

嵌套移动网络中基于代价函数的自适应路由优化机制

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An Adaptive Routing Optimization Scheme for Nested Mobile Networks Based on Cost Function

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摘要

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摘要 该文针对嵌套移动网络中的路由优化问题,依据子网的实时通信和运动模式,提出了一种自适应路由优化机制。该机制将嵌套子网划分绑定更新、均衡通信和数据路由3种通信模式,在不同模式下采取相对应的路由优化策略,合理均衡绑定更新和数据隧道封装传输之间的代价开销。仿真结果表明,该机制减少了数据传输的封装次数和隧道长度,具有较小的传输时延,实现了移动过程中数据传输代价最小化,对子网的动态变化具有良好的适应性。

关键词: 嵌套移动网络 路由优化 乒乓路由 自适应

Abstract: Considering the routing optimization issue in nested Network Mobility (NEMO), an adaptive routing optimization scheme based on cost function is proposed. In the scheme, depending on the communication and mobility pattern, the communication of nested NEMO is divided into three communication models, including binding update model, data routing model and balanced communication model; Different routing optimization strategy is chosen to balance the binding update signaling and the data tunneling cost to minimize the total cost in the models. The simulation results show that the scheme can shorten tunnel length and transmission delay, achieve the minimum cost of the communication in nested NEMO and have good adaptability for network topology dynamic changes.

Keywords: Nested Network Mobility (NEMO) Route optimization Pinball routing Adaptive

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