



UNLOCKING GLOBAL
CONNECTIVITY

A Guide to Remote Peering

The surge in global cloud, content and digital communication is fuelling the demand for efficient internet traffic exchange worldwide.

With 5.18 billion internet users worldwide as of April 2023, internet traffic is predicted to reach 150.7 exabytes monthly, mainly due to video content consumption.

Peering plays a significant role, enabling networks to share traffic, with large Internet Service Providers (ISPs) collaborating with others for backbone network traffic and connecting with smaller ISPs for regional endpoints.

For many global organisations, traditional Direct Peering is no longer feasible due to high costs that are incompatible with the demands of today's always-on digital world. Consequently, Remote Peering is experiencing significant growth.

In this guide, we will walk through how Remote Peering can enable organisations to deliver exceptional digital experiences, regardless of their location.

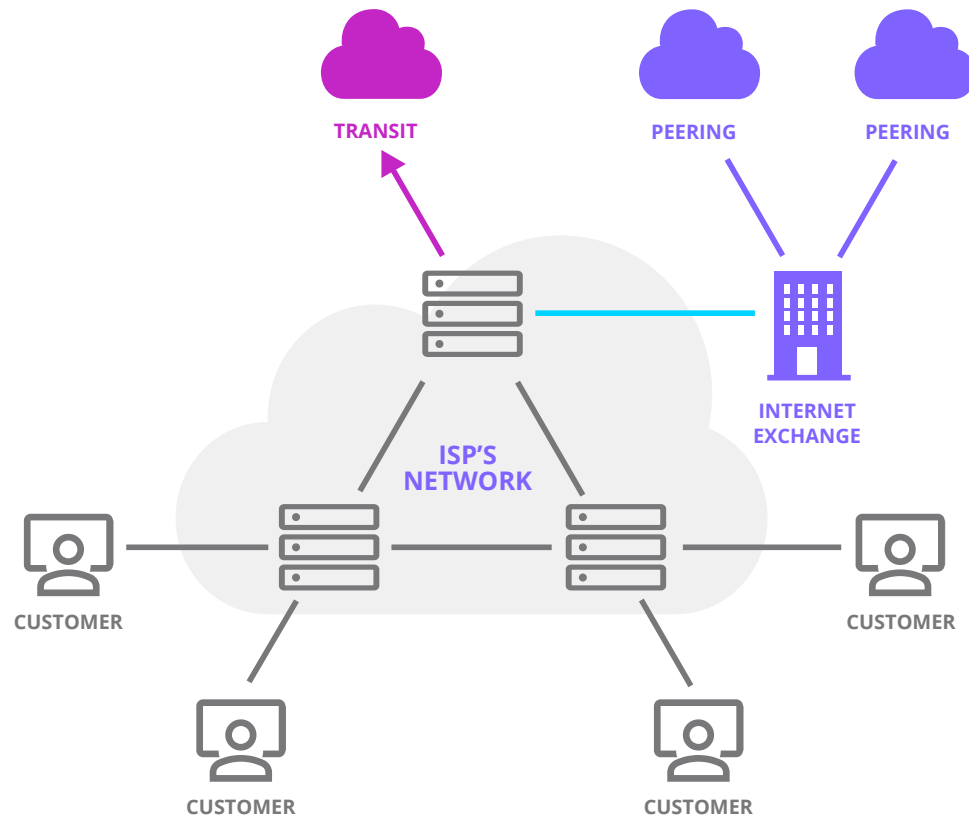
Source: Statista, Gitnux



Network of Networks

The Internet is a network of networks, and the effectiveness of its services hinges on the way these networks interconnect. There are various ways these networks interconnect and exchange traffic on the Internet. Here are three common approaches:

1. Direct connection facilitated by a transit provider
2. Dedicated and private interconnection established directly between two or more networks
3. Peering at an Internet Exchange Point (IXP), allowing members to interconnect with one another





What is Peering?

Peering is the direct exchange of internet traffic between networks at an Internet Exchange Point (IXP). It improves internet performance, reduces reliance on third-party transit providers, and leads to a faster and more reliable internet experience for end-users by efficiently exchanging data with fewer hops.

What is Remote Peering?

Traditional IXP Access such as Direct Peering requires organisations to have a physical Point of Presence (PoP) at the IXP. The process is long and complex, involving hardware installation, additional fees for connections, and the management of multiple supplier relationships.

Alternatively, Remote Peering enables organisations to seamlessly connect to an IXP without being physically present at the exchange point. This can be done via a service provider, such as Epsilon, with pre-existing connections to the peering platform.



