Introduction to Peering and Interconnection

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Imagine you are a Content Provider or an ISP
You start connecting to the world using transit

Content Provider

Transit

Provider

ISP

User

User

User
What is Transit?

IP transit is the service of allowing IP traffic of a customer (or another ISP) to cross or "transit" another IP network.

The transit service is typically priced per megabit per second per month, and customers are often required to commit to a minimum volume of bandwidth,
You start connecting to the world using transit
If you are very successful...

Content Provider

Transit Provider

ISP

User

Transit Provider

ISP

User
Peering
What is “Peering”? 

- Peering is the direct interconnection between two networks for the exchange of traffic.
Peering

Content Provider

IXP or Colo Facility

ISP

User

ISP

User
Public Peering

- Public Peering
  - Done in Internet Exchange Points
  - Preferred by some when traffic to many individual peers is low individually but aggregated creates an economic incentive
Public Peering - IXP

Content Provider

L2 Switch

ISP

User

User

ISP
Private Peering

- Private Peering
  - Done using private links or in carrier houses
  - Control of traffic flows
  - Preferred when individual traffic is high
Private Peering in colo facility

Meet Me Room / Patch panel

Content Provider

ISP

User

ISP

User
Private Peering in colo facility

Content Provider

cross-connection

Meet Me Room / Patch panel

ISP

User

ISP

User
Private peering vs Public Peering

- Both are good solutions aimed to different needs
- Small-medium ISPs/Content providers generally use more Public Peering
- Very large ISPs/Content providers generally use more private peering to other large peers and public to small-medium
Benefits of Peering

● For users:
  ○ Lower latency
  ○ Higher reliability
  ○ Better performance

● For network operators:
  ○ Lower costs
  ○ Higher reliability
  ○ More predictable routing
  ○ Better performance for customers
  ○ No third parties involved
  ○ Mutually beneficial relationship with partner
The business case for peering

- How to convince your CFO?
- Forget about BGP, routing, latency improvements, etc. Those are important but first:
- Do a business case with the economical benefits to peer
Thank you and happy peering