Network monitoring tool based on the Google Maps API

Overview

The usage of network monitoring tools allows network managers to have a better knowledge about flows transiting within a network. Such knowledge can be useful for a better management of the network components, better understanding of the network performance as well as possible detection of security issues. In addition to that, the development of monitoring tools based on graphical user interface (GUI) concept has improved the way that network managers visualize network activity.

Recently, Google Maps and Google Earth are examples of GUIs that, even not related to the network management area, have been considered very successful. Both GUIs contain satellite imagery that allow users to drive directions in a fashion way. For instance, Google Maps has features that allow certain location in a map to be seen with different level of details (e.g., by using zoom in and zoom out commands).

Objective

In this context, the goal of this assignment is the developing of a GUI network monitoring tool based on the Google Maps API. This new visualization tool could combine the features found in the Google Maps API and be therefore used to show different levels of details about network traffic within a network.

This assignment is going to be performed within the context of the GigaPort-NG Research on Network (RoN) project and it will use network information provide by SURFnet from the Dutch research and education network, SURFnet6.

Requirements

- Familiarity with JavaScript programming and object-oriented programming concepts
- Knowledge about Google Maps from a user's point of view
- Familiarity with network monitoring tools
- Background in computer networking

Further information

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