

<<TCP/IP路由技术第1卷>>

图书基本信息

书名：<<TCP/IP路由技术第1卷>>

13位ISBN编号：9787302029496

10位ISBN编号：7302029490

出版时间：1999-04

出版时间：清华大学出版社

作者：多依尔

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>

## <<TCP/IP路由技术第1卷>>

### 内容概要

是用于培养C i s c o认证的网络互联专家C C I E的系列丛书的高级教材，详细介绍了当今流行的I n t e r n e t网络的关键技术——T C P / I P技术。  
全书分四大部分： 、介绍路由的基本知识， 、介绍一系列内部路由协议， 、介绍路由控制和互操作性中的各种技术。

<<TCP/IP路由技术第1卷>>

书籍目录

Table of Contents  
Introduction xxiv  
Objectives xxv  
Audience xxvi  
Organization xxvii  
Conventions and Features xxviii  
Foreword 1  
Chapter1  
Routing Basics  
Basic Concepts: Internetworks, Routers, and  
Addresses  
Bicycles with Motors  
Data Link Addresses  
Repeaters and Bridges  
Routers  
Network Addresses  
Looking Ahead  
Recommended Reading  
Review Questions  
TCP/IP Review  
The TCP/IP Protocol Layers  
The IP Packet Header  
IP Addresses  
The First Octet Rule  
Address Masks  
Subnets and Subnet Masks  
Designing Subnets  
Breaking the Octet Boundary  
Troubleshooting a Subnet Mask  
ARP  
Proxy ARP  
Gratuitous ARP  
Reverse ARP  
ICMP  
The Host-to-Host Layer  
CHAPTER 2 TCP  
UDP  
Looking Ahead  
Summary Table: Chapter 2 Command Review  
Recommended Reading  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
CHAPTER 3 Static Routing  
The Route Table

<<TCP/IP路由技术第1卷>>

Configuring Static Routes  
Case Study: Simple Static Routes  
Case Study: Summary Routes  
Case Study: Alternative Routes  
Case Study: Floating Static Routes  
Case Study: Load Sharing  
Per Destination Load Sharing and Fast  
Switching  
Per Packet Load Sharing and Process  
Switching  
Case Study: Recursive Table Lookups  
Troubleshooting Static Routes  
Case Study: Tracing a Failed Route  
Case Study: A Protocol Conflict  
Looking Ahead  
Summary Table: Chapter 3 Command Review  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Chapter 4 Dynamic Routing Protocols  
Routing Protocol Basics  
Path Determination  
Metrics  
Hop Count  
Bandwidth  
Load  
Delay  
Reliability  
Cost  
Convergence  
Load Balancing  
Distance Vector Routing Protocols  
Common Characteristics  
Periodic Updates  
Neighbors  
Broadcast Updates  
Full Routing Table Updates  
Routing by Rumor  
Route Invalidation Timers  
Split Horizon  
Counting to Infinity  
Triggered Updates  
Holddown Timers  
Asynchronous Updates  
Link State Routing Protocols  
Neighbors  
Link State Flooding

<<TCP/IP路由技术第1卷>>

Sequence Numbers  
Aging  
The Link State Database  
The SPF Algorithm  
Areas  
Interior and Exterior Gateway Protocols  
Static or Dynamic Routing?  
Looking Ahead  
Recommended Reading  
Review Questions  
Part 11 Interior Routing Protocols  
Chapter 5 Routing Information Protocol (RIP)  
Operation of RIP  
RIP Timers and Stability Features  
RIP Message Format  
Request Message Types  
Classful Routing  
Classful Routing: Directly Connected Subnets  
Classful Routing: Summarization at Boundary  
Routers  
Classful Routing: Summary  
Configuring RIP 205  
Case Study: A Basic RIP Configuration  
Case Study: Passive Interfaces  
Case Study: Configuring Unicast Updates  
Case Study: Discontiguous Subnets  
Case Study: Manipulating RIP Metrics  
Troubleshooting RIP  
Looking Ahead  
Summary Table: Chapter 5 Command Review  
Recommended Reading  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Chapter 6 Interior Gateway Routing Protocol (IGRP)  
Operation of IGRP  
IGRP Timers and Stability Features  
IGRP Metrics  
IGRP Packet Format  
Configuring IGRP  
Case Study: A Basic IGRP Configuration  
Case Study: Unequal-Cost Load Balancing  
Case Study: Setting Maximum Paths  
Case Study: Multiple IGRP Processes  
Troubleshooting IGRP 260  
Case Study: Unequal-Cost Load Balancing,  
Again

