भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprise)
BSNL3G)))) BSNL LiVE
Faster than your thoughts   2010

No.:1-35/2010-Regln   **Dated 26th July' 2010**

To,
        The Secretary,
        Telecom Regulatory Authority of India,
        Mahanagar Door Sanchar Bhawan,
        Jawahar Lal Nehru Marg (Old Minto Road),
        Near Zakir Hussain College,
        New Delhi-110002

                { Kind attention: Shri S K Gupta, Advisor (CN)}

        Subject: Consultation paper on "National Broadband Plan".

        Kindly refer to consultation paper No. 09/2010 issued on 10th June, 2010 regarding "National Broadband Plan". Comments of BSNL are annexed herewith for kind consideration please. The comments are also being sent through e-mail at advcn@trai.gov.in.

Encl.: As above

                               (Ashok Kumar Rawat)
                             DGM (Regulation - II)-CA

BSNL's Comments on Consultation Paper on "National Broadband Plan"

Sr. No.	Issues	BSNL's Comments

1	What should be done to increase broadband demand? (Reference Para 2.23)	Following actions may be taken to increase broadband demand.
		i. Make customers aware about the usage of Broadband and computers.
		ii. Provide useful public utility services online through Broadband.
		iii. Increase computer literacy in India particularly in rural areas.
		iv. Providing employment to computer/internet literate people in rural area.
		v. Make available PC/CPEs/laptops/net book at affordable cost.
		vi. Focus on
		   a. Online -Education
		   b. Online entertainment
		   c. E-governance
		   d. Security
		   e. Tele-medicine
		   f. Make e-Learning more popular and acceptable.
		vii. Provide content in local languages
		viii. Affordable and low broadband tariffs

2	What, according to you, will improve the perceived utility of broadband among the masses? (Reference Para 2.23)	In our view, emphasis on the following items will definitely enhance the perceived utility of broadband among the masses. 1. Availability of Broadband services at affordable tariffs. 2. Providing on line education, courses, exams and certified courses through broadband. 3. Providing more and more online local services including agriculture, e-governance, microfinance, online banking, online e-tickets etc. through broadband. 4. Providing Broadband experience centers both in urban and in rural and remote areas. 5. Educating customers about benefits of Broadband service.

3	What measures should be taken to enhance the availability of useful applications for broadband? (Reference Para 2.23)	Following measures may be taken to enhance the availability of useful application for broadband: 1. Preparation of contents suitable for education, medicine etc. which should be affordable to common people. 2. Digitization of already available contents on art, culture etc. 3. Making all the public utility services online to the public without any service charges. 4. Setting up Broadband Kiosk Centers with different online services in each and every village to ensure shared and assisted access for those who cannot afford broadband connection and uneducated lot. 5. Extending support to open platforms that encourage application developers to come up with location specific contents/services etc.
4	How can broadband be made more consumer friendly especially to those having limited knowledge of English and computer?(Reference Para 2.23)	Some of the measures in this context are suggested as below: 1. Provide Broadband Kiosk like centers where such people can come and use the different services available through Broadband by taking the help of the Kiosk owner. 2. Provide content in local language. 3. Increase computer literacy 4. Use of computer applications using symbols.
5	Do you agree with projected broadband growth pattern and futuristic bandwidth requirements? (Reference Para 2.35)	Yes, we agree with the projected broadband growth pattern and futuristic bandwidth requirements, as use of online public utility services, Streaming video contents, education material, Tele medicine, Tele chatting, online gaming etc. are increasing day by day. Moreover the country requires very high growth in the Broadband for its overall development.
6	Do you agree that existing telecom infrastructure is inadequate to support broadband demand? If so what actions has to be taken to create an infrastructure capable to support futuristic broadband? (Reference Para 2.35)	Yes, existing infrastructure may not be adequate to support the broadband demand. Following actions may be taken to create an infrastructure to support futuristic broadband requirements. 1. Provide incentives for roll out of network 2. Encourage public-private partnerships for rural areas to drive coverage 3. Provide public funding for remote areas to achieve sufficient coverage. 4. Strengthen backhaul infrastructure with 100% support from Government. 5. Provide free spectrum for rural and less developed areas.

