



Peering Policy

LatinAmerica - 2008

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Google at Internet Exchanges



Google has been invited to participate in several public Internet Exchanges in the world.

- The network with more presence in Public Internet Exchanges (33)
- Interconnection by using **1Gps** or **10Gbps** ports.

Value for IXP Participants

- Google push a considerable volume of traffic to most ISP.
 - Considerable % of traffic, now from Peering (USD \$0)
- Peering locally in the IXP, provides
 - More bandwidth
 - Reduced latency
 - Better user Experience

Google at Internet Exchanges



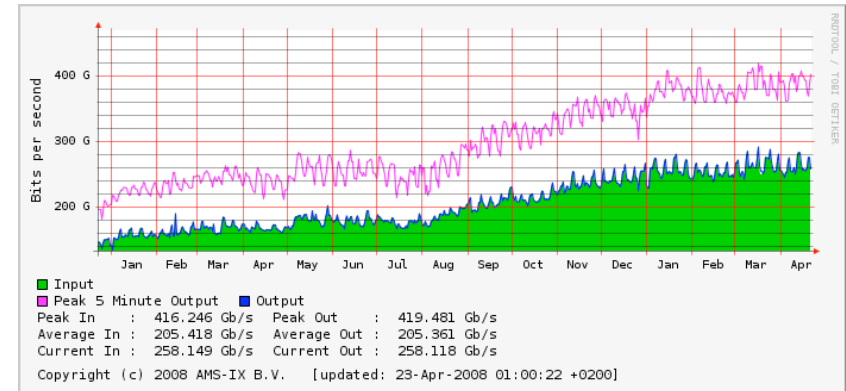
Value for IXP Operators

- IXP Growth

- Much more traffic in the exchange
- More participants in the exchange

- Creation of a new market

- Participants grow, and require more capacity and services
 - Links, Circuits
 - Rack Space
 - Energy, bandwidth
 - Services: Maintenance, OAM, equipment leasing, etc..
- Most of the revenue for IXP, come from this new market



- **Objectives:**

- Facilitate universal access to information for all networks (independently of size, country, business type, etc)
- Help ISP to provide their subscribers improved quality of service for Google Apps, in a cost efficient way
- Contribute to the Internet development, working together with local network operators.

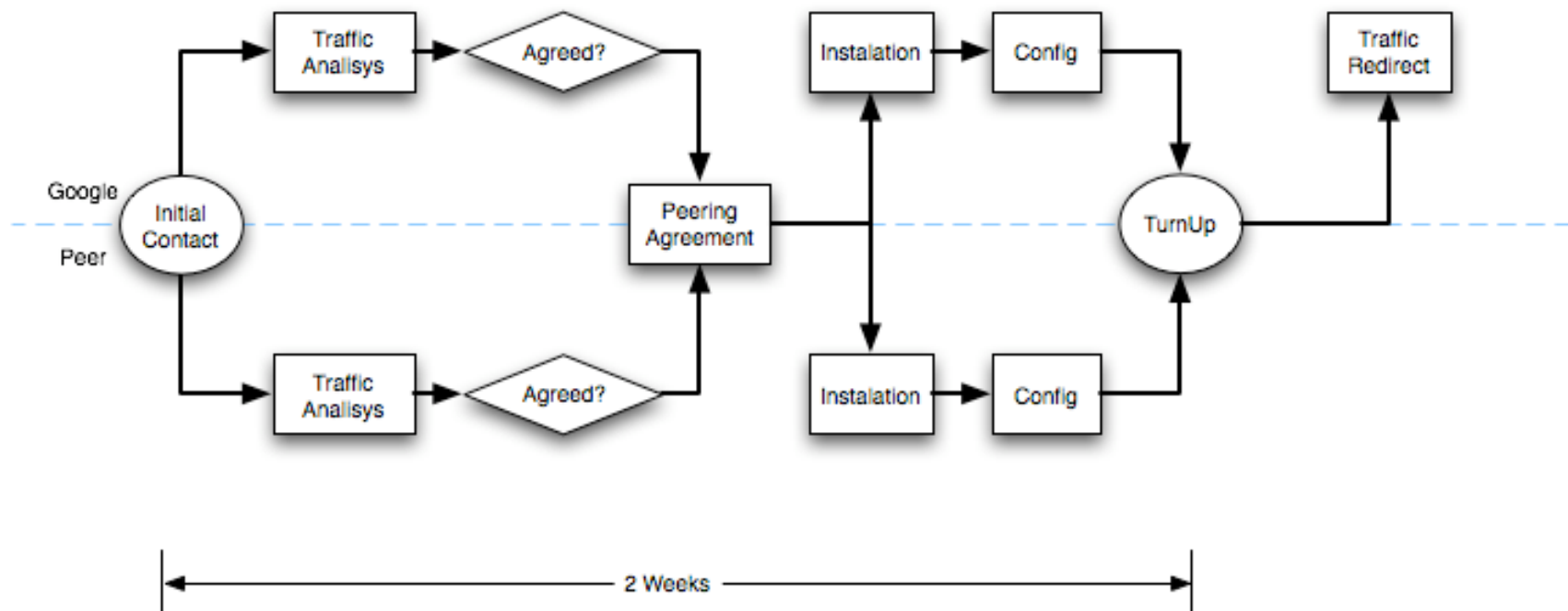
- **Peering Requirements**

- Handle an significant amount of Google traffic. For Latin America:
 - Public Peering: 5 Mbps
 - Private Peering: 25 Mbps
- Reach Google in one of our POPs
- Technical Considerations
 - 1-Gbps, 10-Gbps interfaces preferred
 - BGP4 Session announcing AS from peer and customers
- Sign an standardized Peering Agreement
 - Provide contact information for a 7x24 NOC
 - Make best efforts to provide good response time, in case of failures
- Be enrolled in www.peeringdb.com and keep updated contact information

How does the process work?



It is a very simple process, that can be developed in 2 weeks.



The plan considers to help improve connectivity with different sizes of ISPs and IXPs

- Large ISPs
 - Private Peering (1G,10G)
- Medium/Small ISPs
 - Private Peering - 1G
 - Public Peering
- **Internet Exchange Points**
 - Interconnection (10G, 1G)
 - Considering technology to bring Google Content to Internet Exchanges

Google Global Cache



Motivation

- Explosion of broadband access and rich, multimedia content continues to drive demand on Internet backbone networks
- This increases the cost of Internet Service Providers (network upgrades, transit costs, etc..)

Google Global Cache

- Allows Large ISP to serve content from the edge of their own network.
- Eases backbone congestion on the service provider's network well as traffic on peering and transit links
- Saves money and improves users' experience accessing Google services.
- GGC can be also deployed in IXPs, to server content to participants, locally!



(illustrative picture)

Do you want to be connected with Google?



1. Register in <http://www.peeringdb.com>

2. email: jmguzman@google.com,

Including

- Identification of network (ASN)
- Market and services
- Estimation of traffic levels.

(or let's talk during the meeting)

The End

Thanks!

