



WIFIMON: WIRELESS CROWDSOURCED PERFORMANCE MONITORING VERIFICATION

WiFi access (and in particular eduroam access) is now accepted as an essential part of the wider campus experience. Not being able to connect to network resources can damage users' experiences and can result in users having to use mobile 4G data connections rather than WiFi. Therefore it is vital that institutions carefully monitor their provision of WiFi services.

Most WiFi monitoring services merely provide information on the Availability of WiFi and can't measure the actual performance of the service. A poorly performing WiFi service affects users' experience and can also be a trigger for IT to investigate wider performance issues. But how can performance monitoring work in a situation where users are, by definition mobile?

Within eduroam enabled facilities, the situation can be even more complicated as users can have multiple eduroam access points within range - making reporting of problems harder. For this reason GÉANT are developing WiFiMon - a crowd-sourced, distributed performance monitoring and measurement service.

What is WiFiMon?

Through the GN4-2 project, GÉANT has found that a traditional approach to PMV is not always the answer. This approach looks primarily at for infrastructure level information by implementing hardware probes on the wireless campus network and answering the question "is it working?", but this does not offer any statements about how the end user is experiencing it.

How it works

WiFiMon's proposed approach to wireless crowd sourced performance monitoring verification is based on an architecture design using JavaScript and NetTest/Boomerang server, implemented on essential, highly frequented web sources. As the term implies, the accuracy of our measurements largely depends on the number of "complete" data sets. From a statistical point of view, the large amount of measured data (by end-user activities) allow us to analyse performance of a wireless network in an eduroam enabled campus/conference environment. Particular focus is placed on improved measurement verification, GUI development for visualizing the performance data in real time, and mobile device app deployment.

WiFiMon has been used across a wide range of campuses and conference locations.

To find out more and to join the WiFiMon community visit geant.org/WiFiMon