

Location Services Management and Robust Geographic Routing in Mobile Ad hoc Networks

Mots clés :

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Résumé du projet de recherche (Langue 1)

In this thesis, we provide some work necessary for routing in location-aware Mobile Ad hoc Networks (MANETs), taking into account the special characteristics of such networks. Moreover, our contributions in this thesis lie on the area of location services and next hop-selection, that support geographic routing. A location service (LS) is responsible to make location information of nodes available. This service is used by a sender of a packet to obtain the location of the destination, this information is used to route the packet. In this context we have proposed to enhance existing and/or introduce new location service protocols by limiting the amount of control information exchange while keep accurate location information. We consider a set of attributes: scalability, handling mobility, robustness and energy consumption for mobile ad hoc networks benefitting from mobility prediction and network coding. The second part of our research in this thesis considers the local selection of next hop with the existence of location uncertainty and unreliable links and propose a Robust Geographic Routing that deals with these issues. Below, overview about our main contribution are presented.