The Move to Remote Peering

The adoption of Remote Peering paves the way for more businesses to peer at IXPs globally. It offers a faster and more cost-efficient method to access multiple IXPs compared to Direct Peering.

This comparison table illustrates the differences:

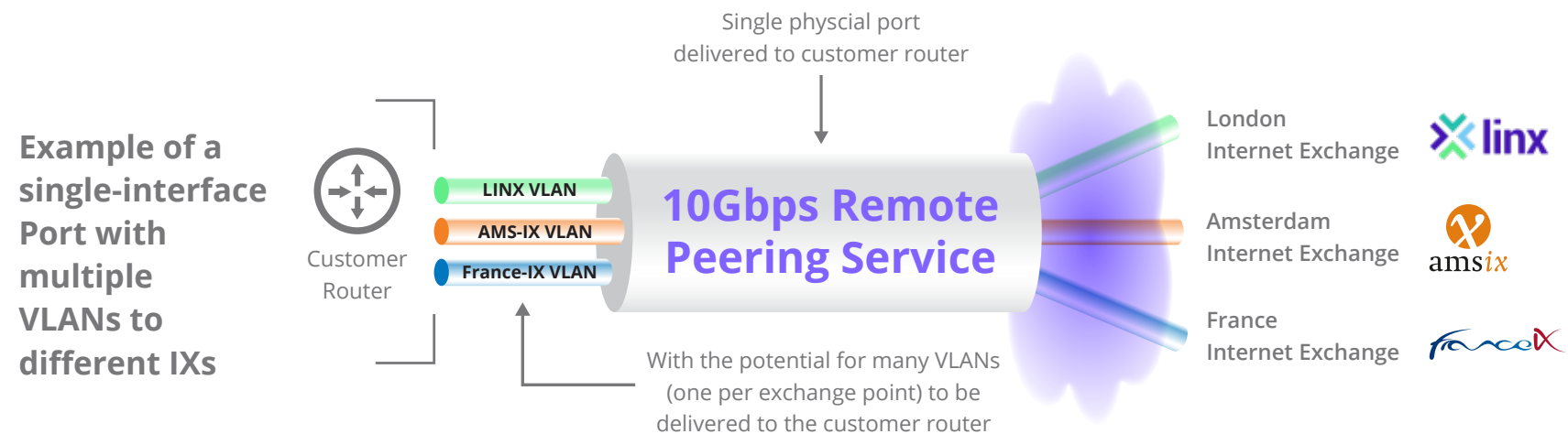
	Point of Presence (PoP) Requirement	Hardware Requirements	Port and Cross Connect Setup	Vendor Management
Remote Peering	Businesses can connect to IXPs without being physically present, as the connections are made through the Remote Peering provider.	Remote Peering does not necessitate the deployment of physical hardware at the IXP, making it quicker and more straightforward to establish peering connections.	Businesses can access multiple IXPs using a single interconnection port. This setup requires just one cross-connect to the service port to interconnect across various IXPs.	Businesses are relieved from the complexities of managing multiple IXPs relationships. Often, the Remote Peering provider offers end-to-end SLAs and a single contract.
Direct Peering	Businesses need to have a physical PoP at the IXP.	Businesses need to invest in hardware installation, pay for colocation and utility fee at each IXP, as well as ongoing maintenance charges.	Traditional Direct Peering requires a separate physical port and cross-connect for each IXP the network wishes to peer with.	Traditional Peering requires businesses to manage individual IXPs, which often come with different SLAs and membership requirements.

Epsilon's Remote Peering

Epsilon's Remote Peering solution enables businesses to connect directly and securely to world-leading Internet Exchanges via Epsilon's robust infrastructure and PoPs, eliminating the need for physical presence at the IXP.

Members with an active port from Epsilon can allocate a portion of the port's capacity to define a Virtual Local Area Network (VLAN) for peering remotely with IX members.

Epsilon's Remote Peering service is powered by dedicated Layer 2 connectivity between businesses and the Internet Exchanges, and available on-demand via Epsilon's Network as a Service platform, Infiny.



Benefits of Epsilon's Remote Peering

1 Greater Reach

A typical large Internet Exchange facilitates connections with a few hundred IP networks worldwide, theoretically gaining the ability to reach a global audience.

Epsilon, one of the largest Remote Peering Providers, multiplies this capability by connecting to over 19+ of such leading IXs worldwide.

