

MEDIANAMA

International Trends in Network Usage Fees

October 2023

On October 4, MediaNama conducted a discussion on network usage fees, based on issues raised in response to the TRAI's consultation on regulation of over-the-top (OTT) services. The discussion focused broadly on the **implications of charging network fees, what is the sender party network system and clarifications on the framework of South Korea and Europe, and the impact of fair share contribution from OTTs on net neutrality.**

Our objective was to identify:

- What are the implications of charging communication platforms a network fee?
- What are the implications of network usage fees for freemium business models?
- What is the status of the EU's consultation on network usage fees?
- Does fair share contribution from OTTs impact net neutrality?
- How do content delivery networks (CDNs) work, how does the sending party network pays system work with CDNs and localized exchanges?
- How has South Korea's Telecommunications Business Act, section 22-7, mandating quality of service, been implemented?
- What are the differences between sender-party network pays, paid peering, termination fees, and network usage fees?
- The rationale behind asking online services to contribute a percentage of their revenue to a broadband fund or a universal services obligation fund?

Our speakers for the discussion included:

- **Carl Gahnberg** (Director of Policy Development and Research at the Internet Society)
- **Barbara van Schewick** (Stanford University)
- **Professor KS Park** (Korea University School of Law)
- **Thomas Volmer** (Head of Global Content Delivery Policy, Netflix)
- **Alissa Starzak** (Vice President, Global Head of Public Policy Cloudflare)

We saw participation from companies and organizations like Amazon, Disney Star India, Netflix, Google, Microsoft, ISB, FTI Consulting, The Hindu, Cloudflare, CMS, The Quantum Hub, Saarlegal, Deloitte, EY, Koan Advisory, Esya Centre, Ikigai Law, CCG-NLU, ISOC, Truecaller, IT for Change, DeepStrat, Access Now, NASSCOM, Vodafone Idea, COAI, Ikigai Law, CCG-NLU, ISOC, CMS, The Quantum Hub, ISB, and FTI Consulting, among others.

MediaNama hosted this discussion with support from Alliance of Digital India Foundation (ADIF), Google and Meta and Netflix.

The following document captures and summarizes the key points raised during the discussion. You can also [view a recording of the discussion](#) on our YouTube channel.

Executive Summary

Every one of the speakers at MediaNama's discussion on International trends in Network Usage Fees unanimously highlighted that implementing fair share agreements, or network usage fees will violate principles of net neutrality. It is imperative for us to look at the issue of network usage fees because, as pointed out by one of our speakers, it poses a high risk of internet fragmentation. The discussion delved into the regulations in Europe and South Korea, discussing their similarities and differences. **One of the things we're hearing in India is that the European Parliament has voted in favor of network usage fees. Discussants confirmed that this is false and that the network fee as a concept has been rejected over and over. They stressed upon the idea that implementing network fees is an economic as well as technical discrimination.**

While talking about network regulations in South Korea, the sender-party network-pays system (hereafter SPNP) and its impacts were discussed at great length. SPNP model meddled with the existing relationship between caching and ISPs forcing online platforms and services to choose a mechanism that has higher latency and less efficiency, as a result, this model disincentivizes a more efficient method of internet delivery. The model further, upsets the natural balance for interconnection between various networks on the internet in Korea. The Indian telecom industry's claim that it will only charge large traffic generators a network fee was also proven wrong on two fronts: consumers generate traffic and the notion that growth of traffic is unsustainable. More traffic means more demand for content which means more demand for ISPs. **Competition among ISPs is driving investments and not traffic from operators.**

The discussion also focused on interconnection agreements between last-mile ISPs and content providers. Further, potential consequences for smaller ISPs and content providers with exceptional cases of ISPs that are paid by both users and content providers for delivering data were also discussed. It was highlighted that only ISPs with significant market power were able to coerce companies into paying them. ISPs also used tactics such as degrading the quality of unpaid connections to force payment. A need for stronger net neutrality regulations or an explicit ban on network usage fees or sender party pay in the law is fundamental to avoid any kind of exploitation from larger ISPs. Discussion around net neutrality becomes even more important in situations like these because the essence of net neutrality is to ensure that ISPs do not leverage their control over the last mile to charge content providers for access to their customers.

While discussing if there is a provision for online platforms contributing to universal service obligation (USO) funds anywhere in the world, speakers pointed out that

international telcos were urging platforms to contribute based on traffic volumes. **One of the discussants pointed out that cross-subsidization for USO funds can be done amongst telecom operators because the content providers are not in the business of providing access services or infrastructure for telecom users.**

The discussants also spoke about termination fees. They pointed out that access providers act as gatekeepers separating platforms and their customers, and said that this can lead to a termination monopoly wherein access providers only allow platforms that pay them a fee to access customers. This raises competition concerns in the ISP market and can distort prices.

