

Network usage fees: the long saga of a troubled idea

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1. Internet traffic exchange upended telephony charging conventions – metered pricing – and ensured its success.

Flat-rate broadband & access to global websites (charges for which are recovered directly from end-users) defines the modern Internet. But early as **1997**, some telcos were pushing back:

- **1998:** Telstra sues the FCC, demanding that international Internet traffic be regulated:
 - “It is Telstra’s view that uniform flat rate International Private Lines [for Internet traffic] are unreasonable and discriminate against foreign carriers.”
- **2000:** Telstra seeks APEC support (ICAIS) but regulation was not recommended:
 - Governments need not intervene in private business agreements on International Charging Agreements for Internet Services.
 - Internet charging arrangements between network providers should be commercially negotiated.
- **2006:** The head of AT&T declared:
 - "Some companies want us to be a big dumb pipe that gets bigger and bigger. No one gets a free ride, those that want to use this will pay."
- **2008:** ITU Recommendation D. 50 (General tariff principles applicable to the Internet): widely ignored by market participants



2. Telcos' new arguments for regulation. Is it different?

1. “Most of the **data traffic growth** over the last decade has been **driven by a small number of leading Over-The-Top (OTT) providers**”. (Axon paper for ETNO, 2022).
2. “*EU telcos' financial health is being increasingly undermined, due to – among other factors - the capital investments required to deal with **exponential traffic growth***” (Axon paper for ETNO, 2022).
3. “*We cannot make a viable return on our very significant investments*”. (“Letter: Europe’s telecoms market risks falling behind rivals”, Financial Times, 2022)
 - **Assumptions:** Only telcos invest; and profitability not correlated with increased demand for content.
 - **Borrowing a bad idea:** government should intervene in bargaining, based on an unsupported theory of market dynamics (disparity in bargaining power)



3. SPNP is based on an inverted theory of cost causation.

What European regulators (**BEREC**) says (2022):

“Traffic is requested and thus ‘caused’ by ISPs’ customers.”

“The **request for the data flow** usually stems not from the CAP but **from the retail Internet access provider’s own customer** (who “pulls” content provided by the CAPs, and from whom the ISP is already deriving revenues).”

And **OFCOM** (October 2022):

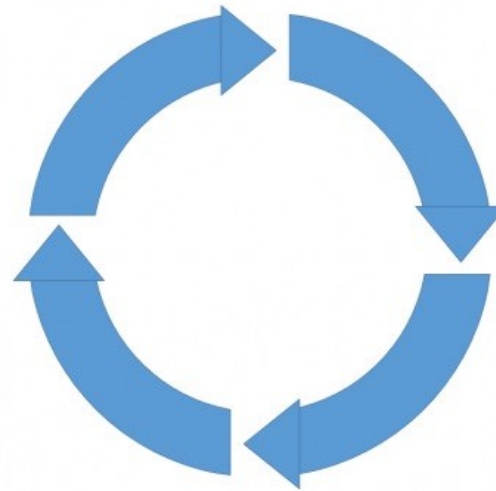
“in general, **traffic on the internet is initiated by a request** from the ISP’s retail customer”



4. The virtuous circle of apps, content & subscribership growth.

1. More and better apps/content...

4....and also revenue.



2....drive subscribership

3....which drives data



5. Tech companies increasingly invest in content & applications.



There would be no demand for connectivity...

" App Economy "
Un settore in continua crescita

A hand holding a smartphone with various app icons floating around it, representing the app economy.

