

UNIVERSITI TEKNOLOGI MARA

**END-TO-END AVAILABLE
BANDWIDTH MEASUREMENT FOR
WEB-BASED APPLICATION**

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ABSTRACT

The concept of bandwidth is central to digital communication, and specifically to packet networks, as it relates to the amount of data that a link or network path can deliver per unit of time. For many data-intensive applications, such as file transfer or multimedia streaming or applications that have QoS requirements, the bandwidth available to the application directly impacts applications performance. Internet is rapidly grow and becomes a necessary technology in our daily life, and because of mobile communication systems people can access the internet/network anytime and anywhere. Therefore, because of such growth the number of user increases. Also such evolution brings new services that will require more data rates. As a result of this load some services and users in the network will ask for certain data rate which will not be guaranteed, because of the limitation in the transport network's available bandwidth that can not satisfy the number of users and services. In the past, there have been several proposals that deal with the diverse QoS requirements of users and applications. These proposals have, however, not been deployed, and the Internet still remains a black box from the end-host perspective. In this research we developed bandwidth estimation module (BEM) that can provide accurate information regarding the available bandwidth to the users or applications. Considering our stated goal, we find that our BEM system does provide accurate available bandwidth estimates and it operates without explicit cooperation from the network or servers; and it provides reliable estimates without excessive time overhead.