7	What network topology do you perceive to support high speed broadband using evolving wireless technologies? (Reference Para 3.22)	The network topology should be such that the backhaul/core network should be IP based using optical fibre whereas wireless technologies like WiMAX, LTE, 3G etc. may be used in the access.
8	What actions are required to ensure optimal utilization of existing copper network used to provide wire line telephone connections? (Reference Para 3.22)	Present land line penetration itself is very low due to non-favorable policies of the government and therefore, even 100% utilization of existing copper network will not increase broadband penetration to satisfactory level. Further, DoT has clearly mentioned in its "Broadband Policy 2004" as follows: "There are more than 40 million copper loops in the country available with BSNL and MTNL out of which 14 million loops are in rural areas. Copper cable network of these operators is a combination of old and new cable and this makes provisioning of Broadband on all the available copper loop technically unfit . Therefore, around 25-30% of the remaining 26 million loops, i.e. approximately 7 million loops can be leveraged for broadband service by BSNL and MTNL taking into account the condition / life of copper cable and demand potential." BSNL is making all efforts to utilize its existing copper network optimally to provide broadband connections where ever demands exist and it is technically feasible. This is evident from the total broadband connections of BSNL amounting to 5.38 million mainly on DSL, which is 29.8 % of total working urban wire-line connection. Over a period of 6 years, BSNL has laid bare minimum U/G cables due to high CAPEX requirement, stiff competition from wireless segment and unfavorable government policies/regulations which do not provide any support for growth of wireline services. Further, there are less number of copper loops available as on date to offer broadband services mainly due to damages in the cable, weather conditions, negative growth/surrendering of telephones etc. The Authority may kindly be aware that there are many buildings /campus etc where 100s/1000s of wire line connections exist but their broadband requirements are fulfilled by high bandwidth leased line broadband connections with their own LAN network like government offices/private offices/schools/colleges etc. Even houses having more than one land line connection do prefer to take broadband connection on only one landline which is sufficient for the entire family. This should also be taken

		into consideration before reaching to any conclusion regarding optimal utilization of wire line network. To summarise, it is submitted that BSNL is optimally using its wireline network for providing Broadband connections wherever feasible.
9	Do you see prominent role for fibre based technologies in access network in providing high speed broadband in next 5 years? What should be done to encourage such optical fibre to facilitate high speed broadband penetration? (Reference Para 3.22)	Yes, as the broadband adoption grows, the growth in the Bandwidth demand may probably not be served by the copper/ wireless network and fiber will have a major role in carrying adequate bandwidth to the customer premises. Therefore, all upcoming residential / commercial buildings should have a certificate of "Broadband enabled building" using optical fibre. Further, Fibre should also be wired in all existing commercial buildings.
10	What changes do you perceive in existing licensing and regulatory framework to encourage Cable TV operators to upgrade their networks to provide broadband? (Reference Para 3.22)	There is no need to change the existing licensing and regulatory framework as any cable TV operator can take ISP license and provide broadband services after completing required formalities.
11	Is non-availability of optical fibre from districts/cities to villages one of the bottlenecks for effective backhaul connectivity and impacts roll out of broadband services in rural areas? (Reference Para 3.39)	More than the availability of connectivity in rural areas, the major reason for low penetration of Broadband is the lack of awareness and perceived utility for Broadband. Broadband is not a primary requirement for the rural folks. It is necessary that measures such as Broadband kiosks be put in place in Rural areas which apart from offering various services to the customers will also help to educate them on utility of Broadband.
12	If so, is there a need to create national optical fibre network extending upto villages? (Reference Para 3.39)	As stated above, non-availability of optical fibre up to villages is not main reason for low penetration of broadband in rural areas. Therefore, creation of national optical fibre network up to villages may be wastage of the resources. The present and future requirement of broadband bandwidth, to provide various services at
13	In order to create National optical fibre core network extending upto villages, do you think a specialized agency can leverage on various government schemes as discussed in para B? (Reference Para 3.39)	village level, can easily be met by proper deployment of BWA technology in rural areas, inaccessible areas and in difficult terrains as this will be very cost effective and easy to deploy. Further, maintenance of such a huge optical fibre network in rural areas would be very expensive particularly in a situation where lots of development would take place in these areas in future.

