



基于博弈论的移动Ad hoc网络入侵检测模型

李奕男 钱志鸿 刘影 张旭*

吉林大学通信工程学院 长春 130025

An Intrusion Detection Model of Mobile Ad hoc Networks Based on Game Theory

Li Yi-nan Qian Zhi-hong Liu Ying Zhang Xun*

School of Jilin University of Communication Engineering, Changchun 130025, China

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摘要 随着计算机技术尤其是网络技术的发展,人们面临着由于入侵而带来的一系列安全问题。该文将博弈理论引入到移动Ad hoc网络入侵检测系统中,建立网络安全博弈模型,经过理论推导和仿真实验得到该模型的纳什均衡解。实验结果表明,该模型有效地提高了检测率,降低了误检测率,网络开销较小,证明该方法的有效性和可行性。

关键词: Ad hoc网络 博弈论 入侵检测系统

Abstract: With development of computer technology, especially Internet technology, people are faced with the invasion brought about a series of security problems. Employing game theory into a mobile Ad hoc network Intrusion Detection System (IDS) is presented in this paper. Network security game model is established, theoretical analysis and experiments of the Nash equilibrium solution of the model is yielded in this paper. Experimental results show that the model has effectively improved the detection rate and reduce the false detection rate, bringing the smaller network overhead. The effectiveness and feasibility of the method are proved.

Keywords: Ad hoc network Game theory IDS (Intrusion Detection System)

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通讯作者: 李奕男 Email: dce_master@163.com

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