While discussing the potential consequences of network fees, discussants also highlighted the larger benefit to big tech companies. South Korea's experience with the sender pay model has raised concerns about its impact on competition, the termination monopoly, and costs incurred by content providers. **It is crucial to note that SK Telecom and Netflix's settlement case from Korea is not an endorsement of sender sender-party network pay system.**

It was concluded that Europe's decision on the implementation of network fees would have a significant impact on regulations around the world. Discussants agreed that it is necessary to maintain a balance between customers and ISPs ensuring fair access to the Internet while fostering innovation and competition.

Key Points from the discussion

I. Network usage fees issues in Europe

The EU's current network usage fees move is inspired by South Korea's model:

"...the rules that are enforced in South Korea and what is being discussed in Europe, they're quite similar, but they're also somewhat different. And the similarity basically comes down to this idea of regulating Internet traffic according to a principle of center pace. But the rules that are enforced in South Korea, they're also slightly different because right now the obligations are targeted towards Internet service providers, while what's being proposed in Europe is that the rules would target content providers. So, they're slightly different in terms of their target, but the effects are more or less similar." - Carl Gahnberg, Internet Society

South Korea's model resembles the classic termination fee:

“legislative proposal in South Korea goes beyond the regulating of connections, and it's more of a classical kind of termination fee that you would have in the telephone system where the content provider would need to pay the access network for the access network to deliver its data.”- Carl Gahnberg, Internet Society

The European Parliament has not voted in favor of network usage fees:

“...the idea that the European Parliament voted in favor of network fees is false...as Carl Gahnberg, said this is a proposal that has been rejected over and over...part of what's so ironic for everyone who has worked on this for a long time is that this proposal has been rejected over and over in the past 15 years. And this time around is no different...the fact that the European Parliament had endorsed network fees, but it did not, it's a huge misinformation campaign. And in essence, intentionally voted to reject network fees.” - Barbara van Schewick, Stanford University

EU's network fee proposal would hamper innovation would hamper innovation:

“...adopting this proposal would be harmful for the Internet ecosystem, would harm innovation and competition. And since then, basically, everyone has come out against the proposal. 18 of the 27 member states in the European Union are opposed to that proposal...” - Barbara van Schewick, Stanford University

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Thanks,
Nikhil Pahwa,
Editor and Publisher

II. Will a fair share contribution from OTTs violate net neutrality?

Charging of network fees is economic discrimination; they violate Europe's non-discrimination rule:

“..both in India and in Europe, network fees would clearly violate net neutrality...network fee is to charge companies that offer services that are popular and

other companies do not, so, that treats companies that are supposed to pay network fees differently from those that don't. That's economic discrimination." - Barbara van Schewick, Stanford University

Avoid treating companies differently:

"Treating some companies differently from others is a key net neutrality issue. It distorts competition among application and content providers. And that's what we want to avoid... both in India and in Europe, we have very clear statements that make such practices economic discrimination and are squarely covered by the net neutrality protection.." - Barbara van Schewick, Stanford University

Economic and technical discrimination go hand in hand:

If service providers speed up some applications that have paid for the network, and slow down or block applications that have not paid a fee, it would constitute technical discrimination. The European Court of Justice has taken a decision on net neutrality and concluded that both technical and economic discrimination are two sides of the same coin.

Economic discrimination violates net neutrality:

"...Basically, what the ISPs are trying to do [is that they are] trying to confuse everyone by saying we are not talking about technical discrimination [by introducing network usage fees]. We want to transport every packet in the same way. And the only thing that is different, [is that] some companies pay, and some don't. But that's the wrong aspect to look at because economic discrimination as such violates net neutrality. And interestingly, it's the same in India." - Barbara van Schewick, Stanford University

TRAI already established zero rating as a net neutrality violation:

"India was one of the leaders in the world in recognizing that not counting some traffic against data caps and then having everything else eat up your data, this practice that we call zero rating, that's a net neutrality violation. That was TRAI in its 2016 order on differentiated pricing practices. And so, in India, too, we don't have to speculate whether charging some companies and not others engaging in economic discrimination is a net neutrality violation. TRAI has already found that." - Barbara van Schewick, Stanford University

Charging companies differently also violates net neutrality:

