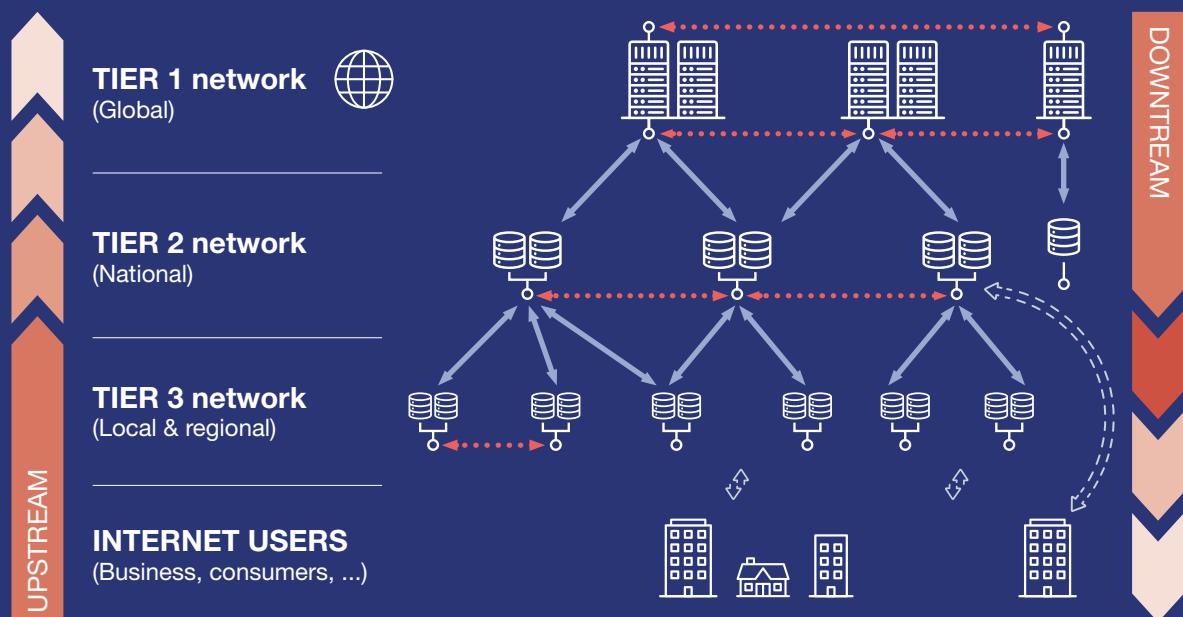


# HOW EUROPE'S IP INTERCONNECTION ECOSYSTEM WORKS

**The internet is a complex web of thousands of independent networks that must connect to one another to ensure universal reachability** for all users. This is achieved through Internet Protocol (IP) interconnection, which has evolved to minimise costs and ensure the most efficient exchange of traffic.

There are **two primary types of IP interconnection: transit and peering.**

— Transit  
..... Peering



## How IP interconnection works in practice

# TRANSIT

**Transit** is a paid service provided by large networks, or ‘upstream providers’. It physically connects smaller players – such as internet service providers (ISPs) or content delivery networks (CDNs) – to the global internet, which they cannot reach directly on their own.

Transit is essential for any ISP that wants to offer internet access to its customers. In Europe, transit prices are among the lowest in the world today.<sup>1</sup>

## PEERING

**This is a direct, mutually beneficial connection between two networks to exchange traffic, usually without payment.**

Indeed, a 2021 worldwide study<sup>2</sup> found that 99.998% of peering relationships are established without contracts or paperwork.

Peering is vital to the internet's well-functioning, as it saves costs and enhances performance. For example, it takes place between an ISP and a CDN.

This ‘**settlement-free**’ peering culture is driven by mutual benefits, competitive market dynamics, and a technical mindset that **prioritises network optimisation over commercial gain**.<sup>1</sup>

As a result, there are always plenty of alternative routing options. The only point along the route where no alternatives exist is when the traffic reaches the end user’s internet service provider.

## A THRIVING EUROPEAN MARKET AT RISK



### EUROPE’S SUCCESS STORY.

- ▶ Europe’s IP interconnection market is particularly competitive and healthy.
- ▶ The EU boasts some of the world’s largest internet exchange points (IXPs), in cities like Frankfurt and Amsterdam, which serve as global hubs for connectivity and traffic exchange.<sup>1</sup>
- ▶ The wide choice of providers and some of the world’s lowest IP transit prices underscore the EU market’s vitality.



### EVERYONE IS INVESTING.

- ▶ This competitive environment benefits everyone by significantly reducing costs for all and encouraging investment in network and delivery optimisation.
- ▶ Content and application providers (CAPs) and content delivery networks (CDNs) invest heavily in networks and peering.
- ▶ These investments save European ISPs – including big telcos – an estimated €5-6 billion per year.<sup>3</sup>



### DANGERS OF DISPUTE SETTLEMENT IN THE DNA.

- ▶ Despite this success, a few large telecom operators are now pushing the European Commission for changes to EU rules through the upcoming Digital Networks Act (DNA).
- ▶ They are advocating for the introduction of a mandated dispute resolution mechanism for IP interconnection.
- ▶ As part of the Electronic Communications Code Directive (EECC), this tool was originally designed to break up monopolies and counter market abuse in traditional telecom markets (i.e. voice interconnection).
- ▶ However, extending it to internet traffic would effectively introduce network usage fees through the back door.<sup>1</sup>

<sup>1</sup> Study on the negative impacts of mandated dispute resolution in IP Interconnection, Plum Consulting, July 2025, available here: <https://plumconsulting.co.uk/study-on-the-negative-impacts-of-mandated-dispute-resolution-in-ip-interconnection/>

<sup>2</sup> 2021 Peering Survey, Packet Clearing House, available here: <https://www.pch.net/resources/Papers/peering-survey/PCH-Peering-Survey-2021/PCH-Peering-Survey-2021.pdf>

<sup>3</sup> The impact of tech companies’ network investment on the economics of broadband ISPs, Analysys Mason, October 2022, available here: <https://www.analysysmason.com/internet-content-application-providers-infrastructure-investment-2022>

### About CCIA Europe

The Computer & Communications Industry Association (CCIA) is an international, not-for-profit association representing a broad cross section of computer, communications, and internet industry firms.

As an advocate for a thriving European digital economy, **CCIA Europe has been actively contributing to EU policy making since 2009**.

CCIA’s Brussels-based team seeks to **improve understanding of our industry and share the tech sector’s collective expertise**, with a view to fostering balanced and well-informed policy making in Europe.



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