



# PEER INTO THE FUTURE OF INTERNET CONNECTIVITY

## WHAT IS PEERING

- Peering allows multiple networks to connect and exchange traffic
- Networks that peer can directly share traffic without having to pay a third party to carry the traffic across the Internet
- Peering can increase the resilience, speed and performance of networks and can be based on a range of private and public peering models that allow for different business arrangements

The world is becoming more connected. Cloud computing services, such as Software as a Service (SaaS), are exploding in popularity, while demand for streaming is seeing Internet traffic increase rapidly. In addition, more businesses are seeing the value in establishing direct connectivity with leading Content Delivery Networks and popular consumer services.

Internet Exchanges play a vital role in this shifting connectivity landscape. While some of the leading cloud platforms offer companies a direct, dedicated connection, the vast majority of cloud and content services still require the Internet for access. As a result, peering at an Internet Exchange has become an increasingly important part of the interconnection strategy for businesses that need to ensure the performance and resilience of their networks.

## Private Or Public Peering?

### 1. Private Network Interconnections

These offer several options:

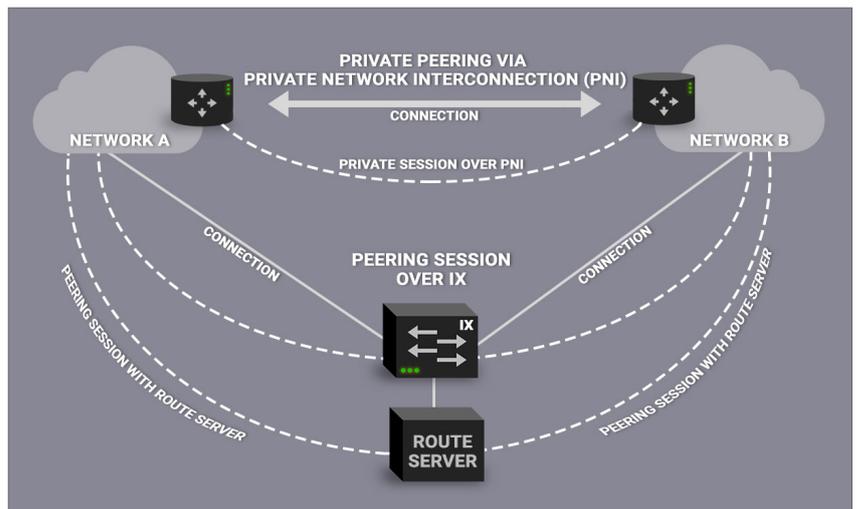
- Connection organised between two networks, who manage the fibre and connection themselves and exchange traffic for free
- In some cases, if a smaller network wants to exchange traffic with a much larger network a financial transaction will take place
- Can be organised through the data centre if the two networks are both collocated
- Netnod's Optical IX can also interconnect networks at different data centres

### 2. Public Peering at an Internet Exchange (IX)

Connect through an Internet Exchange and peer with any other network present at the location. This provides exceptional performance, a wide choice of peering partners and low cost of traffic.

## ROUTE SERVERS

One of the tools available to networks that peer publicly. They enable you to easily peer with hundreds of networks using just one connection. Nearly 70% of connected networks at Netnod are available through its route servers.



## Why You Should Consider Peering

Robust and resilient network interconnections are the key to doing digital business and enabling advanced networking capabilities. Peering can help here by removing the single point of failure associated with relying on a single ISP to handle your Internet traffic. Peering enables networks to scale by handling increasing volumes of traffic while offering improved performance and much lower latency. The key advantages of peering include:

### PERFORMANCE

Communicating with networks and other businesses directly brings you closer to users. Instead of backhauling on a transit route, you ensure that you keep traffic local and reduce latency. The end user experience is improved and your network has resilient connectivity to the networks and content providers that matter most for your business.

### RESILIENCE

Relying on one route for your network traffic means you have a single point of failure. Peering gives you multiple routes enabling you to mitigate risk, increase redundancy and ensure the resilience of your network.

### SPEED

Peering enables businesses to keep traffic local, reduce latency and avoid the possibilities of congested ISP routes and networks.

### FINANCIAL SAVINGS

Peering is an attractive option for businesses that transmit large amounts of data. It helps you reduce the cost of your network traffic by avoiding expensive IP transit costs.

### CONTROL

Peering offers more control over external paths, and routing can easily be adjusted to avoid problem network segments.



## Getting Started with Peering

Any business that uses cloud-based software or applications can benefit from peering to ensure availability, resilience and increased performance. As Internet connectivity evolves, all kinds of networks benefit from the presence at an Internet Exchange of transit providers, cloud providers, Content Delivery Networks, Internet Service Providers and Enterprises.