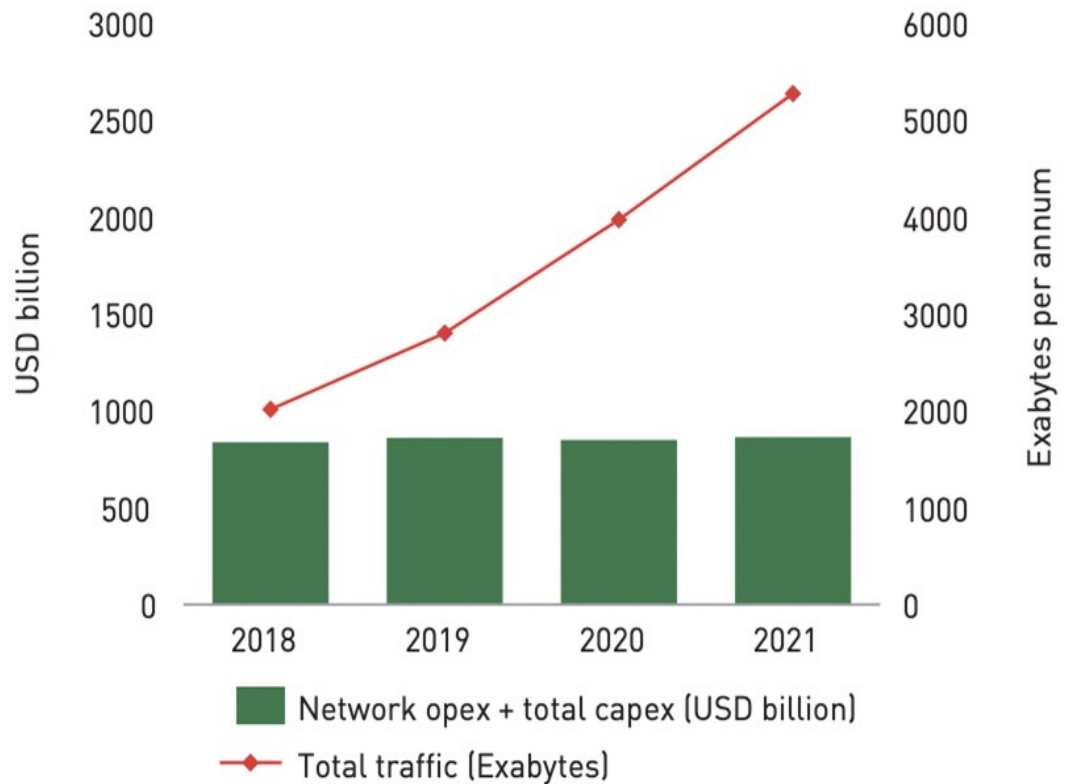
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Utilizziamo i cookie per offrirti la migliore esperienza sul nostro sito web. Puoi scoprire di più su quali cookie stiamo utilizzando o disattivarli qui.

...if weren't for tech's investments in compelling content and applications.

6. The incremental cost of data for telcos is low....

“Growth in traffic has not been accompanied by corresponding increases in network costs.”



(Analysys Mason, October 2022)

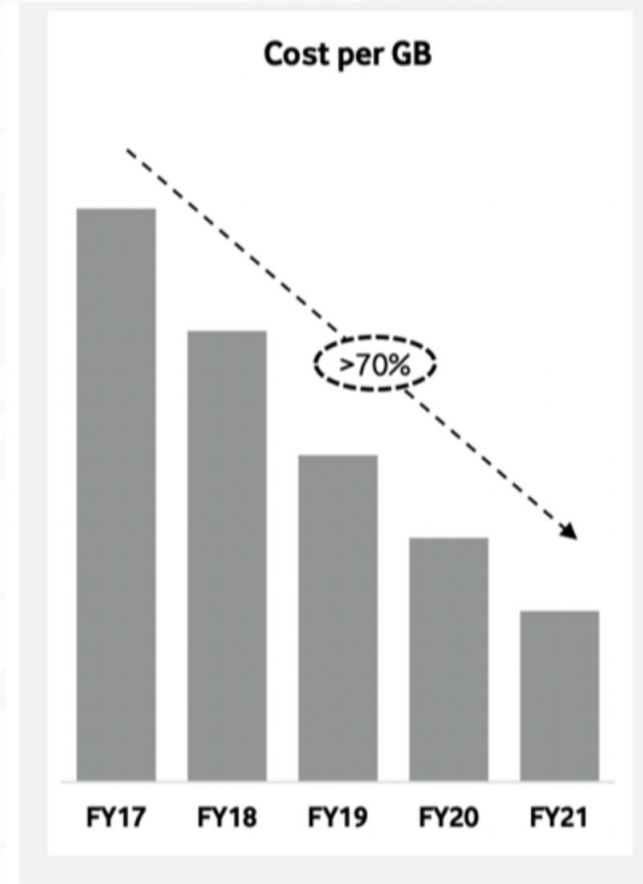


6.and keeps declining

*“We will keep pace with data traffic growth by driving down cost per gigabyte by 60% in the coming years.”
Vodafone is confident that by 2025 “the reduction in cost to carry data will meet or exceed the data growth.”
(Vodafone CTO, 2021)*

*Fixed access networks costs exhibit a very low traffic-sensitivity, while mobile networks experience some degree of traffic-sensitivity.
(BEREC, 2022)*

*“Incremental traffic related costs therefore range from approximately zero for fixed access to low and declining for transit, core and mobile networks.”
(Communications Chambers, 2022)*



6.and declining

- “[P] roviders’ shift to predominantly 100Gbps internet backbones continues to **reduce the average cost** of carrying traffic and **enables profitability at lower prices.**
- Across seven major global hub cities, 10 Gigabit Ethernet (10GbE) prices fell by 16% compounded annually from the second quarter of **2019** to the second quarter of **2022**, while 100 Gigabit Ethernet (100GbE) port prices fell by 25%.”

