

网络、通信与安全

## 有约束的动态局部化查询优化Ad Hoc网络DSR协议

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**摘要** Ad Hoc网络DSR路由协议因采用泛洪机制导致较高路由开销, 提出一种有约束的局部化查询优化方案, 称为LDSR协议。在原有DSR协议基础上, 以小世界理论确定局部化查询跳数上限, 以移动网络保持连通的临界传输半径和移动节点的最大移动速度确定路由有效时间, 在两个约束条件下LDSR协议利用动态选择机制实现局部化查询, 形成局部泛洪。仿真表明, LDSR协议在路由负载较大和网络移动性较高的情况下可以大大减小路由开销和平均端到端时延, 而分组成功传送率损失很小。

**关键词** [Ad Hoc网络](#) [泛洪](#) [路由开销](#) [临界传输半径](#) [查询局部化](#)

分类号

## Optimization of DSR protocol of Ad Hoc network with constrained dynamic query localization technique

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### Abstract

To resolve the routing overhead problem of the Ad Hoc network DSR protocol resulted from flooding, this paper puts forward the optimization of DSR protocol with constrained dynamic query localization technique called LDSR protocol. Based on original DSR protocol and constrained by two factors: (1) the maximum number of hops of query localization flooding determined by the small-world theory; (2) routing effective time determined by mobile critical transmitting range for connectivity in Ad Hoc network and the maximum mobile speed of node, the LDSR protocol uses dynamic choice mechanism to limit query to a small region and to complete flooding localization. Simulation results show that the LDSR protocol can reduce routing overhead and average end-to-end delay notably, but the loss of packet delivery fraction is small, compares with DSR without using them.

**Key words** [Ad Hoc network](#) [flooding](#) [routing overhead](#) [critical transmitting range](#) [query localization](#)

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