"Charging companies differently will also violate net neutrality. But charging any company any money for propagating data, I think, violates net neutrality. Because if a prioritization of data delivery is conditioned on payment, then performing data

delivery, conditioning data delivery itself on payment also constitutes financial discrimination. Because unless you don't, if you don't pay, the data doesn't move forward. And that is the sender pay system. So, sender pay fundamentally violates net neutrality because net neutrality..” - Professor KS Park, Korea University School of Law and Founder of OpenNet Korea

Impact of Sender Party Network Pays (SPNP) on small businesses:

“One of the challenges is that it makes everything more expensive...If you're a small business in South Korea and you want your traffic to be served to users in Korea... What the Sender Party Network Pays system does is it disincentivizes the providers from caching the content locally, because they have to pay for it. It changes the way traffic gets delivered in ways that actually can have a pretty significant effect. Now, you potentially end up with a latency charge. It's more expensive for you to get your traffic delivered, because somebody's going to pay, someone has to pay more money for you to get your traffic delivered.”- Alissa Starzak, Cloudflare

Why network fee is not a suitable mechanism to rein in Big Tech:

Network usage fee creates a system wherein the Big Tech companies are in a better position than everyone else. This is because if platforms pay for access they will be prioritised in terms of getting a direct connection. And only the big tech companies will be able to make such payments.

III. Sender party pay network-based system (SPNP) in South Korea

What does the sender party pay mean:

“When you send ordinary mail, in an envelope, what do you do? You put a stamp on it, right? So as a sender, you have to pay. When you make a phone call, what do you do? You pay telecom companies, right? So, whoever is pushing the data on the network, [and] quote-unquote ‘burdening the network’, has to pay somebody to have the network deliver the data. That’s the sender pay model...The SPNP system currently operates only among internet service providers (ISPs).” - Professor KS Park, Korea University School of Law and Founder of OpenNet Korea

How is the SPNP model different from the way the internet originally worked:

Before the SPNP model was put in place, internet service providers (ISPs) would just send data for free data transfer. But with SPNP whoever is sending more data to the other ISP has to pay the receiving ISP. This disincentivizes ISPs from hosting cache servers of popular online platforms on their networks.

IV. Consequences of SPNP model/Challenges with sender party network-based model:

How SPNP upsets the natural balance of interconnections:

"[In]2016 sender party [network] pay rules came into force in the country. And what it did was really upset the natural balance for interconnection between various networks on the internet in Korea... it had created a situation where interconnection (transfer of data between networks) in South Korean networks became more expensive as opposed to interconnection outside of the country."- Thomas Volmer, Netflix

Content providers tackled SPNP by delivering content from distant servers:

"...many content providers, including Netflix, we ended up delivering content from outside the country, from Japan, from Hong Kong, from the US meaning that when users press play on Netflix, instead of having a local server from our Open Connect program deliver the content, they were streaming from far away." - Thomas Volmer, Netflix

SPNP model leads to additional costs for CDNs:

The SPNP model can be potentially challenging to CDNs because it would require them to pay telcos for caching content. This is a major problem for CDNs that offer a free service because they are now required to bear the cost of data transfer that would otherwise be taken care of by the customer.

V. Is it fair to increase costs for consumers if telecom networks are not able to charge companies?

People who pay for internet connection generate traffic:

Large platforms like Netflix don't generate traffic on the internet. It is the people who pay for their internet connection, consumers in India who pay their ISP to do whatever they want.

More traffic means more demand for ISPs:

"...this notion that this growth of traffic somehow is unsustainable and is creating a growth of cost. It is not. When you look at how a network is designed, the vast majority of the cost components are actually fixed relative to traffic. More traffic, more demand for ISPs, services is more revenue for the ISPs. It's a good thing for the

ISPs because it creates demand for a new service that they can sell.”- Thomas Volmer, Netflix

TRAI’s statistics for the last decade for ISPs show growth in India:

“...over the last decade, data and traffic revenue has grown tenfold and is now 85% of revenues from operators. The subscriber base for internet access has grown four times and the revenue has almost doubled 8 plus 86%.” - Thomas Volmer, Netflix

Competition is driving investment as proven for operators like Netflix, Disney, and more:

The notion that providing extra revenue to telecom companies spurs increased investment has been consistently disproven. Competition, not extra revenue, drives investments, as demonstrated by the competitiveness among content providers and streaming platforms like Netflix, Disney, and Jio. Ultimately, it's the shared demand for services that fuels networks and benefits everyone.

