Peer locally
... with local network
... on local IXs
... or not!

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(Alternate title: Remote peering is bad for ... $content)

The premise of this talk

[1]   *Peering is (and will possibly always be) a local thing.*

[2]   *It started like that and it continues to this day.*

[3]   *But a few decades ago it started getting global. Very global!*

[4]   *Times and networks have changed. Content has moved closer to eyeballs over the past decade. IXs have sprouted up in nearly every geography.*

[5]   *Every community centered around NOGs, NOFs, IXs, and peering forums have now proliferated to all four corners of the globe.*

[6]   *Heck even those telco-centric Capacity meetings have started to offer "peering days".*

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Agenda-du-jour (approximately)

- The fairytale history of peering
  - Maybe just a brief overview
  - There is no magic fairy

- Remote peering
  - We have been doing it forever
  - We maybe shouldn't be doing it as much as we should

- Keep in mind:
  - These are the thoughts and rantings of an Industry veteran. (Like that should matter!)

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The fairytale history of peering

Once upon a time there was this little network and it wanted to become a bigger network.

It was clear that all the big-boys were happily-connected to the local Internet Exchange (OK, so one of them were called NAPs - it's all the same-same).

So the little network connected and once its 10 megabit per second port was configured correctly, it became a happy peering network. Traffic flowed. More traffic flowed. All was good.

Soon other networks connected and all was still good. That little network could peer with a local network, a distant network, heck - it could even peer with a big foreign network! All was good at the local peering exchange point.

Until it wasn't.

Here's the rub. There is no magic fairy

- ## The speed of light is fixed
  - c = some-big-number (like 671,000,000 mph)
  - A nanosecond is maybe hard to visualize[1]; a whole second is forever!
- ## The distance between locations is fixed
  - There's no getting around the fact that users of the Internet are geographically spread out.
  - It would be much simpler if everyone lived in one single place.

- ## Combine speed and distance …
  - … latency happens

[1] Look up Grace Hopper and nanosecond

So networks from far away need to peer

- When networks ruled the world
  - (i.e. content existed within networks), all was good

- When content started to build its own networks
  - all was still good

- When content started to move into geographically diverse locations …
  - … there were issues.

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Define remote peering (or peering remotely)

- A network far far away

- A network far far away, close to local peering and/or content but doesn't peer locally

- A network far far away, close to local peering and actively participating in that local peering

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Layer 2 or Layer 3 ... does it matter?
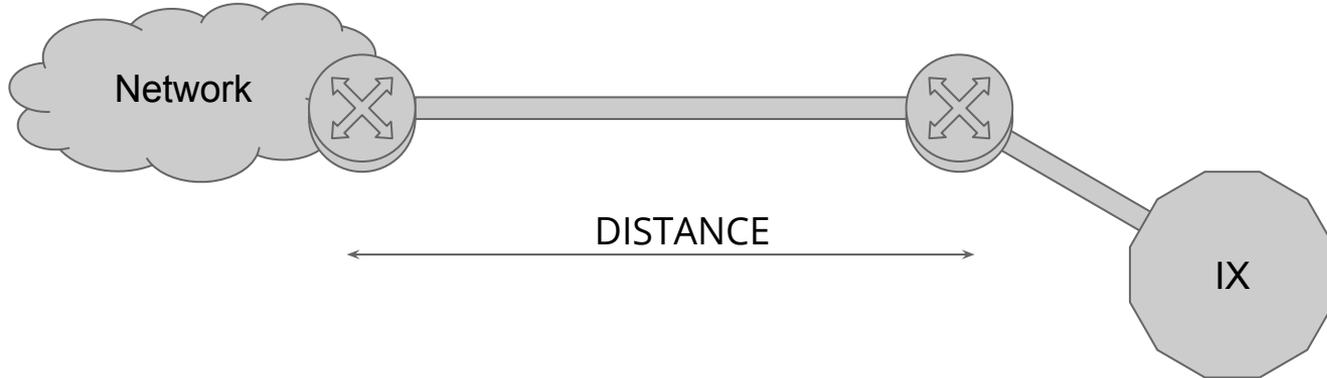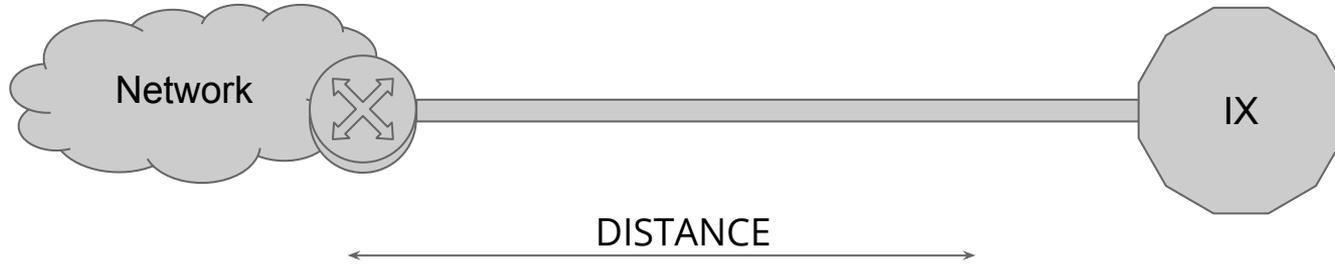
Let's step back and consider what's going on

- So what's a global community to do next?
    - Should we continue to throw remote peering links halfway around the globe?

- Can we make it easier to place content locally?
    - Let's admit it, there are some places around the globe that are just hard to build into!

- The draw of a large IX in distance lands can't be ignored!

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Let's step back and consider what's going on

- Should we encourage or dissuade large IX organizations from building into every remote location they can squeeze into or connecting networks from far-away?
    - Should we be encouraging local networks to gain the expertise to both run IX and operate local peering networks?
    - ISOC (and some of the RIRs) have been pursuing this and building communities - which is the first step!

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Or, maybe we just ignore this ...

Maybe it can all live harmoniously together?

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Some homework (the analytical approach) …

Please read
https://labs.ripe.net/Members/vgiotsas/uncovering-remote-peering-at-internet-exchange-points if you want some deep technical review of this subject.

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Q&A

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@mahtin ... many places

"We have time for just one long-winded, self-indulgent question that relates to nothing we've been talking about."

OSLO

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