

# A statistical framework to monitor QoS in mobile networks



## **Presentation Abstract**

This work presents a system of metrics to assess the mobile telecommunication services in Mexico (voice, SMS and data) as well as a methodology to measure the proposed metrics and monitor the QoS at a national level. We develop a two-step statistical modeling approach using a stratified random sampling in the first step to select the geographical locations to measure and a simple random sampling in the second step to determine the sample size for each service to be tested. We describe the procedure to construct the strata by selecting non-overlapping groups from the geographical regions in the country. The idea behind using stratification is to produce a smaller bound on the error of estimation than would be produced by a simple random sample of the same size alone. Instead, we use stratification combined with simple random sampling in each stratum to estimate national values for each QoS metric defined.