

# Net Neutrality

## Response on Consultation Paper of ARCEP

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## Document Information

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## 1 Objective and Scope

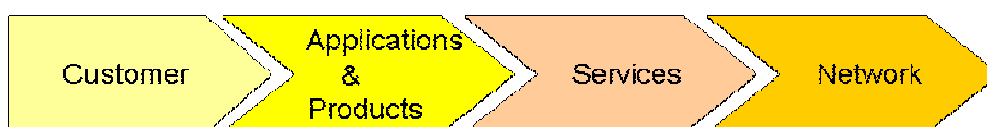
This paper is compilation of thoughts around Net Neutrality in response to consultation paper published by ARCEP.

## 2 Introduction

Communication services have evolved from plain local telephony to universal offerings that include, voice, data, video, tracking and controlling services, intelligent services and services beyond imagination. These services have made network and operation complex, apart from increasing role of applications and innovations in products. It appears that competitive market place has forced Service Providers to provide the best possible service to the consumers that are more profitable to them.

There is a need to promote service consumption in evenly manner while keeping space for innovation and promotion to investment in infrastructure. Therefore Network needs to behave transparent to services running over that and should not discriminate between consumers (different subscribers) or services (different services) as long as they fall within a closed profile, as mentioned in next section.

Network needs to be blind to Services and Service need to be blind to products. Products need to be blind to consumer as long as consumer has bought that product.



Example:- If two subscribers have purchased same voice product then they should get same product experience, irrespective of their annual income or any other differentiator, similarly if 2 subscribers have purchased same service i.e. voice then irrespective of the product, they should get same experience, similarly if one subscriber has taken voice whereas another one has taken data then network should be neutral to them.

I perceive Net Neutrality in this way and according to me there is no need of network to know about services, within a contour of profile, that will be discussed later and it should not matter to consumer which network is carrying his data and voice.

Moreover there is a definite need to define a preferential treatment to certain services irrespective of any regulation that includes emergency services, social security services and services to some special class of people. This need becomes more important in neutral network because neutrality takes preferences away. Therefore it is suggested that any regulation around Net Neutrality should explicitly mention this as well and service providers should be committed for this. Moreover it is also important that services like medical treatment, example- an expert guiding operation to a practitioner operating patient at remote location, should carry some preferences and net neutrality principles should not treat such traffic neutrally.

The importance of above mentioned preferential aspect increases because society is becoming more and more dependent on communication network and many services need to be provided on priority without extra cost. I classify such services as Urgent Services (example security) and Important Services (example medical).

### 3 Analogy with Roadways

Communication industry has become an integral part of our lives and I think communication network can be looked as roadways. The way roads link two places to carry our cars, buses and trucks from one place to another place; communication network links two locations to carry our digital traffic. Roads allow everyone to come and use services without asking name, annual income, spending, occupation or anything, therefore communication network should also treat everyone equally. Moreover roads also do not discriminate between vehicle as long as vehicle belong to same class i.e. car, truck etc (Same quality of service class for communication network) as long as driver is ready to pay tax according to vehicle (higher price for better quality of service). If one is trying to make network neutral irrespective of quality of service then it is as good as opening roads for same tax. It means that there will not be any incentive to make Expressways (Super fast roads) that attract high cost and so need high tax. But industry has seen that concept of expressways and higher tax for its utilization has helped to build better infrastructure and society has also accepted that. Similarly there is a valid reason to keep concepts like discrimination for high quality services and never dilute it to enforce net neutrality.

Roadways and Expressways always provide a preferential treatment to security services and important services, and such traffic is not taxed, similarly there is a need to keep socially important services at highest priority without any additional cost and irrespective of neutrality such services need priority.

