



PAKISTAN TELECOMMUNICATION AUTHORITY
Headquarters, F-5/1 Islamabad
www.pta.gov.pk

F. No. 15-70/06(CA)/PTA

6 March 2007

Subject: Consultation Paper on Broadband Proliferation in Pakistan

This is with reference to even number letter of the Authority dated September 1, 2006 regarding the subject.

2. In order to initiate a formal process of deliberation regarding the subject, a consultation paper on review of broadband issues in Pakistan, has been prepared and placed on the website of PTA (www.pta.gov.pk).

3. Being a key stakeholder, you are requested to kindly provide your comments/views particularly on the issues highlighted in the aforementioned consultation paper. Please also provide any additional suggestions related to technical, commercial and regulatory aspects of broadband (wireline and wireless) that in your opinion need to be covered in the consultation process. You are requested to submit your comments at the earliest preferably by 31 March 2007.

Muhammad Ahmad Kamal
Director (Access Promotion)

To:

- i. All Mobile Operators
- ii. All LDI Operators
- iii. All LL Operators
- iv. All ISPs
- v. PTCL
- vi. NTC
- vii. SCO
- viii. MoIT

Broadband Proliferation

Consultation Paper on Broadband Proliferation in Pakistan

March 6, 2007



CONSULTATION PAPER
ON
BROADBAND PROLIFERATION IN PAKISTAN

This Consultation Paper is in line with the strategic objectives of GoP to enhance the penetration of broadband services in Pakistan. The stakeholders are requested to respond to the specific issues raised in this paper as well as highlight other areas that are not covered herein for consideration of the Authority. This Paper does not convey, in any sense, any decision of the Authority in respect of the issues discussed in this paper.

Your responses may be sent on or before 31 March 2007 in writing or through e-mail to Mr. Yasir Raza, Assistant Director (Commercial Affairs), PTA, F-5/1 Islamabad, Phone: 9225308, E-mail: yasirraza@pta.gov.pk

1. The Pakistan Telecommunication Authority is a body corporate established pursuant to Section 3 of the Pakistan Telecommunication (Re-organization) Act, 1996, with the objective to:
 - i. regulate the establishment, operation and maintenance of telecommunication systems and the provision of telecommunication services in Pakistan;
 - ii. promote and protect the interest of users of telecommunication services in Pakistan; and
 - iii. promote the availability of a wide range of high quality, efficient, cost effective and competitive telecommunication services throughout Pakistan.
2. In line with its vision of ensuring high quality ICT services in Pakistan, the Pakistan Telecommunication Authority is continuously striving to create adequate investment opportunities for the telecommunication sector of Pakistan that results in provisioning of affordable services to the end consumers. Broadband is one of the target areas that have been identified as a priority area so that the aforementioned vision of the Authority could be transformed into a practicable reality. This consultation paper is an opportunity to assess the perspective of the stakeholders regarding broadband proliferation. It broadly reviews the possible measures that may be taken by PTA and the industry.
3. Broadband services in Pakistan started in 2002. However, the growth remained stagnated due to various factors including high tariffs, less consumer awareness and limited number of service providers. Considering the significance of the issue, PTA took the initiative in 2004 by allowing all ISPs to provide Broadband services in addition to the dial up services already provided by them.
4. The Broadband Policy was announced by GoP in Dec 2004 with primary objective to spread an affordable high-speed internet service and encourage private sector investment in local content and broadband services. The policy set a target of 200,000 broad band users within first two years of implementation of the Policy, i.e. December 2006. It was also anticipated that the number of broadband users in Pakistan would reach the level of 500,000 within five years of Policy implementation, i.e. till December 2009.

5. Pakistan's low position on various broadband take-up rankings is mainly a reflection of the delay in the launch of competitive broadband services in Pakistan compared to most other countries. It does not suggest that there is a lack of demand for broadband services by users. The lack of competition between broadband service providers coupled with the higher bandwidth tariffs charged by PTCL, weakened the initial rollout of broadband in Pakistan.

