRAC, iLO, VNC, etc)
E-mail to dns-request@lactld.org
Subject: Request node
MUCHAS GRACIAS