

Consultation Paper on Delivering Broadband Quickly: What do we need to do?

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Comments and Recommendations by:

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Q.1. What immediate measures are required to promote wireline technologies in access networks? What is the cost per line for various wireline technologies and how can this cost be minimised? Please reply separately for each technology.

Comments-

A. Measures required to promote wireline technologies:

All Local Municipal Corporations, should be asked to include Universal Internet Access in their City Development Plans, and building plans should be passed only after Fibre Optic provision is including in the plans. Based on this municipal policy the following can then be expected to be taken up as measures to propagate Broadband access:

- Mandating all builders to compulsory include laying/deploying of fibre optic lines in all new buildings with immediate effect. Provision to have space for server rooms in all these buildings should also be planned for.
- Existing buildings can be mandated to complete deployment of fibre line access to each house within a certain time frame, if not already provisioned.
- All major construction projects eg. Dwelling units, Commercial building, roads/highways, transport, power, et al should be sensitized to include provision of ducts, lines for internet pipelines, on the lines of power, water pipelines, eg. NHA should necessarily create OFC infrastructure alongside the highways and lease capacity to Service Providers at cost plus model).
- Service Providers to be given neutral access with only a nominal fee (could be equivalent to the maintenance charges that the society charges to apartment owners) to provide broadband access to the households on this infrastructure.

- There can be multiple Service Providers, who shall provide services and no monopoly should be created on the ownership of the infrastructure, except for those who are authorised to manage the building/society concerned.
- Authorised IP-I approval holders can work in tandem with the Municipal Corporations to achieve the OFC connectivity over the middle and last mile.
- Long standing demand for standardisation and simplification of the Right of Way process for rolling out Optical Fiber Networks will then be far more uncomplicated.
- Penalties and legal remedies and recourse action should be mandated for those who damage existing wireline infrastructure.

B. Cost per Line for Fiber to the Building:

No Comments

Q.2. What are the impediments to the deployment of wireless technologies in the access network? How can these deployments be made faster? Please reply separately for each technology.

Comments-

A. Impediments in the deployment of wireless technologies in the access network

- Insufficient capacity of licensed spectrum bands (acquired at high fee) leading to a need for large number of base station cell sites, resulting in higher costs of delivery of service therefore seemingly ruining their business case and hence interest in promoting Wireless internet infrastructure. The costly experience of accessing Internet over 2G and even 3G networks is already well known.
- Major Internet service providers are also telecom/mobile phone service providers. The priority for them is to provide paid access over mobile internet. They seem to have insufficient business reasons to promote WiFi deployment using License free spectrum bands.
- The other ISPs are relatively small in terms of size, customer base and revenues and hence do not perceive deploying WiFi networks widely as a lucrative proposition.

B. How to make deployments faster:

- Municipal Corporations as part of their City plans and local Universal Access policy, should be asked to undertake deployment of Municipal WiFi networks. Their success should be measured in terms of geographic coverage they achieve within given timeframes.
- State governments should be asked to promote and pursue their City Administrations to develop strategies for local Universal access including with WiFi networks.

Q.3. The recommendations of the Authority on Microwave backhaul have been recently released. Are there any other issues which need to be addressed to ensure availability of sufficient Microwave backhaul capacity for the growth of broadband in the country?

Comments:

No comments

Q.4. The pricing of Domestic Leased Circuits (DLC) have been reviewed in July 2014. Apart from pricing, are there any other issues which can improve availability of DLC?

Comments:

- TRAI must note that prevailing market prices continue to be lower than the revised Price recommendations by TRAI. Hence, TRAI's pricing methodology is not in sync with the market mechanisms.
- It is understood from a section of ISPs that the considerable PSU companies infrastructure eg, Railtel, PGCIL, etc is lying underutilized since they continue to charge TRAI's recommended higher price slabs and this is preventing competitive forces to establish economical fair market price and resulting in higher costs for ISPs.
- ISPs should be allowed to pass through the cost of DLC in their AGR calculations for which TRAI needs to review the AGR mechanism, resulting in double levy applicable to ISPs.

Q.5. What are the specific reasons that ISPs are proactively not connecting with NIXI? What measures are required so that all ISPs are connected to the NIXI?

Comments:

- All entities holding an Autonomous Number (ASN), should now be allowed to connected to the Internet Exchange Points.
- NIXI should adopt an open door policy wherein Mobile service providers, social networks, content Providers, broadcasters, webhosts, voip providers, etc. also should be allowed to interconnect and peer with other Service Providers.
- With the evolution of Internet, peering should be opened to all the above from anywhere around the globe through remote connectivity. A diverse peering community needs to be built up and not just restricted. This will attract players of all types to use NIXI more comprehensively.
- Apart from public Internet peering, it must develop and expand its portfolio to include services such as private peering, CUG peering, mobile data peering, etc. (IX's such AIM-IX provide such services already and have over 600 members connected to it).
- NIXI, needs to become a robust market place for peering and traffic exchange, for it to become attractive for service providers to connect to.
- Legacy practices such as X-Y settlement, initially introduced during the monopoly era, more than a decade back, wherein the traffic requester pays to the requested party, needs to be scrapped. It is an impediment in the current scenario, to the working of NIXI as an efficient IX platform.

