Preamble

Net Neutrality, as a concept is indisputable as it appears fair and egalitarian, so hard to oppose without sounding un-socialist.

Definition & context

NN concept was essentially for allowing competition viz access, not quite necessarily pricing or speed.

But let's allow speed to be part of the NN debate within   the *Indian context* since it is a hot button topic! Quite in contrast in the USA where the issue is about content cos (Netflix, YouTube, Disney) *paying* the ISP's (classified as 'information service providers' as opposed to 'common carrier') to allow their content to move *faster down the pipes* to their customers!

Principles

Therefore the Two Guiding Principles of NN for India are:

(1) must allow unhindered access for all without prejudice,

(2) At comparable speed and downloads based on ones data plan & caps.

Without compromising on fair & reasonable network management practices as defined by the SRO/TWG

<u>Caveat:</u> **At the same time, recognize that, spectrum being a natural resource, is scarce and unlimited bandwidth for all while desirable is not practical**

Framework & Rationale

Therefore, I am putting down some <u>*bright lines*</u> in the context of such an *enabling NN architecture;*

(a) The provider shall allow for sponsored *plans, without any prioritization,* as long as non sponsored or paid content plans thereafter, *comes at a better price point*. So, the social welfare curve shifts out as monthly costs for customer /MB come down

With the *added* conditionality that there should be no speeding up/slowing down of the 'paid' or 'sponsored' bits.

(b)There should be no prioritizing for either viz, equal carriageway for all. Therefore <u>no</u> discrimination.

However, the idea that one should pay more for greater bandwidth – differential pricing – does merit consideration. The flip side is, having a convincing argument that the 'Aam Aadmi ' user does not get shortchanged in the process. One way to ensure this is, to have virtually unlimited bandwidth else the provider would have to splice to allocate. But, clearly unlimited bandwidth scenario for all practical purposes *is not possible and utopian.*

In the UK Professor Andrew Ellis, Professor of Optical Communications, Aston University, had proposed (May 2015) 'rationing' the internet, because the internet consumes 8% of UK energy production (equivalent to 3 nuclear power stations!), and the internet infrastructure wasn't able to support unlimited usage without further capex.

Therefore the way to get around this is allowing for some form of differential pricing - heavy users requiring higher bandwidth may well have to pay a higher price. So, tiered pricing could be moot. Nothing is wrong with that.

(c) Therein, introduction to tiered and differential pricing at some point of time will be key.

What Sponsored data does is helps keep these pricing tiers low and pricing honest. I think, in stage 1, it allows access to everything at equal speed, paid or free, with no speed traps or boosts.

 In stage 2 as the user and market matures, you may have to allow for some segments to enjoy quicker speeds at some premium. India has <u>not</u> matured to that stage as yet.

Monitoring & NN Code of Conduct (CoC)

(1) A separate institutional entity for monitoring, supervisory, review and oversight based on the lines of a SRO (MFI's and Pre Paid Issuers are good use cases) should be in place.

(2) These will have representatives from all stakeholders' incl civil society & consumer groups.

(3) This entity will put out a public report STATE OF THE INTERNET report half yearly.

(4) And will be responsible for collecting, collating, compiling, verifying and informing, carry out surveys, studies, focus groups, user experience, discussions, awareness, camps, etc and announcing matters related to the public internet to the public at large.

(5) Set up an incentive/ disincentive system of rewards, recognition, fines & punishments for ex ante compliance or post facto violation to 'SRO Code of Conduct' (good use case being Business Correspondent Federation of India BCFI).

(6) They will be supported by a Technical Working Group, who will assist the SRO, with industry experts amongst others from SRO and/or outside. This will (a) set & assess, define metrics &

parameters, tools, thresholds, tests for acceptable industry wide network/traffic management practices. (b) review cases of alleged violations (c) recommend their findings to the SRO, and appropriate appellate or administrative mechanism for appropriate punitive measures for violation of "NN Code Of Conduct", and (d) Assess and scan emerging trends, methods, technologies, disruptions, etc

Definition of exceptions – Enterprise services

(1) Any end- to- end/multipoint e.g. MPLS direct connectivity using copper/fiber/HFC/VSAT/etc <u>not</u> utilsing the internet for switchover/failover/gateway and of a leased/owned circuit nature <u>will be outside</u> the purview of the NN provisions

(2) IP SEC VPN though a internet tunnel using and/or accessing nationally available head-end internet capacity or bandwidth for providing services will *probably* need to come under provisions of NN depending on ultimate port configurations

(3) Enterprise services *could be separated* for applicability or non applicability of NN based on port configurations.