

基于 Linux 的防火墙设计与实现

摘 要

随着计算机网络技术和现代通信技术的不断升级,网络已经快速的辐射到了各个领域,使人们的生产和生活方式都随之发生了翻天覆地的变化,同时网络用户的激增,也暴露出越来越多的网络安全问题。如果没有针对客观存在的威胁做出有效保护和对策,将不可避免地发生经济损失。为了应对这种潜在威胁,会使用防火墙来达到保护内部网络的目的,以此大大提高内部网络的安全。对于大多数创业初期的公司和中小型企业来说,他们迫切需要网络防火墙来保证服务器的数据安全,寻找一个具备高效率、低成本、持续稳定和高安全性的平台和防护体系,成为了我国中小型企业走向成功的必经之路。

本文介绍了国内外网络安全现状以及主要的网络攻击方式,了解了中小企业实际的网络安全需求和经济投入能力的基础上,最后在 Linux 操作系统上的进行配置,设计并实现了基于 Linux 的使用 netfilter/iptables 工具的防火墙。从而大大提高了个人电脑及中小企业网络安全防护能力,为中小企业网络安全找到确切可行的办法。

关键词: Linux 防火墙; netfilter; iptables; 网络安全

Abstract

With the continuous upgrade of computer network technology and modern communication technology, the network has quickly radiated to various fields, causing people's production and lifestyle to change dramatically, and the proliferation of network users has also exposed more and more Many network security issues. Without effective protection and countermeasures against objectively existing threats, economic losses will inevitably occur. In order to respond to this potential threat, a firewall will be used to protect the internal network, thereby greatly improving the security of the internal network. For most early-stage companies and small and medium-sized enterprises, they urgently need network firewalls to ensure server data security. Looking for a platform and protection system with high efficiency, low cost, continuous stability, and high security has become our country. The only way for small and medium-sized enterprises to succeed.

This article introduces the current status of network security at home and abroad and the main network attack methods. Based on the understanding of the actual network security needs and economic investment capabilities of SMEs, it is finally configured on the Linux operating system and designed and implemented based on Linux. The firewall of the netfilter / iptables tool. Thereby greatly improving the personal computer and small and medium-sized enterprise network security protection ability, find the exact feasible method for the small and medium-sized enterprise network security.

Keywords: Linux Firewall; netfilter; iptables; Network Security

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