To peer or not to peer?
Business case for peering

Arturo Servin
To peer or not peer, that is...
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
Costs to consider

- **Peering**
  - Transport to colo facility or IXP
  - Colo facilities fee
  - IXP fee
  - Hardware (router, port, cards)

- **Transit**
  - Cost per use, considered
    - Average
    - P95
    - Cost Mbit/USD
    - Committed spend
## Costs comparison

<table>
<thead>
<tr>
<th>Transport to peering point</th>
<th>Fixed to specific capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colocation</td>
<td>Fixed</td>
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<tr>
<td>Hardware</td>
<td>Fixed</td>
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<tr>
<td>X-connect</td>
<td>Fixed</td>
</tr>
<tr>
<td>IXP fee</td>
<td>Fixed</td>
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</tbody>
</table>

| Transit                     | Based on use              |
Peering vs. Transit cost comparison

Source: Dr Peering
Business case to peer in IXP

- Transit
  - Cost of transit 5 USD per Mbit per month

- Peering (10G)
  - Local transport: 2,000 USD MRC (10G)
  - Colocation fee: 1,000 USD MRC
  - IX port: 800 USD per month
  - X-connect: 125 MRC
  - Equipment: 500 USD per month (router amortized at 36 months)
  - Total: 4,300 USD total per month
Peering break even

- Cost of peering at maximum efficiency
  - Cost of peering / BW
  - 4,300 / 10,000
  - = 0.43 Mbps per USD per Month

- Break even point in BW
  - Cost of peering / Transit cost
  - (4,300 MRC) / (5 USD/Mbps/MRC)
  - = 0.86G

Try it yourself [here](#)
Fine-tuning model

- **PNI instead would be same case but** remove IXP port fee.
- Calculate your model for **port utilization expectation**
- **Investigate which ASNs you can reach** at the interconnection point and what would the traffic levels
- Other costs that you would save or increases in revenue by peering
- **Sunk cost of investments** already made, i.e equipment, transport investments
- Forecast traffic growth
Fine-tuning the model

Cost considering utilization and hardware sunk costs

- Exercise 20% port utilization 20%
- Exercise 40% port utilization 40%
- Exercise 60% port utilization 60%
- Exercise 80% port utilization 80%
- Exercise full port utilization 100%

Try it yourself [here](#)
Conclusions

- Peering is a business decision executed with technology
- Peering could bring savings in interconnection costs and improve the user experience
- Where to peer and how to peer will depend on your own needs and traffic patterns
Thank you and happy peering