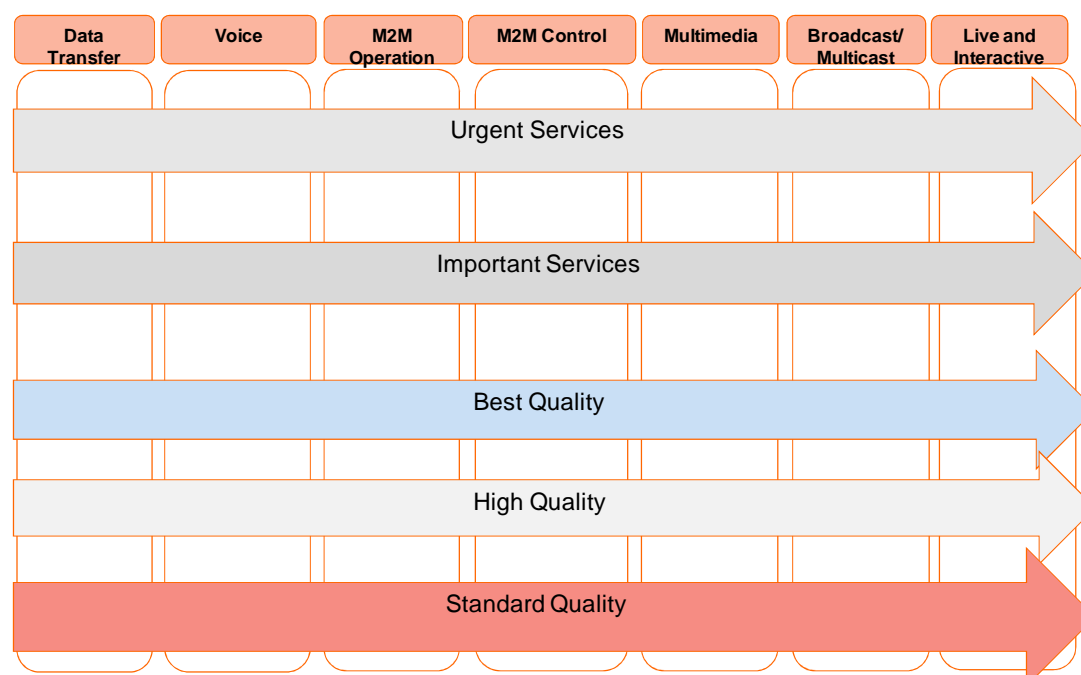
## 4 Service Classification and Network Priority

Net neutrality means (to me) equal treatment to all harmless and legal traffic but there remains a need to classify traffic. Though network should be blind to services as mentioned above but traffic needs treatment according to its classification. As the consultation paper mentions (below table is copied from consultation paper)

Applications	Delay	Jitter	Bandwidth consumption
Email	+	+	+
File sharing (file transfer)	+	+	++
Web browsing	++	+	++
Online Gaming	+++	++	+
VoD	+	+++	+++
VoIP call	+++	+++	+
Video conferencing	+++	+++	+++

+: low sensitive +++: high sensitive

It may be suggested to keep a view like mentioned below



Though all traffic needs to flow seamlessly from network, there is need to promote quality based services, managed services and also special services. This will help in innovation and avoid conflicts like in US where AT&T has threatened to stop investment if FCC progresses with Net Neutrality (As I read from news websites and understand)

Moreover, we also need to look at role of network based on its functions e.g. Access layer, Backhaul Network and Core Network. Any service classification may not matter to core network because that is almost in all NGN scenario neutral to services and this neutrality will keep growing. Access Network and backhaul network need to catch up quickly.



## 5 Few Points for Special Attention

- 1- Communication remains an industry and it requires investment therefore features that differentiate services are essential and Net Neutrality should not take that away. It means service differentiation based on Quality of Service, managed service, special services etc are required. The way there is need for Expressways and vehicle owner needs to pay to use that service.
- 2- Net Neutrality should make sure that network is service blind and does not differentiate between subscribers or type of service till point 1 is satisfied.
- 3- There is serious need to monitor traffic and have strong congestion management process/tools in place in any neutral network because a neutral network is more prone to incidences that disrupt traffic. If we take analogy of roads then any rule breaker or heavy vehicle (if enters in the road) may block complete road therefore need for rules and enforcement of traffic control lights become more important. Similarly any neutral network by virtue will not be treating traffic differently and may be misused easily therefore security and monitoring mechanism needs to be more advanced. Hereby it is admitted that many of network gears present in the market have very good traffic management capabilities so it is not a major cause of concern. (But it may give option to operator to discriminate between traffic therefore standard process or best practices may be required, Assuming we are allowing discrimination based on quality of service and managed service.)
- 4- Any neutral network is more open for attack and so need better policing. Since policing may entice network operator to discriminate between services therefore a set of guidelines may be required here and process may required to be standardized.
- 5- Certain services may require discrimination and it may be allowed e.g. security or medical services.

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