

**S-38.192**  
**ITGuru Exercise (6: Simulating the Non  
Dimensioned Network)**

## Task Description

As was stated in the previous part of the exercise, the current link capacities are not able to support the requirements of the traffic offered to the network. In this exercise the idea is to study the performance of the applications in different locations of the network when the links are not properly dimensioned. In the next exercise you will see how the dimensioning improves the application performance.

In order to get a reference point for dimensioning, first change all the links in the core network to PPP-E1 (2.048 Mbps). The easiest way to do this is to select all the core network links, and then edit the data rate attribute of one of these links. Mark the **'Apply changes to selected objects'** check box in the lower left corner before editing, and this change will be applied to all selected links simultaneously.

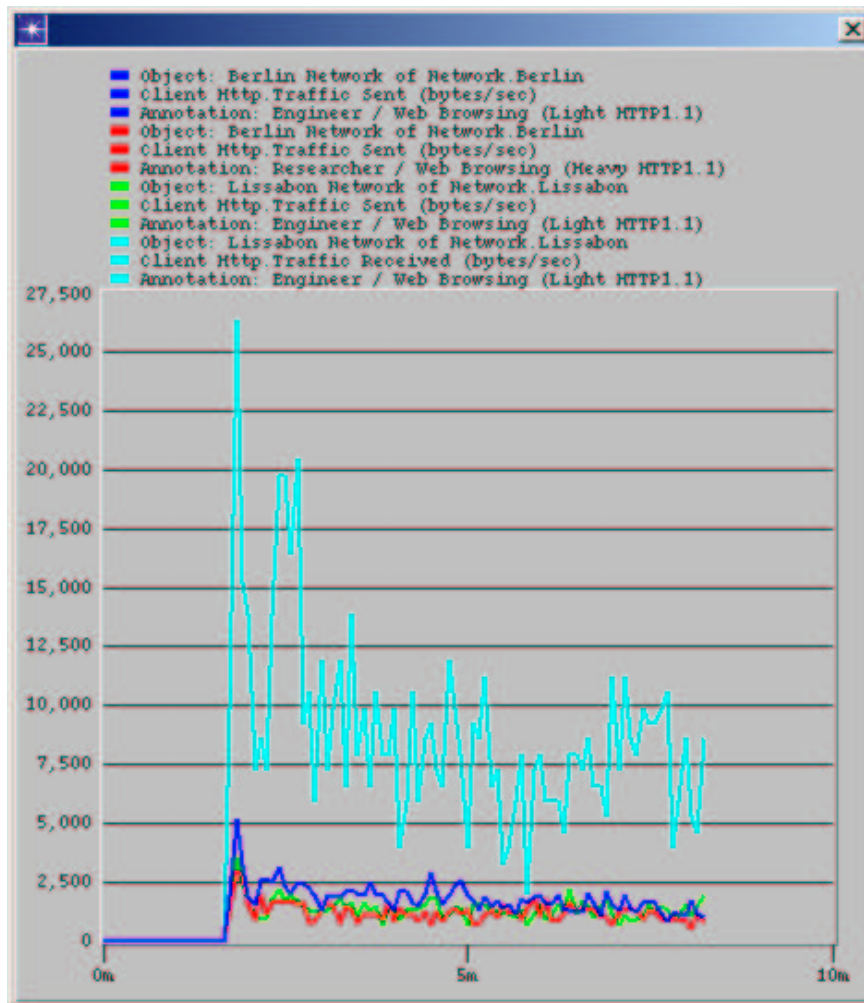
## Results to be collected

You may decide yourself what results to collect, but record at least the traffic received and traffic sent both in the client and the server side of the applications. In the client side, record also the download or object/page response times. Notice that you must select these results from the node statistics and not the global statistics in order to examine the performance in different locations of the network. In addition to the application statistics it may be wise to collect also network level statistics such as link utilizations or routing convergence information.

## Reporting the results

You may generate the report of the results with any tool you like but probably the easiest way is to use the WebReporting tool available in ITGuru. If you have not done the WebReporting tutorial available in ITGuru yet, go through it.

When viewing and saving the figures it is probably wise to use the Overlaid Statistics mode in order to show several results in the same graph. Figure 1 shows a graph of the traffic sent by HTTP clients. The legends tell the location of the clients as well as the profile that created the traffic. Notice that this is just an example graph and you should decide yourself how to group the data.



**Figure 1 Example graph**

In this exercise you do not yet have to make full analysis of the results because the figures of this exercise will be used in the next part of the exercise to compare the performance of the non dimensioned and the dimensioned network. However, you should carefully consider what results you collect and how you group and present them. This will also have a major effect on your grade.

It should be noticed that the WebReport contains results in many different forms (tables, graphs etc.). Only the figures are required in the final report, so it is recommended that you just save the graphs as pictures and paste them in a separate document.

## Exercise Sessions

The exercise session for this task will be arranged on 6<sup>th</sup> April at 14 o'clock in computer class Maari-A.

## Handout Requirements

The exercise should be returned before the beginning of the next exercise session (13<sup>th</sup> April, 14 o'clock). Send the exercise package as an e-mail attachment to Johanna

Antila ([jmanti3@netlab.hut.fi](mailto:jmanti3@netlab.hut.fi)) provided that the size of the attachment is reasonable. You have to pack the files with the command:

```
"tar -cf - -C ~ op_models | gzip > 6_non_dimensioned_network.tar.gz"
```

Remember to include only the relevant files and remember to remove the unnecessary backup files from the op\_admin directory.