VI. Does anyone pay for interconnection?

Last mile ISPs and Interconnection markets:

“Either the ISP pays for its own connection to the internet, which means they pay so-called transit providers to send their data to and from the internet. There clearly the last mile ISP is not paid, it pays someone else to connect them to the internet. That makes sense. And then the other kind of agreement that we see with last-mile ISPs is that they interconnect with someone directly...they exchange the data without a fee...the idea that in general, broadband providers around the world are getting paid to deliver the traffic that their customers requested is just wrong.”- Barbara van Schewick, Stanford University

Vodafone’s earnings report reflects that its costs have not increased with the increase in traffic:

“Vodafone itself, in an investor presentation in 2021, said very clearly, traffic is increasing all the time, but the cost of delivering this traffic has become cheaper and cheaper. And basically, they have fallen faster than the amount of traffic has increased. And so, with that, they have made it very clear, even though traffic increases, our costs have not increased. So, there is no extra investment that somehow needs to be funded.”- Barbara van Schewick, Stanford University

Telcos compel companies for termination fees:

Telcos charging companies for delivering data happens only when they have found ways to blackmail companies’ delivering data into paying them for terminating the traffic to their

customers. Online services often can't refuse big telcos with many customers, so they end up paying. To compel payment, telcos degrade the quality of unpaid connections to their network.

Degrading connection quality to force payment:

“The most prominent example of telcos forcing companies to pay them for interconnection was what happened in the US between 2012 and 2015. At the time, the five most prominent ISPs in the US (Comcast, AT&T, Verizon, Time Warner Cable, and CenturyLink) degraded the quality of unpaid connections by refusing to widen these doors into their network as traffic was growing every day. And as a result, without expanding the doors into the network, there was a huge amount of congestion at the unpaid doors into their networks...basically your internet access stopped working for many hours in the day, generally from 5 p.m. to midnight...so then Comcast went out and said to Google and Facebook and Microsoft and Apple, said, if you're interested in good quality interconnection, please pay us a fee. And so, these large companies said, yeah, we really can't afford to not reach Comcast subscribers... The situation was eventually resolved when the Federal Communications Commission (FCC) in the US adopted the Open Internet Rules in 2015.”- Barbara van Schewick, Stanford University

Good net neutrality laws prevent ISPs from blackmailing:

“Strong net neutrality protections and a ban on network fees prevent large ISPs from exploiting their market power for profit, benefitting everyone. Network fees distort competition between companies as well as ISPs and restrict smaller ISPs from income. Returning to the norm of fair, unpaid, and uncongested interconnection is essential for broadband internet access service.” - Barbara van Schewick, Stanford University

VII. Impact of the settlement of Netflix and SK Telecom's court case

SPNP will only be valid in case of an imbalance:

“...the government has actually listened to the argument about the harms of SPNP. So, they try to kind of remove the harms of SPNP by saying the sender pay will kick in only if the imbalance between send data and receive data is above a certain threshold. But it's the right step, but not a sufficient step in the direction. Because that still leaves in the incentive not to host popular content providers.”- Professor KS Park, Korea University School of Law and Founder of OpenNet Korea

EU's decision on SPNP will have an impact on South Korea:

“...what will really have a big impact is what Europe decides to do. If Europe decides not to adopt a sender pay model, I think Korea will backtrack on even the limited sender pay, the limited only to ISPs, the limited sender pay model. Because we now have a good argument that this is not a direction that the world is going.”- Professor KS Park, Korea University School of Law and Founder of OpenNet Korea

Netflix’s decision to settle was focused on consumer experience:

“It [settlement] is not an endorsement of sender party pays. Agreements between companies are confidential, so I cannot reveal any detail. There are common incentives between content providers and ISPs because, at the end of the day, great content is what stimulates the demand for internet connectivity...both Netflix and SK were just happy to move on, settle the dispute, and focus on the consumers, which want to have access to great content, fast speeds, efficient networks.”- Thomas Volmer, Netflix

VIII. Gatekeepers that hinder equal access to the internet

Network fee creates monopolies among last-mile ISPs:

Payment to last-mile ISPs for terminating or delivering traffic that the customers are interested in is another worrisome measure that raises net neutrality issues. Last-mile ISPs act as a final layer of the larger internet network, providing an internet connection to an individual’s home.

How do access providers act as gatekeepers?

The access provider can act as a gatekeeper for third parties who want access to its customers and can exploit their role by charging content providers. Net neutrality prevents the access provider from exploiting such structural conditions.

