LACTLD ANYCAST PROJECT

ANYCAST Definition

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failure or routine maintenance will have very little impact on name resolution service because the service routes are withdrawn from the routing tables.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.

PROJECT

Collaborative project for LACTLD members

build a dedicated Global Anycast Node to
serve LACTLD members.

PROJECT

Shared management among some ops teams
members, currently:

NIC.br and NIC.cl and LACNIC

Truly regional Project

PROJECT

Global Anycast Node – a.lactld.org

200.0.68.10 and 2801:14:a000::10

LEVELS

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

TECHNICAL CHECKLIST USER NODE

1. Sharing pgp-encripted 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)

TECHNICAL CHECKLIST PARTICIPANT NODE

- a hardware with an out-of-band management

interface/virtual console.

(eg. Dell iDRAC, HP iLO, VNC, etc).

- You need to "speak" BGP.

TECHNICAL CHECKLIST PARTICIPANT NODE

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)

CONTACT US

E-mail to **dns-request@lactld.org**
Subject: **Request node**

MUCHAS GRACIAS

LACTLD
Latin American and Caribbean
ccTLDs Organization

www.lactld.org