



Topic: 1 for Consultation

In order to ensure sufficient bandwidth for good quality broadband services, should some "Throttling Rule" for whatever contention ratio be fixed for dial up, broadband, high bandwidth services & leased line internet services? If so, what should be the values for different Internet Services.

Service	Max. Contention Ratio for Business users	Max. Contention Ratio for Residential users
Dialup		
Broadband		
High bandwidth services		
Leased line internet services		

**Response of
Tata Communications Internet Services Limited (TCISL)
to the Consultation Paper dated 15th January, 2009 on
Bandwidth required for ISPs for better connectivity
and
Improved
Quality of Service**

1. Broadband services
2. Broadband services - Fibre to the building
3. Wireless broadband technologies such as WiMAX, HSPA, etc.

In the earlier DPL scenario, service is an IP which is connected to the DSLAM and hence a direct contention ratio is set. But this would not be determining the speed delivered to the customer - assuming the same contention ratio with one at the other end of the service delivery. However, the contention ratio sets the capacity to be contended on Fibre and hence the real mile would in that sense not be constrained by the contention ratio. Types of bandwidth as defined in Consultation Paper. With the advent of newer technologies, there are different factors and factors that have impact on quality of service to the customer would differ. Also QoS would be based on various factors at the service delivery - congestion, bandwidth, network bandwidth, geographical network bandwidth, peering arrangements with other ISPs, etc.

Factors to be considered for an end user would be:

- Activity Ratio - usually defined as the users who are actively using the connection at a given point in time.
- Time of the Day when the usage happens
- Type of application that users are using



Issue: 1 for Consultation:

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

Services	Max. Contention Ratio for Home Users	Max. Contention Ratio for Business Users
Dialup		----
Broadband		
High Bandwidth Services (like IPTC, etc.,		---
Leased Line	---	

Response 1:

Contention Ratio as defined today by ITU is based on the traditional method of delivering broadband abroad which was on DSL. Other technologies that are now prevalent are:

1. Broadband over Cable
2. Broadband over Ethernet / Fibre to the building
3. Wireless radio access technologies such as WiMax, 3G, MMDS, etc.,

In the earlier DSL scenario, typically an E1 would be connected to the DSLAM and hence a direct contention ratio at the last mile would help in determining the speed delivered to the customer – assuming sufficient provisioning has been done at the other legs of the service delivery. However, the DSLAMs now have the capability to be connected on Fibre and hence the last mile would in that sense not be constrained for the minimum 256 kbps of bandwidth as defined in Broadband. With the advent of newer forms of service delivery, there are different factors and different that have impact on quality of service to the customer would differ. Also QoS would be based on various legs of the service delivery – last mile, backhaul, national internet bandwidth, international internet bandwidth, peering arrangements with other ISPs, etc.

In addition to this, various reasons that would cause a fluctuation in the bandwidth available for an end user would be:

- Activity Ratio - typically defined as the users who are actively using the connection at a given point in time.
- Time of the Day when the usage happens
- Type of application that users are using



- Type of customer – home or business
- Kind of plan that the customer has bought – volume based or time based or unlimited

Hence, considering that there is no one technology that is being used to offer BB services and contention ratio definition varies across each of these technologies and furthermore, the contention ratio is just one of the many parameters that determine QoS, it is felt that defining Contention ratio as a surrogate for QoS may not deliver the Authority's goal of offering good quality, high speed Internet services.

Issue 2 : Will defining contention ratio likely to impact prevailing Internet/ Broadband packages to access Internet? Give your suggestions with justification?

Response 2:

Given that it is a combination of various parameters as enumerated above, which leads to the final customer experience, it may not be prudent to define a specific contention ratio target and measure ISPs on that parameter, since it would still possibly not address the issue of delivery a quality of service to the end user.

If contention ratio norms are laid out, then operators could adopt a differential pricing strategy for various different contention ratios and lead to various different price points for the same speed products which could actually lead to higher confusion for the end customer in decision making. Also customers may not have mechanisms to monitor the contention ratio and again lead to an additional unknown parameter

With wireless technologies like 3G and WiMAX, it is expected that broadband can become an easy to use, self install retail product that can be used from many locations. In that scenario, it may not be possible to govern and offer a specific contention ratio based products.

Issue 3 : Any other suggestion to improve quality of Internet/ Broadband access to end users?

Response 3 :

In the absence of entry/exit barriers for the Broadband Customers (unlike in the mobile industry where customer does not want to give up his mobile number), the customers churn out of a service provider if operator does not provide services in line with the expectations of the customers.

In line with the above, it is recommended that the Authority adopt a lighter regulatory approach and through various mechanisms such as Customer Surveys, as are already



being conducted by the Authority, give feedback and to the operators for areas of improvement in their services.

Furthermore, for the benefit of the customers, ISPs may be advised to publish the planned contention ratio in their website periodically i.e on annual basis; however as already stated above may not be a true reflection of the QoS delivered. If the Authority does decide to make this data be published by the operators, then it will become important to define Contention ratio individually for each access technology type for the reason given in Response 1 above.

Response to Consultation Paper dated 15th January, 2009 on Bandwidth Allocation for ISPs for better connectivity and Improved Quality of Service

Response to Consultation Paper dated 15th January, 2009 on Bandwidth Allocation for ISPs for better connectivity and Improved Quality of Service for post consultation and practical plans.

With kind regards,

For Tata Communications Internet Services Ltd.

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