

图书基本信息

书名：<<TCP/IP路由技术(第二卷)(英文版)>>

13位ISBN编号：9787115112231

10位ISBN编号：7115112231

出版时间：2003-6

出版时间：人民邮电出版社

作者：多伊尔

页数：945

字数：1371

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>

内容概要

本书深入系统地阐述了TCP/IP路由技术，内容包括几种重要的网络协议，如外部网关协议(EGP)、边界网关协议(BGP4)，以及相应的高级IP路由技术与应用——网络地址转换、IP组播路由技术、IPv6技术、路由器管理等。

本书共分9个章节，首先介绍并讨论了主题内容的基本原理，接着是设计用来展示真实网络环境中相关概念的一系列配置范例，最后提供给读者经实践验证过的故障排除方法以解决网络可能会出现的问题。

重点介绍了自治系统之间的路由选择策略以及诸如组播和IPv6等更具挑战性的路由选择和实施技术。

本书内容全面，可读性强，含有协议配置、网络实施、故障排除等方面的大量实例，是备战CCIE认证考试的经典之作，适合CCIE开发人员、网络与通信系统工程技术人員阅读。

书籍目录

Part I Exterior Gateway Protocols 3

Chapter 1 Exterior Gateway Protocol 5* The Origins of EGP 5* Operation of EGP 7 · EGP Topology Issues 7 · EGP Functions 9 · EGP Message Formats 18* Shortcomings of EGP 26* Configuring EGP 26 · Case Study: An EGP Stub Gateway 27 · Case Study: An EGP Core Gateway 31 · Case Study: Indirect Neighbors 35 · Case Study: Default Routes 38* Troubleshooting EGP 39 · Interpreting the Neighbor Table 39 · Case Study: Converging at the Speed of Syrup 41* End Notes 43* Looking Ahead 43* Review Questions 44* Configuration Exercises 45* Troubleshooting Exercise 51

Chapter 2 Introduction to Border Gateway Protocol 4 55* Classless Interdomain Routing 55 · A Summarization Summary 56 · Classless Routing 57 · Summarization: The Good, the Bad, and the Asymmetric 61 · The Internet: Still Hierarchical After All These Years 64 · CIDR: Reducing Routing Table Explosion 69 · CIDR: Reducing Class B Address Space Depletion 71 · Difficulties with CIDR 72* Who Needs BGP? 76 · A Single-Homed Autonomous System 78 · Multihoming to a Single Autonomous System 80 · Multihoming to Multiple Autonomous Systems 84 · A Note on “ Load Balancing ” 88 · BGP Hazards 88* BGP Basics 90 · BGP Message Types 93 · The BGP Finite State Machine 95 · Path Attributes 98 · Administrative Weight 111 · AS_SET 112 · The BGP Decision Process 114 · Route Dampening 116* IBGP and IGP Synchronization 118* Managing Large-Scale BGP Peering 124 · Peer Groups 124 · Communities 124 · Route Reflectors 125 · Confederations 131* BGP Message Formats 132 · The Open Message 133 · The Update Message 134 · The Keepalive Message 137 · The Notification Message 137* End Notes 138* Looking Ahead 139* Recommended Reading 139* Review Questions 139

Chapter 3 Configuring and Troubleshooting Border Gateway Protocol 4 149* Basic BGP Configuration 149 · Case Study: Peering BGP Routers 149 · Case Study: Injecting IGP Routes into BGP 155 · Case Study: Injecting BGP Routes into an IGP 161 · Case Study: IBGP without an IGP 167 · Case Study: IBGP Over an IGP 174 · Case Study: EBGP Multihop 182 · Case Study: Aggregate Routes 185* Managing BGP Connections 204* Routing Policies 208 · Resetting BGP Connections 209 · Case Study: Filtering Routes by NLRI 211 · Case Study: Filtering Routes by AS_PATH 219 · Case Study: Filtering with Route Maps 224 · Case Study: Administrative Weights 226 · Case Study: Administrative Distances and Backdoor Routes 234 · Case Study: Using the LOCAL_PREF Attribute 241 · Case Study: Using the MULTI_EXIT_DISC Attribute 246 · Case Study: Prepending the AS_PATH 252 · Case Study: Route Tagging 256 · Case Study: Route Dampening 261* Large-Scale BGP 265 · Case Study: BGP Peer Groups 265 · Case Study: BGP Communities 270 · Case Study: Private AS Numbers 284 · Case Study: BGP Confederations 287 · Case Study: Route Reflectors 300* Looking Ahead 307* Recommended Reading 307* Command Summary 307* Configuration Exercises 312* Troubleshooting Exercises 318

Part II Advanced IP Routing Issues 331

Chapter 4 Network Address Translation 333* Operation of NAT 333 · Basic NAT Concepts 333 · NAT and IP Address Conservation 336 · NAT and ISP Migration 338 · NAT and Multihomed Autonomous Systems 340 · Port Address Translation 342 · NAT and TCP Load Distribution 343 · NAT and Virtual Servers 344* NAT Issues 345 · Header Checksums 346 · Fragmentation 346 · Encryption 346 · Security 347 · Protocol-Specific Issues 347* Configuring NAT 356 · Case Study: Static NAT 356 · Case Study: Dynamic NAT 364 · Case Study: A Network Merger 369 · Case Study: ISP Multihoming with NAT 374 · Port Address Translation 379 · Case Study: TCP Load Balancing 381 · Case Study: Service Distribution 383* Troubleshooting NAT 386* End Note 387* Looking Ahead 388* Command Summary 388* Configuration Exercises 389* Troubleshooting Exercises 392