14	Among the various options discussed in Para 3.35 to 3.37, what framework do you suggest for National Fibre Agency for creating optical fibre network extending upto village level and why? (Reference Para 3.39)	
15	What precautions should be taken while planning and executing such optical fibre network extending upto villages so that such networks can be used as national resource in future? What is suitable time frame to rollout such project? (Reference Para 3.39)	
16	Is there a need to define fixed and mobile broadband separately? If yes, what should be important considerations for finalizing new definitions? (Reference Para 4.18)	No, in this era of fixed mobile convergence especially for the Broadband traffic, there should be a uniform policy irrespective of the access technology.
17	Is present broadband definition too conservative to support bandwidth intensive applications? If so, what should be the minimum speed of broadband connection? (Reference Para 4.18)	Yes. Broadband should have minimum speed for download as below: o 512 Kbps by Dec, 2010 o 2 Mbps by Dec. 2011 o 4 Mbps by Dec. 2014.
18	What specific steps do you feel will ease grant of speedy ROW permission and ensure availability of ROW at affordable cost? (Reference Para 4.30)	Some steps to ease grant of speedy rights-of-way are suggested as below: ➢ Formation of a separate ROW agency at Centre for coordination with different agencies. ➢ Enactment in respect of Right of Way will help a lot. ➢ Minimum Charges may be fixed at the State level and speedy ROW permission may be ensured.
19	Does the broadband sector lack competition? If so, how can competition be	No, the broadband sector does not lack competition as there are more than 100 ISPs providing Broadband services. The competition in Broadband sector is likely to

	enhanced in broadband sector? (Reference Para 4.42)	increase further with the availability of 3G/BWA spectrum.
20	Do you think high broadband usage charge is hindrance in growth of broadband? If yes, what steps do you suggest to make it more affordable? (Reference Para 4.42)	Affordability doesn't seem to be much of an issue, especially with such low tariffs in a competitive environment. The minimum Broadband plan available from BSNL in Rural area is Rs 99 and in Urban area is Rs 150. Hence it is felt that the hindrance in the Broadband growth is not because of the Tariffs.
21	Do you think simple and flat monthly broadband tariff plans will enhance broadband acceptability and usage? (Reference Para 4.42)	Though, simple and flat monthly broadband tariff plans are desirable but the same may be considered only when the penetration has reached at maturity level. Current Broadband packages being offered to the customers are being formulated to meet the needs of every customer segment across all usage patterns which include marginal customers to very heavy users. A flat, simple tariff plan will be affordable only for customers whose consumption is above a specific usage requirement.
22	Should broadband tariff be regulated in view of low competition in this sector as present? (Reference Para 4.42)	No, the Broadband tariffs are already low.
23	What should be the basis for calculation of tariff for broadband, if it is to be regulated? (Reference Para 4.42)	Not applicable in view of comments on item no. 22 above
24	How can utilization of International Internet bandwidth be made more efficient in present situation? (Reference Para 4.42)	The International Internet bandwidth is already optimally utilized. However, favorable policies/framework for hosting websites in India would further ensure efficient utilization of international bandwidth.
25	How can use of domestic and international internet bandwidth be segregated? Will it have direct impact on broadband affordability? If so, quantify the likely impact. (Reference Para 4.42)	Following measures may be used to segregate the use of domestic and international internet bandwidth, which will definitely have direct impact on broadband affordability a. All ISP's should invariably have the connectivity with the NIXI for peering of the national bandwidth. b. The connectivity with the NIXI should be mandatory and made free of charges by funding support to NIXI by the Government. c. Moreover increase of local content will reduce proportionate the international bandwidth usage.

		d. Govt. must encourage installation of datacenters within India so that content is served domestic.
26	What steps should be taken to bring down the cost of international internet bandwidth in India? (Reference Para 4.48)	Following steps should be taken to bring down the cost of international internet bandwidth in India:

1. Domestic bandwidth sharing through NIXI has not been very effective. Direct peering link(s) among all class-A ISP should be made mandatory. The usage pattern of these direct peering should be monitored by DOT/TERM. At any cost, domestic content should remain within India itself. Further, Data Centers space/tariff should be made more transparent and regulated by regulator. We do not have many data centers due to various issues like high capital involved, long gestation period, fast technology obsolescence etc. Thereofre, ISP's may be provided incentive in terms of lower license fee etc to build up data centers. TEC/DOT needs to be provide standardization for infrastructure facility and operators should be mandatorily get certification from TEC/DOT so that customer may get data center's infrastructure facility transparently.

2. Class A ISP's should be made mandatory to have its customer's web-site in all official language, to begin with English and Hindi.
   o Efforts should be made to make common application like email in Hindi.

   o Local applications should be encouraged considering vernacular's requirement. IDN should be made more popular. Incentive mechanism needs to be explored.

3. INAP (International Network Access Point) with multiple international NAP should be established in India, wherein different ISP's may be made stakeholders. All Class-A ISP's should have mandatory connectivity from this INAP.