Source: Telegeography/Computer Weekly, 22 Sept. 2022



8. Data growth is stable, *not* exponential.

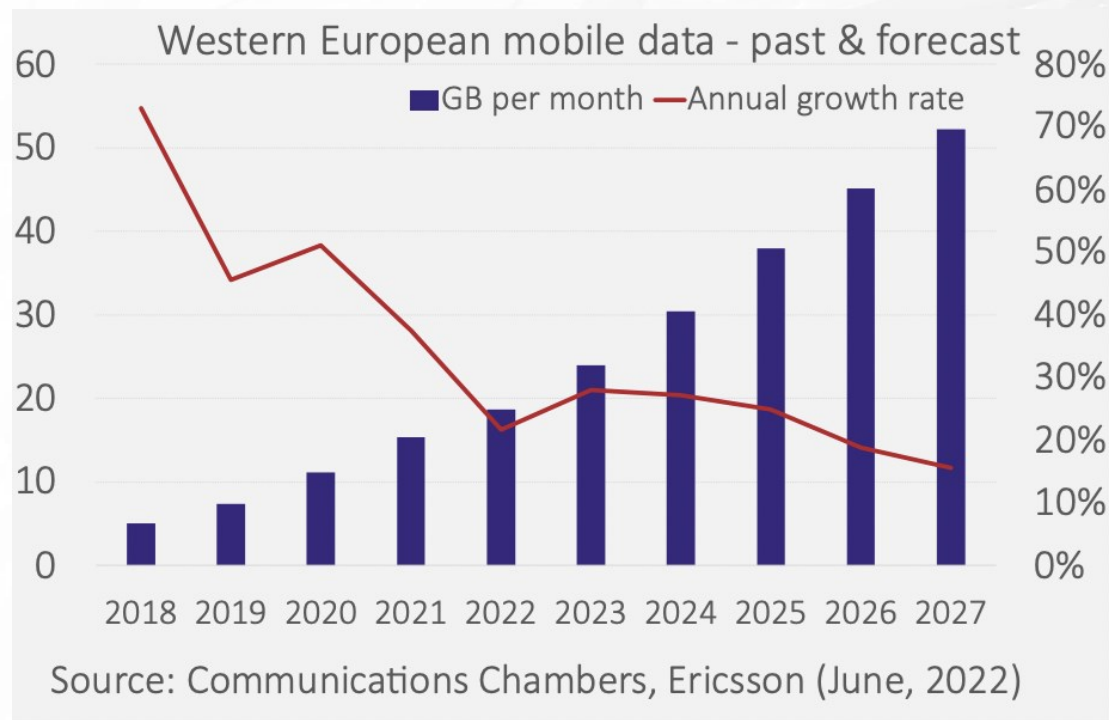
“Trend of stable annual growth rates”

(WIK Consult, 2022. Study for the German Federal Network Agency)

Telegeography data trends:

“Based on hard survey data gathered from dozens of regional and global network operators around the world, it’s clear that the **Covid-related expansion of internet traffic and bandwidth was a one-off phenomenon.**”

(Computerweekly.com, 13 Sept 2022)

