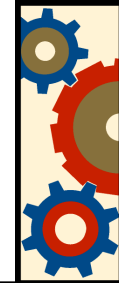




# f.root-servers.net anycast deployment

João Damas

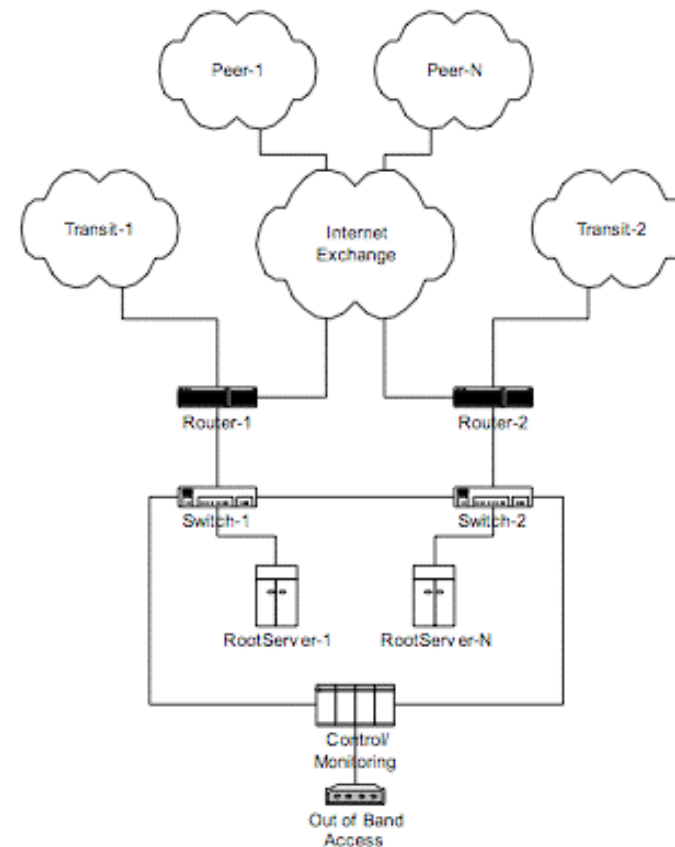
# What is f.root-servers.net



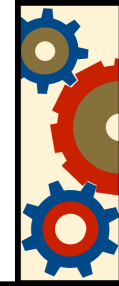
One of the Internet's official DNS root servers

A public service necessary for the correct functioning of the Internet

Being a public Internet Service, ISC as operator of f.root-servers.net feels the responsibility of offering this service to all users in equal conditions and in an as reliable as possible manner



