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IP Interconnection

Theories of harm and ACM's experience

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Research done by ACM

- Request from Ministry of Econ. Affairs:
  - Any “restrictive IP Interconnection behaviour” in NL?
  - If so, are existing instruments of regulator sufficient?

- Method:
  - Formulate possible theories of harm
  - Interviews - CAPs, ISPs, IXPs, transit providers and experts
  - Assess likelihood of competition problems in NL

- Report published in 2015 (in English): https://www.acm.nl/nl/publicaties/publicatie/14769/Onderzoek-IP-interconnectie-in-Nederland/

Some basic economics of IP Interconnection

- Networks *complement* each other
- For every network, each network decides whether peering or transit is more efficient

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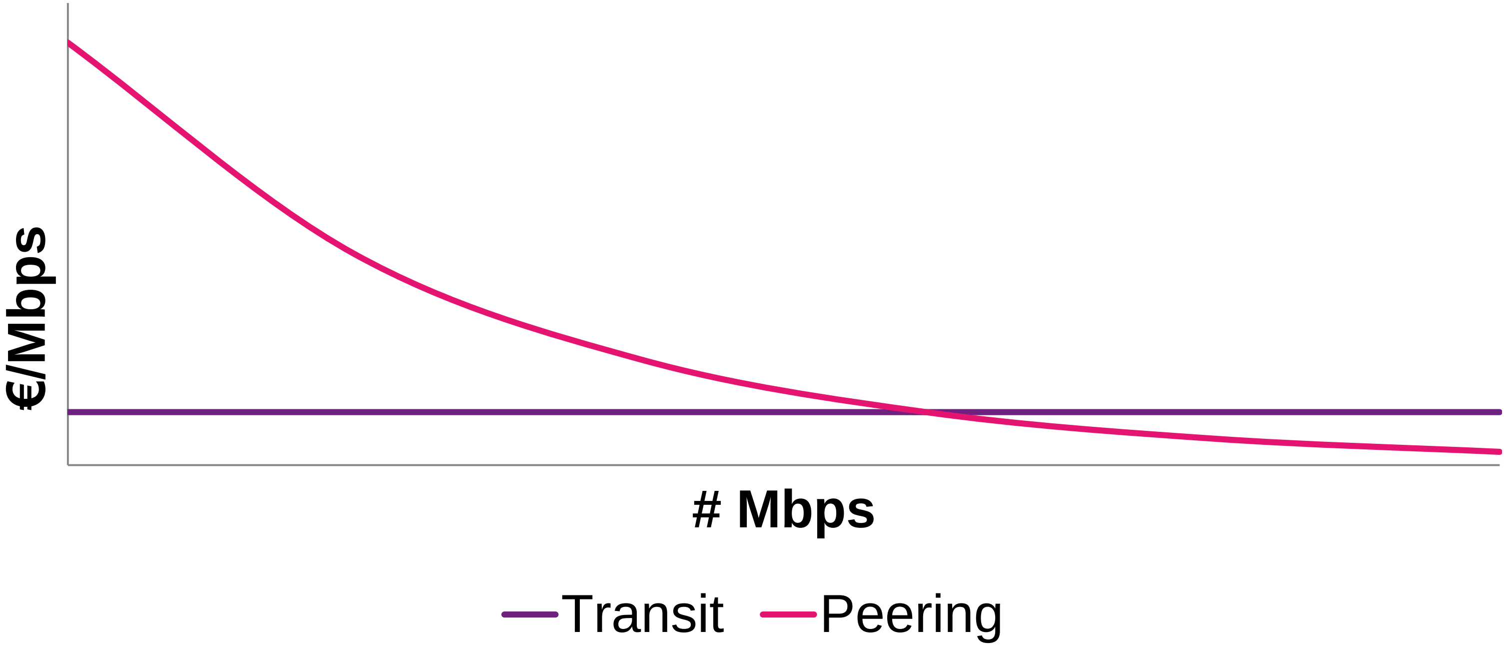

Bargaining

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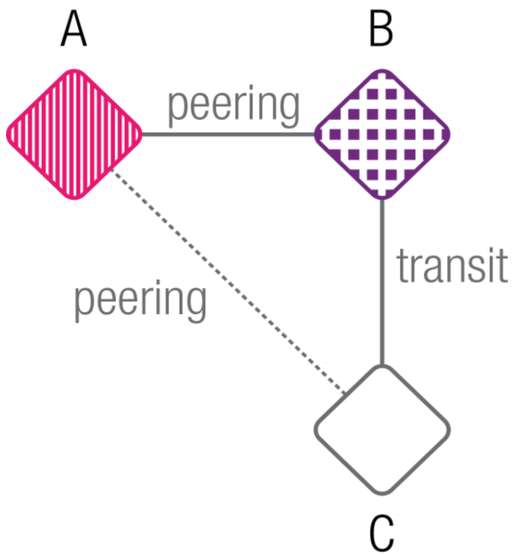
- Networks may bargain over peering deal
- Settlement fees can be part of bargaining solution
- Example:



Theory of harm 1

- **Exploitation of a competitive bottleneck**

- Idea: to reach ISP's customers, CAP's traffic must go through ISP's network, so ISP may be able to levy a "termination fee"

- Analogous to bottleneck theory in voice termination
  - Destination network is only network to reach called party
  - Called party does not internalise termination fee
  - Each network has incentive to raise termination fee
  - Higher prices and deadweight loss

Theory of harm 1

- Relevant questions for assessment:

  1. Are customers single- or multi-homing?
  2. Do customers switch networks if quality of (some) content is low?
  3. Is transit a substitute for peering?
  4. Do CAPs have countervailing bargaining power?

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Theory of harm 2

- **ISPs may use their market power on the market for Internet access to foreclose the market for content**

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- Idea: vertically integrated ISP favors own content by hindering IP Interconnection with other CAPs

Theory of harm 2

- Relevant questions for assessment:

  1. Does the ISP have market power in the market for Internet access services?

  2. Degree of competition in the content market and the ISP’s position on the market for content

  3. Is there really an incentive to exclude competing content?
     - Content makes network *more* valuable whether produced in-house or by competitor

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Possible efficiencies/justifications

- Protecting transit business
- Settlement fees can be way to split gains from peering
- Settlement fees can simply reflect bargaining strength
- Refusal to peer may be caused by excess capacity on other peering links

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Difficulty of ToH 1 in practice

- How to distinguish between “anti-competitive toll” and “fair bargaining”?
  - If settlement-fee is not higher than savings on transit costs plus possible value of quality improvements, what can go wrong from a market efficiency perspective?

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Experience of ACM at the time of the report (end 2015)

- In general, anti-competitive settlement-fees/refusal to peer is unlikely in NL
  - Paid peering is rare
  - No degradation of quality due to IP interconnection conflicts; there was sufficient transit capacity anyway according to interviewed CAPs
  - It has occurred that parties reverted to transit even though peering seems more efficient: CAPs did not want to set a precedent by paying a fee

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Recent experience of ACM

- Two disputes over settlement fees for peering brought to our attention
- No intervention, parties resolved dispute themselves
- In both cases parties eventually peered, once with and once without settlement fee

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Concluding remarks

- Overall, parties seem to find the most efficient way of interconnection, even though bargaining sometimes leads to temporary congestion

- Settlement fees sometimes paid, but not clear they are ‘too high’

- Competition law seems sufficient to address potential problems

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