

A DIFFERENT ANGLE ON NET NEUTRALITY – SHOULD WE CHARGE BROADBAND USERS RATHER THAN CONTENT PROVIDERS?

Hong Guo, Subhajyoti Bandyopadhyay, Hsing K. Cheng

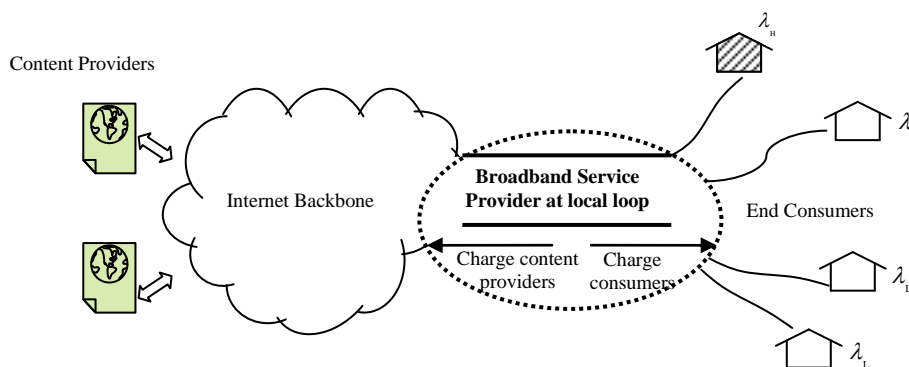
University of Notre Dame, University of Florida, University of Florida
hguo@nd.edu, shubho.bandyopadhyay@cba.ufl.edu, hkcheng@ufl.edu

1. Summary

The net neutrality debate has brought out economic rationale for and against a variety of proposals of the broadband service providers (BSPs) to differentiate among different classes of users. Broadband users are characterized by the differing amounts of content they request online, as well as their valuation for such content. A BSP has two potential instruments for user discrimination – price discrimination and traffic prioritization (or degradation). We model four different pricing and prioritization options that cover many of the strategies that actual BSPs have adopted in the marketplace. By comparing these options, we find that imposing net neutrality may decrease the BSP's profit. If net neutrality is not imposed, however, the BSP might degrade the heavy users or charge them more for a preferential data delivery depending on the various parameter values. These results are useful both for the broadband service providers as they mull over the introduction of the different pricing strategies and for policymakers who are dealing with the net neutrality issue.

2. Model schematic

The schematic shows the two different aspects of the net neutrality debate. The heart of the net neutrality debate is at the local loop of the BSP. Here, the BSP can charge either the content providers or the end consumers in order to make a data packet “non-neutral”. We explore six different strategies that the BSP might employ for user discrimination.



3. Main Findings

- With net neutrality in place, the BSP would prefer to charge a two-part tariff for Internet access, but without net neutrality, a BSP may choose to charge a uniform price and degrade heavy users or else charge a higher price to high type users for preferential delivery of their data packets, depending on the characteristics of users' valuations for content and their usage patterns.
- Without net neutrality in place, we find that degrading the experience of the heavy users increases social welfare.
- Under certain conditions, the BSP's user discrimination choice deviate from the social optimum. These conditions can be used to establish the criteria under which the social planner might wish to regulate the BSP's actions in order to maximize the social surplus.