With just one single interconnection port, businesses can remotely peer with AMS-IX, LINX, SGIX, DE-CIX or any of Epsilon's ecosystem of Internet Exchange partners to expand their global reach. To date, we have 140+ Internet Exchange on-ramps located globally and peering communities of 11,000 members, including online gaming sites, payment providers, content providers, and more.

- ✔ **One Port, Unlimited Reach**
- ✔ **Peer with 19+ Internet Exchanges**
- ✔ **Access to 11,000+ Members**



2

Improved Network Performance

Remote Peering enables easy connections with a broader range of networks at different IXPs, leading to improved network performance and reduced latency.

With Epsilon's large ecosystem of Internet Exchange partners, businesses gain the flexibility to establish peering connections at strategic locations, reducing the distance data packets must travel between peering partners, leading to lower latency. In addition, the network administrators enjoy greater control over traffic routing, bypassing intermediate networks and congestion points.

To ensure even greater speed, security and reliability, Epsilon's Remote Peering is underpinned by its own high-performance global network and backed by industry-leading SLAs.

✔ **Reduce Latency**

✔ **Improve Security**

✔ **Gain Network Resiliency**

3 Operational Simplicity

Remote peering offers simplicity as IP networks join an IX and establish a peering policy, leaving autonomous systems to handle the rest. This eliminates the need to individually create and manage connections with numerous other networks present at the exchange.

At Epsilon, we take simplicity to a new level with our hassle-free end-to-end solution for IX memberships, connectivity, and peering, all covered by one simple contract.

What sets us apart is our capability to empower businesses with the freedom to self-provision, scale, and monitor peering and connectivity services instantly through our award-winning, user-friendly Network-as-a-Service (NaaS) administration portal.

✔ **One Contract**

✔ **Provision
On-demand**

✔ **Fast Onboarding**

✔ **Single SLA**

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Reduced Costs

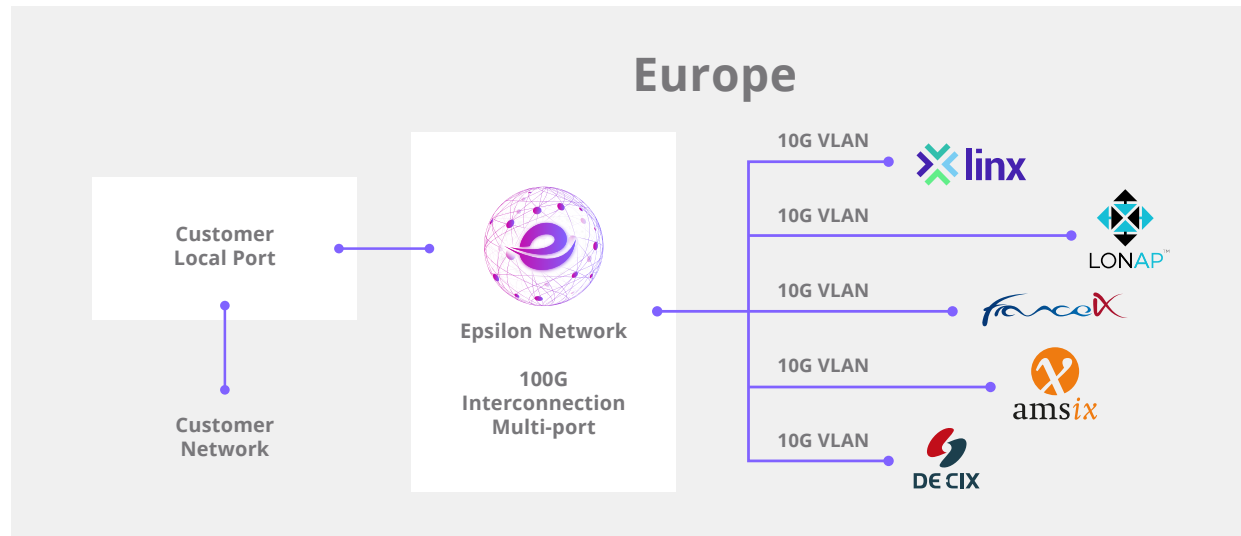
Remote Peering offers significant cost savings compared to Direct Peering, making it an attractive option for networks seeking to expand their peering relationships across multiple IXPs without the need for extensive physical infrastructure and associated expenses.

In the following pages, we present two examples of how Epsilon enables organisations to achieve 10-40% savings by consolidating their existing Direct Peering into Remote Peering.

