KU Leuven

Assignment:

Network Simulation

Report

Authors:
Giuseppe Callari
Xavier Goás Aguililla

Professor:
prof. dr. D. Hughes

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1 Exercise 1

1.1 Question 1

In figure 1 we can clearly see the difference between the scenario with both an uploader and a downloader and that without an uploader. In the scenario with an uploader, around the time the upload starts (3.0s), the throughput for the downloader drops drastically. In the scenario without an uploader, indicated in green, the throughput of the connection remains roughly constant.

1.2 Question 2

In figure 2 we see both the upload and download throughput on the same graph; we can clearly see the aforementioned drop in download speed at the moment the upload over CBR starts.

1.3 Question 3

We expect performance for CBR to be excellent, since a certain amount of bandwidth is always guaranteed for the upload connection. This does imply that the upload connection has a certain privilege over the download connection; to ensure this, we could tell the router to drop downstream packets rather than upstream packets. This would result in increased packet loss for the download connection, especially if we would run multiple upload connections at the same time.

1.4 Question 4

1.5 Question 5

1.6 Question 6

2 Exercise 2

2.1 Question 1

2.2 Question 2

2.3 Question 3

2.4 Question 4

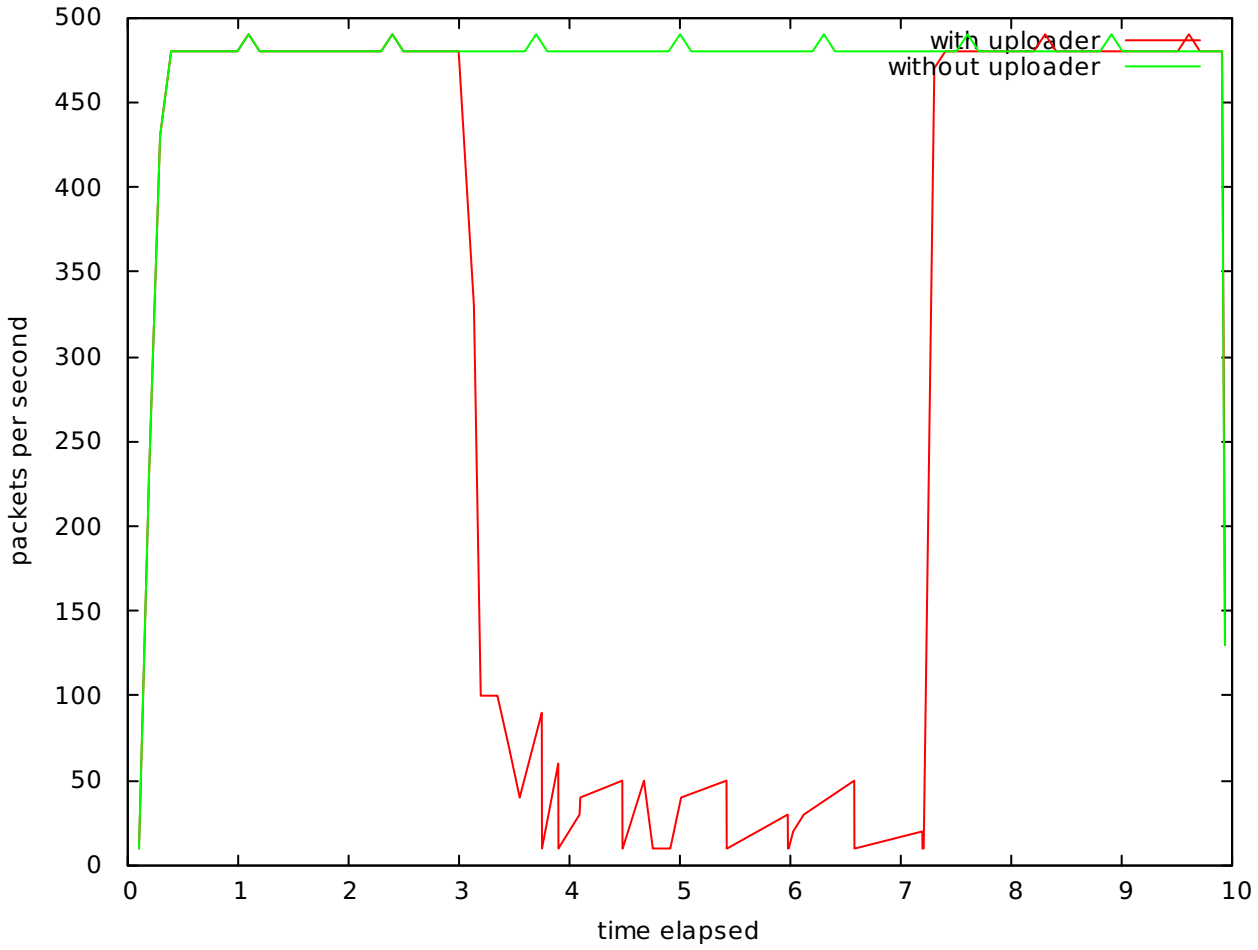

Figure 1: Download throughput compared

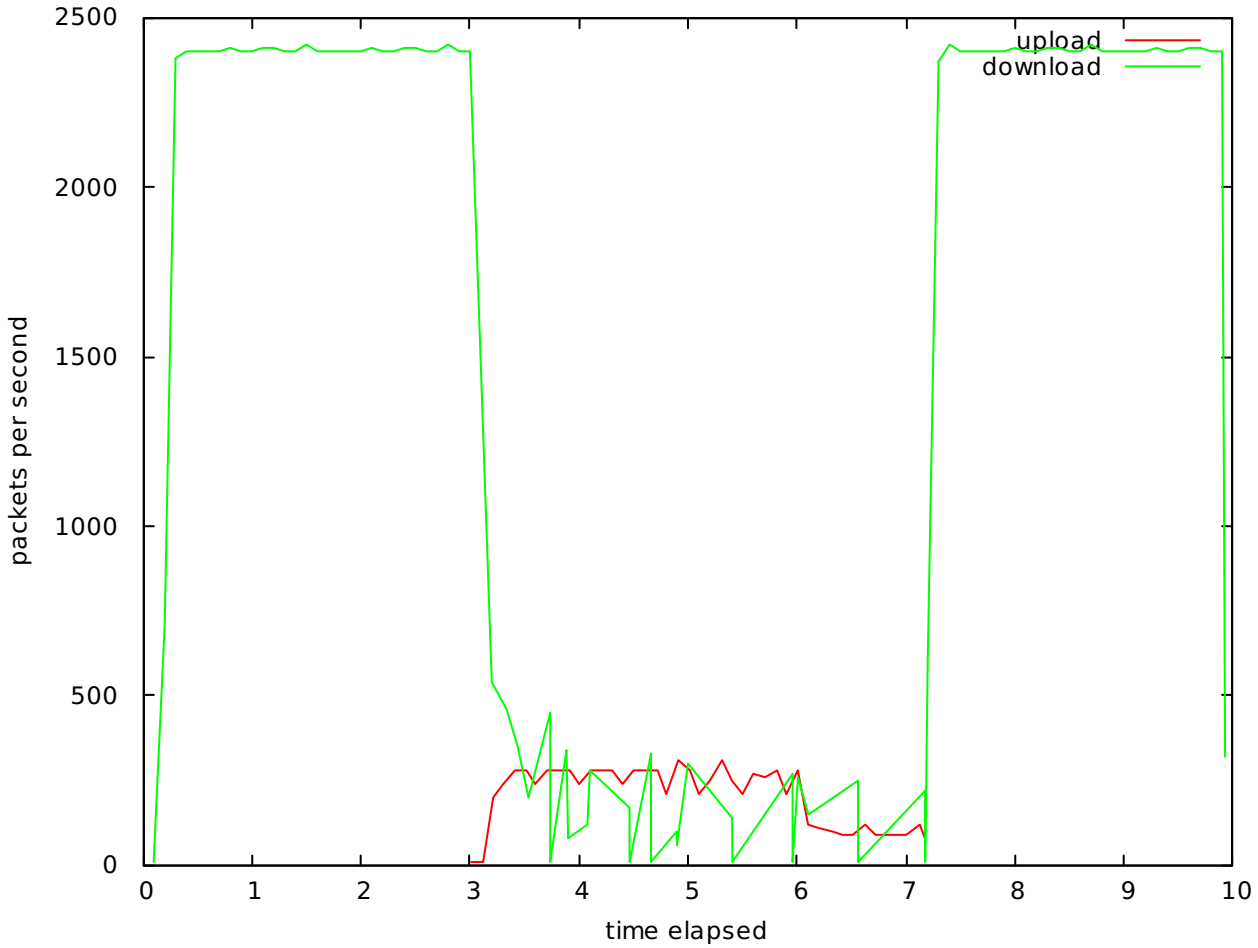

Figure 2: Upload and download throughput

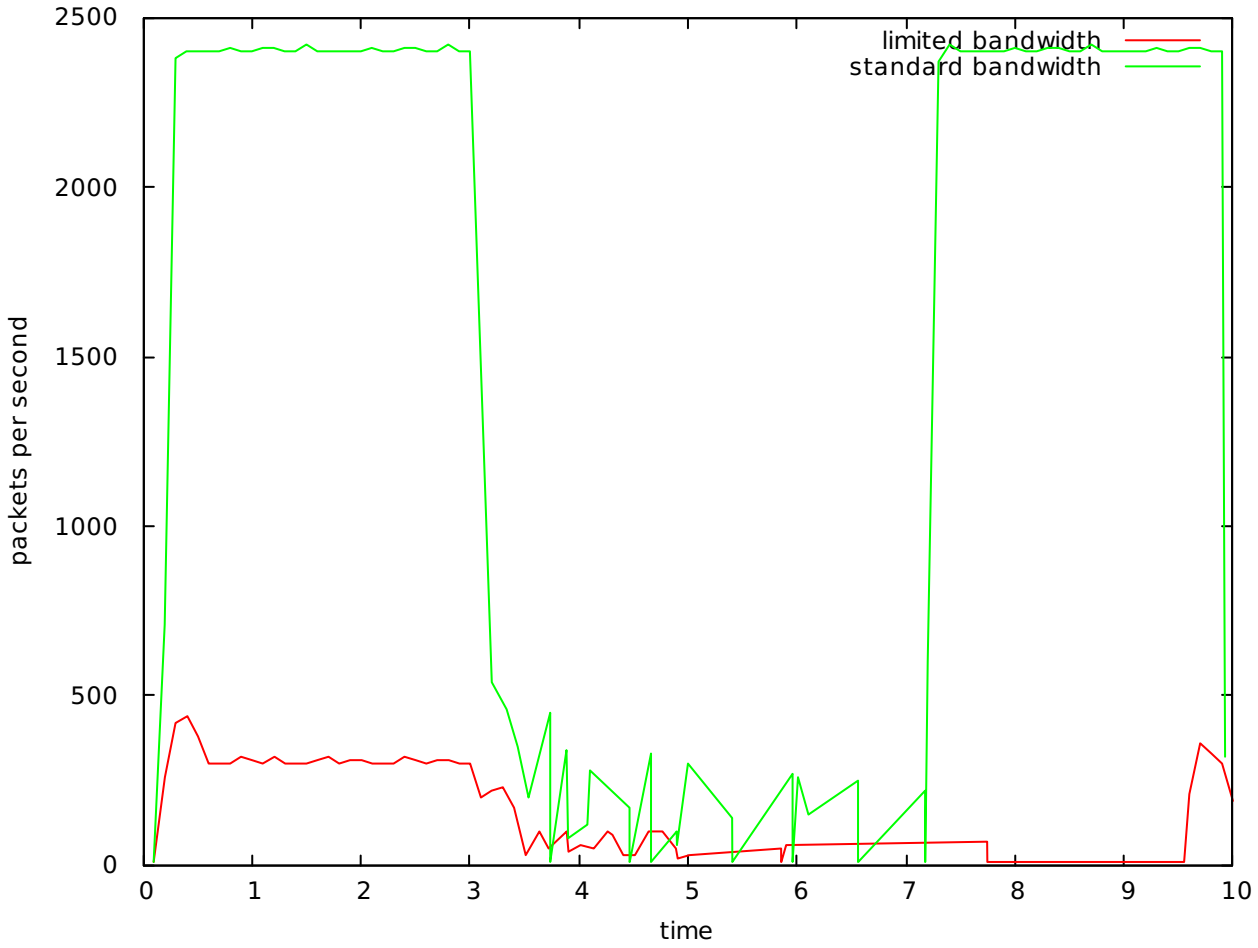

Figure 3: Download throughput

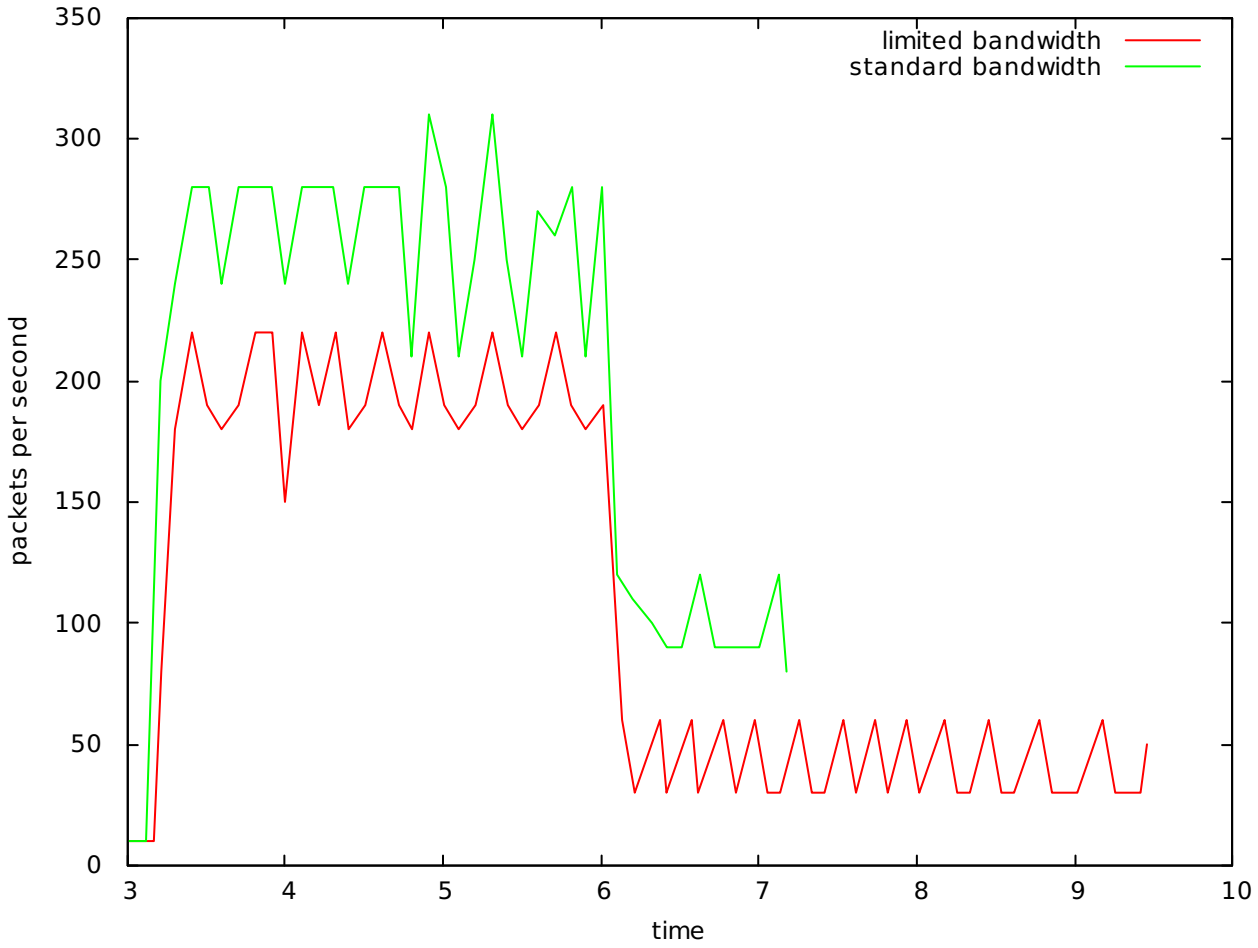

Figure 4: Upload throughput