Why peering policies and all that stuff

The simple view of a peering coordinator

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To peer or not to peer
A view from the top
Why peer at all??
Simply connect to peter.net’s BFR and pay Peter

Nobody liked that: everybody wanted to be peter.net
Peter had to continue working for a living
Rewind to 1995

- NSFNET refused to be a commercial ISP
- Sprint, Genuity, PSInet, MCI and others became commercial ISPs
- How to make money?
- Cerf & Hahn did not include a billing mechanism in TCP/IP
- Who benefits anyway – eyeballs or contents?? Sender pays all? Receiver pays all??
“There is no known objective financial settlement model which is financially robust and technically feasible in the Internet”

Geoff Huston 1998
Everybody was a tier one
Equal size, equal traffic, equal benefits
Why bother charging each other or writing agreements
Peering was born
We had a beer, we shook hands, we peered
LIFE WAS GOOD
The Cost of Peering

AS3561 Traffic Distribution
September 2002

Peering 37%
Customer 63%

Total Peering Traffic = 6,642 TeraBytes
The Cost of Not Peering

No peering

No connectivity

No customers
Predictably, some networks were more successful that others and multiple categories of networks emerged – Tier One, Tier Two, Tier Three or The Haves & The Have Nots

Some Have Nots were actually asked to pay for services by The Haves, and were reduced to customer status or risked being disconnected

de-peering was born

LIFE WAS NOT GOOD ANYMORE
Tier one – Tier Two – Tier Three – eyeball or contents rich

Money started flowing from the bottom up

The Have Nots cried foul and looked at the regulators to level the playing field

Regulators looked upon The Haves management and suspected foul play and mumbled REGULATION

The Haves management looked upon operations and demanded solutions

LIFE WAS Miserable
Someone invented peering policies and peering agreements to keep the playing field uneven and make money.

Life was good again.

At least for a Tier One peering manager.
Peering Policies

- establish transparent rules for peering relationships
- aim to establish “mutually beneficial relationships of equals”
- eliminate the need for regulation
- ensure that rules are applied equitably to all peers
- facilitate the delicate balance between good connectivity and the cost of peering
- can be changed, but must be applied equitably to all peers
- Peers that cannot comply with Peering Policy may be subject to de-peering
Policy Justification

- Regulatory scrutiny
- Little flexibility
- Keep peering cost to a minimum
- Maintain a defensible position
- Provide excellent network connectivity
- Accommodate increased contents
Submit a formal peering application to Peering team

Review by Peering Committee

Peering Team
Legal
Operations

8-Week Evaluation trial

Policy
Regulatory
Marketing

Acceptance as Peer (or not)
The de-peering Process

- All peers are subject to changes in policy
- If an existing peer can not comply with C&W’s policy, a de-peering process can be started
- If de-peering would create a “black hole,” the agreement will be cancelled but the connections will be maintained until a commercial interconnect agreement or other arrangements have been reached
General Regulatory Principles

- Peering is **NOT** regulated by the FCC or any other agency at this time

- Peering Policies are **NOT** reviewed or approved by the regulators

**However**

- If a peering policy is not consistently implemented, the regulators may take action - including regulating the service providers
The Regulators Argument

- Regulation adds value by protecting consumers and enabling fair competition where
  - There is market failure, and
  - The market cannot heal itself

- Market failure is only likely where dominance exists in the market
Network Providers’ Contention

There is no market failure

- Peering is an exchange of equal value and hence settlement free
  - This assessment is best made through commercial negotiations
- Regulatory intervention is likely to be sub-optimal
- Transparent published peering policies of many backbones, e.g.
  - CWA (http://www.cw.com/peering)
  - UUNet (http://www.uu.net/peering/)
- Backbones compete vigorously for transit customers to increase the value of their network
Questions?

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