

<<高级网络管理>>

图书基本信息

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前言

The world of internetworking has become challenging and exciting as we begin the 21st century . Gone is the monstrosity of running cable and gone is old technology . We are looking at even faster speeds of transmitting voice and data . Technologies such as SONET and wireless LANs are being used to decrease bandwidth usage and , at the same time , allow more data to be transmitted . Despite all the advances in technology, the old reliable architectures and protocols are still being implemented in the internetworking arena today because they have proven to be reliable and have worked with many different products . Advanced Network Administration covers the concepts of routing , bridging , switching , and network management . This book is recommended for novices who wish to further their knowledge of internetwork design . Chapters 1-3 , OSI Internetworking Basics, Bridging and Switching Fundamentals, and Routing Basics, should be taught as a unit . Chapters 4 and 5 cover Network Management Fundamentals and Simple Network Management Protocol . From Chapters 6 to 10 , each of the main network architectures , along with the various protocols that comprise these architectures , are exposed . Chapters 11 and 12 depart from the architectural viewpoint and discuss / nterdomain Routing Basics . Open Shortest Path First , explained in Chapter 11 (OSPF) , and Border Gateway Protocol , discussed in Chapter 12 (BGP) , are the main protocols being used in the Internet to provide reliable routing from host to host . These two chapters should be taught as a unit . Chapter 13 , Advanced IP Routing, provides a brief explanation of IP addressing and more advanced concepts such as VLSM and ANS , along with route summarization and redistribution . For a more thorough explanation on IP addressing refer to Chapter 9, Digital Network Architecture (DNA) Decnet Phase IV. Chapter 14 discusses Data Link Protocols and their importance in internetworking . Chapter 15 , Internetworking Design Basics, is the capstone chapter discussing how to design an internetwork using routing and switching methods. Advanced Network Administration complements any text or certification program such as Microsoft or Novell Networking Technologies , and will provide a thorough understanding of the architectures and their protocols . Reader comments , questions , and suggestions for improvements are welcome . Keep on internetworking!

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内容概要

本书是一本全面的网络课程教材，融合了作者丰富的专业经验和教学经验，集中讲解网络设计和互联网设计的正确方法。

学生将获得关于网络协议、体系结构设计、特殊类型网络设计及传统协议（如AppleTalk、DNA和SNA）方面的背景知识。

对于志在获得CCDA、CCNA和微软公司网络基础认证的读者来说也是一本理想读物。

本书特点包括：涵盖因特网协议（如OSPF、BGP）和传统协议（如RIP、EIGRP、IGRP）；完整讲述网络体系结构（包括SNA、Novell、DNA和OSI）；详细讲解对SNMP及网络管理知识的理解；提供现实案例研究；各章都有大量实景图例，并透彻说明其在网络设计整体方案中如何运用；各章有综述性段落和总结性问题以测试学生对知识的掌握程度；各章有关键词、学习目标和本章总结；全书最后配有内容丰富的附录，涉及网络互连的广泛问题。

本书适用于高等院校工科各专业本科和研究生的计算机网络管理类课程，也可供相关技术人员学习参考。

作者简介

Steve Wsniewski is currently working as a computer telephony engineer for Greenwich Technology Partners and has been in the internetworking and networking industry ofr more than 12 years.He is a 1972 Graduate of Marshall university,a 1995 graduate of

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章节摘录

插图：Routing is the act of moving information across an internetwork from an SA to a DA . Along the way, at least one intermediate node is encountered . Routing is often contrasted with bridging , which might seem to accomplish the same thing to the casual observer . The primary difference is that bridging occurs at layer 2 , the data link layer of the OSI model , whereas routing occurs at layer 3 , the network layer . The distinction of where each device transfers data provides routing and bridging with different information to use in the process of transmitting data from the SA to the DA . The two functions accomplish their tasks in different ways . Routing has been covered in computer science literature for more than two decades , but routing did not achieve commercial popularity until the mid - 1980s . Practically every company and every office has at least one router at its location . The primary reason for this time lag is that networks in the 1970s were fairly simple , homogeneous environments . Only recently has large-scale internetworking become popular . Routing involves two basic activities : determining optimal routing paths and transporting information groups called packets through an internetwork . In the context of the routing process , transporting packets through an internetwork can be referred to as switching . Although switching is straightforward , path determination can be complex . A scalable network is one that can be adjusted without major modification as time and resources require . Many of today's internetworks need to be scalable because they are experiencing phenomenal growth . The growth is primarily a result of the increasing demands for connectivity in business and telecommuting . Scalable internetworks are described as networks that are experiencing constant growth . These networks must be flexible and expandable . The best managed scalable internetworks are designed to follow a hierarchical model of routing . A hierarchical model simplifies the management of the internetwork and allows for controlled growth without overlooking requirements . In building the network it is recommended to follow a three-layer hierarchical internetworking model .

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