

WiFiMon Home

What is WiFiMon?

WiFiMon is a WiFi network monitoring and performance verification system. It is capable of detecting performance issues, visualising the achievable throughput of a wireless network for each user, and providing technical information about a WiFi network (e.g., signal strength, link quality, bit rate, etc.). WiFiMon leverages well-known performance verification tools (e.g., Akamai [Boomerang](#) and [Speedtest](#)) and in addition uses data from the WiFi physical layer in order to gather a comprehensive set of WiFi network performance metrics.

For more information, please explore the wiki tabs to the left, or visit the [GÉANT WiFiMon service page](#).



WiFiMon Operation Modes

WiFiMon can operate in two different modes which can be used either separately or together

Software Crowdsourced Measurements

Measurements are gathered from users' mobile devices (phones, laptops, tablets, etc.) while they use the network. This approach does not require any additional software to be installed on the mobile devices. Measurements are recorded while the end users use the network and impose a minimal additional network overhead. Crowdsourced measurements capture the subjective perception of the WiFi network quality of service and responsiveness.

Hardware Probe Measurements

Measurements are gathered from dedicated small form factor hardware devices (currently Raspberry Pi devices). Fixed WiFiMon measurements capture objective measurements of WiFi network quality (signal strength, link quality, bit rate etc.).

WiFiMon Features

Technology and vendor agnostic

WiFiMon can be deployed on any WiFi network as it monitors the performance on the network layer. It can also provide additional benefits in 802.1x enabled networks including [eduroam](#) in which case users can make various performance analyses per access point, per user, etc.

Easy to deploy

WiFiMon is a software image (also available as a Docker Image) and can be easily deployed on an NREN/University network on hardware or software probes.

Fine grained information on network performance

WiFiMon shows the end-user (mobile client) behaviour on a network, its perception about the responsiveness of the network and the speed of web resource downloads, correlation of the performance data with end-user data, and data analysis with an effective query builder.

Active monitoring with low network overhead

WiFiMon active measurements are not significantly invasive and do not use any significant bandwidth. One WiFiMon measurement is comparable to one average web-page download (load speed).