

<<高级网络管理>>

图书基本信息

书名：<<高级网络管理>>

13位ISBN编号：9787040151107

10位ISBN编号：7040151103

出版时间：2004-8

出版时间：北京蓝色畅想图书发行有限公司（原高等教育出版社）

作者：维斯尼斯基

页数：1005

字数：1230000

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

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!

<<高级网络管理>>

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

书籍目录

Chapter 1 Internetworking Basics Introduction What is an Internetwork? The History of Internetworking
 Internetworking Challenges The Open System Interconnect (OSI) Reference Model OSI Information
 Formats The International Organization for Standardization (ISO) Hierarchy of Networks Connection
 Oriented and Connectionless Network Services Internetwork Addressing Comparing Hierarchical and Flat
 Address Space Flow Control, Error Checking, and Multiplexing Local Area Networks: In-Depth Look Wide
 Area Networks: An In-Depth Look SummaryChapter 2 Bridging and Switching Fundamentals Introduction
 Link Layer Devices: An Overview Types of Bridges Segmenting LANs Why Segment LANs? Segmenting
 LANs Using Repeaters Segmenting LANs Using Bridges Segmenting LANs Using Switches Bridging
 Technologies Spanning Tree Algorithm (STA) What Is Spanning Tree Protocol and Why Use It?
 SummaryChapter 3 Routing Basics Introduction Routing Components Scaling Large Internetworks
 Path Determination Switching Routing Algorithms Distance Vector Routing Algorithms Solutions
 Implementing Solutions in Multiple Routes Link State Routing Algorithms Comparing Distance Vector
 Routing with Link State Routing Network Layer Protocol Operations Routing Metrics Convergence Time
 Congestion Overview Traffic in an IP Network Traffic in an IPX Network Traffic in Other Multiprotocol
 Networks Hybrid Routing Snapshot Routing SummaryChapter 4 Network Management Fundamentals
 Introduction Network Management Requirements Background OSI Management Functional Areas
 Network Management System (NMS) Network Management Configuration Network Management
 Architecture Network Monitoring Performance Monitoring Fault Monitoring Accounting Monitoring
 Network Control Configuration Control Security Control Security Management Functions
 SummaryChapter 5 Simple Network Management Protocol Introduction TCP/IP Origins TCP/IP and
 Network Management Evolution of SNMP The SNMP Architecture Trap-Directed Polling Proxies
 SNMP Management Information SNMP and Abstract Syntax Notation One (ASN.1) ASN.1 Concepts
 Basic Encoding Rules (BER) Communities and Community Names Lexicographic Ordering SNMP
 Formats Limitations of SNMP SummaryChapter 6 Systems Network Architecture Introduction Overview
 of Corporate Networks Hierarchical Networks Peer Networks SNA Configuration SNA Subarea Network
 APPN Network Foundation SNA Concepts Network Components Network Addressing Routes Class
 of Service Table Layers Sessions Open Systems Interconnection and SNA SNA Protocols SNA/SDLC
 Frame Formats IBM's Advanced Communications Function/Virtual Communications Access Method (VTAM)
 Network Control Program (NCP) SummaryChapter 7 NetWare Protocols Introduction Concepts
 Internet Packet Exchange (IPX) IPX Routing Architecture Routing Information Protocol (RIP) SAP:
 Supporting Service Advertisements Sequenced Packet Exchange (SPX) Sequenced Packet Exchange II (SPX
 II) NetWare Core Protocol (NCP) NetWare Link Service Protocol (NLSP) RIP Problems NLSP Messages
 SummaryChapter 8 AppleTalk Protocols Introduction AppleTalk and OSI The Physical Layer-AppleTalk
 Hardware Media Considerations for AppleTalk Data Link Functions Link Access Protocol (LAP) Manager
 for LocalTalk AppleTalk Addressing AppleTalk Network Components AppleTalk Phase I and Phase II
 AppleTalk Address Resolution Protocol (AARP) LAP Manager for EtherTalk and TokenTalk The
 AppleTalk Network Layer: Datagram Delivery Protocol (DDP) Routing Table Maintenance Program Protocol
 (RTMP) AppleTalk Echo Protocol (AEP) Names on AppleTalk Transport Layer Services: Reliable Delivery
 of Data AppleTalk Transaction Protocol (ATP) Printer Access Protocol (PAP) AppleTalk Session Protocol
 (ASP) AppleShare and the AppleTalk File Protocol (AFP) SummaryChapter 9 DECnet Phase IV Digital
 Network Architecture Introduction History DECnet Phase IV Digital Network Architecture (DNA)
 DECnet Phase IV and OSI DECnet/OSI DNA Implementations The Routing Layer: DECnet Phase IV
 Routing Addressing Areas The Routing Database DECnet Routing Forwarding of Data in a DECnet
 Environment End Communication Layer: The DNA Transport Layer The Session Control Layer Network
 Application Layer SummaryChapter 10 Open Systems Interconnection Protocols Introduction OSI