4. Common MPLS core, infrastructure/facility/operation controlled by government, shares of all stakeholders.

5. Internet governance body under DOT/TERM needs to be created for settling technical issues between different ISP operators. Different issues are related to routing, latency, hops etc. The body may act like

		Internet Ombudsman to settle technical/commercial issues between different operators/customers.
27	How can competition be enhanced in the International bandwidth sector? (Reference Para 4.48)	Cable landing RIO prices are not getting revised, though the actual bandwidth prices are reducing drastically. Therefore, a model needs to be worked out by CLS owner to reduce the RIO price as well. The timelines as defined in RIO are very relaxed on CLS owner part and therefore, should be made more stringent. At present, RIO formalities are required every-time foreign operator sells bandwidth in India. It needs to be avoided. LIM requirement is also very complex, the same needs to be reviewed. If any cable system is passing through India, willing Class-A ISP's of India should be given preference for cable landing by cable system consortium. At present, only three major operator have local cable landing rights viz. Bharti, TCL and Reliance. Licensing cost gets multiplied as internet leased line/IPLC are sold to end customers. The same needs to be reviewed. Higher bandwidth tariff has been kept under forbearance by TRAI. As a result, operators are behaving in their own way. Now 1 Gbps bandwidth is also becoming very common. Tariff ceiling should be defined for higher bandwidth as well. Circle wise tariff limit may be given as operator has to incur infrastructure cost as well. All class-A ISP's should have mandatorily internet gateway license.
28	QoS of broadband, availability of bandwidth, adherence to given contention ratio, affordability, availability and spread are some intricately linked parameters. In your opinion what should be done to ensure good quality broadband to subscribers? (Reference Para 4.59)	Following action should be taken to ensure good quality broadband to subscribers 1. Real time operational analysis on the network, users and applications 2. Implementation of Fair usage and network congestion management 3. Advice of charge for usage thresholds 4. Differentiated billing for various on-net services
29	Do you think that bad quality of broadband connection is impacting the	No.

	performance of bandwidth hungry applications and hence crippling the broadband growth? If so, please suggest remedial actions. (Reference Para 4.59)	
30	Is there a need to define new/redefine existing quality of service parameters considering future bandwidth hungry applications, time sensitivity of applications and user expectation? What should be such parameters including their suggestive value and should such parameters be mandated? (Reference Para 4.59)	The present parameters for QoS being monitored currently are sufficient to ensure good quality of services to the customers.
31	What measures do you propose to make Customer Premises Equipment affordable for common masses? Elaborate your reply giving various options. (Reference Para 4.64)	BSNL proposes following measures to make Customer Premises Equipment affordable for common masses: 1. Reduce Taxes on all electronic items i.e. Computer, CPE etc. such that local manufacturing should be more attractive than import from other countries. 2. Encourage companies to develop indigenous electronic items 3. Create investment incentives in telecom sector. 4. Govt. must ensure that "plug and use" CPEs are made available in open market at affordable rates.
32	What measures are required to encourage development of content in Indian vernacular languages? (Reference Para 4.68)	Following measures are required to encourage development of content in Indian vernacular languages: 1. Government should be encouraging the Indian companies for development of content in Indian vernacular languages by providing incentives. 2. The selected universities also can be given such assignments for development of local content. 3. Govt. must support content development in Education, Health, Job search, social networking, entertainment & communications.
33	Do you perceive need for any regulatory or licensing change to boost broadband penetration? (Reference Para 4.71)	There should be favorable government policies regarding manufacturing/importing of computer/broadband/internet related items. Further, exemption of license fee and some other benefits for landline services would help to promote the wire line service and hence will increase the penetration of wire

		line services. This will further boost up the broadband penetration.
34	Are there any specific competition and market related issues that are hindering growth of broadband? (Reference Para 4.71)	High cost of PC and non availability of relevant content are major hindrances. Customers are also not fully aware of the uses of Computer and Broadband. The PC penetration is fractional as compared to the penetration of the TV. Further, General customer perception regarding the reliability / high failure prone nature of computers to be removed. The Rural area of the country has power problems which lead to large computer problems. Hence, usage of laptops which are now affordable can be promoted to avoid such problems.
35	What other fiscal/non-fiscal measures should be considered to boost broadband penetration? (Reference Para 4.71)	Following measures should be considered to boost broadband penetration: 1. Every anchor University (IITs, IIMs) should have 1 Gbps connectivity by Dec. 2011. 100% colleges by Dec. 2012 & schools by 2014 must have broadband. 2. Proper norms required for home/office internet security and also for public utility like cyber café. 3. Proper norms & rights to be developed for interconnections of ISPs. 4. Every registered company/society must have a website by Dec'2010. 5. 'Internet Education' must be made compulsory curriculum of schools by 2014.