

TRAI Consultation Paper on Bandwidth required for ISPs for better connectivity and improved quality of service

IN SIFY'S CONSIDERED VIEW, ISSUES RELATED TO THE IMPROVEMENT OF QUALITY OF SERVICE FOR INTERNET & BROADBAND ACCESS WITH THE ULTIMATE GOAL OF ENHANCING THE END-USER EXPERIENCE HAS A MUCH STRONGER DEPENDENCE ON THE ABUNDANT AVAILABILITY OF HIGH QUALITY AND COST EFFECTIVE NETWORK INFRASTRUCTURE RATHER THAN THE METRIC OF CONTENTION RATIOS. THE CONTENTION RATIO VIEWED INDEPENDENTLY NEITHER CAPTURES NOR ADDRESSES THE COMPLEXITY OF QUALITY OF SERVICE ISSUES AND HENCE IN OUR ESTIMATION WILL NOT GUARANTEE ANY IMPROVEMENT IN THE INTERNET/BROADBAND USER EXPERIENCE WHATSOEVER. OUR RESPONSES BELOW ARE DIRECTED TOWARDS EXPANDING ON THESE ISSUES:

**Question No. 3.1**

In order to ensure sufficient bandwidth for good quality broadband service, should some "Thumb Rule" for maximum contention ration be fixed for dial up, broadband, high bandwidth services & leased line internet access? If so, what should be the values for different Internet services?

Sl No	Services	Max. Contention Ratio for Home users	Max. Contention Ratio for Business users
1	Dialup		
2	Broadband		
3	High Bandwidth Services (like IPTV etc.)		
4	Leased Line		

Kindly give your suggestions with justification.

**Response from Sify:**

Sify does not agree nor recommend Fixing a Maximum Contention by the regulator for different classes of services like dial-up, broadband, IPTV & Leased line that would supposedly improve the quality of broadband service to the consumer. It would not be prudent to specify the maximum contention ratio for the following reasons:

a. **Diversity of Subscriber Profiles:** India being a vast country with widely varying socio-economic profile supports a diversity of subscriber profiles with varying requirements and affordability norms. . These ground realities make it necessary for service providers to differentiate internet/broadband products based on the above to suit customer profiles.. The Indian scenario cannot be compared directly with either dramatically smaller economies or those which have dramatically higher affordability quotients, for example the UK or France. Therefore, benchmarks for the Indian subscribers cannot be lifted off those applicable for advanced economies and it would be an error for us to correlate the same. .

b. **Non-Uniform Broadband Infrastructure Availability:** Infrastructure availability in India and the cost to provide Internet/Broadband Access is not uniform and not standard across the country. This fundamentally leads to a variable cost structure for different parts of the country and hence maintaining same product features for pan India operations is simply not practically viable.

It is well-known that infrastructure cost in India is relatively very high compared to international standards. The Regulator is strongly urged to take proactive steps to make high-quality network infrastructure available at reasonable cost to all service providers and aggressively promote Infrastructure sharing as outlined by the Regulator in the consultation paper <sup>th</sup> “Recommendations on Infrastructure Sharing dated April 11 , 2007”

This will allow the service providers including ISPs to get equitable access to the Local, National and International Telecom Infrastructure and will enable them to provide better quality of service at affordable cost to the consumers.

c. **Enabling Universal Service:** Cost of Broadband Operations in Tier-3 locations and rural areas is much higher as compared to the cost of operations at larger cities. Using contention ratio as a benchmark across geographies would hamper the growth of Internet in Tier 3 cities and rural areas since then the service providers would be forced to either deploy unprofitable services or else exit from deploying services in these small cities / rural areas. .

d. **Bandwidth Utilization Threshold:** Regulator’s view that the current regulation on bandwidth utilization threshold is only reactive is misleading. As per the current regulation, ISPs are required to upgrade the bandwidth once the

bandwidth utilization reaches 80%. Typically a gateway link should provide adequate performance up to 90% utilization and having 80% as a threshold for upgrading the bandwidth is a very good capacity planning practice. Initiating a bandwidth upgrade at 80% utilization should provide enough time to upgrade before it hits 90%. **Hence, this cannot be termed as reactive as the customer experience is unaffected till bandwidth utilization reaches 100%.** ISPs take proactive steps immediately to upgrade the bandwidth to keep the utilization levels below 80%. Furthermore, the time taken to reach the 100% from the 80% limit is sufficient enough to upgrade the bandwidth on time.

Again provisioning additional bandwidth, let's say at 60% of the bandwidth pipe, will only increase the cost of Internet access due to increased operational costs. Thus if service providers were to lower the threshold for bandwidth upgrade, it would immediately imply greater operational cost that may or may not be viable for the specific geography or customer profiles that is targeted by the service provider to make for a viable business case.

- e. **Contention Ratio for Leased Lines:** The Idea of considering a Contention Ratio for the Leased line customers including enterprise **cannot** be taken into account as these services are generally governed by SLA's and the bandwidth is planned for each of these customers based on their SLA's. We do not feel it is practical to define any contention ratio for leased line customers as these are aggregated usage.
- f. **Product Specification:** The product specification in India is not just limited to the type of users ( home / business) and the bandwidth subscribed. There are variations in the product in terms of Unlimited & Limited internet service packs. Even within Limited service products there are a large variation from a 400 mb Cap to 6 Gb cap. The contention ratio of usage for the same bandwidth product would thus widely vary from an Unlimited user to a User subscribing to 400 mb per month. A proactive bandwidth planning based on all the various contention ratio of all these products would be very complex and impractical . Conversely, specification of contention ratio would very much limit the flexibility that service providers give to their customers in terms product variations.
- g. **Leveraging Customer Usage pattern :** As a Service Provider, we have a variety of users ranging from Enterprise customers, Business broadband customers and Home broadband users, who have varied needs at varied times. As a provider we would take advantage of providing higher bandwidth to the home users in the night considering that the Business / Enterprise users are not using their bandwidth. If Bandwidth availability by contention ratio of customers were to

be mandated then service providers will stand to lose this flexibility and the business model / broadband cost would be under crushing strain.

