Comments : Delivering Broadband Quickly: What do we need to do?

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Q1. 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.

The cost of technologies may vary based on the demand and various interoperability requirements which must be defined from the point of view of continuity and integrity of the broadband network. The choice of the technology must be left to the access network operator with requirements clearly defined in terms for open access, interoperability and security.

Q2. 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.

The biggest impediment to growing the wire-line access network is the difficulty in acquiring the Right-of-way. The Department of Telecommunications (DoT)'s network, handed over to MTNL and BSNL, has a lot of latent value, with the right-of-way readily available, which must be made sharable and usable as common infrastructure. The up-gradation of legacy copper to optic fiber and the various technologies to be used must be left to the operator (one or many), with well-defined open access interoperability requirements.

A good model to follow is that of Openreach a subsidiary of British Telecom in the UK. Such a model might have grown well because there was only one major telecom operator. But our access network, wire-line, is still largely dominated by the PSUs, at least in terms of the right-of-way. The access network of BSNL and MTNL and any new wire-line access network should require to be accessible to provision broadband services, of OTT-type services,

or other telecom operators. A virtualized, open and unlimited use of access networks, the VULA operating model of Openreach, should enable a rapid growth of broadband reach and usage.

Q3. 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?

Q4. 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?

There should be a review of utilizing BSNL/MTNL exchange infrastructure as a common infrastructure, which can greatly facilitate reduction of pricing of domestic leased circuits

Q5. 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?

An ISP isn't guaranteed by Nixi that the complete Internet – sites in India or overseas, will be visible through a Nixi exchange. Therefore, the ISPs tend to buy transit directly at the POPs of the telecom operators who have data centres and content hosted in India and/or connectivity to other Internet exchanges in the world.

The POPs (points of presence) of the telecom providers are better located on the network and ensure more reliable operations in terms of continuity and updates of routes. The Nixi exchanges are located at STPs and add to the access costs of the ISP, especially if a gigabit connectivity is required to provision a large number of broadband ISP retail customers.

One option is to locate Nixi exchanges at the BSNL/MTNL exchanges, well located throughout the country with a ready access network which can be improved. A telco which wishes to sell transit to a retail ISP, may use the exchanges as a point of presence, for a fee.

Another option is to locate Nixi exchanges at major data centres, which may bid for hosting the Nixi exchanges. All data centres must be mandated to advertise networks and network prefixes sold by them to content & service providers, at all Nixi locations, either by themselves, or through a telecom operator.

The ISPs in either of the options would be customers buying transit from the exchanges. It is therefore imperative that the ISPAI role in Nixi's governance and operations be reviewed.

Indeed, is ISPs are allowed a representation on Nixi, the Content service providers which are also telco customers which buy transit, will demand to peer directly at Nixi too, which cannot be refuted.

Q6. 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?

The content hosted within the country is accessible at a much lower cost than the content hosted outside the country. Therefore a part of broadband access cost can be reduced if most of content is hosted in India.

More content service providers will host content at data centres in India, if guaranteed visibility and connectivity of the data centre networks.

Q7. ARE PSUs IDEAL CHOICES FOR IMPLEMENTING THE NATIONAL OPTICAL FIBRE NETWORK (NOFN) PROJECT?

Firstly, the National Optical Fibre Network must include the urban optic fibre network segments. Indeed, the National Optic Fibre Network must be re-defined as an interconnection of various access network segments – wireline and wireless.

Since NOFN will be a vital national asset, it must be built, operated and regulated by an autonomous undertaking, at arms-length from the telecom companies, private or public