## How to Get Started

Before joining an Internet Exchange consider which organisations are already present and whether it is home to major content providers, cloud providers, ISPs and other networks with customers and routes relevant to your business

- Establish an Autonomous System Number (ASN)
- Set up a router to connect to a port at the Internet Exchange
- To reach the most peers, start peering with the Internet Exchange route server
- Start to establish peering relationships with the big players in your region and the networks of most relevance to your business and customer



### WHAT IS AN AUTONOMOUS SYSTEM NUMBER (ASN)?

An ASN is a unique global number that enables a network to exchange traffic with other networks and enables these networks to communicate their routing preferences.

### WHAT IS A PORT?

A port is the connection point for networks connecting to an Internet Exchange. Port speeds available range from 1 Gigabit per second to 10 and even 100 Gigabit per second.

## What Forms a Great Location for an Internet Exchange?



- Well connected, neutral data centres located in cities with a high density of networks and regional routes
- A fast, stable connection that ensures business continuity
- Investment of significant resources into an Internet exchange infrastructure that can accommodate increases in capacity and offer customers the widest choice of how they connect and exchange traffic
- In the Nordics, Stockholm is the established network hub with the best access to Russia
- Copenhagen is becoming a key location, with the introduction of hyperscale data centres and a new undersea cable connecting Denmark to the US.

### INTERXION STOCKHOLM

- Stockholm is the network capital of the Nordics with all leading international carriers present
- Interxion in Stockholm is one of the best connected data centres, offering direct access to leading clouds, carriers and internet exchanges
- Interxion Stockholm serves as a great gateway connecting Western Europe to Russia and the Baltics

### NETNOD

- Interconnecting the largest networks and data centres in the Nordics
- Peering opportunities with the largest ISPs, telcos and Content Delivery Networks in the region
- Highest amount of traffic per peer in Europe and best possible access to the Nordics, Baltics and Russia

### INTERXION COPENHAGEN

- Best connected neutral data centre in Copenhagen offering reach to leading carriers, clouds and internet exchanges
- Denmark offers reach across the Nordics and Northern Germany
- From Copenhagen you can reach 80% of Europe's GDP within just 30 MS roundtrip

## Why Neutrality is Key

Interxion and Netnod are both carrier and cloud neutral, and Netnod is data centre neutral. This means networks are free to benefit from peering opportunities with all ISPs, with the additional flexibility to interconnect with networks at other data centres through Netnod's Optical IX. Together, Interxion and Netnod provide the best possible infrastructure for you to do business and evolve your network.

## The Future of Connectivity

When a network is set up traffic is likely to grow, and grow fast. Connecting to an Internet Exchange provides the fibre, transmission and architecture needed to future proof your network without the cost of building this yourself.

Peering requires an initial investment in time and technical knowledge. But this is more than worth it once you reap the benefits of resilience, improved performance, traffic control and lower latency.



### TO FUTURE PROOF THEIR CONNECTIVITY BUSINESSES MUST:



Take control of their Internet traffic with a more focused approach to exchanging traffic with key networks in the region.



Ensure network services are highly available, resilient and offer optimal performance for end users.



Gain direct routes into leading content platforms, ISPs, carriers and cloud providers to guarantee the highest level of performance for their network operations

## Why Interxion & Netnod

- Selecting a data centre provider and Internet Exchange that won't influence you to peer with specific businesses will improve the quality of your connectivity.
- Interxion's data centres offer the perfect community of interests of Internet Exchanges, carriers, IT service providers, cloud providers and CDNs with the peers, connectivity and businesses connecting into these services.
- Netnod is connecting the Nordics and is one of the largest IXs in Europe, helping businesses exchange traffic with the world's leading CDNs, international carriers and operators, as well as tapping into new markets.

Discover why Interxion and Netnod are the perfect team to get you into the peering game

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**NET  
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**Cofounder:** Uptime Institute EMEA chapter. **Founding member:** European Data Centre Association.  
**Patron:** European Internet Exchange Association. **Member:** The Green Grid, with role on Advisory Council and Technical Committee. **Contributor:** EC Joint Research Centre on Sustainability. **Member:** EuroCloud.

Interxion is compliant with the internationally recognised ISO/IEC 27001 certification for Information Security Management and ISO 22301 for Business Continuity Management across all our European operations.  
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With more than 20 years of experience at the core of the Internet, Netnod provides critical infrastructure support ranging from Internet Exchanges and DNS services to root server operations and activities for the good of the Internet. Established in 1996 as a neutral and independent Internet infrastructure organisation, Netnod is fully owned by the non-profit foundation TU-stiftelsen (Stiftelsen för Telematikens utveckling).

