

Nowadays all cellular networks, GSM, GPRS, UMTS, etc. provide handover, location and paging functions. A handover is a change of access point by a mobile terminal, without loss of connection. In the other hand, location is the process where mobile node informs the networks about its position, so it could receive information (SMS, calls...). In this case, mobile node must be notified using the information received in the location process.

Focusing in the fourth cellular network generation (4G) IP will eventually act as a concentrator element in the different radio technologies. IP is going to work in new functions as a mobility management. This is why IETF has developed the standard protocol Mobile IP. However, Mobile IP does not implement all the needed functions like paging. By now, is unknown how to add paging functions to Mobile IP.

The choice of IPv6 has been determined by the amount of improvement that supposes this version respect IPV4, in topics like addressing, security or mobility support. IPv6 will widely used in commercials networks in a closed future like is demonstrated by the agreement of the USA Defense Department, to migrate IPv6.

This project comes from another one made before [1] where was first implemented the Geopaging protocol [4]. That refers a multicast protocol specially developed to realize an efficient transport of paging messages over a cellular network based to IPv6. This implementation is known as Mcast.

This implementation improves Mcast code. After that, we analyze its performance in a scenario that represents an example of a real network.

Furthermore, we have achieved an implementation of paging architecture.

Finally this project links Mcast and the paging architecture, making different tests to check the correctness of their implementation