Q.6. Would the hosting of content within the country help in reduction of the cost of broadband to a subscriber? If yes, what measures are required to encourage content service providers to host content in the data centre situated within India?

Comments:

- More hosting of content within India will have the potential to greatly reduce the cost of delivery of services to the subscriber.

- Quality of Service will potentially be better with decreased latency due to shorter hops through which traffic is transported from the host to the end user.
- Both Central and State Governments can bring policies to encourage companies to build Data Center Parks in India by providing them land, infrastructure, and, power on the lines of SEZ's and Industrial parks.
- Data Center Parks can be encouraged to become content hosts and providers of content and services to both local and global companies at global scale without geographical restrictions.

Q.7. Are PSUs ideal choices for implementing the National Optical Fibre Network (NOFN) project?

Comments:

- Government sponsored Monopoly and/or Oligopoly structures have no place in modern marketplaces. Hence, considering the vast scope and scale of NOFN rollout, government needs to invite and encourage all available resources, public or private to plan and implement timebound, rollout of the network infrastructure.

Q.8. Should awarding of EPC turnkey contracts to private sector parties through International Competitive Bidding (ICB) be considered for the NOFN project?

Comments:

- As mentioned at Q.7, NOFN rollout should be opened to for award to any entity, either domestic or international or a combination of both, public or private or any consortium through open and transparent bidding.

Q.9. Are there any ways in which infrastructure development costs can be reduced? Is it possible to piggyback on the existing private sector access networks so as to minimize costs in reaching remote rural locations?

Comments:

- Infrastructure costs in India are high, as is the cost of doing any business. Impediments include vareity of roadblocks including inefficient, time consuming and outdated rules and regulations that come in the way of competitive development and use of infrastructure. Public and private sector are treated differently and hence we have built in inefficiencies that come with huge costs. Therefore, it is possible and desirable to piggyback on each other's existing access networks, whether public and/or private. Situations where public sector operators and private sector operators work in silo's and do not collaborate or find it difficult to collaborate, needs to be overturned. Open collaboration needs to be brought in.

Q.10. What can the private sector do to reduce delivery costs? Please provide specific examples.

Comments:

No comments

Q.11. What are the major issues in obtaining right of way for laying optical fibre? What are the applicable charges/ constraints imposed by various bodies who grant permission of right of way? In your opinion what is the feasible solution?

Comments:

- As recommended earlier, Municipal Corporations should now be encouraged to create and implement their own local Universal Internet Access policies and programs as part of City development plans. Their involvement in implementing and ensuring that Internet/broadband becomes available ubiquitously is necessary to make them sensitive to the need of developing Internet infrastructure.
- Competition amongst municipal corporations to meet Universal Internet Access targets will help them to plan an overlay connectivity infrastructure and works towards implementing and offering the same to Service providers at reasonable terms.

Q.12. Should the Government consider framing guidelines to mandate compulsory deployment of duct space for fibre/ telecommunications cables and space for telecommunication towers in all major physical infrastructure construction projects such as building or upgrading highways, inner-city metros, railways or sewer networks?

Comments:

The same has been recommended by us as a response to Question 1. Extracts as below:

- Mandating all builders to compulsory include laying/deploying of fibre optic lines in all new buildings with immediate effect. Provision to have space for server rooms in all these buildings should also be planned for.
- Existing buildings can be mandated to complete deployment of fibre line access to each house within a certain time frame, if not already provisioned.
- All major construction projects eg. Dwelling units, roads/highways, transport, power, et al should be sensitized to include provision of ducts, lines for internet pipelines, on the lines of power, water pipelines.
- Service Providers to be given neutral access to provide broadband access to the households on this infrastructure.

Q.13. What are the impediments to the provision of Broadband by Cable operators? Please suggest measures (including policy changes) to be taken for promoting broadband through the cable network.

Comments:

- For long Cable operators have been expected to be an extension of ISPs for provisioning of Internet access through the large number of cable TV households in the country.
- However, the single biggest reason for failure has been the inability of cable operators to transition to an appropriate technology, rendering their networks incapable of delivering efficient, high speed internet/broadband services to their customers.
- TRAI may engage with MSO/Cable operators to understand and recommend measures to make internet through cable systems a more viable option.

Q.14. What measures are required to reduce the cost and create a proper eco system for deployment of FTTH in the access network?

