Objective: This exploratory essay aims to promote contact with current network measurement and monitoring platforms targeting Internet performance and QoS issues in the wide area.

As case studies, we propose the study and analysis of several network measurement platforms or initiatives, namely:

- RIPE Atlas [https://atlas.ripe.net] developed and maintained by the RIPE Network Coordination Center. Ripe NCC is an independent non-profit organization, which performs the technical coordination of the network infrastructures mostly within European space.

- M-Lab - Measurement Laboratory [http://www.measurementlab.net] acts as an open and distributed Internet Data Observatory oriented to researchers and users in general.

- SamKnows [https://www.samknows.com] - is a platform which aggregates collaboration from governments, consumers, ISPs, academics and industry to accurately measure fixed and mobile broadband to help improve global Internet performance.

- perfSONAR [https://www.perfsonar.net] - is a network measurement toolkit designed to provide a federated coverage of paths. There are perfSONAR instances deployed worldwide, many of which are available for open testing of key measures of network performance.

- Project BISmark [http://projectbismark.net] - is a research project created to develop an open platform for home broadband Internet research. It is centered on home network performance measurement.

- Netradar [https://www.netradar.org/en] - a tool to measure and share the quality of mobile connection with online access to coverage maps.

1. Draw a brief comparison of two of the case studies proposed regarding their applicability in measuring and monitoring today's Internet.

2. For two of the initiatives proposed above identify and describe:

   (a) the main objectives the project/initiative intends to fulfill.

   (b) the measurement and monitoring facilities offered to users.

   (c)(i) the measurement methodology in use; (ii) the performance and/or QoS metrics under control/analysis; and (iii) the timing issues associated with the measurements, if applicable.

   (d) try to suggest a possible improvement to the services provided for the case study under analysis.

Notes:

- Expected time for completion: 4 hours.

- To be concluded till the end of the 9th of March class.

- Essay format: free.