A new approach to consumer protection?
Comments from the Chair at Seminar on Broadband Quality of Service, 18th March 2008

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The Internet poses new challenges, but it also offers new solutions to those willing to seek them out. The present seminar is hopefully the first step in seeking a novel Internet-based solution to the broadband-quality problem that has come up on the regulatory radar screens in many countries. While today broadband is used by a few, very soon, with increasing use of mobiles, it will become quite widespread. It is also an effort to shift the debate from the unproductive terrain of accusation and counter-accusation to a platform of reasoned discussion based on evidence.

There are two basic approaches to quality-of-service regulation.

- The first, most appropriate in an integrated-monopoly environment, involves the regulator reaching deep into the innards of the telecom network to install monitoring equipment and taking remedial actions specified under the licenses or the governing statute when the data indicate below-standard performance.

- The second approach seeks to leverage the incipient forces of competition unshackled by the removal of barriers to market participation. Here, the regulator seeks to ensure that accurate information about the service is available to customers (and is even possibly used in marketing by the rival suppliers). Given adequate competition and low switching costs (ensured where necessary by the regulator), unhappy customers would take their business elsewhere, setting in motion the market mechanism for quality improvements.

How is this information to be generated? Packet loss, the throughput of the broadband connection, etc. are qualities the potential customer cannot know prior to obtaining service; even while using the service she would not know precisely how good or bad the service is, in some cases. Here, one would have to fall back on Approach One, where monitoring equipment would measure quality directly.

Given the pressures that can be exerted through the marketplace, one may use another variation of Approach One to measure quality of service. Here, one skips or supplements the measurement of objective indicators of quality and goes directly to customer satisfaction; One uses representative surveys and publicizes the findings. If Operator A has achieved higher customer-satisfaction levels than Operator B, one may infer that A's service quality is superior to that of B; and that publicity to that effect will cause B to take remedial action to retain its customers and attract new ones.

In the case of broadband quality, both variants are in use. Ofcom, the UK regulator, has conducted several surveys of broadband users.[1] The Korea Communications Commission

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[1] Ofcom Office of Communications (2004, November). *Broadband quality of service: Update for broadband stakeholders' group*.

was also planning to use this method, in addition to direct objective measures.[2] In the case of Korea, the emphasis was on a complex method for objectively measuring broadband quality from a specially designed device located in the Korea Internet Exchange.

The problems with representative surveys are that they are costly and can be conducted only periodically.   The proposed Korean method, which combines objective and subjective measures, appears even more costly. Even this will give only snapshot of particular time periods, not a continuing picture.

Is there a lower-cost method to give customers accurate and timely information about broadband quality of service so that they can make their own decisions about which competitor to obtain service from? We cannot impose costs on operators in the name of regulation because in the end it's the customers who will pay.

The objective of today's seminar is to present the preliminary results of a method developed by a team headed by Professor Timothy Gonsalves of IIT Madras and applied to two networks each in Chennai and Colombo, respectively. What has been done is to measure quality across six dimensions at various times of the day on multiple days, keeping other things constant.   This particular test was done manually so that we can have data to share with you as the basis for a substantive discussion.   As we have done with so many of our research products, we will treat your comments and criticisms very seriously and incorporate them in the improved version, or tell you why not.

What if the method that is discussed today[3] is improved and automated? In the first instance, we can install the software in the computers of a larger number of selected persons in multiple locations and collate the data. This will be a distinct improvement.

What if, adapting the concept of public-resource computing,[4] where complex computing tasks are broken up into small chunks that are then run in the background of large numbers of computers of volunteers that are simultaneously engaged in other tasks, this software is installed in thousands of computers that are connected to the Internet and run in the background while the host computers are doing other things? And what if the results of these thousands, and even millions, of measurements are aggregated in real-time on a server, averaging out the various biases caused by computer idiosyncrasies and location-specific features? This would take the quality of the results to a whole different level, averaging out anomalies and allowing continuous coverage.

And what if this real-time aggregate measurement of quality of service across a range of dimensions is available for all consumers to see on the web? If checking that website becomes a routine thing one does prior to obtaining service, or even when one experiences a problem with one's connection to check if it 's a system wide problem?

Will this not be the beginning of a new phase of service-quality regulation? Will this be the beginning of customers beginning to look after their own quality, without relying on

[2] Kin, Hyo-Jeoung (2007, September 24). Korean government evaluates the quality of broadband. *Eye on Korea*. http://www.zdnet.co.kr/etc/eyeon/network/0,39036963,39161724,00.htm
[3] http://www.lirneasia.net/wp-content/uploads/2008/03/broadband-quality-test-plan.pdf
[4] Anderson, David P. (2004). BOINC: A system for public-resource computing and storage. http://boinc.berkeley.edu/grid_paper_04.pdf ; Marquina, M.A. (2005). Public-resource computing: GRID for the rest of us. https://twiki.cern.ch/twiki/bin/viewfile/LHCAtHome/LinksAndDocs?rev=1.1;filename=20051116.pdf

centralized regulation, the role of which will be limited to that of ensuring that adequate competition exists and switching costs are minimized?

I hope our deliberations today will give us answers that will move us forward in that direction. I welcome Professor Gonsalves and invite him to initiate the discussion with his presentation.

Please make notes of any questions you have, because we have left plenty of time at the end of the presentations for your interventions. I hope that we will keep in mind the end objectives of happy consumers and expanding broadband access and reason together as professionals and people of good will to find solutions to the problems of broadband quality in Sri Lanka and India. Hopefully we will come up with a solution that will be implemented in many more countries and will constitute a regional contribution to the information society.