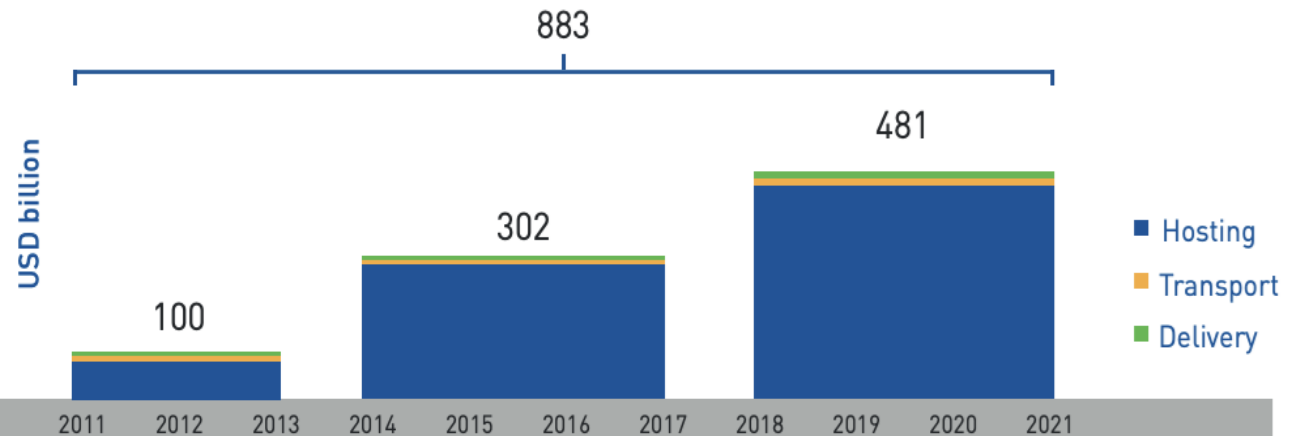


9. A key reason why ISP costs have NOT increased: CAP investment

Total spend by CAPs on internet infrastructure over various periods since 2011

CAP investment in 2011–21 was USD883 billion. In the past four years (2018–21), CAPs invested USD120 billion per annum.

These investments help to reduce ISPs' costs, while optimizing performance for end users.



The current voluntary interconnection regime incentivizes CAPs and ISPs to invest in efficient, cost-effective traffic delivery to provide quality experiences for end users

(Analysys Mason, October 2022)



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10. The market for IP-interconnection is competitive. No evidence justifying regulatory intervention.

“The “sending party network pays” (SPNP) model would provide **ISPs the ability to exploit the termination monopoly** and it is conceivable that such a significant change could be of **significant harm to the internet ecosystem**”

(BEREC, 2022)

“The CAP-market is competitive and the relationship to most ISPs cooperative” (win-win).
(WIK Consult, 2022)

Perhaps a problem with large ISPs:

“**Swisscom** has been found to have exploited its dominant position in peering to the detriment of entrant Init7 (at least 2012 to 2016)”.

(WIK Consult, 2022)

OFCOM, October 2022: “A charging regime would be a significant step and we have not yet seen sufficient evidence that such an approach would support our objectives at this time.”



11. Lessons learned from South Korea

(only country mandating network usage fees (ISP-ISP))

- “higher costs and more latency for Korean end-users”
- “Quality for end users is declining”
- “CAPs are already withdrawing from the Korean market”
- “decline in diversity of online content”
- “lower network infrastructure investments”
- “in 2021 transit prices in Seoul were 8.3 times higher than in Paris”.

(“Competitive conditions on transit and peering markets”, WIK Consult, 2022. Study for the German Federal Network Agency)



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11. Examples from South Korea

- In 2020, Korean video startup Watcha drops 4K and VR service. According to CEO Park Tae Hoon:
 - "With a communication network well laid out in a dense space like Korea, the price should be cheap, but it is 15 times more expensive than the US or Europe." (Source: Jeong An Plus, 15 Jan 2020)
- In September 2022, a major streaming game company (Twitch) cuts resolution of service down to 720P.

("Competitive conditions on transit and peering markets", WIK Consult, 2022. Study for the German Federal Network Agency)



12. Bad choices: administrative chaos or trade rule violation

- There are now **200 million** active websites in the world (Sitefy). **If true SPNP was applied**, every time one of those websites one was accessed, compensation would be due, from the website to the destination ISP.
 - Since no contractual relationships govern the vast majority of such interactions, seeking to implement such a collection mechanism would be utterly impractical.
- The latest bad idea: targeting Large Traffic Originators, or LTO. This would require discrimination based on volume. **Most countries have taken on WTO obligations to prevent just this:**
 - “Each Member shall ensure that any service supplier of any other Member is accorded access to and use of public telecommunications transport networks and services on reasonable and non-discriminatory terms and conditions, for the supply of a service included in its Schedule.”

(GATS Telecommunications Annex, Article V)





REPORT FOR INCOMPAS

THE IMPACT OF TECH COMPANIES' NETWORK INVESTMENT ON THE ECONOMICS OF BROADBAND ISPs

David Abecassis, Michael Kende, Shahan Osman, Ryan Spence, Natalie Choi

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Thank you

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