6. Views on the extent of demand for broadband services in the market are welcome. However, it is considered that the primary focus should continue to be on increasing competition on the supply-side of the broadband market, which is likely to have positive impact on the demand side significantly.

BROADBAND PENETRATION IN PAKISTAN

7. Pakistan is a densely inhabited developing economy (around 160 million people) with exceptional regional and geopolitical importance in the South East Asian region. Pakistan had almost 126 ISPs in 2004 with internet users being concentrated in the areas of Lahore, Islamabad and Karachi. The internet penetration during the same period stood at 1.6 percent with 40,000 subscribers, of which 91 percent were dialup subscribers, 8 percent were DSL subscribers and less than 1 percent were satellite and wireless subscribers. By 2006, a number of important milestones have been achieved in terms of market liberalization. Teledensity has increased from a dismally low 2.3% in 1995 to around 30% in 2006 and there is stillroom for growth. The infrastructure (both wired and wireless) poses a huge challenge in providing communication services to the population. Broadband services are still costly and with limited coverage.

8. The rationale behind underpinning this consultation paper is to find ways and means for increasing telecommunications infrastructure in the country for broadband proliferation. Inadequate broadband infrastructure may result in negative impact on Pakistan's productivity and is likely to result in higher operational costs for a number of businesses. This not only affects the performance of existing Pakistani based firms, but also hinders the attractiveness of Pakistan as a potential investment place.

9. Broadband is immensely important to Pakistan because it can accelerate the economic growth through ICT, which has been identified as a key factor to improve productivity performance. It is recognized that supply-side factors (e.g. the extent and reach of broadband infrastructure, level of competition, choice between providers, provision of broadband service through cable TV operators and the regulation of the industry) have a significant impact on broadband take-up. As a result, competitive broadband markets, with a wide choice of suppliers and broadband services for consumers, are prone to faster growth. The same has been reflected through the Broadband Policy of Pakistan, which envisages as under:

- (a) Spreading of an affordable, 'always on', broadband high speed internet service in Pakistan in the corporate / commercial and residential sectors across Pakistan
- (b) Encourage the entry and growth of new service providers while stimulating growth of existing ones at the same time; and
- (c) Encourage private sector investment in local content and broadband services.

10. The broadband policy has suggested some measures (such as hosting of content in Pakistan, reduction in prices of domestic as well as international IP bandwidth and establishment of national and regional peering points), which could help in the promotion of broadband growth.

11. Considerable penetration has not been witnessed due to the factors discussed earlier. The penetration has been concentrated only in three major cities of Pakistan. Worldcall is the only major cable operator providing broadband services currently in Pakistan. Some of the corporate customers in Pakistan are using satellite broadband services, for which very high tariffs are being paid. The overall broadband penetration in Pakistan is at a very low level of (2.3%) as compared to the regional countries such as Korea and India having 96% and 19% penetration rate respectively. In addition the broadband growth rate in Pakistan is also immensely low as compared to India's broadband subscribers, which are increasing at a quarterly growth rate of 40% whereas Pakistan's market has shown a significantly lower growth rate of 15% over the last quarter of 2005-06.

CONSTRAINTS IN BROADBAND PROLIFERATION

a. Bandwidth Prices

12. International IP bandwidth price is the biggest element of an ISP's cost, (approximately up to 60% of the operational expense of an ISP). Reducing the International IP bandwidth price will likely enable the ISPs to offer better dial up and broadband services at much lower prices. Bandwidth service provider's price reduction can be achieved by various methods including reduction of costs of international capacities via long - term leasing of high bandwidth capacities and applying volume discounts on higher capacities (STM4). With the increased number of LDI service providers and increased competition in the infrastructure available in Pakistan, it is envisaged that natural price reductions will follow after the first 'artificial' price reduction offered specially for broadband promotion.