<<TCP/IP路由技术第1卷>>

Case Study: A Segmented Network  
Looking Ahead  
Summary Table: Chapter 6 Command Review  
Recommended Reading  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Chapter 7 Routing Information Protocol Version 2  
Operation of RIPv2  
RIPv2 Message Format  
Compatibility with RIPv  
Classless Route Lookups  
Classless Routing Protocols  
Variable-Length Subnet Masking  
Authentication  
Configuring RIPv2  
Case Study: A Basic RIPv2 Configuration  
Case Study: Compatibility with RIPv  
Case Study: Using VLSM  
Case Study: Discontiguous Subnets and Classless  
Routing  
Case Study: Authentication  
Troubleshooting RIPv2  
Case Study: Misconfigured VLSM  
Looking Ahead  
Summary Table: Chapter 7 Command Review  
Recommended Reading  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Chapter 8 Enhanced Interior Gateway Routing Protocol  
(EIGRP)  
Operation of EIGRP  
Protocol-Dependent Modules  
Reliable Transport Protocol  
Neighbor Discovery/Recovery  
The Diffusing Update Algorithm  
DUAL: Preliminary Concepts  
The DUAL Finite State Machine  
Diffusing Computation: Example 1  
Diffusing Computation: Example 2  
EIGRP Packet Formats  
The EIGRP Packet Header  
General TLV Fields  
IP-Specific TLV Fields  
Address Aggregation  
Configuring EIGRP

<<TCP/IP路由技术第1卷>>

Case Study: A Basic ETCRP Configuration  
Case Study: Redistribution with IGRP  
Case Study: Disabling Automatic Summarization  
Case Study: Address Aggregation  
Authentication  
Troubleshooting EIGRP  
Case Study: A Missing Neighbor  
Stuck-in-Active Neighbors  
Looking Ahead  
Summary Table: Chapter 8 Command review  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Chapter 9 Open Shortest Path First  
Operation of OSPF  
Neighbors and Adjacencies  
The Hello Protocol  
Network Types  
Designated Routers and Backup Designated  
Routers  
OSPF Interfaces  
OSPF Neighbors  
Flooding  
Areas  
Router Types  
Partitioned Areas  
Virtual Links  
The Link State Database  
LSA Types  
Stub Areas  
The Route Table  
Destination Types  
Path Types  
Route Table Lookups  
Authentication  
OSPF over Demand Circuits  
OSPF Packet Formats  
The Packet Header  
The Hello Packet  
The Database Description Packet  
The Link State Request Packet  
The Link State Update Packet  
The Link State Acknowledgment Packet.  
OSPF LSA Formats  
The LSA Header  
The Router LSA  
The Network LSA

<<TCP/IP路由技术第1卷>>

The Network and ASBR Summary LSAs  
The Autonomous System External LSA  
The NSSA External LSA  
The Options Field  
Configuring OSPF  
Case Study: A Basic OSPF Configuration  
Case Study: Setting Router IDs with Loopback Interfaces  
Case Study: Domain Name Service Lookups  
Case Study: OSPF and Secondary Addresses  
Case Study: Stub Areas  
Case Study: Totally Stubby Areas  
Case Study: Not-So-Stubby Areas  
Case Study: Address Summarization  
Case Study: Authentication  
Case Study: Virtual Links  
Case Study: OSPF on NBMA Networks  
Case Study: OSPF over Demand Circuits  
Troubleshooting OSPF  
Case Study: An Isolated Area  
Case Study: Misconfigured Summarization  
Looking Ahead  
Summary Table: Chapter 9 Command Review  
Recommended Reading  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Chapter 10 Integrated IS-IS 592  
Operation of Integrated IS-IS  
IS-IS Areas  
Network Entity Titles  
IS-IS Functional Organization  
Subnetwork Dependent Functions  
Subnetwork Independent Functions  
IS-IS PDU Formats  
CLV Fields  
The IS-IS Hello PDU Format  
The IS-IS Link State PDU Format  
The IS-IS Sequence Numbers PDU Format  
Configuring Integrated IS-IS  
Case Study: A Basic Integrated IS-IS Configuration  
Case Study: Changing the Router Types  
Case Study: An Area Migration  
Case Study: Route Summarization  
Case Study: Authentication  
Troubleshooting Integrated IS-IS



