

# The 2nd Workshop on Internet Economics (WIE'11)

## Peering strategies: How Do Networks Decide?

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# Disclaimers



## I do not have a network

- Chief Network Architect for the largest non-network in the world!

## I am “content”

- Whatever that means

## I am on the board of two Internet Exchanges & the Peering DB

- Whether I think peering is useful or not is left as an exercise for the reader

## I am going to skip over *many* details

- This is intentional, discussion is more important than pontificating

## I did these slides on the plane last night...

# Peering strategies: How Do Networks Decide?



More than one decision to make:

1. Peer with other network(s)?
2. Drag network to peering location?
3. Connect to Internet Exchange?
4. Private peering?

There are probably others, but let's start here

## Peer with other network(s)?

First decision is whether it is even a good idea to peer at all

Peering is not free despite what many people say

- OpEx (increased complexity, more and different engineers, etc.)
- CapEx (additional equipment, more fiber, etc.)

Will other networks peer with you?

Will they charge you anything to peer?

Drag network to peering location?

Most networks are not located inside large peering locations

Costs money to drag network elements to those locations

- Sometimes this is offset by the fact it is cheaper to buy transit at these locations due to increased competition

## Connect to Internet Exchange?

Exchanges usually cost money.

- Plug for Seattle IX

What is the cost of an IX port vs. multiple private x-conns?

It is essentially unheard of to charge for peering over an IX

## Private peering?

Should you have dedicated peering ports?

Do your flows to each peer / some peers warrant dedicated ports?

Would it cost more to serve the traffic over an IX?

Will the peer even take the traffic over an IX?

Will the peer dedicate ports to you?

- Will the peer charge you for dedicated ports?

Should you do both private and public peering?

## Answers (?)

There are many “answers” to these questions

- Performance
- Lower transit
- Reliability
- Scalability
- Sales
- Marketing
- Ego
- Get entry in PeeringDB

Most of these answers can be used for or against each of the previous questions

Worse, they are all wrong, or at least not the “root” of the problem

- Except the last one, that actually is a good reason to peer 😊



The Real Answer: PROFIT!



## Answers: There Can Be Only One

Peering is a business tool, it should be used for one and only one purpose, to further business goals – i.e. **MONEY**

But profit is not as simple as:

$$\text{\$Transit\_Saved} - \text{\$Cost\_Of\_IX\_Port}$$

Nor is it as simple as: “If I charge them, I will make money”

Would that life were so simple!

## Getting to the real answer



When entering a discussion about peering, do not listen to the reasons people give

Think about whether they can make or save more money by peering or not peering

If the answer to that question differs from their stated answer, either you or they are confused about something (and frequently both)

# Discussion



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