- ✓ **No Physical Interconnection Fee**
- ✓ **No Colocation Expenses**
- ✓ **No Hardware Deployment Cost**
- ✓ **Lower Ongoing Operational Costs**

Scenario 1

Customer consolidated its Direct Peering services with 5 IXs within Europe into Epsilon's Remote Peering service with a 100G interconnection port

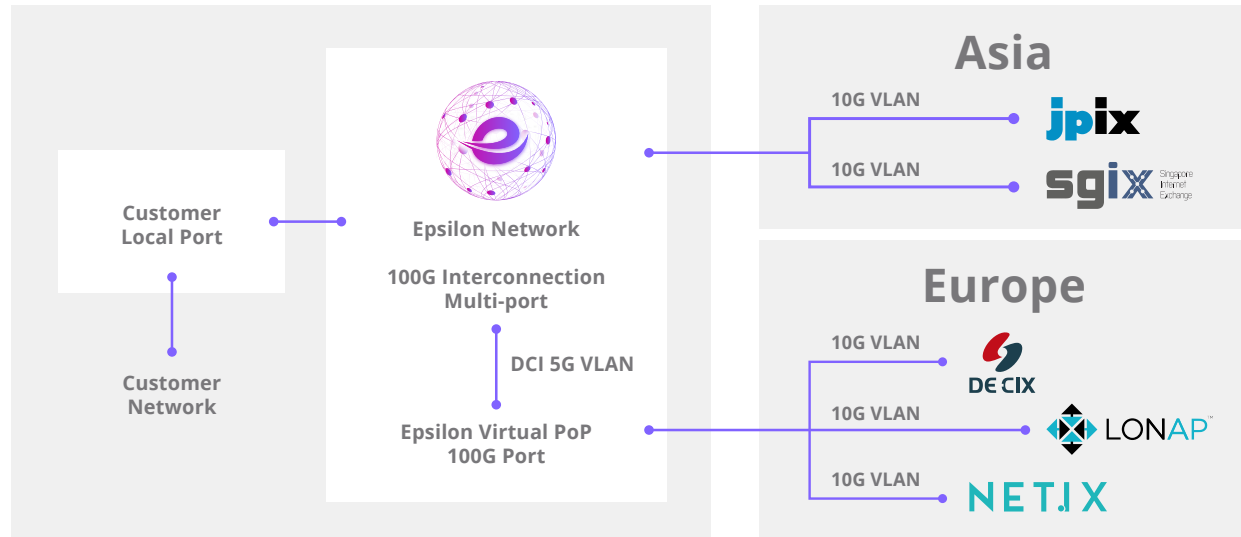


	Number of Port(s)	Number of Cross-connect(s)	Colocation and Hardware	Total Cost Per Year
Direct Peering	5 x 10G	5	Colo at 5 IXs	\$171,420
Remote Peering	1 x 100G	1	✗	\$103,476

Total Savings 40%

Scenario 2

Customer consolidated its Direct Peering with 5 IXs (2 local IXs in Asia and 3 in Europe) into Epsilon's Remote Peering 100G interconnection port service, and a Data Centre Interconnect (DCI) between Asia and Europe



Cost	Number of Ports	Number of Cross-connect(s)	Colocation and Hardware	Data Centre Interconnect	Total Per Year
Direct Peering	5 x 10G	5	Colo at 5 IXs*	✗	\$171,420
Remote Peering	1 x 100G	1	✗	1	\$148,176

Total Savings 14%

* The above cost excludes Remote Hands for on-site maintenance in Europe and Access to the IXs

Effortlessly expand your global presence with your peering partner of choice. Epsilon's Remote Peering gives you on-demand access to:

19+
Major Internet Exchanges

11,000+
Community Members across Internet Exchanges

140+
Global Internet Exchange On-ramp locations

Scalable Bandwidth of Up To

100Gbps

End-to-End
SLAs



Any²Exchange



Interconnecting Your World: **20 Years of Peering Experience**

Epsilon Telecommunications is a leading global software-defined network provider that provides a comprehensive suite of end-to-end connectivity and communication solutions, including remote peering, to the world's largest carriers and organisations.

With Infiny, our award-winning Network as a Service (NaaS) platform, we enable seamless on-demand peering to world-leading IXPs. Combined with a high-performance and far-reaching global network that spans across Europe, the Middle East, the United States, and Asia, you can achieve complete agility and reach, truly interconnecting your digital world.

Ready to discuss Remote Peering ?

[Talk To An Expert →](#)

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