Abstract

The word "Mobility" in the context of the new technologies of the information and of the telecommunications, refers to the capacity of communication, entertainment and work from any place and device. Expressed like that, it looks like a simple concept, but it is sustained in a joint complex of applications, technological platforms, protocols, and services that interconnect and synchronize to offer this freedom of not being tied to a fixed place.

At present a mobile user can choose between different technologies of network, being the wireless those who offer a major freedom of access. Inside these the offer has diversified. This way, in some environments can manage to coexist cellular networks of 2G or 2.5G, for example GSM and GPRS, with networks of 3G, UMTS's case, and finally local area networks, for example WiFi.

Each of these networks presents own solutions for the management of the mobility of its users, but also one is employed at the support of the mobility between heterogeneous networks, to manage to integrate all these technologies on access networks based on IP, since it hopes that in future this protocol is the point of convergence of the wireless technologies. Different offers exist in order that IP takes charge of the management of the mobility, for example using the protocol Mobile IP standardized by the IETF, and entrusted to solve the problem of the handoffs and the location.

The aim of this project is to contribute to the development of a tool of study to different strategies of support of the mobility in cellular heterogeneous networks. This tool is a simulator of whom already it has of a previous version, fruit of previous TFCs, which is tried to perfect and to extend.

Initially, in this TFC one treats of validar some concrete parts the code previously implemented to discover possible limitations, which once corrected and validated we give place to two new lines of work. The first one consists of the accomplishment of simulations to study the impact of certain parameters, for example the direction of the movement of the terminal. The second one, and more important, implies the added one of new functionalities. It is a question of adding to the simulator different protocols of management of the mobility to level IP. This will involve changes in that of code, interface graphical and new simulations for its validation. From here and up to the ending of the TFC simulations, we did simulations to study and to compare the yield of these solutions for different settings.