Chapter 5 Introduction to IP Multicast Routing 395* Requirements for IP Multicast 398 · Multicast IP Addresses 399 · Group Membership Concepts 404 · Internet Group Management Protocol(IGMP) 411 · Cisco Group Membership Protocol(CGMP) 419* Multicast Routing Issues 427 · Multicast Forwarding 428 · Multicast Routing 429 · Sparse Versus Dense Topologies 431 · Implicit Joins Versus Explicit Joins 432 · Source-Based Trees Versus Shared Trees 435 · Multicast Scoping 437* Operation of the Distance

Vector Multicast Routing Protocol(DVMRP) 441 · Neighbor Discovery and Maintenance 442 · The DVMRP Routing Table 443 · DVMRP Packet Forwarding 444 · DVMRP Message Formats 445*
 Operation of Multicast OSPF(MOSPF) 453 · MOSPF Basics 454 · Inter-Area MOSPF 456 · Inter-AS MOSPF 459 · MOSPF Extension Formats 460* Operation of Core-Based Trees(CBT) 462 · CBT Basics 463 · Finding the Core 465 · CBT Designated Routers 465 · Member and Nonmember Sources 466 · CBT Message Formats 468* Introduction to Protocol Independent Multicast(PIM) 473* Operation of Protocol Independent Multicast,Dense Mode(PIM-DM) 475 · PIM-DM Basics 475 · Prune Overrides 481 · Unicast Route Changes 484 · PIM-DM-Designated Routers 484 · PIM Forwarder Election 484*
 Operation of Protocol Independent Multicast,Sparse Mode(PIM-SM) 487 · PIM-SM Basics 488 · Finding the Rendezvous Point 489 · PIM-SM and Shared Trees 492 · Source Registration 496 · PIM-SM and Shortest Path Trees 502 · PIMv2 Message Formats 507* End Notes 517* Looking Ahead 518*
 Recommended Reading 518* Command Summary 519* Review Questions 520Chapter 6 Configuring and Troubleshooting IP Multicast Routing 531* Configuring IP Multicast Routing 531 · Case Study: Configuring Protocol-Independent Multicast, Dense Mode(PIM-DM) 533 · Configuring Protocol-Independent Multicast, Sparse Mode(PIM-SM) 542 · Case Study: Multicast Load Sharing 568* Troubleshooting IP Multicast Routing 576 · Using minfo 577 · Using mtrace and mstat 580* Looking Ahead 584* Configuration Exercises 585* Troubleshooting Exercises 587Chapter 7 Large-Scale IP Multicast Routing 593* Multicast Scoping 593* Case Study: Multicasting Across Non-Multicast Domains 595* Connecting to DVMRP Networks 598*
 Inter-AS Multicasting 602 · Multiprotocol Extensions for BGP(MBGP) 606 · Operation of Multicast Source Discovery Protocol(MSDP) 607 · MSDP Message Formats 609* Case Study: Configuring MBGP 614* Case Study: Configuring MSDP 619* Case Study: MSDP Mesh Groups 624* Case Study: Anycast RP 627* Case Study: MSDP Default Peers 633* Command Summary 636* End Notes 637* Looking Ahead 637* Review Questions 638Chapter 8 IP Version 6 643* Design Goals of IPv6 643 · Improve Scalability 644 · Ease of Configuration 645 · Security 645* Current State of IPv6 645 · IPv6 Specification(RFCs) 646 · Vendor Support 647 · Implementations 647* IPv6 Packet Format 649 · The IPv6 Address 649 · Address Structure 654 · IPv6 Header 667* IPv6 Functionality 672 · Enabling IPv6 Capability on a Cisco Router 673 · ICMPv6 674 · Neighbor Discovery 675 · Autoconfiguration 685 · Routing 690 · The Anycast Process 708 · Multicast 708 · Quality of Service 714* Transition from IPv4 to IPv6 715 · Dual Stacks 715 · DNS 716 · IPv6 Tunneled in IPv4 717 · Network Address Translation——Protocol Translation 720* End Notes 720* Looking Ahead 721* Recommended Reading 721* Review Questions 721*
 Chapter Bibliography 724Chapter 9 Router Management 727* Policies and Procedure Definition 727 · Service Level Agreements 728 · Change Management 729 · Escalation Procedures 730 · Updating Policies 730* Simple Network Management Protocol 731 · Overview of SNMP 731 · CiscoWorks 733 · Router Configuration for SNMP 733* RMON 740 · Overview of RMON 740 · Router Configuration for RMON 741* Logging 744* Syslog 748 · Overview of Syslog 748 · Router Configuration for Syslog 749* Network Time Protocol 750 · Overview of NTP 751 · Router Configuration for NTP 751* Accounting 756 · IP Accounting 756 · NetFlow 757* Configuration Management 765* Fault Management 766* Performance Management

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>