Comments:

No Comments

Q.15. Are there any regulatory issues in providing internet facility through Wi-Fi Hotspots? What are the reasons that installation of Wi-Fi hotspots has not picked up in the country? What type of business model needs to be adopted to create more Wi-Fi hotspots?

Comments:

- As mentioned earlier, largest ISPs are also the telecom operators, whose interest lie in promoting Mobile internet access, which fetches better revenue on data usage. Hence, setting up of WiFi hotspots by them has been a lower priority even though they are setting up more such hotspots lately.
- Some independent ISPs have been setting up WiFi hotspots, but due to bandwidth costs involved and payable to their upstream providers, do not find the business case be really lucrative.
- Municipal WiFi should be promoted, whereby Municipal authorities take it upon themselves to work and collaborate with private operators to provide ubiquitous coverage and access to internet using Wfi.
- TRAI must immediately take steps to get the V-Band spectrum in 57-64 GHz range to be opened up for distribution under the delicensed category.
- WiFi standard 802.11ad is coming up with access speeds of upto 7 Gigabits per second, using 60 Ghz bands. India should take early advantage and move to ultra high speed WiFi, which would potentially also make a viable business case.

Q.16. What are other spectrum bands which can be unlicensed for usage of Wi-Fi technology or any other technology for provision of broadband?

Comments:

- TRAI must immediately take steps to get the V-Band spectrum in 57-64 GHz range to be opened up for distribution under the delicensed category.
- WiFi standard 802.11ad is coming up with access speeds of upto 7 Gig per second, using 60 Ghz bands. India should take early advantage and move to ultra high speed WiFi, which would potentially also make a viable business case.

Q.17. How much spectrum will be required in the immediate future and in the long term to meet the target of broadband penetration? What initiatives are required to make available the required spectrum?

Comments:

- Question is very general and needs to be specific in terms of spectrum needs for mobile networks using licensed spectrum bands, based on deployment of various technologies, eg UMTS, LTE, HSPA, WIMAX, etc. or unlicensed bands using WiFi spectrum in the 2.4, 5 Ghz bands, or upcoming bands such as V band (60 GHz, etc.)
- We recommend that TRAI work upon estimating the anticipated requirement of spectrum for Internet using the ITU model ITU-R M.1768-1 model.

Q.18. Are there any other spectrum bands apart from the ones mentioned in Chapter-2 to be identified for provision of wireless broadband services?

Comments:

- TRAI must immediately take steps to get the V-Band spectrum in 57-64 GHz range to be opened up for distribution under the delicensed category.
- WiFi standard 802.11ad is coming up with access speeds of upto 7 Gig per second, using 60 Ghz bands. India should take early advantage and move to ultra high speed WiFi, which would potentially also make a viable business case.
- 60 Ghz is also uncongested at this point of time and would be a more viable option/alternative to 2.4 GHz and 5 GHz.

Q.19. What are the measures required to encourage Government agencies to surrender spectrum occupied by them in IMT bands?

Comments:

No Comment.

Q.20. What should be the time frame for auctioning the spectrum in 700 MHz band?

Comments:

As soon as possible without delay

Q.21. Do you agree with the demand side issues discussed in Chapter 5 and Chapter 6? How these issues can be addressed? Please also indicate any other demand side issues which are not covered in the CP.

Comments:

- Generally in agreement with the content and issues mentioned.
- Access must precede demand and hence lack of demand should not become an excuse to curtail or cut down on creating access to internet.
- Top down policy and implementation approach has not resulted in the growth and penetration of internet at desired levels. New approaches have to be considered now.
- State and/or Municipal level Universal Internet Service plans need to be put in place. Municipal corporations should be given the opportunity to spearhead and put in place planning, policies and programs for extending, creating and provisioning of Internet services (which would ideally involve focussing both on access as well as local content availability). This is the bottom up approach that needs to be brought in by making local administration the stakeholders in propagating internet, in conjunctions with local citizens, businesses, academia and others that they govern.
- There are very large segments of local municipal citizenry which is not even targeted as recipients of internet services, on the lines of rural population where USO funding has been trying to penetrate.

Q.22. Please give your comments on any related matter, not covered above.

Comments:

A. VOIP – Internet Telephony

- Unrestricted Internet telephony must now be allowed to all ISPs.
- No other progressive economy in the world has this restriction applicable anywhere.
- Such restrictions have helped fuel India's image as one of the most difficult and inefficient places in the world to do business in. Modern businesses demand ubiquitous, seamless and modern communication facilities to be able to set and grow businesses.
- A primary reason for creation of an oligopolistic situation in the ISP sector in India where 85 to 95% of the Internet traffic is cornered by only top 5-10 integrated telecom operators and standalone ISPs find it difficult to grow and contribute to Internet penetration is quite possibly traced to the continued restriction on Internet telephony. Innovation in developing communication technology has thus been stifled in India.

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