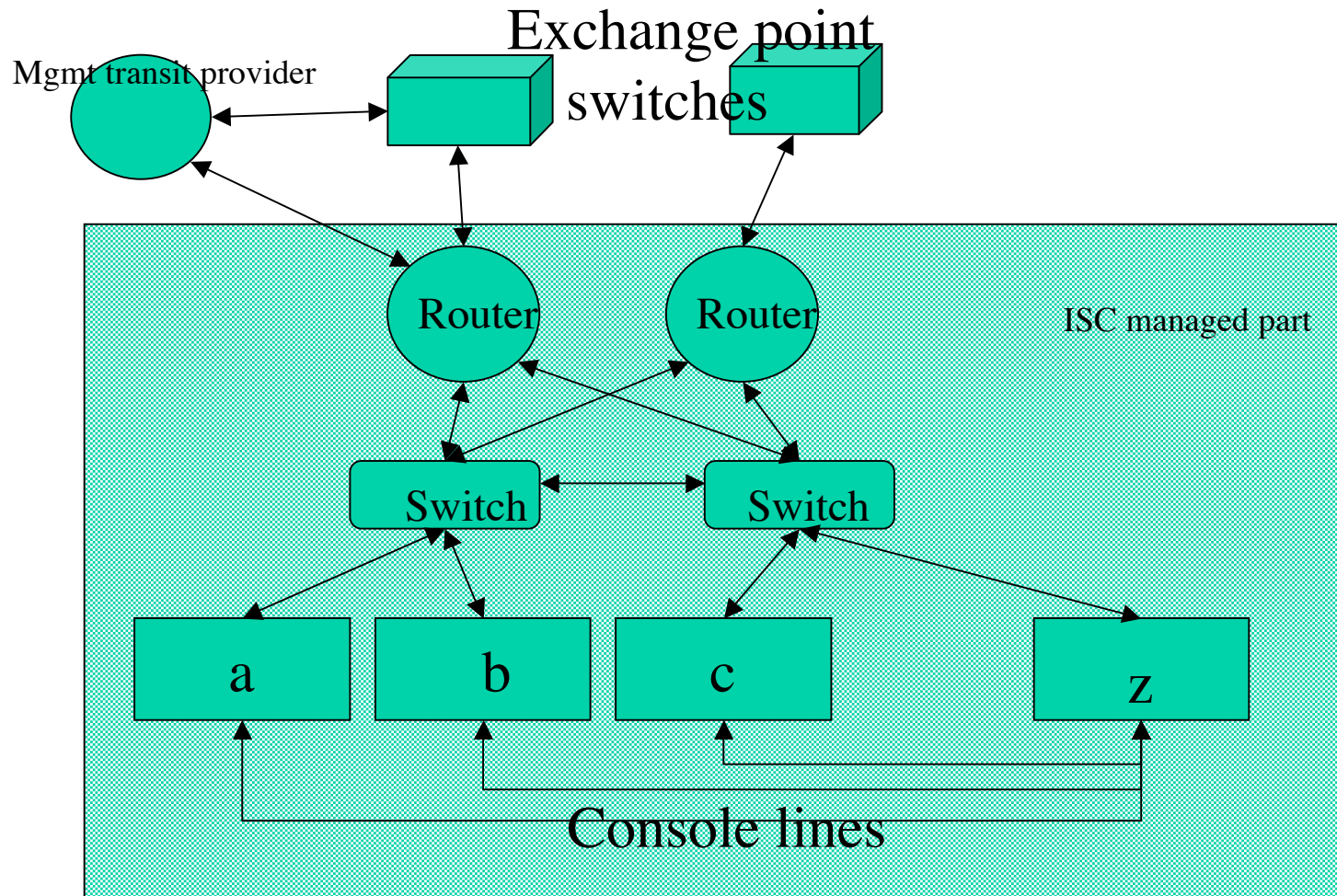
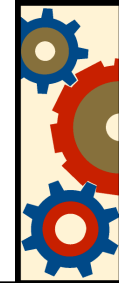
# f-root anycast technical setup



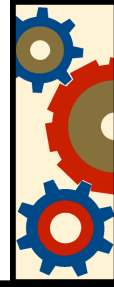
- <http://www.isc.org/tn/isc-tn-2003-1.txt>
- Global nodes
  - No restrictions on BGP announcements
- Local nodes
  - Prefix announced with “no-export” community
  - Preferred locations are IXPs for their span of local ISPs



# Typical node



# Global nodes

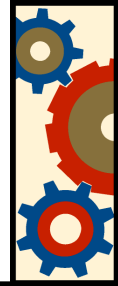


- San Francisco
- Palo Alto

OSPF load balancing “anycast in a rack”



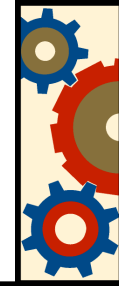
# Local nodes



- Lisbon, Madrid, Barcelona, Paris, Amsterdam, Munich, Rome, Prague  
Moscow
- Tel Aviv, Dubai, South Africa, Kenya
- Beijing, Seoul, Osaka, Hong Kong, Taipei, Singapore, Jakarta, Brisbane, Auckland
- Monterrey, Sao Paulo, Los Angeles, San Jose, New York, Toronto, Ottawa



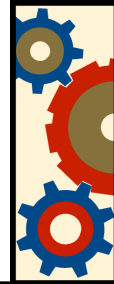
# Worldwide root server distribution - Before anycast



All root servers - not only F



# Worldwide root server distribution - Now



All root servers - not only F





# How ISC does this



- Local sponsors and partners.
  - Always try to work with the local community
  - Enter an MoU that describes the interaction
- ISC adapts to the local circumstances but always keeping service integrity first





Questions?

<http://www.isc.org>

[Joao\\_damas@isc.org](mailto:Joao_damas@isc.org)