This proposal could give large ISPs two kinds of added benefits:

“But interestingly, it [termination monopoly] could also have this very perverse effect where a small ISP that is not able to negotiate this contract with a content provider, might become dependent on the large ISP to actually retrieve that traffic. And that means that the large ISP can double dip here. They can charge both the content provider for receiving that traffic, and they can also charge the small ISP for sending that traffic forward to the small ISP. So, this, of course, distorts the competition in the ISP market as well. So, the only real beneficiaries of these rules are the large telecom operators.”- Carl Gahnberg, Internet Society

Should content platforms get a fair share from telcos?

"I think the beauty of a net neutrality regime is that each company can invest in what they do best. So, for us, we compete in the streaming space, we invest in movies and TV shows for our members. Operators compete on networks, and they invest on networks. And it works better this way. There is actually an example of a world in which content providers charge distributors for access to the content. It's called cable. It's cable TV." - Thomas Volmer, Netflix

Reference Material

- Fair-Share Contribution Hinders Free And Open Network: MediaNama Speakers Counter COAI's Statement [[Read](#)]
- Why Countries Should Not Mess With Interconnection Agreements [[Read](#)]
- The Idea That The European Parliament Voted In Favour Of Network Fees Is False: Barbara Van Schewick Clarifies [[Read](#)]
- Unfair Competition Among ISPs, Unequal Access To Internet: Experts On How Network Usage Fees Threaten Net Neutrality [[Read](#)]

Additional Reading

Understanding network fees:

- Network Usage Fee: A Misplaced Assertion [[Read](#)]
- A Shared And Open Internet Vs. 'Exclusive Gardens': Imposing 'Network Costs' On OTTs A Bad Idea? [[Read](#)]
- Network Usage Fees: A Tax in Search of a Purpose [[Read](#)]
- Network Fees Could Splinter The Internet: Stanford Law Professor Barbara Van Schewick Responds To TRAI's Consultation On OTT Regulation [[Read](#)]
- Fair share: the definitive guide [[Read](#)]

European Debates on Network Usage Fees:

- European Union's Proposal To Get Big Tech To Pay Interconnection Fee Threatens Net Neutrality [[Read](#)]
- BEREC preliminary assessment of the underlying assumptions of payments from large CAPs to ISPs [[Read](#)]
- Network Usage Fees Will Harm European Consumers and Businesses [[Read](#)]
- Europe's biggest telecoms are trying to trick the European parliament into Endorsing their proposal to force websites to pay them without proper evaluation. MEPs shouldn't let them. [[Read](#)]
- Biden Administration Weighs in on European Commission's "Fair Share" Telecoms Consultation [[Read](#)]
- Six Talking Points From The EU's Exploratory Consultation On OTT Players Sharing Investment Costs With Telcos [[Read](#)]
- Why Is The EU Asking Big Tech And Telcos To Submit Their Investment Plans? [[Read](#)]
- European Union's proposal to get Big Tech to pay interconnection fee threatens net neutrality [[Read](#)]

Korea's implementation of network fees:

- South Korean internet service provider sues Netflix, reigniting debate on Net Neutrality [[Read](#)]
- How bad policy led South Korea into a Net Neutrality nightmare [[Read](#)]
- In Net Neutrality Setback, South Korea Lays Service Quality At Content Providers' Feet [[Read](#)]
- Internet traffic tax or net neutrality? [[Read](#)]
- Should 23 Million South Koreans Pay More For Broadband When Only 5 Million View Netflix? [[Read](#)]

The Indian context:

- TRAI's consultation on differential pricing agreements. [[Read](#)]
- TRAI's consultation paper on licensing of internet services. [[Read](#)]
- Why TRAI wants to regulate OTT platforms. [[Read](#)]
- Airtel introduces differential pricing for type of mobile Internet usage. [[Read](#)]
- The International Telecommunications Union's recommendations for a collaborative OTT regulatory framework. [[Read](#)]
- The Internet Freedom Foundation's concerns with how the Telecom Bill, 2022, approaches OTT regulation, through 'straitjacketing' diverse Internet platforms. [[Read](#)]
- On the gamble of the "sending party network pays" principle in OTT regulation. [[Read](#)]
- Telecom companies are currently required to contribute to the Universal Services Obligation Fund (now called the Telecommunication Development Fund). [[Read](#)]
- Issues associated with imposing network fees on OTT players. [[Read](#)]
- EU's Exploratory Consultation On OTT Players Sharing Investment Costs With Telcos. [[Read](#)]
- MediaNama's comments to TRAI on traffic management and an advisory body for Net Neutrality [[Read](#)]
- TRAI's net neutrality open house discussion on traffic management practices in 2020 [[Read](#)]
- Net neutrality in India: From rules to enforcement — By Smriti Parsheera [[Read](#)]

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