13. According to the revised tariffs determined by PTA for the International Private Leased Circuit (IPLC) effective from January1, 2007, E1 charges for ISPs will be \$3,000 instead of \$3,950 whereas for call centres it would be \$2,400 instead of \$3,500. Similarly for DS3 ISPs will pay \$39,000 instead of \$67,150 and call centres will be charged \$31,200 instead of \$57,150. STM1 price will be \$84,000 and \$67,200 for ISPs and call centres respectively. PTCL has filed an appeal in the Lahore High Court on the determination issued by PTA on October 6, 2006 on bandwidth tariffs. The implementation of PTA's determined bandwidth tariffs is subject to the outcome of this appeal.

b. Crow Flight/Distance Based Tariffs

14. In Karachi, Lahore & Islamabad PTCL has laid broadband ring. As informed by ISPs, in Lahore & Islamabad, the charges for this facility are based on crow flying distance whereas in Karachi, the charges are based on the ring distance by incorporating the redundancy availability. This has resulted in increased bandwidth cost to the users of broadband rings in Karachi. On the issue, the ISPs are of the view that the charges in Karachi should be based on crow flying distance, instead of actual ring distance. PTCL is charging ring distance for inter-exchange connectivity in Karachi, whereas in all other cities and intercity bandwidth, the tariff is being charged at crow flying distance. PTCL is of the view that its wire line network is land/road based, whose cost depends on the right of way in kilometers, cable is required as per actual length, digging and laying is as per actual length and security/ground rent is on the basis of a rate per kilometer. PTCL, therefore, claims that a land/road -based network is not amenable to crow flying distance based tariffs. It is also claimed by PTCL that the charges for the facility in Lahore and Islamabad are not based on crow -flying distances. Instead they are based on actual road based distance.

Q.1 Comments are invited on the technical as well as commercial aspects of charging on the basis of crow flying distance instead of ring distance. You may also highlight other issues that may be addressed, including DPLC charges based on crow flying distance as well.

c. Access to Optic Fibre Access Network (OFAN)

15. PTCL is not allowing access to OFAN network to operators wishing to provide DSL services on PTCL's access network. Some of the operators have contested that it will discourage operators entering the broadband market as without OFAN access, the private operator may be hesitant in making investment to proliferate the broadband services in Pakistan as more and more customers' circuits are terminated on Optional Node Units (ONU) and other private operators are deprived to activate their DSL customers on this network. PTCL is of the view that it is a contemporary investment by PTCL in similar environment as is available to its competitors without any fiscal or other concession to PTCL. It is argued that opening the OFAN access for competitors would risk the return on investment of PTCL.

16. In order to further analyze the issue, the Authority has initiated a process of assessing the operational status of the OFAN network and the effective utilization thereof.

Q.2 Do you agree with PTCL stance that opening the OFAN access for competitors would risk its return on investment? Please also comment if there are any technical implications in providing access to PTCL's OFAN for DSL service providers.

d. Co-location

17. A number of operators have raised their concerns that co-location space is not readily available at various exchanges of PTCL. Even where it is available, the space is provided with prescribed dimensions/size by PTCL (in most cases just a 2' x 3' rack space is provided) which is not enough to accommodate moderately sized interconnection equipment. It is also informed that the power backup at co-location facilities is not granted by PTCL and where it is granted, it is unreliable due to which operators have to make alternative arrangements. Private operators are not allowed to install their frames in the MDF room at most of the co-locations and are forced to hang a few TAG blocks on the back of old PTCL frames. Permission for larger quantity of TAG blocks is not granted. Even if a private investor makes a substantial investment to enable a DSL exchange and the operator does not get access to MDF, the entire investment is affected since it is the only location from where the operator gets access to the customer's copper.

Q.3 What should PTCL do to allow operators more space to install their frames in the MDF room at all co-locations? Suggest alternatives with reasons. Please also inform as to what types of other equipment do the operators need to locate in PTCL's co-location sites (for the purpose of broadband services only).

e. SOPs for Activation of DSL

18. It is informed by DSL operators that a number of operational hurdles are reported in signing up various forms and affidavits for the activation of a 128 k shared DSL connection. The process should be simplified to increase the DSL deployment to a healthy number. In most developed countries the service is activated through a telephone call on a help line only. This greatly reduces the time for sign up and the provisioning/change of service offerings. A brief SOP may be developed on modern lines by ISPAK in collaboration with PTCL and submitted to PTA for approval.