### 3.2 Will defining contention ratio likely to impact prevailing Internet/Broadband Packages to access Internet? Give your suggestions with justification?

#### **Response from Sify:**

- a. **Yes.** It will have an impact on the Internet/Broadband Access Pricing. The reasons behind the impact are the following:
  - i. **Lowest ARPU in the world:** The ARPU's in India is less than 80% of the ARPU's of UK at the lowest product definition (1: 50). Hence, the international operators have the flexibility to provide much better level of service due to very high level of profit margins.
  - ii. **Very High National and International Bandwidth Cost:** The International Bandwidth Cost in India is 8 to 10 times more expensive than US / UK thus reducing the competitiveness of the operators in India and thereby impacting the Quality of Service.
  - iii. **Heavy Dependence on International Content:** The Bandwidth utilization for Broadband user in India is still 80% from International content sites. While most of the countries like China, Korea, etc has 80 to 90% of the content hosted in their own country. By aggressively promoting hosting of the India related regional content in India, we as a country will be able to reduce the dependence on International Bandwidth, thus improving the quality of service and enabling faster Internet Access while reducing network-related cost at the same time.
  - iv. **Unbundling of Local Loop:** There are 450 plus ISP's in UK, all of them providing services on the Unbundled terrestrial links from the

Incumbent, whereas In India the ISP's has to find their own ways and means to deploy the terrestrial / wireless links in absence of the unbundling of existing terrestrial connectivity, thus increasing the cost of providing service to the broadband customers in India.

Based on the above, we also feel that it is not fair to consider the International bandwidth sizing model to regulate service providers in India.

- b. **CR is only an Indicative Typical Figure:** Further, OFCOM has only provided a typical figure being published by the UK service providers and this is just a Product definition and definitely not a figure used by the service providers for bandwidth planning. In our opinion, OFCOM has simply stated a network metric in their paper - it cannot be misconstrued to read as if OFCOM has mandated a given contention ratio for service profiles in the UK.

### 3.3 Any other suggestion to improve quality of Internet/ Broadband access to end users?

#### **Response from Sify:**

There are many areas, where TRAI and the Government (DOT) can act as enablers to create an environment for affordable, high quality Broadband Access and help consumers to take an informed decision to select the most suitable broadband for his/her needs.

- a. **Advice to Consumers:** Sify suggests that TRAI shall mandate ISPs, like the one done by OFCOM to publish the planned contention Ratio for each of the Products so that the customer is aware of what is the expected throughput. **Customer shall be informed about the average contention ratio measured over a period of one month for each ISP.**
- b. **Voluntary Code of Practice:** TRAI can initiate a program to come up with a Voluntary Code of Practice to provide adequate information to customers on what to expect from ISP on the broadband products and how to choose a broadband product on the lines followed by OFCOM of UK.
- c. **Customer Self Service Portal:** Customer shall be offered to check the broadband speed and contention ratio for each product at a standard site hosted by TRAI or some independent body.

- d. **Fair Use Policy:** Another area which the Regulator would need to work is in the Fair Usage Policy. Our internal study indicates that the Top 20% of the users consume 80% of the bandwidth (OFCOM indicates top 10% of the customers consume more than twice the bandwidth consumed by the rest 90% of the customers). It would be prudent for the service providers to have a fair use policy, especially in the unlimited category where the customer can be restricted on the download speed once a threshold is reached. This will enable all the Broadband Users to have an equitable access to the broadband capacity and improve quality of experience in general to all the users.

Fair Use Policies followed by some of the leading ISPs in the world in association with their respective regulatory authorities are mentioned below:

- i. Orange, UK  
<http://www.orange.co.uk/terms/7094.htm>
- ii. AOL, UK  
<http://80.231.3.231/broadband/faqBroadband.adp#answer31>
- iii. AT&T, USA  
[http://bellsouth.com/consumer/inetsrvcs/promo\\_trial.html](http://bellsouth.com/consumer/inetsrvcs/promo_trial.html) and  
<http://gigaom.com/2008/11/03/att-trials-tiered-broadband-in-nevada/>
- e. **Availability of Wireless Spectrum:** Quality of Service to the end consumer can also be enabled by the provision of cost effective spectrum to the ISPs.
- f. **Local Loop Unbundling and Infrastructure Sharing:** Equitable access to the Local Loop through Local Loop Unbundling (LLU) and other National and International Infrastructure so that the cost of service comes down, indirectly impacting the quality of service of the broadband.

As mentioned earlier, Infrastructure cost in India is relatively very high compared to international standards. Regulator is strongly urged to take proactive steps to make the infrastructure available at reasonable cost and promote the Infrastructure sharing as outlined by TRAI in the consultation paper “**Recommendations on Infrastructure Sharing dated April 11<sup>th</sup>, 2007**”

This will allow the ISPs to get equitable access to the Local, National and International Telecom Infrastructure and will enable them to provide better quality of service at affordable cost to the consumers.