# What is Peering

(UPDATED)

Peering is the connection of one network operator to another network operator to exchange traffic originated by each network operator.

The vast majority of peering does not attract traffic charges - it is known as “settlement-free peering”.

Peering takes place in two forms:

1. Private Peering
2. Public Peering

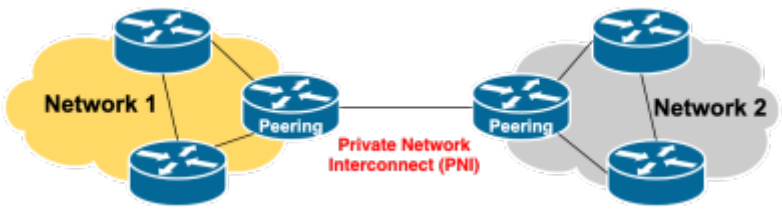
To implement a peering relationship, the network operator needs to have knowledge and a good understanding of BGP, the Border Gateway Protocol. It is not possible (or remotely practical) to implement peering without the use of BGP.

## Private Peering

(UPDATED)

**Private peering** is where there is a private connection between the two network operators for the purpose of exchanging traffic. This is usually known as a **Private Network Interconnect**, or **PNI** for short.

The physical interconnect is owned jointly by the two operators, and can range from a simple fibre or copper cross-connect in a datacentre, to a long haul link (fibre optic or wireless) between each operators data centre.




The two operators who are peering with each other manage the link, the traffic levels, and what routes are reachable by the other operator. BGP is used by each operator to share routes with each other.

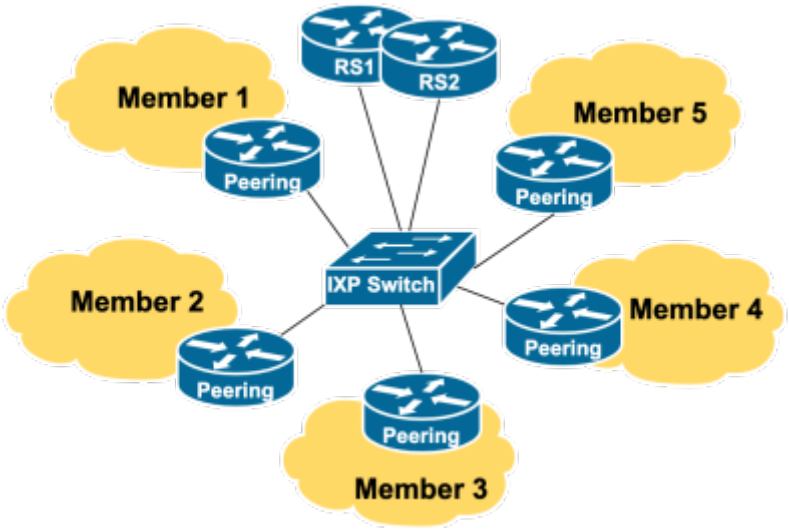
**Private** refers to the link being entirely a business relationship between the two operators - there is no third party involved in conducting this interconnect.

This is a very common form of peering, and is usually the next external connection a newcomer network operator will make after their transit connection to their upstream provider.

Private peering has considerable benefits for both operators - traffic exchanged between the peers does not have to traverse their respective upstreams and therefore attracts no traffic charges.

## Public Peering

**Public peering** takes place at a public peering point, commonly known as an Internet Exchange Point (IXP).




Public peering is how network operators scale private peering - a large number of private interconnects with different network operators starts becoming expensive and more challenging to manage. So rather than having many private interconnects with other operators, it is more cost effective, and operationally straightforward, to connect to a public interconnect where all operators meet, and peer with all of them there.

This may seem counter-intuitive when commercial network operators all compete with each other, but each competitor knows that they improve their cost and quality of operation by interconnecting with their competitors.

As a newcomer network operator is scaling their operations, it becomes high priority for them to participate in their local Internet Exchange Point.

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Last update: **2023/03/27 06:39**