<<TCP/IP路由技术第1卷>>

Troubleshooting IS-IS Adjacencies  
Troubleshooting the IS-IS Link State Database  
Case Study: Integrated IS-IS on NBMA Networks  
Looking Ahead  
Summary Table: Chapter 10 Command Review  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Part 111 Route Control and Interoperability  
Chapter 11 Route Redistribution  
Principles of Redistribution  
Metrics  
Administrative Distances  
Redistributing from Classless to Classful Protocols  
Configuring Redistribution  
Case Study: Redistributing IGRP and RIP  
Case Study: Redistributing EIGRP and OS  
Case Study: Redistribution and Route Summarization  
Case Study: Redistributing IS-IS and RIP  
Case Study: Redistributing Static Routes  
Looking Ahead  
Summary Table: Chapter 11 Command Review  
Review Questions  
Configuration Exercises  
Troubleshooting Exercises  
Chapter 12 Default Routes and On-Demand Routing  
Fundamentals of Default Routes  
Fundamentals of On-Demand Routing  
Configuring Default Routes and ODR  
Case Study: Static Default Routes  
Case Study: The Default-Network Command  
Case Study: The Default-Information Originate Command  
Case Study: Configuring On-Demand Routing  
Looking Ahead  
Summary Table: Chapter 12 Command Review  
Review Questions  
Chapter 13 Route Filtering  
Configuring Route Filters  
Case Study: Filtering Specific Routes  
Case Study: Route Filtering and Redistribution  
Case Study: A Protocol Migration  
Case Study: Multiple Redistribution Points  
Case Study: Using Distances to Set Router Pref-

<<TCP/IP路由技术第1卷>>

erences

Looking Ahead

Summary Table: Chapter 13 Command Review

Configuration Exercises

Troubleshooting Exercises

Chapter 14 Route Maps

Basic Uses of Route Maps

Configuring Route Maps

Case Study: Policy Routing

Case Study: Policy Routing and Quality of Service Routing

Case Study: Route Maps and Redistribution

Case Study: Route Tagging

Looking Ahead

Summary Table: Chapter 14 Command Review

Review Questions

Configuration Exercises

Troubleshooting Exercises

Part IV Appendixes

Appendix A Tutorial: Working with Binary and Hex

Working with Binary Numbers

Working with Hexadecimal Numbers

Appendix B Tutorial: Access Lists

Access List Basics

Implicit Deny Any

Sequentiality

Access List Types

Editing Access Lists

Standard IP Access Lists

Extended IP Access Lists

TCP Access Lists

UDP Access Lists

ICMP Access Lists

Calling the Access List

Keyword Alternatives

Named Access Lists

Filter Placement Considerations

Access List Monitoring and Accounting

Appendix C CCIE Preparation Tips

Laying the Foundations

Hands-On Experience

Intensifying the Study

The Final Six Months

Exam Day 889

Appendix D Answers to Review Questions

Chapter 1

Chapter 2

<<TCP/IP路由技术第1卷>>

- Chapter 3
- Chapter 4
- Chapter 5
- Chapter 6
- Chapter 7
- Chapter 8
- Chapter 9
- Chapter 10
- Chapter 11
- Chapter 12
- Chapter 14
- Appendix E Solutions to Configuration Problems
  - Chapter 2
  - Chapter 3
  - Chapter 5
  - Chapter 6
  - Chapter 7
  - Chapter 8
  - Chapter 9
  - Chapter 10
  - Chapter 11
  - Chapter 13
  - Chapter 14
- Appendix F Solutions to Troubleshooting Exercises
  - Chapter 2
  - Chapter 3
  - Chapter 5
  - Chapter 6
  - Chapter 7
  - Chapter 8
  - Chapter 9
  - Chapter 10
  - Chapter 11
  - Chapter 13
  - Chapter 14
- Index

<<TCP/IP路由技术第1卷>>

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>