Response to

TRAI Consultation Paper On

Differential Pricing for Data Services

Contributed by

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30 December 2015

Summary:

The issue of the pricing frameworks permissible with respect to an *end user* can only be discussed in conjunction with the pricing policies that are permissible between *TSPs and Over The Top (OTT)* players so as to assess the overall impact.

With this understanding we base our response to this consultation paper on our earlier response with reference to the consultation paper on "Regulatory Framework for Over-the-top (OTT) services". Our response to the net neutrality consultation, drafted along with Prof Manjunath and Prof TK Srikanth included the following recommendations:

"All bits should be provided with at least a minimum guaranteed speed as per the NTP. Apart from the above minimum speed, we propose that a *relative* ceiling price (price/bit consumed at the existing minimum required broadband speed) for data usage charges shall be fixed by TRAI and changed in tune with technology evolution and competition levels (as is being done with Mobile Termination Charges and SMS charges)."

If there is a high level of pricing freedom that the TSP has with respect to one side (i.e. end users) of the market but not the other (i.e. OTTs), then the exercise of market power is likely to be detrimental. Therefore pricing freedom should exist with respect to both sides but with important caveats which are detailed below.

Question 1: Should the TSPs be allowed to have differential pricing for data usage for accessing different websites, applications or platforms?

Response:

The TSP can recover its investment in the network and manages congestion by charging the OTT or the end user or both.

The TSPs should be allowed to have differential pricing along the following dimensions:

1. Time dependent pricing (all bits priced the same; however varies across time)
2. Location dependent pricing (all bits priced the same; however varies across location)
3. Application dependent pricing (bits of different applications IN DIFFERENT CLASSES OF SERVICE are priced differently). The different classes shall be enumerated by the Regulator or self-declared by the OTTs (e.g. synchronized narrowband application such voice/ messaging, synchronized broadband application such video).

Options (1) and (2) above do not violate Net Neutrality (NN) principles and hence should be allowed.

However (3) depends on another dimension: priority accorded to the bits as well. We illustrate below this special cases of (3), with priority and without differential priority. If in (3), in

addition to differential pricing, differential priority of bits is done, then it is a complete violation of NN and hence should NOT be allowed.

Case 1: Same priority; differential pricing

If all bits are with the same priority, but they are priced differently is a case that satisfies NN with respect to priority; however it does not satisfy with respect to price. Zero rating is an indicative of this where the bits are priced at zero for the consumer that fall under this plan while they are not given either higher/ lower priority compared to others. However, zero rating is a form of an extreme pricing. If Zero rating is allowed, then for a price of zero, often a downward sloping demand curve will lead to heavy (theoretically infinite) demand for the category of service provided under this scheme.

A TSP acts as a two-sided platform that connects users on one side and Over The Top (OTTs) on the other side. An OTT can pay fully for the content including bandwidth so that the user is fully subsidized. Hence the marginal cost of providing these bits to end consumers (i.e. data usage charges) is being paid by the OTT firms (and hence subsidized to the end users) in the zero-rating scheme. If due to zero rating, the demand indeed increases to a very large value, the subsidy amount to be given by the associated OTT firms to TSP should also be high. **Hence the argument is that only large firms and collusive deals between OTT firms and TSPs will survive.**

This can potentially **crowd out** other services due to constraints on bandwidth and **theoretically block**. However, OTT paying for the bandwidth cost of the user is an indicative of a close cartel being formed between OTTs and TSPs; this collusion has the possibility of crowding out the other OTTs, especially start-ups who cannot subsidize the TSP for bandwidth consumed by the users.

Hence we propose that all bits should be provided with at least a minimum guaranteed speed as per the National Telecom Policy. This should prevent even zero-rated content from crowding out the other content. In any case access to non-zero-rated apps should not be blocked.

Apart from the above minimum speed, we propose that a relative ceiling price (price/bit consumed at the existing minimum required broadband speed) for data usage charges shall be fixed by TRAI and changed in tune with technology evolution and competition levels (as is being done with Mobile Termination Charges and SMS charges). This is required to prevent crowding out of non-zero rating but essential apps due to differential pricing.

Also it shall be noted that we recommend no price differentials across the same class of service.

One of the practical problems with regulating price discrimination is the asymmetric information between the service provider and regulator, especially on cost of providing service. In such cases rather than setting price caps, the regulator can set relative price caps between different classes of service. For example, relative price setting can be done with traditional voice service price as the cost of voice service is well understood and known. Further, knowledge of the relative cost structure across services is subject to less uncertainty compared to knowledge about absolute costs.

Case 2: Same price; differential priority

This is a case when TSP charges the same for each bit; however prioritizes certain OTT content. This case involves TSP implementing technologies such as advanced cache management, Deep Packet Inspection amongst others. From the consumer point of view, it provides better Quality of Experience (QoE) without additional price. Hence can possibly increase consumer surplus. This may also involve close cooperation and agreement between select OTTs and TSPs. This also might decrease the QoE of other OTT services that are not in the scheme.

However, such prioritization shall be based on class of service (e.g. synchronized narrowband application such voice/ messaging, synchronized broadband application such video); it shall not vary across source/ app within the same class of service. This of course requires that the regulator define the classes and the allowable management principle. The traffic classes should be minimal and the applicable management minimal and verifiable. The definitions of the classes should not be left to the TSPs.

To provide a minimal QoE for essential applications that are not part of this scheme, we propose that TSPs should adhere to providing minimum guaranteed speed as per our National Telecom Policy for every bit that is accessed by the consumers. Hence we propose this minimum speed for all bits (e.g. 512 Kbps and increased later on as mandated) shall be provided as per NTP 2012 (2 Mbps currently; and 100 Mbps thereafter as per clause 1.5 of NTP 2012).

Question 2: If differential pricing for data usage is permitted, what measures should be adopted to ensure that the principles of nondiscrimination, transparency, affordable internet access, competition and market entry and innovation are addressed?

Response:

Part of the answer to Question (1) addresses the priority issue and minimum speed of access required for access to any bit on the Internet.

Further, the pricing mechanism and methodology should be completely transparent. The pricing schemes should be not only be published; the users should be informed whenever there is a change. User acceptance is needed for enforcing policy based pricing or prioritization schemes as applicable.

Question 3. Are there alternative methods/technologies/business models, other than differentiated tariff plans, available to achieve the objective of providing free internet access to the consumers? If yes, please suggest/describe these methods/technologies/business models. Also, describe the potential benefits and disadvantages associated with such methods/technologies/business models?

Response:

If free access to Internet is considered, then it shall be considered as a public good (non-excludable and non-rival).

The regulator shall specify which of the apps/ web sites/ content qualify as public good. Cost of providing access to these services shall be borne by the Government as payment to the TSP or direct transfer to the end user.

Question-4: Is there any other issue that should be considered in the present consultation on differential pricing for data services?

Since the objectives of regulation must also include universal access to the internet, the ideal would be to have a neutral network in which the TSP does not distinguish between the source of the bits and all bits belong to same class of traffic (i.e. synchronous voice, synchronous video, asynchronous media/ file downloads) are subject to the same traffic management rules independent of the source. A lesser ideal would be take the following approach is be suggested.

1. There should be no distinction made for OTTs transmitting the same kind of data, e.g. VoIP, audio streaming, video streaming, and video download.
2. If there is a conflict of interest, then there should be an attempt to create a level playing field between the service provided by the ISP and the OTT which is in competition with that service. The pricing in this area can be under forbearance by the regulator.
3. A significant portion of the Internet must be reserved as the 'classical internet' where OTTs are not charged at all, and a minimum quality of service is assured in a 'best effort paradigm'.

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