Networking Protocols OSI Physical and Data Link Layers OSI Network Layer OSI Protocols Transport Layer OSI Protocols Session Layer OSI Protocols Presentation Layer OSI Protocols Application Layer OSI Protocols Application Processes Open Systems Interconnection (OSI) Routing Protocol IS-IS Protocol OSI Addressing Transport Layer: Connection Mode Transport Service Session Layer End System-to-Intermediate System (ES-IS) IS-IS Metrics Interdomain Routing Protocol (IDRP) SummaryChapter 11 Interdomain Routing Basics, Part I: Open Shortest Path First Routing Protocol Introduction Functional Requirements Backup Designated Router Designated Router Election OSPF Basics Link State Advertisements (LSAs) A Sample LSA: The Router-LSA The Link State Database Communicating Between OSPF Routers: OSPF Packets Routing Calculations Hierarchical Routing in OSPF OSPF Areas Virtual Links Incorporating External Routing Information Interaction with Areas OSPF Area Types SummaryChapter 12 Interdomain Routing Basics, Part II: Border Gateway Protocol Introduction The Internet Today Overview of Routers and Routing Distance Vector Protocols Link State Protocols Segregating the World into Administrations Static Routing, Default Routing, and Dynamic Routing Autonomous Systems Border Gateway Protocol Version 4 BGP Message Header Format Building BGP Peer Sessions Synchronization within an AS SummaryChapter 13 Advanced IP Routing Introduction Internet Protocol (IP) IP Packet Format IP Addressing IP Subnet Addressing IP Subnet Mask Logical AND Operation IP Address Issues and Solutions Using Addressing Hierarchies Slowing IP Address Depletion Variable Length Subnet Masks What Is Route Summarization? Route Summarization in Routers Other Addressing Considerations Using Private Addressing Translating Inside Local Addresses SummaryChapter 14 The Data Link Protocols Introduction Asynchronous Line Protocols Synchronous Line Protocols Character Oriented Protocols Count Oriented Protocols Bit Oriented Protocols Controlling Traffic on the Link Functions of Timers Automatic Request for Repeat (ARQ) Flow Control Protocol Inclusive Acknowledgement Stop-and-Wait ARQ Flow Control Protocol Piggybacking Sliding Windows Flow Control Protocol Host Configurations Multipoint Connections Polling Difficulty of Dealing with Errors Major Types of Impairments Error Detection Parity Checking Checksum Echoplex Error Checking Codes Binary Synchronous Control (BSC) High Level Data Link Control (HDLC) Protocol HDLC Characteristics Frame Format HDLC Commands and Responses SummaryChapter 15 Internetworking Design Basics Introduction Understanding Basic Internetworking Concepts Overview of Internetworking Devices Switching Overview Identifying and Selecting Internetworking Capabilities Identifying and Selecting an Internetworking Model Evaluating Backbone Services Path Optimization Traffic Prioritization Load Balancing Alternative Paths Switched Access Encapsulation (Tunneling) Evaluating Distribution Services Backbone Bandwidth Management Area and Service Filtering Policy Based Distribution Gateway Service Interprotocol Route Redistribution Media Translation Evaluating Local Access Services Value Added Network Addressing Broadcast and Multicast Capabilities Naming, Proxy, and Local Cache Capabilities Media Access Security Router Discovery Choosing Internetworking Reliability Options Redundant Links Versus Meshed Topologies Redundant Power Systems Fault-Tolerant Media Implementations Backup Hardware Designing Switched LAN Internetworks Evolution from Shared to Switched Networks Technologies for Building Switched LAN Internetworks Components of the Switched Internetworking Model Scalable Switching Platforms ATM Switches LAN Switches Routing Platforms Common Software Infrastructure Virtual LANs (VLANs) Network Management Tools and Applications Switched LAN Network Designs Comparison of LAN Switches and Routers Benefits of LAN Switches (Layer 2 Services) Benefits of Routers (Layer 3 Services) Benefits of VLANs VLAN Implementation IEEE 802.10 Inter-Switch Link LAN Emulation SummaryChapter 16 ATM Introduction Benefits of ATM ATM Network Operation Multicasting in ATM Connection Oriented Network Services ATM Signaling and Addressing LAN Emulation SummaryChapter 17 T1 Digital Communications Introduction Why T1? What Does T1 Do? How Does T1 Accomplish Its Goals? Evolution of T1 OSI and T1 DS1/D4 Protocols Pulse Code Modulation Extended SuperframeAppendix A OSPF Design GuideAppendix B BGP

Attributes and Policy RoutingAppendix C Signaling InterfacesAppendix D An Introduction to IGRPAppendix E
Enhanced Interior Gateway Routing ProtocolAppendix F Troubleshooting OverviewAppendix G RJ 45 Wiring
Pinouts and HintsAppendix H Wireless LANAppendix I Case StudiesGlossaryIndex

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 .

编辑推荐

《高级网络管理(影印版)》是高等教育出版社出版。

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>