

Linux 平台双协议栈主机网络管控系统设计与实现

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摘 要: 为了应对基于 Linux 内核国产操作系统的日益普及, 同时网络安全应用又相对匮乏所造成的安全隐忧, 分析 IPv4 向 IPv6 过渡技术中的双协议栈技术, 研究 Linux 内核网络栈结构, 采用 Linux 内核中 Netfilter 框架, 结合白名单策略, 设计并实现主机网络管控系统, 达到对双协议栈主机的网络访问数据进行管控的目的. 实验表明, 该系统可“无区别”地对两种网络数据流进行管控, 为 Linux 平台网络安全管理提供便利, 进而提高网络安全性.

关键词: Linux; IPv4/IPv6 双协议栈; Netfilter 框架; 白名单

The Design and Implementation of the Network Management

System of the Dual Stack Based on Linux Platform

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Abstract: In response to security concerns caused by the increasing popularity of the Linux kernel domestic operating systems, while the network security applications lacked, analyse the dual stack technology of IPv4 to IPv6 transition technology, study the Linux kernel network stack structure, use the Linux kernel Netfilter framework, combine with the white list strategy, design and implement a host network management system. This system achieve the purpose to management and control the dual stack host network data. Experiments show that the system can be nondistinctivet control the two kinds network data flow, to facilitate the network security management of Linux host and thus improve the network security.

Key words: Linux; IPv4/IPv6 dual stack; netfilter framework; white List

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