Q.4 Do you agree that such an SOP would eliminate unnecessary burdens associated with provisioning of service to final consumers? Please suggest other alternatives to lessen such complexities.

f. Ethernet Connectivity between exchanges

19. Currently, PTCL provides only E1 interfaces between exchanges, which limits the scope of broadband operations as a DSL operator can provide limited bandwidth, whereas provision of other multimedia services would be seriously affected. Fast Ethernet (FE) and Giga Ethernet (GE), therefore, need to be made available to private operators also.

20. While the world is advancing towards IP based DSLAMS, in Pakistan one is forced to use ATM based DSLAMS, due to the fact that PTCL does not provide FE and GE backhaul, which is a prerequisite for IP based DSLAMS. ATM based networks are generally more expensive to commission and maintain. Hiring of these facilities from the incumbent at reasonable rates can result in faster growth of broadband services. For this purpose, an SOP shall be prepared by ISPAK in collaboration with PTCL and got approved by PTA.

Q.5 Do you think that with the passage of time, new issues have emerged and need to be incorporated into the said SOP? You may suggest practical alternatives to the Ethernet connectivity issue.

g. Charging of Double Line Rent by PTCL

21. PTCL is charging Rs. 250 (including GST) as the local loop charges from the DSL interconnect operators whereas the O&M partners of PTCL are charged at 5% of the revenue for the DSL services. PTCL is of the view that this charge was levied in lieu of the deficit in PTCL line rent claiming that the actual cost per line to PTCL is around Rs. 750. It was also mentioned that Rs. 250 line rent was included to ensure the prices at competitive level and keeping in view the cost structure of new local loop operators who were deploying optic-fibre network. In order to ensure more quick proliferation of the broadband services, Rs. 250 line rent needs to be abolished or reduced immediately.

Q.6 Do you agree that there should be one charging mechanism for the line rent? If yes, what should be its basis, i.e. fixed charges, percentage of revenue or any other criteria.

h. Complaints Handling

22. DSL operators have informed that they are not allowed by PTCL to resolve the copper complaints of the DSL customers after 5 pm. In order to ensure provisioning of high quality services, the said time limit needs to be extended for authorized technical staff of the DSL operators to provide round the clock support to the subscribers.

Q.7 In your opinion, is round-the-clock support by PTCL feasible? How will the cost and logistic implications be managed? What alternatives may be taken instead of round-the-clock support?

i. Broadband on Cable television network

23. In Pakistan cable television network is one of the sources identified for broadband connectivity, particularly in the case of residential users. The cable operators have deployed a parallel fibre/other cable network to provide internet services. These operators usually serve the densely populated areas such as a cluster of flats and colonies where medium to low-income population resides. Approximately around 50-60 thousand users are availing this type of facility. Considering the relatively high subscription cost of a DSL connection (Rs.999 to Rs.1,500), provision of DSL through cable TV operators, which is relatively cheaper (Rs.200 to Rs.500) compared to broadband from Isp's albeit of relatively poorer quality and with limitation on the bandwidth that can be provided, it can definitely help proliferate the use of DSL. The cable TV operators do business under a license from PEMRA (historically issued by PTA). One view from the ISP industry was that cable TV operators should be brought under the net of PTA through registration or a similar process since these operators have now also started offering a telecom service and the rules, regulations etc applicable to ISPs should also be applicable to cable TV operators.

Q.8 Do you agree with the above opinion of ISPs? If yes, what mechanism should be adopted for bringing such types of services/ access under an impartial & fair regulatory regime and to characterize these services as licensed telecom services?

Additional Comments

24. In the wake of significant worldwide broadband expansion it is important that this subject is taken up in a serious manner for which the PTA requests the stakeholders to provide any additional comments relating to technical, commercial & regulatory aspects of broadband (wireline and wireless) that in your opinion are not covered or adequately covered in this paper.